APPENDIX A

WATERSHED REPORT CARDS

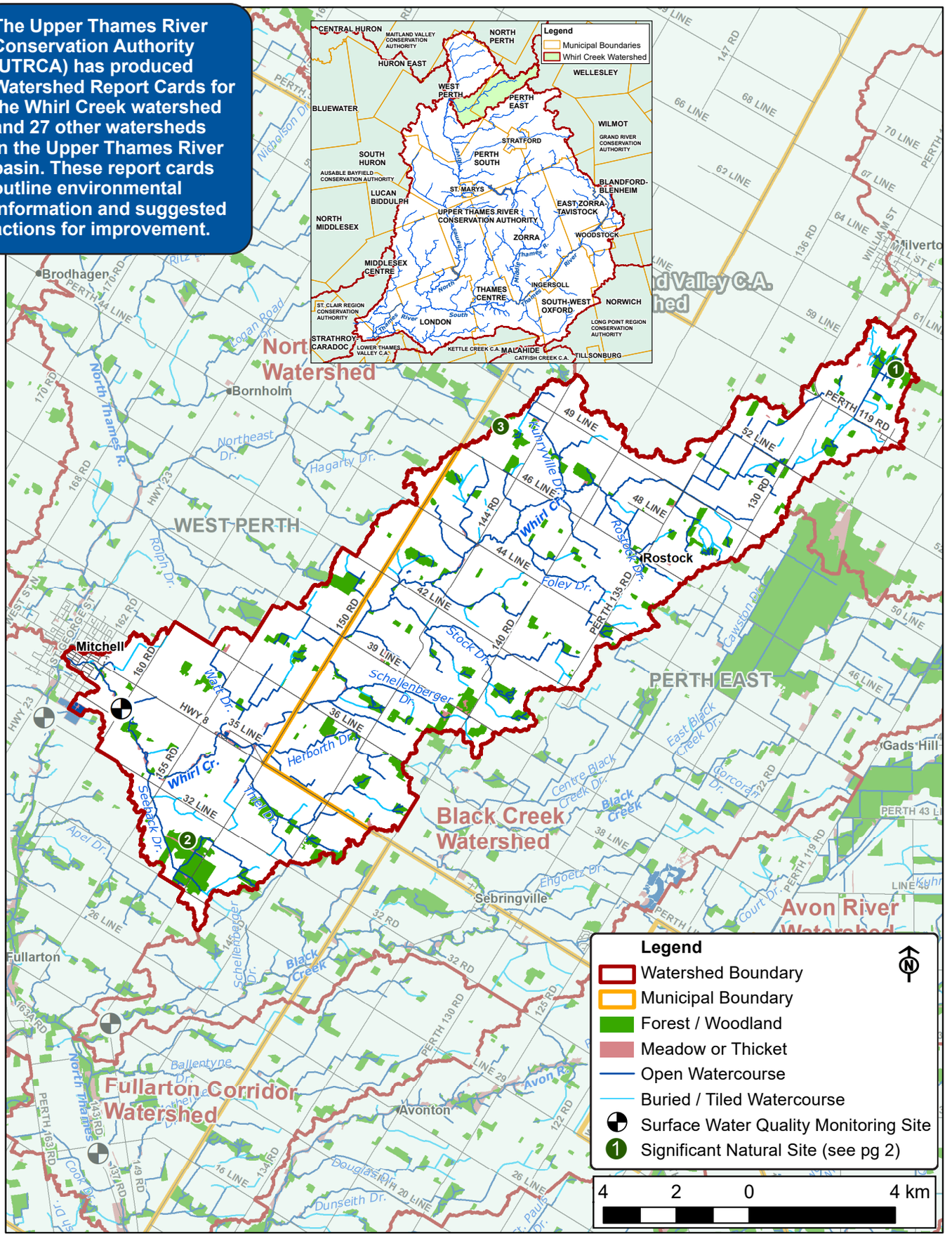
Surface Water Quality
C - Steady

Forest Conditions
D - Slight Improvement

2022 Watershed Report Card

Whirl Creek

The Upper Thames River Conservation Authority (UTRCA) has produced Watershed Report Cards for the Whirl Creek watershed and 27 other watersheds in the Upper Thames River basin. These report cards outline environmental information and suggested actions for improvement.



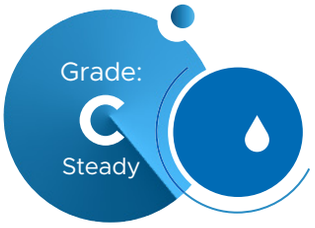
2022 Watershed Report Card

Watershed Features

Feature	Description
Municipalities	Perth East (69%, 90 km^2), West Perth (33%, 43 km^2) Total Area: 13,309 ha (133 km^2), 4% of Upper Thames River watershed
Significant Natural Sites	Wetlands: (1) Brunner Complex, (2) Whirl Creek Woods, (3) Kuhryville Complex. (See numbered sites on map). Earth Science Areas of Natural and Scientific Interest: Brunner Spillway.
Land Cover	87% agriculture, 8% natural vegetation, 0% open space, 4% built-up/urban, < 1% water, < 1% aggregates. There has been little change from five years ago. 2% impervious cover (e.g., hard surfaces such as roofs and roads).
Population	2,148 in 2021; a 6% increase since 2016, partly due to watershed boundary corrections
Soil Type	78% clay loam, 14% silty loam, 8% bottomland
Physiography	83% undrumlinized till plain, 17% till moraine
Soil Erosion/ Delivery	1% highly erodible (lands that could potentially contribute > 7 tonnes/ha/yr of soil to a watercourse). The average for the Upper Thames River watershed is 9%.
Tiling and Drainage	66% of the watershed has agricultural field tile (22% random + 44% systematic), 4% urban drainage, 30% no tiling. An additional 2% of the watershed is tiled/drained compared to five years ago.
Watercourse Characteristics	Total length: 206 km of watercourses Watercourse type: 12% natural, 64% channelized, 24% buried/closed Temperature: 16% cool/coldwater, 84% warmwater/unconfirmed Main channel slope: 0.18% slope (very flat); range is 0.09-1.26% in Upper Thames River watershed
Dams and Barriers	One barrier to fish movement has been documented in this watershed. Barriers can include dams, weirs, stormwater ponds, perched culverts, beaver dams, etc.
Spills	2001-2005: 2; 2006-2010: 7; 2011-2015: 3; 2016-2020: 4 Most recent spills involved industrial chemicals and manure.
Sewage Treatment	There are no sewage treatment plants discharging into Whirl Creek. Areas within Mitchell are serviced by the Mitchell Wastewater Treatment Plant which discharges treated effluent to the North Thames River. Rural residences are serviced by private septic systems.
% Vegetation Cover and Types	Vegetation cover: 1,062 ha or 8% of the watershed Composition: 77% deciduous forest, 10% mixed forest, 2% plantation/coniferous forest, 9% meadow, 2% thicket
Wetland Cover	3.6% (474 ha) of the watershed is in wetland cover. Environment Canada (2013) recommends at least 6% wetland cover. 1.5 ha of wetland cover was lost between 2010 and 2015.
Woodlot or Patch Size	See table below
Fish and Mussels	Fish species: 35 Gamefish: Smallmouth Bass, Northern Pike, and Rock Bass Mussel species: 10
Species-at-Risk	Birds: 10 species including Bobolink and Wood Thrush Fish: Northern Sunfish and Silver Shiner Mussels: Rainbow Reptiles: Snapping Turtle

Size Category	Number of Woodlots	Average Size (ha)	Total Woodland Area (ha)	% of Woodland Area	Largest Woodlot (ha)
Small (< 10 ha)	110	3	301	32	108
Medium (10-30 ha)	26	16	410	43	
Large (> 30 ha)	4	60	240	25	

For more information on watershed features and how they compare to the other 27 subwatersheds, see the tables in the full report: 2022 Upper Thames River Watershed Report Cards at www.thamesriver.on.ca.



2022 Watershed Report Card

Surface Water Quality

Surface water quality has remained steady in Whirl Creek since the last report card and scores an overall grade of C. The water quality monitoring station is at Perth County Road 160, and was added in 2010 (see map). The UTRCA has a water quality target of a C grade for Whirl Creek by 2037.

Phosphorus levels have improved since the last reporting period. They are above provincial guidelines but better than the Upper Thames River average. Bacteria (*E.coli*) levels have been steady over the past five years and are better than the Upper Thames River average.

Chloride levels (mainly from road salt) are low, and well below the aquatic life guideline.

Stream health or water quality as indicated by benthic sampling has remained steady since the last reporting period.

Indicators	Whirl Creek					Upper Thames 2016-2020	Provincial Guideline	Indicator Description
	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020			
Phosphorus (mg/l) *	No data	No data	0.084 D	0.120 D	**0.081 D Improved**	0.110 D	0.030 B Aquatic Life	Phosphorus is found in products such as fertilizer, detergents, and waste, and contributes to excess algae and low oxygen in streams and lakes.
Bacteria (CFU *E. coli*/ 100 ml) **	No data	No data	153 C	238 C	**193 C Steady**	211 C	200 C Recreation	*E. coli* is a fecal coliform bacteria found in human and animal (livestock/ wildlife/pets) waste. *E. coli* is a strong indicator of the potential to have other disease-causing organisms in the water.
Benthic Score (FBI)	6.36 D	6.04 D	5.81 D	5.67 C	**5.69 C Steady**	5.99 D	< 5.00 B Target Only	Benthic organisms (aquatic invertebrates that live in stream sediments) are good indicators of water quality and stream health. The Family Biotic Index (FBI) scores each taxa according to its pollution tolerance.

*75th percentile, UTRCA data. **Geometric mean, Health Unit data. Province-wide grading system used (see page 8).
In 2019, the Provincial Recreational Guideline for *E. coli* changed from 100 Colony Forming Units *E.coli* / 100 ml to 200 CFU *E.coli* / 100 ml.

Found in Whirl Creek, the Stonecate is the largest of the madtoms in Canada. Like all catfish, Madtoms have smooth skin (rather than scales) covered with taste receptors that help them locate food by detecting minute amounts of proteins in the water. Many of these taste receptors are located on the catfish's "whiskers" (barbels). Since the Stonecat is intolerant of pollution, its presence is an indicator of good water quality.

Extreme flooding in February 2018 in St. Marys, Ontario.

Climate Change

Climate change continues to be a critical issue. Locally, storms and floods are becoming more intense and frequent, which affects water quality by increasing runoff and erosion. Flooding and increased temperatures also stress native plant and animal species. Many local municipalities and industries are enacting Climate Action Plans that focus on reducing greenhouse gases and developing adaptation strategies, including nature-based solutions. Increasing natural cover (trees, wetlands, and forests) and green cover (agricultural cover crops) will absorb carbon and improve resiliency to climate change impacts.

2022 Watershed Report Card

Forest Conditions

Forest conditions in the Whirl Creek watershed have improved slightly since the last report card and score an overall grade of D. It should be noted that some of the change is due to improved mapping methods and boundary corrections.

The percent forest cover (7.2%) has increased from 6.7% in the last report card primarily due to improved mapping and some natural succession (see Forest Area Gained table). The Environment Canada (EC) guideline for sustaining species and water quality in southern Ontario is a minimum of 30% forest cover. Meadows and thickets add another 0.8% cover for a total of 8% natural vegetation cover.

The percent forest interior (0.7%) is very low, indicating most woodlots are too small and narrow to support area sensitive species such as Scarlet Tanager and Ovenbird. The EC guideline for southern Ontario is 10% forest interior.

The percent riparian zone forested (18.6%) has increased from 9.3% in the last report card, primarily due to improved mapping. However, levels are still well below the guideline of 50%. Additional riparian areas are in permanent meadows and thicket (5.9%) for a total of 24.5% riparian zone vegetated.

Indicators	Whirl Creek 2022*	Upper Thames Average 2022*	EC Guideline **	Indicator Description
% Forest Cover	**7.2 D**	11.3 D	30.0 B	Percent forest cover is the percentage of the watershed that is forested or wooded. Forest cover includes upland and wetland forest types.
% Forest Interior	**0.7 F**	1.5 F	10.0 B	Percent forest interior is the percentage of the watershed that is forest interior. Forest interior is the protected core area 100 m inside a woodlot that some bird species require to nest successfully. The outer 100 m is considered “edge” habitat and prone to high predation, wind damage and alien species invasion.
% Riparian Zone Forested	**18.6 D**	35.7 C	50.0 B	Percent riparian zone forested is a measure of the amount of forest cover within a 30 m riparian/buffer zone adjacent to all open watercourses. Riparian habitats support high numbers of wildlife species and provide an array of ecological functions including water quality protection.

* 2022 report card data is based on 2015 colour air photography. ** EC Guideline - Environment Canada guideline based on “How much habitat is enough?” 2013. Grades based on Conservation Ontario (2022).

Losses and Gains

Forest Area Removed

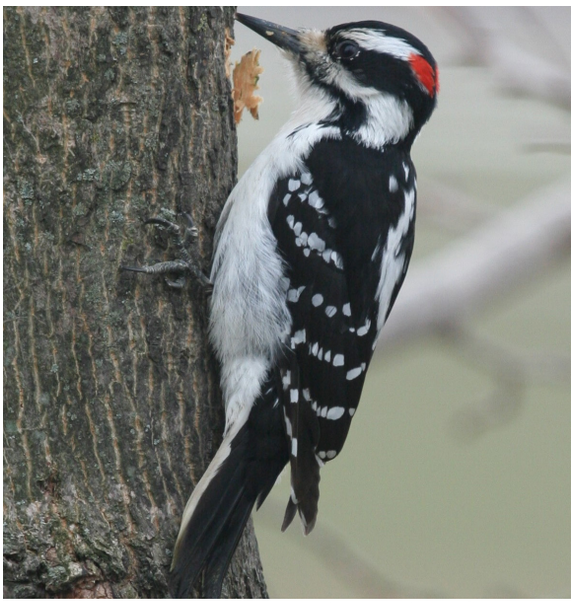
Years	ha
2000-2006	6
2006-2010	2
2010-2015	1

Approximately 1 ha of forest was cleared and converted to other uses (e.g., urban, agriculture, aggregates) between the 2010 and 2015 air photography. An additional 8 ha of forest were cleared in the previous 10 years.

Forest Area Gained

Years	ha
2010-2015	11

New data shows that approximately 11 ha of forest were gained between 2010 and 2015 due to forest succession and improved mapping. Several 20- to 30-year-old tree planting sites and some thickets matured to the point where they could be classified as mature forests in 2015. This data demonstrates the value of continued tree planting and conservation efforts.



Hairy Woodpeckers nest locally in tree cavities, often in more mature forests. Photo: Brenda Gallagher

2022 Watershed Report Card

Groundwater

Municipal Water Supply

The Town of Mitchell has four municipal wells that draw groundwater from a deep bedrock aquifer and supply water to 4,870 people. Municipal well water is tested and treated.

Private Wells

Approximately 340 private wells are on record in this watershed with the majority drawing from bedrock aquifers. Properly constructed deep wells have a lower risk of contamination from the surface than shallow wells. The highest risk to any well is from contaminants and activities closest to the well. The safety, testing, and treatment of a private well are the responsibility of the well owner.

Groundwater Monitoring

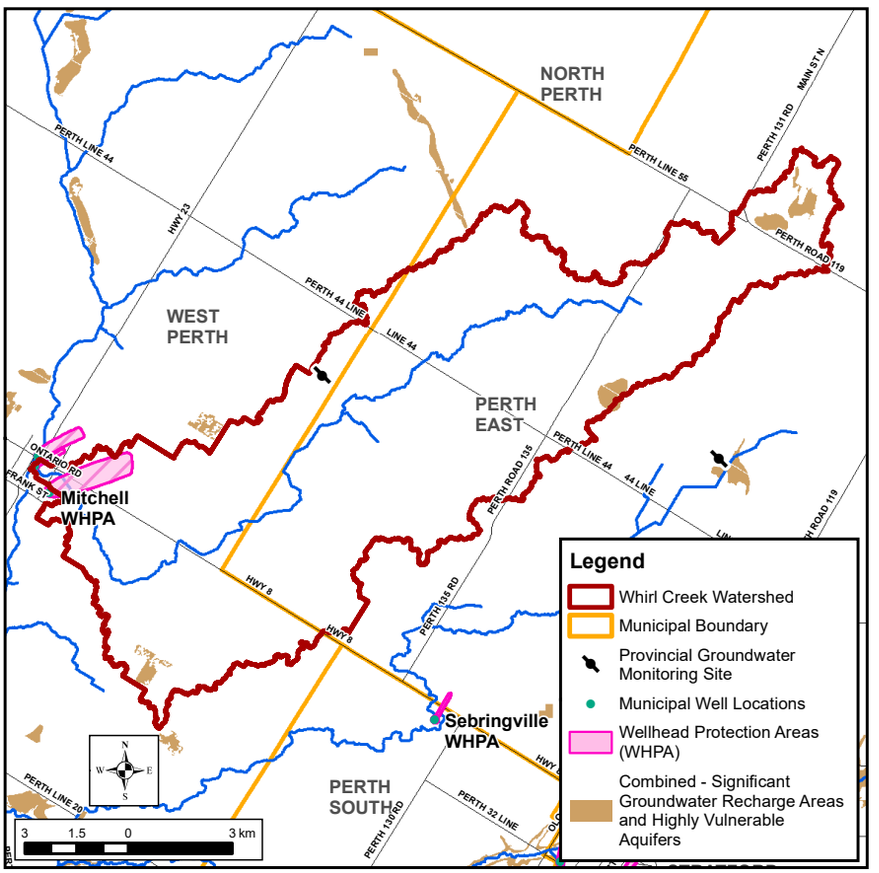
Since 2003, the UTRCA has monitored one Provincial Groundwater Monitoring Network well in the Whirl Creek watershed. It has shown that groundwater levels generally decline from May to October and increase (recharge) from late fall to early spring, with the largest increase in March (up to 1.5 m change). Recent data shows the recharge period is shifting later to November to May, with a trend of warmer and drier weather from October to November and cooler temperatures in May. The rate of decline in groundwater levels is directly related to maximum air temperatures. Summer rainfall does not typically affect groundwater levels as evaporation and plant uptake greatly exceeds rainfall, and most rainfall is utilized by plants during summer.

Did you know?

- About 50-70% of total local streamflow is baseflow from groundwater discharging into streams.
- Vegetation relies more on groundwater as it is more stable than rainfall. Most remaining wetlands are groundwater dependent.

Drinking Water Source Protection

Local source protection plans have been completed to protect sources of municipal drinking water. The Thames-Sydenham and Region Source Protection Plan (2015) has policies to address risks to municipal water systems. Visit www.sourcewaterprotection.on.ca for information on groundwater resources, Source Protection Plan policies, and the Water Supply System Summary for Mitchell.



On The Map

Significant Groundwater Recharge Areas: Areas where a relatively large volume of water makes its way from the ground's surface down to the aquifer.

Highly Vulnerable Aquifers: Areas where there is a relatively fast pathway from the ground's surface down to an aquifer, generally making the aquifer more vulnerable to contamination.

Wellhead Protection Areas: Areas surrounding the wellhead, through which contaminants are reasonably likely to move toward or reach the well.

Protecting these areas is very important for the protection of local groundwater as a source of drinking water.

2022 Watershed Report Card

Local Actions for Improvement

Individuals, groups, businesses, municipalities, and agencies all have a role in improving the health of the watershed through these suggested actions. For more information on agencies that can help, contact the UTRCA (see page 8).

A number of the local actions listed below are also identified in the following reports:

- The Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity (Thames River Clearwater Revival, 2019)
- Perth Natural Heritage Systems Study (Perth County, 2017 draft)
- Upper Thames River Source Protection Area Approved Assessment Report (Thames-Sydenham Source Protection Region, 2015)
- Recovery Strategy for the Thames River Aquatic Ecosystem (Thames River Recovery Team, 2005)

Local Actions to Improve Surface Water and Groundwater

- Whirl Creek currently has the second lowest percentage of streamside vegetation cover in the Upper Thames River watershed. Improving this vegetation cover would benefit the health of the creek. Plant buffers (native trees, grasses) along Whirl Creek and its tributaries to cool streams, provide food for aquatic species, stabilize banks, and trap and absorb nutrients and other pollutants.
- Use drain maintenance methods that protect aquatic habitat (e.g., low flow channels, spot or bottom cleanouts).
- Repair or replace faulty septic systems and ensure proper maintenance of the system.
- Continue to implement agricultural Best Management Practices (BMPs):
  - Use reduced tillage and establish cover crops to protect soil from erosion, prevent nutrient loss, and build soil health.
  - Reduce nutrient loss from cropland (4R Stewardship Approach: right source, right rate, right time, right place).
  - Use best practices in manure storage and spreading, pesticide and fertilizer storage and application, fuel storage, and restricting livestock access to watercourses.
  - Complete and follow Environmental Farm Plans and Nutrient Management Plans (www.omafra.gov.on.ca).
  - Utilize grants for stewardship work from the UTRCA Clean Water Program (www.cleanwaterprogram.ca).

Low Impact Development techniques such as rain gardens help reduce stormwater runoff to local streams in developed areas.

- In Mitchell, continue the following actions:
  - For new development, implement urban stormwater planning using Low Impact Development (LID), stormwater BMPs, subwatershed studies, catchment area planning, and erosion control.
  - Incorporate LID into the planning process and promote the implementation of LID techniques, including in Master Plans, Secondary Plans, and any subwatershed studies.
  - Consider using a water balance and landscape approach for inbuilt and new development to manage stormwater runoff.
  - Maintain base flow to natural heritage features through water balance.
  - For existing development, implement pollution prevention and control planning for all aspects of stormwater runoff including combined storm-sewer overflows.
  - Continue to upgrade sewer systems where risk of contamination is greatest (e.g., extend sanitary sewers to urban properties on septic systems).
  - Minimize use of fertilizers, adhere to Ontario's Cosmetic Pesticide Ban, and utilize the municipal hazardous waste disposal program.

The use of cover crops and minimal tillage helps the climate by reducing carbon loss while improving water quality and soil health.

Local Actions to Improve Drinking Water

- Decommission abandoned wells according to Ministry of Environment, Conservation, and Parks standards.
- Homeowners with wells should understand the condition of their well and risks to their water supply (see www.wellaware.ca).
- Sample private wells each spring and fall (available through the Health Unit).
- Keep contaminants (e.g., fuel, pesticides, manure, waste) away from your well area. Consider septic system inspections (see www.omafra.gov.on.ca)
- To protect municipal drinking water sources, implement Source Protection Plan policies.

Local Actions to Improve Forests and Vegetation Cover

- Connect the existing riverside woodlands and meadows with additional plantings to create a continuous wildlife corridor along Whirl Creek and its tributaries.
- Connect woodlots by planting shelterbelts, windbreaks, and buffers along fields and watercourses, which will also protect against soil erosion and improve water quality. Older, denser windbreaks should be thinned.
- For tree planting and naturalization projects, create a more natural and diverse habitat by using a variety of native plant species that are better adapted to the local climate, pests, etc. The UTRCA provides tree planting assistance/advice and grants may be available (see contact information on page 8).
- Increase forest interior by making woodlots larger and wider by planting native trees and shrubs along the edges or allowing the edges to naturalize on their own.
- Landowners wishing to selectively log their woodlots should use Good Forestry Practices (i.e., Basal Area Guidelines, not Diameter Limit Harvesting) and hire a Certified Tree Marker to mark the woodlot and oversee harvesting.
- Woodlot owners can improve the health of their woodlots by identifying and removing alien invasive species such as buckthorns (see ontarioinvasiveplants.ca, thamesriver.on.ca). Keeping out livestock and unauthorized motorized vehicles also protects habitat quality.

Great Lakes Connection

The Whirl Creek watershed is in the Thames River watershed, which is part of the Lake Erie watershed. Water from Whirl Creek enters the North Thames River at Mitchell and takes 4-10 days to flow through London, Chatham, and into Lake St. Clair. About two weeks later, it reaches Lake Erie via the Detroit River.

Shared Waters Approach

In 2012, partners in the Thames River watershed formed the Thames River Clear Water Revival to work together on the protection of water, with the shared goal of a healthy and vital Thames River which would also benefit Lake St. Clair and Lake Erie. This partnership brings together Indigenous peoples, three levels of government, two local conservation authorities, and the local community. A state of the environment report with a focus on actions needed for water quantity and quality was completed in 2019: The Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity. Implementation by all partners is underway. The Shared Waters Approach contains significant input from four of the eight distinct First Nations whose traditional territory includes the Thames River watershed and highlights the positive participation and sharing of traditional ecological knowledge within this approach.

2022 Watershed Report Card

Highlights of Progress Since 2017

The Whirl Creek watershed is benefiting from many conservation efforts that continue to be implemented by individuals, groups, businesses, agencies, and municipalities on private and public lands. Examples of activities since 2017 include:

- Hosted by the UTRCA, the annual Rural Landowner Workshop in West Perth offers presentations on soil improvement, tree planting and windbreaks, wetland restoration, cover crops, and grants available for landowners. In 2019, the workshop drew a crowd of more than 125 landowners.
- Local students from Mitchell District High School and Upper Thames Public School helped plant 150 native trees and shrubs at Husky Flats, a site along Whirl Creek. Efforts to naturalize and create a buffer at this site have continued over the past several years.
- Streamside tree and shrub plantings in the lower reaches of Whirl Creek have grown well over the last 15 years. The vegetation is benefiting the aquatic habitat in that section of creek.
- In 2019, students from Upper Thames Public School in Mitchell planted almost 1,400 wildflowers to create pollinator habitat (photos below).

Students planting a pollinator garden.

The pollinator garden thriving.

- Many municipalities in the Upper Thames River watershed are taking action on climate change. For instance, Perth County municipalities share a Climate Change Coordinator. There is also a commitment to reducing emissions and taking action on climate change by the Federation of Canadian Municipalities under the Partners for Climate Protection Program, a network of more than 350 Canadian municipal governments.
- Through UTRCA's Communities for Nature program (2016-2020), 55 community members helped plant 300 trees for TD Tree Days.
- The municipality is currently planning future upgrades of the Mitchell Wastewater Treatment Plant.
- Watershed landowners completed six Clean Water Program (CWP) projects including fragile land retirement/ reforestation and erosion control measures. The CWP was initiated in 2001 as a partnership between local municipalities to fund environmental projects (see www.cleanwaterprogram.ca). Since 2001, 41 projects have been completed in this watershed.
- Over 4,170 trees were planted at nine sites through the UTRCA's Private Land Reforestation Program from 2016 to 2020. Some windbreak tree plantings use plastic mulch to increase growth, reduce maintenance, and suppress weeds (photo below).

Planting trees into black plastic mulch.

Ontario-Wide Report Cards

Conservation Authorities produce report cards for their watersheds every five years to track changes, using a standardized grading system (www.conservationontario.ca). Grades vary across the province, reflecting the range of physical characteristics and human activities. The complete set of UTRCA report cards and supporting information are available in a report titled 2022 Upper Thames River Watershed Report Cards (thamesriver.on.ca).

For more information, contact:

Upper Thames River Conservation Authority
1424 Clarke Road, London, Ontario, Canada N5V 5B9
519-451-2800
infoline@thamesriver.on.ca
www.thamesriver.on.ca

UPPER THAMES RIVER CONSERVATION AUTHORITY

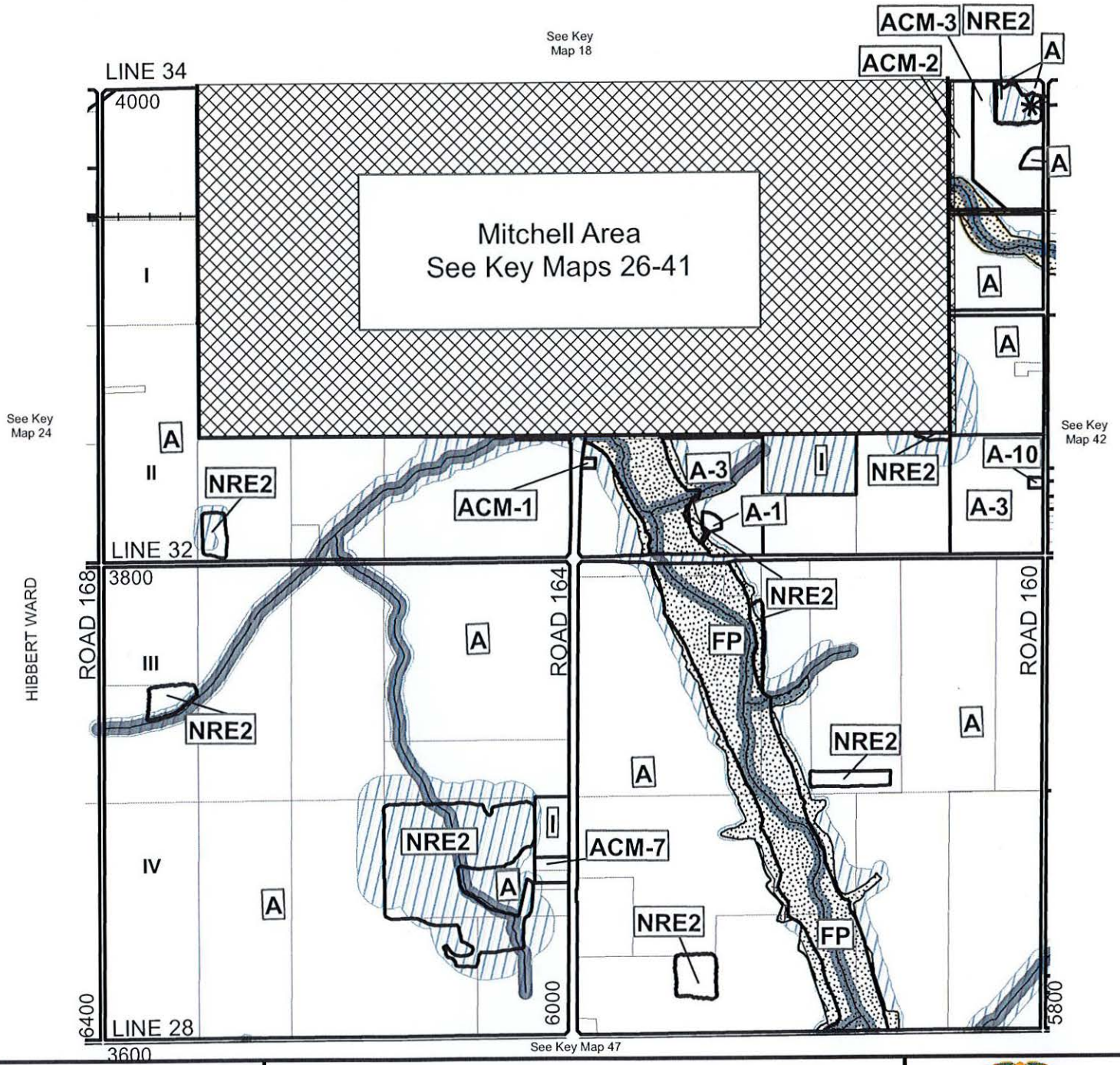
Thames Canadian Heritage River

APPENDIX B

EXCERPTS FROM PLANNING DOCUMENTS

THIS IS ***KEY MAP 25***
OF SCHEDULE "A" TO BY-LAW NO. 100-1998
OF THE MUNICIPALITY OF WEST PERTH
PASSED THE 15th DAY OF NOVEMBER, 1999

AMENDED BY
BY-LAW NO.: Z50-2003
Z98-2007
299-2024



Last Amended: July 2012
Absolute Scale: 1:25,000

Key Map of West Perth
FULLARTON WARD

Metres
0 250 500 1,000
0 495 990 1,980
Feet

CONSTRAINT AREA & FLOOD REGULATION AREA
ADJACENT LANDS
CONSTRAINT AREA
REGULATED FLOOD AREA

GROWING TOGETHER
WISDOM and JUSTICE
WEST PERTH

THIS IS *KEY MAP 40 MITCHELL* OF SCHEDULE "A" TO BY-LAW NO. 100-1998 OF THE MUNICIPALITY OF WEST PERTH PASSED THE 15th DAY OF NOVEMBER, 1999

AMENDED BY
BY-LAW NO.: Z11-2001
Z69-2005
Z129-2010
Z168-2014
Z191-2017

Last Amended: February, 2025
Absolute Scale: 1:5,000

Key Map of West Perth
MITCHELL/FULLARTON WARD

Metres
0 50 100 200
0 120 240 480
Feet

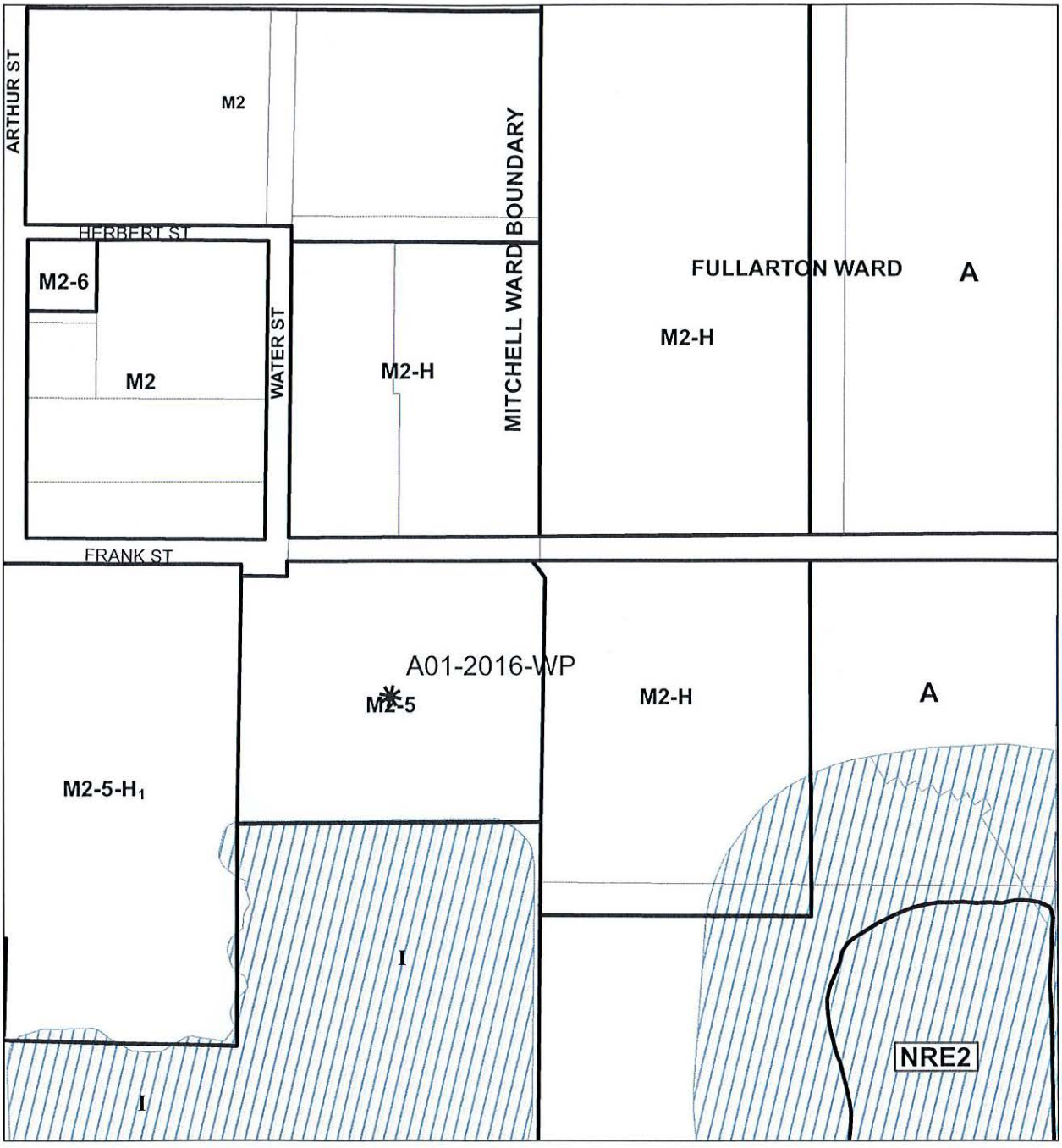
CONSTRAINT AREA & FLOOD REGULATION AREA
ADJACENT LANDS
CONSTRAINT AREA
REGULATED FLOOD AREA
UNIMPROVED ROAD

GROWING TOGETHER
WISDOM and JUSTICE
WEST PERTH

THIS IS *KEY MAP 41 MITCHELL* OF SCHEDULE "A" TO BY-LAW NO. 100-1998 OF THE MUNICIPALITY OF WEST PERTH PASSED THE 15th DAY OF NOVEMBER, 1999

AMENDED BY
BY-LAW NO.: Z11-2001
Z13-2001
Z20-2001
Z34-2002
Z98-2007
Z147-2012
Z235-2020

See Key Map 37



See Key Map 40

See Key Map 42

See Key Map 25

Last Amended: November 2019
Absolute Scale: 1:5,000

Key Map of West Perth
MITCHELL/FULLARTON WARD

Metres
0 45 90 180
0 120 240 480
Feet

CONSTRAINT AREA & FLOOD REGULATION AREA
ADJACENT LANDS
CONSTRAINT AREA
REGULATED FLOOD AREA

GROWING TOGETHER WISDOM and JUSTICE WEST PERTH

Comprehensive Zoning By-law

No. 100-1998

Originally Prepared by

(c) An automobile repair establishment;
(d) An automobile service station;
(e) An automobile washing establishment;
(f) An automotive gas bar;
(g) A cold storage plant;
(h) Contractor's yard or shop;
(h.1) A factory outlet;
(i) A farm implements sales and service establishment;
(j) A feed mill;
(k) A flour mill;
(k.1) A fuel pump island; office;
(l) A fuel storage and/or supply business;
(m) A furniture refinishing, woodworking, and/or upholstery establishment;
(n) A garage, public works;
(o) A grain elevator;
(p) A laboratory or research facility;
(p.1) A landscape supply outlet;
(q) A laundry plant;
(r) A lumber yard and building supply outlet;
(s) A machine shop;
(s.1) Manufacturing and assembly industry;
(t) A mini-storage facility;
(t.1) An office support;
(u) A parking area;
(v) A planing mill or saw mill;
(w) A recycling depot;
(x) A rental shop;
(y) A repair shop;

Amended by By-law No. Z34-2002

19.3.2 Lot Frontage, Minimum - 45 m (147.63 feet)

19.3.3 Front Yard, Minimum

(a) Main buildings - 15 m (49.21 feet)

(b) Accessory buildings and structures 15 m (49.21 feet) or equal to the front yard for the main building, whichever is greater.

19.3.4 Interior Side Yard, Minimum

(a) Main buildings - 6.0 m (19.69 feet), except that 10.5 m (34.45 feet) is required when abutting a Residential Zone or an existing residential lot with a dwelling thereon;

(b) Accessory buildings and structures - 3.0 m (9.84 feet), except that 6.0 m (19.69 feet) is required when abutting a Residential Zone or an existing residential lot with a dwelling thereon.

Amended by By-law No. Z34-2002 Amended by By-law No. Z98-2007

(c) No side yard is required is required where that side yard abuts a railway right-of-way or siding.

19.3.5 Exterior Side Yard, Minimum

(a) Main buildings - 15 m (49.21 feet)

(b) Accessory buildings and structures - 15 m (49.21 feet)

19.3.6 Rear Yard, Minimum

(a) Main buildings - 10 m (32.81 feet)

19.3.10 Servicing Requirement

Any industrial use shall be a "dry" industrial operation where the only waste water discharges in addition to storm drainage are from ancillary facilities such as employee washrooms, the indirect cooling of machinery, and the pressure testing of equipment, and the industrial operation shall not produce liquid effluent from its processing nor require the direct consumption of water.

19.3.11 Open Air Storage and Display Open air storage and display of goods or materials are permitted in all yards other than a front yard and in no case shall open air storage or display be permitted closer than 3 m (9.84 feet) to a lot line.

19.4 Special Provisions

19.4.1 M2-1

(a) Location: Part of Lot 19, Concession 1 (formerly in Logan Ward) (Mitchell Ward) (Key Map 34)

(b) Notwithstanding any provisions of Section 15.1 of this By-law to the contrary, additional permitted uses described as an automobile, truck, and farm equipment sales, repair, and service business shall be permitted on the land within the "M2- 1" zone as shown on Key Map 34 of Schedule "A" to this By-law.

(c) All other applicable provisions of this By-law shall apply.

19.4.2 M2-2

(a) Location: Part of Park Lot 39, Registered Plan No. 339 (Mitchell Ward) (Key Map 36)

APPENDIX C

ARCHAEOLOGICAL REPORT

Ministry of Tourism, Culture and Sport

Archaeology Programs Unit
Programs and Services Branch
Culture Division
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Archaeology@ontario.ca

Ministère du Tourisme, de la Culture et du Sport

Unité des programmes d'archéologie
Direction des programmes et des services
Division de culture
401, rue Bay, bureau 1700
Toronto ON M7A 0A7
Archaeology@ontario.ca

Ontario

Jan 12, 2018

Matthew Beaudoin (P324)
Timmins Martelle Heritage Consultants Inc.
1600 Attawandaron London ON N6G 3M6

RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 &2 Archaeological Assessment Proposed Industrial Park Servicing Part of Lot 22, Concession 1 Town of Mitchell Geographic Township of Fullarton Current Municipality of West Perth Perth County, Ontario", Dated Dec 4, 2017, Filed with MTCS Toronto Office on Jan 2, 2018, MTCS Project Information Form Number P324-0293-2017, MTCS File Number 0008029

Dear Dr. Beaudoin:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.[1]

Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require further information, please do not hesitate to send your inquiry to Archaeology@Ontario.ca

cc. Archaeology Licensing Officer
Kelly Vader,B.M. Ross and Associates Limited
Jeff Brick,Municipality of West Perth

1In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Stage 1 & 2 Archaeological Assessment
Proposed Industrial Park Servicing
Part of Lot 22, Concession 1
Town of Mitchell
Geographic Township of Fullarton
Current Municipality of West Perth
Perth County, Ontario

Submitted to

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and

The Ontario Ministry of Tourism, Culture and Sport

Prepared by

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Archaeological License: Matthew Beaudoin, P324
Our File: 2017-107
PIF Number: P324-0293-2017

December 2017
Original report submitted to the Ministry of Tourism, Culture and Sport
4 December 2017

Executive Summary

A Stage 1 and 2 archaeological assessment was conducted for a roughly 1.98 ha (4.89 ac) area, falling within part of Lot 22, Concession 1 in the Geographic Township of Fullarton, Perth County, currently within the Municipality of West Perth, Ontario. Timmins Martelle Heritage Consultants Inc. was contracted to carry out this work out as part of a Municipal Class Environmental Assessment (EA) for the servicing of a future industrial park in the Town of Mitchell, coordinated by B.M. Ross and Associates on behalf of the Municipality of West Perth. The assessments were undertaken in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Within the Class EA process, the purpose of the archaeological assessment is to establish if the project will have negative effects on known or potential archaeological resources.

The Stage 1 background study included a review of current land use, historic and modern maps, past settlement history for the area and a consideration of topographic and physiographic features, soils, and drainage. It also involved a review of previously registered archaeological resources within 1 km of the subject property and previous archaeological assessments within 50 m. The background study indicated that the property had potential for the recovery of archaeological resources due the proximity (i.e., within 300 m) to several features that signal archaeological potential, namely: 1) a water source (Whirl Creek); 2) mapped 19th century transportation routes (Frank Street and the Buffalo and Lake Huron Railway); and 3) a mapped 19th century structure.

Stage 2 assessment was subsequently recommended and carried out, consisting of a pedestrian survey at a 5 m transect interval. This did not result in the discovery of archaeological resources. As such, the subject property should be considered free of archaeological concern and no further archaeological assessment is recommended.

This recommendation is subject to the conditions laid out in Section 5.0 of this report and to Ministry of Tourism, Culture and Sport review and acceptance of this report into the provincial register.

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Project Personnel

TMHC would like to thank the following staff members who contributed to this project:

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Acknowledgements

TMHC would like to acknowledge the assistance of the following individuals:

Kelly Vader	*Environmental Planner* B.M. Ross & Associates Limited

Stage 1 & 2 Archaeological Assessment
Proposed Industrial Park Servicing
Part of Lot 22, Concession 1
Town of Mitchell
Geographic Township of Fullarton
Current Municipality of West Perth
Perth County, Ontario

1.0 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

A Stage 1 and 2 archaeological assessment was conducted for a roughly 1.98 ha (4.89 ac) area, falling within part of Lot 22, Concession 1 in the Geographic Township of Fullarton, Perth County, currently within the Municipality of West Perth, Ontario. Timmins Martelle Heritage Consultants Inc. was contracted to carry out this work out as part of a Municipal Class Environmental Assessment (EA) for the servicing of a future industrial park in the Town of Mitchell, coordinated by B.M. Ross and Associates on behalf of the Municipality of West Perth. The assessments were undertaken in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Within the Class EA process, the purpose of the archaeological assessment is to establish if the project will have negative effects on known or potential archaeological resources.

All archaeological consulting activities were performed under the Professional Archaeological License of Matthew Beaudoin, Ph.D. (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Permission to enter the property and carry out all required archaeological work, including the collection of artifacts when present, was given by Kelly Vader of B.M. Ross & Associates Ltd.

1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Our archaeological assessment work is part of an environmental review which is intended to identify areas of environmental interest as specified in the *Provincial Policy Statement*. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* (PPS) which states:

> *development* and *site alteration* shall not be permitted on lands containing *archaeological resources* or *areas of archaeological potential*

> unless *significant archaeological resources* have been *conserved* (OMMAH 2014:29).
>
> In the PPS, the term *Conserved* means:
>
> the identification, protection, management and use of *built heritage resources*, *cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment and/or heritage impact assessment. Mitigative measures and/or alternative development approaches can be included in these plans and assessments (OMMAH 2014:40).

The *Environmental Assessment Act* also provides for the protection and conservation of the "environment," widely defined to cover "cultural heritage" resources. Section 5(3)(c) of the *Act* stipulates that heritage resources to be affected by a proposed undertaking be identified during the environmental screening process. Within the context of an Environmental Assessment, the purpose of a Stage 1 background study is to determine if the project has potential to negatively impact known or unknown archaeological resources. A Stage 2 assessment establishes if archaeological sites are present within the proposed impact areas, while a Stage 3 assessment evaluates their cultural heritage value and interest (CHVI). In the case of archaeological resources, potentially detrimental effects to archaeological resources are mitigated through Stage 4 protection and avoidance and/or excavation.

2.0 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

2.1 Research Methods and Sources

A Stage 1 overview and background study was conducted to gather information about known and potential cultural heritage resources within the project lands. According to the Province of Ontario's 2011 *Standards and Guidelines for Consultant Archaeologists*, a Stage 1 background study must include a review of:

- an up-to-date listing of sites from the Ontario Archaeological Sites Database (OASD) of archaeological sites with 1 km of the project area;
- reports of previous archaeological fieldwork within a radius of 50 metres;
- topographic maps at 1:10,000 (recent and historical) or the most detailed scale available;
- historic settlement maps (e.g., historical atlas, surveys)
- archaeological management plans or other archaeological potential mapping (when available); and
- commemorative plaques or monuments on or near the property.

For this project, the following activities were carried out to satisfy or exceed the above requirements:

- a database search was completed through the Ministry of Tourism, Culture and Sport's PastPortal system that compiled a list of registered archaeological sites within one kilometre of the project area (conducted November 13, 2017);
- a review of known prior archaeological reports for the project area and adjacent lands;
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca; detailed mapping provided by the client was also reviewed; and,
- historic maps and records related to post-1800 land settlement were studied.

Additional sources of information were also consulted, including modern aerial photographs, local history accounts, soils and physiographic data provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and both 1:50,000 (Natural Resources Canada) and finer scale topographic mapping.

When compiled, background information was used to create a summary of the characteristics of the project area, in an effort to evaluate its archaeological potential. The Province of Ontario (MTC 2011 – Section 1.3.1) has defined the criteria that identify archaeological potential as:

- previously identified archaeological sites
- water sources
    - primary water sources (lakes, rivers, streams, creeks)
    - secondary water courses (intermittent streams and creeks, springs, marshes, swamps)
    - features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in topography, shorelines of drained lakes or marshes, cobble beaches)
    - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)
- elevated topography (e.g., eskers, drumlins, large knolls, plateaux)
- pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground
- distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases; there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings
- resource areas, including:
    - food or medicinal plants (e.g., migratory routes, spawning areas, prairie)
    - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)

  - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.
- early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)
- property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial, or municipal historic landmark or site; and
- property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

In Southern Ontario (south of the Canadian Shield), any lands within 300 m of any of the features listed above are considered to have potential for the discovery of archaeological resources.

Typically, a Stage 1 assessment will determine potential for First Peoples' and historic era sites independently. This is due to the fact that lifeways varied considerably during these eras so that criteria used to evaluate potential for each type of site also varies.

It should be noted that some factors can also negate the potential for discovery of intact archaeological deposits. Subsection 1.3.2 of the 2011 *Standards and Guidelines for Consultant Archaeologists* indicates that archaeological potential can be removed in instances where land has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. Major disturbances indicating removal of archaeological potential include, but are not limited to:

- quarrying
- major landscaping involving grading below topsoil
- building footprints; and
- sewage and infrastructure development.

Some activities (agricultural cultivation, surface landscaping, installation of gravel trails, etc.) may result in minor alterations to the surface topsoil but do not necessarily affect or remove archaeological potential. It is not uncommon for archaeological sites, including structural foundations, subsurface features and burials, to be found intact beneath major surface features like roadways and parking lots. Archaeological potential is, therefore, not removed in cases where there is a chance of deeply buried deposits, as in a developed or urban context or floodplain where modern features or alluvial soils can effectively cap and preserve archaeological resources.

2.2 Project Context: Archaeological Context

2.2.1 Project Area: Overview and Physical Setting

The project lands comprise roughly 1.98 ha of agricultural fields (Images 1 to 3) located on the outskirts of the Town of Mitchell in the Municipality of West Perth. They fall within the southwestern part of Lot 22, Concession 1, Geographic Township of Fullarton, in Perth County, Ontario. The project lands represent new roadways and servicing corridors (20 m wide) for a proposed new industrial park, alongside a roughly 120 m by 90 m area for a proposed stormwater management (SWM) pond (Maps 1 to 2). The surrounding lands to the north, east, and south are generally agricultural in nature; the surrounding lands to the west consist of industrial buildings and parking lots.

The project area falls within the Stratford Till Plain physiographic region, as defined by Chapman and Putnam (1984:133) and specifically within an undrumlinized till plain (Map 4). The region is a broad clay plain covering much of Perth County and underlain by Norfolk formation limestone bedrock (Chapman and Putnam 1984:133; Hoffman and Richards 1952:13). The soils characteristics of the Stratford Till Plain are imperfectly drained heavy textured subaqueous limestone till (Chapman and Putnam 1984:13; Hoffman and Richards 1952:25). The Mitchell Moraine is located roughly 1.5 km to the west. The soils within the project area are Perth Clay Loam (Map 5), an imperfectly drained, grey-brown, podzol derived from heavy textured, subaqueous, limestone till (Hoffman and Richards 1952:25). Whirl Creek lies approximately 150 m to the northeast of the project area (Map 6).

2.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Tourism, Culture, and Sport's database (reviewed November 13, 2017), there are no registered archaeological sites within 1 km of the project lands. This is due primarily to the fact that there have been few archaeological assessments carried out in the immediate vicinity.

2.2.3 Summary of Past Archaeological Investigations Within 50 Metres

During the course of this study no record was found of any archaeological investigations within 50 m of the project area. However, it should be noted that the Ministry of Tourism, Culture and Sport currently does not provide an inventory of archaeological assessments to assist in this determination.

2.2.4 Dates of Archaeological Fieldwork

The Stage 2 fieldwork was conducted on November 14th and 16th, 2017. The weather on both days was overcast and cool. The ground was snow covered on November 14th, so no fieldwork was conducted on that day.

2.3 Project Context: Historical Context

2.3.1 First Peoples Settlement in Perth County

There have been few archaeological assessments in this part of Perth County and, as a result, relatively few archaeological sites are known. Given the paucity of data, little is known about the past First Peoples occupation of the area. Nonetheless, based on province-wide and region-specific archaeological data, a general model and cultural chronology for First Peoples settlement in Perth County can be proposed (Table 1). A summary of the themes and temporal periods of First Peoples occupation is provided below.

Table 1: Cultural Chronology for First Peoples Settlement in Perth County

Period			Time Range (circa)	Diagnostic Features	Complexes
Paleoindian	Early		9000 - 8400 B.C.	fluted projectile points	Gainey, Barnes, Crowfield
	Late		8400 - 8000 B.C.	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Archaic	Early		8000 - 6000 B.C.	serrated, notched, bifurcate base points	Nettling, Bifurcate Base Horizon
	Middle		6000 - 2500 B.C.	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
	Late		2000 - 1800 B.C.	narrow points	Lamoka
			1800 - 1500 B.C.	broad points	Genesee, Adder Orchard, Perkiomen
			1500 - 1100 B.C.	small points	Crawford Knoll
	Terminal		1100 - 950 B.C.	first true cemeteries	Hind
Woodland	Early		950 - 400 B.C.	expanding stemmed points, Vinette pottery	Meadowood
	Middle		400 B.C. - A.D. 500	dentate, pseudo-scallop pottery	Saugeen
	Transitional		A.D. 500 - 900	first corn, cord-wrapped stick pottery	Princess Point
	Late	Early Iroquoian	A.D. 900 - 1300	first villages, corn horticulture, longhouses	Glen Meyer
		Middle Iroquoian	A.D. 1300 - 1400	large villages and houses	Uren, Middleport
		Late Iroquoian	A.D. 1400 - 1650	tribal emergence, territoriality	Neutral Iroquois
Contact		Aboriginal	A.D. 1700 - 1875	treaties, mixture of Native & European items	Ojibwa
		Euro-Canadian	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

Paleoindian

The first human populations to inhabit the area came to the region between 12,000 and 10,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different then they are today; local environs would not have been welcoming to anything but short-term settlement. Termed Paleoindians by archaeologists, Ontario first peoples would have crossed the landscape in small groups (i.e. bands or family units) searching for food, particularly migratory game species. In the area, caribou may have provided the staple of Paleoindian diet, supplemented by wild plants, small game, birds and fish.

Given the low density of populations on the landscape at this time and their mobile nature, Paleoindian sites are small and ephemeral. They are sometimes identified by the presence of fluted projectile points manufactured on a highly distinctive white-

gray chert named "Fossil Hill" after the geological formation, or "Collingwood." Located near the escarpment on “Blue Mountain,” this source was exploited by populations from as far south as the London area, who would have traveled here as part of their seasonal round.

Archaic

The archaeological record of early native life in Southern Ontario indicates a change in lifeways beginning circa 8000 B.C. at the start of what archaeologists call the Archaic Period. The Ontario populations are better known than their Paleoindian predecessors, with numerous sites found throughout the area. The characteristic projectile points of early Archaic populations appear similar in some respects to early varieties and are likely a continuation of early trends. Archaic populations continued to rely heavily on game, particularly caribou, but diversified their diet and exploitation patterns with changing environmental conditions. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record. Since the large cold weather mammal species that formed the basis of the Paleoindian subsistence pattern became extinct or moved northward with the onset of warmer climate, Archaic populations had a more varied diet, exploiting a range of plant, bird, mammal and fish species. Reliance on specific food resources like fish, deer and nuts becomes more pronounced through time and the presence of more hospitable environs and resource abundance led to the expansion of band and family sizes. In the archaeological record, this is evident in the presence of larger sites and aggregation camps, where several families or bands would come together in times of resource abundance. The change to more preferable environmental circumstances led to a rise in population density. As a result, Archaic sites are more abundant than those from the earlier period. Artifacts typical of these occupations include a variety of stemmed and notched projectile points, chipped stone scrapers, ground stone tools (e.g. celts, adzes) and ornaments (e.g. bannerstones, gorgets), bifaces or tool blanks, animal bone and waste flakes, a by-product of the tool making process.

Woodland Period

Significant changes in cultural and environmental patterns are witnessed in the Woodland Period (circa 950 B.C to historic times). The coniferous forests of earlier times were replaced by stands of mixed and deciduous species. Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes by Woodland times are the appearance of artifacts manufactured from modeled clay and the construction of house structures. The Woodland Period is often defined by the occurrence of pottery, storage facilities and residential areas similar to those that define the incipient agricultural or Neolithic period in Europe. The earliest pottery was rather crudely made by the coiling method and house structures were simple enclosures.

Iroquoian Period

The primary Late Woodland occupants of the area were the Attawandaron (Neutral Nation), an Iroquoian speaking population described by European missionaries. Like other known Iroquoian groups including the Wendat (Huron) and Tionontate (Petun), the Attawandaron practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash). Attawandaron villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. The Jesuit Relations describe several Attawandaron centres in existence in the 17th century, including a number of sites where missions were later established. While precontact Attawandaron sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular stone projectile points, clay pipes and ground stone implements, sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit priests (e.g., finger rings, stoneware, rosaries, glassware). The Attawandaron were dispersed and their population decimated by the arrival of epidemic European diseases and inter-tribal warfare.

2.3.2 19th Century and Municipal Settlement

The project area is situated in the Town of Mitchell, within part of Lot 22, Concession 1 of the Geographic Township of Fullarton, Perth County. A brief discussion of 19th century and early municipal settlement for the area is provided below, together with a consideration of features that would otherwise indicate historic era archaeological potential.

The project area was originally part of the Huron Tract, roughly one million acres of land purchased by the Canada Company in 1828 (Kearsley 1962:6). The Canada Company's charter dictated that a significant portion of its profits be used for the construction and maintenance of public works (e.g., roads, bridges, schools and so on). Some of these funds were used to construct major thoroughfares through the tract, one of which was the old Huron Road, now Highway 8 which runs through the community of Mitchell. The Huron Road was open by 1828 and connected Goderich to the three major routes already established in Wilmot Township, namely Erb's, Snyder's and Bleem's (Bleams) roads. The Huron Road was a colonization road, designed to connect major centres and draw early settlement. Numerous taverns were erected on the road, partially funded by the Canada Company, with an aim to provide shelter to travelers and newly arrived settlers.

Following the arrival of its earliest settlers, the community of Mitchell grew to incorporate several businesses and industries. In 1843 the community's first general store was opened and its first mill was established on the river within a Canada Company

reserved site. In 1857 the community was incorporated as a village (H. Belden & Co. 1879:xi). Mitchell saw significant growth following the arrival of the Buffalo and Lake Huron railway during the same year. The community became a major shipping point on the line between Goderich and Buffalo.

The project area is located in Lot 22, Concession 1 in the Geographic Township of Fullarton. The 1879 historic atlas map (Map 7) shows the occupant of Lot 22 as H.K. Junk, and a structure is located approximately 50 m west of the project area. Frank Street is depicted as open by that time but does not extend into the project area. The Buffalo & Lake Huron Railway is located along the northern boundary. The project lands appear to have been cleared for agriculture in the 19th century and have remained that way ever since.

2.4 Analysis and Conclusions

As noted in Section 2.1, the Province of Ontario has identified numerous factors that signal the potential of a property to contain archaeological resources. Based on the archaeological and historical context reviewed above, the project area is in proximity (i.e., within 300 m) to the following features that signal archaeological potential:

1) a water source (Whirl Creek);
2) mapped 19th century transportation routes (Frank Street and the Buffalo and Lake Huron Railway); and
3) a mapped 19th century structure.

2.5 Recommendations

Given that the project area demonstrated potential for the discovery of archaeological resources, a Stage 2 archaeological assessment was recommended. Since the lands are agricultural in nature a pedestrian survey at a 5 m transect interval was recommended, to achieve the provincial standard. As the project area is considered to have archaeological potential pending Stage 2 field inspection, a separate map detailing zones of archaeological potential is not provided herein (as per Section 7.7.4 Standard 1 and 7.7.6 Standards 1 and 2 of 2011 *Standards and Guidelines for Consultant Archaeologists*).

3.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

3.1 Field Methods

All fieldwork was undertaken in good weather (overcast and cool) and lighting conditions. No conditions were encountered that would hinder the identification or recovery of artifacts. The boundaries were determined in the field based on proponent mapping and the staking of project limits in the field.

The entirety of the project area is comprised of agricultural fields which were subject to pedestrian survey. The pedestrian survey at 5 m intervals was carried out following ploughing of the agricultural field and weathering under heavy rains (Images 1-3). Surface visibility conditions were good to excellent (80% or greater). It was anticipated that when cultural material was identified the survey transects would be reduced to one metre or less and a minimum of 20 m radius around each find was intensively examined to determine the spatial extent of each site.

Map 8 illustrates the Stage 2 field conditions and assessment methods; the location and orientation of all photographs appearing in this report are also shown on this map. Map 9 presents the Stage 2 results on the proponent mapping, and Map 3 presents an unaltered proponent map.

3.2 Record of Finds

No archaeological materials or sites were identified during the Stage 2 field inspection of the project area. Table 2 provides an inventory of the documentary records generated during this project.

Table 2: Documentary Records

Field Notes And Field Maps	Dated November 14 and 16, 2017
Photo Catalogue	Dated November 16 (P1030262-77)
Location of Records	Timmins Martelle Heritage Consultants Inc., @ the Museum of Ontario Archaeology, 1600 Attawandaron Road, London, Ontario N6G 3M6

3.3 Analysis and Conclusions

A Stage 2 field assessment was carried out in keeping with the Province of Ontario's *Standards and Guidelines for Consultant Archaeologists*. The entirety of the project area was subject to pedestrian survey and this did not result in the discovery of archaeological resources. As such, the project area should be considered free of archaeological concern.

3.4 Recommendations

A Stage 1 and 2 archaeological assessment was conducted for a roughly 1.98 ha (4.89 ac) project area, falling within part of Lot 22, Concession 1 in the Geographic Township of Fullarton, Perth County, now in the Municipality of West Perth, Ontario. All work met provincial standards and no archaeological material was noted during the assessment. As such, the project area should be considered free of archaeological concern and no further archaeological assessment is recommended.

Our recommendations are subject to the conditions laid out in Section 5.0 of this report and to Ministry of Tourism, Culture and Sport review and acceptance of this report into the provincial register.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the subject property of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Further, archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries and Cemetery Closures, Ontario Ministry of Government and Consumer Services. Effective as of January 16, 2016, Nancy Watkins, Senior Policy Analyst, is the new Registrar. Her telephone number is 416 212-7499 and her e-mail address is Nancy.Watkins@ontario.ca.

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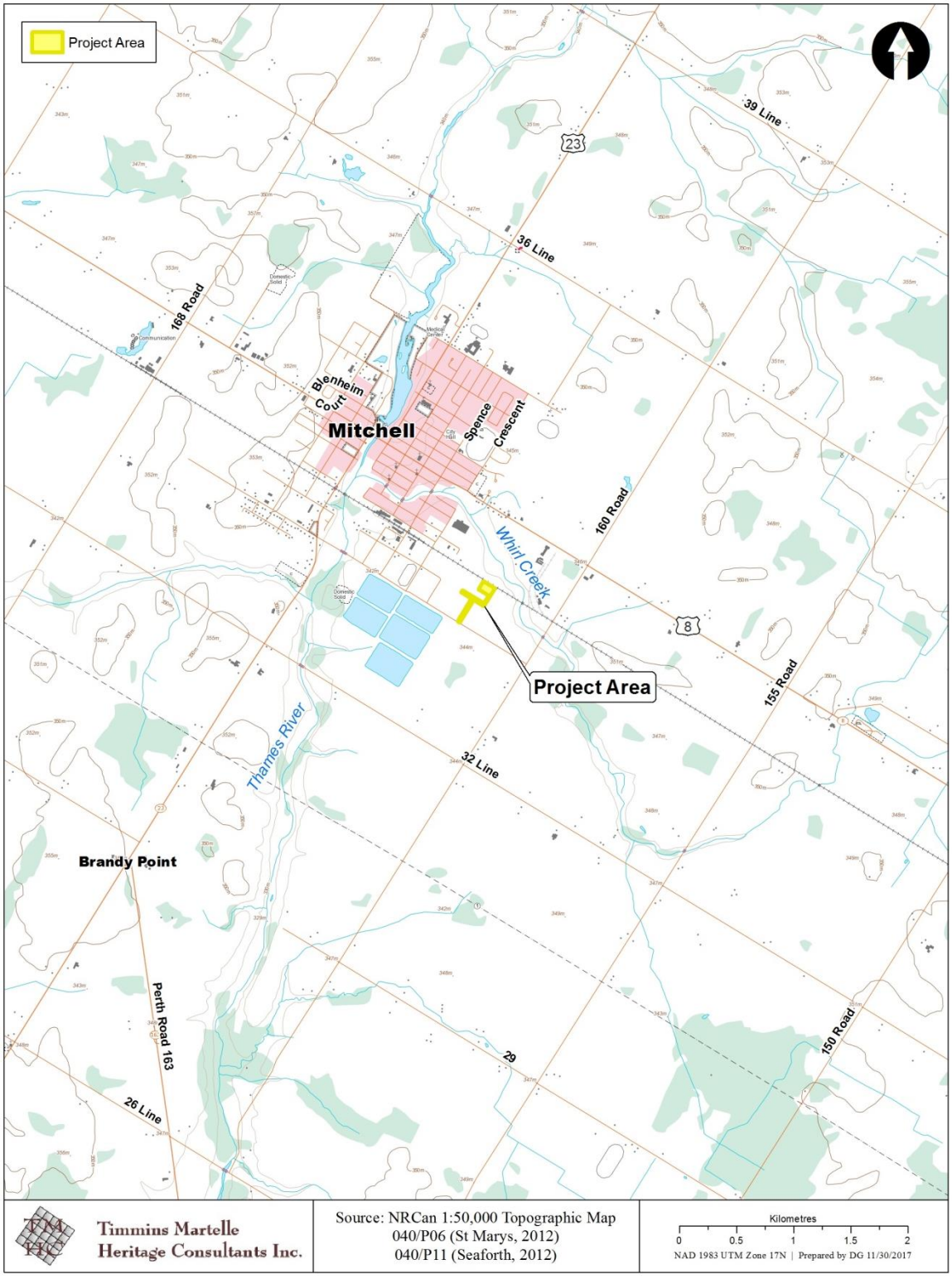
6.0 IMAGES

Image 1: Ongoing Pedestrian Survey (looking west)

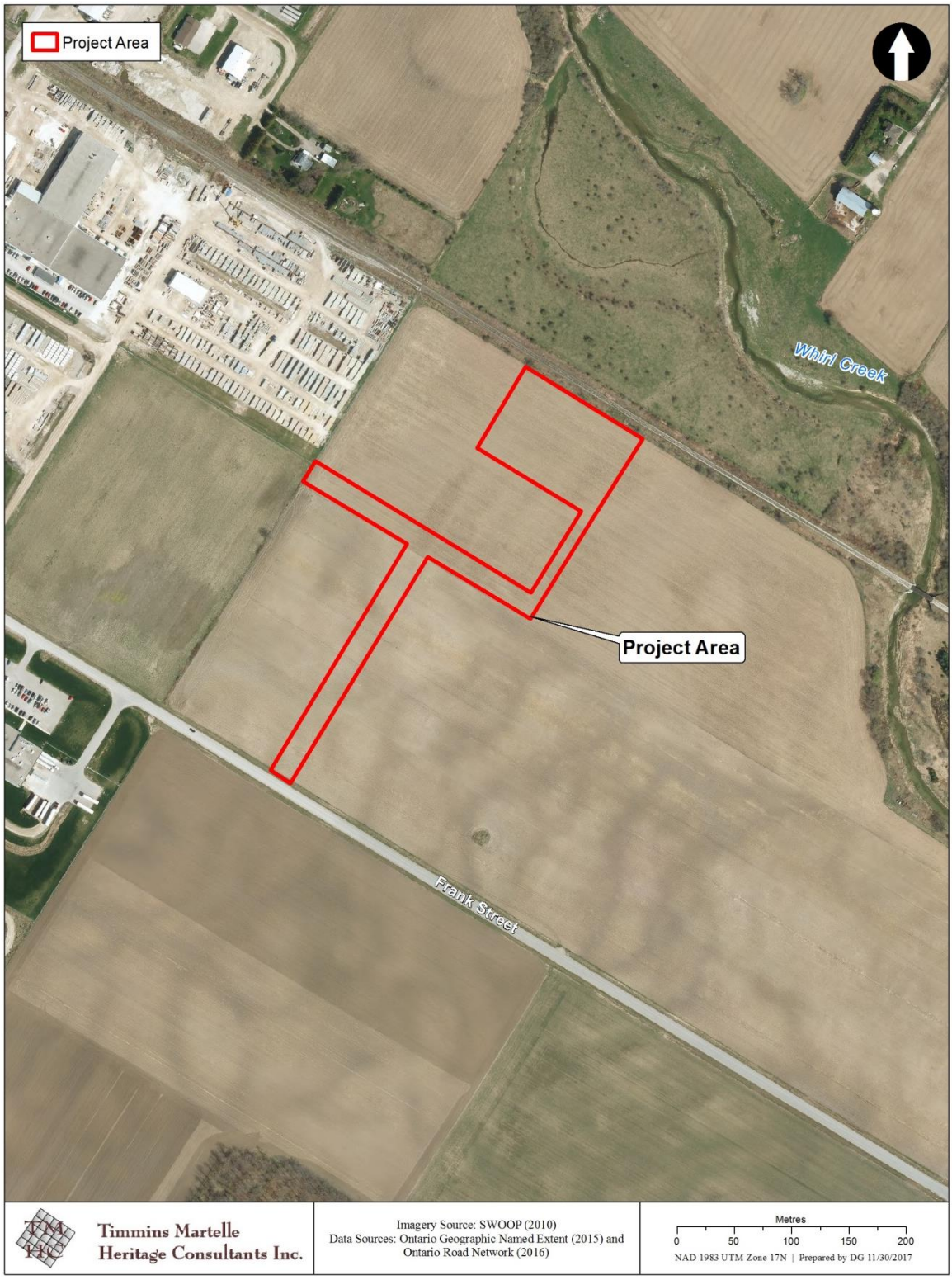
Image 2: Ongoing Pedestrian Survey (looking west)

Image 3: Surface Visibility

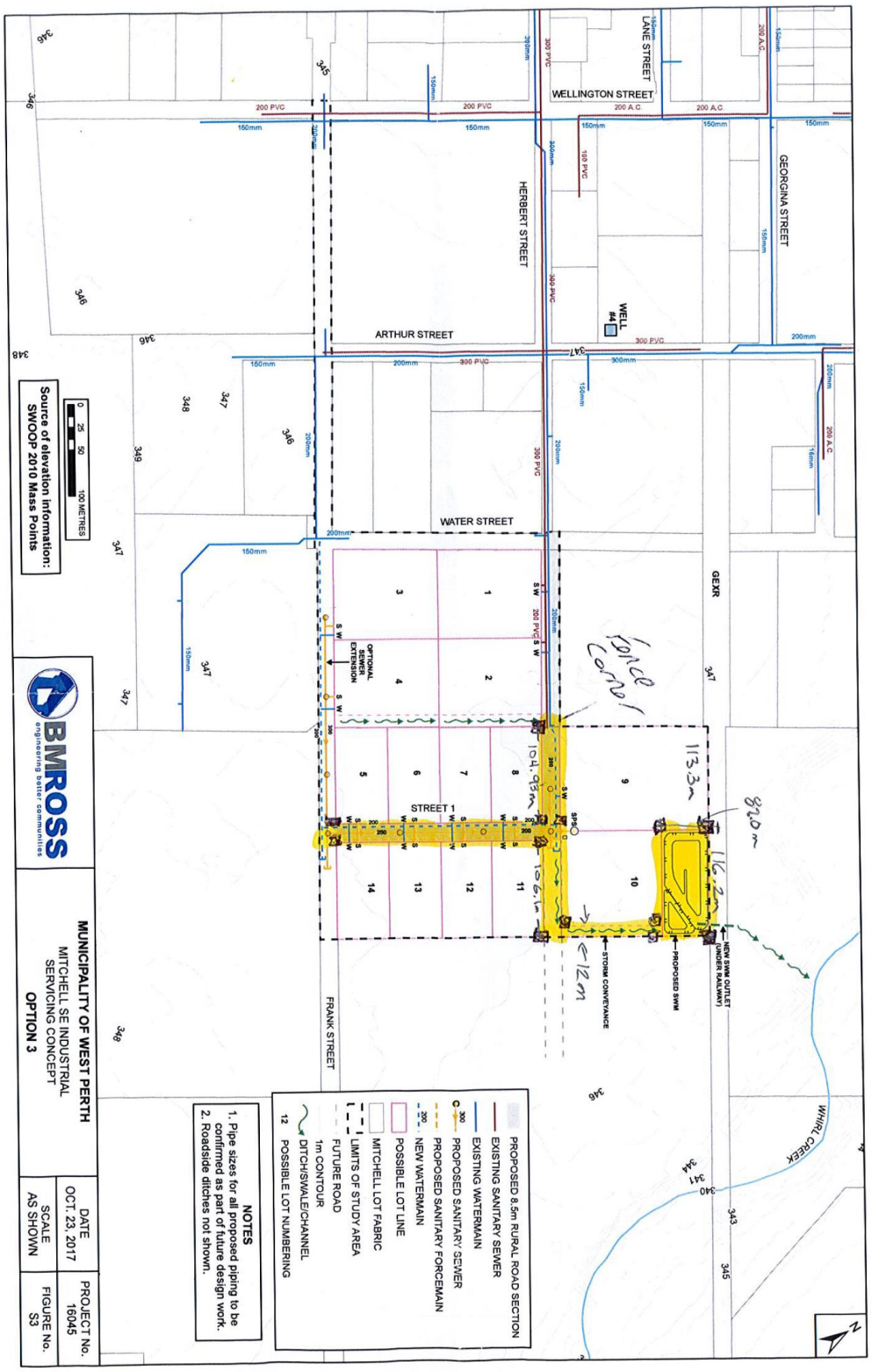
7.0 MAPS



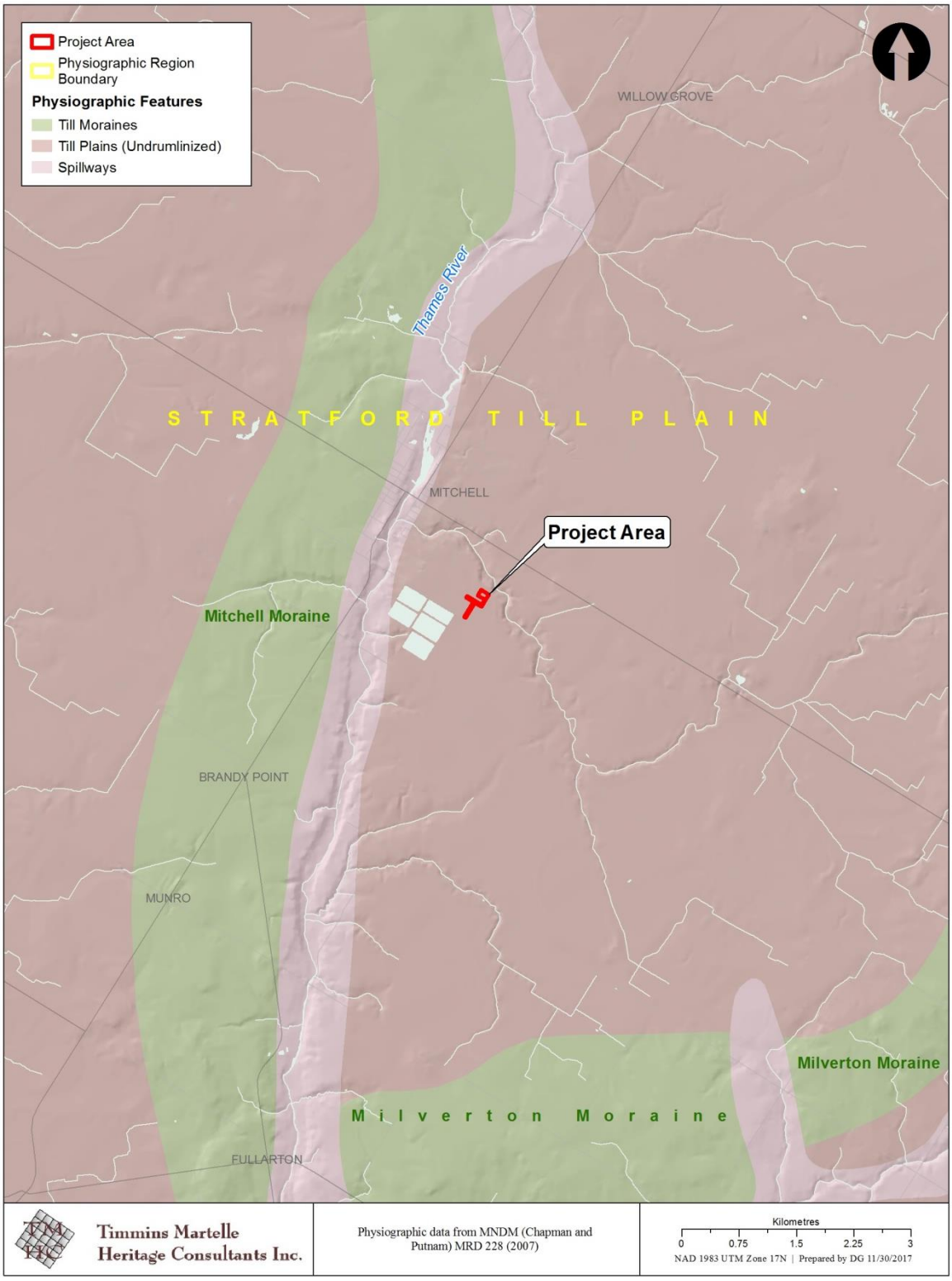
Map 1: Location of the Project Area in the Municipality of West Perth, ON



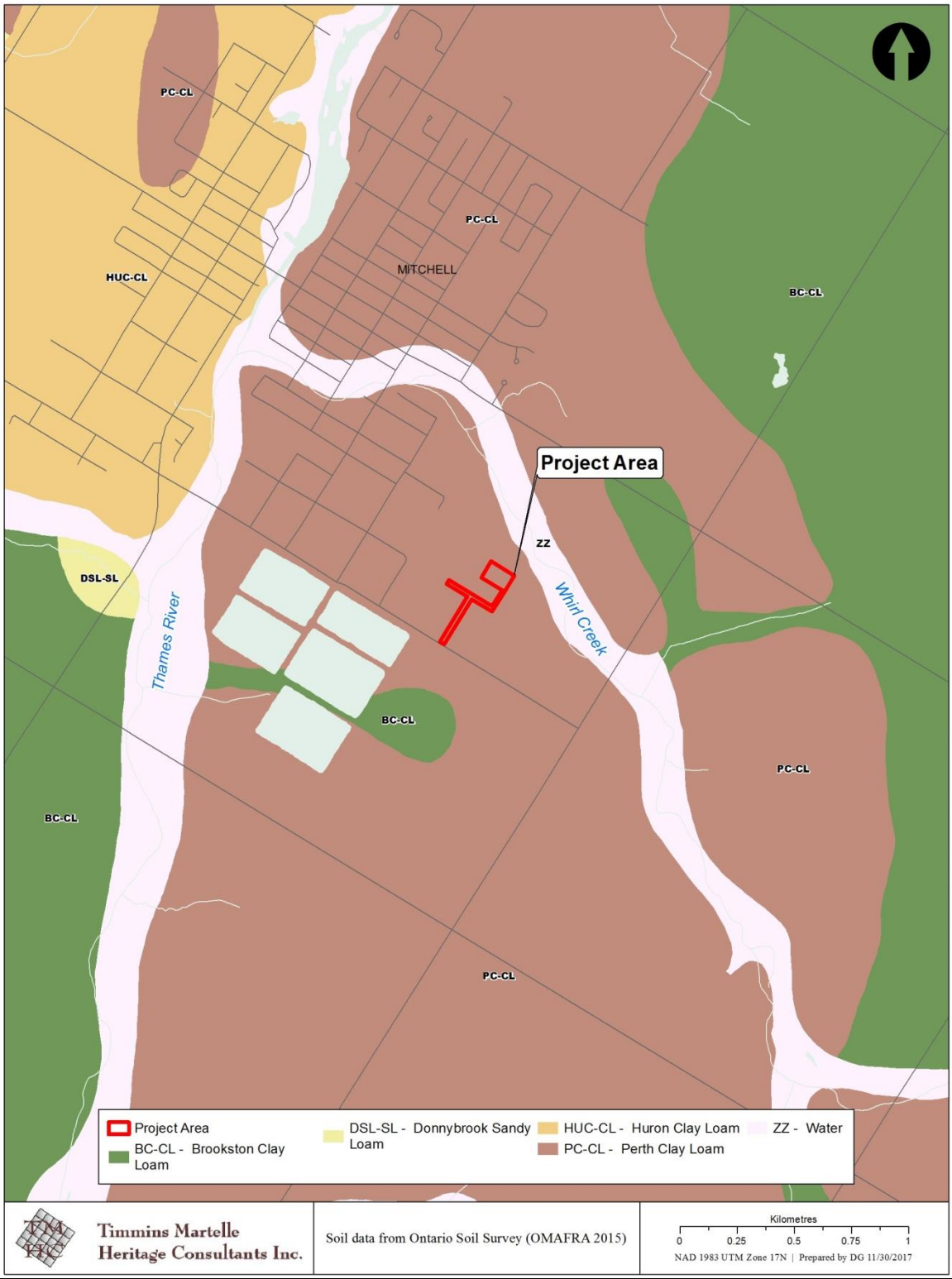
Map 2: Aerial Photograph Showing the Location of the Project Area in the Municipality of West Perth, ON



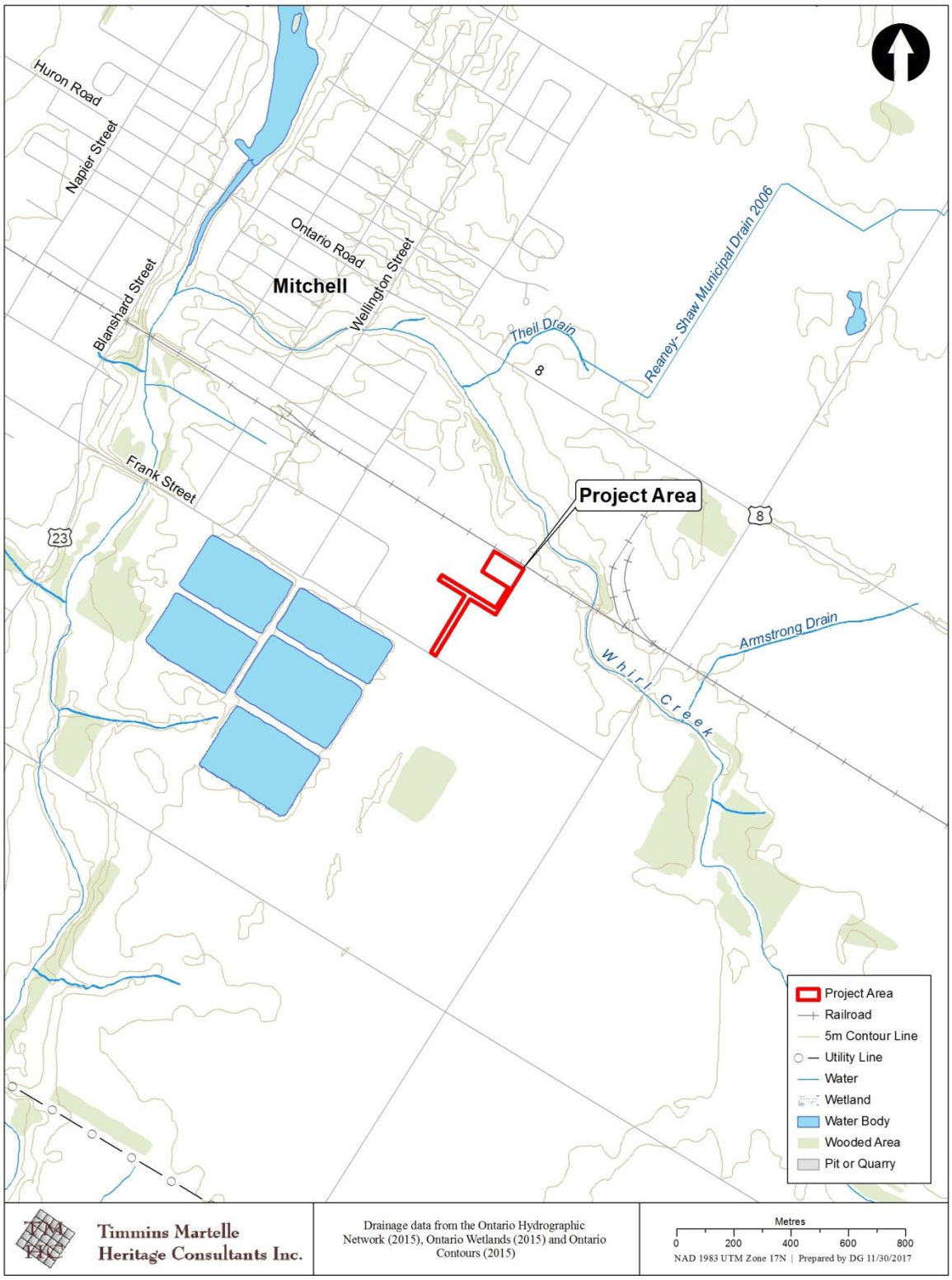
Map 3: Proponent Map



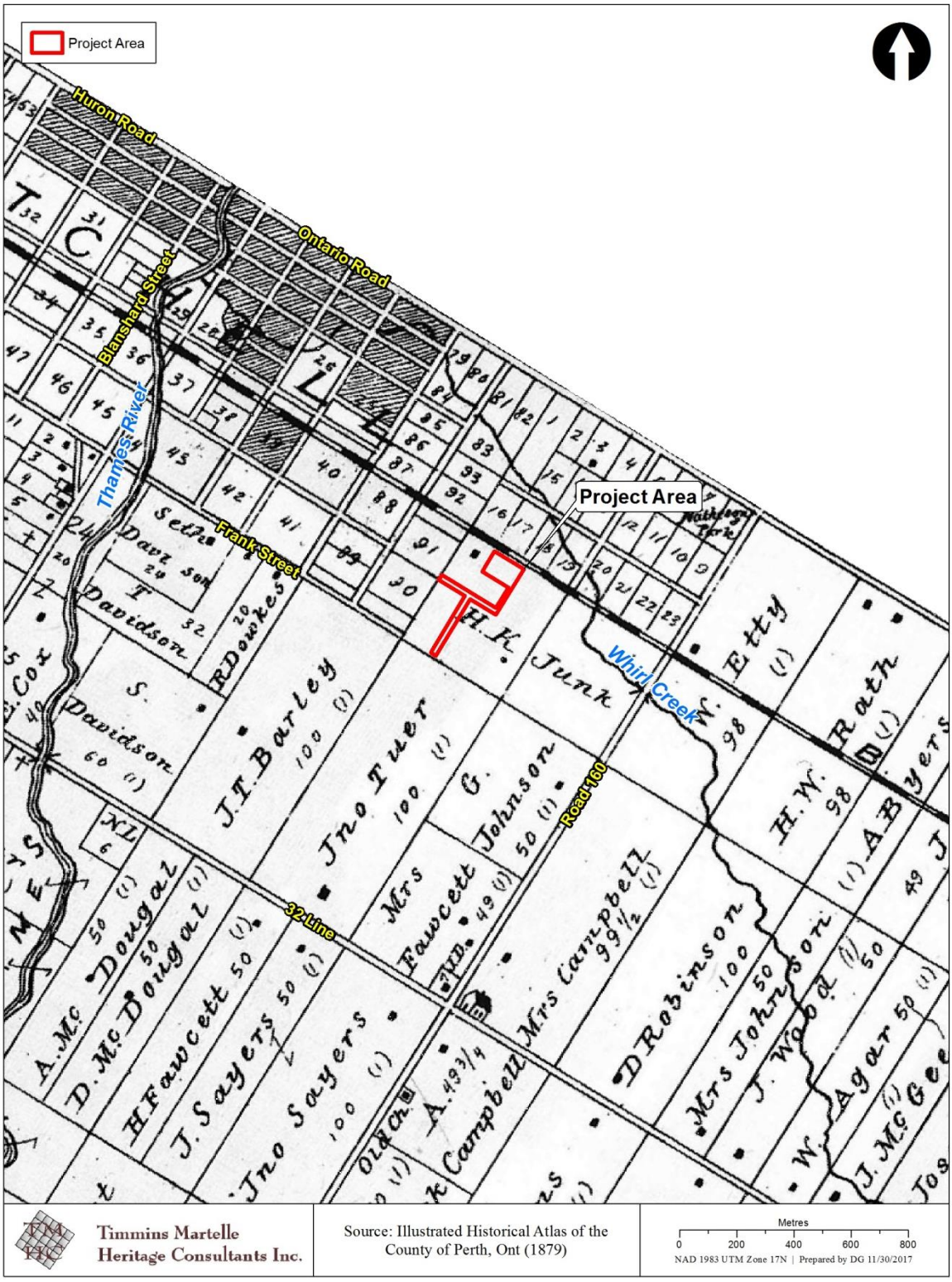
Map 4: Physiography within the Vicinity of the Project Area



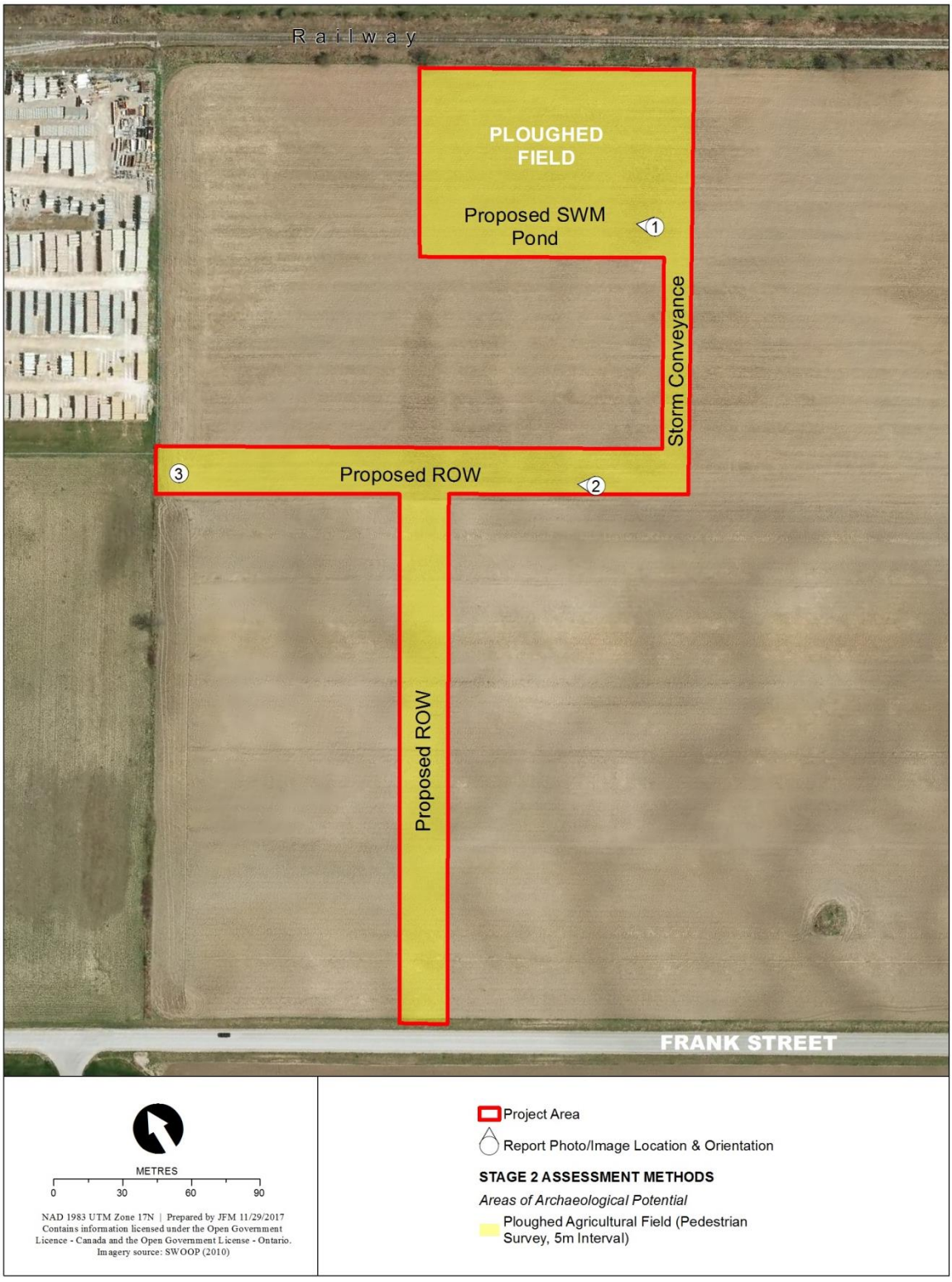
Map 5: Soils within the Vicinity of the Project Area



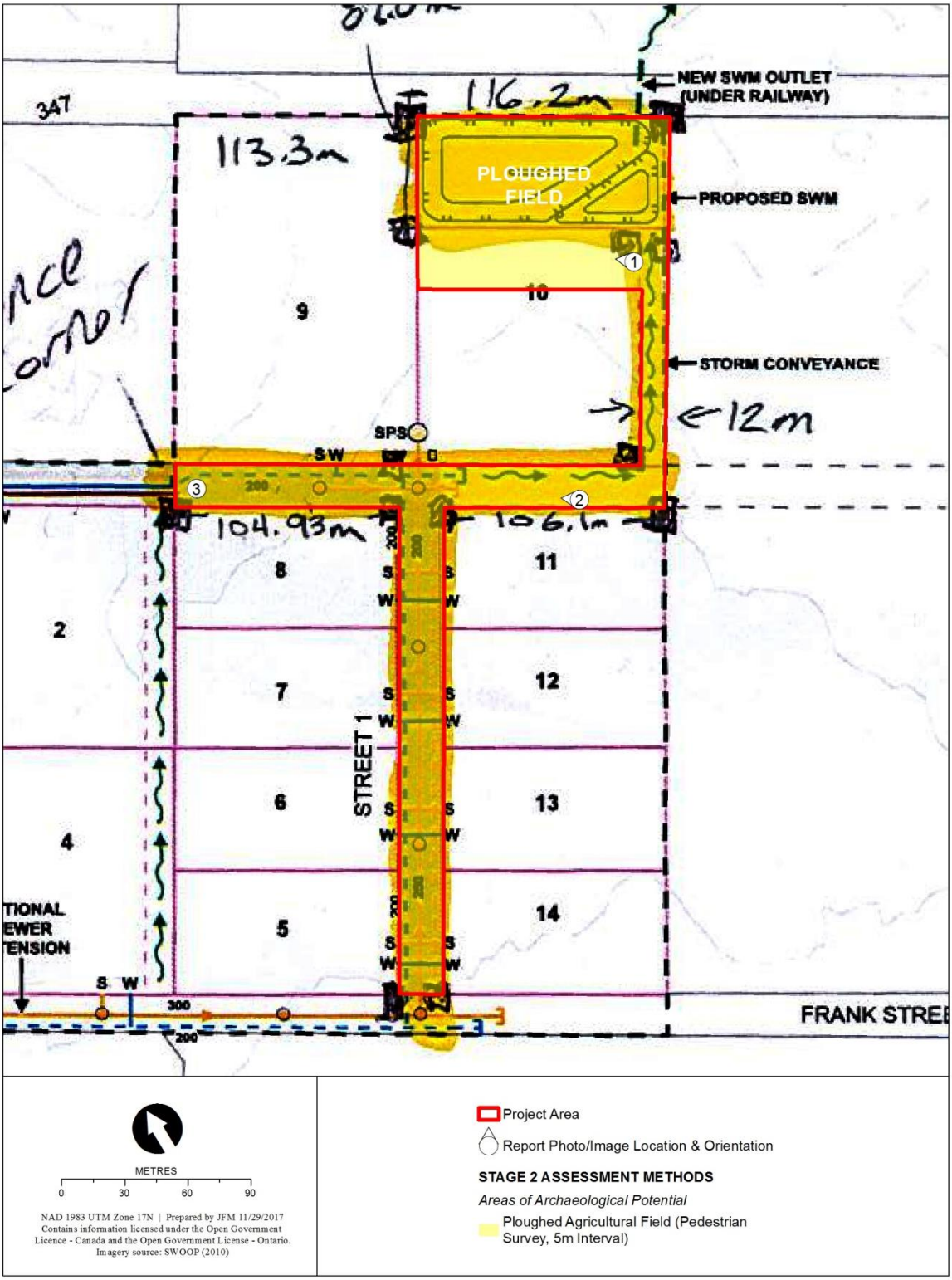
Map 6: Drainage within the Vicinity of the Project Area



Map 7: Location of the Project Area Shown on the 1879 Map of Perth County



Map 8: Stage 2 Field Conditions and Assessment Methods



Map 9: Stage 2 Field Conditions and Assessment Methods on Proponent Mapping

APPENDIX D

CONSULTATION RECORD

MUNICIPALITY OF WEST PERTH
(COMMUNITY OF MITCHELL)

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR DEVELOPMENT OF INDUSTRIAL LANDS IN THE SOUTHEAST

NOTICE OF STUDY COMMENCEMENT

THE PROJECT:

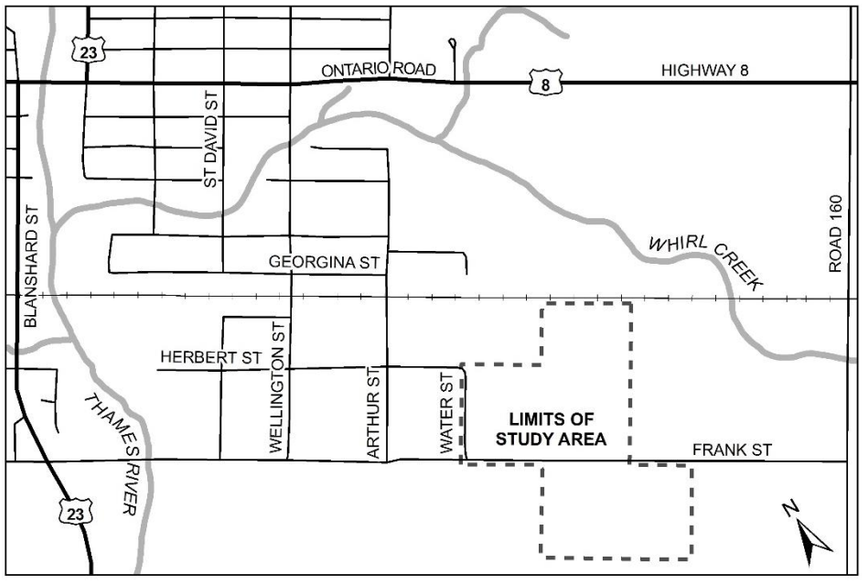
The Municipality of West Perth is planning to extend servicing to additional lands designated for industrial development in the southeast part of Mitchell. The site is located north of Frank Street and west of Water Street (see attached key plan) in southeast Mitchell, adjacent to existing areas already utilized for commercial and industrial activities. Development of the site will include the extension of municipal services, including sanitary, water and stormwater drainage, and will also include the creation of a new municipal allowance to access building sites.

THE ENVIRONMENTAL ASSESSMENT PROCESS:

The planning for this project is following the environmental screening process established for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document. Schedule B projects are approved subject to the completion of a screening process. The purpose of the Environmental Assessment process is to identify any potential environmental impacts associated with the proposal and to plan for appropriate mitigation of any impacts. The process includes consultation with the public, stakeholders, Aboriginal communities, and review agencies.

PUBLIC INVOLVEMENT:

Public input and comments are invited for incorporation into the planning and design of this project and will be received until December 8th, 2017. Any comments collected in conjunction with the study will be maintained on file for use during the project and may be included in project documentation. With the exception of personal information, all comments will become part of the public record.



For further information on this project, or to review the Class EA process, please contact the project engineers: B. M. Ross and Associates Ltd., 62 North Street, Goderich, Ontario, N7A 2T4. Telephone (888) 524-2641. Fax (519) 524-4403. Attention: Kelly Vader, Environmental Planner. E-mail: kvader@bmross.net.

Jeff Brick, CAO
Municipality of West Perth

This Notice Issued November 8, 2017

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
62 North Street, Goderich, ON N7A 2T4
p. (519) 524-2641 • f. (519) 524-4403
www.bmross.net

File No. 16045

November 2, 2017

Review Agency
(See attached list)

RE: Municipality of West Perth
Class EA for Industrial Park Expansion
(Community of Mitchell)

The Municipality of West Perth is planning to extend servicing to additional lands designated for industrial development in the southeast part of Mitchell. The site is located north of Frank Street and west of Water Street (see attached key plan) in southeast Mitchell, adjacent to existing areas already utilized for commercial and industrial activities. Development of the site will include the extension of municipal services, including sanitary, water and stormwater drainage, and will also include the creation of a new municipal allowance to access building sites.

The planning for this project is following the environmental screening process set out for Schedule B activities under the Municipal Class Environmental Assessment process. The purpose of the screening process is to identify any potential environmental impacts associated with the project and to plan for appropriate mitigation of any impacts. The process includes consultation with the general public, stakeholders, Aboriginal communities and government review agencies.

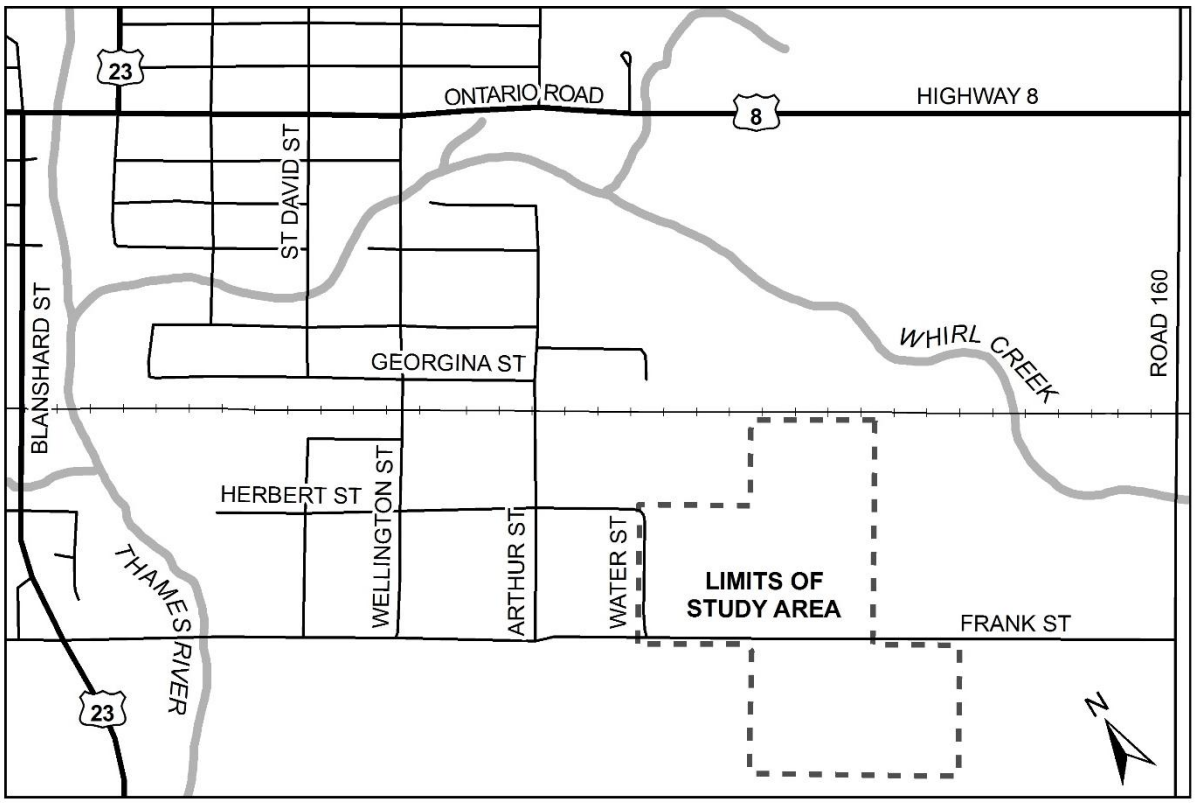
Your organization has been identified as possibly having an interest in the project and we are soliciting your input. Please forward your response to our office by December 8, 2017. If you have any questions or require further information, please contact the undersigned at kvader@bmross.net or by phone at 1-888-524-2641.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per _____
Kelly Vader, RPP, MCIP
Environmental Planner

KV:hv
cc. Mike Kraemer, Municipality of West Perth



View of west extent of site ↑

View of east extent ↓

MUNICIPALITY OF WEST PERTH

CLASS ENVIRONMENTAL ASSESSMENT FOR INDUSTRIAL PARK EXPANSION (COMMUNITY OF MITCHELL)

REVIEW AGENCY CIRCULATION LIST

REVIEW AGENCY	INVOLVEMENT
Ministry of the Environment and Climate Change (London) - EA Coordinator	Mandatory Contact
Ministry of Natural Resources and Forestry Guelph	Potential Impact on Natural Features
Ministry of Tourism, Culture and Sport	Toronto
Ministry of Transportation	London
County of Perth - Administration Department - Planning & Development Department	- General Information - Implications for Long-Term Development
Upper Thames River Conservation Authority	Potential Impact on Natural Features
Municipality of West Perth	Proponent
Mitchell Fire Department	General Information

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
62 North Street, Goderich, ON N7A 2T4
p. (519) 524-2641 • f. (519) 524-4403
www.bmross.net

File No. 16045

November 2, 2017

Aboriginal Community
(see attached list)

RE: Municipality of West Perth
Class EA for Industrial Park Expansion
(Community of Mitchell)

The Municipality of West Perth is planning to extend servicing to additional lands designated for industrial development in the southeast part of Mitchell. The site is located north of Frank Street and west of Water Street (see attached key plan) in southeast Mitchell, adjacent to existing areas already utilized for commercial and industrial activities. Development of the site will include the extension of municipal services, including sanitary, water and stormwater drainage, and will also include the creation of a new municipal allowance to access building sites.

The planning for this project is following the environmental screening process set out for Schedule B activities under the Municipal Class Environmental Assessment process. The purpose of the screening process is to identify any potential environmental impacts associated with the project and to plan for appropriate mitigation of any impacts. The process includes consultation with the general public, stakeholders, Aboriginal communities and government review agencies.

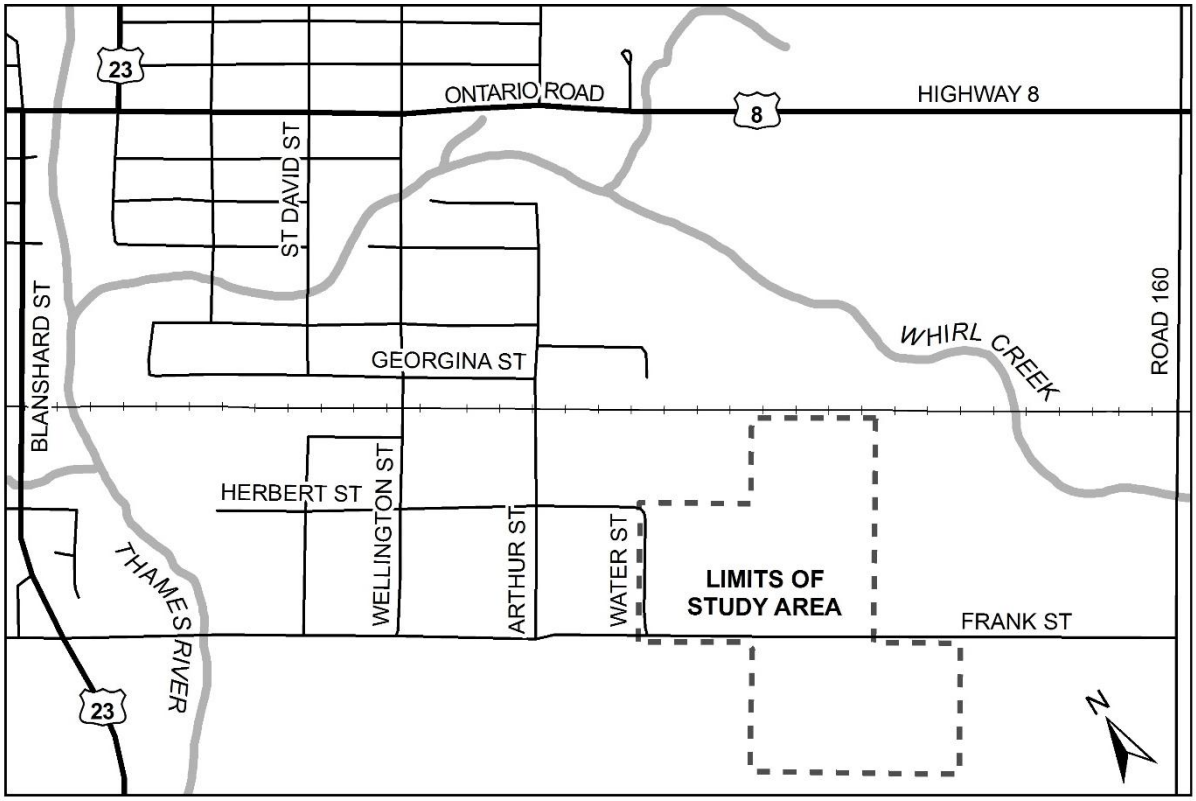
Your community has been identified as possibly having an interest in the project and we are soliciting your input. For your convenience, a response form is enclosed along with a self-addressed stamped envelope. Please forward your response to our office by December 8, 2017.
If you have any questions or require further information, please contact the undersigned at 519-524-2641 or by e-mail at kvader@bmross.net.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per _____
Kelly Vader, RPP, MCIP
Environmental Planner

KV:hv
cc. Mike Kraemer, Municipality of West Perth



View of west extent of site ↑

View of east extent ↓

MUNICIPALITY OF WEST PERTH
COMMUNITY OF MITCHELL

CLASS ENVIRONMENTAL ASSESSMENT
FOR INDUSTRIAL PARK EXPANSION
PROJECT 16045

ABORIGINAL CIRCULATION LIST:

Chippewas of Kettle and Stony Point First Nation
Chief Thomas Bressette
6247 Indian Lane
RR #2 Forest, Ontario
N0N 1J0

Aamjiwnaang First Nation
Chief Joanne Rogers
Aamjiwnaang Administration Office
978 Tashmoo Ave.
Sarnia, ON
N7T 7H5

Chippewas of the Thames First Nation
Chief Myeengun Henry
320 Chippewa Road, Muncey, ON
N0L 1Y0

Oneida Nation of the Thames
Chief Randall Phillips
2212 Elm Ave
Southwold, Ontario
N0L 2G0

Munsee-Delaware Nation
Chief Roger Thomas
RR#1
Muncey, Ontario
N0L 1Y0

Historic Saugeen Métis
George Govier, Consultation Coordinator
204 High Street, Box 1492
Southampton, Ontario
N0H 2L0

Métis Nation of Ontario
500 Old St. Patrick St., Unit 3
Ottawa, ON K1N 9G4

Response Form

Project Name: Class EA for Industrial Park Expansion

Project Description: Municipality is developing additional lands for Industrial growth in the southeast portion of Mitchell.

Project Location: Community of Mitchell, in the Municipality of West Perth

Please Detach and Return in Envelope Provided

Name of Aboriginal Community: _____

Please check appropriate box:

☐ **Please send additional information on this project**

☐ **We would like to meet with representatives of this project**

☐ **We have no concerns with this project and do not wish to be consulted further**

Ministry of the Environment and Climate Change

733 Exeter Road
London ON N6E 1L3
Tel': 519 873-5000
Fax: 519 873-5020

Ministère de l'Environnement et de l'Action en matière de changement climatique

733, rue Exeter
London ON N6E 1L3
Tél.: 519 873-5000
Fax: 519 873-5020

Ontario

November 7th, 2017

Municipality of West Perth
169 St David Street,
Mitchell, Ontario
N0K 1N0

Attention: Mr. Jeff Brick, Chief Administrative Officer

Re: Notice of Commencement Municipality of West Perth Class EA for Industrial Park Expansion (Community of Mitchell)

Dear Mr. Brick:

This letter acknowledges this ministry's receipt of the Notice of Commencement for the above noted project.

It is this ministry's understanding that the Municipality of West Perth has initiated a Class EA process for an Industrial Park Expansion. The Municipality is planning to extend servicing to additional lands designated for industrial development in the southeast part of Mitchell. The site is located north of Frank Street and west of Water Street in Southeast Mitchell, adjacent to existing areas already utilized for commercial and industrial activities. Development of the site will include the extension of municipal services, including sanitary, water and storm drainage, and will also include the creation of a new municipal allowance to access building sites.

As you know, the Class Environmental Assessment (Class EA) planning process includes consultation with interested stakeholders, evaluation of alternatives, assessment of the effects of the proposed works and identification of measures to mitigate any adverse impacts. In addition to consultation with public agencies and the general public, consultation with Aboriginal communities is required.

Aboriginal Consultation

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to your proposed project, **the MOECC is delegating the procedural aspects of rights-based consultation to you through this letter.** The Crown intends to rely

on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information you have provided to date and the Crown`s preliminary assessment you are required to consult with the following communities who have been identified as potentially affected by your proposed project:

Nation	Contact Information
Aamjiwnaang First Nation	Aamjiwnaang First Nation 978 Tashmoo Ave. Sarnia, ON N7T 7H5 519-336-8410 Chief Joanne Rogers jrogers@aamjiwnaang.ca Other Contacts: Sharilyn Johnston, Environment Coordinator sjohnston@aamjiwnaang.ca Christine Rogers, Enviroment Worker crogers@aamjiwnaang.ca (same mailing address for all)
Bkejwanong Territory (Walpole Island First Nation)	Bkejwanong Territory 117 Tahgahoning Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1481 Chief Dan Miskokomon drskoke@wifn.org Other Contacts: Dean Jacobs, Consultation Manager Walpole Island Heritage Centre 2185 River Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1475 dean.jacobs@wifn.org and Janet Macbeth, Project Review Coordinator janet.macbeth@wifn.org
Chippewas of Kettle and Stony Point First Nation	Chippewas of Kettle and Stony Point First Nation 6247 Indian Lane, R.R.#2 Forest, ON N0N 1J1 519-786-2125 Chief Tom Bressette thomas.bressette@kettlepoint.org Other Contact: Valerie George Consultation Coordinator valerie.george@kettlepoint.org
Chippewas of the Thames First Nation	Chippewas of the Thames First Nation 320 Chippewa Rd., Muncey, ON N0L 1Y0 519-289-5555 Chief Myeengun Henry myeengun@cottfn.com Other Contacts: Kelly Riley, Acting Director - Lands & Environment kriley@cottfn.com 519-289-2662 ext. 209 Rochelle Smith, Acting Consultation Coordinator rsmith@cottfn.com 519-289-2662 ext 213
Caldwell First Nation	Caldwell First Nation P.O. Box 388 Leamington, ON N8H 3W3 519-322-1766 or 1-800-206-7522 chief.hillier@caldwellfirstnation.ca and cfnchief@live.com
Oneida Nation of the Thames ONYOTA'A:KA	Oneida Nation of the Thames 2212 Elm Ave. Southwold, ON N0L 2G0 519-652-3244 Chief Randall Phillips randall.phillips@oneida.on.ca

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link:

https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process

Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

You must contact the Director of Environmental Approvals Branch under the following circumstances subsequent to initial discussions with the communities identified by MOECC:

- aboriginal or treaty rights impacts are identified to you by the communities;
- you have reason to believe that your proposed project may adversely affect an aboriginal or treaty right;
- consultation has reached an impasse;
- a Part II Order request or elevation request is expected.

The Director of the Environmental Approvals Branch can be notified either by email with the subject line "Potential Duty to Consult" to EAASIBgen@ontario.ca or by mail or fax at the address provided below:

Email:	EAASIBGen@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Approvals Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON, M4V 1P5

The MOECC will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play in them.

Source Water Protection

As per the recent amendments to the Municipal Engineers Association (MEA) Class Environmental Assessment parent document approved October 2015, proponents undertaking a Municipal Class EA project must identify early in the process whether a project is occurring within a source water protection vulnerable area. This must be clearly documented in a Project File report or ESR. If the project is occurring in a vulnerable area, then there may be policies in the local Source Protection Plan (SPP) that need to be addressed (requirements under the Clean Water Act). The proponent should contact and consult with the appropriate Conservation Authority/Source Protection Authority (CA/SPA) to discuss potential considerations and policies in the SPP that apply to the project.

Please include a section in the report on Source Water Protection. Specifically, it should discuss whether or not the project is located in a vulnerable area or changes or creates new vulnerable areas, and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are a prescribed drinking water threat and thus pose a risk to drinking water (this should be consulted on with the appropriate CA/SPA). Where an activity poses a risk to drinking water, the proponent must document and discuss in the Project File Report/ESR how the project adheres to or has regard to applicable policies in the local SPP. If creating or changing a vulnerable area, proponents should document whether any existing uses or activities may potentially be affected by the implementation of source protection policies. This section should then be used to inform and should be reflected in other sections of the report, such as the identification of net positive/ negative effects of alternatives, mitigation

measures, evaluation of alternatives etc. As a note, even if the project activities in a vulnerable area are deemed not to be a drinking water risk, there may be other policies that apply and so consultation with the local CA/SPA is important.

Conclusion

Thank you for the opportunity to comment on this project. Please keep this office fully informed of the status of this project as it proceeds through the Class EA process.

Please send all future correspondence with respect to this project to my attention, as I am this ministry's one window contact for this project: Craig Newton, Regional Environmental Planner / Regional EA Coordinator at the address below; email address:craig.newton@ontario.ca; telephone number: 519-873-5014.

A draft copy of the Environmental Study Report should be forwarded to my attention prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments. Please also forward the Notice of Completion and final ESR to me when completed. Thank you in advance.

Yours truly,

Craig Newton
Regional Environmental Planner / Regional EA Coordinator
Ministry of Environment and Climate Change
733 Exeter Road
London ON, N6E 1L3
519 873-5014

Copy: Ms. Kelly Vader, Environmental Planner, B.M. Ross and Associates Limited, Goderich
Mr. Rob Wrigley, District Manager, MOECC London District
Mr. Scott Abernethy, Group Leader Surface Water, Water Resources Unit, MOECC SWR
Mr. Steve Dunn, Drinking Water Inspector, MOECC Safe Drinking Water Branch, London

UPPER THAMES RIVER
CONSERVATION AUTHORITY

The Thames
A Canadian
Heritage River

"Inspiring a Healthy Environment"

November 8, 2017

B.M. Ross & Associates Limited
62 North Street
Goderich, Ontario
N7A 2T4

Attention: **Kelly Vader** (kvader@bmross.net)

Dear Ms. Vader:

Re: **Municipality of West Perth**
Class EA for Industrial Park Expansion
(Community of Mitchell)

Upper Thames River Conservation Authority (UTRCA) staff are in receipt of the Municipal Class Environmental Assessment (EA) notice regarding review of the Industrial Park Expansion in the Municipality of West Perth, Community of Mitchell. We offer the following comments under Ontario Regulation 157/06 and our responsibilities as a commenting agency providing technical review and advisement related to natural heritage, water resources and natural hazard management pursuant to relevant legislation and policies set out in the UTRCA Planning Policy Manual (June 28, 2006):

1) We would appreciate the opportunity for our technical staff to review and provide comments on any upcoming draft servicing designs and/or proposed alternatives. Please note that our scope of review is based on the policies set out in the Upper Thames River Conservation Authority Planning Policy Manual (June 28, 2006). EA and subsequent detail design project review for the Mitchell Industrial Park Expansion would generally be guided by, but not limited to, natural heritage, natural hazard and pollution prevention areas of concern for lands regulated within our jurisdiction.

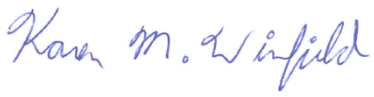
2) According to the enclosed project location mapping, portions of the works may occur within natural hazard and natural heritage areas regulated by the Conservation Authority. The UTRCA regulates development within the Regulation Limit in accordance with Ontario Regulation 157/06 made pursuant to Section 28 of the *Conservation Authorities Act*. This regulation requires proponents to obtain written approval from the UTRCA prior to undertaking any works in the regulated area including filling, grading, construction, alteration to a watercourse and/or interference with a wetland.

3) For any proposed stormwater management facility our technical staff may need to review the Stormwater Management Report and associated design drawings.

Our office would like to be included in future circulations regarding this project. We would appreciate receiving information and reports as they become available in order to ensure that we can meet the project deadlines with our comments.

If you have any questions regarding the above information, please contact the undersigned.

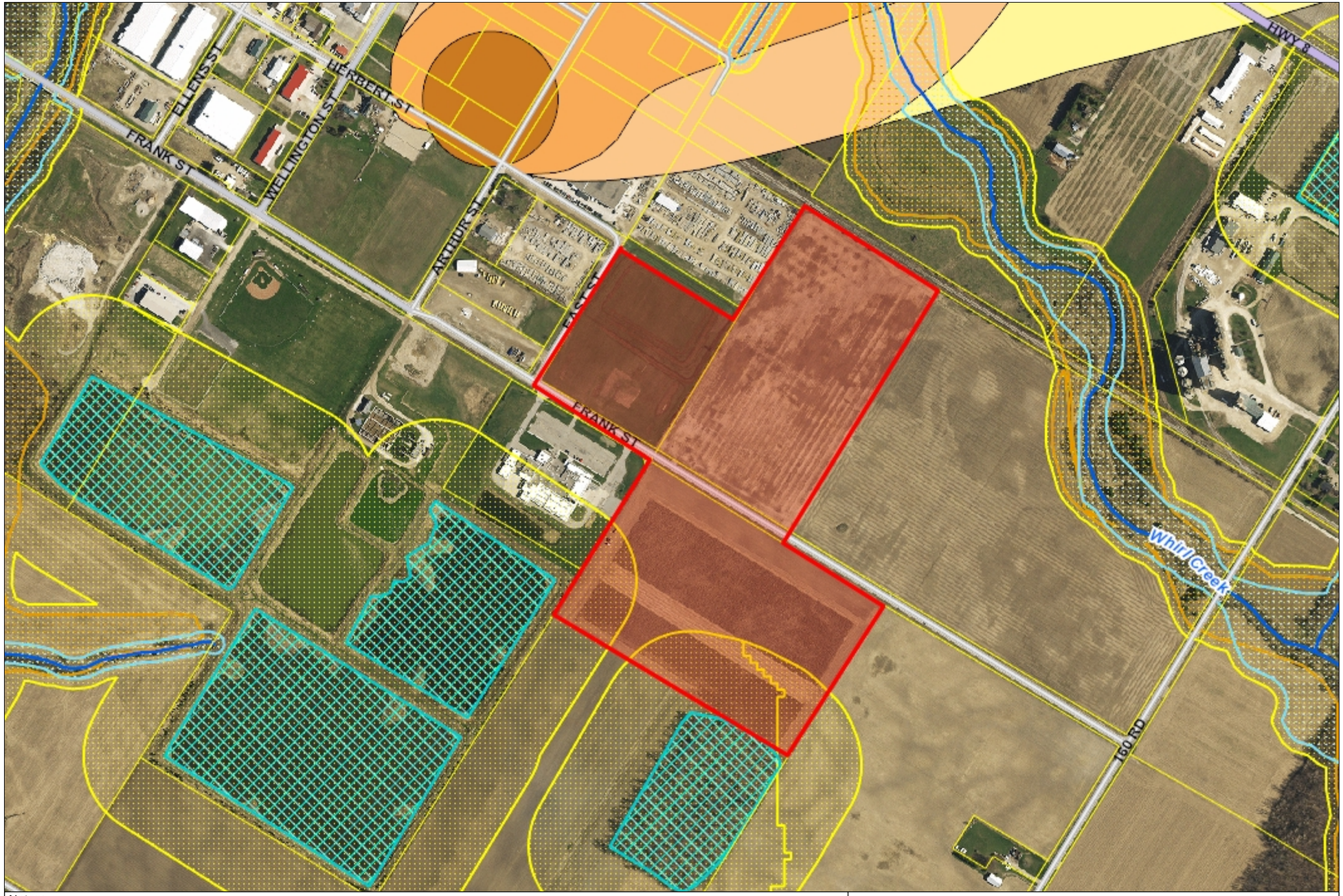
Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY



Karen M. Winfield
Land Use Regulations Officer

Enc. – UTRCA Regulation Limit mapping of the study area associated with the proposed West Perth Industrial Park Expansion in the Community of Mitchell.

c.c. – Mike Kraemer, Municipality of West Perth – (via e-mail: mkraemer@westperth.com)



Regulation Limit

Regulation under s.28 of the *Conservation Authorities Act*

Development, interference with wetlands, and alterations to shorelines and watercourses. O.Reg 157/06, 97/04.

Legend

- UTRCA Watershed (1:10K)
- Assessment Parcel (MPAC)
- Watercourse
  - Open
  - Tiled
- Wetland Hazard
- Flooding Hazard
- Erosion Hazard
- Regulation Limit 2015
- Wellhead Protection Areas - Approved
  - WHPA-A
  - WHPA-B
  - WHPA-C
  - WHPA-D
  - WHPA-E

The Regulation Limit depicted on this map schedule is a representation of O.Reg 157/06 under O.Reg 97/04.

The Regulation Limit is a conservative estimation of the hazard lands within the UTRCA watershed. Depending on the specific characteristics of the hazard land and the land use proposed, the Regulation Limit may be subject to change.

The UTRCA disclaims explicitly any warranty, representation or guarantee as to the content, sequence, accuracy, timeliness, fitness for a particular purpose, merchantability or completeness of any of the data depicted and provided herein.

The UTRCA assumes no liability for any errors, omissions or inaccuracies in the information provided herein and further assumes no liability for any decisions made or actions taken or not taken by any person in reliance upon the information and data furnished hereunder.

This map is not a substitute for professional advice. Please contact UTRCA staff for any changes, updates and amendments to the information provided.

This document is not a Plan of Survey.

UPPER THAMES RIVER CONSERVATION AUTHORITY

Notes:

West Perth Industrial Park Expansion, Class EA, Mitchell

Created By: KMW November 6, 2017

* Please note: Any reference to scale on this map is only appropriate when it is printed landscape on legal-sized (8.5" x 14") paper.

0 140 280 560

metres

1: 7,000

N

Good Morning Kelly,

The Historic Saugeen Metis (HSM) Lands, Resources, and Consultation Department has reviewed the relevant documents and has determined that the proposed development is beyond the geographical area of our traditional Metis territory.

We therefore have no concerns with this project and do not wish to be consulted further.

I trust this may be helpful.

Regards,

George Govier

Co-ordinator Lands, Resources, and Consultation

Historic Saugeen Metis
204 High Street
Southampton, Ontario
N0H 2L0
Direct Line (519) 483-4001
Fax (519) 483-4002
Email saugeenmetisadmin@bmts.com

Ministry of Tourism, Culture and Sport

Heritage Program Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel: 416 314 7145
Fax: 416 212 1802

Ministère du Tourisme, de la Culture et du Sport

Unité des programmes patrimoine
Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél: 416 314 7145
Téléc: 416 212 1802

December 6, 2017 (EMAIL ONLY)

Kelly Vader, RPP, MCIP
B.M. Ross and Associates Limited
62 North Street
Goderich, ON N7A 2T4
E: kvader@bmross.net

RE: MTCS file #: 0007947
Proponent: Municipality of West Perth
Subject: Notice of Commencement, Municipal Class Environmental Assessment Industrial Park Expansion (Community of Mitchell)
Location: Municipality of West Perth, Perth County, Ontario

Dear Hello Kelly Vader:

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Commencement for your project. MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land-based and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources. While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Archaeological Resources
Your EA project may impact archaeological resources and you should screen the project with the MTCS *Criteria for Evaluating Archaeological Potential* to determine if an archaeological assessment is needed. MTCS archaeological sites data are available at *archaeology@ontario.ca*. If your EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the *OHA*, who is responsible for submitting the report directly to MTCS for review.

Built Heritage and Cultural Heritage Landscapes
The MTCS *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* should be completed to help determine whether your EA project may impact cultural heritage resources. The Clerks for the Municipality of West Perth and Perth County can provide information on property registered or designated under the *Ontario Heritage Act*. Municipal Heritage Planners can also provide information that will assist you in completing the checklist.

If potential or known heritage resources exist, MTCS recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, should be completed to assess potential project impacts. Our Ministry's *Info Sheet #5: Heritage Impact Assessments and Conservation Plans* outlines the scope of HIAs. Please send the HIA to MTCS for review, and make it available to local organizations or individuals who have expressed interest in review.

Environmental Assessment Reporting
All technical heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MTCS whether any technical heritage studies will be completed for your EA project, and provide them to MTCS before issuing a Notice of Completion. If your screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank-you for consulting MTCS on this project: please continue to do so through the EA process, and contact me for any questions or clarification.

Sincerely,

Joseph Muller, RPP/MCIP
Heritage Planner
Joseph.Muller@Ontario.ca

Copied to: Mike Kraemer, Municipality of West Perth

CHIPPEWAS OF THE THAMES FIRST NATION

December 18, 2017

Kelly Vader, MCIP, RPP
Environmental Planner
B.M. Ross and Associates
Limited 62 North Street
Goderich, ON N7A 2T4

RE: Class EA for Industrial Park Expansion

Ms. Vader,

We have received information concerning the abovementioned project, dated October 24, 2017. The proposed work will be conducted within the Huron Tract Treaty (1827) area to which Chippewas of the Thames First Nation (COTTFN) is a signatory. The proposed work is also located within the Big Bear Creek Additions to Reserve (ATR) land selection area, as well as COTTFN Traditional territory.

At this time, with the information that has been provided to us, we have minimal concern with this project. However, if there are any substantive changes to this project, we ask that you keep us informed. As well, we request that a copy of the Class Environmental Assessment and Environmental Study Report be sent to COTTFN upon completion.

We look forward to continuing this open line of communication. To implement meaningful consultation, COTTFN has developed its own protocols — a document and a process that will guide positive working relationships. We would be happy to meet with you to review COTTFN's Consultation Protocols.

Please do not hesitate to contact me if you need further clarification of this letter.

Sincerely,

Rochelle Smith
A/Consultation Coordinator
Chippewa of the Thames First Nation
(519) 289-2662 Ext. 213
rsmith@cottfn.com

c: Mike Kraemer, Municipality of West Perth

MUNICIPALITY OF WEST PERTH
(COMMUNITY OF MITCHELL)

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR DEVELOPMENT OF INDUSTRIAL LANDS IN THE SOUTHEAST

NOTICE OF STUDY COMPLETION

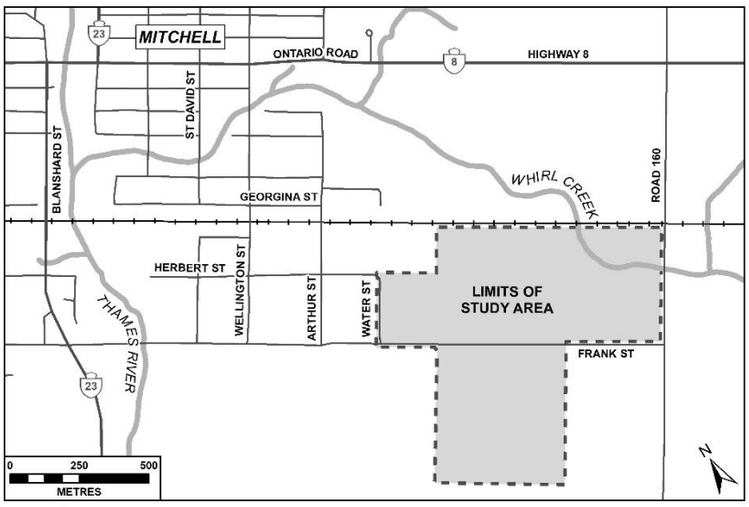
THE PROJECT:

The Municipality of West Perth is planning to extend servicing to additional lands designated for industrial development in the southeast part of Mitchell. The site is located on the north and south sides of Frank Street, west of Water Street (see attached key plan) in southeast Mitchell, adjacent to existing areas already utilized for commercial and industrial activities. Development of the site will include the extension of municipal services, including sanitary, water and stormwater drainage, and will also include the creation of new municipal road allowances to access building sites, a new sewage pumping station (SPS), and a stormwater management facility (SWMF).

THE ENVIRONMENTAL ASSESSMENT PROCESS:

The planning for this project is following the environmental screening process established for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document. Schedule B projects are approved subject to the completion of a screening process. The purpose of the Environmental Assessment process is to identify any potential environmental impacts associated with the proposal and to plan for appropriate mitigation of any impacts. The environmental assessment process has now been completed. There were no negative impacts identified with the project that could not be mitigated.

PUBLIC INVOLVEMENT:



For further information on this project, please contact the project engineers: B.M. Ross and Associates Ltd.: 62 North Street, Goderich, Ontario, N7A 2T4. Telephone: (519) 524-2641. Kelly Vader, Environmental Planner (e-mail: kvader@bmross.net), prior to **April 3, 2026**. Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record. An Environmental Screening Report, documenting the environmental assessment conducted for this project, will be available for public review on the West Perth website at www.westperth.com as of March 4, 2026. Interested persons may provide written comments to the project team by April 3, 2026. All comments and concerns should be sent directly to Daniel Hobson, Chief Administrative Officer (CAO) at West Perth. In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e. requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request. The request should be sent in writing or by email to:

Minister of Environment, Conservation and Parks &
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

Director, Environmental Assessment Branch
Ministry of Environment, Conservation & Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Requests should also be sent to the Municipality of West Perth by mail or by e-mail.

Daniel Hobson, CAO
Municipality of West Perth
This Notice Issued March 4, 2026

MUNICIPALITY OF West Perth