

Tuesday, September 5, 2017 2:30 p.m. Council Chambers

- 1. Call to Order
- 2. Disclosure of Pecuniary Interests Under the Municipal Conflict of Interest Act
- 3. Motion to Convene into Closed Session
  - a. Previous Minutes of the July 18, 2017 Closed Session
  - b. Proposed or pending acquisition or disposition of land Palmerston Industrial Park
  - c. Proposed or pending acquisition or disposition of land Clifford Parkland
- 4. Motion to Convene into Open Session
- 5. Minutes of Previous Meeting
  - a. Regular Council Minutes of August 1, 2017
- 6. Additional Items Disclosed as Other Business
- 7. Resolution Moving Council into Committee of the Whole to Consider Public Meetings, Delegations, Public Question Period, Correspondence, Reports, Motions for Which Notice Has Been Previously Given and Other Business
- 8. Public Meetings to be held at or around 5 p.m.

a.	ZBA and OPA - Will, David 245 James St Palmerston	11

- b. ZBA Winger; 9042 Wellington Road 5
- c. ZBA Town of Minto/Krosinski Enterprises; Minto Road, Palmerston Industrial 28

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# 9. Delegations

	а.	Bruce Shannon and Warren Grein, Harriston-Minto Fall Fair	53
	b.	Astrid Clos, Planning Consultants, Dan Sinclair Clair Ridge Estates, Subdivision Revision 23T-90021	55
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11.	Corre	spondence Received for Information or Requiring Direction of Council	
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	b.	Association of Municipalities Ontario (AMO), 2016 Annual Report	62
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	f.	MPP Randy Pettapiece, MOH Letter Hillside Manor Closure	116
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	h.	AMO, Report to Member Municipalities - Highlights of the August 2017 Board Meeting and Helping Latest Double Hatter Firefighters	120
	i.	Municipality of West Grey, Notice of the Passing of a Zoning By-law	123
	j.	Saugeen Valley Conservation Authority Foundation, Invitation to Wine and Wise Things Dinner and Auction	125
	k.	Clifford Homecoming, Don Senek, Operations Manager, Letter of Thanks	128
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	m.	Township of Oro Medonte, Ontario's Wildlife Damage Compensation Program	186
	n.	Mapleton Seniors Centre for Excellence, September 2017 Newsletter & Calendar	188
	0.	Clifford Recreation Association, September Newsletter	190
12.		rts of Committees and Town Staff, Matters Tabled and Motions for Which e Has Been Previously Given	

- a. Committee Minutes for Receipt
- b. Committee Minutes for Approval

# c. Staff Reports

1.	Linda Dickson Emergency Manager CEMC, After Action Report, June 23 Flood Event	192
2.	Business and Economic Manager, Signage Grant - Leonard's General Store	216
3.	By-law Enforcement Officer, Amendment to the Sewer Use and Connection By-law	219
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13.	Road Foreman, Municipal Drain #23 Improvement	542
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17.	C.A.O. Clerk, Public Works Update Asphalt Work, Pedestrian Crossings	570
18.	C.A.O. Clerk & Treasurer, OCIF Top Up Grant	576

d. Other Business Disclosed as Additional Items

# 13. Motion to Return To Regular Council

- 14. Notices of Motion
- 15. Resolution Adopting Proceedings of Committee of the Whole
- 16. By-laws

а.	2017-68, ZBA Town of Minto/Krosinski Enterprises; Minto Road, Palmerston Industrial Park	582
b.	2017-69, ZBA Winger; 9042 Wellington Road 5	585
c.	2017-70, Amend Sewer Use and Connection By-law	588
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e.	2017-72, Confirming Proceedings of September 5, 2017 Committee of the Whole/Council Meeting	590

# 17. Adjournment



Council Minutes Tuesday, August 1, 2017 3:00 p.m. Council Chambers

# **Council Present:**

Mayor George A. Bridge Deputy Mayor Ron Faulkner Councillor Mary-Lou Colwell Councillor Judy Dirksen

Councillor Jean Anderson Councillor Ron Elliott

Council Regrets: Councillor Dave Turton

# Staff Present for all or part of meeting:

Bill White, C.A.O. Clerk Annilene McRobb, Deputy Clerk Greg Mallett, Lead Hand/Recreation & Facilities Assistant Cam Forbes, By-Law Enforcement Officer Taylor Keunen, Economic Development Assistant Quinn Foerter, Administrative Assistance, Recording Secretary Stacey Pennington, Building Inspector Gordon Duff, Treasurer Mike McIsaac, Road & Drainage Foreman Chris Harrow Fire Chief

1. Call to Order 3:02 p.m.

# 2. Disclosure of Pecuniary Interests Under the Municipal Conflict of Interest Act - None

- 3. Minutes of Previous Meeting
- a. Regular Council Minutes of July 18, 2017

# **RESOLUTION 2017-156**

Moved By: Councillor Elliott; Seconded By: Councillor Dirksen THAT the minutes of the July 18, 2017 Council Meeting be approved.

Carried

#### August 1, 2017 Council Minutes

# 4. Additional Items Disclosed as Other Business

Mayor Bridge, Deputy Mayor Faulkner, Councillors Colwell, Dirksen, Anderson and Elliott all identified items.

5. Resolution Moving Council into Committee of the Whole to Consider Public Meetings, Delegations, Public Question Period, Correspondence, Reports, Motions for Which Notice Has Been Previously Given and Other Business

# RESOLUTION 2017-157

Moved By: Councillor Anderson; Seconded By: Deputy Mayor Faulkner THAT The Town of Minto Council convenes into Committee of the Whole.

Carried

# 6. Public Meeting - None

# 7. Delegations

 a. Gabriella leropoli, Community Youth Resiliency Worker, Mount Forest Family Health Team and Helen Edwards, Seniors' Health Services Coordinator - The Truth About Youth Gabriella leropoli and Helen Edwards presented information on programs pairing at risk youth and seniors in the community such as raking leaves, building community garden boxes and a wheelchair ramp for a senior. They will work with staff on future initiatives and thanked Minto for the support. Mayor and Council thanked them for the delegation.

# 8. Public Question Period – None

# 9. Correspondence Received for Information or Requiring Direction of Council

- a. Clifford Recreation Association, August Newsletter
- b. City of Owen Sound, Support Resolution Request for Economic Impact Analysis
- c. AMO, Submission on Bill 148 Fair Workplaces, Better Jobs Act, 2017
- d. Township of the Archipelago, Reconsider Proposed Changes Under Bill 86
- e. Mapleton Seniors Centre for Excellence, August Newsletter & Calendar of Events
- f. Ken Porter, Minto Cemeteries Objection, Clarification and Formal Complaint

Councillor Colwell asked that Item 9 b) be pulled and that the resolution from the City of Owen Sound be supported.

Councillor Dirksen requested Item 9 f) be discussed as it contained some good points. Care and maintenance and public input were discussed. Council asked Mayor Bridge to respond to the letter.

#### August 1, 2017 Council Minutes

# MOTION: COW 2017-192

Moved By: Councillor Colwell; Seconded By: Deputy Mayor Faulkner THAT Minto Council support correspondence item 9b) City of Owen Sound resolution requesting Economic Impact Analysis regarding changes to the Employment Standards Act. Carried

# MOTION: COW 2017-193

Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Dirksen THAT Mayor Bridge respond to correspondence item 9f) Ken Porter Minto Cemeteries Objection, Clarification and Formal Complaint, and Council require the proposal request for designs of interment options for cremated remains in the three cemeteries include opportunity for public input.

Carried

# MOTION: COW 2017-194

Moved By: Councillor Elliott; Seconded By: Councillor Anderson THAT Council receives the balance of the correspondence as information.

Carried

# 10. Reports of Committees and Town Staff, Matters Tabled and Motions for Which Notice Has Been Previously Given

- a. Committee Minutes for Receipt
- 1. Maitland Valley Conservation Authority Board of Directors Minutes of June 21, 2017

2. Maitland Valley Conservation Authority Board of Directors Minutes of June 26, 2017

C.A.O. Clerk White noted Minto flooding was discussed June 26 and the MVCA passed motions with actions in response to the June 23, 2017 1:100 year event.

# MOTION: COW 2017-195

Moved By: Councillor Colwell; Seconded By: Councillor Elliott

THAT the Maitland Valley Conservation Authority Board of Directors Meeting Minutes of June 21 and June 26, 2017 be received for information.

Carried

- b. Committee Minutes for Approval
- 1. Parks and Recreation Advisory Committee Minutes of June 26, 2017

Lead Hand Recreation & Facilities Assistant Greg Mallett highlighted three major events in the next few weeks including Clifford Homecoming, 9<sup>th</sup> Annual JYD Slo-pitch Tournament, and U14 PeeWee Boys National Softball Championships. Repairs were required at Harriston and Palmerston Pools and tendered work at the Palmerston Arena was finished.

# MOTION: COW 2017-196

Moved By: Councillor Elliott; Seconded By: Councillor Anderson THAT Council receives the Parks & Recreation Advisory Committee Minutes of June 26, 2017 and approves any recommendations contained therein.

Carried

2. Cultural Roundtable Minutes of July 24, 2017

Economic Development Assistant Keunen highlighted the Harriston-Minto Agricultural Society's Event Development Fund Application, the Live2Lead event, and Culture Days. Minto is working to qualify for the Youth Friendly Community Recognition Program.

# MOTION: COW 2017-197

# Moved By: Councillor Dirksen; Seconded By: Councillor Anderson THAT Council receives the Cultural Roundtable Minutes of July 24, 2017 and approves any recommendations contained therein.

Carried

# c. Staff Reports

1. Facilities Manager, Tuff Truck Event

The Lead Hand/Recreation & Facilities Assistant reviewed the Harriston Kinsmen proposal to install permanent obstacles at the Fair Grounds for their annual event. The Parks and Recreation Advisory Committee recommend the proposal, provided an agreement is signed with the Town. Council noted written approval from the Agricultural Society is needed.

# MOTION: COW 2017-198

Moved By: Councillor Dirksen; Seconded By: Councillor Elliott

THAT Council receives the Facilities Manager's July 25<sup>th</sup>, 2017 report Tuff Truck Event, and authorizes the Harriston Kinsmen to place permanent features at the Harriston Fairgrounds for Tuff Trick in locations acceptable to the Facilities Manager subject to an agreement being signed with the Town covering maintenance, insurance and written approval from the Harriston-Minto Agricultural Society.

Carried

2. Facilities Manager and Road Foreman, Trails Maintenance

Road Foreman McIsaac noted a refurbished boom flail mower demonstrated this spring can maintain trail tree canopy, mow lagoon side grass and other jobs. A demonstrator unit is available. Council discussed staff flexibility to buy new to get best value.

# MOTION: COW 2017-199

# Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Elliott THAT Council receive the Facilities Manager and Roads Foreman July 25, 2017 report Trails

Maintenance and authorizes the purchase of a new/demonstrator/refurbished boom flail attachment, dual tires and rims from Trackless Vehicles Ltd. at a maximum cost of \$35,000 plus HST funded from the 2017 trails capital budget and County Trail Funding Programme. Carried

3. By-law Enforcement Officer, Amendments to the Parking By-law By-Law Enforcement Officer Cam Forbes noted restricted parking is needed after road reconstruction to ensure safety and emergency vehicle access.

# MOTION: COW 2017-200

Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Dirksen THAT Council receives the By-law Enforcement Officers August 1, 2017 report regarding the amended Parking By-law, and consider a by-law in open session to implement no parking on the east side of Jane St. from Main St. to the end of the road at the urban boundary.

Carried

# MOTION: COW 2017-201 Moved By: Councillor Dirksen; Seconded By: Councillor Anderson THAT Council discuss Item 10) c) 7) before Item 10) c) 4).

# Carried

7. C.A.O. Clerk, Road & Drainage Foreman, Municipal Drain Update, Watershed Master Plan C.A.O. Clerk Bill White outlined June 23 flood impact on municipal drains and the need for watershed planning through an application to the Federal Disaster Relief Program. Council discussed the Drainage Act and whether there are measures that could help.

# MOTION: COW 2017-202

Moved By: Councillor Colwell; Seconded By: Councillor Anderson

THAT Council receives the Road and Drainage Foreman and C.A.O. Clerk's July 26, 2017 report Municipal Drain Update; Watershed Master Plan and approves an application to the Province for Flood Mapping with lidar scanning, Mitigation Planning analysis within the North Maitland River Watershed under the National Disaster Mitigation Program subject to Council receiving a terms of reference and approximate costing for the Master Plan before submission.

Carried

4. Building Inspector, Site Plan Approval, North Wellington Coop Building Inspector Pennington reviewed the recommendation for conditional approval to address grading, drainage, fire safety, risk management, source water and similar. Council discussed safety and noted project benefit. The Fire Chief clarified existing safety plans.

August 1, 2017 Council Minutes

# MOTION: COW 2017-203

Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Dirksen THAT Council receives the report from the Building Inspector dated July 19, 2017 Site Plan Approval, North Wellington Coop, and approves in principal the proposed Site Plan (dwg A-1b), prepared by Nelson Dawley, P. Eng. submitted July 10, 2017 subject to the execution of a site plan agreement with the Town requiring, among other matters, the following:

- 1. Confirmation of grading and drainage, site servicing details as well as the applicant's engineer identifying and overseeing removal of any existing unnecessary infrastructure related to the project all to the satisfaction of Public Works.
- 2. Verification that on and off-site traffic movement details in relation to existing Westario poles and other infrastructure on municipal streets are satisfactory to the Town.
- 3. Advice from Minto Fire and County Emergency Manager that the Fire Safety Plan and Risk Safety Management Plan are up to date and consistent with regard to the new buildings and infrastructure proposed.
- 4. The Risk Management Plan required under the Clean Water Act is signed and filed to the satisfaction of the County Risk Management Official and Town Risk Management Inspector, and any other requirements under Section 4.9.5.2 of the Official Plan regarding the Drinking Water Threat Disclosure Report are met.
- 5. The bulk fertilizer operation across Margaret Street is decommissioned and converted to storage to the satisfaction of the Town.
- 6. Any and all approvals from any senior level of government or agency as the case may be are obtained at the applicant's sole cost and expense.
- 7. That the Mayor and C.A.O. Clerk to sign the site plan agreement once a final site plan acceptable to Town staff and Triton Engineering has been filed addressing the conditions outlined in this approval are addressed.

Carried

5. Chief Building Official, June 2017 Permit Stats Review

The Building Inspector reviewed permit activity and highlighted Department activities. June 2017 construction value is on par with 2016, but overall permit numbers are at record levels.

# MOTION: COW 2017-204

Moved By: Councillor Anderson; Seconded By: Councillor Colwell THAT Council receive the Chief Building Official's June Permit Review for information.

Carried

6. C.A.O. Clerk, New Purchasing By-law

August 1, 2017 Council Minutes

The C.A.O. Clerk reviewed some of the major changes in the new purchasing by-law, which was also reviewed by Town legal counsel to ensure it meets all legislative requirements.

# MOTION: COW 2017-205

Moved By: Councillor Colwell; Seconded By: Councillor Anderson THAT Council receives the C.A.O. Clerk's July 17, 2017 report on the New Purchasing By-law, and that the By-law and Schedule "A" be approved in regular session.

Carried

8. C.A.O. Clerk Zoning Medical Cannabis Production Facility Palmerston Industrial Lands C.A.O. Clerk Bill White outlined the necessary procedures that would be required to initiate a zoning by-law amendment. A County Planning report and public meeting is required.

# MOTION: COW 2017-206

Moved By: Councillor Elliott; Seconded By: Deputy Mayor Faulkner THAT Council receives the July 27, 2017 report from the C.A.O. Clerk regarding Zoning Medical Cannabis Production Facility Palmerston Industrial Lands, and approves initiating a zoning by-law amendment to permit cannabis cultivation within a medical cannabis production facility proposed on three acres of land located on Minto Road between Tri-coat and MSW Plastics.

Carried

# Councillor Colwell assumed the Chair.

# 9. Treasurer, Approval of Accounts

Treasurer Gordon Duff noted payments for improvements to recreation facilities, as well as zoning and engineering costs, and debt repayment.

# MOTION: COW 2017-207

Moved By: Councillor Dirksen; Seconded By: Mayor Bridge

THAT Council receives the Treasurer's report regarding Approval of Accounts, and approves accounts by Department for July 28,2017 as follows: Administration \$254,676.43, People & Property \$443.94, Building \$3,929.31, Economic Development \$14,363.97, Incubator \$219.52, Tourism \$1,975.49, Fire \$17,316.80, Roads \$32,566.00, Cemetary \$4,808.15, Waste Water \$18,714.74, Streetlights \$766.12, Water \$19,192.64, Town Landscaping Care \$731.15, Recreation \$13,461.50, Clifford \$27,951.25, Harriston \$21,358.96, Palmerston \$63,225.10, Norgan \$3,588.14.

Carried

# Mayor Bridge returned to the Chair.

d. Other Business Disclosed as Additional Item

Councillor Colwell reminded everyone of the upcoming Minto Chamber of Commerce Barbecue August 17 at 6:00 pm on John Cox's Property.

Deputy Mayor Faulkner advised the International Plowing Match 2016 and Ontario Plowmen's Association reached a profit share agreement, and thanked everyone who made it a successful event.

Councillor Anderson noted the Clifford Homecoming Committee could still use volunteers for the weekend, and plans are for a great event.

Councillor Dirksen reminded everyone of the Clifford Homecoming Parade on Saturday.

Councillor Elliott advised that Eldon McLaughlin, posthumously nominated by the Palmerston Lions Club, and Wayne Martin, nominated by the Pike Lake Minto Lions Club received awards at the WOAA 75<sup>th</sup> Anniversary.

Mayor Bridge noted the Mayor's Golf Tournament is on August 10. He will buy candy for the Clifford Homecoming parade.

# 11. Motion to Return To Regular Council

## **RESOLUTION 2017-158**

Moved By: Councillor Dirksen; Seconded By: Councillor Colwell THAT the Committee of the Whole convenes into Regular Council meeting.

Carried

#### 12. Notices of Motion - None

# 13. Resolution Adopting Proceedings of Committee of the Whole

#### **RESOLUTION 2017-159**

Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Anderson THAT The Council of the Town of Minto ratifies the motions made in the Committee of the Whole.

Carried

#### 14. By-laws

a. 2017-63, Policies and Procedures Respecting the Procurement of Goods and Services

August 1, 2017 Council Minutes

August 1, 2017 Council Minutes

# 9

# RESOLUTION 2017-160

Moved By: Councillor Colwell; Seconded By: Councillor Elliott THAT By-law 2017-63; To Establish Policies and Procedures Respecting the Procurement of Goods and Services for the Town of Minto; be introduced and read a first, second, third time and passed in open Council and sealed with the seal of the Corporation.

Carried

b. 2017-64, Temporary Road Closure Harriston Minto Ag Soap Box Derby

# RESOLUTION 2017-161

Moved By: Deputy Mayor Faulkner; Seconded By: Councillor Dirksen THAT By-law 2017-64; To Temporarily Close Roads in Harriston on September 17, 2017 for a Community Event; be introduced and read a first, second, third time and passed in open Council and sealed with the seal of the Corporation.

Carried

c. 2017-65, Amendment to Parking By-law

# RESOLUTION 2017-162

Moved By: Councillor Anderson; Seconded By: Councillor Colwell THAT By-law 2017-65; For the purpose of amending By-law 5000-05, a By-law to regulate the parking or stopping of vehicles on highways, public parking lots and in some instances, private property within the Town of Minto; be introduced and read a first, second, third time and passed in open Council and sealed with the seal of the Corporation.

Carried

d. 2017-66, Water Restrictions Bylaw

# **RESOLUTION 2017-163**

Moved By: Councillor Elliott; Seconded By: Deputy Mayor Faulkner THAT By-law 2017-66; To permit the Overall Responsible Operator to establish water restrictions in any municipal water system within the Town of Minto to prohibit non-essential water use; be introduced and read a first, second, third time and passed in open Council and sealed with the seal of the Corporation.

Carried

e. 2017-67, Confirming Proceedings of August 1, 2017 Committee of the Whole/Council Meeting

# **RESOLUTION 2017-164**

Moved By: Councillor Dirksen; Seconded By: Councillor Anderson THAT By-law 2017-67; To confirm actions of the Council of the Corporation of the Town of Minto Respecting a meeting held August 1, 2017; be introduced and read a first, second, third time and passed in open Council and sealed with the seal of the Corporation.

Carried

**15. Adjournment** 5:15 p.m.

RESOLUTION 2017-165 Moved By: Councillor Colwell; Seconded By: Councillor Elliott THAT The Council of the Town of Minto adjourn to meet again at the call of the Mayor.

Carried

Mayor George A. Bridge

C.A.O. Clerk Bill White



THE COUNCIL OF THE TOWN OF MINTO PUBLIC MEETING AGENDA Official Plan Amendment/Zoning By-law Amendment-2017-06 Applicant: David Will; 245 James Street, Palmerston TUESDAY September 5<sup>th</sup> 2017, 5:00 pm in the Council Chambers

A Public Meeting to consider an amendment to the County of Wellington Official Plan and the Town of Minto Zoning By-law No. 01-86 for property located on Part Lot 6 & 7 West Side James Street, Lot 7 East Side Henry Street, Morrison's Survey, Pt Lot 19, Concession 11, Palmerston, with a municipal address of 245 James Street, Palmerston.

- 1. Mayor Bridge to act as the Chair of the Public Meeting
- 2. Chair Bridge to call the meeting to order and request any member of the public present to please sign the attendance record. Chair Bridge to state the following:

If a person or public body does not make oral submissions at a public meeting or make written submissions to:

- 1. the County of Wellington before the By-law adopting the Official Plan is passed, or
- 2. the Town of Minto before the Zoning By-law Amendment is passed

the person or public body is not entitled to appeal the decision of:

- 1. the County of Wellington, or
- 2. the Town of Minto as the case may be

to the Ontario Municipal Board and the person or public body may not be added as a party to the hearing of the appeal before the Board unless, in the opinion of the Board, there are reasonable grounds to do so.

3. C.A.O. Clerk White to state the municipal address and legal description of the property, the purpose and effect of the application and date notices we sent.

The property subject to the proposed Official Plan and Zoning By-law amendment is located on Part Lot 6 & 7 West Side James Street, Lot 7 East Side Henry Street, Morrison's Survey, Pt Lot 19, Concession 11, Palmerston, with a municipal address of 245 James Street, Palmerston.

**The Purpose and Effect** of the applications is to re-designate a portion of the property from Recreational to Residential in the County Official Plan, and to rezone a portion of the property from Open Space (OS) to Residential (R2) to allow for the construction of a single detached home. The amendment applications fulfill conditions of consent application B70/16 to create a residential lot.

# Public Meeting Agenda To Consider an Amendment to the Town of Minto Zoning By-law No. 01-86 for property located at 245 James Street, Palmerston; Town of Minto Page 2

**Notices** were mailed to the property owners within 400 feet or 120 meters of the subject property as well as the applicable agencies and posted on the subject property on July 25<sup>th</sup>, 2017 The following comments were received:

- a) Town of Minto staff; Building Inspector's report attached
- b) Linda Redmond, Senior Planner, County of Wellington, report attached
- c) Maitland Valley Conservation Authority email August 23, 2017 noting the land are not affected by MVCA regulated lands, natural hazard or natural heritage features so no formal comment will be submitted. The property is within a wellhead protection area
- 4. Chair Bridge to call on the applicant or his agent to provide comments regarding the proposed Amendments to the County of Wellington Official Plan and the Town of Minto Zoning By-law.
- 5. Chair Bridge to call on anyone who wishes to comment in favour of the proposed Amendments.
- 6. Chair Bridge to call on anyone who wishes to comment in opposition of the proposed Amendments.
- 7. The applicant or his agent is given an opportunity for rebuttal.
- 8. Chair Bridge to give members of Council an opportunity to ask questions.
- 9. Chair Bridge to state IF YOU WISH TO BE NOTIFIED of the decision:
  - a) of the County of Wellington in respect to the proposed Official Plan Amendment application, you must make a written request to the Director, Planning and Development Department, County of Wellington, 74 Woolwich Street, Guelph, Ontario N1H 3T9, (510) 837-2600 Ext. 2080, or
  - b) of the Council the Town of Minto in respect to the proposed Zoning By-law Amendment application you must make a written request to the Clerk of the Town of Minto at 5941 Highway 89, Harriston, NOG 1ZO or by email at <u>Bwhite@town.minto.on.ca</u>.

10. If there are no further comments, Chair Bridge will adjourn this Public Meeting.



Town of Minto

DATE:

FROM:

TO:

RE:

August 28, 2017 Mayor Bridge and Members of Council Stacey Pennington, Building Inspector OPA/ZBA-2017-04 Will 245 James Street Palmerston

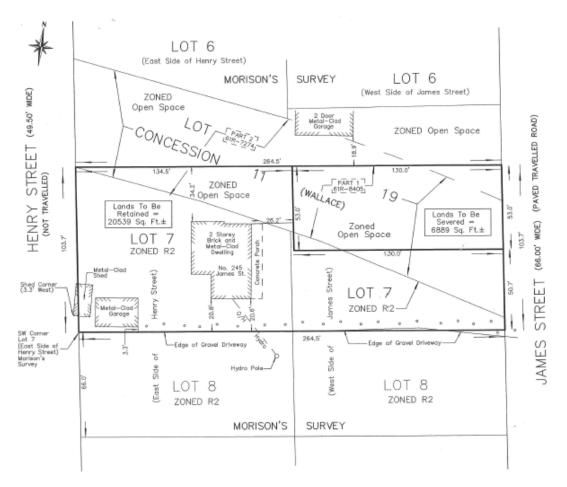
# STRATEGIC PLAN

Ensure growth and development in Clifford, Palmerston and Harriston makes cost effective and efficient use of municipal services, and development in rural and urban areas is well planned, reflects community interests, is attractive in design and layout, and is consistent with applicable County and Provincial Policies.

#### BACKGROUND

These applications are conditions of a Severance application B70/16 to County Land Division is to sever a 53' x 130' lot and retain a larger parcel at 245 James Street in Palmerston, shown below. A large portion of the severed parcel, labeled Lot 19 Concession 11 (Wallace) is on a former rail land property. This portion of the property is currently zoned Open Space, with a Recreational Official Plan designation. The applications are amend the Official Plan to Residential, and to rezone for the construction of the proposed residential dwelling.

If approved, the by-law to amend the Zoning will come back to council for consideration after the Official Plan Amendment has passed.



OPA/ZBA 2017-04 Will Official Plan/Zoning By-law Amendment Planning Report

#### <u>COMMENT</u>

The intention of the land severance is to create an additional lot, permitting the construction of a single family dwelling. The existing zoning is a result of previous rail road lands sold to the applicant in previous years. The surrounding lands are Zoned R2 – Medium Density Residential, with a Residential Official Plan Designation.

The rezoning is suitable for the future development of the lands, and compatible with the surrounding land uses.

#### RECOMMENDATION

THAT the Council of the Town of Minto receives the report from the Town of Minto Building Inspector and the report from the County of Wellington Manager of Planning, and the and that the County of Wellington be advised that the Town of Minto supports the Official Plan Amendment for 245 James Street, Palmerston and

THAT the County Planning staff, the Applicant and Town Staff bring back a proposed zoning by-law amendment for Council consideration permitting Residential Development, when the Official Plan permits.

#### **ATTACHMENTS**

County of Wellington, Linda Redmond, Manager of Planning



PLANNING REPORT for the TOWN OF MINTO

Prepared by the County of Wellington Planning and Development Department

DATE:	August 29, 2017
то:	Bill White, C.A.O.
	Town of Minto
FROM:	Linda Redmond, Manager of Planning & Environment
	County of Wellington
SUBJECT:	Will
	James Street, Palmerston
	Proposed Official Plan and Zoning By-law Amendment

#### PRELIMINARY PLANNING OPINION

This proposal to redesignate the subject property from Recreational to Residential meets the intent of the Official Plan policies which encourages the development of vacant or under-utilized properties for residential uses which are compatible with surrounding uses. The subject lands are located within an existing established residential neighbourhood. A future residential dwelling will be compatible with the surrounding area and represents a logical infilling within an existing residential area.

At this time staff have no concerns with this proposal provided Council is satisfied. A draft by-law will be prepared for Council consideration following the public meeting and Official Plan adoption.

#### Site and Surrounding Area

The property is 640 m<sup>2</sup> (0.15 acres) and is centrally located in the Urban Centre of Palmerston. The property has frontage on James Street and is legally described as Part Lot 6 & 7 West Side James Street, Lot 7 East Side Henry Street, Morrison's Survey, Pt Lot 19, Concession 11 (Figure 1 adjacent). The surrounding land uses include residential and open space. The property is currently vacant and is currently zoned Open Space (OS1) and designated Recreational in the Town of Minto Zoning By-law and County of Wellington Official Plan respectively.



#### **Purpose of Proposal**

The purpose of the applications is to re-designate the property from Recreational to Residential in the County Official Plan, and to rezone a portion of the property from Open Space (OS) to Residential (R2) to allow for the construction of a single detached home. The amendment applications fulfill conditions of consent application B70/16 to create a residential lot.

PLANNING REPORT for the TOWN OF Minto Will August 2017

# Places to Grow (PTG) and Provincial Policy Statement (PPS)

The proposal is located within the urban boundary of the Palmerston Urban area. The proposal is in conformity with both the Places to Grow and Provincial Policy Statement.

# Agency and Public Comments

The application was circulated by the County to agencies in June 2017. No comments or concerns were received.

# **Current Planning Status**

The subject lands are currently designated RECREATIONAL. An official plan amendment is being considered to redesignate the land to RESIDENTIAL. A draft official plan amendment has been prepared and circulated for consideration and is appended to this report. The permitted uses of the Residential Area include single-detached, semi-detached dwellings, townhouses, and apartments. Bed and breakfast establishments, group homes and nursing homes, may also be allowed subject to the requirements of the zoning by-law. The applicants are proposing a single family dwelling.

# POLICY FRAMEWORK

# Intensification

The policies of Section 3 of the Official Plan outline the general strategies for guiding growth within the County. Section 3.3 sets out objectives for growth and encourages growth in urban areas. It further seeks to identify and promote opportunities for growth in the built up areas of urban centres through intensification and redevelopment where this can be accommodated, taking into account small town scale and historic streetscapes.

Section 3.3.1 indentifies targets and states "by the year 2015 and for each year thereafter, a minimum of 20 percent of all residential development occurring annually will be within the built-up area". This application is located within the built boundary of Palmerston and will contribute and support this target.

Section 4.4.3 of the Official Plan encourages intensification in urban centres and further states in subsection b) that the plan "supports appropriate intensification in all areas within the built boundary including adaptive re-use or redevelopment of brownfields and greyfields".

# **Residential Designation**

The policies of Section 8.3.2 of the Official Plan sets out a number of objectives for residential development including, b) "to provide a variety of dwelling types to satisfy a broad range of residential requirements, e) to ensure that an adequate level of municipal services will be available to all residential area's and g) to encourage intensification, development proposals provided they maintain the stability and character of existing neighbourhoods".

The policies of Section 8.3.11 of the Official Plan encourage development of "vacant or under-utilized properties for residential uses which are compatible with surrounding uses in terms of dwelling type, building form, site coverage and setbacks".

### Land Use Compatibility

In considering new locations for Residential Areas, the Official Plan requires such uses to be compatible with surrounding properties and not create adverse impacts on existing uses. The subject lands are located in a primarily residential area that is characterized by urban sized lots on full municipal services. The residential use would be desirable and would represent a logical infilling within this existing residential area.

#### **Related Applications**

In addition to the Official Plan amendment application, a separate zoning amendment has been submitted to the Town of Minto for the purpose of rezoning the parcel of land from Open Space to Residential (R2). Consent application B70/16 received provisional approval to sever the subject lands with an area of 640 m<sup>2</sup> (0.15 acres) and frontage of 16 m (53 ft). The consent is conditional on obtaining the OPA and ZBA as submitted.

### Zoning

The property is currently zoned Open Space. The proposal is to rezone the subject land to Residential (R2) which would permit a variety of residential housing types. In this instance the applicants are proposing a single family dwelling. A draft zoning by-law amendment will be presented to Council for their consideration in October.

### Conclusion

This proposal to redesignate the subject property from Recreational to Residential meets the intent of the Official Plan policies which encourages the development of vacant or under-utilized properties for residential uses which are compatible with surrounding uses.

Staff have no concerns with the Official Plan amendment or zone amendment at this time. The proposal represents logical infilling of the existing built up area. If Council is in support of the amendment, a resolution in support of it should be passed by Council after the public meeting and forwarded to the County along with required records. A separate draft zoning amendment will be presented in October.

Respectfully submitted County of Wellington Planning and Development Department

Kalmond

Linda Redmond Manager of Planning & Environment

# Attachment 1

Excerpt from Proposed County Official Plan Amendment \_\_\_\_\_ File OP-2017-01

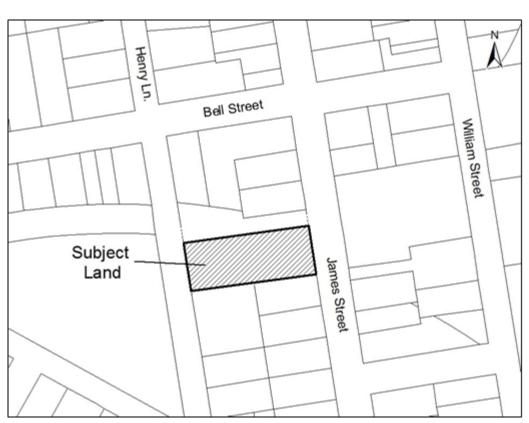
# PART B - THE AMENDMENT

All of this part of the document entitled Part B - The Amendment, consisting of the following text constitutes Amendment No. \_\_\_\_ to the County of Wellington Official Plan.

# **DETAILS OF THE AMENDMENT**

The Official Plan of the County of Wellington is hereby amended as follows:

1. THAT **SCHEDULE A5-3 (Palmerston)** is amended, as it relates to the subject land, by redesignating the land described as Part Lot 7 West Side James Street, Lot 7 East Side Henry Street, Morrison's Survey, Pt Lot 19, Concession 11, Palmerston, as identified on Schedule "A" of this amendment, from **"Recreational"** to **"Residential"**.



# SCHEDULE 'A' OF OFFICIAL PLAN AMENDMENT NO. \_\_

# Redesignate from "Recreational" to "Residential"

PLANNING REPORT for the TOWN OF Minto Will August 2017



THE COUNCIL OF THE TOWN OF MINTO PUBLIC MEETING AGENDA ZBA-2017-07 Applicant: John Winger TUESDAY September 5<sup>th</sup> 2017, 5:00 pm in the Council Chambers

A Public Meeting to consider an amendment to the Town of Minto Zoning By-law No. 01-86 for property located on Lot 21, Concession 5, with a municipal address of 9042 Wellington Rd 5, Town of Minto.

- 1. Mayor Bridge to act as the Chair of the Public Meeting
- 2. Chair Bridge to call the meeting to order and request any member of the public present to please sign the attendance record. Chair Bridge to state the following:

If a person or public body does not make oral submissions at a public meeting or make written submissions to the Town of Minto before the By-law is passed, the person or public body is not entitled to appeal the decision of the Town of Minto to the Ontario Municipal Board and the person or public body may not be added as a party to the hearing of the appeal before the Board unless, in the opinion of the Board, there are reasonable grounds to do so.

3. C.A.O. Clerk White to state the municipal address and legal description of the property, the purpose and effect of the application and date notices we sent.

The property subject to the proposed amendment is located Lot 21, Concession 5, with a municipal address of 9042 Wellington Rd 5, Town of Minto.

**The Purpose and Effect** of the proposed amendment is to rezone the subject lands to prohibit any future residential development on the agricultural (retained) portion of property and recognize a reduced minimum lot area for the residential (severed) portion. This rezoning is a condition of severance application B40/17, that has been granted provisional consent by the Wellington County Land Division Committee. The consent will severe the existing dwelling (0.34 ha) from the agricultural parcel (40.4 ha).

**The Notices** were mailed to the property owners within 400 feet or 120 meters of the subject property as well as the applicable agencies and posted on the subject property on August 9<sup>th</sup>, 2017 The following comments were received:

- a) Town of Minto staff
  - Building Assistant's report attached
- b) Curtis Marshall, Senior Planner, County of Wellington, report attached

# Public Meeting Agenda To Consider an Amendment to the Town of Minto Zoning By-law No. 01-86 for property located at 9042 Wellington Road 5

## Page 2

- 4. Chair Bridge to call on the applicant or his agent to provide comments regarding the proposed Amendment to the Comprehensive Zoning By-law No. 01-86.
- 5. Chair Bridge to call on anyone who wishes to comment in favour of the proposed Amendment.
- 6. Chair Bridge to call on anyone who wishes to comment in opposition of the proposed Amendment.
- 7. The applicant or his agent is given an opportunity for rebuttal.
- 8. Chair Bridge to give members of Council an opportunity to ask questions.
- 9. Chair Bridge to state IF YOU WISH TO BE NOTIFIED of the decision of the Council of the Town of Minto in respect to the proposed Zoning By-law Amendment application, you must make a written request to the Clerk of the Town of Minto at 5941 Highway 89, Harriston, NOG 1ZO or by email at <u>Bwhite@town.minto.on.ca</u>.
- 10. If there are no further comments, Chair Bridge will adjourn this Public Meeting.



Town of MintoDATE:August 28, 2017REPORT TO:Mayor Bridge and Members of CouncilFROM:Stacey Pennington, Building InspectorRE:ZBA 2017-07 John Winger- 9042 Wellington Road 5

## STRATEGIC PLAN

Ensure growth and development in Clifford, Palmerston and Harriston makes cost effective and efficient use of municipal services, and development in rural and urban areas is well planned, reflects community interests, is attractive in design and layout, and is consistent with applicable County and Provincial Policies.

### BACKGROUND

The subject lands are located on Part Lot 21, Con 5 (Minto), with a municipal address of 9042 Wellington Road 5. The proposed retained agricultural parcel is 40.4 ha (99.83 acres) and contains an existing shed. The proposed severed parcel is 0.34 ha (0.8 acres) in size and contains an existing single detached dwelling.

The intent of this application is rezone the subject lands to restrict future residential development on the proposed retained agricultural portion of property. In addition the rezoning application will allow a reduced minimum lot area of 0.34 ha (0.8 acres) for the severed parcel which contains an existing single detached dwelling. The minimum lot area in the Agricultural (A) zone for a residential lot is 0.4 ha (1.0 acres).

Rezoning is a condition of severance application B40/17, granted provisional consent by County Land Division Committee.

# COMMENTS

All other conditions recommended by the Town were cleared in relation to the severance. Public Works has no concerns and the Building Department supports the application.

#### RECOMMENDATION

THAT Council receives the Building Assistants report on the proposed rezoning for John Winger, 9042 Wellington Road 5, Town of Minto and considers passing a by-law in open session.

Stacey Pennington, Building Inspector

Re-zoning ZBA-2017-07 Winger 9042 Wellington Road 5





# PLANNING REPORT for the TOWN OF MINTO

Prepared by the County of Wellington Planning and Development Department

DATE:	August 17, 2017
то:	Bill White, C.A.O.
	Town of Minto
FROM:	Curtis Marshall, Senior Planner
	County of Wellington
SUBJECT:	John Winger
	Part Lot 21, Con 5 (Minto), 9042 Wellington Road 5
	Zoning By-law Amendment

#### PLANNING OPINION

The purpose of this zoning amendment is to prohibit future residential development on the retained agricultural portion of the subject lands. This rezoning is a condition of severance application B40/17 which has been granted provisional consent by the Wellington County Land Division Committee. Additional zoning relief is also required to recognize a reduced minimum lot area of 0.34 ha (0.8 acres) for the severed parcel which contains an existing single detached dwelling.

We have no objections to the zoning amendment. The proposal conforms to the Official Plan, is in keeping with applicable Provincial policies and would satisfy a condition of consent for severance application B40/17.

# INTRODUCTION

The property subject to the proposed amendment is located on Part Lot 21, Con 5 (Minto), with a municipal address of 9042 Wellington Road 5. The proposed retained agricultural parcel is 40.4 ha (99.83 acres) and contains an existing shed. The proposed severed parcel is 0.34 ha (0.8 acres) in size and contains an existing single detached dwelling.

#### PROPOSAL

The proposal is to amend the zoning on the subject lands to restrict future residential development on the proposed retained agricultural portion of property, and to recognize a reduced minimum lot area of 0.34 ha (0.8 acres) for the severed parcel which contains an existing single detached dwelling. This rezoning is a condition of severance application B40/17, that has been granted provisional consent by the Wellington County Land Division Committee.

Figure 1: Location Map



# **PROVINCIAL POLICY STATEMENT (PPS)**

The subject property is considered to be within a PRIME AGRICULTURAL area. Section 2.3.4.1(c) of the PPS provides consideration for the severance of a surplus residence, provided that new residential dwellings are prohibited on the remnant parcel of farmland. The applicant demonstrated through their consent application that the intent of the severance is for a farm consolidation.

# WELLINGTON COUNTY OFFICIAL PLAN

The subject lands are designated PRIME AGRICULTURAL. The Prime Agricultural designation permits existing uses, agricultural uses and also a single detached home.

Section 10.3.4 of the Plan implements the PPS and requires that the remnant parcel be rezoned to prohibit dwellings.

# DRAFT ZONING BY-LAW

The subject lands are zoned Agricultural (A). Permitted uses include agricultural uses and single detached dwellings. The minimum lot area in the Agricultural (A) zone for a residential lot is 0.4 ha (1.0 acres).

A draft zoning by-law amendment has been attached to this report for Council's consideration which introduces two site specific exceptions for the subject lands. The proposed retained vacant agricultural parcel is proposed to be zoned with a site specific exception which prohibits the construction of a dwelling. The severed agricultural parcel is proposed to be zoned with a site specific exception that recognizes the reduced minimum lot area of 0.34 ha (0.8 acres). The reduced lot size is the result of avoiding the fragmentation of any crop fields when creating the surplus farm dwelling lot.

Respectfully submitted County of Wellington Planning and Development Department

Mashell

Curtis Marshall, MCIP, RPP Senior Planner

#### THE CORPORATION OF THE TOWN OF MINTO BY-LAW NUMBER .

### BEING A BY-LAW TO AMEND ZONING BY-LAW NUMBER 01-86 FOR THE TOWN OF MINTO

**WHEREAS,** the Council of the Corporation of the Town of Minto deems it necessary to amend By-law Number 01-86;

**NOW THEREFORE** the Council of the Corporation of the Town of Minto enacts as follows:

- 1. THAT Schedule "A" Map 1 of the Town of Minto Zoning By-law 01-86 is amended by rezoning Part Lot 21, Con 5 (Minto), 9042 Wellington Road 5, as shown on Schedule "A" attached to and forming part of this By-law, from:
  - Agricultural (A) to "Agricultural Exception (A-36.116)
  - Agricultural (A) to "Agricultural Exception (A-36.117)
- 2. THAT Section 36, Rural Area Exception Zones, is hereby amended by adding the following new exceptions:

<b>36.116</b> CON 5 PT LOT 14	Notwithstanding any other provisions of this By-law, a residential dwelling shall be prohibited in this zone. Other agricultural uses that are not accessory to a dwelling are permitted.
<b>36.117</b> CON 5 PT LOT 14	Notwithstanding Section 8.5.2.1 of this By-law, a minimum lot area of 0.34 ha (0.8 acres) is permitted.

- 3. THAT except as amended by this By-law, the land shall be subject to all applicable regulations of Zoning By-law 01-86, as amended.
- 4. THAT this By-law shall come into effect upon the final passing thereof pursuant to Section 34(21) and Section 34(22) of The Planning Act, R.S.O., 1990, as amended, or where applicable, pursuant to Sections 34 (30) and (31) of the Planning Act, R.S.O., 1990, as amended.

READ A FIRST AND SECOND TIME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2017

READ A THIRD TIME AND PASSED THIS \_\_\_\_ DAY OF \_\_\_\_\_,2017

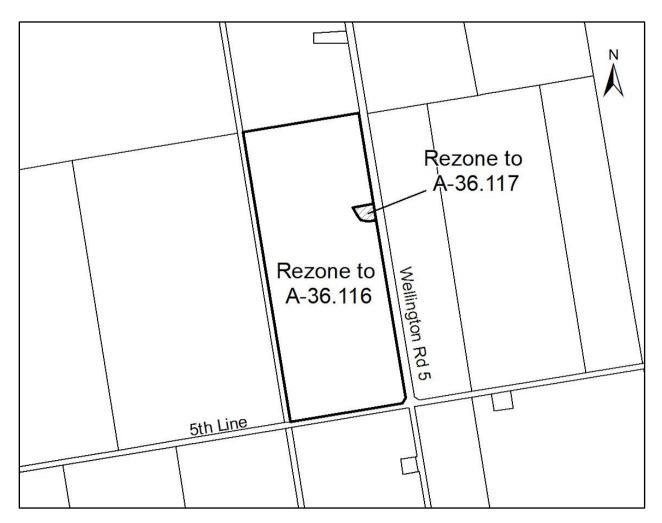
MAYOR

CLERK

# THE TOWN OF MINTO

BY-LAW NO\_\_\_\_\_\_.

Schedule "A"



Passed this \_\_\_\_ day of \_\_\_\_\_2017.

MAYOR

CLERK

PLANNING REPORT for the TOWN OF Minto Winger August 2017

## **EXPLANATORY NOTE**

# BY-LAW NUMBER \_\_\_\_\_.

**THE SUBJECT LAND** is located on Part Lot 14, Con 5 (Minto), municipal address 9042 Wellington Road 5. The proposed retained agricultural parcel is 40.4 ha (99.83 acres) and contains an existing shed. The proposed severed parcel is 0.34 ha (0.8 acres) in size and contains an existing single detached dwelling.

**THE PURPOSE AND EFFECT** of the amendment is to rezone the property to restrict future residential development on the proposed retained agricultural portion of property, and to recognize a reduced minimum lot area of 0.34 ha (0.8 acres) for the severed parcel which contains an existing single detached dwelling.



THE COUNCIL OF THE TOWN OF MINTO PUBLIC MEETING AGENDA ZBA-2017-08 Applicant: Town of Minto/ Krosinski Enterprises Inc. TUESDAY September 5<sup>th</sup>, 2017, 5:00 pm in the Council Chambers

A Public Meeting to consider an amendment to the Town of Minto Zoning By-law No. 01-86 for property located at Part Lot 24, Con 1, Parts 1, 2, 3 and 6 of RP 61R11700; Parts 4 and 5 PT of RP 61R9419; Parts 2 and 6, with a civic address of 200 Minto Road, Palmerston.

- 1. Mayor Bridge to act as the Chair of the Public Meeting
- 2. Chair Bridge to call the meeting to order and request any member of the public present to please sign the attendance record. Chair Bridge to state the following:

If a person or public body does not make oral submissions at a public meeting or make written submissions to the Town of Minto before the By-law is passed, the person or public body is not entitled to appeal the decision of the Town of Minto to the Ontario Municipal Board and the person or public body may not be added as a party to the hearing of the appeal before the Board unless, in the opinion of the Board, there are reasonable grounds to do so.

3. C.A.O. Clerk White to state the municipal address and legal description of the property, the purpose and effect of the application and date notices we sent.

The property subject to the proposed amendment is located on Part Lot 24, Con 1, Parts 1, 2, 3 and 6 of RP 61R11700; Parts 4 and 5 PT of RP 61R9419; Parts 2 and 6, with a civic address of 200 Minto Road, Palmerston

**The Purpose and Effect** of the proposed amendment is to rezone the subject lands and expand the site specific provisions of the M1-30(H) zone to permit the cultivation of cannabis within a greenhouse as part of a medical cannabis production facility. Other zoning relief may be considered for the proposal where appropriate.

**Notices** were mailed to the property owners within 400 feet or 120 meters of the subject property as well as the applicable agencies and posted on the subject property on August 16<sup>th</sup>, 2017 and posted in the local papers. The following comments were received:

- a) Town of Minto staff
  - Building Assistant's report attached
- b) Curtis Marshall, Senior Planner, County of Wellington, report attached
- c) Letter of Concern Dale Hurlbut, attached

# Public Meeting Agenda To Consider an Amendment to the Town of Minto Zoning By-law No. 01-86 for property located at 200 Minto Road, Town of Minto Page 2

- 4. Chair Bridge to call on the applicant or his agent to provide comments regarding the proposed Amendment to the Comprehensive Zoning By-law No. 01-86.
- 5. Chair Bridge to call on anyone who wishes to comment in favour of the proposed Amendment.
- 6. Chair Bridge to call on anyone who wishes to comment in opposition of the proposed Amendment.
- 7. The applicant or his agent is given an opportunity for rebuttal.
- 8. Chair Bridge to give members of Council an opportunity to ask questions.
- 9. Chair Bridge to state IF YOU WISH TO BE NOTIFIED of the decision of the Council of the Town of Minto in respect to the proposed Zoning By-law Amendment application, you must make a written request to the Clerk of the Town of Minto at 5941 Highway 89, Harriston, NOG 1ZO or by email at <u>Bwhite@town.minto.on.ca</u>.
- 10. If there are no further comments, Chair Bridge will adjourn this Public Meeting.



Town of MintoDATE:August 28, 2017<br/>Mayor Bridge and Members of CouncilFROM:Stacey Pennington, Building InspectorRE:ZBA 2017-08 Krosinski Enterprises Inc. Cannabis Facility

# STRATEGIC PLAN

Ensure growth and development in Clifford, Palmerston and Harriston makes cost effective and efficient use of municipal services, and development in rural and urban areas is well planned, reflects community interests, is attractive in design and layout, and is consistent with applicable County and Provincial Policies.

# BACKGROUND

The Town initiated the proposed amendment on property located on Part Lot 24, Con 1, Parts 1, 2, 3 and 6 of RP 61R11700; Parts 4 and 5 PT of RP 61R9419; Parts 2 and 6, with a civic address of 200 Minto Road, Palmerston. The property is currently vacant and is subject to a conditional agreement of purchase and sale between Krosinski Enterprises and the Town.



The proposed rezoning would allow for cultivation of cannabis within greenhouses proposed for the subject property. The proposed facility will include processing along with cultivation. Processing is already permitted under the M1-Industrial Zoning of the subject property. The relief is sought to allow for the greenhouse within which product will be cultivated.

The following information was provided to Council when the rezoning was initiated:

- Council signed an agreement of Purchase and Sale with Krosinski Enterprises Inc. to permit a sale of land to allow construction of a medical cannabis production facility on three acres between Tri-coat to the north and MSW Plastics to the south
- Town has initiated this zoning b-law amendment to permit construction of a 5,000 sq. ft. processing head house and three 5,000 sq. ft. cultivation greenhouses

- The property will utilize municipal sanitary sewer and water services to be made available to the property by the proposed owner, who has indicated the facility will recycle water as part of their process.
- The facility is subject to federal legislation and approval must be obtained from Health Canada above and beyond any municipal requirements in order for the proposal to proceed. The applicant has advised Town Staff that the company has been working with Health Canada since 2013 to obtain the necessary approvals, initially for a medical cannabis distribution license, and now for a distribution and cultivation license

The applicant has provided conceptual renderings as shown below:





Re-zoning ZBA-2017-08 Town of Minto Cannabis Facility Minto Road

The following details were provided in relation to security:

Security Points:

Outside:

- 12 foot wire fence around the perimeter of the property Entrance gate to the property
- Multiple security 24/7 security cameras around outside of building structures
- Flood lights around outside of building structures
- Live monitoring

Inside (un-classified):

- Live monitoring
- Monitored intrusion, unauthorized access sensors
- Internal video surveillance
- Multi-step verification access control
- Vault
- Extensive standard operating procedures Security
- Crop profiling

Personnel

- Police Record Check prior to employment commencement and periodic rechecks
- RCMP security clearance to key position employees

# COMMENTS

# Clerks

This by-law amendment would permit the proposed use on the subject property. However, currently there is a holding provision in place to ensure adequate servicing is available. This holding provision should remain in place until the Town sees the details of the project including site plan and servicing. Under Ontario Regulation 545/06, Council must give notice of its intention to pass a by-law to remove a holding symbol, as such this will be brought back to council when details are confirmed with the purchaser.

# Building

The building department supports the application. Details in relation to the provision set out in the M1 – Industrial Zone will be confirmed at the time of Site Plan Approval and the Issuance of a building permit. All applicable development charges will apply.

# Public Works

Currently the site has access to a water main on Minto Road, where a connection would be required. The 6" sanitary sewer goes as far north as the second drive way at MSW plastics. The site would be required to provide engineering to confirm whether pumping sanitary waste will be needed to access the existing 6" main. This will depend on the building elevation relative to the street. Similar to Tri-coat Finishing, details would have to be confirmed prior to site plan approval such as servicing, traffic flow and access, drainage and storm water management. Re-zoning ZBA-2017-08 Town of Minto Cannabis Facility Minto Road

#### RECOMMENDATION

THAT Council receives the Building Assistants report dated August 28, 2017 on the proposed rezoning for Town of Minto/ Krosinski Enterprises Inc. Cannabis Facility, Minto Road, and considers passing a by-law in open session.

Stacey Pennington, Building Inspector



#### PLANNING REPORT for the TOWN OF MINTO

Prepared by the County of Wellington Planning and Development Department

DATE:	August 16, 2017
TO:	Bill White, C.A.O.
	Town of Minto
FROM:	Curtis Marshall, Senior Planner
	County of Wellington
SUBJECT:	Krosinski Enterprises Inc.
	Part Lot 24, Con 1
	200 Minto Road, Palmerston
	Zoning By-law Amendment

**PLANNING OPINION** The purpose of the site specific zoning amendment is to permit the cultivation of cannabis within a greenhouse on the subject property. A medical cannabis production facility is being proposed on the property.

The proposed facility includes both a processing and cultivation ("growing" of cannabis) components. The processing component of the operation is permitted by the zoning on the property as an industrial use, however it is the cultivation in a greenhouse on a permanent basis which requires an amendment to the zoning by-law.

The proposed facility is subject to federal legislation and approval must be obtained from Health Canada above and beyond any municipal requirements in order for the proposal to proceed.

We are satisfied that the proposal is consistent with the PPS and is in general conformity with the County of Wellington Official Plan and we are supportive of the application to rezone the property. A draft zoning by-law amendment has been prepared and is attached to this report for Councils' consideration.

#### INTRODUCTION

The property subject to the proposed amendment is located on Part Lot 24, Con 1, Parts 1, 2, 3 and 6 of RP 61R11700; Parts 4 and 5 PT of RP 61R9419; Parts 2 and 6, with a civic address of 200 Minto Road, Palmerston. The property is currently vacant and is owned by the Town of Minto (figure 1).

#### PROPOSAL

The Town of Minto has signed an agreement of Purchase and Sale with Krosinski Enterprises Inc. for a 1.2 ha (3.0 acre) parcel of land on Minto Road in Palmerston. Krosinski Enterprises is proposing to construct a medical cannabis production facility on the property. The proposed use includes a 464.5 m<sup>2</sup> (5000 ft<sup>2</sup>) processing facility ("head house") and three 464.5 m<sup>2</sup> (5000 ft<sup>2</sup>) cultivation greenhouses. The property will utilize municipal sanitary sewer and water services which are available to the property. The applicant has indicated that the facility will recycle water as part of their process. Further details of the proposal were outlined in a report to Minto Council, from Bill White, CAO/Clerk dated July 27, 2017.

The proposed facility is subject to federal legislation and approval must be obtained from Health Canada above and beyond any municipal requirements in order for the proposal to proceed. The applicant has advised Town Staff that the company has been working with Health Canada since 2013 to obtain the necessary approvals, initially for a medical cannabis distribution license, and now for a distribution and cultivation license. The applicant has indicated that their application is currently in review stage 5 of 7.

A zoning by-law amendment has been initiated by the Town to rezone the property to permit the cultivation of cannabis in the Industrial M1-30 Exception Zone.



Figure 1: Location Map

#### **PROVINCIAL POLICY STATEMENT (PPS)**

The subject property is located within the urban centre of Palmerston. Section 1.1.3.1 of the Provincial Policy Statement states that "settlement areas shall be the focus of growth and their vitality and regeneration shall be promoted." Settlement areas are encouraged to include a mix

PLANNING REPORT for the TOWN OF Minto Krosinski Enterprises Inc. (Minto Road) August 2017

#### of densities and land uses.

#### **COUNTY OFFICIAL PLAN**

The property is located within the Palmerston Urban Centre and is designated Industrial. A variety of industrial uses are permitted within the designation including but not limited to: Manufacturing, processing, fabricating, assembly and warehousing.

Section 8.1.4 - Major objectives outlines that it is a major objective that all urban centres are to provide the opportunity for an adequate supply and diversity of commerce and industry to serve the needs of a growing community.

The Plan also sets objectives related to industrial development including: "To diversify the local tax base by increasing industrial assessment".

#### ZONING BY-LAW 01-86

The subject lands are zoned Industrial M1-30 (H) under Zoning By-law 01-86 as amended. The property is subject to an Exception (31.30) and a Holding (H) Provision.

Permitted uses within the M1 Industrial Zone, (Section 24.1) include manufacturing and processing. We note that Exception 31.30 (which is applicable to the subject property) establishes that agriculture is a permitted use in addition to the other permitted uses in the M1 Industrial Zone. An "Agricultural Use" is defined in the Zoning By-law as including greenhouses and horticulture crops.

A Holding (H) Provision is in place which must be removed by Council prior to the issuance of a Building Permit. Council may lift the holding provision when satisfied that servicing, stormwater management and residential land use compatibility matters have adequately been addressed.

A draft zoning by-law amendment has been prepared which permits cannabis cultivation in a greenhouse on the subject property as an additional use, and is attached to this report for Councils' consideration.

#### SITE PLAN APPROVAL

Subject to the approval of the Zoning By-law amendment, Site Plan approval will be required for the project. Town requirements, including servicing, grading, drainage, stormwater management, landscaping etc. will be addressed through the review and approval of the site plan application. As part of the site plan application lighting impacts from the greenhouse, and air quality impacts should be addressed.

As noted above the proposed is subject to federal legislation requirements and approval. The Access to Cannabis for Medical Purposes Regulations (ACMPR) include specific site requirements which must be met for facilities related to security and air quality. For example, visual monitoring (cameras), intrusion detection (alarms), and physical barriers must be provided. Areas where cannabis is present must be equipped with a system that filters air to prevent the escape of odours and, if present, pollen. A producer must produce, package and

store cannabis within an enclosed building. These requirements may be shown on the site plan application for the facility.

#### PLANNING DISSCUSION

The proposed facility includes both a processing and cultivation ("growing" of cannabis) components. The processing component of the operation is permitted by the zoning on the property as an industrial use, however it is the cultivation in a greenhouse on a permanent basis which requires an amendment to the zoning by-law.

We note that facility will be entirely indoors, and will include typical components associated with an industrial use such shipping, receiving, loading, truck and employee traffic, deliveries etc. which are appropriate in an industrial area. The inclusion of greenhouses for cultivation is compatible in an industrial area and involves many of the same supportive activities.

Respectfully submitted County of Wellington Planning and Development Department

Markell

Curtis Marshall, MCIP, RPP Senior Planner

# Agracan - LP

Palmerston Industrial Park Cannabis Cultivation Facility

# Legislative Background

- Legal access to dried marijuana for medical purposes was first provided in 1999.
- In 2000 individuals with a medical need had the right to possess marijuana for medical purposes. This led to the implementation of the Marihuana Medical Access Regulations (MMAR) in 2001. The MMAR enabled individuals with the authorization of their health care practitioner to access dried marijuana for medical purposes by producing their own marijuana plants, designating someone to produce for them or purchasing Health Canada supply.
- Over time, court decisions resulted in a number of changes to the MMAR. In June 2013, the Government of Canada implemented the Marihuana for Medical Purposes Regulations (MMPR). The MMPR created conditions for a commercial industry responsible for the production and distribution of marijuana for medical purposes. Under the MMPR, individuals with a medical need could access quality-controlled dried marijuana produced under secure and sanitary conditions by an federally licensed producer.
- In 2017 the a comprehensive set of regulations called the Access to Cannabis for Medical Purposes Regulations ACMPR came into effect. In effect it combines the MMAR and MMPR into one set of guidelines.
- You can now grow your own supply or you can purchase from a licensed producer.

### Cannabis

- Sativa
  - Energetic
  - Uplifting
  - Day-Time
- Indica
  - Sedative
  - Relaxation
  - Stress relief
  - Night-Time
- Ruderalis Used for breeding auto-flowering strains
- Cannabinoids and Terpenes
  - Compounds secreted by cannabis
  - > Terpenes are fragrant oils you can think of them as essential oils (Limonene, Humulene, Pinene)
  - > Cannabinoids bind to receptors in the endocannabinoid system
  - They work together to assist our internal endocannabinoid system maintain or get back to our optimal operating range (Metabolism, Stress Response, Immune Function etc.)
- Main Cannabinoids THC and CBD
  - THC is the substance known to cause the psychoactive effects or the "high" felt from cannabis. THC is effective in Post-Traumatic Stress Disorder (PTSD), functions as an appetite stimulant for HIV/AIDS patients, reduces nausea and vomiting from cancer treatment, helps patients with insomnia, inflammation and pain.
  - CBD lacks nearly any psychoactive effect and is showing promise with epilepsy, including children with a severe form called Dravet's Syndrome. CBD has also been used successfully by patients with genetic brain disorders, Crohn's disease and ulcerative colitis, and Parkinson's disease.

# Medical use of Cannabis

- 1. Nausea and vomiting
- 2. Appetite stimulation
- 3. Pain relief
- 4. Multiple sclerosis
- 5. Epilepsy
- 6. Cancer
- 7. Anti-inflammatory
- 8. Post-traumatic stress disorder
- 9. Psychosis
- 10. Substance use disorders
- 11. Neuroprotection
- 12. Obesity
- 13. Glaucoma

### Krosinski Enterprises Ltd. dba Agracan



corporation established in 2003 Industrial and consumer goods brokerage Agracan is our operating name in the Cannabis industry

Cannabis distribution license in 2013 Revised application in April 2017 to a cultivation license

# Proposed Activities

Federally licensed Cannabis cultivation and processing facility

- Cultivation of Cannabis plants in greenhouse structures
- Processing of harvested Cannabis plants

# Facility

- 5400 sqf processing building, 15,000 sqf greenhouse space to be expanded as business develops
- Purpose built processing and cultivation (greenhouses) i.e.. Energy efficiency, odor mitigation, security
- High Security
  - Outside (un-classified):
    - 12 foot wire fence around the perimeter of the property
    - Entrance gate to the property
    - Multiple security 24/7 security cameras around outside of building structures footage kept for a minimum 2 years
    - Flood lights around outside of building structures
    - Live monitoring

Inside (un-classified):

- Live monitoring
- Monitored intrusion, unauthorized access sensors
- Internal video surveillance footage kept for a minimum 2 years
- Multi-step verification access control
- · Vault Level (classified) Directive On Physical Security Requirements For Controlled Substances
- Extensive standard operating procedures Security
- Crop profiling

Personnel (un-classified):

- Police Record Check prior to employment commencement and periodic rechecks
- · RCMP security clearance to key position employees

# Possible Community Concerns

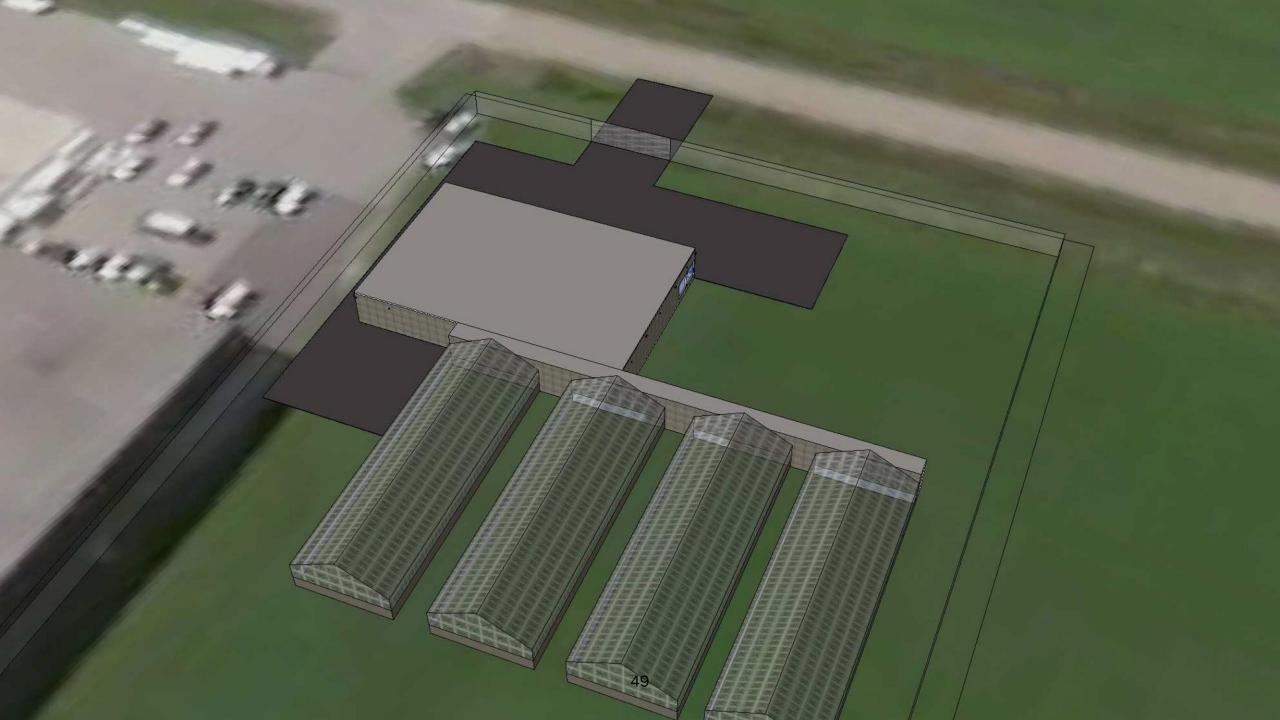
#### Crime

- Proliferation to community
  - ► No direct retail outlet
  - Secure production environment employee diversion prevention in place
  - Secure waste disposal system
- Theft
  - Extensive intrusion prevention systems
  - Low value of product in comparison to other targets
  - Product bulky
  - Not worth a criminals time
- No instance of criminal activity involving a licensed producer
- Smell
  - Legislated to have odor prevention mechanisms in place Air filtration









# Employment

- Only 2 prefilled positions in the company
- Openings
  - ► Horticulture
  - Sales
  - Administration
- Initial team of 8 at startup
- Expansion as production and sales ramp up
- Tweed 120 people, Aphria 110, Medreleaf 50

# Community Benefits

- Increasing municipal tax base
- Making use of investment put into industrial park
- State of the art facility showing Minto open to innovative businesses
- Local employment opportunity
- Research opportunities that benefit everyone



#### Changing Things Up At The 2017 Harriston-Minto Fall Fair

Good things are happening at the Harriston-Minto Fall Fair on September 15, 16 and 17. New attractions, traditional exhibits and trade show participants will be ready as usual on Friday at 6 pm. for viewing. Official opening ceremonies are set for Friday at 7 pm in the Main Arena followed by the popular Pie and Pork Auctions with the Lawn Mower Races happening outside at the Derby site. In the auditorium, 'Val E. Joy' will be entertaining the youngsters with her Clown Show.

Young adults may like to try out the Escape Houses that will be on site all day Saturday on the former midway site. Also new on Saturday will be a Ball Hockey Tournament, Stilt Walker and the Bubbleology Show. Don't forget to check out the Silent Auction running all weekend. Saturday night is 'Movie Night at the Crown Theatre' for the children. Thanks to funding from the Minto Cultural Round Table, local band 'Big Wheels' will be entertaining at Pub Night in the auditorium Saturday night.

After your Sunday morning 'Breakfast at the Fair' and Church Service, you can enjoy the Soap Box Derby taking place on main street downtown Harriston with assistance from the Wellington Jr. Farmers, Kinsmen and Minto Youth Action Council. The popular Demolition Derby, Big Bale Roll Out and Scooter Draw will also be running that afternoon. More information and registration forms can be found on our website at www.harristonmintofair.ca

Yet another change will be the Sunday Car Show. The cars will be on display under the trees and on the former midway site. The castles will be set up inside the ball diamond all day Saturday and Sunday.

The most significant change at this year's fair is that there will be no midway. In past years different midway companies have been invited to set up at our event <u>at no cost to the Ag. Society</u>. Up until 2016, the Harriston-Minto Ag. Society received a small percentage of midway profits for allowing them to attend our event. As operation costs have increased , midway owners make less profit at small fairs. It is now a very common practice for other Ag. Societies to pay thousands of dollars to have a midway at their fair. Few people realize that these midways then take even more thousands of dollars out of the community from ticket sales. This year, the board of Harriston-Minto Ag. Society has chosen to fund a variety of bouncy castles geared for different ages. For the purchase of a bracelet, a child will be able to have unlimited access to all age appropriate castles for the day. This could ease some of the expense for families and increase the enjoyment of attending our fair. Revenue from bracelet sales will help offset the expense of this entertainment.

More information about this year's Harriston-Minto Fall Fair can be found in our fair book, on our website at www.harristonmintofair.ca, on our face book page, twitter account, or call our Secretary at 519-338-5566 or President at 519-327-8053. To volunteer, contact info@harristonmintofair.ca or any Board Director.

So, mark your calendar for September 15, 16 and 17 and come to the Fair. There's something for everyone at the Harriston-Minto Fall Fair.

M. Shannon

#### Harriston-Minto Fall Fair 2017

No Midway!

We have something even BETTER this year!!

Challenge yourselves with 1 of 3 Grey Bruce Escape Room Adventures. **Quest for the Throne**-puts you back in Medieval Times where you must prove your birthright before time runs out in 60 minutes OR

**Doctor's Office**-away on a camping trip, you fall & injure your ankle. You go searching for help & find what appears to be an old doctors office in an abandon mining town. Slowly you open the door & enter... As you scan the room for medical supplies, you hear a loud noise followed by a scream. The door slams shut. Your are locked in. Can you escape??? You have 45 minutes then?????? OR

**Grandma's Attic**-You stop for a visit with Grandma. You knock on the door, it opens. Grandma was just leaving to go help a friend. She tells you to come in and that she will be back soon. There are always interesting things @ Grandma's house, so you start snooping. You notice the door to the attic is opened a crack. Always curious about the attic, you slowly open the door & tip toe in. Suddenly with a gust of wind the door SLAMS shut. How do you get out?? Does Grandma keep a key to the door in the attic? Hmmm, you've got 45 minutes before....

#### **BOOK YOUR TEAM TIME NOW!**

#### Wholesome FUN for the whole family!

ASTRID J. CLOS

PLANNING CONSULTANTS

August 30, 2017

Project No. 1326

Town of Minto Municipal Office 5941 Highway 89 Harriston, Ontario N0G 1Z0

Attention: Mayor George Bridge and Members of Council

#### Re: Town of Minto Council Meeting – September 5, 2017 Revision to Draft Plan of Subdivision 23T-90021 - Clair Ridge Estates Limited <u>Town of Minto (Palmerston)</u>

Further to the request submitted to the Town and County on July 25, 2017 for a revision to the existing Draft Plan of Subdivision 23T-90021, two further revisions have been made to the Draft Plan. This revised plan is dated August 30, 2017 and is included as an attachment to this letter.

The further revisions to the plan include;

- 1. A Future Development Block 30 has been added to the Draft Plan of Subdivision to accommodate the future possibility of three residential lots being created if land is able to be purchased from T.G. Minto by Clair Ridge Estates Limited.
- 2. A Walkway and Servicing Block 31 has been added to the Draft Plan of Subdivision to accommodate the servicing connection as well as provide a pedestrian connection to the existing Derby Street Road allowance. In addition, a Concept Plan is shown in red, which is for illustration purposes only and would not be part of the Draft Plan of Subdivision approval. The purpose of providing this Concept Plan is to illustrate how Derby Street could be constructed in the future as a cul-de-sac to provide road frontage for potential future lots in this area.

Dan Sinclair, Clair Ridge Estates Limited, is in agreement with the recommendation in the report prepared by Bill White, CAO with a minor revision as below;

#### "RECOMMENDATION:

That Council of the Town of Minto advise the County of Wellington that it supports the Revised Application for Draft Plan Approval, Plan dated August 30, 2017 for Clair Ridge Estates Ltd., Pt Pk Lots 16, 17, 18 Western Canada Savings & Loan Co. Plan, Palmerston File 23T-90021 subject to the following:

- 1. Existing conditions as previously approved pertaining to the Town's financial, servicing, stormwater management, parkland, road access and similar to be provided for in a subdivision agreement.
- 2. That all other applicable conditions in the existing draft plan approval remain in effect with regard to the revised draft plan of subdivision."

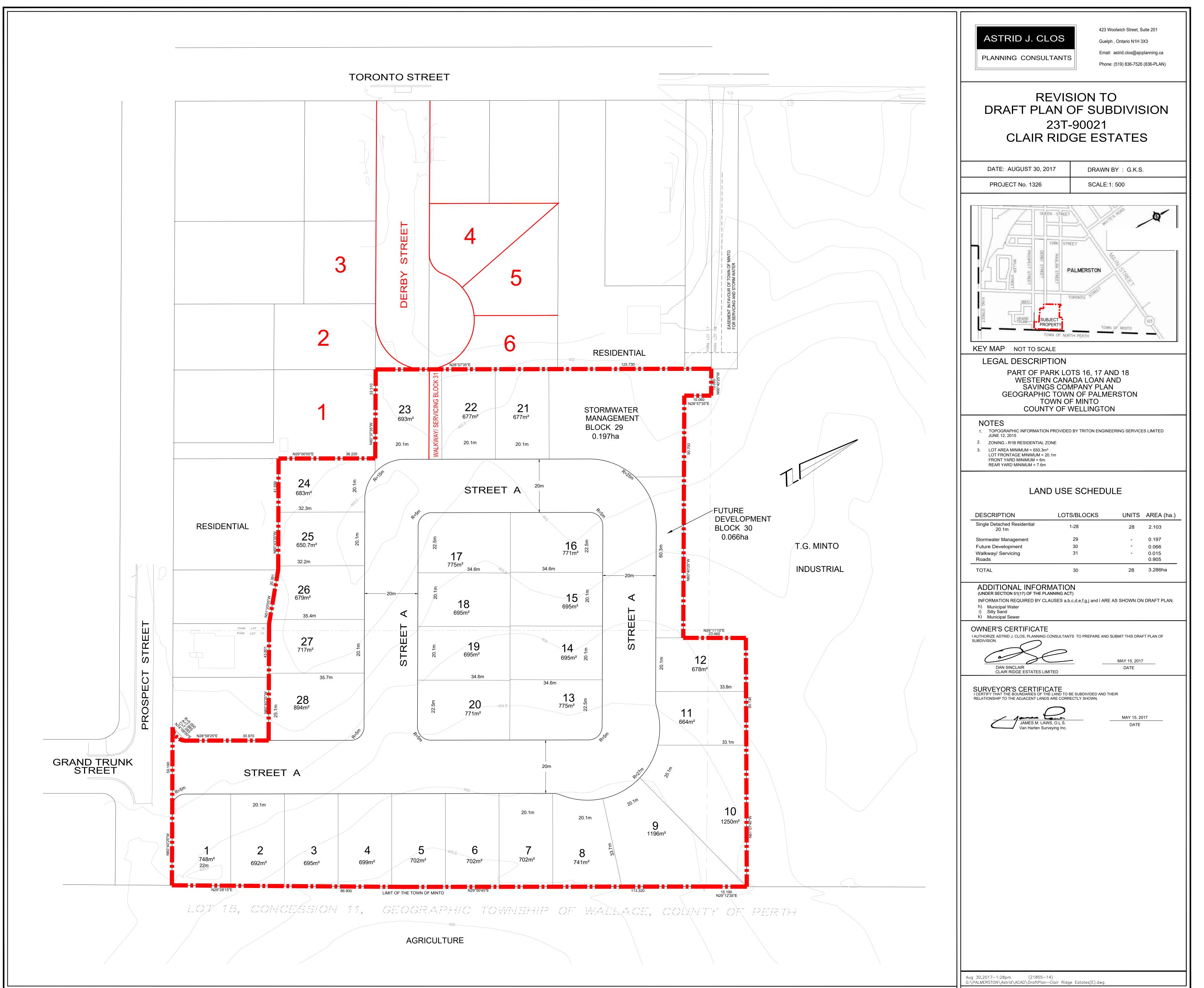
423 Woolwich Street, Suite 201, Guelph, Ontario, N1H 3X3 Phone (519) 836-7526 Fax (519) 836-9568 Email astrid.clos@ajcplanning.ca We look forward to the opportunity to discuss this option further at the Council Meeting on September 5, 2017.

Yours truly,

Astrid Clos, MCIP, RPP

cc: Linda Redmond, Manager of Policy Planning, County of Wellington Bill White, CAO/Clerk, Town of Minto Dan Sinclair, Clair Ridge Estates Limited Paul Ziegler, Triton Engineering Services Limited

(1326.Letter to Council for September 5, 2017.doc)





Sylvia Jones, MPP Dufferin-Caledon Room 443, Legislative Building Toronto, Ontario M7A1A8

Tel: 416-325-1898 Fax: 416-325-1936 E-Mail: sylvia.jonesla@pc.ola.org

July, 2017

#### RECEIVED JUL 3 1 2017

Mayor George Bridge and Council Town of Minto 5941 Highway 89 Harriston, ON N0G 1Z0

Dear Mayor Bridge and Council,

I wanted to inform you of a private member's bill I introduced on May 31<sup>st</sup>, Bill 141 – Sewage Bypass Reporting Act, 2017. Bill 141, if passed, requires the Ministry of Environment (MOE) to promptly publish reported instances of sewage bypasses to the public. I understand that municipalities are required to report instances of sewage bypasses to the MOE. Bill 141 would require the next step; the MOE to make the information available to the public no longer than 24 hours after being reported.

The intent of Bill 141 is twofold. First, residents deserve to know as soon as possible when a sewage bypass has occurred, so they can make safe and educated decisions about how they use their local waterways. Secondly, the public can easily access information on our sewage systems, which will help residents understand the importance of investments in key infrastructure, like water treatment plants and sewage pipes, to their health and community.

Please find enclosed a pamphlet with further details about Bill 141. If you support my private member's bill, I encourage you to write a letter to the Minister of Environment and urge him to adopt this important legislation. I have enclosed a copy of a letter sent to Minister Murray asking him to adopt the provisions of Bill 141. I would appreciate also receiving a copy of your letter to the Minister.

Sincerely.

Sylvia Jones, MPP Dufferin-Caledon Deputy Leader of the PC Caucus



Sylvia Jones, MPP Dufferin-Caledon

Room 443, Legislative Bullding Toronto, Ontario M7A1A8

Tel: 416-325-1898 Fax: 416-325-1936 E-Mail: sylvia.jonesla@pc.ola.org

July 21<sup>st</sup>, 2017

Hon. Glen Murray Ministry of the Environment and Climate Change 11<sup>th</sup> Floor, Ferguson Block 77 Wellesley Street West Toronto, Ontario M7A 2T5

Dear Minister Murray:

As you are no doubt aware, millions of litres of untreated or partially treated sewage is bypassed from sewage treatment plants every year into our local waterways. Unfortunately, the state of some of the province's sewer infrastructure means that untreated or partially treated sewage is regularly bypassed. Despite municipalities reporting to your ministry instances of sewage bypasses, the Ministry of Environment and Climate Change (MOECC) does not make that information readily available to the public.

That is why I introduced my private member's bill on May 31<sup>st</sup>; Bill 141 – the Sewage Bypass Reporting Act, 2017. If adopted Bill 141 would require the MOE to publish sewage bypasses to the public as soon as possible, but no longer than 24 hours after the bypass was reported. If adopted, Bill 141 would ensure that residents are aware of instances of sewage bypasses and can make safe and educated decisions about how they use their local waterways. The bill will also increase government transparency and allow individuals to see the need and benefits of investments in our water and sewer infrastructure.

Will you commit to implementing the provisions of Bill 141?

Sincerely

Dufferin-Caledon

**Bill 141 – Sewage Bypass Reporting Act, 2017** 

#### SYLVIA JONES, MPP Dufferin-Caledon

244 Broadway Orangeville ON L9W 1K5 Tel: 519-941-7751



twitter @sylviajonesmpp facebook Sylvia Jones

Toll Free: 1-800-265-1603 E-mail: sylvia.jonesco@pc.ola.org

12596 Regional Road 50 Bolton ON L7E 1T6 Tel: 905-951-9382

#### Support Private Members Bill 141 to Require the Ministry of Environment to Report Instances of Sewage Bypasses

Bill 141 will ensure that Ontarians know when untreated or partially treated sewage is bypassed into their local waterways. Bill 141 will require the Ministry to publish when, where, why the discharge occurred and the measured or estimated volume of discharge as soon as possible but no longer than 24 hours after the bypass was reported.

In 2006 the Ministry of Environment (MOE) estimated that the total volume of sewage dumped from sewage treatment plant bypasses was approximately 18 billion litres. Despite the MOE already requiring reports from municipalities on instances of sewage bypasses, this information is not readily available to the public. The Ministry of Environment reports that in 2006 over 1,500 sewage bypasses and combined sewer overflows occured. More recently in June 2017, the Toronto Star reported that that the City of Toronto dumped 1.3 million cubic metres of partially treated sewage into Lake Ontario.

While some municipalities proactively report to the public it is not consistent across the province. If passed, Bill 141 would ensure that Ontarians known when untreated or partially treated sewage is bypassed into their local waterways. Bill 141 will also ensure that residents understand the importance of investing in key infrastructure like water treatment plants and pipes.

#### Sylvia Jones, MPP - Dufferin-Caledon www.sylviajonesmpp.ca

#### **How YOU Can Help**

- Share comments on Bill 141 Sewage Bypass Reporting Act, 2017. Please contact my office at <u>sylvia.jonesqp@pc.ola.org</u>.
- You can sign the petition support Bill 141 by visiting: www.sylviajonesmpp.ca.
- To get a copy of Bill 141, visit www.sylviajonesmpp.ca or call 416-325-1898.
- Share this information with others who want to ensure the public is aware of sewage bypasses in Ontario.
- If you have questions, please email sylvia.jonesqp@pc.ola.org.

#### Support for Bill 141

"Informing the public about sewage bypasses as they happen gives people the information they need to protect their health. It also helps people to be more informed about the need to properly capture and treat sewage in order to protect the Great Lakes."

#### - Lake Ontario Water Keepers

"The Sewage Bypass Reporting Act is a very important step forward in being more open and transparent with the general public about what we are knowingly discharging into our public water courses. People need to know when a sewage bypass occurs so they can make more informed decisions about how and when they use public waterbodies, and to help inform future decisions around public infrastructure investments."

- Harry Bauman, President, Ontario Sewer and Watermain Construction Association

If you would like more information or have questions about Bill 141, please contact the office of Sylvia Jones, MPP for Dufferin-Caledon at:

Room 443, Legislative Building, Queens Park, Toronto, ON, M7A 1A8, (416) 325-1898 or 244 Broadway, Orangeville, ON, L9W 1K5, 1-800-265-1603 or 12596 Regional Road 50, Bolton, ON, L7E 1T6

Email: sylvia.jonesqp@pc.ola.org

Working For You!

# **Annual Report**





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# Message from the AMO **President**

#### Planning the Future, Today - Reporting Out on the 2016 Strategic

**Objectives.** AMO's key initiative for 2016 was completing the examination of the municipal fiscal condition. How can I describe one of the most critical pieces of work – work that is still in progress?

2016 saw the Board and members go into Phase 2 of "What's Next, Ontario?" looking for solutions to the Phase 1 problem. Phase 1 showed there is a shortfall of about \$4 billion dollars annually for the next 10 years – to cover operating cost growth and to reduce the infrastructure gap. Forty possible revenue tools were tested against a set of criteria. How much of the fiscal problem does any option solve? What geographic, economic and social impacts might be expected? Can equity and fairness result? What administrative efficiency might be involved with each option? How does it improve municipal autonomy and reduce vulnerability to change? We talked about this in about 40 different sessions across the province.

As I write today, we have moved on from the research and analysis and options stages. Now we are in the solution stage. The revenue tool that best meets the criteria is a 1% increase to the HST, dedicated to municipal infrastructure. It would provide substantive revenue – more predictable and stable. Investment outcomes would be apparent. The Board readily acknowledges that increasing taxation is not easy to talk about, that convincing others of the merits is challenging. Yet, we cannot sit back. Federal and Provincial infrastructure grant programs are helpful and they need to remain part of the equation. However, we can and should do more infrastructure investment. It drives GDP. It makes for liveable communities. It attracts people and business.

I want to acknowledge the stewardship of Gary McNamara as President during 2015 and 2016. His leadership carries on as Past President. I must also recognize the heavy lifting that the Board has done to get us this far. It is not easy work. It is not for the faint of heart. Planning the Future, Today was a very apt theme for the Board's 2016 Strategic Objectives. Members expect AMO to be leading, to connect the dots, to focus on the future, as well as what is in each Ministries' mandate letters.



Believe me, the policy work at Queen's Part is important too and time consuming. This organization demonstrates its value, day in and day out, whether it is energy, policing, OMB/ Planning Act, Aggregates Act changes, Conservation Act, waste diversion, the sharing economy, marijuana, Municipal Act, Municipal Conflict of Interest Act and so many more. We continue to bat for changes to interest arbitration and joint and several liability. We are working on broader strategies bringing the Ontario municipal voice to the National Housing Strategy and the design of INFC Phase 2 programs.

We are using new ways to 'import' membership to our policy development and legislative review work. Webinars and video meetings are expanding our reach and your involvement. We held a new Human Services Symposium – a resounding success, so look for one in 2017! There is so much changing in the municipal world. Councils are employers, policy makers, and service providers – a lot of hats that fit best when made well. Do not pass up on your own education and training. Certainly read every communication from AMO. Some weeks I know it might feel they come daily. Our job is to keep you informed. Our job is to get your input and feedback. A strong order of municipal government is AMO's objective and its obligation to you. I need your obligation to that objective too.

Thank you.

Lynn Dollin Deputy Mayor, Town of Innisfil President, AMO

"Someone is sitting in the shade today, because someone planted a tree a long time ago."

Secretary-Treasurer's Report

I am pleased to provide you with my report on the 2016 financial status and some highlights of Association non-policy activities.

AMO continues to have a strong consistent membership base. In 2016, AMO had a membership of 419 municipal members, with additional support from 31 organizations that were Partners, Associates, Districts and Affiliates.

At the end of this annual report is a copy of the audited financial statements for the year ending December 31, 2016. AMO's Audit Committee meets three times a year with auditors from Grant Thornton LLP as part of the Association's accountability framework. The Association continues to be in good financial shape. Revenue sources for the corporation come from two key areas - membership fees and the annual conference.

The Finance and Operations Centre provides the backbone of the AMO operations – not only the financial management, reporting and risk management, but also the management of its assets, information services, website management and information technology. It provides the operational support to all of our education events including the registration of over 2000 participants in our annual conference.

Our website had over 99,736 unique visitors in 2016, looking to engage in activities. Subscription to the weekly AMO Watch File is 7,534. Communicating with our members, keeping everyone up to date is just part of the value added proposition of an AMO membership.

Each year AMO strives to increase value-added services for our members. In 2016, AMO launched AMOpen – a municipal government data repository. Over 60 content pieces can be downloaded to create data visualizations. (See example on page 11) The portal continues to grow and help municipalities work with their data. In conjunction with AMO's Municipal Information and Data Analysis System (MIDAS) our team is working to provide tools that can assist with long term planning and data reporting.

The Membership Centre worked to deliver educational programming focused on current issues. The first ever Human Services Symposium, built on the AMO-OMSSA partnership brought together over 174 participants to discuss housing, homelessness and poverty. It was an incredible success so Symposium 2 is in the planning stages! We developed an Energy Symposium that focused on future trends and energy needs of Ontario. It helped position the concerns with costs but also pursued energy conservation and planning best practices. Over the course of its two days, 192 individuals heard from over 20 speakers.

Staff of the Association are motivated by quality 'customer' service. Together with the AMO Board, we strive for excellence in working to achieve results for its members.

Respectfully submitted,

Trevor Wilcox Secretary-Treasurer – AMO General Manager, Corporate Performance – County of Simcoe

# Executive Director's Review Director's

AMO is privileged to work with many municipal elected officials and municipal staff on most of the Association's policy work. Over 250 municipal volunteers strengthened our work in 2016. Their input allows us to put forward an 'operational' perspective to provincial policy development. This is not to say that the government accepts all that input. The AMO Board and volunteers have worked hard on a very active government agenda.

Over time I have seen four reviews of the *Municipal Act* and as many reviews of the *Municipal Elections Act*. I certainly do not want to count the number of *Planning Act* and OMB reviews but am more optimistic that the advice we have offered previously will find fertile ground. Policing and fire services have taken up a lot of time – and this will continue. Infrastructure program design will as well. We had champions at the province who took our advice for how the Phase 1 of the federal Clean Water and Wastewater Fund could be designed to help every municipal government in Ontario. The province put new money on that table so that each municipal government received an allocation in the fall of 2016. Everyone could submit projects to use their allocation. It worked! It was easy! Can it be repeated for Phase 2? That question will be answered in 2017.

The Board also took on "What's Next, Ontario?" It is a look at the future fiscal circumstances of Ontario's municipal governments. The initiative is not about the future of municipal governments. There is no doubt that municipal governments will play an even stronger role in the future. The province relies significantly on municipal governments to provide the services that people need every day. What is less reliable is the autonomy municipal governments are availed and the revenues with which to do the work. That is the struggle. It is also the opportunity. Will membership decide to be bold – to work together to redesign the future now? That is part of the next steps in this process and we will see what unfolds in 2017.

AMO is a corporation. It needs to take stock of its ability to meet the future as a corporation. That happened this year too. Part of that work resulted in a re-organization (see chart on page 17). While there are four centres, there is great emphasis on shared services and integrated teamwork – using the talents of staff better. We are growing our databases. We are in the open data world. We are expanding our education business. We are into business partnerships. We are working on digital government. We are growing programs through Local Authority Services to save municipal governments money and to help you enrich your services. We are the municipal employer sponsor for OMERS and through MEPCO we work to support the wellbeing of that pension plan and the interests of municipal governments.

We are into you - our municipal members! Thank you for your support.

Pat Vanini, Executive Director

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# Year Of Opportunities

#### **Member Outreach**

E-media continues to be the primary outreach mechanism for AMO. Through e-communicates, the weekly AMO watchfile,

all of our social media feeds and our website, members are informed on timely topics and events.

### **16**

taskforces worked together to build on common goals

all of Ontario

# 3,115

participants at AMO events and training

 $\mathbf{43}$ 

dedicated staff working to further the mission and vision of AMO, LAS and MEPCO

133.3%

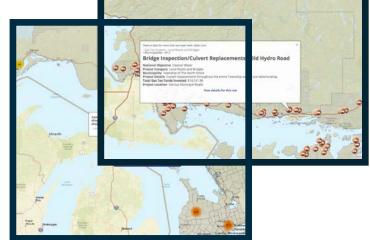
increase in AMO's online engagement over 2015 hours the AMO Board met to further priorities impacting

267 volunteers working to further policy decisions

## 5,825

followers on twitter, 1,354 new in 2016

**60**data visualizations, charts and tables on AMOpen - the Municipal Government Data Repository. Visit amopen.on.ca to see what it can do for you.



AMO's Mission Statement "In Ontario's municipalities, people and families can live, thrive and prosper in the communities they call home, and children will have the choice and opportunity to live and work in the communities where they were raised."

### AMO Policy Centre staff ensure that policy development and advocacy efforts meet the needs of our membership.

Municipal government officials volunteer on AMO led taskforces and working groups. We thank them for their hard work. In 2016 over 250 municipal champions, working across 16 taskforces, led to achievements in a number of areas, details on which can be found on our website. We also appreciate the linkages with numerous sub-municipal groups and staff associations. Coordinating efforts, positions and messages strengthen advocacy.

# **2016 Taskforces**

Affordable Housing and Homelessness	Aggregates	Conservation Authorities	Digital Government
Energy	Expanding Medical Responses Review	Health	Long-Term Care & Age- Friendly Communities
Marijuana Legislation	Marijuana Legislation Working Group	Planning	Post Traumatic Stress Disorder Working Group
Provincial Offenses Act (POA) Fine Working Group	Waste Management (WM)	WM Municipal- Industry Program Committee	What's Next Ontario Working Group

# Appointments

**Equally important,** AMO appoints volunteers to working groups and committees managed by other Associations, as well as the Provincial and Federal Government.

**AMO APPOINTMENTS FOR 2016** 

Building Code Energy Advisory Group

Canada-Ontario-AMO Municipal Immigration Committee

Canada-Ontario-AMO-Toronto Federal Gas Tax Oversight Committee

Independent Electricity System Operator Stakeholder Advisory Committee

Ministry of Advanced Education and Skills Development - Common Assessment Working Group

Ministry of Community and Social Services - Core Technical Table

Ministry of Community and Social Services - Minsiters' General Advisory Council on Social Assistance Reform

Ministry of Community and Social Services - Social Assistance and Employment Committee

Ministry of Community and Social Services - Social Assistance and Employment Committee -Municipal Technical Working Group

Ministry of Community and Social Services - Social Assistance Management System Transition Executive Committee

Ministry of Community and Social Services/AMO/City of Toronto - Accessibility Standards Working Group

Ministry of Community Safety and Correctional Services - Future of Policing Advisory Committee

Ministry of Education - Child Care Regulatory Working Group

Ministry of Education - Early Learning Advisory Group

Ministry of Education - Education Partnership Table

Ministry of Education - Minsters' Early Years Advisory Committee

Ministry of Education - Provincial-Municipal Child Care Partnership Table

Ministry of Education - Provincial-Municipal Early Years Reference Group

Ministry of Finance - Property Tax and Assessment Advisory Committee

#### **AMO APPOINTMENTS FOR 2016 CONTINUED**

Ministry of Health and Long-Term Care - Enhanced Long-Term Care Home Renewal Strategy-Design Working Group

Ministry of Health and Long-Term Care - Enhanced Long-Term Care Home Renewal Strategy-Redevelopment Scheduling Process Working Group

Ministry of Health and Long-Term Care - Enhanced Long-Term Care Home Renewal Strategy-Stakeholder Advisory Committee

Ministry of Health and Long-Term Care - Long Term Care Service Accountability Agreement Health Indicator Work Group

Ministry of Health and Long-Term Care - Long Term Care Service Accountability Agreement Planning and Work Schedule Work Group

Ministry of Health and Long-Term Care - Long Term Care Service Accountability Agreement Steering Committee

Ministry of Health and Long-Term Care - Ontario Healthcare Reporting Standards Advisory Committee

Ministry of Health and Long-Term Care - Ontario Public Health Standards Modernization Executive Steering Committee

Ministry of Housing/AMO/City of Toronto - Provincial-Municipal Housing Partnership Table

Ministry of Labour - Section 21 Advisory Committee for Fire Services

Ministry of Municipal Affairs and Housing - Building Advisory Council (BAC)

Ministry of Municipal Affairs and Housing - Municipal Debt Issuance and Investment Committee

Ministry of Natural Resources Aggregate Advisory Committee

Ministry of Natural Resources Aggregate Technical Committee

Ministry of Revenue - Ontario Business Advisory Council

Municipal Health and Safety Association Board (MHSA)

Municipal Property Assessment Corporation (MPAC) - Liaison Group

Ontario 9-1-1 Advisory Board

The Ontario Aggregate Resources Corporation (TOARC) Board of Directors

Waste Diversion Ontario - Continuous Improvement Fund (CIF) Board

Waste Diversion Ontario - Continuous Improvement Fund (CIF) Projects Sub-Committee

Waste Diversion Ontario - Public Affairs Committee (PAC)

## **AMO Board of Directors**

Lynn Dollin, President\* Deputy Mayor, Town of Innisfil

Gary McNamara, Past-President\* Mayor, Town of Tecumseh

Trevor Wilcox, Secretary-Treasurer\* General Manager, Corporate Performance, County of Simcoe

#### **COUNTY CAUCUS**

Paul McQueen, Caucus Chair\* Councillor, County of Grey

Jo-Anne Alber Councillor, County of Hastings

Peter Emon Warden, County of Renfrew

Gerry Marshall Chair, Western Wardens' Caucus Warden, County of Simcoe

Brenda Orchard CAO, County of Huron

Robert Quaiff Chair, Eastern Wardens' Caucus Mayor, County of Prince Edward

LARGE URBAN CAUCUS

Rick Goldring, Caucus Chair\* Mayor, City of Burlington

Janice Baker City Manager & CAO, City of Mississauga

Cathy Downer Councillor, City of Guelph

Chris Friel Mayor, City of Brantford

Kevin George Councillor, City of Kingston Linda Jeffrey Mayor, City of Brampton

Lou Turco Councillor, City of Sault Ste. Marie

NORTHERN CAUCUS

Dave Canfield, Caucus Chair NW\* Mayor, City of Kenora

Alan Spacek, Caucus Chair NE\* Mayor, Town of Kapuskasing

Mac Bain Councillor, City of North Bay

Michael "JJ" Doody Councillor, City of Timmins

Wendy Landry Mayor, Municipality of Shuniah

Phil Vinet Mayor, Municipality of Red Lake

**REGIONAL AND SINGLE TIER CAUCUS** 

Roger Anderson, Caucus Chair\* Regional Chair, Region of Durham

Paul Grenier Councillor, Region of Niagara

David Henderson Mayor, City of Brockville

Ken Seiling, Chair, MARCO Regional Chair, Region of Waterloo

Mark Taylor Deputy Mayor, City of Ottawa

Allan Thompson Councillor, Region of Peel

Tony Van Bynen Councillor, Region of York

#### RURAL CAUCUS

Ronald Holman, Caucus Chair\* Mayor, Township of Rideau Lakes

Liz Huff Councillor, Township of Leeds and the Thousand Islands

Bill Vrebosch Mayor, Municipality of East Ferris

Mark Wales Councillor, Township of Malahide

Chris White Mayor, Township of Guelph-Eramosa

Chris Wray CAO/Clerk-Treasurer, Municipality of Wawa

#### SMALL URBAN CAUCUS

Jamie McGarvey, Caucus Chair\* Mayor, Town of Parry Sound

Gail Ardiel Deputy Mayor, Town of the Blue Mountains

Jim Collard Councillor, Town of Niagara-on-the-Lake

Robert Foster Councillor, Town of Lincoln

Larry McCabe CAO, Town of Goderich

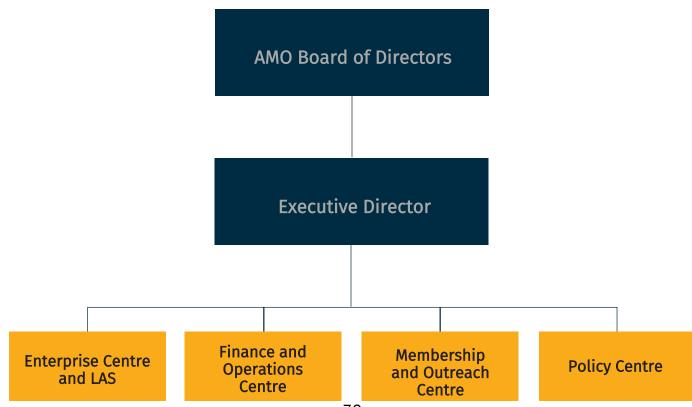
Graydon Smith Mayor, Town of Bracebridge

ASSOCIATION FRANCAISE DE MUNICIPALITIES DE L'ONTARIO (AFMO)

Claude Bouffard, AFMO President Mayor, Municipality of French River

\* MEMBERS OF AMO EXECUTIVE COMMITTEE

### AMO Structure



AMO working to make Ontario municipalities stronger.

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# Our Marbers

Township of Adelaide Metcalfe

Township of Adjala-Tosorontio

Township of Admaston/Bromley

Town of Ajax

Township of Alberton

Township of Alfred and Plantagenet

Township of Algonquin Highlands

Township of Alnwick/Haldimand

Township of Amaranth

Town of Amherstburg

Township of Armour

Township of Armstrong

Town of Arnprior

Municipality of Arran-Elderslie

Township of Ashfield-Colborne-Wawanosh

Township of Asphodel-Norwood

Township of Assiginack

Town of Atikokan

Township of Augusta

Town of Aurora

Town of Aylmer

Town of Bancroft

City of Barrie

Municipality of Bayham

Township of Beckwith

City of Belleville

Township of Billings

Township of Black River-Matheson

Township of Blandford-Blenheim

Town of Blind River

Municipality of Bluewater

Township of Bonfield

Township of Bonnechere Valley

Town of Bracebridge

Town of Bradford West Gwillimbury

City of Brampton

County of Brant

City of Brantford

Municipality of Brighton

Township of Brock

Municipality of Brockton

City of Brockville

Municipality of Brooke-Alvinston

Town of Bruce Mines

County of Bruce

Township of Brudenell, Lyndoch and Raglan

Village of Burk's Falls

City of Burlington

Township of Burpee and Mills

Town of Caledon

Municipality of Callander

Municipality of Calvin

City of Cambridge

Town of Carleton Place

Township of Carling

Village of Casselman

Township of Cavan Monaghan

Municipality of Central Elgin

Township of Central Frontenac

Municipality of Central Huron

Township of Adelaide Metcalfe

Township of Adjala-Tosorontio

Township of Admaston/Bromley

Town of Ajax

Township of Alberton

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Township of Algonquin Highlands

Township of Alnwick/Haldimand

Township of Amaranth

Town of Amherstburg

Township of Armour

Township of Armstrong

Town of Arnprior

Municipality of Arran-Elderslie

Township of Ashfield-Colborne-Wawanosh

Township of Asphodel-Norwood

Township of Assiginack

Town of Atikokan

Township of Augusta

Town of Aurora

Town of Aylmer

Town of Bancroft

City of Barrie

Municipality of Bayham

Township of Beckwith

City of Belleville

Township of Billings

Township of Black River-Matheson

Township of Blandford-Blenheim

Town of Blind River

Municipality of Bluewater

Township of Bonfield

Township of Bonnechere Valley

Town of Bracebridge

Town of Bradford West Gwillimbury

City of Brampton

County of Brant

City of Brantford

Municipality of Brighton

Township of Brock

Municipality of Brockton

City of Brockville

Municipality of Brooke-Alvinston

Town of Bruce Mines

County of Bruce

Township of Brudenell, Lyndoch and Raglan

Village of Burk's Falls

City of Burlington

Township of Burpee and Mills

Town of Caledon

Municipality of Callander

Municipality of Calvin

City of Cambridge

Town of Carleton Place

Township of Carling

Village of Casselman

Township of Cavan Monaghan

Municipality of Central Elgin

Township of Central Frontenac

Municipality of Central Huron

Municipality of Central Manitoulin

Municipality of Centre Hastings

Township of Centre Wellington

Township of Chamberlain

Township of Chapleau

Township of Chapple

Municipality of Charlton and Dack

Municipality of Chatham-Kent

Township of Chatsworth

Township of Chisholm

City of Clarence-Rockland

Municipality of Clarington

Township of Clearview

Town of Cobalt

Town of Cobourg

Town of Cochrane

Township of Coleman

Town of Collingwood

Township of Conmee

City of Cornwall

Township of Cramahe

Township of Dawn-Euphemia

Town of Deep River

Town of Deseronto

Township of Dorion

Township of Douro-Dummer

Township of Drummond/North Elmsley

City of Dryden

Township of Dubreuilville

County of Dufferin

Regional Municipality of Durham Municipality of Dutton/Dunwich Municipality of Dysart Et Al Township of Ear Falls Municipality of East Ferris Township of East Garafraxa Town of East Gwillimbury Township of East Hawkesbury Township of East Zorra-Tavistock Township of Edwardsburgh/Cardinal County of Elgin Township of Elizabethtown-Kitley City of Elliot Lake Township of Emo Town of Englehart Township of Enniskillen Town of Erin Town of Espanola Township of Essa **County of Essex** Town of Essex Township of Evanturel Township of Faraday Township of Fauquier-Strickland Town of Fort Erie Town of Fort Frances Municipality of French River Township of Front of Yonge Township of Frontenac Islands **County of Frontenac** 

Separated Town of Gananoque

Township of Georgian Bay

Township of Georgian Bluffs

Town of Georgina

Township of Gillies

Town of Goderich

Municipality of Gordon/Barrie Island

Town of Grand Valley

Town of Gravenhurst

Township of Greater Madawaska

Town of Greater Napanee

City of Greater Sudbury

Municipality of Greenstone

Municipality of Grey Highlands

County of Grey

Town of Grimsby

City of Guelph

Township of Guelph/Eramosa

Haldimand County

County of Haliburton

Town of Halton Hills

**Region of Halton** 

City of Hamilton

Township of Hamilton

Town of Hanover

Township of Harley

Township of Harris

Municipality of Hastings Highlands

County of Hastings

Township of Havelock-Belmont-Methuen

Town of Hawkesbury United Townships of Head, Clara & Maria Town of Hearst Municipality of Highlands East Township of Hilliard Township of Hilton Township of Hornepayne Township of Horton Township of Howick Town of Huntsville Municipality of Huron East **Municipality of Huron Shores** Township of Huron-Kinloss County of Huron Township of Ignace Town of Ingersoll Town of Innisfil Town of Iroquois Falls Township of Johnson Township of Joly Town of Kapuskasing City of Kawartha Lakes Town of Kearney City of Kenora Township of Killaloe, Hagarty & Richards Municipality of Killarney Municipality of Kincardine Township of King City of Kingston Town of Kingsville

Town of Kirkland Lake

City of Kitchener

Township of La Vallee

Township of Laird

Township of Lake of Bays

Town of Lakeshore

Municipality of Lambton Shores

County of Lambton

Township of Lanark Highlands

County of Lanark

Township of Larder Lake

Town of LaSalle

Town of Latchford

Town of Laurentian Hills

Township of Laurentian Valley

Municipality of Leamington

United Counties of Leeds & Grenville

Township of Leeds and the Thousand Islands

County of Lennox & Addington

Township of Limerick

Town of Lincoln

City of London

Loyalist Township

Township of Lucan Biddulph

Township of Machar

Municipality of Machin

Township of Madawaska Valley

Township of Madoc

Municipality of Magnetawan

Township of Malahide

Township of Manitouwadge

Township of Mapleton

Town of Marathon

City of Markham

Municipality of Markstay-Warren

Municipality of Marmora and Lake

Township of Matachewan

Town of Mattawa

Municipality of Mattawan

Municipality of McDougall

Township of McGarry

Township of McKellar

Township of McNab/Braeside

Municipality of Meaford

Township of Melancthon

Village of Merrickville-Wolford

Municipality of Middlesex Centre

County of Middlesex

Town of Midland

Town of Milton

Township of Minden Hills

Town of Minto

City of Mississauga

Municipality of Mississippi Mills

Town of Mono

Township of Montague

Township of Moonbeam

Town of Moosonee

Township of Morley

Municipality of Morris-Turnberry

Township of Mulmur

Township of Muskoka Lakes

Township of Nairn & Hyman

Municipality of Neebing

Town of New Tecumseth

Town of Newmarket

City of Niagara Falls

Town of Niagara-on-the-Lake

**Region of Niagara** 

Township of Nipigon

Township of Nipissing

Norfolk County

Township of North Algona Wilberforce

City of North Bay

Township of North Dumfries

Township of North Dundas

Township of North Frontenac

Township of North Glengarry

Municipality of North Grenville

Township of North Huron

Township of North Kawartha

Municipality of North Middlesex

Municipality of North Perth

Township of North Stormont

Town of Northeastern Manitoulin and the Islands

Municipality of Northern Bruce Peninsula

County of Northumberland

Township of Norwich

Township of O'Connor

Town of Oakville

Village of Oil Springs Municipality of Oliver-Paipoonge Township of Opasatika Town of Orangeville City of Orillia Township of Oro-Medonte City of Oshawa Township of Otonabee-South Monaghan City of Ottawa City of Owen Sound County of Oxford Township of Papineau-Cameron Town of Parry Sound Region of Peel Township of Pelee Town of Pelham City of Pembroke Town of Penetanguishene Township of Perry Township of Perth East Township of Perth South **County of Perth** Town of Perth Town of Petawawa City of Peterborough County of Peterborough Town of Petrolia City of Pickering Township of Pickle Lake Township of Plummer Additional

Town of Plympton-Wyoming

Village of Point Edward

City of Port Colborne

Municipality of Port Hope

Municipality of Powassan

United Counties of Prescott & Russell

Town of Prescott

County of Prince Edward

Township of Puslinch

City of Quinte West

Town of Rainy River

Township of Ramara

Municipality of Red Lake

Township of Red Rock

County of Renfrew

Town of Renfrew

Town of Richmond Hill

Township of Rideau Lakes

Township of Russell

Township of Ryerson

Township of Sables-Spanish Rivers

City of Sarnia

Town of Saugeen Shores

City of Sault Ste. Marie

Township of Schreiber

Township of Scugog

Township of Seguin

Township of Selwyn

Township of Severn

Town of Shelburne

Municipality of Shuniah **County of Simcoe Municipality of Sioux Lookout** Township of Sioux Narrows-Nestor Falls Town of Smiths Falls Town of Smooth Rock Falls Township of South Algonquin Town of South Bruce Peninsula Municipality of South Bruce **Municipality of South Dundas** Township of South Frontenac Township of South Glengarry Municipality of South Huron Village of South River Township of South Stormont Township of South-West Oxford Township of Southgate Municipality of Southwest Middlesex Township of Southwold Town of Spanish Township of Springwater City of St. Catharines Municipality of St. Charles Township of St. Clair Township of St. Joseph Town of St. Marys City of St. Thomas Township of Stirling-Rawdon Township of Stone Mills United Counties of Stormont, Dundas & Glengarry

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City of Stratford

Municipality of Strathroy-Caradoc

Township of Strong

Village of Sundridge

Tay Valley Township

Township of Tay

Town of Tecumseh

Township of Tehkummah

Municipality of Temagami

City of Temiskaming Shores

Township of Terrace Bay

Municipality of Thames Centre

Township of The Archipelago

Town of The Blue Mountains

The District Municipality of Muskoka

The Nation Municipality

Township of The North Shore

Town of Thessalon

City of Thorold

City of Thunder Bay

Town of Tillsonburg

City of Timmins

Township of Tiny

Municipality of Trent Hills

Municipality of Trent Lakes

Township of Tudor & Cashel

Municipality of Tweed

Township of Tyendinaga

Township of Uxbridge

Township of Val Rita-Harty

City of Vaughan

Township of Wainfleet Township of Warwick Town of Wasaga Beach City of Waterloo Region of Waterloo Municipality of Wawa City of Welland Township of Wellesley Township of Wellington North County of Wellington Municipality of West Elgin Municipality of West Grey Township of West Lincoln Municipality of West Nipissing Municipality of West Perth Village of Westport Town of Whitby Town of Whitchurch-Stouffville Township of White River Municipality of Whitestone Township of Whitewater Region Township of Wilmot City of Windsor Township of Wollaston **City of Woodstock** Township of Woolwich **Regional Municipality of York** Township of Zorra

# Supporters

#### ASSOCIATES

Algoma District Services Administration Board

Association Française des Municipalités de L'Ontario (AFMO)

Association of Local Public Health Agencies (alPHa)

Bluewater Recycling Association

**Conservation Ontario** 

Credit Valley Conservation

District of Cochrane Social Services Administration Board

District of Parry Sound Social Services Administration Board

District of Timiskaming Social Services Administration Board

Kenora District Services Board

Mamaweswen The North Shore Tribal Council

Manitoulin-Sudbury District Services Board

Municipal Property Assessment Corporation (MPAC)

Nipissing District Social Services Administration Board

Ontario Building Officials Association

**Ontario Ground Water Association** 

**Ontario Municipal Water Association** 

Ontario Non-Profit Housing Association

Ontario Sewer and Watermain Construction Association

Parks and Recreation Ontario

Rainy River District Social Services Administration Board

South Nation River Conservation Authority

Thunder Bay District Social Services Administration Board

#### CORPORATE PARTNERS

Ameresco Canada Inc.

CAA South Central Ontario

Nuclear Waste Management Organization

Ontario Electronic Stewardship

Union Gas Limited

#### DISTRICTS

Northwestern Ontario Municipal Association

Manitoulin Municipal Association



# **Financial Statements**



#### Independent Auditor's Report

Grant Thornton LLP 11th Floor 200 King Street West, Box 11 Toronto, ON M5H 3T4 T +1 416 366 0100 F +1 416 360 4949 www.GrantThornton.ca

To the Members of Association of Municipalities of Ontario

We have audited the accompanying financial statements of Association of Municipalities of Ontario, which comprise the statement of financial position as at December 31, 2016 and the statements of operations, changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

#### Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Audit • Tax • Advisory Grant Thornton LLP. A Canadian Member of Grant Thornton International Ltd



#### Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Association of Municipalities of Ontario as at December 31, 2016, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Graat Thoraton LLP

Toronto, Canada June 16, 2017

Chartered Professional Accountants Licensed Public Accountants

#### Association of Municipalities of Ontario Statement of Financial Position

Statement of Financial Position December 31	2016	2015
Assets Current Cash Accounts receivable (Note 3) Investments (Note 5) Prepaid expenses	\$    200,502 213,576 12,378,065 <u>324,126</u>	\$ 456,058 189,188 10,490,968 <u>305,030</u>
Investment in LAS (Note 6) Property and equipment (Note 7)	13,116,269 100 <u>199,150</u> \$13,315,519	11,441,244 100 <u>191,724</u> \$11,633,068
Liabilities Current Accounts payable and accrued liabilities (Note 8) Deferred revenue (Note 9) Deferred contributions – projects (Note 10) Deferred contributions – other (Note 11) Other liabilities (Note 12)	\$ 840,490 42,885 1,115,565 70,519 	\$ 665,881 15,000 806,615 65,333 8,330 1,561,159
Net assets Restricted fund Federal gas tax program (Note 13) General funds - unrestricted Investment in LAS Other	9,026,517 100 2,219,443 <u>11,246,060</u> \$13,315,519	8,067,186 100 2,004,623 10,071,909 \$11,633,068

#### Commitments (Note 17)

On behalf of the Board of Directors

Director

Director

\_\_\_\_\_

	Restricted fund	General funds			
	Federal gas			Total	Total
Revenue	tax program	Restricted	Unrestricted	2016	2015
Membership fees	\$-	\$-	\$ 1,919,726	\$ 1,919,726	\$ 1,860,408
Conferences and seminars	÷ -	÷ -	1,806,348	1,806,348	2,071,870
Investment income	-	-	11,620	11,620	7,986
Administration and occupancy fees (Note 4)	-	-	3,354,288	3,354,288	3,006,233
Other income	-	-	247,361	247,361	96,047
Funds received			,	,	,
Federal gas tax (Note 13)	620,398,154	-	-	620,398,154	590,855,385
Municipal Industry Policy Committee (MIPC)	-	7	-	7	100,712
Community School Alliance	-	17,350	-	17,350	-
Continuous Improvement Fund Project (CIF)	-	365,965	-	365,965	422,250
Waste Diversion Project	-	245,486	-	245,486	219,997
Steward Obligation Project	-	223,115	-	223,115	313,003
Interest earned on funds received	188,654			188,654	278,913
_	620,586,808	851,923	7,339,343	628,778,074	599,232,804
Expenses			4 005 500	4 005 500	0.40, 400
General - Administration	-	-	1,205,500	1,205,500	949,486
Policy - Administration	2,331,314	-	2,093,687	4,425,001	3,885,935
Corporate services - Administration	-	-	3,228,838	3,228,838	3,057,482
- Conference and seminars			596,498	596,498	909,113
	2,331,314		7,124,523	9,455,837	8,802,016
Programs					
Funds distributed					
Federal gas tax (Note 13)	617,296,163	-	-	617,296,163	587,901,108
Municipal Industry Policy Committee (MIPC)	-	7	-	7	100,712
Community School Alliance	-	17,350	-	17,350	-
Continuous Improvement Fund Project (CIF)	-	365,965	-	365,965	422,250
Waste Diversion Project	-	245,486	-	245,486	219,997
Steward Obligation Project		223,115		223,115	313,003
	617,296,163	851,923		618,148,086	588,957,070
	017,290,103	031,923		010,140,000	010,108,000
	619,627,477	851,923	7,124,523	627,603,923	597,759,086
Excess of revenue over expenses	\$ 959,331	\$-	\$ 214,820	\$ 1,174,151	\$ 1,473,718

See accompanying notes to the financial statements.

#### Association of Municipalities of Ontario Statement of Changes in Net Assets

Year ended December 31

		Restricted <u>fund</u> Federal gas tax program	_	General fund Unrestricted	Total 2016		Total 2015
Net assets, beginning of year	\$	8,067,186	\$	2,004,723	\$10,071,909	\$	8,598,191
Excess of revenue over expenses	_	959,331		214,820	1,174,151		1,473,718
Net assets, end of year	\$	9,026,517	\$	2,219,543	\$11,246,060	\$´	10,071,909

General funds comprise:

Investment in LAS Other

\$ 100
 2,219,443

\$ 2,219,543

See accompanying notes to the financial statements.

#### Association of Municipalities of Ontario Statement of Cash Flows

Year ended December 31	2016	2015
Increase (decrease) in cash		
<b>Operating</b> Excess of revenue over expenses Item not involving cash Amortization	\$ 1,174,151 <u>98,337</u> 1,272,488	\$ 1,473,718 <u>132,743</u> 1,606,461
Net change in non-cash working capital Accounts receivable Prepaid expenses Accounts payable and accrued liabilities Deferred revenue Deferred contributions – projects Deferred contributions – other Other liabilities	(24,388) (19,096) 174,609 27,885 308,950 5,186 (8,330)	298,157 (20,482) 65,021 (153,584) 399,234 20,205 8,330
Investing Investments Additions to property and equipment	<u>    1,737,304</u> (1,887,097) <u>    (105,763)</u> <u>    (1,992,860)</u>	2,223,342 (2,463,622) (177,017) (2,640,639)
Net change in cash	(255,556)	(417,297)
Cash Beginning of year End of year	<u>456,058</u> \$ 200,502	<u>873,355</u> \$ 456,058

See accompanying notes to the financial statements.

December 31, 2016

#### 1. Basis of presentation

Association of Municipalities of Ontario (AMO) is a not-for-profit organization incorporated, without share capital, under Letters Patent on May 11, 1990 under the Corporations Act (Ontario).

The mandate of AMO is to promote, support and enhance strong and effective municipal government in Ontario.

As a not-for-profit organization, AMO is exempt from income taxes provided certain requirements of the Income Tax Act (Canada) are met.

#### 2. Summary of significant accounting policies

These financial statements have been prepared in accordance with Canadian accounting standards for notfor-profit organizations. Accounting standards for not-for-profit organizations require entities to select policies appropriate for their circumstances from choices provided in the specific standards. The following are details of the choices selected by AMO and applied in these financial statements.

#### Fund accounting

AMO follows fund accounting whereby the accounts of the organization are segregated and presented by fund.

The Restricted fund represents the Federal gas tax program which includes grants which have specific restrictions placed on their use by the funder.

The General funds account for AMO's operations and reports unrestricted and externally restricted resources not included in the Restricted fund.

#### Use of estimates

Certain items in the preparation of these financial statements require management's best estimate. Management determines these estimates based on assumptions that reflect the most probable set of economic conditions and planned courses of action. These estimates are reviewed periodically and adjustments are made to the excess of revenue over expenses as appropriate in the year they become known. Management also reviews the carrying amounts of items in the financial statements at each statement of financial position date to assess the need for revision or any possibility of impairment.

#### Investment in subsidiaries

Local Authority Services (LAS) is a wholly owned subsidiary of AMO. The investment in LAS is stated at cost. A financial summary of LAS is presented and disclosed in Note 6.

Municipal Employer Pension Centre of Ontario (MEPCO) is controlled by AMO. A financial summary of MEPCO is presented and disclosed in Note 6.

December 31, 2016

#### 2. Summary of significant accounting policies (continued)

#### Revenue recognition

AMO follows the restricted fund method for all externally restricted contributions. Under the restricted fund method, externally restricted contributions of the Restricted fund are recognized as revenue in the year of receipt. Externally restricted contributions of the General funds are deferred until the year in which the related expenses are incurred.

Unrestricted contributions are recognized as revenue when the amount is reasonably estimated and collection is reasonably assured.

Membership and administrative fees are recognized as revenue in the period to which the fees relate. Fees received in advance of the period to which they relate are recorded as deferred revenue in the statement of financial position.

Conferences and seminars revenue is recognized in the period in which the event occurs, or the service is provided.

Investment income is recognized as revenue in the period it is earned.

#### **Financial instruments**

AMO considers any contract creating a financial asset, liability or equity instrument as a financial instrument.

AMO's financial instruments comprise cash, accounts receivable, investments and accounts payable which are initially recorded at fair value and subsequently measured at amortized cost.

#### **Property and equipment**

Property and equipment are recorded at cost and are amortized over their estimated useful life as follows:

Furniture and fixtures	Straight-line	5 years
Computer hardware	Straight-line	4 years

#### Pension

AMO makes contributions on behalf of its employees to the Ontario Municipal Employees Retirement System (OMERS), which is a multi-employer plan. The plan is a defined benefit plan which specifies the amount of retirement benefit to be received by the employees based on the length of service and rates of pay. As the amount AMO is obligated under the Plan is not quantifiable, the accounting, presentation and disclosures that would otherwise be required are not determinable. Due to this fact, AMO follows the standards for a defined contribution plan, the details of which are disclosed in Note 15.

#### 3. Accounts receivable

	 2016		2015
Trade Due from related parties (Note 4)	\$ 5,363 208,213	\$	26,545 162,643
	\$ 213,576	<u>\$</u>	189,188

December 31, 2016

#### 4. Related party transactions

Amounts due from related parties are as follows:	 2016	 2015
LAS MEPCO	\$ 186,724 21,489	\$ 160,236 2,407

These amounts are unsecured, repayable on demand and are non-interest bearing.

During the year, the Association charged administration and occupancy fees to:

	 2016	 2015
LAS MEPCO	\$ 447,002 396,415	\$ 408,932 390,426

These transactions are measured at the exchange amount, which is the amount of consideration established and agreed to by the related entities.

#### 5. Investments

	2016	2015
One Investment High Interest Savings Account (HISA) bearing interest at bank prime less a variable interest rate ranging from 1.55% to1.70% depending on the total portfolio balance. The average rate of return for 2016 was 1.10%	\$ 7,284,831	\$ 5,481,568
Bank of Montreal Guaranteed Savings Certificate (GIC) bearing interest at 1.50%, due November 7, 2017	1,524,395	-
Bank of Montreal GIC, bearing interest at 1.50%, due November 27, 2017	2,580,360	-
Bank of Montreal GIC, bearing interest at 1.50%, due December 8, 2017	988,479	-
Bank of Montreal GIC, bearing interest at 1.70%, matured November 7, 2016	-	1,499,425
Bank of Montreal GIC, bearing interest at 1.70%, matured November 24, 2016	-	2,537,893
Bank of Montreal GIC, bearing interest at 1.70%, matured December 7, 2016	<u> </u>	972,082
	<u>\$12,378,065</u>	\$10,490,968

December 31, 2016

#### 6. Subsidiaries

#### LAS

LAS is a wholly owned subsidiary of AMO. The mandate of LAS is to work with municipalities, their agencies, boards and commissions, as well as other organizations of Ontario's broader public sector to assist them in reducing their expenditures and to increase their levels of non-tax revenues through the principle of joint or cooperative procurement efforts.

LAS has not been consolidated in AMO's financial statements. Financial statements of LAS are available on request. A financial summary of LAS as at December 31, 2016 and 2015 and for the years then ended is as follows:

	2016	2015
Financial position Total assets Total liabilities	\$ 527,251,907 519,268,844	\$61,260,124 55,007,877
Fund balances	\$ 7,983,063	\$ 6,252,247
Fund balances comprise:		
General funds (unrestricted) Natural gas procurement program Electricity program Operating	\$ 4,387,159 567,624 <u>3,028,280</u>	\$ 4,023,170 526,777 1,702,300
	<u> </u>	\$ 6,252,247
Results of operations Total revenue Total expenses	\$ 25,549,150 22,818,334 2,730,816	\$31,096,755 27,224,239 3,872,516
Rebates	<u>(1,000,000)</u>	<u>(1,000,000</u> )
Excess of revenue over expenses	<u>\$ 1,730,816</u>	\$ 2,872,516
Cash provided by (used in) Operating activities Investing activities	\$       (32,456) (1,925,628)	\$ 5,005,985 ( <u>1,320,755</u> )
Net change in cash	\$ (1,958,084)	\$ 3,685,230

December 31, 2016

#### 6. Subsidiaries (continued)

#### MEPCO

AMO is the only member of MEPCO. The mandate of MEPCO is to fulfill the obligations of the Association and others under the Ontario Municipal Employees Retirement Systems Act, 2006.

MEPCO has not been consolidated in AMO's financial statements. Financial statements of MEPCO are available on request. A financial summary of MEPCO as at December 31, 2016 and 2015 and for the years then ended is as follows:

	2016	2015
Financial position Total assets Total liabilities	\$  1,085,226 <u> </u>	\$ 1,095,122 <u>21,867</u>
Net assets	\$ 1,036,545	\$ 1,073,255
Net assets comprised of: Restricted Unrestricted	\$ 817,441 <u>219,104</u> \$ 1,036,545	\$ 817,441 
Results of operations Total revenue Total expenses	\$    603,078 <u>    639,788</u>	\$    615,949 657,694
Deficiency of expenses over revenue	<u>\$ (36,710)</u>	\$ (41,745)
Cash provided by (used in) Operating activities Investing activities	\$ (5,549) (29,632)	\$ (47,018) <u>56,061</u>
Net change in cash	<u>\$ (35,181)</u>	\$ 9,043

#### 7. Property and equipment

			2016	2015_
	Cost	Accumulated Amortization	Net Book Value	Net Book Value
Furniture and fixtures Computer hardware	\$  42,850 <u>  1,182,848</u>	\$	\$	\$
	\$ 1,225,698	<u>\$ 1,026,548</u>	<u>\$ 199,150</u>	\$ 191,724

December 31, 2016

#### 8. Accounts payable and accrued liabilities

Included in accounts payable and accrued liabilities are government remittances of \$44,508 (2015 - \$48,557).

#### 9. Deferred revenue

		2016	 2015
Seminar fees received in advance	<u>\$</u>	42,885	\$ 15,000

#### 10. Deferred contributions – projects

Deferred contributions – projects are amounts received from parties to carry out specific projects. Funds are recognized as revenue in the period in which the related expenses are incurred. If amounts are not expended, amounts may be refundable.

		Balance, beginning of year		Received in the year		Disbursed and recognized in the year		Balance, end of year
Municipal Industry Policy	¢	240.025	¢		¢	7	¢	240.020
Committee (MIPC) Community Schools Alliance Continuous	\$	210,035 10.300	\$	-	\$	7 17.350	\$	210,028 30,005
Improvement		10,300		37,055		17,350		30,005
Fund Project (CIF)		119,280		398,818		365,965		152,133
Waste Diversion Project Stewardship		280,003		500,000		245,486		534,517
Obligation Project Ministry of		186,997		200,000		223,115		163,882
Economic Development, Employment and Infrastructure								
(MĖDĖI)		<u> </u>		25,000				25,000
2016	\$	806,615	\$	1,160,873	\$	851,923	\$	1,115,565
2015	\$	407,381	\$	1,455,196	\$	1,055,962	\$	806,615

December 31, 2016

#### 11. Deferred contributions – other

Deferred contributions – other represent unspent resources for specific projects which must be approved by the various groups/organizations. Changes in the deferred contributions – other balance are as follows:

	 Balance, beginning of year	 Received in the year		Disbursed and ecognized in the year		Balance, end of year
Regional/Single Tier Caucus Municipal Disaster Relief Fund Training and development	\$ 8,236 37,116 <u>19,981</u>	\$ - 9,188 14,648	\$	- - 18,650	\$	8,236 46,304 <u>15,979</u>
2016	\$ 65,333	\$ 23,836	\$	18,650	\$	70,519
2015	\$ 45,128	\$ 20,205	<u>\$</u>	-	<u>\$</u>	65,333

#### 12. Other liabilities

Other liabilities represent amounts received from external parties for specific purposes that are administered by AMO. Accordingly, these amounts are not reflected as revenue or expenses of AMO. Changes in other liabilities are as follows.

	 Balance, beginning of year		Received in the year	 	Disbursed in the year	 Balance, end of year
Syrian refugee situation	\$ 8,330	\$	180	\$	8,510	\$ 

#### 13. Federal gas tax program

On June 17, 2005, the Government of Canada, the Province of Ontario, AMO and the City of Toronto signed an agreement setting out new revenue sharing arrangements for federal gas tax revenues for investment in municipal infrastructure. AMO administers the fund on behalf of the federal government for all municipalities except Toronto. The agreement resulted in funds of \$1.453 billion flowing to 444 municipalities from 2005 to 2010. Under the Agreement, AMO received 1% of the amounts received and distributed to administer the funds. In 2009, the agreement was extended with an additional \$2.361 billion of funds flowing to municipalities over the period 2010-2014. As part of the extended agreement, the administration fee was reduced to 0.5% to better reflect the related costs. At December 31, 2013, AMO had accumulated \$20.692 million in surplus administration funds primarily related to 2005 to 2010.

In 2014, the program was made permanent using a five year agreement model. The first agreement under this new approach will have \$3.8 billion flowing to municipalities between 2014-2019 with AMO continuing to receive 0.5% of the amounts received to administer the funds. In 2014, the AMO Board of Directors decided to establish a restricted reserve to hold \$5 million for wind up of the program and to distribute the balance of \$15,692,043 in surplus administration funds accumulated up to December 31, 2013 to all municipalities (except Toronto) on a per capita basis – in keeping with how funds are allocated under the agreement - using the 2006 population data from Statistics Canada.

December 31, 2016

#### 14. Capital disclosures

The capital structure of AMO consists of net assets comprised of restricted and unrestricted amounts. The unrestricted funds include a provision for a six month allowance should it become necessary to wind up the Association. The Association manages its capital structure and makes adjustments to it in light of economic conditions and the risk characteristics of the underlying assets.

AMO's main objective when managing capital is to safeguard its ability to continue as a going concern, so that it can continue to provide the appropriate level of services to the municipalities of Ontario. AMO is subject to externally imposed capital requirements for the Federal gas tax program and the restricted funds included in the General funds. These funds are invested and administered according to these requirements.

#### 15. Pension agreements

During 2016, AMO contributed \$455,058 (2015 - \$438,970) to OMERS. Of the amount contributed, \$119,133 (2015 - \$116,538) related to employees who worked for AMO's subsidiary, Local Authority Services.

#### 16. Allocation of expenses

Salaries and benefits are allocated based on the percentage of time spent by staff for each program. Expenses such as rent, information technology costs, are allocated based on the percentage of the work performed for each program.

Expenses allocated to various funds were as follows:

2016	Federal gas tax program	MIPCCIF	Waste Stewardship Diversion Obligation Project Project
Salaries and benefits Administration expenses	\$ 860,588 \$ 	- \$ 331,285 \$ 	87,980 \$ 93,171 - -
	<u>\$1,087,925</u> \$	- \$ 331,285 \$_	<u>87,980</u> \$ <u>93,171</u>
2015			
Salaries and benefits Administration expenses	\$ 727,763 \$ 193,573	86,894 \$ 382,592 \$ 	82,333 \$ 54,468
	<u>\$ 921,336</u> \$	86,894 \$ 382,592 \$	82,333 \$ 54,468

December 31, 2016

#### 17. Commitments

AMO has entered into agreements to lease equipment and premises. Minimum lease payments, including operating costs and realty taxes for the next five years are as follows:

2017	\$ 538,000
2018	543,000
2019	521,000
2020	538,000
2021	470,000
	<u>\$ 2,610,000</u>

#### 18. Financial instruments

Transactions in financial instruments may result in an entity assuming or transferring to another party one or more of the financial risks described below.

#### Interest rate risk

Interest rate risk is the risk that the fair value of, or future cash flows from, a financial instrument will fluctuate because of market changes in interest rates.

#### Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. AMO's foreign currency purchase and sale transactions and its assets and liabilities that are denominated in foreign currencies are minimal.

#### Liquidity risk

Liquidity risk is the risk that AMO will encounter difficulty in meeting the obligations associated with its financial liabilities. AMO is exposed to this risk mainly in respect of its accounts payable.

AMO reduces exposure to liquidity risk by ensuring that it maintains adequate cash reserves to pay its creditors.

#### Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. AMO's main credit risks relate to its accounts receivable. Based on creditworthiness of AMO's counter parties, no allowance for doubtful accounts is required.

It is management's opinion that AMO is not exposed to significant interest rate, currency, liquidity or credit risk arising from its financial instruments.

#### 19. Comparative figures

Certain comparative figures have been reclassified to conform to the financial statement presentation adopted in the current year.

#### Contact

Association of Municipalities of Ontario 200 University Avenue, Suite 801 Toronto, ON., M5H 3C6

P 416 971 9856 F 416 971 6191 amo@amo.on.ca amo.on.ca



#### New Source Protection Supervisor/Risk Management Inspector

With the departure of Emily Vandermeulen to join Wellington County in a similar role, a competition was recently held to find her replacement. We would like to thank Emily for her service and dedication to the Drinking Water Source Protection Program over the last nine years.

As a result of a thorough selection process, I am pleased to announce that Justine Lunt has been chosen as the successful candidate for the position of Source Protection Supervisor/Risk Management Inspector.

Justine is currently completing the Environmental Technology advanced diploma program at Georgian College and has worked with the City of Guelph and City of Barrie in their respective Water and Infrastructure Planning departments. Justine's most recent job experience was with the Severn Sound Environmental Association where she worked as the Risk Management/ Data Management Technician and actively supported the Risk Management Official in performing duties under the *Clean Water Act*. She has also recently completed the Ministry's Risk Management Official/Inspector training course.

Justine will start with the program on September 5th and seems very excited about this opportunity. Please join me in welcoming her to our region and team protecting municipal drinking water sources! *Submitted by Carl Seider* 

#### Source Protection Plan Amendments, 2017

The public consultation period on the proposed Source Protection Plan amendments for the new and updated wellhead protection area (WHPA) delineations for Ripley and Point Clark concluded on April 7, 2017. Consultations included direct notification to over 200 landowners in the affected area and an Open House session held in Ripley on March 9th, 2017 with an encouraging turnout from the affected area property owners. No written comments were received relating to the proposed amendments.

Endorsement was received from the Saugeen Valley Source Protection Authority on May 16, 2017 and the amended Source Protection Plan was submitted to the Ministry of the Environment and Climate Change on May 31st, 2017 for review.

#### New Health Sector Representative for the Source Protection Committee being sought

Andrew Barton has resigned from the Health Sector representative position; a replacement is being sought. The goal is to find a suitable representative promptly, to keep this sector engaged and informed about the source protection planning process. Advertisements were placed in local newspapers to highlight this opportunity and the application process, which closed on August 4, 2017.

**DRINKING WATER** 

SOURCE PROTECTION

E SAUGEEN

### *Learn to do by doing: Conservation Authority teams up with 4-H'ers to plant trees in Tara*

On Tuesday May 23, 2017, Desboro and Tara 4-H leaders with members of the Desboro Potato and Beef Calf Club volunteered and planted 80 red maple trees with Grey Sauble Conservation Authority Stewardship Technician Rebecca Ferguson. The planting site was on the east side of the Sauble River near Mill Street in Tara. This planting is part of a stewardship initiative to improve the water quality in the upper Sauble River as it makes its way to Lake Huron.

Rebecca started off the evening with a demonstration on how to properly plant the trees and described why this species was selected. She also discussed how their actions would benefit the property and the River by creating a riparian buffer. She showed them how to identify red maples and told them about their ability to grow in areas too wet for other species. Rebecca had also planted cedar trees earlier in the day, they also grow well in damp and flooded areas. 700 trees will be planted on this property and in total close to 5,000 trees on the upper Sauble by Grey Sauble Conservation Authority staff.

"It was really great to meet the 4-Hers and teach them about tree planting and explain how it can improve water quality in this River. The kids had so much energy and were able to plant more trees than expected," said Rebecca. Working with community members on stewardship projects is a vital part of what conservation authorities do across Ontario.

When the opportunity to plant trees was proposed the youth were keen to try tree planting and live out the 4-H motto of "Learn to do by Doing", Karen Gillan, Desboro 4-H Potato Club Leader.

The property owner, Crystal Gunson showed the group the flags she had inserted in field to mark how far from the river's edge the spring flood waters had reached earlier in the spring. "We feel extremely lucky to have been asked to participate in this project on our property. The conservation authority has been great to deal with," Crystal Gunson. Planting trees will help reduce the amount of spring flooding as these species grow and form a riparian buffer that will store rain, runoff, floodwaters and discharging groundwater and then release it to the surface slowly. Buffers can act as filters to prevent nutrients, sediments and other pollutants from reaching a watercourse.

This property is in the Wellhead Protection Area-E (WHPA-E) for the Tara municipal drinking water well #3 mapped by the Drinking Water Source Protection program. WHPA-E is associated with a GUDI (groundwater under the direct influence of surface water) well and is the area within which the surface water could reach the well within two hours. By creating this riparian buffer, this landowner is taking a positive step to protect the municipal water supply.

This project was coordinated by Rebecca Ferguson, Stewardship Technician at Grey Sauble Conservation Authority in conjunction with the Drinking Water Source Protection program. Funding for this project was made available through Ministry of the Environment and Climate Change's Great Lakes Guardian Fund and Stewardship Grey Bruce.

Contacts:

Rebecca Ferguson	Karen Gillan
Stewardship Technician, Grey Sauble Conservation	Communications Specialist, Drinking Water Source
Authority	Protection
519-376-3076 r.ferguson@greysauble.on.ca	519-470-3000 xt 108 <a href="mailto:k.gillan@waterprotection.ca">k.gillan@waterprotection.ca</a>

### News and Resources from the Ministry of the Environment and Climate Change (MOECC)

<u>News:</u> Chris Ballard is Ontario's New Minister of the Environment and Climate Change, for the full media release please visit: <u>https://news.ontario.ca/opo/en/2017/07/chris-ballard-ontarios-new-minister-of-the-environment-and-climate-change.html</u>

### Resources: Blue-green algae

Learn about Blue-green algae- bacteria that can be harmful to humans and animals – and what you should do if you spot it.



### What is it?

Blue-green algae are microscopic, plant-like organisms that occur naturally in ponds, rivers, lakes and streams. Although often blue-green, they can also be olive-green or red.

### How to recognize it?

Blue-green algae are not normally visible in the water, but populations can rapidly increase to form a large mass or scum called a bloom when conditions are favourable.

Blooms most commonly occur in late summer and early fall. They thrive in areas where the water is shallow, slow moving and warm, but they may be present in deeper, cooler water.

Dense blue-green algae blooms may make the water look bluish-green, or like green pea soup or turquoise paint. Very dense blooms may form solid-looking clumps.

Fresh blooms often smell like newly mown grass, while older blooms may smell like rotting garbage.

#### Causes

- One key factor contributing to the growth of blue-green algae is the amount of available nutrients such as phosphorus and nitrogen.
- Blue-green algal blooms can be caused by agricultural and stormwater runoff as well as leaching from septic systems.
- In Ontario, phosphorus tends to be the nutrient that influences the growth of algae.

#### If you spot it

Take a cautious approach, as some varieties of this algae can produce toxins that are harmful to both humans and animals.

If you suspect a blue-green algal bloom:

- assume toxins are present
- avoid using, drinking, bathing or swimming in the water (call your local health unit for swimming advisories)
- restrict pet and livestock access to the water

Contact your local health unit for information on health risks associated with blue-green algal blooms.

### If it's near your water supply

Home treatment systems may not remove toxins and can get easily overwhelmed or clogged, so they should not be relied on. Do not boil the water, or manually treat the water with chlorine or other disinfectants, as this could increase the toxin levels.

If you:

- are connected to a municipal water supply system or other central water treatment and distribution system, you can continue to use the water normally unless notified otherwise by the system operator or the local health unit
- have your own well supply with a groundwater source (not including shore wells or infiltration galleries), or you receive trucked water in cisterns, you can also continue to use the water normally
- get your water supply from your own surface water intake in the area of a bloom, you should consider an alternate source of drinking water for the duration of the bloom

### **Report blue-green algal blooms**

If you spot blue-green algal blooms, call the: <u>Spills Action Centre</u> 416-325-3000 or 1-800-268-6060 TTY: 1-855-889-5775

#### Prevention

Take these simple steps to prevent the growth of blue-green algae:

- use phosphate-free detergents, personal care and household cleaning products
- avoid using fertilizers on lawns, especially fertilizers that contain phosphorus
- maintain a natural shoreline on lake and riverfront properties
- reduce agricultural runoff by planting or maintaining vegetation along waterways and minimizing fertilizer use
- check septic systems to ensure they do not leak into the water source

To learn more about blue-green algae - <u>https://www.ontario.ca/page/blue-green-algae</u>

http://www.ontario.ca/page/source-protection

A new and improved Source Water Protection Information Atlas/Mapping Tool was launched by MOECC on April 3, 2017:

https://www.gisapplication.lrc.gov.on.ca/SourceWaterProtection/Index.html?site=SourceWaterProtection&vie wer=SWPViewer&locale=en-US

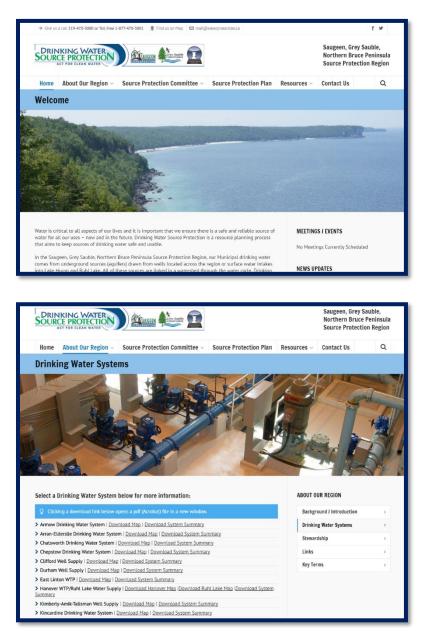
### **Recent Meeting**

June 23, 2017 – Source Protection Committee Meeting – Walkerton Clean Water Centre

### **Updated Website**

As of April 11<sup>th</sup>, the waterprotection website has been updated with a fresh look and new address or URL – <u>home.waterprotection.ca</u>.

**Please** update links on your office website so we can continue to provide information in a timely manner to interested citizens.



### Infographics

Infographics simiar to the following one can be used in tax statements, mailings and on municipal social media and websites. Contact Karen Gillan if you would like this graphic. Others will be featured in future newsletters and on the Drinking Water Source Protection website, Facebook and Twitter feeds.



### DWSP Newsletter

### Drinking Water Source Protection

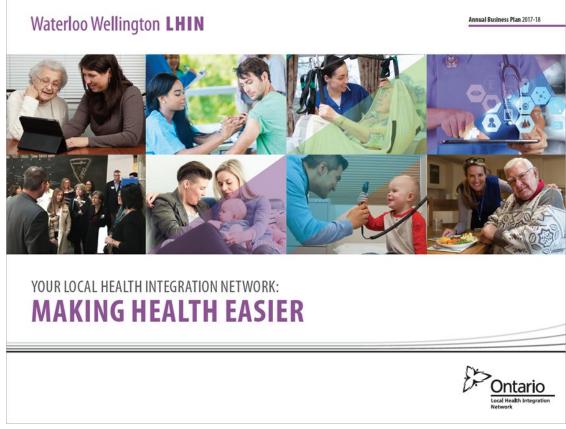
237897 Inglis Falls Road Owen Sound, ON N4K 5N6 Phone: 519-470-3000 Toll free: 877-470-3001 Fax: 519-470-3005 Editor: k.gillan@waterprotection.ca home.waterprotection.ca https://www.facebook.com/pages/Drinking-Water-Source-Protection https://twitter.com/SV\_GS\_NBP

No Images? Click here

### Waterloo Wellington LHIN



The Waterloo Wellington LHIN's news for health professionals provides the latest updates from across the local health system as we work together to deliver high-quality, integrated, and patient-centred care for local residents.



**Our Annual Business Plan: Making Health Easier** 

Over the past decade, the Waterloo Wellington Local Health Integration Network (LHIN) has worked to significantly improve the quality and availability of local health care. Now, we're focused on making it easier for patients.

From prenatal to end-of-life, and everything in between, we are working to make it easy for you to be healthy, and to get the care and support you need.

### Read more here.



Connecting Innovations in Agri-Food with the Health & Social Innovation Ecosystem

Many innovations in health are focused on improving outcomes for patients. Recently, I had the opportunity to connect with dozens of thought leaders in the agri-food, environmental and life sciences industries through the Guelph Chamber of Commerce to hear about opportunities to do just that as well as support residents to live and stay healthy every day.

### Read more here.



From Patients to Volunteers: the Story of Frank Austin and Larry Guzik

It takes an experience as a patient to understand what others are going through.

As stroke survivors and volunteers, FrankensureAustin and Larry Guzik give their time helpingoutcorothers at Grand River Hospitalcomm(GRH) experiencing the same journey they did.need.

During their recovery from strokes, Frank and Larry met through outpatient rehabilitation and continued to see each other in a local recovery group.



IMPACT Team Earns Honours for Work with Wellington OPP

CMHA Waterloo Wellington's IMPACT team has earned special recognition from the Wellington County Police Services Board for their work to ensure that residents have better health outcomes by receiving the most appropriate community-based crisis response at the time of need.

The program, funded by the Waterloo Wellington Local Health Integrated Network, enables specially-trained Mental Health Clinicians to attend mental health-related calls alongside officers.

### Read more here.



Additional \$7.4 Million Announced to Support Hospitals Repairs and Upgrades

Local residents will benefit from a new investment of \$7.4 million in local hospitals

### Read more here.



More Rides for Seniors Thanks to a \$50,000 KWCF Grant

"We are delighted to be the recipient of such generosity which will help improve the quality of to meet the needs of our growing communities, and provide patients with Dale Howatt, Executive Director of CSC. high-quality care in safe and healthy environments.

Read more about local investments from MPPs:

### Liz Sandals Kathryn McGarry **Daiene Vernile**

life for so many of our valued neighbours," said

"We are told by both clients and their caregivers that a ride can make a world of difference in keeping them and their loved ones living independently in their own homes."

### Read more here.



Expand Your Knowledge Through Free Online Course Offerings

The Waterloo Wellington LHIN is partnering with Langs Community Health Centre to offer 250 free Institute for Health Improvement (IHI) licenses to health partners throughout Waterloo Wellington.

This is an exciting opportunity to gain new skills and knowledge, ranging from learning effective service redesign strategies, to positively impacting population health, to how to incorporate health equity planning into new programs.

### Read more here.



Home & Community Care Update

### **WWLHIN Partner and Community News**

**Rehabilitative Care** Alliance: Seeks Patient/Caregiver Advisory Group Members - inquire here to learn more.

The Waterloo Wellington Community Care Access Centre (WWCCAC), including its employees, programs, and services, has transferred to the Waterloo Wellington Local Health Integration Network (LHIN). Together, we will better connect the health system to improve the patient experience.

As of May 17, 2017, all WWCCAC employees became employees of the Waterloo Wellington LHIN. While we celebrate our organizations coming together, it is business as usual and home and community care services delivered through the WWCCAC will continue as part of the Waterloo Wellington LHIN. There will be no changes to the services available or the providers delivering care.

All phone and contact information remain the same. Patients<u>Annual Report</u> who are currently receiving care and have questions or concerns should contact heir care coordinator at 519-748-2222 or (toll free) 888-883-3313.

The only immediate difference you will notice will be that your WWCCAC colleagues will now wear Waterloo Wellington LHIN ID badges and introduce themselves as part of the Waterloo Wellington Local Health Integration Network.

### Read more here.



<b>f</b> Like
🎔 Tweet
<b>in</b> Share
🔀 Forward

Preferences | Unsubscribe

HQO: A global movement rooted in health system improvement -<u>Change Day Ontario</u>

CMHA WW: <u>Ride Don't Hide</u> raises over \$40,000 for mental health initiatives. Congratulations!

HQO Report: Opioid Prescribing in Ontario

HQO: Quality Improvement Plans Having an Impact

ACCKWA: Launches 2017 Annual Report



FOR IMMEDIATE RELEASE

### DATE OF ISSUE: August 16, 2017

## Drinking water source protection authority seeks applicants to fill three available seats on local source protection committee

A local source protection authority has issued a notice calling for applications to fill three vacant seats on a committee that is protecting municipal sources of drinking water.

The Ausable Bayfield Maitland Valley Drinking Water Source Protection Committee (SPC) is a 15-member committee in addition to the Chair. The committee reduces risk to drinking water in the Maitland Valley and Ausable Bayfield source protection areas. The SPC does this by putting into action locally developed and provincially approved source protection plans. The Ausable Bayfield Source Protection Authority (SPA), on behalf of the source protection region, is seeking applications from individuals to fill two vacant committee seats from the *Economic – Agriculture* sector and one vacancy for a committee member from the *Other – Environmental public interest* sector.

The source protection authority issued the call for applications on August 15, 2017. Applications (cover letter and résumé), with position title clearly marked, are to be submitted by Monday, September 25, 2017 by 4 p.m. local time to be considered. For a summary of member obligations, job description, and full posting visit: <u>www.sourcewaterinfo.on.ca</u>. After the closing of the application period, the source protection authority will then interview a short list of candidates.

Source Protection Committee Chair Matt Pearson said a committee member's work is interesting and important. "We have benefitted from the expertise, knowledge and commitment of our past and current members," he said. "We have three committee seats that are vacant at this time. We are looking for strong candidates to take on these vital roles as committee members." It's important to find the right people who can bring their knowledge and questions to the table, according to Pearson. "This helps to improve the work we do to implement, monitor, and update policies that are reducing risk to our local drinking water," he said. "It helps to keep our drinking water safe and clean, starting at the source."

The Ausable Bayfield Maitland Valley Source Protection Committee was Ontario's first. The Ausable Bayfield Maitland Valley SPC has worked since 2007 to create local terms of reference, assessment reports, and source protection plans. This work is made possible by the Ontario *Clean Water Act, 2006.* The Province of Ontario approved the locally developed plans on January 19, 2015 and the plans took effect on April 1, 2015. The source protection plans include policies to address 21 activities that can pose a threat to municipal drinking water sources in certain circumstances (for example, in certain locations such as municipal wellhead protection areas and in certain quantities).

The make-up of the committee is shaped by the source protection committee regulation (*Ontario Regulation 288/07*) and by a local process that took place to decide how to include diverse voices at the committee table. One third of the committee is from municipalities. One third of the committee (five members) comes from economic sectors. Locally, three of those five economic member seats are from agriculture and the other two are from industry and commerce, including tourism. The other third of the committee represents Other – Environmental, Health, and other interests of the general public (including property owner association representation; public representation from the two source protection areas; and environmental sector representatives).

To find out more visit <u>www.sourcewaterinfo.on.ca</u> and <u>www.ontario.ca</u>. You may also call Geoffrey Cade, Program Supervisor, at 519-235-2610 or toll-free 1-888-286-2610 or email <u>gcade@abca.on.ca</u>.

The link to the posting notice calling for applications is at this link:

http://www.sourcewaterinfo.on.ca/notice-call-for-applications-spc-2017/

Source protection plan policies address a list of 21 activities (such as fuel or chemical storage, among others) in four types of vulnerable areas. The four vulnerable areas are wellhead protection areas which are zones to protect municipal wells and the groundwater that supplies them; surface water intake protection zones; significant groundwater recharge areas; and highly vulnerable aquifers. People may find the maps of these areas by visiting sourcewaterinfo.on.ca. Threat activities may be assessed as low, moderate or significant threats to municipal drinking water sources. In this region, significant threats to drinking water are found only in wellhead protection areas A, B, and C. The policies in those relatively small vulnerable areas reduce risk by using tools ranging from education and outreach, to risk management plans, to restricted land uses, or prohibition of some activities.

To find out if you are in a vulnerable area near a municipal well, use the interactive maps, or read a fact sheet on one of the 25 municipal well systems of the region, at sourcewaterinfo.on.ca. You are invited to review the page on your community's well, consult a detailed map of wellhead protection areas, and read a fact sheet that lets you know about the water source and treatment, explains the wellhead protection areas, and provides ways to protect these local drinking water sources. If you would like to learn if plan policies apply to you, or how you can protect local drinking water sources, visit the website at sourcewaterinfo.on.ca or phone toll-free 1-888-286-2610 or email info@sourcewaterinfo.on.ca.

### – 30 –

Geoff Cade, Program Supervisor, Ausable Bayfield Maitland Valley (ABMV) Drinking Water Source Protection Region, at gcade@abca.on.ca or phone 519-235-2610 or 1-888-286-2610.



Queen's Park Toronto, Ontario

August 16, 2017

Hon. Eric Hoskins, MPP Minister of Health and Long-Term Care 10<sup>th</sup> Floor, Hepburn Block 80 Grosvenor St Toronto ON M7A 2C4

### Hand-delivered to the office of the Minister of Health and Long-Term Care

Dear Minister:

The upcoming closure of Hillside Manor—and the possible transfer of up to 50 beds out of our community—continues to concern my constituents and me. To date, 3,585 people have signed my petition on this matter. It calls on your government to reject any proposal to reduce the number of long-term care beds in Perth-Wellington, and to increase investment in local long-term care facilities. Copies of my petition are enclosed.

In addition, I have received many heartfelt phone calls, emails, and letters from constituents who are concerned about beds leaving our area. I have enclosed these for you to review; I would appreciate if you would do so prior to making a decision on the proposal to transfer beds. I also ask that you respond to them.

Since I was first elected in 2011, few issues have commanded so much attention from the people I represent. I appreciate your office's recent willingness to work with us, and your commitment to ensure that our voices are heard. As well, I would ask that you review my previous letters on this matter, which I have also enclosed.

Again, I would appreciate if you and your staff would review my constituents' letters, emails and petitions on this matter of such importance to us. We look forward to your positive response and we ask for your personal commitment to keep long-term care beds in our area—and to add to them. Quite simply, we need them.

Sincerely,

Randy Pettapiece, MPP Perth-Wellington

.../2

#### Enclosures

c: Municipalities in Perth-Wellington Lori Van Opstal, Interim Board Chair, South West LHIN Michael Barrett, CEO, South West LHIN Derrick Araneda, Chief of Staff, Minister of Health and Long-Term Care Vivian Ng, Senior Policy Advisor, Minister of Health and Long-Term Care Ian Chesney, Policy Advisor, Minister of Health and Long-Term Care Mark Tishman, MPP Liaison & Operations, Minister of Health and Long-Term Care Dr. Bob Bell, Deputy Minister, Ministry of Health and Long-Term Care (MOHLTC) Peter Kaftarian, Assistant Deputy Minister, Health Capital Division, MOHLTC Brian Pollard, Assistant Deputy Minister (Acting), Long-Term Care Homes Division, MOHLTC Margaret Allore, Manager, Licensing and Long-Term Care Programs, MOHLTC Thomas G. Wellner, President and CEO, Revera Inc. Wendy Gilmour, Senior Vice President, Long Term Care, Revera Inc. From: Stephanie Cole <<u>stephanie.cole@prostatecancer.ca</u>>
Sent: Wednesday, August 16, 2017 9:19 AM
To: georgeabridge@gmail.com
Subject: Prostate Cancer Awareness Month

Dear Mayor George Bridge,

In 2016, over 150 municipalities across Canada formally recognized September as Prostate Cancer Awareness Month. This year we hope to double this number in order to spread double the awareness about prostate cancer, the most common cancer among Canadian men. Please help us achieve this noble goal by joining other communities across Canada in a show of solidarity against this terrible disease by officially recognizing September 2017 as Prostate Cancer Awareness Month in the municipality of Minto.

I have included below a backgrounder on Prostate Cancer Canada and some facts about prostate cancer for your reference. For further information please go to our website at <u>www.prostatecancer.ca</u>.

Of course, please let me know if you have any questions. Yours truly, Stephanie Cole

### Prostate Cancer Canada Background

Prostate Cancer Canada is the leading national foundation dedicated to the elimination of the most common cancer in men through research, advocacy, education, support and awareness. For 22 years, we have invested the generous donations of Canadians towards funding research that will uncover better diagnostic and treatment options, and towards providing comprehensive education and support services for those living with and affected by prostate cancer.

**Prostate Cancer facts** 

- 1 in 7 Canadian men will be diagnosed with prostate cancer in their lifetime.
- An estimated 21,300 Canadian men will be diagnosed with prostate cancer in 2017
- An estimated 4,100 Canadian men will die of prostate cancer in 2017.
  - Early detection saves lives. When detected early, the survival rate for prostate cancer is over 90%. This is why awareness is so important.
  - Prostate Cancer Canada (PCC) encourages men to initiate a shared decision-making process with their doctors around age 40 to discuss their personal risk as well as the harms and benefits of the prostate-specific antigen (PSA) test. That way, men will be better equipped to decide upon an early detection strategy that is right for them.

- Over the last 20 years, the mortality rate from prostate cancer has been reduced by approximately 40% due to advancements in early diagnosis and treatment.

### PROSTATE CANCER AWARENESS MONTH September 2017

WHEREAS, prostate cancer is the most common cancer to affect Canadian men; and WHEREAS, 1 in 7 Canadian men will be diagnosed with the disease in his lifetime; and WHEREAS, an estimated 21,300 Canadian men will be diagnosed with prostate cancer this year;

and

**WHEREAS**, the survival rate for prostate cancer can be over 90% when detected early; and **WHEREAS**, those with a family history of the disease, or those of African or Caribbean descent, are at a greater risk of developing prostate cancer; and

**WHEREAS**, Prostate Cancer Canada recommends that men get a PSA test in their 40s to establish their baseline;

**THEREFORE**, I, Mayor George Bridge, do hereby proclaim **September 2017 as Prostate Cancer Awareness Month** in Minto. From: AMO Communications [mailto:communicate@amo.on.ca]
Sent: August-21-17 3:47 PM
To: Bill White
Subject: AMO Policy Update - AMO Report to Member Municipalities - Highlights of the August 2017
Board Meeting and Helping Latest Double Hatter Firefighters

August 21, 2017

### AMO Report to Member Municipalities Highlights of the August 2017 Board Meeting and Helping Latest Double Hatter Firefighters



Five new firefighters charged by their union for volunteering in their hometown. Each has been convicted by an OPFFA jury, fined and is awaiting an OPFFA appeal process before they can go to the Ontario Labour Relations Board. Mandy Gould, one of the firefighters received two standing ovations at the AMO conference for her courage to stand up. Help by contributing as individuals or municipally through <u>www.gofundme.com</u> and search for Support our Local Two Hatters. Show you care!

### **August 2017 Board Meeting**

To keep members informed, AMO provides updates on important issues considered at regular AMO Board of Directors' meetings. The Board met in Ottawa, Ontario prior to the 2017 Annual AMO Conference. Highlights of the August 12, 2017 meeting include:

### **One-Third Tax Exemption Resolution**

The Board passed a resolution requesting that the Federation of Canadian Municipalities champion this matter federally and to coordinate other provinces impacted by the federal policy change set to take place January 2019. (FCM has recently advised that it will discuss this matter at its September Board meeting.) AMO's survey responses from municipal treasurers demonstrate that there is a cost impact to municipal governments in Ontario.

**AMO Contact:** Pat Vanini, Executive Director, <u>pvanini@amo.on.ca</u>, (416) 971-9856 ext. 316.

### Bill 148, Fair Workplace, Better Jobs 2017

The AMO Board continues to recommend amendments to Bill 148 to exempt municipal operations. The recent annual conference profiled the legislation and our concerns. The Minister of Labour has assured AMO and delegates that the unintended consequences in the drafting as relates to municipal governments will be re-examined. Exemptions will be needed to the Bill that would frustrate municipal public safety and emergency activities. If not amended, it would make big changes to the *Employment Standards Act* and *Labour Relations Act*. Scheduling, on-call payments, equal pay provisions, vacation entitlements, personal emergency leave, union certification, and successor rights are a few of the issues that would impact municipal operations and budgets.

**AMO Contact:** Cathie Brown, Senior Advisor, <u>cathiebrown@amo.on.ca</u>, (416) 971-9856 ext. 342.

### Bill 139, *Building Better Communities and Conserving Watersheds Act*, 2017 – Land Planning Appeals Tribunal (OMB Review)

The AMO Board will be advising Ministers Mauro and Naqvi that it supports this proposed direction for a renewed land use appeal process with a couple of suggestions such as:

- all provincial land use policies should be transferred to the Provincial Policy Statement where it is easily found and more apparent;
- 90 days seems too short for the 2<sup>nd</sup> decision process so 120 days will be recommended;
- the effectiveness of the second decision process should be reviewed a couple of years after implementation; and
- greater upfront dialogue between provincial and local planning staff at the outset of amendments so that there is better understanding of the application of provincial policy to local circumstances, so the likelihood of appeal is reduced.
   AMO Contact: Cathie Brown, Senior Advisor, <u>cathiebrown@amo.on.ca</u>, (416) 971-9856 ext. 342.

### **Digital Government and Ontario's Municipal Governments**

The AMO Board received and approved a comprehensive paper, including its four recommendations, enabling municipal government digitization. The AMO Digital Government Task Force report, <u>"#OnMuni Online: Towards Digital Transformation and Opportunities for Ontario's Municipal Governments</u>", explores how municipal governments can consider available digital opportunities, overcome perceived barriers to digital transformation, and show how municipal governments can digitally mature. **AMO Contact:** Nicholas Ruder, LAS Research Advisor, <u>nruder@amo.on.ca</u>, (416) 971-9856 ext. 411.

### Waste Management Update

AMO, with its municipal partners and key producers, have been advocating the move of the Blue Box program to full producer responsibility faster than the Ministry's proposed 2023 date. The advocacy has resulted in an announcement at the recent AMO Conference by MOECC Minister Chris Ballard that he has directed the Resource Productivity and Recovery Authority and Stewardship Ontario to amend the Blue Box Program Plan as a first phase of transition to the *Resource Recovery and Circular Economy Act*, 2016. In addition, municipal comments to the EBR posting of MOECC's "Discussion Paper: Addressing Food and Organic Waste in Ontario" were recently submitted.

AMO Contact: Dave Gordon, Senior Advisor, <u>dgordon@amo.on.ca</u>, (416) 971-9856 ext. 371.

### Leadership "Onward" Project

The AMO Board received an update on the Leadership "Onward" Project. With the critical need for municipal succession planning at the senior leadership staff level, the objectives of this project include the development of programs to respond to leadership gaps that include: creation of champions at the political level, active promotion of municipal succession planning and talent development efforts, and increased awareness of municipal management as a career choice.

Jim Pine, CAO, County of Hastings, <u>pinej@hastingscounty.com</u>, and Tony Haddad, CAO, Town of Tecumseh, <u>thaddad@tecumseh.ca</u> are the project's municipal leads.

**Highlights of the 2017 AMO Annual Conference:** For plenary session videos including Local Share, Nik Nanos polling, panel discussion on global trends and impacts, provincial leaders' sessions and more, please click here: https://www.amo.on.ca/Events/AMOConference/OnAtAMO.

**PLEASE NOTE:** AMO Breaking News will be broadcast to the member municipality's council, administrator, and clerk. Recipients of the AMO broadcasts are free to redistribute the AMO broadcasts to other municipal staff as required. We have decided to not add other staff to these broadcast lists in order to ensure accuracy and efficiency in the management of our various broadcast lists.

**DISCLAIMER:** Any documents attached are final versions. AMO assumes no responsibility for any discrepancies that may have been transmitted with this electronic version. The printed versions of the documents stand as the official record.

**OPT-OUT:** If you wish to opt-out of these email communications from AMO please click <u>here</u>.



### Notice of the Passing of a Zoning By-law

### By the Corporation of the Municipality of West Grey

Take notice that the Council of the Corporation of the Municipality of West Grey passed By-law Number 82 - 2017 on the  $21^{st}$  day of August, 2017, under Section 34 of the Planning Act R.S.O. 1990, as amended.

And take notice that the Zoning By-law may be appealed to the Ontario Municipal Board by filing with the Clerk of the Corporation of the Municipality of West Grey not later than the 13<sup>th</sup> day of September, 2017, a notice of appeal setting out the objection to the By-law and the reasons in support of the objection, accompanied by the fee prescribed under the Ontario Municipal Board Act.

Only individuals, corporations and public bodies may appeal a Zoning By-law to the Ontario Municipal Board. A notice of appeal may not be filed by an unincorporated association or group. However a notice of appeal may be filed in the name of an individual who is a member of the association or group on its behalf.

An explanation of the purpose and effect of the By-law, describing the lands to which the By-law applies, and a Key Map showing the location of the lands to which the By-law applies are attached.

### Dated at the Municipality of West Grey

### This 24<sup>th</sup> day of August, 2017.

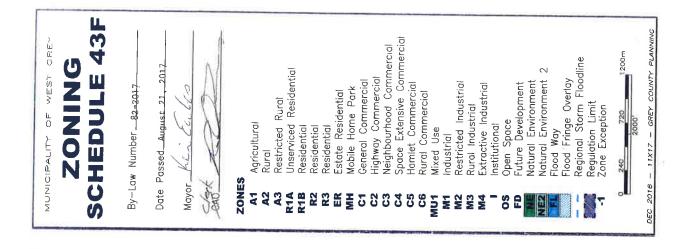
Mark Turner, Clerk Municipality of West Grey 402813 Grey Road 4 R.R. 2, Durham Ontario, NOG 1RO Ph: (519) 369-2200 Fax: (519) 369-5962

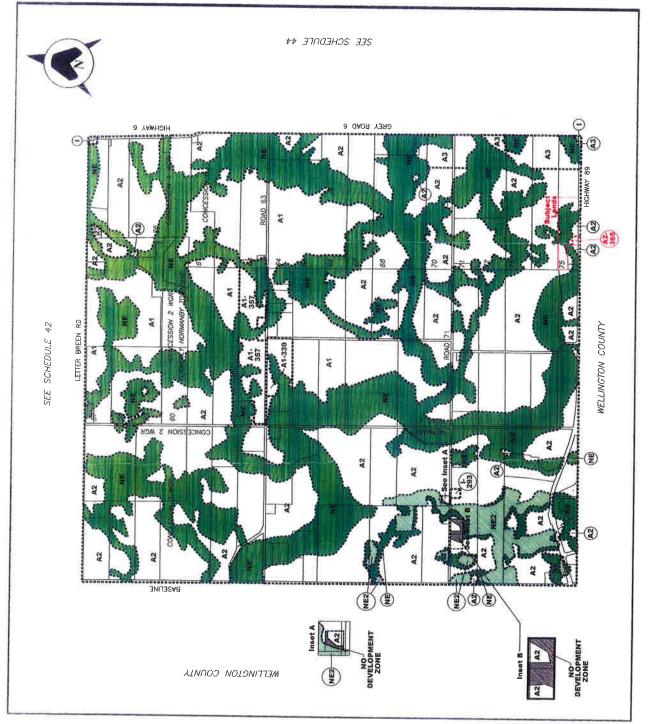
#### Explanatory Note

The purpose and effect of the Zoning By-law Amendment is to change the zoning of lands described as Part Lot 75, Concession B, former Township of Normanby, Municipality of West Grey from the "A2" (Rural) Zone to the "A2-365" (Rural Exception) Zone to allow for a metal fabrication workshop, including painting, on the subject property. The operation would be restricted in size to 557.4 square metres of floor area and 692.6 square metres of outdoor storage / display area.

The Council of the Municipality of West Grey has adopted this By-law and is now circulating it in accordance with Provincial Regulations. Please be advised that all written and oral submissions received regarding this application were considered, the effect of which helped make an informed recommendation and decision.

The subject lands are also the subject of Amendment No. 138 to the County of Grey Official Plan.





### RECEIVED AUG 2 8 2017



Saugeen Valley Conservation Foundation 1078 Bruce Rd. 12, P.O. Box 150 Formosa ON NOG 1W0 Tel 519-367- 3040 Fax 519-367-3041 www.svca.on.ca

"For the Future of Our Valley" A REGISTERED CHART

A REGISTERED CHARITABLE ORGANIZATION 11914 1596 RR0001

# We're Having a Dinner!

Will you join us!?

Our upcoming dinner, *Wine* and Wise things will be a great evening of music, entertainment, auctions and more!

This conservation event focuses on raising funds for a new *Animal Housing Facility* at Sulphur Spring Conservation Area! Sulphur Spring has been a popular venue for families for over 40 years and we're hoping to improve our current facility for locals and visitors alike!

### Please join us for this fun filled evening!



Purchase your tickets today! If you are unable to attend, we would be truly honoured if you would consider making a donation.

(I) w	ould love	to attend.	. Please	e send us	dinner tickets
Payme	nt Encl	Cheque	_ VISA _	МС	
(Tickets: 💲	65.00 / p	erson; \$12	20.00 / 0	couple; \$450.0	00 / table of 8)
Card #					
Expiry	[	Date			
Signature					

### DINNER & AUCTION DONATION FORM

ORGANIZ	ATION
CONTACT	NAME
ADDRESS	
CITY	POSTAL
PHONE: (_	))
EMAIL	
WEBSITE_	Link to SVCA Website
YE	$\mathbf{S}$ , I/ we would like to contribute to your event by providing the following:
1)	FINANCIAL CONTRIBUTION \$
	Cheque VISA MC
C	Card # Expiry Date
S	IGNATURE
2)	IN-KIND DONATION (Item)
V	Value \$ (Item will be mailed or is to be picked up)
	<b>Receipt</b> Yes No Receipts issued for approximately half the ticket cost or for the full value of donations.
FOR OFFI	ICE USE ONLY
<b>.</b>	Saugeen Valley Conservation Foundation
	1078 Bruce Rd. 12, Formosa ON N0G 1W0
	519-367-3040 Fax 519-367-3041 <u>www.svca.on.ca</u> or publicinfo@svca.on.ca A REGISTERED CHARITABLE ORGANIZATION 11913 1596 RR0001
C	Contact Information: Shannon Wood, ext. 229 or Catherine Billings ext. 223

# Mine & Mése Tringe Conservation DINNER 8 BUCTIONER 8 Saue the Date

Venue Time Tickets Music Fundraising

Knights of Columbus Hall, Walkerton Cocktails 5:30 pm, Dinner 6:30 pm \$65 or 2/\$120 Live Band Proceeds support the new Sulphur Spring Animal Housing Facility

### TICKET OUTLETS

Holst Office Supplies, Hanover & Walkerton / Brown's Pharmacy, Walkerton / Hanover Typocraft / Cozy Nook, Teeswater / Harley's Pub & Perk, Mildmay / Mildmay & Paisley Freshmart

519-367-3040 www.swca.ow

Saugeen Valley Conservation Foundation Mr. George Bridge

Town of Minto

5941 Highway 89

R.R.1, Harriston, Ont.

NOG1Z0

August 28, 2017

Dear Mister Mayor:

It seems these days that it is human nature to quickly criticize when things go wrong but we are sometimes slow to compliment people who deserve it when they do a good job.

I would like to take this opportunity to personally recognize and thank Belinda Wick-Graham who has been so helpful to the Clifford Homecoming Committee in successfully obtaining the Federal Grant. We feel that we could not have accomplished this without her.

I would also like to thank AI Carr and his staff, especially Mike Maynard, for their efforts " above and beyond the call of duty" during the entire Homecoming weekend and the time leading up to the event. Al was in attendance for all committee and various subcommittee meetings and he was most helpful and professional with his suggestions and recommendations.

Our Committee Chairs all agree that AI made our responsibilities and efforts much easier.

I feel that we are fortunate to have this caliber of people on the staff of the Town of Minto.

I would also like to personally thank you for your support and commitment to the Homecoming and to the town for the start up funding that was made available to us.

It was greatly appreciated.

Yours truly,

Don Senek

**Operations Manager** 

**Clifford Homecoming 2017** 



**2016 ANNUAL REPORT** 

## Reliability in a Changing Sector



### Vision: Powering a Reliable and Sustainable Energy Future for Ontario

**Reliability** – it is at the heart of everything the Independent Electricity System Operator (IESO) does, from managing the flow of electricity across Ontario in real time, to planning and procuring for the province's emerging and future energy needs, and leading a culture of conservation.

The IESO has a broad mandate and uses its unique position in the power system to ensure reliability now and in the future.

With this mandate, the IESO has a unique opportunity to engage with a broad cross-section of Ontarians. As it works to shape a more sustainable and reliable electricity system, the IESO strives to be a trusted source of transparent, accessible and timely electricity sector data and information. The IESO values the diversity of its stakeholders and the communities with which it engages, as they assist the organization in making informed decisions. To support its efforts, the IESO applies engagement principles to its wide-ranging initiatives to ensure stakeholders and communities have the opportunity to provide input on matters that impact them.

### IESO Strategic Plan 2016-2020

In 2016, the IESO released a five-year corporate strategy centred on its vision, mission and corporate values. The IESO 2016-2020 Strategic Plan describes some of the opportunities and challenges the organization anticipates in the coming years. It considers a range of environmental factors that are expected to affect the organization, including climate change, emerging technologies, operability challenges, consumer engagement and cybersecurity, among others.

The strategic plan provides a roadmap for the IESO's activities over the next five years. It will help set the priorities for the organization and inform the development of the IESO's annual business plans. This annual report, *Reliability in a Changing Sector*, includes a look at some of the core initiatives that the IESO undertook in 2016, as well as a look forward to the coming year and beyond and is structured around three overarching strategic goals:

- Deliver superior reliability performance in a changing environment
- Drive to a more efficient and sustainable marketplace
- Be recognized as a trusted advisor, informed by engagement.

The IESO's fourth strategic goal, **to invest in our people and processes to meet the needs of the sector**, is intended to ensure that the IESO is well-equipped to fulfil its mandate. Realizing this goal is key in meeting the IESO's first three strategic goals.

### 2016: Ontario's Electricity Sector at a Glance

**36,070 MW** Installed generation capacity

### 23,213 MW

Highest recorded 2016 peak demand, on September 7

### 4.9 million

Customers served

### 21,858 GWh

Total exports

### Total demand

137 TWh

**7,995 GWh** Total imports

### **\$17 billion**

Financial transactions settled by the IESO wholesale market\*

### 684,000 MWh

Net energy savings from conservation programs delivered by local distribution companies (LDCs) and the IESO

### 1.66¢/kWh

Weighted wholesale price of electricity (Hourly Ontario Energy Price)

### 9.65¢/kWh

Average global adjustment Class B rate

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- 20 Executive Leadership Team, Board of Directors and Advisory Committees to the Board

\*Includes a combination of commodity charges (Hourly Ontario Energy Price and Global Adjustment), wholesale market service charges, wholesale transmission charges and other associated charges.

# Letter from the President & CEO and Chair





**Bruce B. Campbell** President and Chief Executive Officer

Tim O'Neill Chairman of the Board

During 2016, we continued to see accelerated change and transformation across all reaches of the electricity sector. From microgrids to the continued adoption of new energy technologies, our system is evolving in a way that is enabling more customers and stakeholders to play a more active role in the production, management, delivery and use of electricity. For the IESO, 2016 further underscored the organization's ability to adapt to a changing energy landscape and the important role it will play in the ongoing evolution of the sector.

The IESO's 2016 Annual Report outlines the strategic objectives and achievements of the IESO, together with its industry partners. It also describes how we will continue to provide superior reliability in a changing environment, create a culture of conservation in Ontario and renew our electricity markets, all while working with our stakeholders and communities.

Establishing the IESO 2016-2020 Strategic Plan was an important milestone in the evolution of the IESO, one that both defines the organization's goals and strategic objectives and establishes a framework for how the IESO will evolve to meet the growing energy needs of Ontarians. For the IESO, providing public value is a core priority in our rapidly evolving sector.

The IESO is the steward of a system that supports all Ontarians. In this year's report, we outline active initiatives and engagements, but equally important, we identify how you can get engaged. The next chapter of Ontario's electricity sector is already being written, and it's one in which many customers and stakeholders are playing an increasingly key role.

To navigate this transition over the coming years, our decisionmaking relies on the guidance and collective views of customers, large and small, commercial and residential, communities and stakeholders, as well as our industry partners. Strengthening the future framework of Ontario's energy system will also be enabled through robust planning and implementation. In September 2016, the IESO published the *Ontario Planning Outlook*, a 20-year outlook for Ontario's electricity sector. Looking forward, the IESO will be developing an implementation plan to support the upcoming Long-Term Energy Plan and completing a mid-term review of the Conservation First Framework. This work is aimed at better preparing the IESO, and the sector generally, for the future challenges and opportunities ahead.

Through the market renewal program, the IESO is proposing to redesign Ontario's wholesale electricity markets to provide greater transparency, promote competition and deliver more efficient outcomes. This project will engage a wide range of stakeholders, external resources and business units across the IESO.

Supporting transformation also means ensuring that we are investing in our people and processes to meet the needs of the sector. Succession planning and continued capability building will assist us in becoming a more agile and resilient organization.

The coming year also brings additional change to the structure of the organization, with the transition to a new President and Chief Executive Officer, who will lead the IESO's efforts to achieve its mandate and strategic objectives for the balance of this year and beyond.

We would like to thank and acknowledge the hard work of our employees. In 2016 we launched a large number of initiatives, supported policy development, undertook province-wide engagement efforts and worked closely with communities and consumers. We extend our congratulations and our thanks to IESO employees for their efforts over a very busy year. We would also like to recognize the significant contributions of Kim Warren, our former Vice-President, Market and System Operations, and Chief Operating Officer, who retired in December.

We look forward to helping Ontario effectively address the opportunities and challenges facing our electricity system going forward.

**Bruce B. Campbell** President and Chief Executive Officer

Tim O'Neill Chairman of the Board

### 2016 Timeline

#### January

IESO/Bruce Power amended supply and refurbishment agreement takes effect

### February

IESO hosts executive conference to address cybersecurity

### March

**16 contracts** representing 455 MW of renewable energy projects announced under the Large Renewable Procurement I

### April

### Launch of province-wide Save on Energy Spring Coupon Event



Launch of interactive residential energy-efficiency tool, **kilowattway.ca** 

Stakeholder engagement for market renewal program begins

### May

IESO and Ryerson Centre for Urban Energy release discussion papers on the future of energy consumption, sustainability and integrated utility delivery models

.....



IESO receives ENERGY STAR Canada award for encouraging energy conservation through consumer incentive programs and promotional campaigns

### June



IESO announces **936 contract offers** for 241 MW under the Feed-in Tariff Program, version 4



Launch of Save on Energy awareness campaign, **Power What's Next** 

### July

IESO/LDC Working Group issue 2016 conservation Achievable Potential Study

### August

IESO and New York Independent System Operator (NYISO) reach agreement that enables **Ontario generators to offer capacity into future NYISO installed capacity auctions** 

### September

Release of IESO's electricity system technical report, the **Ontario Planning Outlook** 



**23,213 MW** September 7, 2016

Reliable management of grid through extreme weather and highest peak day

### October

Launch of province-wide Save on Energy Fall Coupon Event

November

### **\$100,000 +** Amount raised by IESO's

workplace campaign for United Way

.....

IESO hosts second executive conference on cybersecurity

### December



Second annual demand response auction results in prices 12 to 17 percent lower than 2015

.....

**New electricity trade agreement with Quebec** takes effect, which will help to limit greenhouse gas emissions in Ontario



### Delivering Superior Reliability Performance in a Changing Environment

While operating the power system has always been a balancing act, maintaining that balance in an era of accelerated change across the sector presents new challenges in a number of areas.

Ontario relies on a diverse range of energy resources, both in terms of the generation portfolio itself, but also through the strategic use of conservation and energy efficiency, demand response, clean energy imports and emerging technologies such as storage.

With increases in variable generation and distributed energy resources, as well as nuclear refurbishment outages over the planning horizon and changing customer demand patterns, Ontario's system is becoming increasingly complex to operate on a day-to-day basis.

So what does all of this mean? In part, it means the way the IESO plans and operates the electricity system requires a greater level of agility than ever before. It also means an increased focus on collaboration. This includes collaboration with local distribution companies (LDCs) and other electricity sector partners to establish new pathways to reliability. It also calls for engaging in dialogues with the IESO's system operator counterparts in other jurisdictions to share best practices and leverage the new tools and techniques at its disposal to plan for and adapt to future sector evolutions.

### Addressing Long-Term Energy Needs

In June 2016, the *Energy Statute Amendment Act* received Royal Assent in the provincial legislature. Among its amendments, the Act replaced the Integrated Power System Plan framework and put in place a requirement for the IESO to develop an electricity system technical report. In its role as long-term planner for Ontario's electricity system, the IESO produced a report on September 1, 2016, called the *Ontario Planning Outlook* (OPO). The report provides a 10-year review (2005-2015) and a 20-year outlook (2016-2035) for Ontario's electricity system. With four different demand outlooks, the OPO considers a range for annual electricity demand over the next 20 years, from as high as 197 terawatt-hours (TWh) to as low as 133 TWh. This technical report also helped to guide the consultations for the province's next Long-Term Energy Plan (LTEP), which is expected to be published in 2017.

Under the *Energy Statute Amendment Act*, the IESO is also now responsible for an implementation plan following the release of the province's LTEP, which will be a priority for the IESO in 2017. The organization will also continue to provide, on an ongoing basis, information on evolving needs and trends in the electricity sector to government, stakeholders and communities.

### Responding to Changing Grid Conditions

### Addressing Emerging and Near-Term Reliability Needs

All across North America, system operators are addressing new challenges as their supply mixes evolve. Some of the adjustments include integrating variable forms of generation, as well as gaining more visibility into electricity systems at the bulk and distribution levels.

In 2016, the IESO completed an operability assessment, which looked at the continuum of complex and interrelated factors at play in Ontario's power system. It focused on changes that are expected on the system in the next few years and addressed the potential operating challenges they represent. Among the findings, the report identified that the continued growth and integration of variable generation will have a considerable effect on the operability of the system in the next three to five years. This is mainly due to the variability of certain fuel sources, for example, wind or sunlight, which make them less predictable than conventional forms of generation. This results in greater forecast uncertainty from a system operation perspective.

The findings of the 2016 IESO Operability Assessment led to the formation of a stakeholder engagement focused on enabling system flexibility. In 2017, the IESO will continue its work to maintain and improve the operability of the power system through transparent mechanisms in three key areas:

	Need	Why	What the IESO is doing
Frequency Regulation	Additional frequency regulation capability, or the ability to balance total system supply with total system load, on a second-by- second basis.	To correct for short-term changes in elec- tricity use that alter the supply and demand balance. Some of these changes include increases in variable generation as well as non-traditional demand patterns.	The IESO is seeking to expand the depth of the regulation services market in Ontario. The IESO is- sued a draft Request for Proposal (RFP) for regulation services for comment in late 2016, with a final RFP scheduled to be released in spring 2017.
Voltage Control	Reactive control devices, which are designed to ensure stable levels of electric power voltage by maintaining voltage levels within pre-determined ranges set by equipment manufacturers.	To better manage voltage levels affecting the bulk power system as a result of the transformation of the province's supply mix, transmission infrastructure, and as increased quantities of supply resources are connected to the distribution system. Studies are under- way to determine where the greatest needs exist, including the Greater Toronto Area and eastern Ontario.	In 2017, the IESO will collaborate on an implementation plan with transmitters and seek input from the IESO's Stakeholder Advisory Committee.
Flexibility	Increased flexibility from supply resources to be able to address supply and demand imbalances that arise within an hour.	To maintain a balance of supply and demand, increased resource flexibility is needed to respond to short-term supply and demand imbalances. Forecast accuracy improves significantly as it gets closer to real-time. As a result, any inaccuracies in supply or demand forecasts will become evident close to real-time when it's sometimes too late to schedule less flexible resources. Solutions considered will need to be cost-effective and competitive, transparent and technol- ogy-neutral, allowing for the use of new technology and/or existing assets.	The IESO has initiated a stake- holder engagement to determine potential solutions that can enable and achieve flexibility to meet the evolving needs of the system. This could include getting more flexibility out of existing resources and/or enhancing market mechanisms through the IESO's market renewal program.

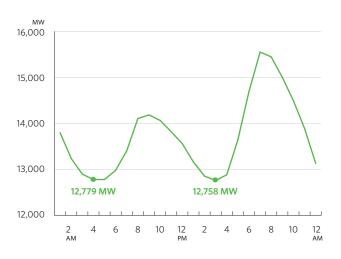
These efforts to improve operability will build on previous efforts such as the Renewable Integration Initiative, which brought in centralized forecasting of wind and solar generation and the capability to dispatch transmissionconnected variable generators. There is also a growing array of emerging technologies that can be leveraged to address these operability issues, discussed on pages 6 and 7.

### Ontario Demand - February 18, 2017

Below is an example that illustrates how Ontario's transforming electricity system is impacting grid operations and presenting new challenges to system operators.

#### On Saturday, February 18, 2017, which fell on the Family Day weekend, the confluence of unseasonably warm temperatures and bright sunshine resulted in what's called a "duck curve" load pattern, a distinctive shape (resembling the profile of duck) in which demand falls significantly in the middle of the day.

On February 18, this pattern occurred as a result of already low daytime grid demands being further reduced to overnight lows, due to solar resources embedded in the distribution system generating at full, or close to full, capacity. As the evening approached, solar generation output declined, temperatures fell, lights came on, and grid demand climbed sharply and required other resources to ramp-up to meet the increased system demand. While not yet a common occurrence, the duck curve scenario demonstrates both the challenges associated with forecasting demand for power from the grid due to embedded variable resources and the need to have sufficient flexible resources online to meet these ramping events.



#### **Grid-LDC Coordination Initiative**

The IESO and LDCs are taking collaborative steps to enhance reliability and efficiency to get a more integrated picture of how emerging technologies and distributed generation might impact the operation of the province-wide power system. The Grid-LDC Coordination initiative is working to refine a framework for data sharing between the IESO and all LDCs, to assist in real time with managing the system more effectively.

This initiative explored the feasibility of residential solar and energy storage technologies using PowerStream's (now Alectra's) POWER.HOUSE project, a "virtual power plant" in Vaughan and soon in Northern Ontario through a partnership with Thunder Bay Hydro. Next the initiative will look at how to enhance reliability and efficiency through coordination of IESO- and LDC-controlled resources. These projects will help gain insights into how upcoming changes at both the grid and distribution levels can impact system operations and identify practical ways to leverage these opportunities.

In addition, in late 2016, Veridian announced the deployment of a residential microgrid involving homebuilders – managed and operated by Veridian's 24/7 System Control Centre and controlled by Opus One's GridOS® Microgrid Energy Management System – which may provide another opportunity to better understand and inform data sharing and real-time system coordination between LDCs and the IESO.

#### Harnessing the Potential of Storage

Energy storage is another tool the IESO is exploring to assist with providing resource flexibility to help mitigate the effects of variable output. Energy storage facilities have the potential to provide a range of services to support reliability, including regulation, voltage control, operating reserve and flexibility – provided that they are the right type of facility and in the right location. The variety of benefits associated with storage can include:

- **Smoothing out fluctuations** of variable generation resources, bringing added stability to the electricity system
- Easing points of congestion in transmission and distribution networks
- · Helping move clean energy to peak demand periods
- **Providing reliability** services that support voltage and frequency on the system.

The IESO is already using storage technologies as a source of frequency regulation, with two projects in operation: NRStor Inc., in partnership with Temporal Power, is providing two megawatts of regulation using flywheel technologies, and Renewable Energy Systems Canada Inc. delivers Ontario's first battery regulation service with four megawatts of capability. To further support and understand the integration of storage into the electricity system, in 2015 the IESO completed a two-phase energy storage procurement, securing approximately 50 MW in total. Soon, energy storage assets procured under Phase I will begin providing ancillary services to Ontario's electricity system in various locations across the province. Although it's still early days for these projects, as the first of these facilities is expected to come into operation in 2017, together they will build up the IESO's direct experience with the various technologies. The IESO looks forward to working with all of the project proponents to confirm and capture the value of storage.

### Growing Role of Interconnections to Strengthen Reliability

Participating in an interconnected power system enables the IESO to respond and assist in maintaining the reliable operation of the entire North American grid, and enables Ontario to receive and benefit from similar assistance from its interconnected reliability partners. Ontario currently has interconnections with five of its neighbours: Quebec, Manitoba, Minnesota, Michigan and New York. These interconnections facilitate the economic import and export of electricity and provide operational and planning flexibility that enhance the reliability and cost-effectiveness of Ontario's electricity system.

The IESO is working on enhancing the use of its interties to better meet system needs.

The provincial government recently concluded two electricity trade agreements with Quebec. The most recent agreement provides for Ontario to import 2.3 TWh of energy from Quebec in addition to regular wholesale energy trading. These imports will displace dispatchable Ontario-based gas-fired generation with lower-cost and lower greenhouse gas-emitting energy from the Quebec grid. The agreement provides value by displacing higher-emission gas generation and makes use of existing intertie and transmission system capability.

In 2016, the IESO enabled capacity exports, with one Ontario facility participating in and clearing the New York Independent System Operator's (NYISO) auction. In August 2016, a Memorandum of Understanding was signed between the IESO and NYISO, designed to support specific projects on a transitional basis to gain experience and learn lessons for a longterm solution, including the implementation of an incremental capacity auction in Ontario. Joint processes with the NYISO are being established to coordinate operations. Development of the information technology functions to support related control room operations were also initiated in 2016.

In addition to capacity exports, the IESO is also considering moving to 15-minute intertie scheduling as part of the market renewal program (see page 8). This has now become a regulatory standard in the United States. In 2013, the IESO released a study paper concluding that more frequent intertie scheduling would provide system benefits and increase market efficiency by lowering the overall system costs of meeting demand. This will also enable Ontario to schedule resources and meet its adequacy requirements in a more cost-effective manner in the future.

### Cybersecurity



Maintaining system reliability involves keeping Ontario's critical electricity infrastructure secure. As has been widely reported, Ukraine recently experienced a confirmed instance of a cyber-attack causing a blackout. Governments and industry in Canada are working together to develop coordinated cybersecurity strategies and to form organizations specifically focused on cyber defence.

Cybersecurity is a material part of the IESO's business, particularly when one considers the breadth of data the IESO collects on a given day – more than 20,000 data points every three seconds – to support the reliable flow of electricity across the province and its borders. The IESO has put into place robust cybersecurity and cyber incident response programs to mitigate threats to critical business operations.

The IESO is also responsible for the application and enforcement of North American Electricity Reliability Corporation (NERC) cybersecurity standards for critical electricity infrastructure connected to the bulk electricity system in Ontario.

Beyond its regulated requirements, the IESO has also been working closely with market participants and stakeholders to deepen the sector's understanding of cyber risks. These efforts include increasing information sharing between the sector and government partners, exchanging information on respective approaches to mitigating the effects of cyberattacks, creating a stronger incident response capability and enhancing the awareness of cybersecurity at the executive and board levels of organizations. The IESO held two cybersecurity conferences and hosted two executive/board level cybersecurity briefings in 2016. These forums were attended by electricity industry leaders and cybersecurity experts from around the world and included productive, forwardlooking dialogue on matters related to best practices, policy framework, government support and other key areas of cybersecurity. Further meetings are being planned, including an executive briefing scheduled for late 2017. The IESO will continue to invest in advanced technologies and more robust cybersecurity technologies as part of its ongoing cyber threat mitigation efforts.



### Driving to a More Efficient and Sustainable Marketplace: Market Renewal

The IESO, together with stakeholders, have begun a market renewal program to improve the efficiency and performance of the wholesale electricity market. It will enhance the way energy is scheduled and priced, evolve how resources are acquired and drive greater system flexibility.

Nearly 15 years ago, on May 1, 2002, Ontario's electricity market opened for the first time. It marked a major milestone for Ontario's electricity system – the process to match supply and demand would now be based on competition, where electricity would be bought and sold on a spot market at competitive prices. The IESO maintains the wholesale electricity market and directs the operation of Ontario's bulk power system. The market was designed to efficiently dispatch Ontario's supply mix resources, which, at market opening, consisted of mainly coal, nuclear and hydroelectric.

Since then, Ontario's system has seen a significant resource transformation. In a relatively short period, the province experienced a substantial net growth in electricity supply and a material transition to a cleaner energy system. Over six gigawatts (GW) of installed coal-fired capacity was shut down and replaced with more than 14 GW of renewable, natural gas-fired, nuclear and demand response resources. Combined, this new supply mix has changed the dynamics of Ontario's electricity system.

Over the last decade, inefficiencies with the current market were identified through the work of the Electricity Market Forum, the Market Surveillance Panel, IESO studies and stakeholder input. The IESO made a series of enhancements to adapt its market design to the changes in the supply mix. While the IESO has maintained reliability throughout these changes and adopted new approaches to increase flexibility and resiliency into the provincial power grid, it has also become evident that the current market design needs more foundational changes.

### Where Are We Now?

The IESO has identified the need to evolve Ontario's electricity market to address known inefficiencies and lay the foundation for a more dynamic marketplace in the future. As noted in last year's *Ontario Planning Outlook*, the province is in a stable supply situation that is expected to continue until the beginning of the next decade, making this an opportune time to consider and implement needed market design changes.

To advance these efforts, the IESO and stakeholders are examining the benefits and costs of evolving and improving the market. Market renewal, as the program is called, will be a major undertaking both for the IESO and for Ontario's electricity sector, and it represents the most significant enhancement of Ontario's market since it first opened in 2002.

#### **Market Renewal Principles**



In 2016, when the IESO launched a stakeholder engagement for market renewal, it appointed members for a working group representing a broad cross-section of market participants and stakeholders to help guide the market renewal process. Comprised of experienced individuals representing generators, traders, consumers and emerging technologies, the working group is a key stakeholder forum for this project.

The IESO also engaged an economic consulting firm, the Brattle Group, to develop a benefits case for the market renewal program, supported by input from the working group and stakeholders. The analysis draws on previous Ontario studies and the experience of other jurisdictions that have gone through similar market redesign processes. The final benefits case is expected to be posted on the IESO website in April 2017.

Early findings show potential for cost savings, with a baseline estimate of \$3.4 billion (net present value) over a 10-year period from 2021-2030. These savings represent a net efficiency benefit, meaning the total commodity cost of electricity (i.e., energy, global adjustment and uplifts) is reduced by that amount. The majority of savings are expected to flow to consumers, while the rest would flow to other market participants. Costs for the project are estimated to fall in the range of \$200 million to \$300 million. While these are only initial findings, the numbers demonstrate that the range of reasonably expected benefits far outweighs the likely costs of the project (see sidebar on page 10).

### Benefits of Transitioning to More Efficient Market-Based Platforms

Market renewal is expected to provide value for Ontario's ratepayers by putting downward pressure on costs while fostering an open and competitive marketplace with broad participation. Effective markets provide clear signals for the value of needed services, and they enable all resources – whether new or existing – to compete to meet those needs. Effective markets, where prices accurately reflect underlying system conditions, also enable individual resources and consumers to make informed decisions, capturing innovation and better managing costs and risks.

Proposed changes to the market include:

- moving from scheduling and dispatching primarily in real time to a financially binding day-ahead market that will provide the IESO and market participants more certainty
  - A day-ahead market will require replacing the current two-schedule system (where prices are determined under one schedule and energy is dispatched under another) with a more efficient single-schedule market.
- introducing an incremental capacity auction where all resources will compete on a level playing field, resulting in lower costs and potentially avoiding or deferring the need to build new resources
- delivering greater flexibility from existing assets and from interties
- other operability enhancements as identified by the IESO and its stakeholders.

#### **The Evolution of Capacity Procurement**

#### **COMPETITIVE PROCUREMENTS**

Ontario has used many different procurement mechanisms: competitive RFPs, standard offer programs and bilateral negotiations. Broad and open competitive RFPs have yielded the best value for consumers.

#### **DEMAND RESPONSE AUCTION**

The demand response auction has been a first step in testing out an auction platform. It provides an annual mechanism for resources to compete transparently. It has attracted a number of new entrants and innovative approaches.

#### **CAPACITY AUCTION**

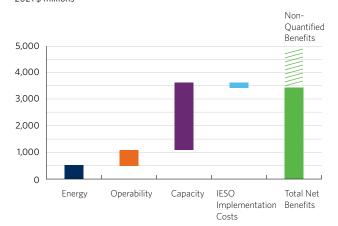
A capacity auction will provide a stable and enduring platform where existing assets and new entrants can compete on a regular basis for incremental capacity needs. Transparent price signals will lead to improved investment decisions. The energy and operability initiatives under market renewal are designed to address inefficiencies with the current market design and improve the way the IESO schedules energy. Market renewal also proposes to introduce an incremental capacity auction that would allow non-traditional resources (such as demand response, distributed energy resources, upgrades to existing assets, and imports) to compete with existing assets. A capacity auction would function similarly to Ontario's existing demand response auction (see next page) but would include broader participation. This mechanism has been used in a number of North American markets, as well as globally, to cost-effectively meet the capacity needs of modern electricity systems. The IESO benefits from almost 15 years of experience with Ontario's electricity market and can also draw upon decades of best practices in other jurisdictions. The IESO will work with stakeholders to reset Ontario's market in a way that both addresses existing challenges and unlocks future possibilities.

A work plan for market renewal will be developed in 2017 through engagement with stakeholders. It will identify specific market design changes for implementation over the coming years and identify target timelines for completing design and implementation work.

## The Case for Market Renewal

This graph is from the March 2017 draft report, *A Benefits Case Assessment of the Market Renewal Project*, prepared for the IESO by the Brattle Group. It includes the estimated benefits and costs of market renewal for the period of 2021–2030, based on present value of quantified benefits from the three work streams: energy, operability and capacity. The report estimates that market renewal will produce benefits with a present value of approximately \$510 million from energy market reforms, \$580 million from operability reforms and \$2.53 billion from capacity auction reforms. Realized benefits will likely be greater if the existing contracted resources are more responsive to market prices than assumed in the analysis and considering that the value of many benefits has not been quantified. As shown, the estimated benefits are offset by \$200 million in estimated IESO implementation costs.

# Present Value of Benefits and Costs 2021 \$ millions



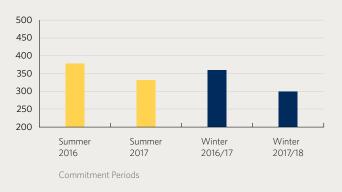
Work Streams	Primary Objective	Initiatives
Energy	Reduce cost and gain efficiency scheduling energy to meet provincial demand	<ul> <li>Single-schedule system</li> <li>Day-ahead market</li> <li>Enhanced real-time unit commitment</li> </ul>
Operability	Increase flexibility to reliably and cost- effectively integrate variable resources	<ul> <li>More frequent intertie scheduling</li> <li>Investigate other opportunities</li> </ul>
Capacity	Reduce cost of procuring resources to meet long-term demand	<ul> <li>Capacity trade</li> <li>Incremental capacity auction</li> </ul>

# **Demand Response Auction**

For a number of years, the IESO has been exploring what types of flexible, responsive mechanisms could be introduced to complement the existing market structure. The IESO's annual demand response (DR) auction is part of those ongoing efforts and has helped to expand Ontario's DR capabilities and transition to a more cost-effective, market-based platform for this resource. DR has been introduced into the market where it can be called upon like other resources to meet provincial needs and can reduce the need to build costly generating facilities by reducing electricity usage during the hours of highest demand, typically on hot summer days. The first DR auction, conducted in December 2015, contributed 391.5 MW during the 2016 summer season and 403.7 MW for the 2016–17 winter season.

#### DR Auction Results - Clearing Prices

Price \$/MW-day



The outcome of the second annual DR auction was announced in December 2016 and resulted in both increased participation as well as prices for demand response capacity that were 12 to 17 percent lower than those achieved in 2015. The amount of DR procured through the auction increased by 16 percent in the summer to 455.2 MW and 18 percent in the winter to 477.5 MW compared to the previous year. The next DR auction will be held in December 2017, for delivery of DR capacity between May 2018 and April 2019. The successful DR providers will be integrated into the electricity market along with generators and will help provide capacity to ensure the province's energy needs are met during peak hours. Lessons learned from the DR auction will be applied to the design of an incremental capacity auction.



# DR Auction Results - Cleared Quantities

# Engagement Plans for 2017

The market renewal project has a broad reach and will address the way the IESO schedules energy, procures capacity and meets operability needs in the province. The IESO recognizes that these proposed changes will impact market participants and contract counterparties. The IESO will work collaboratively to understand and address the impacts, as required. At the same time, the market renewal program is not a traditional stakeholder engagement, as it encompasses various work streams and will require engagement on various levels, including:

- education for the broader sector
- strategic discussions to focus on policy and key issues
- design discussions to determine, together with stakeholders, the optimal approach for Ontario
- · technical dialogues with subject matter experts
- · development of market rules and manuals.

The project will also require an enduring stakeholder commitment over a number of years. To undertake this work, the IESO will use existing and newly created stakeholder engagement forums to seek input from both the traditional, sector-focused stakeholders and the broader stakeholder community. For example, the IESO will:

- Use existing stakeholder forums including the IESO Stakeholder Advisory Committee (SAC) and the Technical Panel.
- Institute a CEO's Executive Roundtable to ensure awareness and discussion on high-level issues related to the project.
- As the project progresses, engage the broader stakeholder community to ensure they are informed and able to provide input into the decision-making process.

The Market Renewal Working Group has been established to provide expertise and advice to support the development and implementation of market renewal initiatives.

Transparency will be a key component in the stakeholder engagement process. All materials that have been presented and provided to the IESO Market Renewal Working Group are available on the market renewal section of the IESO's website. The IESO encourages all interested parties, or their representatives, to participate in this engagement.



# Driving to a More Efficient and Sustainable Marketplace: Conservation and Energy Efficiency

Energy conservation in Ontario has gone through a considerable evolution, and its contribution will continue to grow as Ontario's system becomes more dynamic and interconnected.

Today, energy efficiency and conservation are playing increasingly important roles in the energy landscape, both at the system level to meet electricity needs and also as an effective tool for consumers of all sizes to help reduce their own energy costs. From optimizing energy-efficient products to supporting certified energy manager training, conservation programs are helping Ontario businesses and residential customers better understand what energy-efficient options are available for them. In turn, these programs are contributing to better quality and more efficient homes, improving day-to-day operations in businesses and enabling a more reliable and sustainable system for future generations.

In 2016, the IESO continued its role in the advancement of a conservation culture in Ontario, working with local distribution companies (LDCs) and others to connect end-use customers to energy-efficient solutions. The past year saw continued progress against the province's six-year (2015-2020) Conservation First Framework (CFF), designed to provide LDCs with greater flexibility to design and deliver conservation programs that meet local community needs, strengthen regional collaboration and benefit both customers and the provincial grid.

Approved conservation and demand management (CDM) plans are now in place for all LDCs in the province, which in total account for the achievement of the seven terawatt-hour (TWh) CFF target. An additional 1.7 TWh of energy savings are to be achieved through the Industrial Accelerator Program, which has been designed to help transmission-connected customers achieve energy savings. At the same time, efforts continue to ensure programs are delivered in a cost-effective manner by applying rigorous third-party evaluation, measurement and verification of program results, which are made publicly available on the IESO's website.

With the introduction of the province's *Climate Change Action Plan*, the IESO and the province are exploring the potential to build on the existing suite of conservation programs to support and coordinate with the implementation and delivery of the plan's low-carbon objectives.

# Conservation for the Long Term

## Investing in Conservation

Ontario is a recognized leader in its commitment to conservation and energy efficiency; it is the cleanest and most cost-effective resource available. For every dollar invested in energy-efficiency programs, Ontarians have saved two dollars in avoided energy costs.



#### Sustainable Communities

Conservation investments are being made in existing homes and businesses in Ontario.



Homes

Ontario is a leader in setting energy-efficiency standards and supporting energy initiatives.



#### Innovation

The IESO's Conservation Fund is supporting new and innovative electricity conservation initiatives.

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#### Knowledge

Training initiatives help drive participation in energyefficiency programs.

## Progress in Conservation

Conservation and energy efficiency is the first resource considered in planning Ontario's electricity system. The IESO, local distribution companies and other partners deliver programs across Ontario that result in measurable and verifiable savings toward the province's conservation targets. A lot has been achieved since 2006.



# Conservation First Framework: By the Numbers

Consumers throughout the province continue to take advantage of the range of energy conservation tools, resources and incentives tailored to Ontario homes and businesses through the Save on Energy programs delivered with LDCs. These include incentives for lighting upgrades, purchasing energy-efficient products and replacing inefficient equipment. Businesses of all sizes are also accessing program funding that is helping to improve production efficiency, upgrade equipment and train their staff in energy management, which in turn is resulting in improved productivity, better work environments and lower operating costs.

In the first two years of the Conservation First Framework, these results have been achieved:

Residential

451 GWh of energy savings

**4,100** energy-efficient homes built through the New Home Construction Program **17.8 million** energy-efficiency **products** purchased

**224,000 installations** through the Heating and Cooling Program

## **Business**

1,463 GWh

**20,600** projects completed through the Small

**projects** completed through the Small Business Lighting Program

# 450

**projects** completed through the Energy Managers Program

# 19,700

**projects** taken on through the Retrofit Program

\*Energy savings achieved are persisting to 2020.

Preliminary unverified results indicate that LDCs had collectively achieved 27 percent of the provincial CFF target, or 1.92 TWh of the seven TWh target in 2015-2016. These savings represent enough electricity to power a city about the size of Guelph for a year. In addition, the Industrial Accelerator Program has achieved 0.20 TWh of the 1.7 TWh target in 2015-2016, or 12 percent of the 2020 target. This number will increase as additional projects currently under contract are expected to be implemented over the coming period.

# **Energy Efficiency in Action**



**Valiant TMS**, a Windsor-based company that designs and manufactures welding, assembly and material handling systems for the automotive and aerospace industry, upgraded its lighting, compressors, and heating and cooling systems, resulting in savings of four million kilowatt-hours annually, which represents 25 percent of its annual energy consumption.

The **Thunder Bay Regional Health Sciences Centre**, a 375-bed acute care hospital, emergency centre and research facility, lowered its electricity consumption by 22 percent thanks to Save on Energy incentives. Its energy-efficiency upgrades resulted in \$660,000 in annual cost savings, which could be reinvested into patient and family care services.

More information on these projects, along with other testimonials and case studies, is available at **saveonenergy.ca**.

# Getting to 2020 and Beyond

#### **Conservation First Framework Mid-Term Review**

In late 2016, the IESO launched a public engagement process to seek feedback from stakeholders to inform the mid-term review of both the 2015 - 2020 Conservation First Framework and the Industrial Accelerator Program. The mid-term review will focus on a range of key issues, including the allocation of budgets and targets among LDCs, lessons learned regarding LDC funding models, customer needs and satisfaction, conservation integration with regional planning and alignment with Ontario's *Climate Change Action Plan*.

This review will examine opportunities for achieving conservation objectives to 2020 and beyond, as well as consider using innovative new programs that did not exist prior to the framework and that were developed through pilot programs funded by the IESO.

Input from stakeholders and communities through public engagement meetings will be a key component leading up to and throughout the review. Comprehensive, open engagement that aligns with the IESO's Engagement Principles will help ensure that all LDCs, customers, channel partners and other interested parties have meaningful opportunities to provide feedback on the framework's success and challenges.

A Mid-Term Review Advisory Group, comprised of a variety of stakeholder representatives, has been assembled to tackle more detailed discussions.

Conservation and energy efficiency require a sustained commitment to achieve persistent savings over the long term, and the mid-term review will be an important marker in setting the next phase of conservation in the province. In early 2018, a final report will be submitted to the Minister of Energy and published on the IESO's website. For more information on this stakeholder initiative, please visit the IESO's Conservation Framework Mid-Term Review webpage or email **engagement@ieso.ca**.

# Driving Innovation in Conservation, Energy Efficiency and Demand Management

In addition to the energy-efficiency programs delivered through the LDCs, the IESO is committed to encouraging new, innovative solutions and technologies that will help Ontario meets its conservation targets.

The IESO's Conservation Fund helps transform the market by supporting innovative energy-saving pilots and bringing ground-breaking new processes, technologies and policies to market. In 2016, the Conservation Fund committed \$9.5 million to five initiatives. Project examples include:

- LDC achievable potential studies for their service territories
- enhancing CanmetENERGY's RETScreen energy-efficiency software, which provides project feasibility and energy performance analysis
- supporting an energy conservation study on commercial freezer temperature modification
- implementing a smart electric vehicle charging pilot for workplaces.

The LDC Innovation Fund is helping utilities explore new technologies that can contribute to a modern and efficient grid. The fund supports program design and testing of new initiatives, providing LDCs the opportunity to market test the delivery mechanisms and savings potential of new innovative program offerings before including them in their CDM plan and budget. These pilots are also assessed for their potential to be developed into local, regional or province-wide programs. Results of pilot programs are shared with other LDCs and the public so that the LDC community can collaborate and take away key learnings for their own projects.

# Achievable Potential Study

#### In June 2016, the IESO completed an Achievable Potential Study to assess electricity conservation potential in Ontario.

Supported by input from a working group comprised of 12 LDCs and expert industry observers, the study considered the potential for energy-efficiency programs and behind-the-meter generation projects. It concluded that, within the current assumptions, approximately 7.4 TWh of conservation can be achieved by LDCs by 2020. It also found that in the longer term, about 19.5 TWh can be achieved from distribution- and transmission-connected customers by 2035, assuming the same administrative costs and incentive levels. The Achievable Potential Study will be used to inform the Conservation Framework Mid-Term Review (see above) and will be a useful tool in informing program development as well as regional and long-term energy planning.



# Engaging Stakeholders, Communities and Consumers

Responding to change in a rapidly evolving sector has become a constant part of the IESO's work. As Ontario's electricity system becomes more interconnected and regionally focused, the IESO's traditional forms of engagement will continue to expand as new generators, customers, Indigenous peoples and communities become more actively involved in the sector.

With this evolving landscape, the IESO's ability to achieve its goals will be dependent on the valuable input it receives.

The IESO's Engagement Principles provide an effective framework for ensuring stakeholders and communities have the opportunity to provide input on matters that impact them. Input was considered in the development of the principles, and both the IESO and the public have come to rely on these to guide open, transparent and meaningful opportunities for input. The Engagement Principles also provide a foundation for the IESO's engagement with Indigenous communities.

The IESO will continue to provide broad engagement channels and processes to ensure that its initiatives are guided by collective engagement. This was re-affirmed in the IESO 2016-2020 Strategic Plan: **Seeking out and responding to input from communities, customers and stakeholders to inform IESO's decision-making** has been adopted as one of the organization's strategic objectives. At the same time, to be effective and meaningful, engagement must also go through a process of continuous improvement and measurement. The IESO will continue to undertake stakeholder and community interviews and/or surveys, which will indicate the level of satisfaction with the engagement process and whether the IESO has demonstrated appropriate consideration of input in decisions.

The Stakeholder Advisory Committee (SAC) has an important role in providing the IESO with input and feedback on proposed decisions or changes that affect all communities and stakeholders. Through input from the SAC, stakeholder priorities are considered in the development of the organization's core corporate planning documents, including the IESO's latest business plan. The IESO has established corporate performance measures (CPMs) for its key initiatives across the organization, designed to assess progress toward the achievement of its core mandate and strategic objectives. These targets have been developed to be specific, measurable, achievable, relevant and time-bound. They also reflect input received from the SAC to make the CPMs both outcome-oriented and externally focused. Going forward, the IESO will continue to evolve its engagement processes and procedures, as well as their application, to meet the needs of its expanding stakeholder and community base.

## Engaging Communities and Consumers

Technology developments are continuing to change the landscape of the traditional bulk power system, creating a larger role for the consumer within the broader system and offering a wider range of possibility for meeting their energy needs. Customers are becoming increasingly engaged and involved in managing their energy consumption through things such as:

- smart home technologies and innovative software applications
- community microgrids
- distributed energy resources
- electric vehicles
- storage technologies
- heat pumps
- residential demand management resources
- energy audits and retrofits.

At the same time, communities are becoming more focused on how to meet their energy needs through the development of community energy plans. As part of this, municipalities and Indigenous communities are working with their local utilities, community members and key stakeholders to establish an energy vision and develop plans to achieve this vision.

The result is that consumers and communities are taking an increasingly active role in how their energy needs are being met, and they are exploring local resources that can also meet regional reliability needs. This could take the form of non-wires supply options, such as conservation and distributed energy resources, as well as other innovative solutions. In its role to support this progress, the IESO will continue to expand its outreach efforts to include a broader vision of community engagement.

#### **Identifying Regional Energy Needs**

All of these activities contribute to the development of regional electricity plans across the province, plans that are designed to ensure a reliable supply of electricity over the next 20 years. These regional electricity plans ensure that community-based solutions, which are technically viable, economic and consistent with the values of the local community, are accounted for in the plans needed to meet capacity and reliability needs in a local area. Meetings with municipalities and communities, as well as feedback received from the 11 Local Advisory Committees (LACs) across the province, contribute a local voice and help identify local priorities in the development of regional plans. LACs are comprised of municipal, First Nation, Métis, environmental, business, sustainability and community representatives and are an effective model for the IESO to engage communities in the regional planning process. All LAC meetings are open to the public.

#### Local Advisory Committees have been formed in the following areas as part of the IESO's regional planning process:

**Greenstone-Marathon** Sub-region of Northwest Ontario (community)

Greenstone-Marathon

Sub-region of Northwest Ontario (First Nation)

West of Thunder Bay Sub-region of Northwest Ontario (community)

West of Thunder Bay Sub-region of Northwest

Ontario (First Nation)
Thunder Bay

Sub-region of Northwest Ontario

All 21 planning regions in the province have had the first five-year cycle of the regional planning process completed; this means that their needs have been examined and, where required, Integrated Regional Resource Plans have been developed. In the first round of regional planning, 16 plans were completed and are posted on the IESO website. Moving forward, the IESO will continue to work collaboratively with all communities to help best address their energy priorities and system needs and to ensure that the implementation of recommendations from completed plans is supported.

GTA East Ottawa

Toronto

Parry Sound/Muskoka

Georgian Bay/Muskoka

Georgian Bay/Muskoka

Sub-region of GTA North

Sub-region of South

Sub-region of South

Barrie/Innisfil

**York Region** 

# Indigenous Engagement

From First Nation-led transmission companies that are working to connect remote communities, to providing substantive input at Local Advisory Committees, to equity partners in over 1,000 MW of renewable projects, Indigenous communities are important partners in supporting Ontario's sustainable energy future.

To assist with capacity building, the IESO works to ensure all Indigenous communities are aware of funding programs, upcoming procurements and electricity planning, have the opportunity to provide input and feedback, and that all feedback is considered in the development of programs and procurements.

In 2016, the IESO continued to receive advice and guidance on the development of programs and initiatives through the Aboriginal Energy Working Group, comprised of First Nation and Métis community members who reside across the province and are active in Ontario's electricity industry. Representatives from the IESO also spoke at 13 Indigenous conferences or community meetings, attended 13 additional conferences and assemblies and met with communities on more than 70 occasions.

Also in 2016, the IESO supported the Ministry of Energy in engaging Indigenous communities from across Ontario to provide input to the next Long-Term Energy Plan (LTEP). This included a customized series of regional Indigenous sessions, structured around an LTEP Indigenous engagement workbook. These sessions were part of the ongoing dialogues with Indigenous communities on everything from energy policy development to program delivery.

In 2016, the two-year capacity agreements with the Chiefs of Ontario and the Métis Nation of Ontario for the funding of an Energy Analyst position came to an end. Both of these agreements have been renewed for two additional years based on feedback from the organizations on the benefits of this position and the continued need to have a dedicated resource able to focus on energy issues.

Throughout 2016, the IESO continued efforts to reduce the dependence on diesel in all remote communities. This work included continuing to support the implementation of the Remote Communities Connection Plan. This plan informed an Order-in-Council from the provincial government in 2016, confirming the need to connect these 21 remote communities. The IESO has continued to support the current project to connect 16 of the communities through various regulatory



processes and assessments. Work has also continued to build capacity in the communities as they prepare for connection, and the IESO has supported discussions with the federal government on project funding.

The IESO has also established an energy working group with the Matawa communities, which include the remaining five remote communities that are economic to connect to the bulk electricity system. Additionally, in 2016 the IESO launched the Energy Partnerships Program, which will support both the connection of remote communities as well as the effort to reduce reliance on diesel in the four remote communities that are not currently economic to connect.

In 2017 and beyond, the IESO will continue to engage First Nation and Métis communities through one-on-one, face-toface meetings, customized engagement plans, working groups, capacity-building initiatives, social media and participating at various Indigenous events. Customized engagement will ensure that communities have the opportunity to participate in relevant electricity matters, including regional planning, new marketplace mechanisms, procurements, funds and conservation initiatives. In addition, the IESO will work to ensure that programs are established with considered input from communities and that any identified barriers are removed.

## Expanding the Tools of Engagement

In 2017, the IESO is launching initiatives to engage Ontarians in some new and different ways.



#### **IESO's New Corporate Website**

The IESO's recently launched new corporate website was designed to better reflect all parts of the IESO's expanding mandate. With more than one million interactions each year, the site will continue to provide timely, trusted and vital sector data to market participants, stakeholders, communities and members of the public.

It has also been designed to be more accessible, engaging and with a more intuitive navigation. By taking a more customercentric approach to design and content development, the IESO's website will further enable customers to make well-informed energy decisions, explore new content areas and gain further insights into the workings of Ontario's electricity sector. The redesign of the IESO's website has been a collaborative project and has included input from external users as well as representatives from across all of the IESO's service groups to ensure it meets a wide range of needs.

#### **Energy Show at the Ontario Science Centre**

The IESO and the Ontario Science Centre have embarked on a five-year partnership to help bring energy knowledge and understanding to all Ontarians. Under this agreement, the IESO is the lead supporter of the **Energy Show**, as well as a supporter of the Centre's two energy-related school programs. Building upon the Science Centre's iconic electricity demonstration, the Energy Show is a family-friendly 30-minute presentation that delves deeper into the principles and concepts of energy. Through interactive and animated investigation, experimentation and collaboration, guests of all ages learn about the different sources of renewable and non-renewable energy and are encouraged to think about the way they use energy in their daily lives.



Photo: Ontario Science Centre



#### **Province-Wide Summit and Regional Forums**

The IESO will host a Stakeholder Summit in Toronto and four Regional Forums in 2017 to be held across the province. These events will explore the future direction of the electricity sector, while also engaging communities in local issues that matter most to them. **More information about these events, when it is available, can be found on ieso.ca in the Engagement Initiatives section.** 



# Executive Leadership Team, Board of Directors and Advisory Committees to the Board

The IESO is a not-for-profit corporate entity established in the *Electricity Act, 1998*, and is led by an Executive Leadership Team responsible for implementing the strategic direction and initiatives for the organization.

The IESO is governed by an independent Board of Directors that oversees its business and affairs. The Stakeholder Advisory Committee is a forum for appointed stakeholder representatives to provide advice and recommendations to the IESO's Board of Directors and Leadership Team. The Technical Panel proposes and reviews amendments to the Market Rules, and, as requested, advises the Board of Directors on specific technical issues relating to the operation of the IESO-administered markets.

As of December 31, 2016

#### Executive Leadership Team

Bruce Campbell President and Chief Executive Officer

**JoAnne Butler** Vice-President, Market and Resource Development

#### Leonard Kula

Vice-President, Market and System Operations, and Chief Operating Officer

Michael Lyle Vice-President, Planning, Legal, Indigenous Relations and Regulatory Affairs

Kimberly Marshall Vice-President, Corporate Services, and Chief Financial Officer

#### Doug Thomas

Vice-President, Information and Technology Services, and Chief Information Officer

#### **Terry Young**

Vice-President, Conservation and Corporate Relations

#### **Board of Directors**

#### Tim O'Neill

Chairman of the Board Retired from BMO Financial Group, where he served as Executive Vice-President and Chief Economist; President of O'Neill Strategic Economics

#### Bruce Campbell

President and Chief Executive Officer, Independent Electricity System Operator Cynthia Chaplin

Director

Former Vice-Chair of the Ontario Energy Board

#### Murray Elston

Director

Former Chair of the Electricity Distribution Panel; former President of the Canadian Nuclear Association; former Ontario Minister of Health

#### Susanna Han

Director Chief Financial Officer, LiUNA Local 183

#### Ronald L. Jamieson

Director and Chair, Audit Committee

Retired from BMO Financial Group, where he was Senior Vice-President, Aboriginal Banking; Director, Nuclear Waste Management Organization and Denendeh Investments Inc.; Member, Order of Canada; Appointee, Order of Ontario

#### Margaret Kelch

Director and Chair, Human Resources and Governance Committee

Director of the Board, DST Engineering Group, Chair of the Human Resources and Governance Committee; Former Board member Nature Conservancy of Canada, Chair of the Conservation Committee; Former Board member Electrical Safety Authority, Chair of the Regulatory and Human Resources and Governance Committees; Former Board member Guelph Hydro; other various board assignments

# Bruce Lourie

President of Ivey Foundation; Director of Canadians for Clean Prosperity, Clean Economy Fund, Philanthropic Foundations Canada and Advisory Board of Ecofiscal Commission

#### William Museler

Director

Former President and Chief Executive Officer of the New York Independent System Operator

# Deborah S. Whale

Vice-President, Clovermead Farms Inc.; Past Vice-President, Ontario Farm Products Marketing Commission; Vice-President, Grand River Raceway; Livestock Research and Innovation Corporation, Emerging and Critical Issues Committee

#### Carole Workman

Director

Former Chair of the Ottawa Hospital Board of Directors; Board member of Allstate Insurance of Canada; former Director of Hydro Ottawa and several other organizations

## Stakeholder Advisory Committee

Brian Bentz (Chair) President and Chief Executive Officer, PowerStream Representing: Distributors & Transmitters

Steve Baker President, Union Gas Limited Representing: Related Businesses/ Services

John Beaucage Principal, Counsel Public Affairs Inc. Representing: Ontario Communities

#### Darlene Bradley

Director, Technical Services, Hydro One Networks Inc. Representing: Distributors & Transmitters

#### Jack Burkom

Senior Vice-President, Commercial Development, Brookfield Energy Marketing Inc. Representing: Related Businesses/ Services

#### **David Butters**

President and Chief Executive Officer, Association of Power Producers of Ontario Representing: Generators

#### Jared Donald President, Synergist Energy

Representing: Generators Julie Girvan

## Consumers Council of Canada Representing: Consumers

Valerie Helbronner

Partner, Torys LLP – Infrastructure and Energy Practice Representing: Generators

Geoff Lupton Director, Energy, Fleet & Traffic, City of Hamilton Representing: Ontario Communities

**Rob Mace** President and Chief Executive Officer, Thunder Bay Hydro Electricity Distribution Inc. *Representing: Distributors & Transmitters* 

Mark Passi Manager, Energy, Glencore Representing: Consumers

Mark Schembri Vice President, Supermarket Systems & Store Maintenance, Loblaw Properties Limited Representing: Consumers

James Scongack Vice President, Corporate Affairs, Bruce Power Representing: Generators

**Ersilia Serafini** (Vice-Chair) President, Summerhill *Representing: Ontario Communities* 

#### Paul Shervill

Vice President, Strategic Initiatives, Rodan Energy Representing: Related Businesses/ Services

#### Todd Wilcox

Chief Operating Officer, North Bay Hydro Representing: Distributors & Transmitters

#### Terry Young

Vice-President, Conservation & Corporate Relations, Independent Electricity System Operator Representing: IESO

## Technical Panel

#### Chuck Farmer (Chair)

Director, Stakeholder & Public Affairs, Independent Electricity System Operator

#### Shelly Cunningham

Senior Vice-President, Engineering Services, PowerStream Inc. Representing: Distributors

#### David Dent

Manager, Strategic and Power Markets, Union Gas Limited *Representing: Natural Gas* 

#### Barbara Ellard

Director, Markets, Independent Electricity System Operator Representing: IESO

#### Paul Huebener

Managing Director, DIF Management Representing: Financial Industry

#### **Brian Kelly**

Manager, Indigenous Relations, Eastern Canada, TransCanada Energy Ltd. *Representing: Generators* 

#### **Robert Lake**

Representing: Residential Consumers

#### Martin Longlade

Representing: Industrial Consumers

#### Luis Marti Director, Reliability Studies,

Strategy and Compliance, Hydro One Networks Representing: Transmitters

#### **Peter Rowles**

Representing: Commercial Consumers

#### Bill Wilbur

Director, Generation and Revenue Planning, Ontario Power Generation *Representing: Generators* 

#### Julien Wu

Manager, Regulatory Affairs, Quebec-Ontario, Brookfield Energy Marketing Representing: Wholesalers

#### **Ontario Energy Board Liaison**

#### David Brown

Senior Policy Advisor, Wholesale Power Policy, Regulatory Policy Development, Ontario Energy Board

#### **Technical Panel Secretariat**

Susan Harrison

John Rattray

#### Independent Electricity System Operator 1600-120 Adelaide Street West Toronto, ON M5H 1T1

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ieso.ca



**2016 ANNUAL REPORT** 

# Financial Statements



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# Management Report

#### Management's Responsibility for Financial Reporting

The accompanying financial statements of the Independent Electricity System Operator are the responsibility of management and have been prepared in accordance with Canadian public sector accounting standards. The significant accounting policies followed by the Independent Electricity System Operator are described in the Summary of Significant Accounting Policies contained in Note 2 in the financial statements. The preparation of financial statements necessarily involves the use of estimates based on management's judgement, particularly when transactions affecting the current accounting period cannot be finalized with certainty until future periods. The financial statements have been prepared within reasonable limits of materiality and in light of information available up to March 22, 2017.

Management maintained a system of internal controls designed to provide reasonable assurance that the assets were safeguarded and that reliable information was available on a timely basis. The system included formal policies and procedures and an organizational structure that provided for the appropriate delegation of authority and segregation of responsibilities.

These financial statements have been examined by KPMG LLP, a firm of independent external auditors appointed by the Board of Directors. The external auditors' responsibility is to express their opinion on whether the financial statements are fairly presented in accordance with generally accepted accounting principles in Canada. The Auditors' Report, which follows, outlines the scope of their examination and their opinion.

INDEPENDENT ELECTRICITY SYSTEM OPERATOR

On behalf of management,

**Bruce Campbell** President and Chief Executive Officer Toronto, Canada March 22, 2017

K Marchall

Kimberly Marshall Vice President, Corporate Services and Chief Financial Officer Toronto, Canada March 22, 2017

# Independent Auditors' Report

#### To the Board of Directors of the Independent Electricity System Operator (IESO)

We have audited the accompanying financial statements of IESO, which comprise the statement of financial position as at December 31, 2016, the statements of operations and accumulated deficit, remeasurement gains and losses, change in net debt and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

#### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of IESO as at December 31, 2016, and its results of operations and the changes in its net debt and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

KPMG LLP

**Chartered Professional Accountants, Licensed Public Accountants** 

March 22, 2017 Waterloo, Canada

# Statement of Financial Position

As at (in thousands of Canadian dollars)	December 31, 2016	December 31, 2015
		(restated Note 3)
	\$	\$
FINANCIAL ASSETS	00.005	
Cash and cash equivalents	33,005	14,715
Accounts receivable	31,103	33,199
Regulated assets (Note 3)	65,064	88,202
Long-term investments (Note 4)	40,355	37,318
Market accounts – assets (Note 3)	1,636,201	1,443,121
TOTAL FINANCIAL ASSETS	1,805,728	1,616,555
LIABILITIES		
Accounts payable and accrued liabilities (Note 5)	38,963	48,868
Accrued interest on debt	315	315
Rebates due to market participants (Note 6)	12,551	9,595
Debt (Note 7)	90,000	90,000
Accrued pension liability (Note 8)	34,620	36,062
Accrued liability for employee future benefits other than pension (Note 8)	90,251	84,501
Market accounts - liabilities (Note 3)	1,636,201	1,443,121
TOTAL LIABILITIES	1,902,901	1,712,462
NET DEBT	(97,173)	(95,907)
NON-FINANCIAL ASSETS		
Net tangible capital assets (Note 9)	105,047	103,716
Prepaid expenses	6,614	6,197
TOTAL NON-FINANCIAL ASSETS	111,661	109,913
ACCUMULATED SURPLUS		
Accumulated surplus from operations (Note 6)	6,582	6,348
Accumulated remeasurement gains	7,906	7,658
ACCUMULATED SURPLUS	14,488	14,006

On behalf of the Board:

V-C

**Tim O'Neill** Chair Toronto, Canada

Carole Workman

**Carole Workman** Director Toronto, Canada

# Statement of Operations and Accumulated Surplus

For the year ended December 31 (in thousands of Canadian dollars)	2016	2016	2015
	Budget	Actual	Actual
	\$	\$	(restated Note 3) \$
IESO CORE OPERATIONS			
System fees	177,219	185,531	186,187
Other revenue (Note 10)	1,000	2,531	5,377
Interest and investment income	-	2,157	1,430
Core operation revenues	178,219	190,219	192,994
Compensation and benefits	(106,361)	(105,570)	(104,994)
Professional and consulting	(20,118)	(16,844)	(21,461)
Operating and administration	(33,502)	(34,336)	(35,005)
Core operating expenses	(159,981)	(156,750)	(161,460)
Amortization	(17,500)	(19,577)	(17,933)
Interest	(738)	(1,341)	(1,610)
Core expenses	(178,219)	(177,668)	(181,003)
Core operations annual surplus before rebates	-	12,551	11,991
Rebates due to market participants	-	(12,551)	(9,595)
Core operations annual surplus	-	-	2,396
MARKET SANCTIONS AND PAYMENT ADJUSTMENTS			
Market sanctions and payment adjustments	4,341	3,889	6,021
Compensation and benefits	(2,981)	(2,180)	(3,094)
Professional and consulting	(1,515)	(770)	(1,351)
Operating and administration	(150)	(705)	(114)
Customer education and market enforcement expenses	(4,646)	(3,655)	(4,559)
Market sanctions and payment adjustments			
annual surplus/(deficit)	(305)	234	1,462
SMART METERING ENTITY			
Smart metering charge	32,244	27,426	26,185
Compensation and benefits	(3,567)	(2,661)	(2,607)
Professional and consulting	(18,763)	(14,659)	(14,902)
Operating and administration	(2,364)	(5,705)	(4,200)
Smart metering operating expenses	(24,694)	(23,025)	(21,709)
Amortization	(4,491)	(3,861)	(3,524)
Interest	(3,059)	(540)	(952)
Smart metering expenses	(32,244)	(27,426)	(26,185)
Smart metering entity annual surplus	-	-	-
ANNUAL SURPLUS/(DEFICIT)	(305)	234	3,858
ACCUMULATED SURPLUS FROM OPERATIONS, BEGINNING OF PERIOD	6,348	6,348	2,490
ACCUMULATED SURPLUS FROM OPERATIONS, END OF PERIOD	6,043	6,582	6,348
	-/	-,	0,010

# Statement of Remeasurement Gains and Losses

For the year ended December 31 (in thousands of Canadian dollars)	2016	2015
	Actual	Actual
	\$	(restated Note 3) \$
ACCUMULATED REMEASUREMENT GAINS, BEGINNING OF PERIOD	7,658	6,362
UNREALIZED GAINS ATTRIBUTABLE TO:		
Foreign exchange – other	477	515
Portfolio investments (Note 4)	286	1,372
AMOUNTS RECLASSIFIED TO THE STATEMENT OF OPERATIONS:		
Foreign exchange - other	(515)	(591)
NET REMEASUREMENT GAINS FOR THE PERIOD	248	1,296
ACCUMULATED REMEASUREMENT GAINS, END OF PERIOD	7,906	7,658

# Statement of Change in Net Debt

For the year ended December 31 (in thousands of Canadian dollars)	2016	2016	2015
	Budget	Actual	Actual
	\$	\$	(restated Note 3) \$
ANNUAL SURPLUS/(DEFICIT)	(305)	234	3,858
CHANGE IN NON-FINANCIAL ASSETS			
Acquisition of tangible capital assets	(30,706)	(24,769)	(25,624)
Amortization of tangible capital assets	21,991	23,438	21,457
Change in prepaid expenses	-	(417)	(27)
TOTAL CHANGE IN NON-FINANCIAL ASSETS	(8,715)	(1,748)	(4,194)
NET REMEASUREMENT GAINS FOR THE PERIOD	-	248	1,296
CHANGE IN NET DEBT	(9,020)	(1,266)	960
NET DEBT, BEGINNING OF PERIOD	(95,907)	(95,907)	(96,867)
NET DEBT, END OF PERIOD	(104,927)	(97,173)	(95,907)

# Statement of Cash Flows

For the year ended December 31 (in thousands of Canadian dollars)	2016	2015
		(restated Note 3)
	\$	\$
OPERATING TRANSACTIONS		
Change in accumulated surplus:	224	2 050
Annual surplus	234	3,858
Changes in non-cash items:	234	5,050
Amortization	23,438	21,457
Pension expense	11,610	11,970
Other employee future benefits expense	8,127	6,901
	43,175	40,328
Changes in non-cash balances related to operations:	,	,
Change in accounts payable and accrued liabilities	(7,495)	(775)
Change in accounts receivable	2,096	(10,145)
Change in rebates due to market participants	2,956	9,595
Change in regulated assets	23,138	23,942
Change in prepaid expenses	(417)	(27)
	20,278	22,590
Other:		
Contribution to pension fund	(13,052)	(12,851)
Payment of employee future benefits	(2,377)	(2,314)
	(15,429)	(15,165)
Cash provided by operating transactions	48,258	51,611
CAPITAL TRANSACTIONS		
Acquisition of tangible capital assets	(24,769)	(25,624)
Change in accounts payable and accrued liabilities	(2,410)	(1,569)
Cash applied to capital transactions	(27,179)	(27,193)
		(
INVESTING TRANSACTIONS		
Purchase of long-term investments	(2,751)	(1,967)
Cash applied to investing transactions	(2,751)	(1,967)
FINANCING TRANSACTIONS		
Debt repayment	_	(39,000)
Cash applied to financing transactions	_	(39,000)
		(39,000)
INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	18,328	(16,549)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	14,715	31,340
Unrealized foreign exchange losses for the period	(38)	(76)
CASH AND CASH EQUIVALENTS - END OF PERIOD	33,005	14,715
	00,000	1,710

# Notes to Financial Statements

## **1. NATURE OF OPERATIONS**

a) The Independent Electricity System Operator (IESO) is a not-for-profit, non-taxable, corporation established pursuant to Part II of the *Electricity Act, 1998*. The predecessor Independent Electricity System Operator and the Ontario Power Authority (OPA) were amalgamated by statute effective on January 1, 2015, and continued as the Independent Electricity System Operator. As set out in the *Electricity Act, 1998*, the IESO operates pursuant to a licence granted by the Ontario Energy Board (OEB). The amalgamation was effected pursuant to Bill 14, *Building Opportunity and Securing Our Future Act (Budget Measures), 2014*, which received Royal Assent on July 24, 2014. Schedule 7 of the Bill amended the *Electricity Act, 1998*, by amalgamating the two predecessor corporations and by continuing them as the Independent Electricity System Operator. The transitional provision, dealing with corporate matters, provides, among other things, that the predecessor IESO and OPA cease to exist as entities separate from the amalgamated IESO and all their rights, properties and assets become the rights, properties and assets of the amalgamated IESO, as do all outstanding debts, liabilities and obligations of the predecessor IESO and OPA. Schedule 7 of Bill 14 came into force on January 1, 2015. The objects of the IESO as contained in the *Electricity Act, 1998*, and Ontario Regulation 288/14 are as follows:

- to exercise the powers and perform the duties assigned to it under this Act, the regulations, directions, the market rules and its licence;
- to enter into agreements with transmitters to give it authority to direct the operation of their transmission systems;
- to direct the operation and maintain the reliability of the IESO-controlled grid to promote the purposes of this Act;
- to participate in the development by any standards authority of criteria and standards relating to the reliability of the integrated power system;
- to establish and enforce criteria and standards relating to the reliability of the integrated power system;
- to work with the responsible authorities outside of Ontario to co-ordinate the IESO's activities with the activities of those authorities;
- to operate the IESO-administered markets to promote the purposes of this Act;
- to engage in activities related to contracting for the procurement of electricity supply, electricity capacity and conservation resources;
- to engage in activities related to settlements, payments under a contract entered into under the authority of this Act and payments provided for under this Act or the *Ontario Energy Board Act, 1998*;
- to engage in activities in support of the goal of ensuring adequate, reliable and secure electricity supply and resources in Ontario;
- to forecast electricity demand and the adequacy and reliability of electricity resources for Ontario for the short term, medium term and long term;
- to conduct independent planning for electricity generation, demand management, conservation and transmission;
- to engage in activities to facilitate the diversification of sources of electricity supply by promoting the use of
- cleaner energy sources and technologies, including alternative energy sources and renewable energy sources;
  to engage in activities in support of system-wide goals for the amount of electricity to be produced from different energy sources;
- to engage in activities that facilitate load management;
- to engage in activities that promote electricity conservation and the efficient use of electricity;
- to assist the Board by facilitating stability in rates for certain types of consumers;
- to collect and make public information relating to the short-term, medium-term and long-term electricity needs of Ontario and the adequacy and reliability of the integrated power system to meet those needs; and
- to engage in such other objects as may be prescribed by the regulations.

**b)** The IESO was designated the Smart Metering Entity (SME) by Ontario Regulation 393/07 under the *Electricity Act*, 1998, on March 28, 2007. The regulation came into effect on July 26, 2007.

The objects of the Smart Metering Entity, as contained in the *Electricity Act*, 1998, are as follows:

- to plan and implement and, on an ongoing basis, oversee, administer and deliver any part of the smart metering initiative as required by regulation under this or any Act or directive made pursuant to sections 28.3 or 28.4 of the *Ontario Energy Board Act, 1998*, and, if so authorized, to have the exclusive authority to conduct these activities;
- to collect and manage and to facilitate the collection and management of information and data and to store the information and data related to the metering of consumers' consumption or use of electricity in Ontario, including data collected from distributors and, if so authorized, to have the exclusive authority to collect, manage and store the data;
- to establish, to own or lease and to operate one or more databases to facilitate collecting, managing, storing and retrieving smart metering data;
- to provide and promote non-discriminatory access, on appropriate terms and subject to any conditions in its licence relating to the protection of privacy, by distributors, retailers and other persons,
  - i. to the information and data referred to above, and
  - ii. to the telecommunication system that permits the Smart Metering Entity to transfer data about the consumption or use of electricity to and from its databases, including access to its telecommunication equipment, systems and technology and associated equipment, systems and technologies;
- to own or to lease and to operate equipment, systems and technology, including telecommunication
  equipment, systems and technology that permit the Smart Metering Entity to transfer data about the
  consumption or use of electricity to and from its databases, including owning, leasing or operating such
  equipment, systems and technology and associated equipment, systems and technologies, directly or
  indirectly, including through one or more subsidiaries, if the Smart Metering Entity is a corporation;
- to engage in such competitive procurement activities as are necessary to fulfill its objects or business activities;
- to procure, as and when necessary, meters, metering equipment, systems and technology and any associated equipment, systems and technologies on behalf of distributors, as an agent or otherwise, directly or indirectly, including through one or more subsidiaries, if the Smart Metering Entity is a corporation;
- to recover, through just and reasonable rates, the costs and an appropriate return approved by the Ontario Energy Board associated with the conduct of its activities; and
- to undertake any other objects that are prescribed by associated regulation.

**c)** The IESO is required to submit its proposed expenditures, revenue requirements and fees for the coming year to the OEB for review and approval. The submission may be made only with the approval or deemed approval of the IESO business plan by the Minister of Energy (Minister).

# 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### a) Basis of financial statement preparation

The accompanying financial statements have been prepared on a going concern basis and in accordance with Canadian public sector accounting standards (PSAB) and reflect the following significant accounting policies.

#### b) Revenue recognition

System fees earned by the IESO are based on approved rates for each megawatt of electricity withdrawn from the IESO-controlled grid (including scheduled exports) and embedded generation. System fees are recognized as revenue at the time the electricity is withdrawn. Rebates are recognized in the year in which the regulatory deferral account, before such rebates, exceeds regulated limits.

For 2015, the system fee for the then newly amalgamated IESO was comprised of the combined rate calculations of the respective pre-amalgamation entities. Specifically, the former IESO rate base was calculated on electricity withdrawn from the IESO-controlled grid (including scheduled exports and embedded generation), whereas the former OPA rate base only considered Ontario electricity consumers. The OEB approved the continued use of this combined rate calculation for 2016 in an interim order issued on December 22, 2015.

These financial statements do not include the revenue and expenses of the financial transactions of market participants within the IESO-administered markets (IAM).

Other revenue represents amounts that accrue to the IESO relating to investment income on funds passing through market settlement accounts, as well as application fees. Such revenue is recognized as it is earned.

Interest and investment income represents realized interest income and investment gains or losses on cash, cash equivalents, short-term investments and long-term investments.

Market sanctions represent funds received to offset payments disbursed related to penalties, damages, fines and payment adjustments arising from resolved settlement disputes.

#### c) Financial instruments

The IESO records cash and cash equivalents, investment portfolio and foreign currency exchange forward contracts at fair value. The cumulative change in fair value of these financial instruments is recorded in accumulated surplus as remeasurement gains and losses and is included in the value of the respective financial instrument shown in the statement of financial position and the statement of remeasurement gains and losses. Upon disposition of the financial instruments, the cumulative remeasurement gains and losses are reclassified to the statement of operations and all other gains and losses associated with the disposition of the financial instrument are recorded in the statement of operations. Transaction costs are charged to operations as incurred.

Cash and cash equivalents comprise cash, term deposits and other short-term, highly rated investments with original maturity dates of less than 90 days.

The IESO records accounts receivable, accounts payable and debt at amortized cost.

#### d) Regulated assets and liabilities

As a rate-regulated entity, the IESO, in appropriate circumstances establishes regulated assets or liabilities and thereby defers the impact on the statement of operations of certain expenses or revenues because they are probable to be collected or refunded to market participants through future billings. The IESO has applied guidance from United States Generally Accepted Accounting Principles (US GAAP) Topic 980, *Regulated Operations*, in this policy.

#### e) Market accounts - assets and liabilities

The IESO records the market accounts assets, liabilities and amounts due to and from market participants held on behalf of the IESO-administered markets in its statements of financial position. The IESO-administered markets is a balancing system, and as such, the net position of market accounts will settle to a \$nil balance in accordance with market rules.

#### f) Tangible capital assets

Tangible capital assets are recorded at cost, which includes all amounts directly attributable to the acquisition, construction, development or betterment of the asset. The IESO capitalizes applicable interest as part of the cost of tangible capital assets.

#### g) Assets under construction

Assets under construction generally relates to the costs of physical facilities, hardware and software, and includes costs paid to vendors, internal and external labour, consultants and interest related to funds borrowed to finance the project. Costs relating to assets under construction are transferred to tangible capital assets when the asset under construction is deemed to be ready for use.

#### h) Amortization

The capital cost of tangible capital assets in service is amortized on a straight-line basis over their estimated service lives.

The estimated service lives in years, from the date the assets were acquired, are:

Class	Estimated Average Service Life 2016	Estimated Average Service Life 2015
Facilities	37	37
Market systems and applications	4 to 12	4 to 12
Infrastructure and other assets	4 to 10	4 to 7
Meter data management/repository	10	10

Gains and losses on sales or premature retirements of tangible capital assets are charged to operations.

The estimated service lives of tangible capital assets are subject to periodic review. The effects of changes in the estimated lives are amortized on a prospective basis. The most recent review was completed in fiscal 2016.

#### i) Pension, other post-employment benefits and compensated absences

The IESO's post-employment benefit programs include pension, group life insurance, health care, long-term disability and workers' compensation benefits.

The IESO accrues obligations under pension and other post-employment benefit (OPEB) plans and the related costs, net of plan assets. Pension and OPEB expenses and obligations are determined annually by independent actuaries using the projected benefit method and management's best estimate of expected return on plan assets, salary escalation, retirement ages of employees, mortality and expected health-care costs. The discount rate used to value liabilities is based on the expected rate of return on plan assets as at the measurement date of September 30.

The expected return on plan assets is based on management's long-term best estimate using a market-related value of plan assets. The market-related value of plan assets is determined using the average value of assets over three years as at the measurement date of September 30.

Pension and OPEB expenses are recorded during the year in which employees render services. Pension and OPEB expenses consist of current service costs, interest expense on liabilities, expected return on plan assets and the cost of plan amendments in the period. Actuarial gains/(losses) arise from, among other things, the difference between the actual rate of return on plan assets for a period and the expected long-term rate of return on plan assets for that period or from changes in actuarial assumptions used to determine the accrued benefit obligations. Actuarial gains/(losses) are amortized over the expected average remaining service life of the employees covered by the plan.

The expected average remaining service life of employees covered by the pension plans is 15 years (2015 – 15 years) and OPEB plan is 16.2 years (2015 – 14.7 years).

The IESO sick pay benefits accumulate but do not vest. The IESO accrues sick pay benefits based on the expectation of future utilization and records the accrual within accounts payable and accrued liabilities.

#### j) Foreign currency exchange

Transactions denominated in foreign currencies are translated into Canadian dollars at the rate of exchange prevailing on the date of the transaction. Items on the statement of financial position denominated in foreign currency are translated to Canadian dollars at the rate of exchange as of the financial statements date. The cumulative unrealized foreign currency exchange gains and losses of items continuing to be recognized on the statement of financial position are recorded in accumulated deficit as remeasurement gains and losses and shown in the statement of financial position and the statement of remeasurement gains and losses. Upon settlement of the item denominated in a foreign currency, the cumulative remeasurement gains and losses are reclassified to the statement of operations, and all other gains and losses associated with the disposition of the financial instrument are recorded in the statement of operations.

#### k) Use of estimates

The preparation of the financial statements in conformity with Canadian public sector accounting standards requires management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities and the disclosure of contingent assets and liabilities as at the date of the financial statements. The IESO's accounts that involve a greater degree of uncertainty include the carrying values of tangible capital assets, accrued pension liability and accrual for employee future benefits other than pensions. Actual results could differ from those estimates.

# 3. NEW ACCOUNTING POLICIES

As of January 1, 2016, the IESO changed its accounting policy regarding the recognition of assets and liabilities subject to rate regulation. The change was made to better reflect the economic substance of certain types of expenses that may not be directly recovered through the normal revenue requirement model. This change has been applied retroactively and has increased amounts previously unrecorded for regulatory assets and decreased amounts previously reported for accumulated deficit.

The IESO recognizes two regulated assets: 1) unrecovered smart metering expenses and 2) unrecovered PSAB transition items.

The smart metering expenses result from the IESO's role as the Smart Metering Entity. As such, the IESO funds its SME operating costs and capital investment in the meter data management/repository (MDM/R) through fees from users of smart meters in Ontario. The OEB approves the Smart Metering Entity charge and the charge is intended to cover the costs of developing and operating the MDM/R.

The unrecovered PSAB transition items result from the IESO's adoption of Canadian public sector accounting standards effective January 1, 2011. The adoption of PSAB was accounted for by retroactive application with restatement of prior periods subject to the requirements in Section PS 2125, *First-time Adoption by Government Organizations*. The corresponding change to pension and other post-employment benefits resulted in previously unrecognized actuarial losses and past service costs of \$80,617 thousand at the date of transition.

#### **Regulated assets consist of the following:**

As of December 31 (in thousands of Canadian dollars)	2016	2015
	\$	\$
Unrecovered smart metering expenses	21,623	40,849
Unrecovered PSAB transition items	43,441	47,353
Closing balance	65,064	88,202

In addition, as of January 1, 2016, the IESO changed its accounting policy regarding the recognition of market accounts assets and liabilities on the statement of financial position. The change was made to better reflect the assets and liabilities and amounts due to and from market participants held by the IESO on behalf of the IAM at year end. This change has been applied retroactively and has increased amounts previously unrecorded for market accounts assets and liabilities. There is no impact to the accumulated deficit or revenues and expenses as the IESO is not party to these transactions as per the market rules.

#### Components of the market accounts are as follows:

As of December 31 (in thousands of Canadian dollars)	2016	2015
	\$	\$
Cash, restricted for market activities	244,755	271,574
Amounts due from market participants	1,391,260	1,171,389
Interest receivable	186	158
Revolving line of credit	(150,501)	(12,739)
HST receivable	25,531	20,247
Amounts due to market participants	(1,392,643)	(1,380,086)
Other liabilities	(118,588)	(70,543)
Closing balance	-	-

## **Comparative figures**

A detailed reconciliation of the IESO's restated statement of financial position as at December 31, 2015, as follows:

As of (in thousands of Canadian dollars)	December 31, 2015	December 31, 2015	December 31, 2015
	(as reported)	adjustments	(as restated)
	\$	\$	\$
FINANCIAL ASSETS			
Cash and cash equivalents	14,715	-	14,715
Accounts receivable	33,199	-	33,199
Long-term investments	37,318	-	37,318
Regulated assets	-	88,202	88,202
Market accounts – assets	-	1,443,121	1,443,121
TOTAL FINANCIAL ASSETS	85,232	1,531,323	1,616,555
LIABILITIES			
Accounts payable and accrued liabilities	48,868	-	48,868
Accrued interest on debt	315	-	315
Rebates due to market participants	9,595	-	9,595
Debt	90,000	-	90,000
Accrued pension liability	36,062	-	36,062
Accrued liability for employee future benefits other than pension	84,501	-	84,501
Market accounts - liabilities	-	1,443,121	1,443,121
TOTAL LIABILITIES	269,341	1,443,121	1,712,462
NET DEBT	(184,109)	88,202	(95,907)
NON-FINANCIAL ASSETS			
Net tangible capital assets	103,716	-	103,716
Prepaid expenses	6,197	-	6,197
TOTAL NON-FINANCIAL ASSETS	109,913	-	109,913
ACCUMULATED SURPLUS/(DEFICIT)			
Accumulated surplus/(deficit) from operations	(81,854)	88,202	6,348
Accumulated remeasurement gains	7,658	-	7,658
ACCUMULATED SURPLUS/(DEFICIT)	(74,196)	88,202	14,006

A detailed reconciliation of the IESO's restated statement of operations for the year ended December 31, 2015, is as follows:

For the year ended (in thousands of Canadian dollars)	December 31, 2015	December 31, 2015	December 31, 2015
	(as reported) \$	adjustments \$	(as restated) \$
IESO CORE OPERATIONS			
System fees	190,099	(3,912)	186,187
Other revenue	5,377	-	5,377
Interest and investment income	1,430	-	1,430
Core operations revenues	196,906	(3,912)	192,994
Compensation and benefits	(104,994)	-	(104.994)
Professional and consulting	(21,461)	-	(21,461)
Operating and administration	(35,005)	-	(35,005)
Core operating expenses	(161,460)	-	(161,460)
Amortization	(17,933)	-	(17,933)
Interest	(1,610)	-	(1,610)
Core expenses	(181,003)	-	(181,003)
Core operations annual surplus before rebates	15,903	(3,912)	11,991
Rebates due to market participants	(9,595)	-	(9,595)
Core operations annual surplus	6,308	(3,912)	2,396
MARKET SANCTIONS AND PAYMENT ADJUSTMENTS			
Market sanctions and payment adjustment	6,021	-	6,021
Compensation and benefits	(3,094)	-	(3,094)
Professional and consulting	(1,351)	-	(1,351)
Operating and administrative	(114)	-	(114)
Customer education and market enforcement expenses	(4,559)	-	(4,559)
Market sanctions and payment adjustments annual surplus	1,462	-	1,462
SMART METERING ENTITY			
Smart metering charge	46,215	(20,030)	26,185
Compensation and benefits	(2,607)	-	(2,607)
Professional and consulting	(14,902)	-	(14,902)
Operating and administration	(4,200)	-	(4,200)
Smart metering operating expenses	(21,709)	-	(21,709)
Amortization	(3,524)	-	(3,524)
Interest	(952)	-	(952)
Smart metering expenses	(26,185)	-	(26,185)
Smart metering entity annual surplus	20,030	(20,030)	-
ANNUAL SURPLUS	27,800	(23,942)	3,858
ACCUMULATED SURPLUS/(DEFICIT) FROM OPERATIONS, BEGINNING OF PERIOD	(109,654)	112,144	2,490
ACCUMULATED SURPLUS/(DEFICIT) FROM OPERATIONS, END OF PERIOD	(81,854)	88,202	6,348

# 4. LONG-TERM INVESTMENTS

Long-term investments in a balanced portfolio of pooled funds are valued by the pooled funds manager based on published price quotations and amount to \$39,972 thousand (2015 – \$37,019 thousand). As at December 31, the market value allocation of these long-term investments was 62.3% equity securities and 37.7% debt securities (2015 – 56.0% and 44.0% respectively).

## Balanced portfolio of pooled funds

Closing balance	39,972	37,019
Change in fair value	286	1,372
Net purchase of investments	2,667	1,889
Opening balance	37,019	33,758
	\$	\$
As at December 31 (in thousands of Canadian dollars)	2016	2015

In addition to the balanced portfolio of pooled funds, the IESO has a long-term deposit with Canada Revenue Agency in the amount of \$383 thousand (2015 - \$299 thousand) pertaining to the Retirement Compensation Arrangements Trust (Note 7).

# 5. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

As at December 31 (in thousands of Canadian dollars)	2016	2015
	\$	\$
Relating to operations	35,630	43,125
Relating to tangible capital assets	3,333	5,743
Closing balance	38,963	48,868

# 6. REBATES DUE TO MARKET PARTICIPANTS AND ACCUMULATED SURPLUS

In 2016, the IESO recognized \$12,551 thousand in rebates due to market participants of system fees (2015 - \$9,595). As at December 31, 2016, rebates due to market participants were \$22,146 thousand, with the 2015 portion of \$9,595 thousand rebated in January 2017.

The IESO's approved regulatory deferral account balance has been historically maintained at a maximum of \$10.0 million. The 2016 approved regulatory deferral account balance at \$10.0 million was approved by the OEB on December 1, 2016.

Prior to 2014, unrealized gains and losses from portfolio investments and foreign exchange were included in the balance of the regulatory deferral account (life-to-date total \$4,144 thousand). As of January 1, 2014, only realized gains and losses are included in this balance.

As at December 31, the components of the accumulated surplus were as follows:

## **Accumulated Surplus**

Accumulated surplus – end of year	14,488	14,006
Remeasurement gains	3,762	3,514
Accumulated market sanctions and payment adjustments (b)	726	492
Regulatory deferral account (a)	10,000	10,000
	\$	\$
As at December 31 (in thousands of Canadian dollars)	2016	2015

#### a) Regulatory Deferral Account

As at December 31 (in thousands of Canadian dollars)	2016	2015
	\$	\$
Accumulated surplus - beginning of year	10,000	7,604
Revenues (before rebates due to market participants)	190,219	192,994
Rebates due to market participants	(12,551)	(9,595)
Core operation expenses	(177,668)	(181,003)
Accumulated surplus – end of year	10,000	10,000

#### b) Accumulated Market Sanctions and Payment Adjustments

Market sanctions and payment adjustments	3,889	6,021
Customer education and market enforcement expenses	(3,655)	(4,559)
Accumulated surplus/(deficit) - beginning of year	492	(970)
Market sanctions and payment adjustments	3,889	6,021
	\$	\$
As at December 31 (in thousands of Canadian dollars)	2016	2015

# 7. DEBT

## Note payable to Ontario Electricity Financial Corporation (OEFC)

In April 2014, the IESO entered into a three-year note payable with the OEFC. The note payable is unsecured, bears interest at a fixed rate of 2.046% per annum and is repayable in full on April 30, 2017. Interest accrues daily and is payable in arrears semi-annually in April and October of each year. As at December 31, 2016, the note payable to the OEFC was \$90.0 million (December 31, 2015 – \$90.0 million).

For the year ended December 31, 2016, the interest expense on the note payable was 1,841 thousand (2015 - 1,841 thousand).

## **Credit facility**

The IESO has an unsecured credit facility agreement with the OEFC, which will make available to the IESO an amount up to \$95.0 million. Advances are payable at a variable interest rate equal to the Province of Ontario's cost of borrowing for a 30-day term plus 0.50% per annum, with draws, repayments and interest payments due monthly. The credit facility expires April 30, 2017. As at December 31, 2016, no amount was drawn on the credit facility (December 31, 2015 – \$nil).

For the year ended December 31, 2016, the interest expense on the credit facility was \$nil (2015 - \$279 thousand).

## **Retirement Compensation Arrangements Trust**

In July 2013, the IESO established a Retirement Compensation Arrangements (RCA) Trust to provide security for the IESO's obligations under the terms of the supplemental employee retirement plan for its employees. As at December 31, 2016, the IESO has provided the RCA trustee with a bank letter of credit of \$30,466 thousand (2015 - \$28,408 thousand) the trustee can draw on if the IESO is in default under the terms of this plan.

# 8. POST-EMPLOYMENT BENEFIT PLANS

The IESO provides pension and other employee post-employment benefits, comprising group life insurance, long-term disability and group medical and dental plans, for the benefit of current and retired employees.

#### **Pension plans**

The IESO provides a contributory defined benefit, indexed, registered pension plan. In addition to the funded, registered pension plan, the IESO provides certain non-registered defined benefit pensions through an unfunded, indexed, non-registered plan.

#### Other employee future benefits

The group life insurance, long-term disability and group medical and dental benefits are provided through unfunded, non-registered defined benefit plans.

#### Summary of accrued benefit obligations and plan assets

(in thousands of Canadian dollars)	2016 Pension Benefits	2015 Pension Benefits	2016 Other Benefits	2015 Other Benefits
	\$	\$	\$	\$
Accrued benefit obligation	507,724	482,994	91,014	83,455
Fair value of plan assets	523,756	475,714	-	-
Funded status as of measurement date	16,032	(7,280)	(91,014)	(83,455)
Employer contribution/other benefits payments after measurement date	2,416	427	588	582
Unrecognized actuarial (gain)/loss	(53,068)	(29,209)	175	(1,628)
Accrued liability recognized in the statement offinancial position	(34,620)	(36,062)	(90,251)	(84,501)

#### **Registered pension plan assets**

As at the measurement date of September 30, the proportion of the fair value of registered pension plan assets held in each asset class was as follows:

	100.0%	100.0%
Forward foreign exchange contracts	(0.3%)	(1.3%)
Cash equivalents	0.4%	0.6%
Canadian debt securities	39.8%	39.0%
Foreign equity securities	39.9%	41.8%
Canadian equity securities	20.2%	19.9%
	2016	2015

Principal assumptions used to calculate benefit obligations at the end of the year are determined at that time and are as follows:

	2016 Pension Benefits	2015 Pension Benefits	2016 Other Benefits	2015 Other Benefits
Discount rate at the end of the period	5.75%	6.00%	5.75%	6.00%
Rate of compensation increase	3.50%	3.75%	3.50%	3.75%
Rate of indexing	2.00%	2.25%	2.00%	2.25%

The assumed prescription drug inflation was 8.00% for 2016, grading down to an ultimate rate 4.50% per year in 2030. Dental costs are assumed to increase by 4.00% per year.

Benefit costs and plan contributions for pension and other plans are summarized as follows:

(in thousands of Canadian dollars)	2016 Pension Benefits	2015 Pension Benefits	2016 Other Benefits	2015 Other Benefits
	\$	\$	\$	\$
Current service cost (employer)	11,117	10,547	3,107	2,857
Interest cost	29,292	28,143	5,120	4,797
Expected return on plan assets	(27,626)	(26,053)	-	-
Amortization of net actuarial loss	(1,173)	(667)	(100)	(753)
Benefit cost	11,610	11,970	8,127	6,901
(in thousands of Canadian dollars)	2016 Pension Benefits	2015 Pension Benefits	2016 Other Benefits	2015 Other Benefits
	\$	\$	\$	\$
Employer contribution/other benefit payments	13,052	12,851	2,377	2,314
Plan participants' contributions	5,811	5,162	-	-
Benefits paid	23,317	21,155	2,377	2,314

The most recent actuarial valuation of the registered pension plan for funding purposes was at January 1, 2014, and the next required valuation is to be effective January 1, 2017.

Principal assumptions used to calculate benefit costs for the year are determined at the beginning of the period and are as follows:

	2016 Pension Benefits	2015 Pension Benefits	2016 Other Benefits	2015 Other Benefits
Discount rate at the beginning of the period	6.00%	6.15%	6.00%	6.15%
Rate of compensation increase	3.75%	3.75%	3.75%	3.75%
Rate of indexing	2.25%	2.25%	2.25%	2.25%

# 9. TANGIBLE CAPITAL ASSETS

Net tangible capital assets consist of the following:

## **Tangible Capital Assets**

(in thousands of Canadian dollars)	As at December 31, 2015	Additions	Disposals	As at December 31, 2016
	\$	\$	\$	\$
Facilities	52,281	3,692	-	55,973
Market systems and applications	278,458	28,535	-	306,993
Infrastructure and other assets	60,180	3,175	-	63,355
Meter data management/repository	35,900	1,011	-	36,911
Total cost	426,819	36,413	-	463,232

## Accumulated Amortization

(in thousands of Canadian dollars)	As at December 31, 2015	Amortization Expense	Disposals	As at December 31, 2016
	\$	\$	\$	\$
Facilities	(22,604)	(1,697)	-	(24,301)
Market systems and applications	(251,210)	(12,336)	-	(263,546)
Infrastructure and other assets	(47,228)	(5,544)	-	(52,772)
Meter data management/repository	(25,329)	(3,861)	-	(29,190)
Total accumulated amortization	(346,371)	(23,438)	-	(369,809)

## **Net Book Value**

(in thousands of Canadian dollars)	As at December 31, 2015	As at December 31, 2016
	\$	\$
Facilities	29,677	31,672
Market systems and applications	27,248	43,447
Infrastructure and other assets	12,952	10,583
Meter data management/repository	10,571	7,721
Total net book value	80,448	93,423
Assets under construction	23,268	11,624
Net tangible capital assets	103,716	105,047

In 2016, there were no adjustments to management's estimates of remaining asset service lives (2015 – decrease of \$653 thousand).

Interest capitalized to assets under construction during 2016 was \$260 thousand (2015 - \$263 thousand).

# 10. OTHER REVENUE

In its administration of the IESO-administered markets, the IESO directs the investment of market funds in highly rated, short-term investments throughout the settlement cycle. The IESO is entitled to receive the investment interest and investment gains, net of investment losses earned on funds passing through the real-time market settlement accounts. The IESO is not entitled to the principal on real-time market investments.

The IESO recognized investment income earned in the market settlement accounts of \$2,508 thousand in 2016 (2015 - \$3,212 thousand).

# 11. RELATED PARTY TRANSACTIONS

The Province of Ontario is a related party as it is the controlling entity of the IESO. The OEFC, OEB, Hydro One and Ontario Power Generation Inc. (OPG) are related parties of the IESO, through the common control of the Province of Ontario. Transactions between these parties and the IESO were as follows:

The IESO holds a note payable and an unsecured credit facility agreement with the OEFC (Note 7). Interest payments made by the IESO in 2016 for the note payable were \$1,841 thousand (2015 - \$1,841 thousand) and for the credit facility were \$nil (2015 - \$328 thousand). As of December 31, 2016, the IESO had an accrued interest payable balance with the OEFC of \$315 thousand (2015 - \$315 thousand).

Under the Ontario Energy Board Act, 1998, the IESO incurs registration and license fees. The total of the transactions with the OEB was \$1,747 thousand in 2016 (2015 - \$1,671 thousand).

The IESO performed connection and bulk electric system exception assessments for Hydro One in 2016. In 2016, the IESO invoiced Hydro One \$610 thousand (2015 - \$310 thousand).

The IESO procures short circuit studies and protection impact assessments as part of connection assessments, approvals and meter services on IESO-owned interconnected revenue meters from Hydro One. Additionally, the IESO paid Hydro One for the removal of the microwave tower at the Clarkson location. In 2016, the IESO incurred costs of \$188 thousand (2015 - \$525 thousand) for these services. As of December 31, 2016, the IESO had a net payable balance with Hydro One of \$4 thousand (2015 - \$149 thousand).

The IESO performed connection assessment and approvals for OPG, administered telecommunication services to market participants to connect to the real-time market systems and provides market-related training courses. In 2016, OPG was invoiced \$124 thousand (2015 - \$137 thousand). As of December 31, 2016, the IESO had a net receivable balance with OPG of \$5 thousand (2015 - \$4 thousand).

# 12. FINANCIAL RISK MANAGEMENT

The IESO is exposed to financial risks in the normal course of its business operations, including market risks resulting from volatilities in equity, debt and foreign currency exchange markets, as well as credit risk and liquidity risk. The nature of the financial risks and the IESO's strategy for managing these risks have not changed significantly from the prior year.

#### a) Market Risk

Market risk refers to the risk that the fair value or future cash flows of a financial instrument will fluctuate to cause changes in market prices. The IESO is primarily exposed to three types of market risk: currency risk, interest rate risk and equity risk. The IESO monitors its exposure to market risk fluctuations and may use financial instruments to manage these risks as it considers appropriate. The IESO does not use derivative instruments for trading or speculative purposes.

#### i) Currency Risk

The IESO conducts certain transactions in U.S. dollars, primarily related to vendors' payments, and maintains a U.S. dollar-denominated bank account. From time to time, the IESO may utilize forward purchase contracts to purchase U.S. dollars for delivery at a specified date in the future at a fixed exchange rate. In addition, the IESO utilizes U.S. dollar spot rate purchases in order to satisfy any current accounts. As at December 31, 2016, the IESO did not have any outstanding forward purchase contracts.

#### ii) Interest Rate Risk

The IESO is exposed to movements or changes in interest rates primarily through its short-term variable rate credit facility, cash equivalents' securities and long-term investments. Long-term investments include investments in a pooled Canadian bond fund. The potential impact to the securities' value had the prevailing interest rates changed by 25 basis points, assuming a parallel shift in the yield curve with all other variables held constant, is estimated at \$0.6 million as at December 31, 2016 (2015 - \$0.6 million).

#### iii) Equity Risk

The IESO is exposed to changes in equity prices through its long-term investments. Long-term investments include investments in pooled equity funds. A 30% change in the valuation of equities as at December 31, 2016, would have resulted in a change for the year of approximately \$7.5 million (2015 - \$6.8 million). The fair values of all financial instruments measured at fair value are derived from quoted prices (unadjusted) in active markets for identical assets.

#### b) Credit Risk

Credit risk refers to the risk that one party to a financial instrument may cause a financial loss for the other party by failing to meet its obligations under the terms of the financial instrument. The IESO is exposed directly to credit risk related to cash equivalents' securities and accounts receivable, and indirectly through its exposure to the long-term investments in a Canadian bond pooled fund. The IESO manages credit risk associated with cash equivalents' securities through an approved management policy that limits investments to primarily investment-grade investments with counterparty-specific limits. The accounts receivable balance as at December 31, 2016, included no material items past due and substantially all of the balance was collected within 30 days from December 31, 2016. The long-term Canadian bond pooled fund is comprised of primarily investment-grade securities.

#### c) Liquidity Risk

Liquidity risk refers to the risk that the IESO will encounter financial difficulty in meeting obligations associated with its financial liabilities when due. The IESO manages liquidity risk by forecasting cash flows to identify cash flows and financing requirements. Cash flows from operations, short-term investments, long-term investments and maintaining appropriate credit facilities help to reduce liquidity risk. The IESO's long-term investments are normally able to be redeemed within three business days; however, the investment manager of the pooled funds has the authority to require a redemption in-kind rather than cash and has the ability to suspend redemptions if deemed necessary.

## 13. COMMITMENTS

### **Operating commitments**

The obligations of the IESO with respect to non-cancellable operating leases over the next four years are as follows:

As at December 31 (thousands of Canadian dollars)

	\$
2017	5,489
2018	5,004
2019	3,919
2020	3,195

## 14. CONTINGENCIES

The IESO is subject to various claims, legal actions and investigations that arise in the normal course of business. While the final outcome of such matters cannot be predicted with certainty, management believes that the resolution of such claims, actions and investigations will not have a material impact on the IESO's financial position or results of operations.

## **15. COMPARATIVE FIGURES**

Certain comparative figures have been reclassified to conform with the financial statement presentation adopted in 2016.

# Executive Compensation at the IESO

## **Program Objectives**

The IESO compensation program for executives was designed to attract, retain and motivate the calibre of executives required to support the achievement of the IESO's statutory mandate, business objectives and corporate vision. Accordingly, the compensation philosophy and programs were built on the following objectives:

- to focus executives on meeting the IESO's business objectives
- to attract and retain qualified and talented staff needed to carry out the IESO's mandate
- to have the flexibility to reward results and demonstrated competencies
- to have compensation levels that are appropriate and defensible to stakeholders and customers.

The philosophy underlying these objectives is that total compensation for executives should be adequate enough to attract and retain the skills and competencies necessary to carry out the IESO's mandate.

#### **Program Governance**

The IESO Board establishes the compensation objectives for the following year's program. They delegate the responsibility to thoroughly review the compensation objectives, policies and programs to the Human Resources and Governance Committee (HRGC) of the Board, which make recommendations to the full Board for approval.

The Board is comprised of 10 independent, external Board members, appointed by the Minister of Energy, with broad experience in the electricity industry and public sector organizations, and the President and Chief Executive Officer of the IESO. Their experience includes many years of dealing with human resource matters including the setting and implementation of compensation policies and programs.

In carrying out their mandate, the Board members have access to management's analysis and recommendations as well as those of expert consultants in the compensation field. These programs are reviewed annually with regard to business needs, program objectives and design, industry compensation trends, internal compensation relativities and external market relativities.

The Board also assesses risks associated with the establishment and implementation of compensation policies and programs. Annually the Board presides over and approves the IESO's business plan. An important component of this process is consideration of, and the implementation of, mitigating actions associated with enterprise risk management. This latter overarching process includes the assessment of all significant risks to the IESO, including risks associated with its compensation policies and programs.

In addition to the formal governance and oversight structure in place for compensation matters, the IESO discloses compensation levels annually for staff earning \$100,000 or more as part of its public sector salary disclosure. For the IESO, a further level of public review and assurance is provided through a statutorily required annual review of the IESO's expenditures, revenue requirements and fees. Information related to compensation matters, including executive/management compensation and market relativities, is subject to the Ontario Energy Board review. A range of small and large consumers, assisted by their legal and professional advisors, are represented in these public proceedings.

### **Market Comparisons**

The IESO reviews the competitiveness of the executive compensation levels in relation to a peer group of Canadian organizations and general industry companies every other year at a minimum. The objective is to compare IESO executive compensation levels to those in the marketplace particularly in relation to the median of the market.

Prior to the amalgamation of the IESO with the OPA, the Ministry of Energy had retained the Hay Group, a global management consulting firm, to evaluate and market price the CEO position for the new organization. Following Mr. Campbell's appointment to the CEO position on January 1, 2015, the decision was made to adopt a similar approach to evaluate and market price all other executive roles using the Hay point system.

As part of this process, the comparator group was redefined consistent with the recommendations of the Agency Review Panel (the Arnett report) and is comprised of 13 public sector and 11 private sector organizations, with the comparator data weighted on a 50/50 public/private sector basis. The comparator group represents a range of industries, core business activities and roles that are similar to IESO: electricity, energy, asset management, financial services, infrastructure procurement, engineering and large-scale, complex IT functions. The list of organizations can be viewed in the 2015 Annual Report.

The Broader Public Sector Executive Compensation Framework regulation (O. Reg 304/16) came into force in 2016 for implementation in 2017. The IESO's executive compensation program will be reviewed in accordance with this regulation and made available on the IESO's website by September 2017.

The job evaluation was independently conducted by the Hay Group using its point system and the following executive positions were covered by this review:

- President & CEO
- VP Corporate Services & CFO
- VP Market & Resource Development
- VP Market & System Operations & COO
- VP Conservation & Corporate Relations
- VP Information and Technology Services and CIO
- VP Planning, Law & Aboriginal Relations.

The Hay Group evaluated the Vice-President positions based on the job documents and additional information gathered from the CEO. Based on the evaluation points, a new salary structure was developed. The executive positions were then mapped into the new structure based upon their evaluated points.

Using the market information from the above peer group, the mid-point of the range of points for each executive salary grade was determined as the market price point for comparison purposes.

The mid-points of the new salary ranges were defined as the total direct cash compensation (annual base salaries plus annual short-term and long-term target incentive awards) of the hybrid market's price point at the 50th percentile for each salary grade.

The minimums and maximums of each salary range were calculated using typical salary range spreads at executive levels. In accordance with the *Broader Public Sector Accountability Act* (2010), executive compensation rates have remained the same in 2016 and will be reviewed against the Executive Compensation Framework regulation in 2017.

### **Program Description**

The IESO program includes fixed and variable compensation, core and flex benefit plans, and pension provisions. IESO Human Resources staff participate in and review results from various compensation surveys and monitor economic trends, such as inflation and unemployment rates, which impact on compensation, as well as internal compensation relativities. Based on this data and the IESO business priorities, Human Resources staff develop recommendations on compensation programs. External specialized compensation, benefit and pension consultants are utilized to ensure accurate, representative market compensation data is obtained, that current industry compensation trends are being utilized, as well as provide insight and recommended adjustments to current programs.

#### **Program Description - Fixed Compensation**

Within the IESO salary ranges, individuals are assessed relative to an established competency model. This model consists of behavioural competencies such as strategic agility, building effective teams, command skills, sizing up people, political savvy and managing vision and purpose. Assessments are based upon demonstrated competency. Each individual is awarded a fixed compensation level within his or her band based upon his or her assessed competency.

## Program Description - Variable Compensation

In order to promote a results orientation in the executive team, the variable pay plan forms part of the total compensation of executives. The IESO Board annually establishes a robust set of performance measures, which are evaluated each year.

The IESO Board assesses the corporate performance results and the CEO's individual performance results. Under the plan, having assessed the results against target, the Board has the ability to use some discretion in determining the final performance rating – however in the past, apart from one occasion, the Board has relied upon the directly assessed results to award variable compensation.

The variable compensation award for the CEO and Vice-Presidents is capped at 10% of fixed compensation. The plan provides for awards below the capped amount depending on the performance results achieved. The 2016 annual award was paid on December 30, 2016.

#### **Program Description - Group Benefits**

The group benefit plan provides a core level of health and dental benefits, life insurance, disability coverage and vacation, which can be adjusted by individual executives through a flexible component within the plan. The flexible element provides executives the option of adjusting their benefits to meet their individual/family needs, including vacation above core amounts, levels of life insurance, health coverage and other components.

#### **Program Description - Pension Plan**

A defined benefit pension plan provides annual retirement income calculated as 2% of pensionable earnings during the highest paid 60 consecutive months of service multiplied by years of service (36 months for the pension earned prior to January 1, 2017, by the former IESO executives), to a maximum of 35 years. The pension formula is integrated with the Canada Pension Plan (CPP) to provide a level income stream before and after age 65, when the IESO pension is reduced to reflect benefits from CPP. The plan also has early retirement provisions as well as commuted value, pension deferral and reciprocal transfer options.

The plan provides a maximum benefit of 70% of highest paid, pre-retirement pensionable earnings. As the Canadian Revenue Agency limits the amount of pension payable from a registered plan, the IESO has a secured supplemental employee retirement plan to provide required pension income to meet the commitments of the plan above that payable from the registered plan.

The plan also provides several options including member's life only or joint and survivor pensions, as well as pre-retirement death benefits to provide benefits to surviving spouses or beneficiaries.

## Performance Measures & Impact on Compensation

The IESO annually establishes corporate performance measures relating to its business priorities during the business planning process. These are approved, monitored and assessed by the IESO Board of Directors each year. Individual performance measures supporting one or more corporate performance measures are also developed for each executive. As outlined above, the corporate results achieved each year impact on each executive's variable pay.

For 2016, the Board assessed the corporate results and determined that the IESO met all expectations. In addition to the corporate measures, each executive also had an individual set of measures and targets for the year, which aligned with the corporate performance objectives and IESO's business priorities, and these were similarly assessed. The Board assessed the results of the CEO's performance and the CEO assessed the performance of the Vice-Presidents, which were also reviewed with the Board.

## **Other Considerations**

Compensation decisions may at times be impacted by market factors – such as the recruitment of an executive with specialized skills/competencies or possessing unique talents within the industry. To this end, individual incumbent arrangements are sometimes established relating to terms of employment and the possibility of future termination.

The VP Market & Systems Operations and COO retired in December 2016 and was replaced by an internal senior-level employee after a thorough internal and external search was completed.

### **Compensation Restraints**

The IESO executive compensation has been significantly impacted by the compensation restraint legislation in Ontario since 2010. The *Broader Public Sector Accountability Act* (BPSAA) imposes a general freeze on designated executives' salary, variable pay, benefits and perquisites subject to very limited exceptions.

Following the amalgamation of the two former organizations (IESO and OPA) on January 1, 2015, the total 2015 variable performance pay amount awarded to all employees and office holders became the cap for total variable performance pay to be paid out in future years as long as the BPSAA remains in effect. The total variable compensation paid in 2016 was within this maximum.

#### **Executive Compensation Structure Alignment**

With the appointment on January 1, 2015, of Mr. Campbell as the CEO of the merged organization, the IESO aligned the compensation plan for its Vice-Presidents with the structure established for the new CEO. Accordingly, in both cases, the variable pay component was capped at 10% of fixed compensation with no deferral. There were no salary adjustments for executives in 2016.

The figures reported as 2016 "Salary Paid" in the 2016 Public Sector Salary Disclosure for the executives include the 2016 earned variable compensation that was paid on December 30, 2016.

### **Executive Compensation Statement**

The table below details the annual compensation for the year ended December 30, 2016, for the executives listed.

### 2016 Summary Compensation Table

Name & Position	Base Salary	Variable Pay <sup>1</sup>	Other Annual Compensation <sup>2</sup>	Total Cash Compensation <sup>3</sup>
Bruce Campbell				
President & CEO	\$536,364	\$53,636	\$32,527	\$622,527
Kimberly Marshall				
VP Corporate Services & CFO	\$268,460	\$13,423	\$5,305	\$287,188
JoAnne Butler				
VP Market & Resource Development	\$339,968	\$30,600	\$1,037	\$371,605
Kim Warren (retired Dec. 31, 2016)				
VP Market & System Operations & COO	\$319,228	\$30,330	\$15,893	\$365,451
Terence Young				
VP Conservation & Corporate Relations	\$307,037	\$29,170	\$22,065	\$358,272

1. 2016 earned variable compensation was paid in December 2016

2. Represents remaining flex credits paid out at year end as taxable income

3. These amounts will be reported as "Salary Paid" under the Annual Public Sector Salary Disclosure

#### Independent Electricity System Operator 1600-120 Adelaide Street West Toronto, ON M5H 1T1

Phone: 905.403.6900 Toll-free: 1.888.448.7777 Email: customer.relations@ieso.ca

✓ @IESO\_Tweets
✓ 0ntarioIESO

in linkedin.com/company/ieso

ieso.ca





Via Email

August 24, 2017

Kathleen Wynne, Premier Legislative Building, Queen's Park Toronto ON M7A 1A1

## Re: Ontario's Wildlife Damage Compensation Program

Dear Premier Wynne,

At its meeting on August 9, 2017 the Council of the Township of Oro-Medonte adopted the following motion pertaining to the Ontario Ministry of Agriculture, Food and Rural Affairs, Ontario's Wildlife Damage Compensation Program:

"Be it resolved

1. That the Ontario's Wildlife Damage Compensation Program Guide from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and presented by Councillor Jermey be received.

2. And Whereas Council of the Township of Oro-Medonte recognizes that The Ontario Wildlife Damage Compensation Program (OWDCP) provides compensation to eligible producers whose livestock and/or poultry have been injured or killed as a result of wildlife predation or whose bee colonies, beehives and/or beehive-related equipment has been damaged as a result of wildlife predation.

3. And Whereas livestock producers are passionate about caring for their animals, creating a sustainable environment for future generations and providing high-quality livestock to represent the industry.

4. And Whereas the Municipal Investigators are appointed by the Municipality to conduct a thorough investigation ensuring that all relevant evidence is documented.

5. Now therefore be it resolved that the Township of Oro-Medonte respectfully requests that the Province:

a) expand the OWDCP to include evidence of partial carcass' to allow eligible producers to process legitimate claims; and



b) rely more heavily on the opinions of the Municipal Investigator, as they are experienced, familiar and knowledgeable with the Municipality's producers, as they continue to process genuine and valid applications.

6. And That correspondence be forwarded, under the Mayor's signature, to the Premier, the Ministry of Agriculture, Food and Rural Affairs, the Ontario Sheep Marketing Agency, the Beef Farmers of Ontario and Ontario municipalities requesting their support."

We respectfully request your consideration and support of Council's resolution of this matter and thank you in advance for your time.

Sincerely,

ughes

Mayor Harry Hughes /so

Cc: Hon. Jeff Leal, Minister of Agriculture, Food and Rural Affairs Jennifer MacTavish, General Manager, Ontario Sheep Marketing Agency Beef Farmers of Ontario Ontario Municipalities Township of Oro-Medonte Council

148 Line 7 South
Oro-Medonte, ON LOL 2E0

**P:** (705) 487-2171 **F:** (705) 487-01**3**87

www.oro-medonte.ca

## **Opportunity to Participate in Research on Home Care: Your Help is Needed!**

Justine Giosa is a PhD student at the University of Waterloo who is researching ways to improve care planning in Ontario home care. She is looking for individuals age 65+ who are receiving health care services at home AND/OR their family members/friends who support them to participate in a 30-60 minute interview about their experiences. Participants will receive a \$25 visa gift card. Please call Justine @ 519 888 4567 ext 33160 or email jgiosa@uwaterloo.ca

**October Leaf Clean up** – for seniors in North Wellington – please call for details at 519.638.1000 **\*New programs coming in September!** 

\*Arthur Writers Group Thursday, September 7th @ 6 p.m. Arthur Public Library, lower level; Doris Cassan will facilitate this writing group that will meet the first Thursday of the month. If you like to write fiction, short stories, poems or memoirs, this is the group for you. Please email <u>Arthur.writers@outlook.com</u> or Doris at 519.848.2019 for more information or to register

\*Gentle Yoga Monday September 18<sup>th</sup> @10 a.m. Palmerston United Church 8 week session; - Join local instructor Kerry Ammerman as she leads you through some gentle stretching that may increase your range of motion and overall strength. Please register - 519.638.1000 as space is limited. Cost per class \$5. \*Silver Mats starting Thursday September 21<sup>st</sup> 10:15-11:15 Drayton Masonic Lodge Gentle yoga for those 50+ this low and gentle yoga will promote flexibility and strength. 10 sessions \$100 call Kristina at 519.400.9755 or email to Kristina at kristina@getmovingfitness.ca 10 people needed to run the session. Care Partner Support Group: For family (and Friends) of people living with Alzheimer's disease and other dementias Tuesday Sept 5<sup>th</sup> @ 10 a.m. Via Telemedicine –Please register 519 742 1422 ext. 2090 Limited space available

**Living with Loss: Wednesday, Sept 6<sup>th</sup> @ 7 p.m. Birmingham Retirement Community, Mount Forest @ 7-9 p.m**. This free peer-support group is for adults grieving the death of a loved one, meetings will be held on the first Wednesday evening of each month. Come and connect with other people who are grieving, have an opportunity to share your thoughts and feelings and hear new perspectives and coping strategies. Registration is suggested but not required. For more information please call 519.603.0196.

**Tastes for Life: Thursday September 7<sup>th</sup> @ 11a.m. Mount Forest Pentecostal Church@ 11-1**–this cooking program offers an opportunity to try different recipes, with ingredients you may have not cooked with before. Held the second Thursday of each month, has a different theme, with a healthy twist, facilitated by Mount Forest Family Health Team dietitian, Gwen Simms .Please call 519.323.0255 ext.5085 to register FREE Art Workshop: Wednesday, September 13<sup>th</sup> @ 2:00p.m. Harriston Library- Donna Hirtle will bring out your artistic flair by working with pastels. \$5 per person. Please call 519 638 0888 to register.

Better Sleep Workshop Tuesday, Sept 19<sup>th</sup> @ 6:30 p.m. at Minto Rural Health Centre – Please register 519 638 2110 or 519 323 0255 space is limited.

Cards and Games Afternoon <u>Wednesday</u>, September 20<sup>th</sup> CRNA building Palmerston @ 2p.m. -Cost is \$2 all playing abilities are invited. – Note: change–now 3<sup>rd</sup> Wednesday of the month Asthma Education Wednesday, September 20<sup>th</sup> 1:15 please register 519 638 2110 or 519 323 0255 Euchre; every third Friday, Drayton Legion @ 7:30 p.m. – Cost is \$5 everyone welcome!

Art Workshop Wednesday, September 20<sup>th</sup> Palmerston Library @2 p.m. - Donna Hirtle will bring out your artistic flair by working with pastels. Cost is \$5 please call to register at 519.638.0888

**Friendship Circle; each Tuesday Mount Forest Pentecostal Church 10:30-11:30 a.m.** -this coffee group takes place each Tuesday morning @ 259 Fergus Street South. A great venue to learn about other community events and health programs available in Mount Forest and surrounding area.

**Friendship Circle Wednesday September 27<sup>th</sup> Palmerston United Church 10-11 a.m.** - the coffee and the conversation flow with this group. This friendly group welcomes anyone who is interested in chatting while enjoying a cup of hot coffee or tea and a delicious cookie or two.

## CONGREGATE DINING PROGRAMS 12:00pm - 2:00pm

People of all faiths welcome! Presentations are free and begin at 12:30pm; if you would like to stay for lunch the cost is \$12. Please register by calling 519-638-1000 or toll free 1-866-446-4546

**Friday, September 8th 12 p.m. Drayton Reformed Church; "More Than Just Books**"-Have you visited your local library lately? Did you know that libraries have more to offer than just signing out books? Learn about monthly programs and specialty workshops available in your community; all free of charge.

**Wednesday, September 13th 12 p.m. Palmerston United Church; "Navigating Homecare"** –Right at Home Canada will join us to discuss the changing face of home care in Ontario, the Health Ministers "Patients First Strategy" and how to navigate the current health care system.

**Friday, September 15th 12 p.m. Clifford United Church ; "Dulcet Tones"** Paul Haslem CMP will share his musical talents and his experiences providing live therapeutic acoustic music to people in long term care facilities and those on palliative care.

**NEW**\*\***Friday, September 22<sup>nd</sup> 12 p.m. Moorefield United Church "My Trip to Churchill Manitoba"** Join Kay as she shares her experiences during her trip to Churchill, Manitoba. Travelling in a float plane to fighting off mammoth sized bugs to close encounters with Polar Bears, this interesting presentation is sure to entertain.

Wednesday, September 27th 12 p.m. Harriston Legion; "Out of Africa" Local author, Donna Michalek, will discuss her children's book, based on her experiences travelling to Africa, the impact the journey has had on her life and her desire to highlight the benefits of child sponsorship. Her book will be available for purchase. Thursday, September 28th 12 p.m. Arthur United Church. "History of the Railroads" Kyle Smith, from the Wellington County Museum & Archives, will share the history of the railroads in Wellington County, including photos from the area. A must for those who enjoy reminiscing about days gone by.

Do you need information about the services available to support you in your home? Please call us at 519.638.1000, Toll Free 1-866.446.4546 – we'd be happy to help!

Mon	Tue	Wed	Thu	Fri
September 2017 Ontario Meterio Meditento Aced Meterio Meditento Aced Meterio Meditento Meterio Meterio Aced Meterio Meterio Aced	SENIORS' CENTRE for EXCELLENCE If you would like this e-mailed or mailed to you directly please call 519 638 1000	DRC Drayton Reformed Church PUC Palmerston United Church CNRA Palmerston CNRA Building CUC Clifford United Church MFPC Mt Forest Pentecostal Church ASH Arthur Seniors Hall VON SMART 392 Main St N Mt Forest BHR Birmingham Retirement Community Mt For- est	Coming in October Leaf cleanup for seniors living in North Wellington. Please call 519 638 1000 or email cieropoli@mapleton.ca for details and to register.	1 9:00 Palmerston Walking Group - Arena 9:00 Harriston Walking - Arena 9:00 Drayton Walking - PMD 9:00 SMART Exercise - Palmer- ston United Church 9:30 SMART Exercise - DRC 10:00 SMART Exercise - PUC
4	5 Good Food Box Payment Date 9:00 SMART Exercise - PUC 9:00 Drayton Walking -PMD Arena 9:00 Arthur Exercise- ASH 10:00 SMART Exercise - PUC 10:15 Book Club- Palmerston Library 10:00 Care Partner Support Group Alzheimer Society 11:00 Harriston Exercise-KCPC 10:30 Friendship Circle -MFPC	6_9:00 Palmerston Walking Arena 9:00 Harriston Walking - Arena 9:00 SMART Exercises - CUC 9:30 SMART Exercises - DRC 1:00 Games Afternoon - Mount Forest & District Sports Complex 2:00 Hooks & Needles - Arthur Library 7:00 Bereavement Group- Birming- ham Retirement Community	Z 9:00 Palmerston Walking-Arena 9:00 Arthur Exercise-ASH 9:00 Drayton Walking –PMD 10:00 Coffee Morning-Clifford Hall 11:00 Exercises-Knox Harriston 11:00 Tastes for Life –MFPC 3:15 SMART Exercises—Mt. Forest 6:00 Writing Group*NEW* Arthur Library	<ul> <li>9:00 Palmerston Walking - Arena</li> <li>9:00 Drayton Walking - Arena</li> <li>9:00 Drayton Walking - PMD Arena</li> <li>9:00 SMART Exercise - PUC</li> <li>9:30 SMART Exercise - DRC</li> <li>10:00 SMART Exercise - PUC</li> <li>2:00 Drayton Dining: "More Than Just Books" Drayton Library</li> <li>2:30 Carnegie Café-Harriston Library</li> <li>Libraries Past, present and future</li> </ul>
11 9:00 Palm Walking Arena 9:00 Harriston Arena—Walking 9:00 SMART Exercises—CUC 9:00 Euchre—Drayton United Church 9:30 SMART Exercise—DRC 1:00 Social Bridge— Mount Forest Legion 1:30 Euchre Harriston Senior	12 Good Food Box Drop-Off Date 9:00 SMART Exercise - PUC 9:00 Drayton Walking -PMD Arena 9:00 Arthur Exercise-ASH 10:00 SMART Exercise - PUC 10:15 Book Club- Palmerston Public Library 10:30 Friendship Circle - MFPC 11:00 Harriston Exercise-KCPC	13 9:00 Palmerston Walking – Arena 9:00 Harriston Walking - Arena 9:00 SMART Exercises - CUC 9:30 SMART Exercises - DRC 12:00 Palmerston Dining - "Navigating Home Care" 1:00 Games Afternoon - Mt Forest DSP 2:00 Art Workshop– Harriston Li-	14 9:00 Palmerston Walking- Arena 9:00 Arthur Exercise-ASH 9:00 Drayton Walking –PMD 10:00 Coffee Morning-Clifford Hall 11:00 Harriston Exercise-KCPC 3:15 SMART Exercises—VON Mt	15_9:00 Palm Walking—Arena 9:00 Harriston Walking - Arena 9:00 Drayton Walking - PMD 9:00 SMART Exercise - PUC 9:30 SMART Exercise - PUC 10:00 SMART Exercise - PUC 12:00 Clifford Dining—"Dulcet Tones"—Join Paul Haslem as he provides live acoustic music
18 9:00 Palm Walking - Arena 9:00 Harriston Arena-Walking 9:00 SMART Exercises-CUC 9:00 Euchre-Drayton United Church 9:30 SMART Exercise-DRC 10:00 Yoga -Palmerston United Church-NEW-for 8 weeks	19 9:00 SMART Exercise - PUC 9:00 Drayton Walking - PMD 10:00 SMART Exercise - PUC 10:00 Friendship Circle-MFPC 11:00 Harriston Exercise-KCPC 3:15 SMART Exercises-WON Mt Forest 6:30 Better Sleep please register 519 .638 .2110	20_9:00 Palmerston Walking –Arena 9:00 Harriston Walking - Arena 9:00 SMART Exercises - CUC 9:30 SMART Exercises - DRC 1:15 Asthma Education call 5196382110 1:00 Games Afternoon - Mt Forest DSP 2:00 Cards & Games \$2 CNRA	21 9:00 Palmerston Walking-Arena 9:00 Arthur Exercise-ASH 9:00 Drayton Walking –PMD 10:00 Coffee Morning-Clifford Hall 10:15– Silver Mats– Yoga Drayton 11:00 Harriston Exercise-KCPC 3:15 SMART Exercises VON Mt Forest	22 9:00 Palm Walking—Arena 9:00 Harriston Walking - Arena 9:00 Drayton Walking - PMD 9:00 SMART Exercise - PUC 9:30 SMART Exercise - DRC 10:00 SMART Exercise - PUC 12:00 Moorefield Dining—"My Trip to Churchill, Manitoba"- Kay
25 9:00 Palm Walking - Arena 9:00 Harriston Arena—Walking 9:00 SMART Exercise—CUC 9:00 Euchre—Drayton United 9:30 SMART Exercise—DRC 10:00 Yoga - Palmerston United Church Registration Required 2:00 Carnegie Café: Drayton Backroads of Ontario-register pls.	26 9:00 SMART Exercise - PUC 9:00 Drayton WalkingPND Arena 9:00 Arthur Exercise-ASH 10:00 SMART Exercise PUC 10:15 Book Club- Palmerston Library 10:30 Friendship CircleMount Forest Pente- costal Church 11:00 Harriston Exercise-KCPC 3:15 SMART ExercisesKCPC 3:15 SMART ExercisesVON Mt Forest 7:00 PickleballHarriston Arena \$2	27_9:00 Palmerston Walking -Arena 9:00 Harriston Walking - Arena 9:00 SMART Exercises - CUC 9:30 SMART Exercises - DRC 1:00 Games Afternoon - Mt Forest DSP 10:00 Friendship Circle—PUC 12:00 Harriston Dining :Author Don- na Michalek "Out of Africa" 2:00 Carnegie Café—Learn the Ukele—	28 9:00 Palmerston Walking-Arena 9:00 Arthur Exercise-ASH 9:00 Drayton Walking –PMD 10:00 Coffee Morning-Clifford Hall 10:15 Silver Mats-Yoga Drayton 11:00 Harriston Exercise-KCPC 12:00 Arthur Dining: "History of the Railroads". Wellington Museum 3:15 SMART Exercises VON Mt Forest	29_9:00 Palmerston Walking Arena 9:00 Harriston Walking - PMD 9:00 Drayton Walking - PMD 9:00 SMART Exercise - Palmerston United Church 9:30 SMART Exercise - Drayton Re- formed Church 10:00 SMART Exercise - PUC 3:00 Ancestory Genealogy—Clifford Public Library— please register



SEPTEMBER 2017

CLIFFORD RECREATION ASSOCIATION (CRA) NEWSLETTER

# UPCOMING EVENTS...

<u>SEP 7:</u> HOMECOMING APPRECIATION NIGHT, Community Centre, 6-9 pm

SEP 13: MASS REGISTRATION, Community Centre, 6:30-7:30 pm

SEP 22: CRA FALL GRANTS DUE, 12 noon

SEP 18: EUCHRE & SOLO, Community Centre, 7:30 pm

SEP 19: CRA OCTOBER NEWSLETTER DEADLINE

<u>SEP 26:</u> HORTICULTURAL MEETING, Community Centre, 7:30 pm

SEP 29-OCT 1: MINTO CULTURE DAYS, various venues in Minto

# grassroots Hockey program

**Clifford Arena** 

October 15th to March 4th

• 18 weeks • Sunday Afternoons •

This grassroots hockey program is geared toward children **between 5 and 14 years of age** who have not played hockey but have basic skating skills. All of the basics from learning how to skate and how to pass and shoot the puck will be covered.



PRICE:

\$100

All players are <u>required</u> to wear full equipment. Interested in helping coach? Please contact us.

To register or for more info: (519) 338-2511 or matt@town.minto.on.ca

## **Clifford Recreation Association**

# 2017 FALL GRANTS

Any group that is interested in applying for a CRA 2017 Fall Grant, please contact the following for applications or more information...

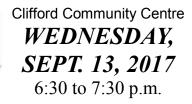
Randy Ruetz 519-510-9787 randy@ruetz.ca OR Karen Dowler 519-327-8308 dowler@wightman.ca

CRA 2016 Fall Grant applications are **due Sept. 22, 2017** 55 Elora Street, **12 noon SHARP** (failure to meet this deadline will nullify your Grant application).



Mass Registration for.

- Clifford Skating Club
- Palmerston Junior Broomball
  - GrassRoots Hockey Program



# **EUCHRE** or SOLO



\$3.00/evening \* Lunch Provided

**7:30 p.m.** Clifford Community Hall (small room) Starting September 18 — then every two weeks until May.



OCTOBER 2017 CRA Newsletter Deadline is Tuesday, SEPT. 19, randy@ruetz.ca

For more information, please contact Vic Palmer at 519 327 8142

Please include complete information: event name, date, time and contact information.



BEDTIME STORIES (all ages) Wed. Sept. 6, 13, 20, 6:30-7:00 pm

**CULTURE DAYS—STORYBOOK ART DROP-IN** (all ages) Fri., Sept. 29 and Sat., Sept 30 during Branch hours.

CARNEGIE CAFÉ (adults) Wed., Sept. 13, 2:00-3:30 pm

CRI-CUT CREATIONS (adult) Wed., Sept. 6, 2:00-3:00 pm

MAGICIAN SCOTT DIETRICH (all ages) Fri., Aug. 4, 2-3 pm

EVENING BOOK CLUB (adult) Sept. 14, 6:45-8 pm, discussing "The Aviator's Wife" by Melanie Benjamin.

TWEEN CLUB (preteen) Wed., Sept. 27, 6:45-7:30 pm

For more information about Wellington County Library programmes, please call the Clifford Branch (519) 327-8328 or visit www.wellington.ca/library

# Clifford MEALS on WHEELS



are available weekly, Mondays, Wednesdays and Fridays to Clifford seniors who want/need meals. Contact **Ross Derbecker** for details **519 327 8967** 

#### CULTUREdays MINTO WEEKEND 2017 create participate share

Friday, Sept. 29: Genealogy Workshop, Clifford Library, Clifford Saturday, Sept. 30: Music & Picnic In the Park featuring Juanita Wilkins, Cenotaph Park, Clifford

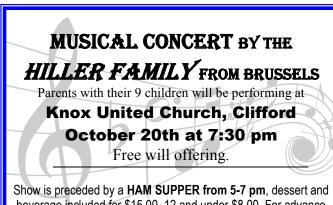
<u>All Weekend:</u> Studio Tour featuring Susan Cowtan, Wesley Bates Studio, Clifford

 Visit treasuresofminto.ca for more information on...
 Native Drumming Workshop; Filipino Fest; Bonfire Stories/
 Singing/Astronomy Event; Museum Scavenger Hunt; etc. happening throughout Minto!



a bag lunch and come out for part, or all, of the day. Instructions are available for those who would like them. It is very easy to learn to tie quilts and help others at the same time. Sharon Kaufman is hostess for the day and can be contacted at (519) 327 8961 for more information.

New members welcome!



Show is preceded by a **HAM SUPPER from 5-7 pm**, dessert and beverage included for \$15.00, 12 and under \$8.00. For advance dinner tickets, call (519) 327 8362 or pick up at Leonard's Place. Deadline for dinner tickets, Oct. 15, limited number available.



TOWN OF MINTODATE:August 28, 2017REPORT TO:Mayor and CouncilFROM:Linda Dickson Emergency Manager CEMCSUBJECT:After Action Report, June 23 Flood Event

## STRATEGIC PLAN:

6.0 Protect the health and safety of the community and citizens, business and the environment, by supporting a quality Volunteer Fire Department, emergency preparedness, and access to health care, prevention and wellness opportunities.

## **BACKGROUND:**

The Town of Minto experienced a significant rainfall event during the early morning hours of June 23, 2017. The rainfall resulted in widespread flooding throughout Minto with the largest impact being on 168 properties in Harriston. A declaration of an emergency was made by Mayor Bridge at 1004 hours on June 23 which lasted for 6 days. The Emergency Operations Centre met five times during the course of the event.

Flood forecasting data from the Maitland Valley Conservation Authority (MVCA) showed the North Maitland River watershed received precipitation amounts of 110 to 170 mm over a 6 to 8-hour period early Friday morning. About 168 properties were reported to be damaged with current damage estimate being between \$5 to \$15 million dollars.

Over 21 sections of various municipal roads were closed throughout the event including 3 of the 4 main points of ingress and egress to Harriston. The Town's sewer and water systems remained functional during the flood, although the Young Street sewage lift station bypassed due to the volume of flow and was eventually shut down as floodwater approached electrical infrastructure. A boil water advisory was issued as a precaution although at no times did supply exceed any biological or chemical parameters. The boil water lasted six says. Minto Fire and volunteers distributed about 800 cases of donated bottled water.

Minto Fire's Water Rescue team was deployed 8 times to rescue residents from houses. The trailer park was evacuated, as well as homes on George and King Streets. Many businesses on Main Street were also affected. Two homes in the municipal trailer park are no longer habitable. All three Minto Fire Stations were deployed to assist during the event and in the recovery as water was pumped out of low lying areas. The Town municipal office, Harriston works building, and recreational infrastructure was damaged.

Town of Minto staff and supporting agencies worked throughout the 6 days to not only deal with the immediate flooding but recovery efforts as well. Efficient actions by Town staff

resulted in normal municipal operations resuming within 2 to 3 days after the flood waters had receded.

## COMMENTS:

This report is provided as information for Council regarding the response events, lessons learned and recommendations for improvement as a result of the June 23, 2017 severe rainfall and subsequent flash flooding emergency response.

A meeting to debrief on the record rainfall/flood event was held on Wednesday July 26, 2017. There are several recommendations noted in the attached After Action Report that Conservation Authority and Town Staff will be looking at as a result of the rainfall and subsequent flooding event. Staff will continue to provide updates to the Emergency Management Program Committee and Council with respect to the outcomes of the After Action Report and any additional follow up from the events of June 23, 2017.

The After Action Report will also serve as background information to the Province with respect to a request to exempt the Town of Minto from conducting a simulated emergency practice as set out in the Regulations of the Emergency Management and Civil Protection Act, R.S.O, 1990. The Town's Emergency Management Program Committee are requesting that the events of June 23 and following actions of the Town's Control Group, staff and supporting agencies satisfy the regulated exercise requirement for the Town of Minto for 2017.

## FINANCIAL CONSIDERATIONS:

None with respect to this report

## **RECOMMENDATION:**

That Council receives the Emergency Manager CEMC's August 28, 2017 report After Action Report, June 23 Flood.

Linda Dickson Emergency Manager CEMC

## TOWN OF MINTO FLOOD EVENT JUNE 23, 2017 – AFTER ACTION REPORT



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Minto Fire's Water Rescue team was deployed 8 times to rescue residents from houses. The trailer park was evacuated, as well as homes on George and King Streets. Both trailers in the park were deemed unsafe and residents relocated. Many businesses on Main Street were also affected including: Harriston Legion, Home Hardware Appliance Centre, Davies Antiques, and Scoop-It.

The community and surrounding areas rallied together offering food and water donations to flood victims, as well as equipment and man power to help pump out water wherever needed. The number of organizations and people that offered their services was truly astounding. Minto Fire and Town of Minto staff worked tirelessly throughout the 6 days to not only deal with the immediate flooding but the recovery efforts as well. Efficient actions from staff of the Town of Minto allowed normal municipal operations to resume within 2 to 3 days after the flood waters had receded.

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The following report summarizes the events, responses and recommendations to the June 23 2017 rainfall event. This event resulted in widespread flooding across the Town of Minto and in particular the urban centre of Harriston.

### **Record Rainfall Observed**

Record rainfall was recorded during the early morning hours of June 23 across most the northern portions of Wellington County including the Town of Minto. Most areas saw well over a 100 mm of rainfall in a matter of hours.

The area had not seen such amounts of rainfall since Hurricane Hazel of 1954. The amount of rainfall came without any significant weather warnings and as such the area was not prepared for the volume of water that entered the water systems. Previous flood response training and emergency management exercises led to an effective response from all Town of Minto staff.

The following is a brief outline of the timelines leading up to the flooding in Harriston.

June 22 – MVCA Duty Officer observed Environment Canada (EC) forecast for overnight and into June 23 showing showers with risk of severe thunderstorms with rainfall amounts between 10mm and 15mm.

June 23 0030 hours - MVCA Duty Officer received a text message alarm for the Lucknow area and rechecked the EC forecast which included an updated message but no significant rainfall amounts were forecast.

June 23 0200 hours - received another text message alarm. At 0230 rainfall amounts were significant enough to issue water safety statements but no significant flooding was anticipated based upon forecast.

June 23 0200 - waste water department sent to Palmerston sewage treatment system to check; Harriston high water level received a 0400 hours and staff were called out to check sewage treatment.

June 23 between 0230 – 0430 hours- watershed had received approximately 70 mm of rainfall (a lot but not enough to anticipate any significant flooding). Warning to the trailers in Harriston was the only intended response action required.

June 23 0415 hours - Water Department received a first alarm call for Palmerston and Harriston

June 23 between 0430 – 0600 hours - one gauge recorded a 175 mm (over 100 mm in an hour)

June 23 0440 - King and Main Streets in Palmerston were flooded

June 23 0537 - CAO was contacted. Water overtopping some roads.

June 23 0615 hours - MVCA contacted Flood Coordinators

#### Flooding

There were two waves of flooding that impacted Harriston. The first wave was based upon the intense rainfall received in a very short period of time. It took time for the storm sewer system to respond to the volume of water received. Water was reported in areas of Harriston that have never experienced flooding in historical records. Town of Minto Officials fully expected the water to flow typical paths documented in previous less significant floods; but the amount of rainfall in such a short period of time caused the water to pool in low areas of Town. This pooling of water throughout the Town is what triggered the initial response from Town Staff.

The first wave of flood waters began to recede and then the second wave of flooding from the river was observed at around 0800 hours and continued until the river flows peaked at approximately 1800 hours.

### **Municipal and Support Agencies Emergency Response**

All Town departments and support agencies including Wellington OPP, OFMEM Field Officers, Guelph Wellington Paramedic Services, Public Health and Christian Aid Ministries worked together to assist residents around the entire municipality and to protect and to continue operation of Town facilities and infrastructure.

On June 23, 2017 at 1004 hours, Mayor Bridge declared an emergency.

Firefighters spent the majority of Friday rerouting traffic around closed roads, and evacuating houses. Minto Fire's Water Rescue team was deployed eight times. On June 24, Firefighters and Christian Aid Ministries provided assistance to residents pumping out basements.

Public Works Staff worked all day on June 23 and into June 22 to by-pass sanitary lift stations, protect water supply, assess roads and manage buildings that were flooded from the event.

Some residents experienced sewage back-up in their homes as a result of the flooding. Areas in the urban centre of Palmerston and Clifford also experienced flooded homes and basements. Two wells were shut down. The Water Department maintained water pressure in the Harrison drinking water system. Water Staff were concerned that monitoring wells may have been comprised by the flood waters. A Boil Water Advisory was issued by Wellington-Dufferin Guelph Public Health at 1800 hours on Friday, June 23, 2017. Many businesses from surrounding areas offered donations of water to affected residents. Ten skids of water were

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## TOWN OF MINTO FLOOD EVENT JUNE 23, 2017 – AFTER ACTION REPORT

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Several bridges in the Town were flooded. Many roads were flooded; washouts and culvert damage required extensive repairs to the Town's road system. The Town's Public Works Building on Young Street and the Town's Municipal Office basement were flooded. Town Roads Staff spent June 24 assessing and repairing roads, street cleaning and drying out equipment. All roads were re-opened by 1300 hours on Saturday, June 24th except for a single lane closure on the 8th Line.

Building Staff assessed buildings for structural damage promptly helping to relocate any residents displaced. Administrative staff quickly became a primary source of information (collecting, documenting and disseminating) for the public fielding a multitude of inquiries throughout both days and into the following week.

On Wednesday, June 28, 2017, the emergency declaration was terminated and the flood cleanup process was well underway. Town of Minto staff visited homes handing out flood damage report forms and other pertinent information. Damage estimates and flood data were collected and recorded for future debriefing. MVCA hired a consulting firm to look at the statistic from this flood event. Current indications are the flows were above the 1:100-year flood event.

## **EMERGENCY OPERATION CENTRE MEETINGS:**

The Emergency Operation Centre for the Town of Minto was activated at 0950 hours on June 23, 2017. Members of the Town of Minto Municipal Emergency Control Group met throughout the weekend. In total 7 meetings were held by the Control Group. Five EOC meetings were held on June 23; one on June 24 and one on June 26.

## **EMERGENCY INFORMATION - EXTERNAL COMMUNICATIONS**

The Town was actively communicating with residents during the response. A media release was developed at each EOC meeting and sent out via media outlets, website and social media. Town also set up an inquiry system to track public inquiries. A damage assessment report was created and set up on the Town's website for businesses and residents to complete. Request to residents to complete the form was issued through media releases throughout the weekend and the following week.

The Town of Minto has a well used and well received social media system in place. Social media response was high and analytics indicate it was well used during the flood event by the public. Social media was an invaluable Emergency Information tool during this event.



## TOWN OF MINTO FLOOD EVENT JUNE 23, 2017 – AFTER ACTION REPORT

#### **Social Media Analytics**

Over the course of the incident, Social Media was updated hourly on both the Town of Minto and Minto Fire sites.

It proved very beneficial having one person update all municipal sites as information was disseminated consistently and timely. 26 tweets were sent out from June 23 to 28, and 31 Facebook posts.

The blog section on the Minto Fire website was updated regularly with all media releases, advisories and safety tips for the Public.

Minto Fire received 8 5\* reviews over the course of the flood with praise from the community for keeping in constant contact with everyone throughout the emergency. On average posts reached 64 000 people on Facebook and 25 000 people on twitter. It also helped the Town to reach major media outlets and decreased the call volume from those media.



## 8/3/17

## **DEBRIEF MEETING**

The Town of Minto held a meeting to debrief on the record rainfall/flood event on Wednesday July 26, 2017.

The following were in attendance:

Annilene McRobb, Deputy Clerk Wayne Metzger, Water Foreman Mike McIssac, Road Foreman Mark Robertson, Waste Water Foreman Jeff Winzenried, Water Resource Technician MVCA Callise Foerter, Fire Administrative Coordinator Linda Dickson, Emergency Manager/CEMC Gord Duff, Treasurer Belinda Wick-Graham, Economic Development Bill White, CAO/Clerk Terry Kuipers, CBO Chris Harrow, Fire Chief Steve Jackson, MVCA (via conference)

## **OBSERVATIONS AND RECOMMENDATIONS**

The following is a compilation of comments obtain from the debrief meeting.

### What Worked Well

A damage report form created and posted on website has been a useful tool. Staff created a spread sheet with information provided on the form regarding damage. Flooding concerns/inquiries received at the Town office were tracked and recorded in spreadsheet using google doc. Staff noted which residents would like a call back and staff followed up on the requests.

The Drone pictures taken by OFMEM Field Officer are valuable and important documentation from the event.

Public Works dash cams in trucks have also provided some pictures and information.

The new rain gauge system installed in the headwaters after the 2008 flood event proved very beneficial as MVCA was able to give Town staff better information on the flooding anticipated.

The Elora Street conduit which was reconstructed in 1998 did not flood in this event and allowed for some flow of traffic including emergency services to continue throughout the response.



The river flood response worked well based on flood training and exercises Town staff and MVCA have undertaken in the past.

Water and Waste Water Departments conducted an exercise scenario on May 18, 2017 based on similar incidents that occurred during the flood. This was very helpful and timely for staff responding to this event.

### **Lessons Learned**

90% of municipalities in Ontario do not have storm sewers capable of accommodating these types of severe rainfall events. Existing systems pre-dated current engineering design standards. Most storm sewers are currently designed for 1:10 year flood events.

These events come quickly and it is understood any future events we will be reacting to in a similar way.

Gained a lot of useful information to determine how the river will react in future.

A detour map around Harriston was created with the assistance of Town Road staff, MTO staff, and Wellington OPP that can be included in the flood response plan.

Social media response was high and well received by the public. It was a useful and effective emergency information response tool. Emergency information was done well.

Having a dedicated Emergency Information Officer (EIO) in the Town worked very well. Need to ensure EIO is at all EOC meetings. Having Town staff take the lead for Emergency Information worked very well. Information was first posted using Fire Department sites and then on Town site. Consistency in messaging was very important. Moving forward, Fire Administrator Coordinator will post all emergency information on both Fire Department and main Town sites.

Staff conducted two door-to-door pamphlet drop offs; one Friday night regarding Boil Water Advisory and then again Saturday night. There was some confusion regarding the Boil Water Advisory – thought it was to be a precautionary advisory and then went to mandatory Boil Water Advisory. Generally, staff found residents very appreciative and receptive of the response efforts to the flood.

Municipal Water System was not impacted by the flood waters as indicated by ongoing testing. Boil Advisory was a public safety measures. It was noted that better messaging is needed with respect to the potential health risks of the flood waters themselves. Will work with Public Health for appropriate messaging and safety precautions.

Confirmed that the Fire Department need to be the lead response agency in flood events.



## RECOMMENDATIONS

### Water and Waste Water Department Recommendations

Monitoring wells should be raised and located above the identified flood levels. SCADA equipment was been relocated and will stay at current location. Municipal Water System was not impacted by the flood waters as indicated by ongoing testing. Boil Water Advisory was a public safety measure. Raising the monitoring wells will ensure minimal future risk to the Municipal Drinking Water System.

To help reduce potential flooding experienced during first flood wave, the Town should look at surface water mitigation measures as roads are reconstructed in Harriston and other urban areas. This could include backflow prevention devices on storm sewers, local surface water diversions or on street storage areas that prevent water from flooding adjacent homes.

Suggestion to conduct a municipal Back flow prevention program for buildings in the regional flood plain. Note that this may solve sewage flooding in basements but will not prevent overland flooding. The Town's Engineers are looking at back flow prevention on the sewer system.

#### Watershed Drainage Mitigation Recommendations

The North Ward drain has two outlets that fill up very quickly in normal heavy rains as the outlets are soon below water when the Maitland River rises during minor such events. As development of the Schickedanz subdivision proceeds the Town should investigate the option of diverting storm water through this site if possible, and possibly removing the old rail line barrier if it helps surface water flow out of this part of Harriston.

Recommend a Watershed Master Plan to look at ways to control/retain flows from flood events to ease the affects on the urban centre of Harriston. A Staff report went to Council on August 1 to authorize a study be undertaken. Council supported the report from Staff.

Provincial air photography completed in 2016 is not accurate nor detailed enough for the Watershed Master Plan study which will look at the flooding process and ways to mitigate the affects of flooding in the Town. Funding request will include project to fly watershed to provide more detailed air photography. An application to the National Disaster Mitigation Program (NDMP) will be completed by staff to support the updated flood mapping for the Town.

### **Emergency Response Plan Amendments**

Revise the Emergency Response Plan to have OPP, GWPS, Public Health and MVCA as support agencies to the response. MVCA to communicate with Operation Chief in the Flood event. Found that the EOC worked very well with small numbers of Town staff/representatives

(Command). Noted that we need to ensure staffing to provide Planning Section support during these types of events.

### **Emergency Operation Centre Recommendations**

Need another location for our EOC in a flood other than a Fire Station, and in a flood event the basement of the Town office should be reconsidered due to access concerns as surrounding streets were flooded. In addition, the basement location was not available due to storm sewer backup from the parking area.

Upgrade EOC to include teleconference pod. Town has a conference call system in place but a suitable conference pod would be beneficial.

Need to look for a location that can be used as a rest station for all site response staff. EOC logistics can then provide food/water refreshment to that specific location. This will be updated in the Flood Response Plan.

### **Emergency Information Recommendations**

Create a frequently asked questions flood form.

Improve internal communications with all staff. Need to ensure all staff receive media releases. Use Town BBM group for quick information burst.

#### MVCA

Flood forecast for MVCA worked very well. Conservation Authority staff are looking at ways to build redundancies in case something does go wrong to have a more robust system in place to provide good warning system for municipalities.

Data from rain gauges is sent to MVCA office and then sent by text messages to CA staff. Recommend that Town's Flood Coordinator would benefit if they could receive the text messaging alerts first hand. MVCA will investigate this further.

It is recommended that the Conservation Authority and Town, supported by the County, hold a public information session this fall to present information on the event, the response and the aftermath, and to obtain feedback from the public on the nature of the overall response, and the actions that are being taken in the future.

## TOWN OF MINTO FLOOD EVENT JUNE 23, 2017 – AFTER ACTION REPORT



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## TOWN OF MINTO FLOOD EVENT JUNE 23, 2017 – AFTER ACTION REPORT

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A detour map around Harriston was created with the assistance of Town Road staff, MTO staff, and Wellington OPP that can be included in the flood response plan.

Social media response was high and well received by the public. It was a useful and effective emergency information response tool. Emergency information was done well.

Having a dedicated Emergency Information Officer (EIO) in the Town worked very well. Need to ensure EIO is at all EOC meetings. Having Town staff take the lead for Emergency Information worked very well. Information was first posted using Fire Department sites and then on Town site. Consistency in messaging was very important. Moving forward, Fire Administrator Coordinator will post all emergency information on both Fire Department and main Town sites.

Staff conducted two door-to-door pamphlet drop offs; one Friday night regarding Boil Water Advisory and then again Saturday night. There was some confusion regarding the Boil Water Advisory – thought it was to be a precautionary advisory and then went to mandatory Boil Water Advisory. Generally, staff found residents very appreciative and receptive of the response efforts to the flood.

Municipal Water System was not impacted by the flood waters as indicated by ongoing testing. Boil Advisory was a public safety measures. It was noted that better messaging is needed with respect to the potential health risks of the flood waters themselves. Will work with Public Health for appropriate messaging and safety precautions.

Confirmed that the Fire Department need to be the lead response agency in flood events.



### RECOMMENDATIONS

### Water and Waste Water Department Recommendations

Monitoring wells should be raised and located above the identified flood levels. SCADA equipment was been relocated and will stay at current location. Municipal Water System was not impacted by the flood waters as indicated by ongoing testing. Boil Water Advisory was a public safety measure. Raising the monitoring wells will ensure minimal future risk to the Municipal Drinking Water System.

To help reduce potential flooding experienced during first flood wave, the Town should look at surface water mitigation measures as roads are reconstructed in Harriston and other urban areas. This could include backflow prevention devices on storm sewers, local surface water diversions or on street storage areas that prevent water from flooding adjacent homes.

Suggestion to conduct a municipal Back flow prevention program for buildings in the regional flood plain. Note that this may solve sewage flooding in basements but will not prevent overland flooding. The Town's Engineers are looking at back flow prevention on the sewer system.

### Watershed Drainage Mitigation Recommendations

The North Ward drain has two outlets that fill up very quickly in normal heavy rains as the outlets are soon below water when the Maitland River rises during minor such events. As development of the Schickedanz subdivision proceeds the Town should investigate the option of diverting storm water through this site if possible, and possibly removing the old rail line barrier if it helps surface water flow out of this part of Harriston.

Recommend a Watershed Master Plan to look at ways to control/retain flows from flood events to ease the affects on the urban centre of Harriston. A Staff report went to Council on August 1 to authorize a study be undertaken. Council supported the report from Staff.

Provincial air photography completed in 2016 is not accurate nor detailed enough for the Watershed Master Plan study which will look at the flooding process and ways to mitigate the affects of flooding in the Town. Funding request will include project to fly watershed to provide more detailed air photography. An application to the National Disaster Mitigation Program (NDMP) will be completed by staff to support the updated flood mapping for the Town.

### **Emergency Response Plan Amendments**

Revise the Emergency Response Plan to have OPP, GWPS, Public Health and MVCA as support agencies to the response. MVCA to communicate with Operation Chief in the Flood event. Found that the EOC worked very well with small numbers of Town staff/representatives

(Command). Noted that we need to ensure staffing to provide Planning Section support during these types of events.

### **Emergency Operation Centre Recommendations**

Need another location for our EOC in a flood other than a Fire Station, and in a flood event the basement of the Town office should be reconsidered due to access concerns as surrounding streets were flooded. In addition, the basement location was not available due to storm sewer backup from the parking area.

Upgrade EOC to include teleconference pod. Town has a conference call system in place but a suitable conference pod would be beneficial.

Need to look for a location that can be used as a rest station for all site response staff. EOC logistics can then provide food/water refreshment to that specific location. This will be updated in the Flood Response Plan.

### **Emergency Information Recommendations**

Create a frequently asked questions flood form.

Improve internal communications with all staff. Need to ensure all staff receive media releases. Use Town BBM group for quick information burst.

### MVCA

Flood forecast for MVCA worked very well. Conservation Authority staff are looking at ways to build redundancies in case something does go wrong to have a more robust system in place to provide good warning system for municipalities.

Data from rain gauges is sent to MVCA office and then sent by text messages to CA staff. Recommend that Town's Flood Coordinator would benefit if they could receive the text messaging alerts first hand. MVCA will investigate this further.

It is recommended that the Conservation Authority and Town, supported by the County, hold a public information session this fall to present information on the event, the response and the aftermath, and to obtain feedback from the public on the nature of the overall response, and the actions that are being taken in the future.



TOWN OF MINTODATE:August 15, 2017REPORT TO:Mayor and CouncilFROM:Belinda Wick-Graham, Business & Economic ManagerSUBJECT:Signage Grant – Leonard's General Store

### STRATEGIC PLAN

9.1 Provide grants for businesses that improve the building facades, address structural improvements, and promote re-use and redevelopment of existing buildings where architectural and heritage features are maintained.

### BACKGROUND

The Signage Grant Program was initiated in 2009 and continues in 2017 with \$3,000 available in signage grants on a first-come, first-serve basis.

### COMMENTS:

The signage at Leonard's General Store was replaced in an effort to beautify the building prior to the Clifford 150<sup>th</sup> Community Anniversary and Homecoming. The new signage includes two oval façade signs, a 4 X 4 sidewall sign, a 4 X 8 sidewall sign and three perpendicular faces.

The Clifford Downtown Revitalization Committee has reviewed the application via email and is in support of the proposal.

### FINANCIAL CONSIDERATIONS

The total cost of the eligible signs is \$2,390. This project would qualify for 50% matching funds and therefore would be eligible to receive the maximum \$1,000. In 2017, three signage grants for a maximum of \$1,000 have been approved. Two of the approved signs have not been completed yet. \$18,200 remains in the Community Improvement Plan Grant Program with one in-take left for our Structural Funds in September.

### RECOMMENDATION

That Council receives the August 15, 2017 report from the Business & Economic Manager regarding Signage Improvement Grant Application #C06 and approves a \$1,000 grant for property located at 38 Elora St. N. Clifford (Leonard's General Store).

Belinda Wick-Graham Business & Economic Manager EXISTING SIGNAGE - 38 Elora St. N. Clifford



### PROPOSED FAÇADE - 38 Elora St. N. Clifford









TOWN OF MINTODATE:September 5, 2017REPORT TO:Mayor and CouncilFROM:Cam Forbes, By-law Enforcement OfficerSUBJECT:Amendment to the Sewer Use and Connection By-law

### STRATEGIC PLAN:

Maintain and enhance infrastructure to Protect public health and safety, prevent property damage, maintain high quality of life, and effectively manage financial resources to ensure Minto is an attractive and viable community for family living and business investment.

9.13 Implement short form wording and streamline by-law enforcement practices where possible to efficiently allocate resources to minor offences, and continue enforcing by-laws based on complaints keeping in mind available resources.

### BACKGROUND:

This By-law was passed in March of this year. In reviewing set fines the attorney general requires wording in section 8.2.7 and 8.6.4 to be changed to make the exact offense clear. The following summarizes proposed changes:

### Current wording:

8.2.7 In the case of failure to adequately maintain the oil interceptor to the satisfaction of the Town, the Town may require an alarmed monitoring device to be installed, at the expense of the owner.

8.6.4 All dental waste amalgam separators shall be maintained in good working order and according to the manufacturer's recommendations.

### Proposed wording

8.2.7 Where an oil interceptor installed to the requirements of the Town is not properly maintained, the Town may require an alarmed monitoring device to be installed at the owner's sole cost and expense. Failure to install an alarmed monitoring device when required by the Town to do so shall constitute an offence under this bylaw.

8.6.4 No person shall operate from a premise from which dental amalgam may be discharged unless a waste amalgam separator is installed and properly maintained in good working order and in accordance with manufacturer's recommendations.

### COMMENTS:

Re-wording will ensure set fines for 40 plus potential offenses in the bylaw can be approved by the attorney general's office. Set fines allow more efficient enforcement because the bylaw officer can issue a ticket for the offense.

### FINANCIAL CONSIDERATIONS:

There should be no financial considerations with the amendment to this by-law.

### **RECOMMENDATION:**

That the Council receives the By-law Enforcement Officer's September 5, 2017 report regarding amending sections 8.2.7 and 8.6.4 of By-law 2017-25.

Cam Forbes By-law Enforcement Officer



TOWN OF MINTODATE:August 28, 2017REPORT TO:Mayor and CouncilFROM:Stacey Pennington, Building InspectorSUBJECT:Notice of Public Meeting; North Perth Energy Storage

### STRATEGIC PLAN:

9.0 Ensure growth and development in Clifford, Palmerston and Harriston makes cost effective and efficient use of municipal services, and development in rural and urban areas is well planned, reflects community interests, is attractive in design and layout, and is consistent with applicable County and Provincial Policies.

### BACKGROUND:

The attached notice of a Public Community Meeting was received regarding a new storage facility, just East of Palmerston adjacent to the current Transmission Station in North Perth. The substation supplies electricity to Palmerston. According to the Environmental Assessment Action (O. Reg. 116/01), energy storage facilities are expected to have minimal environmental impacts, as such, require no approvals.

Samsung is responding to a Request for Proposal for Incremental Regulation Capacity from Independent Electricity Operator, and is hosting a public meeting to provide information as a requirement of the Independent Electricity System Operator (IESO). The IESO operates Ontario's power system to ensuring long term electricity needs are met, maintaining a reliable power source, and planning for the future. In late July, the IESO released a Request for Proposal for Incremental Regulation Capacity in order to enhance the system reliability by procuring an additional 50-megawatt Capacity at the North Perth Energy Storage Facility.

### COMMENTS

Not a lot of detail is available on the proposal, but according to information from Samsung provided earlier this year the facility will store "electricity from the grid, when the demand is low" and then "inject the electricity back to the grid, when there is in need to stabilize the grid system as well as the frequency of the electricity". The intent is to add energy storage "instead of spending multi-million dollars for large transmission line upgrade investment". The proposal will "consist of a few container buildings that house the battery system rack inside and the inverter located on the outside of the building to be interfaced with the nearby feeder-line". The project may be fairly similar to the NR Stor facility in Harriston.

### **RECOMMENDATION:**

That Council receives the August 28, 2017 report from the Building Inspector regarding Public Meeting for North Perth Energy Storage for information.

Stacey Pennington, Building Inspector

August 21, 2017

Sent via Mail

Bridge, George Mayor – Township of Minto 5941 Highway 89 Harriston, ON N0G 1Z0

Dear Mr. Bridge:

Notice of Public Community Meeting for North Perth Energy Storage Project -September 11<sup>th</sup>, 2017 In response to the Independent Electricity System Operator (IESO)'s Request for Proposal ("RFP") for 50-megawatt ("MW") Incremental Regulation Capacity, an affiliate of Samsung Renewable Energy Inc. is proposing the development of the new The proposed system will have a name plate capacity within a range of 2.0-30.0 MW energy storage system in the Municipality of North Perth, Wellington County, ON. and be situated on privately-owned land adjacent to Palmerston Transmission Station (6257 Perth Line 93, Palmerston, ON, N0G 2P0). The purpose of this letter is to introduce you to the project and to inform you that the public community meeting is to be held at the following date and location:

- DATE: Monday, September 11, 2017
- TIME: Between 6:00 pm and 8:00 pm
- PLACE: Wallace Community Centre
- ADDRESS: 6670 Perth Line 88, Kurtzville, Ontario, N0G 1Y0.

Energy Inc. is required to provide each neighbouring property of the proposed project location with the notice of the public consultation meeting as attached. If you have As per the Section 3.3 of the RFP from the IESO, an affiliate of Samsung Renewable any questions, comments, or concerns about the project or the attached notice, please do not hesitate to contact us.

Yours very truly,

Katherine Park, RPP, MCIP Development Manager Samsung Renewable Energy Inc. 2<sup>nd</sup> Flr, 2050 Derry Road West Mississauga, ON L5N-0B9 Phone: 905-501-5661 E-mail: <u>kathy.park@samsung.com</u>

Encl.

Notice of Public Community Meeting North Perth Energy Storage System Project Request-For-Proposals for Incremental Regulation Capacity From Independent Electricity System Operator

# NOTICE OF PUBLIC COMMUNITY MEETING

To be held by an affiliate of Samsung Renewable Energy Inc. regarding Request-for-Proposals for ncremental Regulation Capacity from Independent Electricity System Operator

Project Name: North Perth Energy Storage Project Project Location: Municipality of North Perth, Wellington County Dated at: 11<sup>th</sup> day of September, 2017

## CORRECTION: This Notice of Public Community Meeting is to notify that the public community 2017 has been remeeting on August 30<sup>th</sup> whose notice was circulated on August $9^{ m th}$ and $10^{ m th}$ scheduled to September 11<sup>th</sup>, 2017.

The Independent Electricity System Operator ("IESO") is the system operator of the Ontario's power system, and is responsible for ensuring sufficient power to meet the province's electricity needs, maintaining power system reliability, and planning and securing energy for the future. On July 31, 2017, the IESO has released a Request-for-Proposal ("RFP") for Incremental Regulation Capacity in order to enhance the system reliability by procuring additional Regulation Capacity of 50-megawatt ("MW"). An affiliate of Samsung Renewable Energy Inc. is planning to engage in the bidding process by proposing the development of an energy storage system in the Municipality of North Perth to provide a portion of this regulation capacity. This notice is being distributed in accordance to Section 3.3 of IESO's RFP to notify the local community prior to a proposal submittal to the IESO.

### **Project Description:**

The proposed energy storage facility in the Municipality of North Perth will have a total maximum name plate capacity within a range of 2.0~30.0 MW and will be situated adjacent to Palmerston Transmission Station in the Municipality of North Perth, in Wellington County, ON. Under the Environmental Assessment Act (Ontario Regulation 116/01), energy storage facilities are classified as "Category A" projects which are expected to have minimal environmental effects. Therefore, no approval under the Environmental Assessment Act is required for the development of energy storage project. The project location is described in the map below. All components will be located within the project boundary area are shown in the map.

# Meeting Information and Location:

In order to provide information to, and consult with, community members, stakeholder groups, and government agencies, an affiliate of Samsung Renewable Energy Inc. is hosting a public meeting. At this public meeting, you will be able to view information on the project, collect handouts, ask questions and provide comments directly to the proponent.

- DATE: Monday, September 11<sup>th</sup>, 2017
- TIME: Between 6:00 pm and 8:00 pm
- PLACE: Wallace Community Centre
- ADDRESS: 6670 Perth Line 88, Kurtzville, Ontario, N0G 1Y0

Directions to Wallace Community Centre can be found here: http://www.northperth.ca/en/thingstod

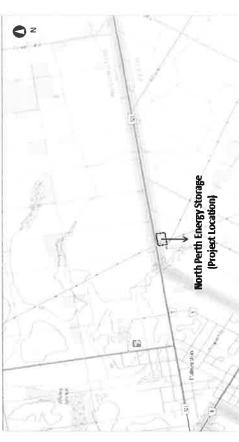
o/wallacecommunitycentrearena.asp. Information on parking:

Information on parking: Parking will be available at the Wallace Community Centre at free charge.

Project Contact and Information: To learn more about the project proposal and upcoming public meeting,

or to communicate concerns, please

contact: Katherine Park RPP. MCIP





TOWN OF MINTODATE:August 8, 2017REPORT TO:Mayor and CouncilFROM:Annilene McRobbSUBJECT:2018 Council Meeting Dates & Christmas Office Closure

### STRATEGIC PLAN:

- 12.7 Demonstrate innovation in all aspects of municipal business acknowledging the importance of training, succession planning, transparency, communication and teambased approaches to municipal operations.
- 12.14 Ensure the Town provides services and facilities accessible to persons of all abilities in compliance with Provincial regulations keeping in mind the needs of the community, ability to pay and best practices of similar municipalities.

### BACKGROUND

This report is to confirm the date of the first 2017 budget meeting for November 28 starting at 1:30pm, set hours of operation through Christmas holidays and proposes a tentative schedule for 2018 Council meetings.

Scheduling will ensure Council business continues through the municipal election and inauguration of new members next winter. The Town office will be open November 10 and 13 with staff able to participate in Remembrance Day services on Saturday the 11<sup>th</sup>. It is proposed that the first 2018 budget meeting be set for Tuesday November 28 at 1:30pm. This has traditionally been when the operating budget is presented to Council and by moving the date back two weeks will allow more complete information to be provided.

### COMMENTS

### Holiday Hours

There tends to be lower activity in the municipal office between Christmas and New Year's. In the past the office has been closed, or operated with a reduced staff depending on Council's preference. Facilities and Public Works staff works some statutory holidays depending on event schedules and snowfall.

Christmas and New Years are on Monday in 2017. Staff recommends closing the office Friday December 22 at 5:00 pm and re-opening Tuesday January 2 at 8:30 am. Staff would take banked time or vacation to cover non-statutory holidays within this period. Occasionally Treasury staff will work that week to make sure payroll is covered but this can be completed more quickly with the office closed to the public.

Notice of the Office Closure would be posted at the Town Office, on the website as well as published in the newspaper. Public Works staff plows as needed over the holidays.

Facilities staff accommodates legacy bookings that have occurred for years (ie New Year's Eve) and any new bookings are scheduled around those events.

### Council Meetings 2018

Attached is a draft schedule for Council meetings in 2018 for your consideration. Note that we would be starting on January 9<sup>th</sup> as there are 5 weeks in the month. We would schedule one meeting in August to take into consideration attendance at AMO.

The second 2018 budget meeting is shown on the attached list as Tuesday January 30, 2018. This is when the capital budget is traditionally presented. Mayor Bridge has asked that the April Council meetings move one week later due to a personal commitment around Easter. This pushes the regular meetings in May one week later as well. Staff proposes one Council meeting in July 2018. The nomination period for the election closes July 27.

The final Council meeting of this term would be November 7<sup>th</sup> and the inaugural for new Council on December 4<sup>th.</sup> The first meeting of the new Council should be an orientation meeting December 11 subject to review and discussion with the Mayor. The first regular Council meeting is tentatively set for December 18.

Given the short time between the inaugural meeting and the holidays, it is proposed the operating budget meeting be set for January 2019. This will give the new Council time to get oriented and start on regular business operations before being faced with budget discussions.

In 2018 Council would have 23 meetings, including one budget meeting, the inaugural and the new Council orientation.

### FINANCIAL CONSIDERATIONS:

There is no cost for the closure of the municipal office.

### **RECOMMENDATION:**

That the Council of the Town of Minto receives the report regarding 2018 Council Meeting dates and Christmas Office Closure from the Deputy Clerk and that Council provides direction on the closure of the Municipal office in December, and that Council approves the 2018 operating budget meeting for Tuesday November 28, 2017 at 1:30 pm, and the 2018 Council meeting dates as set out in the report.

Annilene McRobb Deputy Clerk

2018 Council Meeting dates and Christmas Office Closure



### 2018 Regular Council and Budget Meeting Schedule

JANUARY Tuesday January 9th 3 pm Council Meeting Tuesday January 23rd at 7 pm 2018 Council Meeting Tuesday January 30th at 2 pm 2018 Capital Budget Meeting ROMA Conference Toronto January 21 through 23

FEBRUARY

Tuesday February 6th at 3 pm Council Meeting Tuesday February 20th at 7 pm Council Meeting OGRA Conference Toronto February 25 through February 28

### MARCH

Tuesday March 6th at 3 pm Council Meeting Tuesday March 20th at 5 pm 2017 Budget Open House Tuesday March 20th at 7 pm Council Meeting

### APRIL

Tuesday April 10th at 3 pm Council Meeting Tuesday April 24th at 7 pm Council Meeting

### MAY

OSUM Conference May 1 through May 4 Tuesday May 8th at 3 pm Council Meeting Tuesday May 22nd at 7 pm Council Meeting

### JUNE

FCM Conference Halifax Nova Scotia May 31 through June 3 Tuesday June 5th at 3 pm Council Meeting Tuesday June 19th at 7 pm Council Meeting

JULY

Tuesday July 3rd at 3 pm Council Meeting

Nominations Close July 27

### AUGUST

Tuesday August 7th at 3 pm Council Meeting AMO Conference Ottawa August 19 to 22

### SEPTEMBER

Tuesday September 4th at 3 pm Council Meeting Tuesday September 18th at 7 pm Council Meeting

OCTOBER Tuesday October 2nd at 3 pm Council Meeting

Tuesday October 16th at 7 pm Council Meeting

**Municipal Election October 22** 

NOVEMBER

Tuesday November 6th at 3 pm Council Meeting

DECEMBER Tuesday December 4th at 7 pm Council Inaugural Tuesday December 11<sup>th</sup> at 1:00 pm Council Orientation Tuesday December 18th at 7 pm Council Meeting

> Public Welcome Please note all Council meetings will be held in the Town of Minto Council Chambers- 5941 Highway 89, Harriston



TOWN OF MINTODATE:August 8, 2017REPORT TO:Mayor and CouncilFROM:Annilene McRobb, Deputy ClerkSUBJECT:Exemption to Nomination Endorsements

### STRATEGIC PLAN:

Demonstrate Council and Staff leadership by taking primary responsibility for implementing and following the Strategic Plan, while recognizing the roles of community leaders in achieving Plan success.

### BACKGROUND

Bill 68, An Act to amend various Acts in relation to municipalities received Royal Accent on May 30, 2017. The Municipal Elections Act had many amendments made to it with the passing of this bill, including the addition of Section 33 that sets out requirements relating to the nomination of a person for an office on a council of a municipality. Under provisions of that section that are not yet in force, the nomination must be endorsed by at least 25 persons. Amendments are made to provide that the requirement, once in force, would not apply in a municipality if the number of electors is less than the prescribed number.

The individuals providing the signatures will each have to sign a declaration stating that they were eligible to vote in the municipality on the day that they signed the endorsement. This will come into force on April 1, 2018. If a candidate files a nomination, and then changes their mind and decides to run for a different office on the same council, they are not required to submit new signatures.

The requirement to submit 25 nomination signatures does not apply to candidates running for school board trustee positions.

### COMMENTS

The Clerks Department received correspondence from the Ministry of Municipal Affairs asking for feedback from municipalities as an exemption may be considered for municipalities with less than a prescribed number of electors.

1. Would potential candidates in your municipality have any challenges in fulfilling the requirement to have their nomination endorsed by 25 electors?

Staff does not believe most candidates in the election would have difficulty having their nomination endorsed. In the last election the candidate with the fewest received over 100 votes. Staff does not see any benefit having the nomination form endorsed. If a candidate wishes to pay the fee, dedicate themselves to being elected and follow the rules set out in the Municipal Elections Act the fact that they have (or do not have) 25 signatures is not

relevant. Practically the process adds unnecessary paperwork for candidates getting signatures, and staff reviewing to make sure the signatory is eligible to vote.

2. The Minister of Municipal Affairs has the authority to provide an exemption from the requirement for municipal council candidates to have their nomination endorsed by 25 electors in a municipality with less than the prescribed number of electors. What number of electors in a municipality is the appropriate threshold for the exemption to apply? (See attached correspondence)

If the Province insists on nomination forms being signed by electors the concern is that 25 electors in a Toronto ward or in larger municipalities is a very small part of the electorate as per the following:

- 25 electors are 1.2% of the total votes received by Mayor Bridge in 2014.
- 25 electors are 0.0006% of the total votes received by John Tory in Toronto 2014.

The proposed rules require small rural candidates have a much higher percentage support of the electorate than candidates in smaller municipalities. If John Tory was to have the same percentage of the electorate as Mayor Bridge sign his nomination form he would need over 4,500 signatures. This would be a challenge to achieve with dubious benefit to the election process. Proportionally if 25 electors are needed for a nomination in Toronto, municipalities under 10,000 electors should not require any signatures.

A requirement to approach people for nominations can do nothing but discourage potential candidates, particularly those who may not have "main stream" views.

### FINANCIAL CONSIDERATIONS:

There are no financial considerations unless the Province does not exempt smaller municipalities from this requirement.

### **RECOMMENDATION:**

THAT Council receives the Exemption to Nomination Endorsements from the Deputy Clerk and advises the Ministry of Municipal Affairs the Town of Minto does not support the need for signatures on a nomination form, but if it is considered municipalities under 10,000 electors be exempt on the basis that the proportionate requirement for 25 signatures is unfair when compared to larger municipalities.

Annilene McRobb, Deputy Clerk

Ministry of	Ministère des
Municipal Affairs	Affaires municipales
Office of the Minister	Bureau du ministre
777 Bay Street, 17 <sup>th</sup> Floor	777, rue Bay, 17 <sup>e</sup> étage
Toronto ON M5G 2E5	Toronto ON M5G 2E5
Tel.: 416 585-7000	Tél. : 416 585-7000
Fax: 416 585-6470	Téléc. : 416 585-6470

Ontario

17-74433

### Dear Clerk:

I am writing you on behalf of the Honourable Bill Mauro, Minister of Municipal Affairs, regarding recent changes to the Municipal Elections Act, 1996 under Bill 68 (Modernizing Ontario's Municipal Legislation Act, 2017).

We heard from a number of municipalities that the requirement to collect 25 signatures endorsing a candidate's nomination, which comes into force on April 1, 2018, may present a challenge to candidates in certain municipalities.

At Standing Committee on Social Policy, the government brought forward an amendment to the Municipal Elections Act, 1996 to provide an exemption to this requirement for candidates in municipalities with fewer than the prescribed number of electors. As a part of that process, we committed to consulting with municipalities to understand any challenges that they anticipate candidates within their municipality may face in meeting this requirement.

To help municipalities attract suitable candidates for their elections, we are looking for your council's feedback regarding the following two questions:

- 1. Would potential candidates in your municipality have any challenges in fulfilling the requirement to have their nomination endorsed by 25 electors?
- 2. The Minister of Municipal Affairs now has the authority to provide an exemption from the requirement for municipal council candidates to have their nomination endorsed by 25 electors in a municipality with less than the prescribed number of electors. What number of electors in a municipality is the appropriate threshold for the exemption to apply?

We look forward to hearing back from you by September 15, 2017. Please accept my best wishes.

Sincerely,

### Lou Rinaldi

Parliamentary Assistant to the Minister of Municipal Affairs



TOWN OF MINTODATE:August 17, 2017REPORT TO:Mayor and CouncilFROM:Bill White, CAOSUBJECT:Request for Revisions, Draft Plan of Subdivision, Clair<br/>Ridge Estates Ltd, Pt Pk Lots 16, 17, 18 Western Canada

Savings & Loan Co. Plan, Palmerston File 23T-90021

STRATEGIC PLAN

9.0 Ensure growth and development in Clifford, Palmerston and Harriston makes cost effective and efficient use of municipal services, and development in rural and urban areas is well planned, reflects community interests, is attractive in design and layout, and is consistent with applicable County and Provincial Policies.

### BACKGROUND

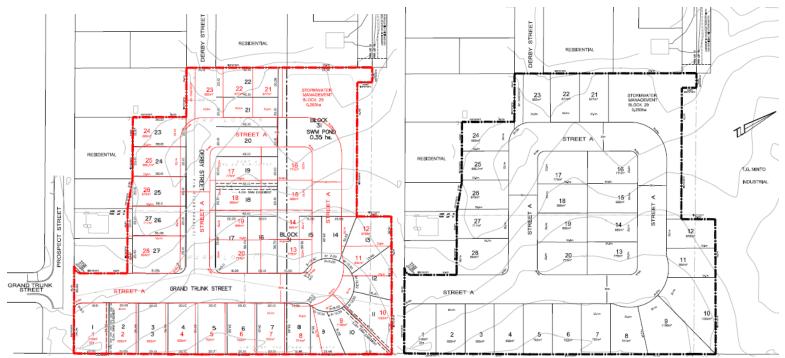
The attached letter from the applicant's Planning Consultant circulated by the County Manager of Planning and Development explains the proposed red lined changes to the draft plan of subdivision. Included with the submission is a functional servicing report prepared by Triton Engineering Services. Triton is performing a dual role in this subdivision for the Town and the applicant given its historical involvement in this file.



The subject lands are shown on the adjacent map with the proposed road pattern in yellow, storm pond in green and servicing easement to unopened portion of Derby Street in a black dashed line.

The functional servicing report by Triton Engineering confirms municipal sanitary sewer, water, and roadway can be provided to the subdivision in accordance with Town standards. Most of the subdivision will be serviced by sanitary sewer which would outlet from the site down the unopened section of Derby Street to an existing main on Toronto Street. Water will be looped through the subdivision and out the unopened section of Derby Street also tying in to a trunk main on Toronto Street. The storm water management analysis shows surface water will be directed to a pond designed for the northwest part of the site that would outlet on an easement on a former section of Raglan Street northwest of the site to storm sewer on Toronto Street.

The roadway for the subdivision will be built as a local road which could include a sidewalk linking Prospect Street to Toronto Street through the development and down a possible walkway on the unopened section of Derby Street. The difference between the "red-lined" version proposed and the older layout that has draft plan approval is that Derby Street is not proposed to be opened under this option. The proposed draft plan is shown below. *"Red-lined" "Revised"* 



### COMMENTS:

The Public Works Department, Building and Bylaw and C.A.O. Clerk's Department does not have significant concerns with revisions to the subdivision layout. The "red-lined" layout represents good planning and makes efficient use of the subject lands. The issue of whether Derby Street should be opened (or not) should be considered by Council.

One challenge with Derby Street is multiple owners' fronting on the unopened road allowance. There are oversized lots that could be severed if the road was constructed and municipal services available. Some owners may want to develop lots while others may not be interested at all. The applicant will construct water and sewer services on Derby Street to service his subdivision, but will not be required to build the road. No other owners will be permitted to connecting to these services without contributing a fair share of the cost, and agreeing on cost sharing to build the road.

The picture below shows the unopened section of Derby Street looking from Toronto Street toward the development.



To maintain flexibility Lot 23 could be reconfigured so the Town acquires a 20 metre wide

N.

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block from the applicant to allow for future public road access to Derby Street. This could allow a future road pattern as shown below.This would require the applicant reconfigure Lots 21, 22 and 23 and possibly the storm pond to allow for a future road link. With a cul-de-sac as shown four owners would have to agree to share the cost to extend the

roadway as well as pay for connection to servicing the applicant will install on Derby Street. A second option shows with Derby Street extending through to Toronto Street is provided below. This layout allows for 5 or 6 lot development with the same four owners having to agree on constructing 100 plus metres of road from Street "A" to Toronto Street. This layout would build 40 to 50



Pects

metres of roadway that will not have lots fronting on it, which increases costs and decreases efficiency. The two homes fronting on Toronto Street will be impacted by this road.

One final option might be to alter the applicant's layout slightly to extend Street "A" toward some of the owners that may wish to have future lots. This might result in two or three new lots without the added cost of constructing a long section of municipal road, but limits opportunity for the owner of 480 Toronto to develop future lots. The Town should require a public walkway and emergency vehicle access on this unopened section of Derby Street regardless of the option selected.

The Town should not require the applicant delay the subdivision while the owners decide whether they wish to develop their lands. The Town should request the County amend the "red-lined" version so that the Town can secure part of Lot 23 as future road allowance. This gives the Town flexibility to deal with future development on adjacent lands.

The lots proposed comply with R1B requirements in the zoning bylaw. These are larger lots than are in many new subdivisions. Increasing density by constructing semidetached homes would provide for more housing unit creation that is needed in the community. This would require rezoning including public input as well as an engineering assessment to ensure municipal services are sufficient for the area.



The applicant's subdivision does not include a public park. The Town will negotiate "cash-inlieu" of parkland dedication through the subdivision agreement.

The applicant has indicated an interest to the Chief Building Official with proceeding with model units. This requires a separate approval from Council and a model home agreement to be signed. If model homes are allowed they could not be occupied. The Town will require security to any model home agreement to ensure compliance with any applicable conditions.

### FINANCIAL CONSIDERATIONS:

The Town's financial interests will be addressed through the subdivision agreement required in the current draft plan approval for the lands.

### **RECOMMENDATION:**

That Council of the Town of Minto advise the County of Wellington that it supports the Revised Application for Draft Plan Approval for Clair Ridge Estates Ltd, Pt Pk Lots 16, 17, 18 Western Canada Savings & Loan Co. Plan, Palmerston File 23T-90021 subject to the following:

- 1. Existing conditions as previously approved pertaining to the Town's financial, servicing, stormwater management, parkland, road access and similar to be provided for in a subdivision agreement.
- 2. That Lot 21, 22, and 23 be further "red-lined" to allow for a future road allowance connection to Derby Street.
- 3. That all other applicable conditions in the existing draft plan approval remain in effect with regard to the revised draft plan of subdivision.

Bill White, C.A.O. Clerk

PLANNING CONSULTANTS

ASTRID J. CLOS

July 25, 2017

Project No. 1326

Attention:

Linda Redmond, Manager of Policy Planning County of Wellington 74 Woolwich Street Guelph, Ontario N1H 3T9

Bill White, CAO/Clerk Town of Minto 5941 Highway 89 Harriston, Ontario N0G 1Z0

### Re: Revision to Draft Plan of Subdivision 23T-90021 Clair Ridge Estates Limited <u>Town of Minto (Palmerston)</u>

Please accept this request for a revision to the existing Draft Plan of Subdivision 23T-90021 approval of which has been extended by the County of Wellington to February 25, 2019. The draft plan conditions from the original 2002 approval remain in effect with the exception of the extended lapsing date of February 25, 2019. Previous phases of this Draft Plan of Subdivision have been serviced, registered and homes constructed on the lots. Severances (B43-44-45 /14) were also approved by the County Land Division Committee for lots on Prospect Street and these lots have now have homes constructed on them. The remaining 3.286 hectare parcel has an existing draft plan approval for 27 single detached residential lots and a stormwater management block. The owner would like to revise the draft approved plan on this remaining parcel to allow the creation of 28 single detached lots and a stormwater management block on a proposed reconfigured municipal road.

This revised Draft Plan of Subdivision includes 28 lots which have been designed to comply with the existing R1B Zone regulations applicable to this property.

A pre-consultation process was undertaken with the County of Wellington and the Town of Minto to confirm the submission requirements to support a revision to the existing Draft Plan of Subdivision 23T-90021. Based on this process, these requirements were outlined in a confirming email dated May 10, 2017 to the County and the Town.

Please find these items enclosed in support of this request for a revision to Draft Plan of 23T-90021;

### County of Wellington

- 2 copies of the Functional Servicing & Stormwater Management Report prepared by Triton Engineering Services Limited dated July 2017.
- Digital copy of the Functional Servicing & Stormwater Management Report prepared by Triton Engineering Services Limited dated July 2017. (provided via email)
- 2 copies of the preliminary grading plan. (included in the Functional Servicing & Stormwater Management Report as Drawing Number 7)

423 Woolwich Street, Suite 201, Guelph, Ontario, N1H 3X3 Phone (519) 836-7526 Fax (519) 836-9568 Email <u>astrid.clos@ajcplanning.ca</u>

- Digital copy of the preliminary grading plan. (provided via email)
- 20 copes of the red-lined Draft Plan of Subdivision.
- Digital copy of the red-lined Draft Plan of Subdivision. (provided via email)
- 20 copies of the revised Draft Plan of Subdivision. (revision only as a black line)
- Digital copy of the revised Draft Plan of Subdivision. (provided via email)
- Application fee of \$3,140. (\$1,600 plus 55 per lot.)

### Town of Minto (provided via email)

- Digital copy of the Functional Servicing & Stormwater Management Report prepared by Triton Engineering Services Limited dated July 2017.
- Digital copy of the preliminary grading plan. (included in the Functional Servicing & Stormwater Management Report as Drawing Number 7)
- Digital copy of the red-lined Draft Plan of Subdivision.
- Digital copy of the revised Draft Plan of Subdivision.

Please contact me if you require any additional information. I can be reached at (519) 836-7526.

Yours truly,

Astrid Clos, MCIP, RPP

cc: Dan Sinclair, Clair Ridge Estates Limited Chris Clark, Triton Engineering Services Limited

### TOWN OF MINTO CLAIR RIDGE ESTATES SUBDVSION DEVELOPMENT (PALMERSTON), ONTARIO

### FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

**JULY 2017** 



### CLAIR RIDGE ESTATES SUBDIVISION DEVELOPMENT

### TOWN OF MINTO (PALMERSTON), ONTARIO

### FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

A6814A

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### **APPENDICES**

- A Input Parameters
- B SWM Design Details
- C Modelling Output

### DRAWINGS

Draft Plan of Subdivision (Pocket)

General Grading Plan (Pocket)

### CLAIR RIDGE ESTATES SUBDIVISION DEVELOPMENT

### TOWN OF MINTO (PALMERSTON), ONTARIO

### FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

### 1.0 INTRODUCTION

The following Functional Servicing Report is prepared in support of a submission for Draft Plan approval of Clair Ridge Estates Subdivision Development in the Town of Minto (Palmerston). This report is intended to demonstrate the functionality of the proposed services including water/sanitary layout and the Stormwater Management (SWM) strategy to mitigate potential impacts of the development on the receiving storm drainage system.

### 2.0 EXISTING CONDITIONS

The subject site, in the former Town of Palmerston, is located on the east side of Toronto Street and the north side of Grand Trunk Street. The subject property covers approximately 3.286 hectares and is currently zoned for agricultural use.

The overall site slopes from south at Grand Trunk Street to the site boundary east of Toronto Street. The site slopes overland from 1% to 2% and accepts external drainage from the east cropped field. This external area will be directed around the development so as to maintain existing drainage patterns. Figure 1 illustrates existing drainage patterns of the site.

### 3.0 PROPOSED LAND USE

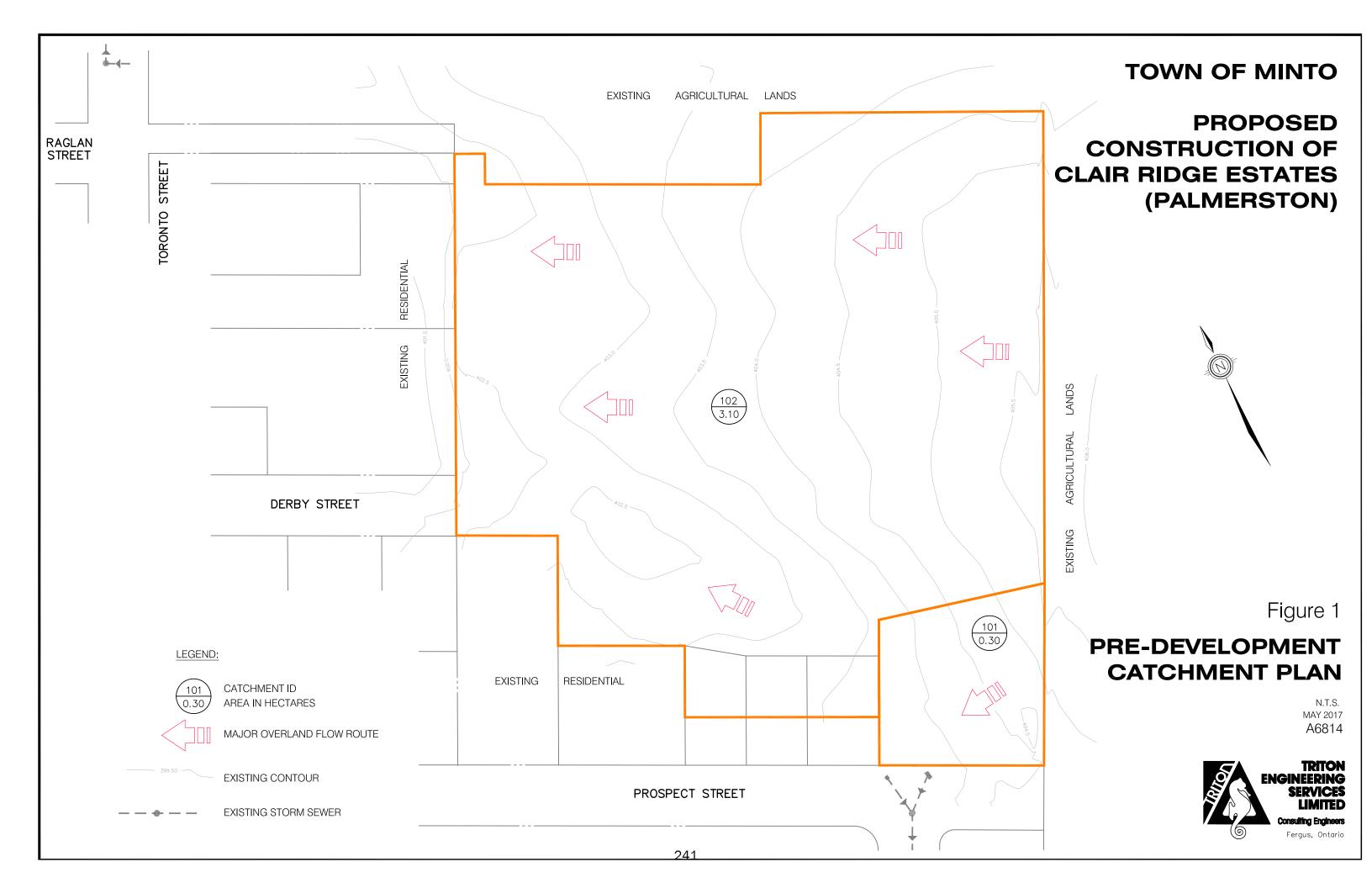
### 3.1 General Site Layout

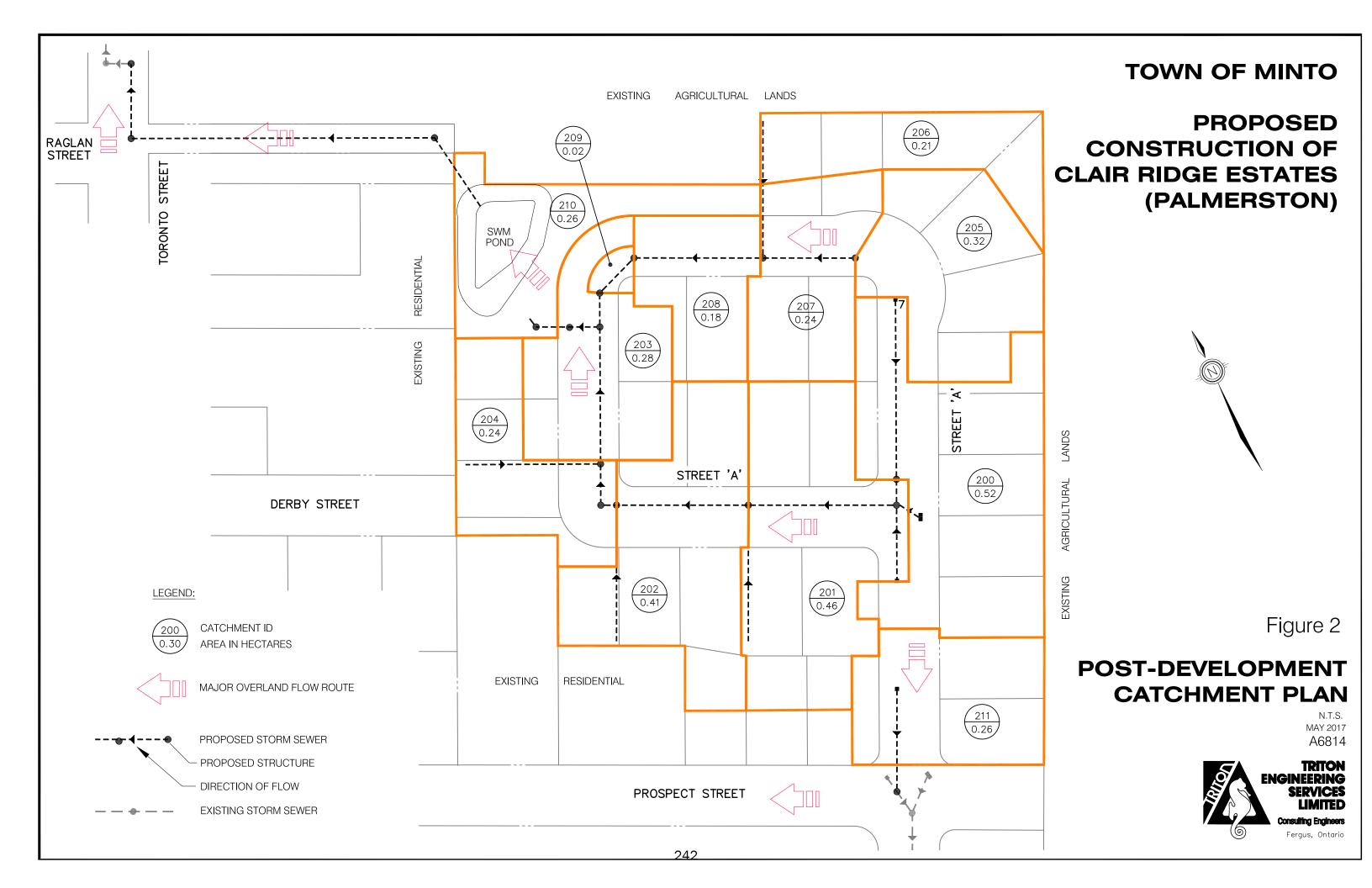
The proposed development consists of 28 detached style lots (2.118ha.), Stormwater Management (SWM) Block (0.263 ha.) and local streets (0.905 ha.). Streets will be an urban standard configuration complete with curb/gutter and storm sewers to collect and convey runoff. The development will be serviced using municipal sewage and water. The proposed subdivision configuration is shown in the plan drawings located in the pocket of this report. The rear yards of an additional three lots fronting Prospect Street (0.114 ha) will be serviced by the subject site's SWM block; refer to Section 5.0 for details.

### 3.2 Grading/Drainage

Preliminary grading design has been completed to direct as much of the developed site to the SWM block for treatment and peak flow attenuation as possible. Proposed drainage patterns for the site are illustrated on the General Grading Plan located in the pocket of this report.

The street pattern consists of a single looped roadway complete with one entrance. The roads will be sloped such that stormwater directed from the lots onto the street is conveyed to the SWM block located at the northwest corner of the site. Minor events (i.e. up to 5 Year event) will be accommodated by proposed storm sewers, major events up to the 100 Year event will be routed overland through the streets and rear yards swales. All developed road runoff will be directed to the SWM facility.





The SWM facility will provide quantity and quality control of site runoff prior to releasing it to the existing storm sewer system located within the Toronto Street right-of-way.

### 4.0 DESIGN CRITERIA

It is the intention of this development to have no net impact on the downstream storm drainage system, as such the following SWM criteria are proposed:

- Provide Quantity Control such that peak runoff rates are maintained to less than existing levels for storm events from 5 Year to 100 Year return periods.
- Provide Quality Control of site runoff to ensure that sediment and pollutants are removed to the extent feasible prior to release into the existing storm sewer system. Ministry of the Environment "Basic Protection" treatment level will be used for this in the design of this SWM facility.
- Ensure that SWM facility bottom elevation is set above the high water table within the designated SWM Block 29 in order to prevent groundwater intrusion.
- Provide measures during construction which will contain sediment on the site.

### 5.0 STORMWATER MANAGEMENT STRATEGY

The portion of the development which conveys run-off to the SWM facility is 3.14 hectares in size and includes all catchments with the exception of 211, as indicated on Figure 2. Roads complete with storm sewers and curb/gutter will collect and convey runoff to the SWM block located at the north-western corner of the development.

External drainage to the east will be intercepted by the development's east rear lots and directed naturally to the north and south so as to maintain existing drainage patterns. As mentioned previous, the rear of three additional lots fronting Prospect Street (House numbers 685, 695, and 705) will be included as part of the contributing area to the SWM facility. Drainage from these lots will be conveyed via rear yard swales to the storm sewer system.

A summary of the SWM strategy is provided below:

- Site grading will maintain runoff characteristics to the extent possible.
- Roof leaders will be directed to grass areas to promote infiltration and polishing.
- Quantity Control will be provided using an "end-of pipe" dry pond facility located in a Block 29 designated specifically for SWM purposes. This facility will be designed to provide "Post-to-Pre" hydrograph attenuation for storm events from 5 Year to 100 Year return periods.
- Quality Control requirement is assumed to be "Basic" Protection given that the receiver is an existing storm sewer system. Based on this, we propose to provide a SWM facility with a Dry Pond configuration, this facility will be incorporated into the Quantity Control facility. It should be noted that providing a Wet Pond or Wetland configuration is not recommended for this development as the contributing area is likely too small to support/maintain a permanent pool.

• Provide sediment and erosion controls which will contain sediment on site during construction.

The proposed SWM strategy will be implemented in conformance with the Ministry of Environment and Climate Change and the Maitland Valley Conservation Authority's SWM Guidelines.

### 5.1 Runoff Modelling

Preliminary design of the SWM facility is necessary as part of the Draft Plan submission to confirm that the size of the proposed SWM block is sufficient to accommodate the required SWM facilities. The MIDUSS computer model was used to generate runoff flows and assist in hydraulic design of sewers, channels and SWM facilities.

A pre-development model was prepared to establish original runoff flows from the site. This model reflects the land use prior to development.

A post development model was prepared to establish runoff flows for the proposed development. This model reflects the post development land use and grading, and includes provisions for the proposed Dry Pond.

The post development model has been discretized into smaller catchments to allow for detailed design of sewers, overland flow routes and the SWM facility. The difference in overall flows generated from the detailed model is shown in Table 1, below.

Appendix A provides rainfall data and catchment characteristic parameters. Hydrologic model output has been included in Appendix C.

Rainfall events were generated using rainfall data from the Mount Forest Weather Station and the 3.0 hour Chicago rainfall distribution.

### 5.2 Quantity Control

As discussed earlier, the increase in peak flows resulting from this development are expected to be significant due to the increase in imperviousness. However, as indicated by the modelling, the proposed SWM facility will provide sufficient storage such that peak flows from the 100 Year event can be attenuated to existing levels. In addition to controlling major events, the outlet structure will be configured such that infrequent and intermediate runoff events can also be attenuated to existing levels. The facility configuration is as follows:

- Dimensions at 100 Year level are irregular, approximately 38 m x 45 m.
- Maximum depth of 1.3 m.
- Three stage outlet utilizing an orifice control, CSP pipe and an overflow weir.
- Maximum Storage is approximately 963 m<sup>3</sup>.

The General Grading Plan provides a layout of the proposed SWM facility within Block 29.

Results of the hydrologic modelling are summarized in Table 1. This demonstrates that the proposed facility can control peak flow rates to levels below existing, thereby, mitigating any potential impacts on the existing downstream storm system.

Table 1: Modelling Summary							
DESCRIPTION	RUNOFF (m <sup>3</sup> /s)						
DESCRIPTION	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR		
Site Runoff Peak: Pre-Development	0.062	0.082	0.136	0.177	0.216		
Site Runoff Peak: Post Development	0.032	0.036	0.068	0.123	0.119		
SWM Facility WSEL (m)	402.152	402.191	402.245	402.319	402.364		
SWM Facility Storage Volume Utilized (m <sup>3</sup> )	563.80	598.90	649.10	720.80	765.5		

During major storm events exceeding the 100 year storm, flows will overtop the pond at an elevation of 402.45 metres via a 2.0 metre wide weir structure and conveyed overland to Toronto Street roadway via 0.30 metre deep ditch. The ditches capacity exceeds the 100 year storm event and ditch capacity calculations are found in Appendix B.

### 5.3 Quality Control

As indicated, Basic Level (as defined by the MOECC Guidelines) water quality treatment of storm runoff from the proposed development will be provided by a continuous flow Dry Pond SWM facility.

Although, other facility configurations (i.e. artificial wetland/wetpond) could provide similar or better treatment, the small size of the contributing area may not be sufficient to maintain the permanent pool of such a facility.

Based on the total contributing area of 3.40 ha and imperviousness of 41%, a storage volume requirement of 108 m<sup>3</sup>/ha is applicable which equates to 367 m<sup>3</sup> of required storage volume. This storage requirement will be accommodated within the Quantity Control facility and the outlet structure configured to provide the minimum desired detention time based on the use of the minimum 75 millimetre orifice. For pond maintenance purposes, a forebay will be constructed just upstream of the pond inlet in order to remove larger sediment before entering the pond thus, lessening the impact on the pond facility and control structure. SWM design details are contained in Appendix B.

### 6.0 SEDIMENT AND EROSION CONTROL

Prior to stripping topsoil from the site, silt fence will be erected around the entire perimeter of the site to contain sediment laden runoff on-site. Following rough grading of the site and construction of the storm sewer system, additional controls will be installed to ensure that sediment is contained and erosion minimized. Controls will include the following:

- Cut-off swales
- Filter berms
- Silt fencing
- Straw bale checks
- Sedimentation basin

A detailed Sediment and Erosion Control Drawing/Design will be completed as part of detailed design once grading details for the development have been finalized.

It is intended to utilize the proposed SWM facility as a sediment basin until the site has been stabilized.

Controls will be monitored regularly by the resident inspector and maintained, or modified, as required.

### 7.0 <u>SERVICING</u>

At this time, 28 lots have been allocated to this development which is expected to generate 5,180 l/d. Therefore, a review of water and sewage servicing options is required as part of the provincial policy statement. Servicing options considered for this development will include extension of municipal services to the proposed area. All roads and services will meet the municipal standards criteria set out by the Town of Minto.

### 7.1 Municipal Water Services

The water services for the proposed development will be connected and looped to the existing 150 mm diameter watermain located at the intersection of Prospect Street and Street A and the Derby Street right-of-way and Toronto Street intersection. Based on a Reserve Capacity Calculation for Water Supply, determined by the Town of Minto, there is currently approximately 45,695 I/d available within Palmerston. Therefore, there is sufficient water capacity for the addition of the proposed development.

### 7.2 Municipal Sanitary Services

The sewer was configured through the proposed development so as to align with the proposed road configuration. Similar to the watermain extensions, sanitary services will connect at the intersection of Prospect Street and Street A and the Derby Street right-of-way and Toronto Street intersection. Based on a Reserve Capacity Calculation for Water Supply, determined by the Town of Minto, there is currently approximately 45,695 I/d available within Palmerston. Therefore, there is sufficient sewage treatment capacity for the addition of the proposed development.

### 8.0 CONCLUSIONS

Based on the information contained in this report, we conclude the following:

- Proposed quality treatment measures will provide adequate treatment of runoff from the development, thereby, mitigating any potential negative impacts to the existing downstream sewer and drainage system.
- Preliminary design indicates that the SWM facility footprint can be accommodated within Block 29.
- Erosion will be minimized and sediment contained on site through the installation of controls as outlined within this report.
- There is adequate Sanitary and Water Reserve Capacities to accommodate the proposed development.

### TRITON ENGINEERING SERVICES LIMITED

Im Clark

Chris Clark, M.A.Sc, P.Eng.

Appendix A

**Input Parameters** 

Hydrologic Modelling Parameters							
Catchment I.D.	Area	% Imp.	SCS CN				
	Pre - De	evelopment Condition	IS				
101	3.10	0	78				
102	0.30	0	78				
	Post De	evelopment Condition	s				
200	0.52	43	78				
201	0.46	48	78				
202	0.41	42	78				
203	0.28	52	78				
204	0.24	30	78				
205	0.32	39	78				
206	0.21	5	78				
207	0.24	51	78				
208	0.18	45	78				
209	0.02	80	78				
210	0.26	38	78				
211	0.26	40	78				

Design Storm Parameters							
Design Storm	а	b	С	Duration (hrs)			
5 - Year	955.420	7.820	0.807	3			
10 - Year	1122.53	9.189	0.817	3			
25 - Year	1387.380	9.697	0.820	3			
50 - Year	1644.39	11.085	0.829	3			
100 - Year	1720.730	10.674	0.822	3			

Appendix B

SWM Design Details

# **Clair Ridge Estates Subdivision**

SWM Facility Design Calculations

## Dry Pond SWM Facility Forebay Design

NOTE: Orange numbers can be adjusted. All other numbers update automatically

#### **OUTFLOW DESIGN**

Control Flow Rate @ (m) 1.2 $Flow = 0.0132 \text{ m}^3/\text{s}$	Control Flow Rate @ (m)	1.2	Flow =	$0.0132 \text{ m}^3/\text{s}$	
--	-------------------------	-----	--------	-------------------------------	--

### DESIGN

DESIGN				
To Solve	Distance	L:W Ratio	$Qp(m^3/s)$	Vs
Distance	9.38083	2.00	0.0132	0.0003
Ratio	9.3808	2.00	0.0132	0.0003
Flow Rate (Qp)	14.154	4.55	0.013209	0.0003
<b>RESULTS:</b>			_	
Forebay Length		9.3808		
Forebay Width		4.6904		

#### CHECKS

Dist	Inlet Flow Rate (Q) (m/s	Depth of Forebay	Desired Velocity in Fore
14.1538	1.38	1.56	0.5
Deep Zone Bottom Width 1.77	<b>tsi</b> 14.1538		

# Clair Ridge Estates Subdivision SWM Facility Design Calculations

Dry Pond SWM Facility Stage-Storage-Discharge Relationship

Rating Curve				Volume Estimation			Drawdown	
Elevation	Discharge	Act. Storage	Elevation	Depth (1)	Volum	ie (m <sup>3</sup> )	Increment	Accumulated
(m)	(m <sup>3</sup> /s)	(m <sup>3</sup> )	(m)	(m)	Increment	Accumulated		hours
401.25	0.0000	0.00	401.25	0.000	0	0.00	0	0
401.35	0.0037	27.30	401.35	0.100	27	27.30	4.08	4.084
401.45	0.0053	76.40	401.45	0.200	49	76.40	3.04	7.127
401.55	0.0064	130.20	401.55	0.300	54	130.20	2.56	9.685
401.65	0.0074	188.90	401.65	0.400	59	188.90	2.35	12.038
401.75	0.0083	252.70	401.75	0.500	64	252.70	2.25	14.292
401.85	0.0091	321.70	401.85	0.600	69	321.70	2.20	16.495
401.95	0.0098	396.10	401.95	0.700	74	396.10	2.18	18.679
402.05	0.0105	476.10	402.05	0.800	80	476.10	2.19	20.866
402.15	0.0111	561.70	402.15	0.900	86	561.70	2.20	23.063
402.25	0.0650	653.20	402.25	1.000	92	653.20	0.67	23.731
402.35	0.1371	750.70	402.35	1.100	98	750.70	0.27	23.999
402.45	0.1433	854.30	402.45	1.200	104	854.30	0.21	24.204
402.55	0.4554	963.00	402.55	1.300	109	963.00	0.10	24.305

Calculation of Overflow Weir					Р	ipe and DICE	3 Outlet Flow		
Elevation	Weir	Total Weir	Elevation	Orifice	DICB	Pipe	Total	Parameters	
(m)	(m³/s)	FLOW (m <sup>3</sup> /s)	(m)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)		
401.25	0.000	0.000	401.25	0.0000	0.000	0.0000	0.0000	Bottom Pond	401.250
401.35	0.000	0.000	401.35	0.0037	0.000	0.0077	0.0037	Orifice Elev (m)	401.250
401.45	0.000	0.000	401.45	0.0053	0.000	0.0282	0.0053	Orifice dia (mm)	75.000
401.55	0.000	0.000	401.55	0.0064	0.000	0.0579	0.0064	Orifice Coef	0.600
401.65	0.000	0.000	401.65	0.0074	0.000	0.0857	0.0074		
401.75	0.000	0.000	401.75	0.0083	0.000	0.0933	0.0083	Pipe Invert Elev (m)	401.250
401.85	0.000	0.000	401.85	0.0091	0.000	0.1014	0.0091	Pipe dia. (mm)	300.000
401.95	0.000	0.000	401.95	0.0098	0.000	0.1093	0.0098		
402.05	0.000	0.000	402.05	0.0105	0.000	0.1167	0.0105	DICB Top Elev	402.350
402.15	0.000	0.000	402.15	0.0111	0.000	0.1238	0.0111	DICB Invert Elev (6:1)	402.200
402.25	0.000	0.000	402.25	0.0117	0.053	0.1306	0.0650	Weir Coeff.	0.601
402.35	0.000	0.000	402.35	0.0123	0.1597	0.1371	0.1371	Weir Width (m)	0.600
402.45	0.000	0.000	402.45	0.0129	0.2662	0.1433	0.1433		
402.55	0.306	0.306	402.55	0.0134	0.373	0.1493	0.4554	Overflow Weir Elev	402.450
								Weir Coeff.	1.670
								Weir Width (m)	2.000
								Weir Side Slope (x:1)	50.000
							•	CONTROL STRUCTURE	

#### pipe rating curve from CVM

HW Elev.	Discharge (m <sup>3</sup> /s)
401.25	0
401.35	0.0077
401.45	0.0282
401.55	0.0579
401.65	0.0857
401.75	0.0933
401.85	0.1014
401.95	0.1093
402.05	0.1167
402.15	0.1238
402.25	0.1306
402.35	0.1371
402.45	0.1433
402.55	0.1493

253

	A6814A_Pond Oulet	Ditch.	out
	" MIDUSS Output		>"
			Version 2.07 rev. 385"
			August-08-05"
п			ie METRIC"
п			0: \Pri vate Development\"
п			
п			A6814A_Pond Oulet Ditch.out"
п	"Output filename: Licensee name:	,	CPC"
		Tritor	
п	" Company	TITIO	n Engineering Services Ltd."
			20/07/2017 at 5:55:16 PM"
		, ,	
	U. 230 USER DEFINED STEADY FLOW	c.m/sec'	•
	0.040 Manning n		
	U. Cross-section type: U=trapez	oidal; 1	l=general "
	U. UUU Basewidin metre		
	3.000 Left bank stope		
	" 3.000 Right bank slope"		
	" 0.300 Channel depth metre"		
		. 299	metre"
		. 859	
п	" Channel capacity 0	233	c. m/sec"
		. 260	metre"
		. 200	

Appendix C

**Modelling Output** 

A6814A_5yr_Pre_v2. out	
MIDUSS Output MIDUSS version Vers	si on 2.07 rev. 385"
" MIDUSS created	August-08-05"
" 10 Units used: "Job folder: 0: \Pr	ie METRIC"
" A6814A - Sinclair Subdivision\Design\Storm\S	ivate Development\" SWM\MIDUSS FEB 2016"
" Output filename: A68	314A_5yr_Pre_v2.out"
" Li censee name: "Company Triton Enginee	CPC" ering Services Ltd."
Date & Time Last used: 11/07/	2017 at 2:27:51 PM"
" 31 TIME PARAMETERS" " 5.000 Time Step"	
" 180.000 Max. Storm Length"	
" 1500.000 Max. Hydrograph" " 32 STORM Chicago storm"	
" 32 STORM Chicago storm" " 1 Chicago storm"	
" 955.420 Coefficient A"	
" 7.820 Constant B" " 0.807 Exponent C"	
" 0.400 Fraction R"	
" 180.000 Duration" " 1.000 Time step multiplier"	
" Maximum intensity 121.935 mm/hr"	
" Total depth 41.919 mm"	5.1
" 6 005hyd Hydrograph extension used in this f " 33 CATCHMENT 101"	TTe
" 1 Tri angul ar SCS"	
" 1 Equal Length" " 1 SCS method"	
" 101 No description"	
" 0.000 % Impervious" " 0.300 Total Area"	
" 45.000 Flow length"	
" 1. 200 Overl and SI ope"	
" 0.300 Pervious Area" " 45.000 Pervious Length"	
" 1.200 Pervious slope"	
" 0.000 Impervious Area" " 45.000 Impervious Iength"	
" 1.200 Impervious slope"	
" 0. 250 Pervi ous Manni ng ' n' " " 78. 000 Pervi ous SCS Curve No. "	
" 0. 271 Pervious Runoff coefficient"	
" 0.100 Pervious la/S coefficient"	
<ul> <li>7.164 Pervious Initial abstraction"</li> <li>0.015 Impervious Manning 'n'"</li> </ul>	
" 98.000 Impervious SCS Curve No."	
<ul> <li>0.878 Impervious Runoff coefficient"</li> <li>0.100 Impervious Ia/S coefficient"</li> </ul>	
" 0.518 Impervious Initial abstraction"	<i>,</i>
" 0.008 0.000 0.000 0.000 c.m " Catchment 101 Pervious Impervious To	
" Surface Area 0.300 0.000 0.	300 hectare"
	9.229 minutes"
	37.510 minutes" 1.919 mm"
" Rainfall volume 125.76 0.00 12	25.76 c.m"
	).571 mm"  .347 mm"
" Runoff volume 34.04 0.00 34	l.04 c.m"
	271 " 008 c.m/sec"
" 40 HYDROGRAPH Add Runoff "	0. 11/ 500

A6814A\_5yr\_Pre\_v2.out

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	4	Add Runoff "				
п		0.008 0.00	8 0.000	0. 000"		
	33 CA	TCHMENT 102"				
	1	Tri angul ar SCS"				
	1	Equal length"				
н	1	SCS method"				
н	102					
п		No description"				
п	0.000	% Impervious"				
	3.100	Total Area"				
	90.000	Flow length"				
	1.200	Overl and SI ope"				
	3. 100	Pervious Area"				
	90.000	Pervious length"				
п	1. 200	Pervious slope"				
н	0.000	Impervious Area"				
п	90.000	Impervious length"				
п	1.200	Impervious slope"				
н	0. 250	Pervious Manning 'n				
п	78.000	Pervious SCS Curve	No "			
п	0. 271	Pervious Runoff coe				
п	0. 100	Pervious Ia/S coeff				
п	7. 164	Pervious Initial ab				
п						
п	0.015	Impervious Manning				
	98.000	Impervious SCS Curv				
	0.878	Impervious Runoff c				
	0.100	Impervious Ia/S coe				
	0. 518	Impervious Initial				
		0.062 0.00			c.m/sec"	
		tchment 102	Pervi ous		Total Area	
	Su	rface Area	3. 100	0.000	3. 100	hectare"
	Ti	me of concentration	44.303	4. 726	44.303	minutes"
н	Ti	me to Centroid	156. 604	94.585	156.604	minutes"
п	Ra	infall depth	41.919	41.919	41.919	mm''
п		infall volume	1299.47	0.00	1299.47	C. M"
н		infall losses	30. 572	5.436	30. 572	mm''
п		noff depth	11.346	36. 483	11.346	mm''
п		noff volume	351.74	0.00	351.74	c. m''
п		noff coefficient	0. 271	0.878	0. 271	U. III ''
п		ximum flow	0.062	0.000	0.062	c.m/sec"
	IVIA		0.002	0.000	0.002	C. III/ 3CC

 A6814A_10yr_Pre_v2. out								
		MIDUSS Output MIDUSS version		V	ersion 2.07	rev. 385"		
	10	MIDUSS created				gust-08-05"		
	10	Units used: Job folder:		0.	\Private De	ie METRIC" velopment\"		
		A6814A - Sinclair S	ubdivision∖					
		Output filename:		β A	6814A_10yr_	Pre_v2.out"		
		Licensee name: Company		Triton Engi	neerina Ser	CPC" vices Itd "		
		Date & Time last us		11/	07/2017 at	2: 47: 23 PM"		
 31		ME PARAMETERS"						
	5. 000 180. 000	Time Step" Max. Storm Length"						
	1500.000	Max. Hydrograph"						
 32		ORM Chicago storm"						
	1 1122. 530	Chicago storm" Coefficient A"						
	9. 189	Constant B"						
	0.817	Exponent C" Fraction R"						
	0. 400 180. 000	Duration"						
	1.000	Time step multiplie		~~ <i>"</i>				
		nximum intensity Dtal depth	128. 4 46. 3					
	6	010hyd Hydrograph	extension		s file"			
 33		TCHMENT 101"						
	1	Triangular SCS" Equal length"						
	1	SCS method"						
	101 0. 000	No description" % Impervious"						
	0.300	Total Area"						
	45.000	Flow length"						
	1.200 0.300	Overl and Sl ope" Pervi ous Area"						
	45.000	Pervious length"						
	1.200	Pervious slope"						
	0.000 45.000	Impervious Area" Impervious length"						
	1.200	Impervious slope"						
	0. 250 78. 000	Pervious Manning 'n Pervious SCS Curve	No "					
	0. 299	Pervious Runoff coe						
	0.100	Pervious Ia/S coeff						
	7. 164 0. 015	Pervious Initial ab Impervious Manning						
	98.000	Impervious SCS Curv	re No."					
	0. 888 0. 100	Impervious Runoff c Impervious Ia/S coe	oefficient"					
	0. 518	Impervious Initial						
		0.011 0.00	0.000	0.000	c.m/sec"			
		itchment 101 Irface Area	Pervi ous 0. 300	Impervious 0.000	Total Area 0.300	" hectare"		
		me of concentration	27.199	3.043	27. 199	mi nutes"		
		me to Centroid	134.058	91.764	134.058	minutes"		
		infall depth infall volume	46. 364 139. 09	46. 364 0. 00	46. 364 139. 09	mm" C. M"		
	Ra	infall losses	32. 506	5.878	32. 506	mm''		
		noff depth noff volume	13. 858 41. 58	40. 486 0. 00	13. 858 41. 58	mm" C. m"		
		noff coefficient	0. 299	0.888	0. 299	п		
 40	Ma	iximum flow	0.011	0.000	0. 011	c.m/sec"		
40	HY	DROGRAPH Add Runoff	Dava 1					

A6814A\_10yr\_Pre\_v2.out

		A08147	4_TUYr_Pre_∿	/2. OUL		
	4	Add Runoff "				
		0.011 0.01	1 0.000	0. 000"		
	22 01		0.000	0.000		
		ATCHMENT 102"				
	1	Tri angul ar SCS"				
	1	Equal length"				
	1	SCS method"				
н	102	No description"				
н	0.000	% Impervious"				
п						
	3.100	Total Area"				
	90.000	Flow length"				
	1. 200	OverI and SI ope"				
	3. 100	Pervious Area"				
	90.000	Pervious length"				
н	1.200	Pervious slope"				
п	0.000					
		Impervious Area"				
	90.000	Impervious length"				
	1.200	Impervious slope"				
	0. 250	Pervious Manning 'n				
	78.000	Pervious SCS Curve	No. "			
	0. 299	Pervious Runoff coe	fficient"			
	0. 100	Pervious Ia/S coeff				
н	7. 164	Pervious Initial ab				
н	0.015	Impervious Manning				
н	98.000	Impervious Marining				
		Impervious SCS Curv				
	0.888	Impervious Runoff c				
	0. 100	Impervious la/S coe	TTICIENT			
	0. 518	Impervious Initial	abstraction			
		0.082 0.01	1 0.000	0.000	c.m/sec"	
	Ca	atchment 102	Pervi ous	Impervious	Total Area	
	Si	urface Area	3.100	0. 000	3.100	hectare"
н		me of concentration	41.226	4.613	41. 226	minutes"
п		me to Centroid	151, 750	94.049	151.750	minutes"
		ainfall depth	46.364	46.364	46.364	mm''
		ainfall volume	1437.29	0.00	1437.30	c. m"
		ainfall losses	32. 509	5. 523	32. 509	mm''
	Ru	unoff depth	13.856	40. 841	13.856	mm''
		unoff volume	429. 52	0.00	429.53	C. M"
		noff coefficient	0.299	0.888	0.299	
		aximum flow	0.082	0.000	0.082	c.m/sec"
	IVIC		0.002	0.000	0.002	0.11/ 000

			A6814	A_Pre_25yr_\	/2. out		
			MIDUSS Output MIDUSS version		V	ersion 2.07	>" rev 385"
			MIDUSS created		•		gust-08-05"
		10	Units used: Job folder:		0.	\Private De	ie METRIC"
			A6814A - Sinclair S	Subdivision∖			
			Output filename:		A	6814A_Pre_2	5yr_v2.out" CPC"
			Li censee name: Company		Triton Engi	neering Ser	
	0.1	<b>T</b> 1	Date & Time last us		11/	07/2017 at	2:36:54 PM"
	31	5. 000	ME PARAMETERS" Time Step"				
		180.000	Max. Storm Length"				
	32	1500. 000 ST	Max. Hydrograph" ORM Chicago storm"				
	52	1	Chicago storm"				
		1387.380	Coefficient A"				
		9. 697 0. 820	Constant B" Exponent C"				
"		0.400	Fraction R"				
		180.000 1.000	Duration" Time step multiplie	r"			
			ximum intensity	153.1			
			tal depth 025byd Hydrograph	56.4 extension		e filo"	
	33	6 CA	025hyd Hydrograph TCHMENT 101"	I extensi on		5 1116	
		1	Tri angul ar SCS"				
		1	Equal length" SCS method"				
		101	No description"				
		0.000 0.300	% Impervious" Total Area"				
		45.000	Flow length"				
		1.200 0.300	Overland Slope" Pervious Area"				
		45.000	Pervious Length"				
		1.200	Pervious slope"				
		0.000 45.000	Impervious Area" Impervious length"				
		1. 200	Impervious slope"				
		0. 250 78. 000	Pervious Manning 'r Pervious SCS Curve	No "			
		0.356	Pervious Runoff coe	effi ci ent"			
		0. 100 7. 164	Pervious la/S coeff Pervious Initial ab				
		0. 015	Impervious Manning	' n' "			
		98.000 0.907	Impervious SCS Curv Impervious Runoff c	ve No."			
		0. 100	Impervious Ia/S coe	effi ci ent"			
		0. 518	Impervious Initial			o m/coo"	
		Са	0.017 0.00 tchment 101	Pervious		c.m/sec" Total Area	
		Su	rface Area	0.300	0.000	0.300	hectare"
			me of concentration me to Centroid	23. 201 128. 189	2.821 90.930	23. 201 128. 189	mi nutes" mi nutes"
11 .7		Ra	infall depth	56.404	56.404	56.404	mm''
			infall volume infall losses	169. 21 36. 361	0. 00 6. 283	169. 21 36. 361	C.M" mm"
		Ru	noff depth	20.042	50. 120	20.042	mm''
			noff volume noff coefficient	60. 13 0. 356	0. 00 0. 907	60. 13 0. 356	C. M"
		Ma	ximum flow	0.017	0.000	0.017	c.m/sec"
	40	HY	DROGRAPH Add Runoff	" Dago 1			

A6814A\_Pre\_25yr\_v2.out

		A0814/	4_Pre_25yr_\	/2. 0ut		
	4	Add Runoff "				
		0.017 0.01	7 0.000	0.000"		
	22 04		, 0.000	0.000		
п		ATCHMENT 102"				
	1	Tri angul ar SCS"				
	1	Equal length"				
	1	SCS method"				
	102	No description"				
н	0.000	% Impervious"				
п	3. 100	Total Area"				
п						
	90.000	Flow length"				
	1.200	OverI and SI ope"				
	3. 100	Pervious Area"				
	90.000	Pervious length"				
п	1. 200	Pervious slope"				
п	0.000	Impervious Area"				
п	90.000	Impervious length"				
п	1. 200	Impervious slope"				
п	0. 250	Pervi ous Manni ng ' n	1.11			
п			No."			
п	78.000	Pervious SCS Curve				
	0.356	Pervious Runoff coe				
	0.100	Pervious la/S coeff				
	7.164	Pervious Initial ab				
	0. 015	Impervious Manning	' n' "			
	98.000	Impervious SCS Curv	e No."			
	0. 907	Impervious Runoff c	oefficient"			
	0. 100	Impervious Ia/S coe				
п	0. 518	Impervious Initial				
н		0, 136 0, 01			c.m/sec"	
п	Ca	atchment 102	Pervious		Total Area	н
п		Inface Area	3.100	0.000	3.100	hectare"
п		me of concentration	35.166	4.276	35.166	mi nutes"
п						
п		me to Centroid	143.517	93.072	143.517	minutes"
		ainfall depth	56.404	56.404	56.404	mm''
		ainfall volume	1748.51	0.00	1748.51	c. m"
		ainfall losses	36.358	5.773	36.358	mm''
	Ru	unoff depth	20. 045	50. 631	20. 045	mm''
	Ru	unoff volume	621.40	0.00	621.40	C. M"
		noff coefficient	0.356	0. 907	0.356	н
		aximum flow	0. 136	0.000	0.136	c.m/sec"

		A6814	A_50yr_Pre_\	/2. out		
		MIDUSS Output MIDUSS version		 V/	ersion 2.07	>" rev 385"
		MIDUSS created		v		gust-08-05"
	10	Units used:				ie METRIC"
		Job folder: A6814A - Sinclair S	Subdivision\		\Private De m\sWM\MIDUS	
		Output filename:			6814A_50yr_	Pre_v2.out"
		Licensee name:		Triton Engi	nooring Sor	CPC"
		Company Date & Time last us		Triton Engi 11/	07/2017 at	2: 49: 39 PM"
 31		ME PARAMETERS"				
	5. 000 180. 000	Time Step" Max. Storm length"				
	1500.000	Max. Hydrograph"				
 32	ST	ORM Chicago storm"				
	1 1644. 390	Chicago storm" Coefficient A"				
	11. 085	Constant B"				
	0.829	Exponent C"				
	0. 400 180. 000	Fraction R" Duration"				
	1.000	Time step multiplie				
		ximum intensity tal depth	164. 2 63. 2			
	6		extension		s file"	
 33		TCHMENT 101"				
	1	Triangular SCS" Equal length"				
	1	SCS method"				
	101 0. 000	No description" % Imporvious"				
	0.300	% Impervious" Total Area"				
	45.000	Flow length"				
	1.200 0.300	Overland Slope" Pervious Area"				
	45.000	Pervious length"				
	1.200	Pervious slope"				
	0.000 45.000	Impervious Area" Impervious length"				
	1.200	Impervious slope"				
	0. 250 78. 000	Pervious Manning 'n Pervious SCS Curve	No "			
	0.390	Pervious Runoff coe				
	0.100	Pervious Ia/S coeff				
	7. 164 0. 015	Pervious Initial ab Impervious Manning				
	98.000	Impervious SCS Curv	ve No."			
	0. 916 0. 100	Impervious Runoff c Impervious Ia/S coe				
	0. 518	Impervious Initial				
		0.023 0.00			c.m/sec"	
		tchment 101 rface Area	Pervi ous 0. 300	0.000	Total Area 0.300	" hectare"
		me of concentration	21. 565	2.736	21. 564	minutes"
		me to Centroid	125.357	90.516	125.357	minutes" mm"
		infall depth infall volume	63. 286 189. 86	63.286 0.00	63. 286 189. 86	иш с. m''
	Ra	infall losses	38. 651	6.499	38.651	mm''
		noff depth noff volume	24. 635 73. 90	56. 787 0. 00	24. 635 73. 90	mm" C. m"
	Ru	noff coefficient	0.390	0.916	0.390	п
 40	Ma	ximum flow	"0. 023	0.000	0. 023	c.m/sec"
40	HY	DROGRAPH Add Runoff	Daga 1			

A6814A\_50yr\_Pre\_v2.out

		A08147	4_50yr_Pre_V	/2. OUL		
	4	Add Runoff "	-			
		0.023 0.02	3 0.000	0. 000"		
	22 04		5 0.000	0.000		
		TCHMENT 102"				
	1	Tri angul ar SCS"				
	1	Equal length"				
	1	SCS method"				
н	102	No description"				
	0.000					
		% Impervious"				
	3.100	Total Area"				
	90.000	Flow length"				
	1.200	OverI and SI ope"				
	3. 100	Pervious Area"				
н	90.000	Pervious length"				
п	1.200	Pervious slope"				
п						
	0.000	Impervious Area"				
	90.000	Impervious length"				
	1. 200	Impervious slope"				
	0. 250	Pervious Manning 'n				
	78.000	Pervious SCS Curve	No. ''			
	0. 390	Pervious Runoff coe	fficient"			
н	0. 100	Pervious Ia/S coeff				
п	7. 164	Pervious Initial ab				
п	0. 015	Impervious Manning				
п						
	98.000	Impervious SCS Curv				
	0. 916	Impervious Runoff c				
	0. 100	Impervious Ia/S coe				
	0. 518	Impervious Initial	abstraction			
п		0. 177 0. 02	3 0.000	0.000	c.m/sec"	
п	Ca	tchment 102	Pervi ous		Total Area	н
н		irface Area	3.100	0.000	3.100	hectare"
н		me of concentration	32. 686	4. 147	32.686	minutes"
п						
		me to Centroid	139.551	92.552	139.551	minutes"
		infall depth	63.286	63.286	63.286	mm''
	Ra	infall volume	1961.85	0.00	1961.85	C. M"
		infall losses	38.645	5. 921	38.645	mm''
п	Ru	noff depth	24.641	57.365	24.641	mm''
н		noff volume	763.86	0.00	763.86	C. M"
п		noff coefficient	0.390	0.916	0.390	
п		iximum flow	0. 177	0.000	0.177	c.m/sec"
	IVIC		0.177	0.000	0.177	C. III/ 3CC

			A6814A	_Pre_100yr_	v2. out		
			MIDUSS Output MIDUSS version		 V/	ersion 2.07	>" rev 385"
			MIDUSS created		•		gust-08-05"
		10	Units used: Job folder:		0.	Privato Do	ie METRIC"
			A6814A - Sinclair S	ubdi vi si on∖l		\Private De <sup>.</sup> m\SWM\MIDUS:	
			Output filename:		A6	814A_Pre_10	
			Li censee name: Company	-	Triton Engi	neering Ser	CPC" vices Ltd."
			Date & Time last us		11/	07/2017 at 1	2:54:28 PM"
	31	5. 000	ME PARAMETERS" Time Step"				
		180.000	Max. Storm Length"				
	32	1500.000	Max. Hydrograph"				
	32	1	ORM Chicago storm" Chicago storm"				
		1780. 100	Coefficient A"				
		11. 090 0. 828	Constant B" Exponent C"				
		0.400	Fraction R"				
		180. 000 1. 000	Duration" Time step multiplie	r"			
			kimum intensity	178.40	09 mm/hr	u	
		,	tal depth	68.9		c filo"	
	33	6 CA <sup>-</sup>	100hyd Hydrograph TCHMENT 101"	extension		sine	
		1	Tri angul ar SCS"				
		1	Equal length" SCS method"				
		101	No description"				
		0. 000 0. 300	% Impervious" Total Area"				
		45.000	Flow length"				
		1.200	Overland Slope" Pervious Area"				
		0. 300 45. 000	Pervious length"				
		1. 200	Pervious slope"				
		0. 000 45. 000	Impervious Area" Impervious length"				
		1. 200	Impervious slope"				
		0. 250 78. 000	Pervious Manning 'n Pervious SCS Curve	No "			
		0. 415	Pervious Runoff coe	effi ci ent"			
		0. 100 7. 164	Pervious la/S coeff Pervious Initial ab				
		0. 015	Impervious Manning	'n'"			
		98.000 0.923	Impervious SCS Curv Impervious Runoff c	e No."			
		0. 100	Impervious la/S coe				
		0. 518	Impervious Initial	abstracti on	" 0.000		
		Ca	0.028 0.00 tchment 101	0 0.000 Pervi ous		c.m/sec" Total Area	н
		Sui	rface Area	0.300	0.000	0.300	hectare"
			me of concentration me to Centroid	20. 217 123. 325	2. 643 90. 197	20. 217 123. 325	minutes" minutes"
"		Rai	infall depth	68.976	68.976	68.976	mm''
			infall volume infall losses	206. 93 40. 371	0.00 6.635	206. 93 40. 371	C. M" MM"
		Rui	noff depth	28.605	62.342	28.605	mm''
			noff volume noff coefficient	85.82 0.415	0. 00 0. 923	85.82 0.415	C. M"
		Max	ximum flow	0. 028	0. 923	0. 028	c.m/sec"
	40	HYI	DROGRAPH Add Runoff	" Dago 1			

A6814A\_Pre\_100yr\_v2.out

		A0814P		vz. out		
	4	Add Runoff "				
		0.028 0.02	. 000 0. 000	0. 000"		
	33 CA	ATCHMENT 102"				
	1	Tri angul ar SCS"				
	1	Equal Length"				
	1	SCS method"				
	102	No description"				
п	0.000	% Impervious"				
п	3. 100	Total Area"				
п	90.000	Flow length"				
п	1. 200	Overl and Sl ope"				
п						
п	3.100	Pervious Area"				
	90.000	Pervious length"				
	1.200	Pervious slope"				
	0.000	Impervious Area"				
	90.000	Impervious length"				
	1. 200	Impervious slope"				
п	0. 250	Pervious Manning 'n	ı' ''			
п	78.000	Pervious SCS Curve	No. "			
н	0. 415	Pervious Runoff coe				
п	0. 100	Pervious Ia/S coeff				
п	7. 164	Pervious Initial ab				
п	0. 015	Impervious Manning				
п	98.000	Impervious SCS Curv	// No "			
п	0. 923		e NU.			
п		Impervious Runoff o				
	0. 100	Impervious la/S coe				
	0. 518	Impervious Initial			,	
		0.216 0.02			c.m/sec"	
		atchment 102	Pervi ous		Total Area	
	Su	irface Area	3. 100	0.000	3. 100	hectare"
	Ti	me of concentration	30. 644	4.006	30. 644	minutes"
	Ti	me to Centroid	136. 728	92.194	136.728	minutes"
п	Ra	ainfall depth	68.976	68.976	68.976	mm''
н		ainfall volume	2138.27	0.00	2138.27	C. M"
н		ainfall losses	40.358	6. 124	40.358	mm''
п		noff depth	28.618	62.852	28. 618	mm''
п		inoff volume	887.17	0.00	887.17	C. M''
п		unoff coefficient	0. 415	0.923	0. 415	U. III "
		aximum flow				a m/caa"
	IVIč		0. 216	0.000	0. 216	c.m/sec"

				ond_75mm ori	fi ce_v3a. ou	ut	
			MIDUSS Output MIDUSS version			ersion 2.07	>"
			MIDUSS created		v		gust-08-05"
		10	Units used:				ie METRIC"
			Job folder: A6814A - Sinclair S	ubdivision\D		\Private De \swm\minuss	
			Output filename:	A6814	A 5yr Pond	100mm orifi	ce v3a.out"
			Li censee name:		-		CPC"
			Company			neering Ser	
	31	TI	Date & Time Last u: ME PARAMETERS"	seu:	207	07/2017 at	2:43:20 PW
	01	5.000	Time Step"				
		180.000	Max. Storm Length"				
	32	1500.000	Max. Hydrograph" FORM Chicago storm"				
	52	1	Chi cago storm"				
		955.420	Coefficient A"				
		7.820	Constant B"				
		0.807 0.400	Exponent C" Fraction R"				
		180.000	Durati on"				
		1.000	Time step multipli		2 <b>.</b>		
			aximum intensity otal depth	121.9 41.9			
		6		h extension		s file"	
	33		ATCHMENT 200"				
		1	Triangular SCS" Equal length"				
		1	SCS method"				
		200	No description"				
		43.000 0.520	% Impervious" Total Area"				
		55.000	Flow length"				
		1.000	Overl and Sl ope"				
		0.296 55.000	Pervious Area" Porvious Longth"				
		1.000	Pervious length" Pervious slope"				
		0. 224	Impervious Area"				
		55.000	Impervious length"				
		1. 000 0. 250	Impervious slope" Pervious Manning '	n' "			
		78.000	Pervious SCS Curve	No. "			
		0.271	Pervious Runoff co				
		0. 100 7. 164	Pervious la/S coef Pervious Initial a				
		0.015	Impervious Manning	'n'"			
		98.000	Impervious SCS Cur	ve No."			
		0. 878 0. 100	Impervious Runoff Impervious la/S co				
		0. 518	Impervious Initial				
			0.055 0.0	000.000	0.000	c.m/sec"	
			atchment 200 urface Area	Pervious 0. 296	Impervious 0.224	Total Area 0.520	" hectare"
			me of concentration		3. 714	12.863	minutes"
		Ti	me to Centroid	144. 598	93.157	108.286	minutes"
		_	ainfall depth ainfall volume	41. 919 124. 25	41. 919 93. 73	41. 919 217. 98	mm" C. m"
п			ainfall losses	30. 573	5. 821	19.930	mm"
		Ru	unoff depth	11. 345	36.098	21. 989	mm''
			unoff volume	33.63	80.71	114.34	C. M"
п		Ма	unoff coefficient aximum flow	0. 271 0. 007	0. 878 0. 053	0. 532 0. 055	c.m/sec"
	40	H	/DROGRAPH Add Runoff				
				Dago 1			

			yr_Por	nd_75mm ori	fi ce_v3a. ou	ıt	
	4	Add Runoff " 0.055	0.055	0.000	0. 000"		
 33	-	TCHMENT 201"					
	1	Triangular SCS' Equal length"					
	1	SCS method"					
	201 48. 000	No description' % Impervious"					
	0.460 56.000	Total Area" Flow length"					
	0.600	Overl and Sl ope'					
	0.239 56.000	Pervious Area" Pervious Length	ר"				
	0.600	Pervious slope					
	0. 221 56. 000	Impervious Area Impervious Ieng					
	0. 600 0. 250	Impervious slop	5e"				
	78.000	Pervious Manni Pervious SCS Cu	urve N	lo. "			
	0. 271 0. 100	Pervious Runoff Pervious La/S d					
	7.164	Pervious Initia	al abs	straction"			
	0. 015 98. 000	Impervious Mann Impervious SCS	ni ng Curve	n''' • No. ''			
	0.878	Impervious Rund	off co	efficient"			
	0. 100 0. 518	Impervious la/S Impervious Init	tial a	bstracti on'			
	Са	0.055 tchment 201	0.055	0.000 Pervious		c.m/sec" Total Area	п
	Su	irface Area		0. 239	0. 221	0.460	hectare"
	Ti	me of concentrat me to Centroid		41.031 152.462	4.377 94.072	13. 621 108. 798	mi nutes" mi nutes"
		infall depth infall volume		41. 919 100. 27	41. 919 92. 56	41. 919 192. 83	mm" c.m"
	Ra	infall losses		30. 573	5.474	18. 526	mm''
		noff depth noff volume		11.346 27.14	36. 444 80. 47	23. 393 107. 61	mm'' C. M''
		noff coefficient ximum flow		0. 271 0. 005	0. 878 0. 054	0. 562 0. 055	" c.m/sec"
 40	HY	DROGRAPH Add Rur	noff "	0.005	0.034	0.033	C. III/ SEC
	4	Add Runoff " 0.055	0. 110	0.000	0. 000"		
 33		TCHMENT 202"					
	1 1	Triangular SCS' Equal length"					
	1 202	SCS method" No description'	ı				
	42.000	% Impervious"					
	0. 410 54. 000	Total Area" Flow length"					
	0. 600 0. 238	Overl and Sl ope Pervi ous Area"					
	54.000	Pervious length					
	0. 600 0. 172	Pervious slope Impervious Area	' a''				
	54.000	Impervious leng	gth"				
	0. 600 0. 250	Impervious slop Pervious Mannir	ng 'n'				
	78.000 0.271	Pervious SCS Cu Pervious Runofi	urve N	lo. "			
	0.100	Pervious la/S d	coeffi	ci ent"			
	7. 164 0. 015	Pervious Initia Impervious Manr	ar abs hing '	n'"			
			-	Page 2			

	40	Su Ti Ra Ra Ru Ru Ru Ma	A6814A Impervious SG Impervious Ia Impervious Ia O.043 Itchment 202 Inface Area me of concentr me to Centroid Infall depth Infall volume Infall losses Inoff depth Inoff volume Infall losses Inoff coefficie Ximum flow DROGRAPH Add I Add Runoff "	CS Curv unoff c a/S coe nitial 0.11 ration	oeffi ci ent" ffi ci ent" abstracti on' 0 0.000 Pervi ous 0.238 40.145 151.336 41.919 99.68 30.568 11.350 26.99 0.271 0.005		c. m/sec" Total Area 0. 410 15. 072 111. 201 41. 919 171. 87 20. 038 21. 881 89. 71 0. 526 0. 043	" hectare" minutes" minutes" mm" c.m" mm" c.m" c.m/sec"
 	33		0. 043 0. 043 .TCHMENT 204"	0. 15	3 0.000	0.000"		
 	33	1 1	Triangular S Equal length					
н н		1 204	SCS method" No descriptio					
 		30. 000 0. 240	% Impervious' Total Area"					
		35.000 2.000	Flow length" Overland Slop					
		0. 168 35. 000	Pervious Area Pervious Leng	gth"				
		2.000 0.072 35.000	Pervious sloj Impervious A Impervious le	rea"				
н П		2. 000 0. 250	Impervious s Pervious Mani	ope"				
 		78.000 0.271	Pervious SCS Pervious Runo	Curve	No. "			
		0. 100 7. 164	Pervious la/S Pervious lni	S coeff tial ab	i ci ent" stracti on"			
		0.015 98.000	Impervious Ma Impervious S	CS Curv	e No."			
		0. 878 0. 100 0. 518	Impervious Ru Impervious La	a/S coe	ffi ci ent"			
 			Impervious I 0.019 tchment 204	0. 15		0.000	c.m/sec" Total Area	н
н н		Su	me of concent	ration	0. 168 21. 566	0. 072 2. 300	0. 240 10. 436	hectare" minutes"
н П		Ti	me to Centroid infall depth		127.807 41.919	90.931 41.919	106.504 41.919	minutes" mm"
 		Ra	infall volume infall losses		70. 42 30. 574	30. 18 5. 706	100.60 23.113	C. M" MM"
		Ru	noff depth noff volume		11. 345 19. 06	36. 212 26. 07	18. 805 45. 13	mm" c.m"
	40	Ma	noff coefficie ximum flow		0. 271 0. 006	0. 878 0. 018	0. 453 0. 019	" c.m/sec"
	40	HY 4	DROGRAPH Add I Add Runoff "			0 000"		
 	33	CA 1	0.019 TCHMENT 203" Triangular S	0. 17 25"	0 0.000	0. 000"		
 		1	Equal length SCS method"	1				
		•			Dago 2			

		A6814A_5yr_Pond_7203No description"52.000% Impervious"0.280Total Area"47.000Flow Length"0.800Overland Slope"0.134Pervious Area"47.000Pervious Iength"0.800Pervious Iength"0.800Pervious Slope"0.146Impervious Area"47.000Impervious Area"47.000Impervious Slope"0.146Impervious Slope"0.250Pervious Manning 'n'"78.000Pervious SCS Curve No."0.271Pervious Runoff coefficier7.164Pervious Initial abstract0.015Impervious SCS Curve No.0.878Impervious Runoff coefficient0.100Impervious Ia/S coefficient0.100Impervious Ia/S coefficient0.101Impervious Runoff coefficient0.0350.170	ent" ht" cti on" ci ent" ent" cacti on' 0.000	, 0.000 c	c.m/sec"	
11 11 11		Catchment 203 Perv Surface Area 0.13 Time of concentration 33.8		Impervious 0.146 3.614	Total Area 0.280 10.430	" hectare" mi nutes"
		Time to Centroid 143. Rainfall depth 41.9		93.009 41.919	104.357 41.919	minutes" mm"
		Rainfall volume 56.3 Rainfall losses 30.5		61. 03 5. 874	117.37 17.728	C. M" MM"
 		Runoff depth 11.3 Runoff volume 15.2	349	36.045 52.48	24. 191 67. 73	mm" C. M"
 		Runoff coefficient 0.27 Maximum flow 0.00	71	0. 878 0. 035	0. 586 0. 035	c.m/sec"
 	40	HYDROGRAPH Add Runoff "	5	0.035	0.035	C. III/ SEC
		4 Add Runoff " 0.035 0.205	0.000	0. 000"		
	40	HYDROGRAPH Copy to Outflow' 8 Copy to Outflow"				
	40	0.035 0.205 HYDROGRAPH Combine 1"	0. 205	0. 000"		
 		6 Combine " 1 Node #"				
 		Maximum flow	0. 20	05 c.m∕se	NC"	
 		Hydrograph volume	424.52	28 c.m"		
 	40	0.035 0.205 HYDROGRAPH Start - New Trik	0.205 outary"	0. 205"		
		2 Start - New Tributary" 0.035 0.000	0. 205	0. 205"		
	33	CATCHMENT 205" 1 Tri angul ar SCS"				
		1 Equal Length" 1 SCS method"				
		205 No description" 39.000 % Impervious"				
		0.320 Total Area" 74.000 Flow Length"				
		0. 800 Overl and Sl ope" 0. 195 Pervi ous Area"				
н П		74.000 Pervious Length" 0.800 Pervious slope"				
 		0. 125 Impervious Area" 74. 000 Impervious Iength"				
		_	ae 4			

			A6814A 5	vr Po	nd_75mm ori	fice v3a.ou	t	
		0.800	Impervious slop	be"			-	
		0.250	Pervious Mannin	ng 'n'				
		78.000 0.271	Pervious SCS Cu Pervious Runoff					
		0.100	Pervious Ia/S c					
		7.164	Pervious Initia	al abs	straction"			
		0.015	Impervious Mann	ning '	n' "			
		98.000 0.878	Impervious SCS Impervious Rund	urve Sff co	e NO. hefficient"			
		0.100	Impervious Ia/S					
		0. 518	Impervious Init					
		Cat	0.031 chment 205	0.000	0 0.205 Pervious	0.205 c Impervious	. m/sec"	
			face Area		0. 195	0. 125	0. 320	hectare"
			ne of concentrat	i on	44.489	4.745	17.752	minutes"
			ne to Centroid		156.839	94.614	114.978	minutes"
п			nfall depth nfall volume		41. 919 81. 82	41.919 52.31	41.919 134.14	mm'' C. m''
			nfall losses		30. 571	5. 432	20. 767	mm''
			noff depth		11.348	36. 487	21. 152	mm''
			noff volume noff coefficient	_	22. 15 0. 271	45.54	67.69	c.m"
			kimum flow	-	0.004	0. 878 0. 031	0. 508 0. 031	c.m/sec"
	40	HYD	ROGRAPH Add Rur	noff '	1			
		4	Add Runoff " 0.031	0 02.	1 0. 205	0. 205"		
п	33	САТ	CHMENT 206"	0.03	0.205	0.205		
		1	Tri angul ar SCS"	I				
		1 1	Equal length" SCS method"					
п		206	No description"					
		5.000	% Impervious"					
		0.210	Total Area"					
		12.000 2.000	Flow length" Overland Slope"					
		0. 199	Pervious Area"					
		12.000	Pervious length	יי				
		2.000 0.010	Pervious slope" Impervious Area					
		12.000	Impervious leng					
		2.000	Impervious slop	be"				
		0. 250 78. 000	Pervious Mannir Pervious SCS Cu	ig n irve l				
		0. 271	Pervious Runoff		ffi ci ent"			
		0.100	Pervious Ia/S c					
		7. 164 0. 015	Pervious Initia Impervious Mann					
		98.000	Impervious SCS					
		0.878	Impervious Runc	off co	pefficient"			
		0. 100 0. 518	Impervious la/S Impervious Init					
		0.010	0. 010	0. 03			.m/sec"	
			chment 206		Pervi ous	Impervious	Total Area	
			face Area	-i on	0.199	0.010	0.210	hectare"
			ne of concentrat ne to Centroid	.1 011	11. 346 114. 856	1.210 89.236	9.894 111.185	minutes" minutes"
		Rai	nfall depth		41. 919	41.919	41.919	mm''
			nfall volume		83.63	4.40	88.03	C. M"
			nfall losses noff depth		30. 602 11. 317	5.952 35.966	29.369 12.549	mm'' mm''
		Rur	noff volume		22.58	3.78	26.35	C. M"
			noff coefficient		0.271	0.878	0.301	" ~ m/coo"
		Max	kimum flow		0.009 Page 5	0.003	0. 010	c.m/sec"

		A6814A_5yr_Pond_75mm orifice_v3a.out
	40	HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.010 0.040 0.205 0.205"
	33	CATCHMENT 207"
		1 Tri angul ar SCS" 1 Equal Tength"
		1 SCS method"
		207 No description"
		51.000 % Impervious"
		0.240 Total Area" 71.000 Flow length"
		0.800 Overland Slope"
		0.118 Pervious Area"
		71.000 Pervious Length" 0.800 Pervious slope"
		0.122 Impervious Area"
		71.000 Impervious length"
		0.800 Impervious slope" 0.250 Pervious Manning 'n'"
		78.000 Pervious SCS Curve No."
		0.271 Pervious Runoff coefficient"
		0.100 Pervious La/S coefficient" 7.164 Pervious Initial abstraction"
		0.015 Impervious Manning 'n'"
		98.000 Impervious SCS Curve No."
		0.878 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient"
		0.518 Impervious Initial abstraction"
		0.030 0.040 0.205 0.205 c.m/sec" Catchment 207 Pervious Impervious Total Area "
		Surface Area 0. 118 0. 122 0. 240 hectare"
		Time of concentration 43.398 4.629 13.555 minutes"
		Time to Centroid 155.455 94.447 108.493 minutes" Rainfall depth 41.919 41.919 41.919 mm"
		Rainfall volume 49.30 51.31 100.60 c.m"
		Rainfall losses 30.569 5.460 17.763 mm"
		Runoff depth 11.349 36.459 24.155 mm" Runoff volume 13.35 44.63 57.97 c.m"
		Runoff coefficient 0.271 0.878 0.580 "
	40	Maximum flow 0.002 0.030 0.030 c.m/sec"
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "
		0.030 0.070 0.205 0.205"
	33	CATCHMENT 208" 1 Tri angul ar SCS"
		1 Iniangular SCS" 1 Equal Length"
		1 SCS method"
		208 No description" 45.000 % Impervious"
		0. 180 Total Area"
		45.000 Flow length"
		0.800 Overland Slope" 0.099 Pervious Area"
		45.000 Pervious Length"
		0.800 Pervious slope"
п		0.081 Impervious Area" 45.000 Impervious Length"
		0.800 Impervious slope"
		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."
		0. 271 Pervious Runoff coefficient"
		0.100 Pervious Ia/S coefficient"
		7.164 Pervious Initial abstraction"
		Page 6

	40	A6814A_5yr_Pond_75mm orifice 0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No." 0.878 Impervious Runoff coefficient" 0.100 Impervious la/S coefficient" 0.518 Impervious Initial abstraction" 0.020 0.070 0.205 Catchment 208 Pervious Impervious Imp	0. 205 c. m/sec"         ervious Total Area         81       0. 180         21       11. 709         850       106. 581         919       41. 919         95       75. 45       c. m"         40       19. 442       mm"         078       22. 476       mm"         22       40. 46       c. m"         78       0. 544       "
п		4 Add Ruffold 0. 020 0. 090 0. 205	0. 205"
 	33	CATCHMENT 209"	
		1 Triangular SCS" 1 Equal Length"	
		1 SCS method"	
п		209 No description" 80.000 % Impervious"	
		0.020 Total Area"	
п		10.000 Flow Length" 0.500 Overland Slope"	
и 11		0.004 Pervious Area"	
п		10.000 Pervious Length" 0.500 Pervious slope"	
		0.016 Impervious Area"	
п		10.000 Impervious length" 0.500 Impervious slope"	
		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."	
п		0. 271 Pervious Runoff coefficient"	
		0.100 Pervious Ia/S coefficient" 7.164 Pervious Initial abstraction"	
		0.015 Impervious Manning 'n'"	
		98.000 Impervious SCS Curve No." 0.878 Impervious Runoff coefficient"	
		0.100 Impervious Ia/S coefficient"	
		0.518 Impervious Initial abstraction" 0.004 0.090 0.205	0.205 c.m/sec"
		Catchment 209 Pervious Impe	ervious Total Area "
		Surface Area 0.004 0.07 Time of concentration 15.415 1.64	
		Time to Centroid 120.021 89.8	838 92.027 minutes"
		Rainfall depth 41.919 41.9 Rainfall volume 1.68 6.7	
п		Rainfall losses 30.578 5.66	65 10.647 mm"
		Runoff depth 11.341 36.2 Runoff volume 0.45 5.80	
		Runoff coefficient 0.271 0.8	78 0.756 "
н П	10	Maximum flow 0.000 0.00 HYDROGRAPH Add Runoff "	04 0.004 c.m/sec"
	40	4 Add Runoff "	
н п	10	0.004 0.093 0.205	0. 205"
п	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"	
		0.004 0.093 0.093	0. 205"
		Page 7	

Page 7

		A6814A_5yr_Pond_75mm orifice_v3a.out
	40	HYDROGRAPH Combine 1"
		6 Combine " 1 Node #"
		" Maximum flow 0.298 c.m/sec"
		Hydrograph volume 623.252 c.m"
	40	0.004 0.093 0.093 0.298" HYDROGRAPH Start - New Tributary"
	40	2 Start - New Tributary"
	33	0. 004 0. 000 0. 093 0. 298" CATCHMENT 210"
	55	1 Tri angul ar SCS"
		1 Equal length" 1 SCS method"
		210 No description"
		38.000 % Impervious" 0.260 Total Area"
		22.000 Flow length"
		0.500 Overl and SI ope" 0.161 Pervi ous Area"
		22. 000 Pervious Length"
		0.500 Pervious slope"
п		0.099 Impervious Area" 22.000 Impervious length"
		0.500 Impervious slope"
		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."
		0.271 Pervious Runoff coefficient"
		0.100 Pervious Ia/S coefficient" 7.164 Pervious Initial abstraction"
		0.015 Impervious Manning 'n'"
		98.000 Impervious SCS Curve No." 0.878 Impervious Runoff coefficient"
		0.100 Impervious Ia/S coefficient"
п		0.518 Impervious Initial abstraction" 0.025 0.000 0.093 0.298 c.m/sec"
		Catchment 210 Pervious Impervious Total Area "
		Surface Area         0.161         0.099         0.260         hectare"           Time of concentration         24.740         2.639         10.130         minutes"
		Time to Centroid 131.832 91.459 105.142 minutes"
		Rainfall depth 41.919 41.919 41.919 mm" Rainfall volume 67.57 41.42 108.99 c.m"
"		Rainfall Losses 30.575 5.819 21.168 mm"
		Runoff depth11.34336.09920.750mm"Runoff volume18.2935.6753.95c.m"
		Runoff coefficient 0.271 0.878 0.501 "
	40	Maximum flow 0.005 0.024 0.025 c.m/sec" HYDROGRAPH Add Runoff "
	40	4 Add Runoff "
	40	0.025 0.025 0.093 0.298" HYDROGRAPH Copy to Outflow"
	40	8 Copy to Outflow"
	40	0. 025 0. 025 0. 025 0. 298" HYDROGRAPH Combine 1"
	40	6 Combine "
		1 Node #"
		Maximum flow 0.321 c.m/sec"
		Hydrograph volume 677.203 c.m" 0.025 0.025 0.025 0.321"
	40	HYDROGRAPH Confluence 1"
		7 Confluence " 1 Node #"
		Page 8
		$\mathbf{J}$

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11 11 11		Maximum flow 0.321 c.m/sec" Hydrograph volume 677.203 c.m" 0.025 0.321 0.025 0.000"
	54	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
 		402.550         0.455         963.0"           Peak outflow         0.012         c.m/sec"           Maximum level         402.152         metre"
 		Maximum storage 563.758 c.m" Centroidal Lag 11.048 hours"
  	40	0.025 0.321 0.012 0.000 c.m/sec" HYDROGRAPH Combine 2" 6 Combine " 2 Node #"
  	10	Maximum flow         0.012         c.m/sec"           Hydrograph volume         666.129         c.m"           0.025         0.321         0.012         0.012"
	40	HYDROGRAPH Start - New Tributary" 2 Start - New Tributary" 0.025 0.000 0.012 0.012"
	33	CATCHMENT 211" 1 Tri angul ar SCS" 1 Equal Length" 1 SCS method" 211 No description" 40.000 % Impervious" 0.260 Total Area" 47.000 Flow Length" 2.500 Overl and Slope" 0.156 Pervious Area" 47.000 Pervious length" 2.500 Pervious slope" 0.104 Impervious Area" 47.000 Impervious length" 2.500 Impervious length" 2.500 Pervious Slope" 0.104 Impervious Slope" 0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No." 0.271 Pervious Runoff coefficient" 0.100 Pervious la/S coefficient" 7.164 Pervious Initial abstraction" Page 9

		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
		Runoff volume 17.70 37.56 55.26 c.m" Runoff coefficient 0.271 0.878 0.514 "
		Maximum flow 0.005 0.026 0.026 c.m/sec"
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "
		0. 026 0. 026 0. 012 0. 012"
	40	HYDROGRAPH Copy to Outflow"
		8 Copy to Outřlow" 0.026 0.026 0.026 0.012"
	40	HYDROGRAPH Combine 2"
		6 Combine " 2 Node #"
		Maximum flow 0.032 c.m/sec" Hydrograph volume 721.389 c.m"
п		0. 026 0. 026 0. 026 0. 032"
	40	HYDROGRAPH Confluence 2"
		7 Confluence " 2 Node #"
		II
		Maximum flow 0.032 c.m/sec" Hydrograph volume 721.389 c.m"
		0. 026 0. 032 0. 026 0. 000"

			A6814A_10yr_I	Pond_75mm or	i fi ce_v3a. o	ut	
			MIDUSS Output				>"
			MIDUSS version MIDUSS created		V	ersion 2.07	gust-08-05"
		10	Units used:			Au	ie METRIC"
			Job folder:		0:	\Private De	velopment\"
			A6814A - Sinclair Su				
			Output filename: Licensee name:	A0814A		100mm orifi	CPC"
			Company	-	Triton Engi	neering Ser	vices Ltd."
	0.4		Date & Time last us		20/	07/2017 at	3:06:43 PM"
	31	5.000	ME PARAMETERS" Time Step"				
		180.000	Max. Storm Length"				
		1500.000	Max. Hydrograph"				
	32		ORM Chicago storm"				
		1 1122. 530	Chicago storm" Coefficient A"				
		9. 189	Constant B"				
		0.817	Exponent C"				
		0. 400 180. 000	Fraction R" Duration"				
		1.000	Time step multiplie	er"			
			aximum intensity	128. 5 <sup>.</sup>			
			otal depth 010hyd Hydrograph	46.4 n extension		s filo"	
	33	6 CA	ATCHMENT 200"			5 1116	
		1	Tri angul ar SCS"				
		1	Equal length" SCS method"				
		200	No description"				
		43.000	% Impervious"				
		0.520	Total Area"				
		55.000 1.000	Flow length" Overland Slope"				
		0. 296	Pervious Area"				
		55.000	Pervious length"				
		1. 000 0. 224	Pervious slope" Impervious Area"				
		55.000	Impervious length"				
		1.000	Impervious slope"				
		0. 250 78. 000	Pervious Manning 'n Pervious SCS Curve	ר' " No "			
		0.300	Pervious Runoff coe				
		0.100	Pervious la/S coeft	fi ci ent"			
		7.164	Pervious Initial al				
		0. 015 98. 000	Impervious Manning Impervious SCS Curv	ve No."			
		0.889	Impervious Runoff (	coefficient"			
		0.100	Impervious la/S coe				
		0. 518	Impervious Initial 0.059 0.00			c.m/sec"	
		Ca	atchment 200	Pervious		Total Area	
			irface Area	0.296	0. 224	0.520	hectare"
			me of concentration me to Centroid	32. 357 140. 584	3. 624 92. 683	12. 624 107. 687	mi nutes" mi nutes"
п			ainfall depth	46. 462	46. 462	46. 462	mm''
		Ra	ainfall volume	137.71	103.89	241.60	c. m"
			ainfall losses unoff depth	32. 549 13. 913	6. 024 40. 438	21. 143 25. 319	mm'' mm''
			unoff volume	41.24	90. 42	131.66	C. M''
		Ru	unoff coefficient	0.300	0.889	0. 553	п
	40		aximum flow /DROGRAPH Add Runoff	0.009	0. 057	0.059	c.m/sec"
	40	H	UNUURAFT AUU KUNUTI	Page 1			

			A6814A_1	0yr_Po	nd_75mm ori	fi ce_v3a. o	ut	
		4	Add Runoff " 0.059	0. 059	0.000	0. 000"		
	33		TCHMENT 201"		0.000	0.000		
н		1	Triangular SCS Equal length"					
		1	SCS method"					
		201 48. 000	No description % Impervious"					
		0.460	Total Area"					
п		56.000 0.600	Flow length" Overland Slope					
		0.239	Pervious Area"					
		56.000 0.600	Pervious lengt Pervious slope					
		0. 221 56. 000	Impervious Are Impervious Ien	a"				
		0.600	Impervious slo	pe"				
		0.250 78.000	Pervious Manni Pervious SCS C	ng 'n' urve N	"  0 "			
"		0.300	Pervious Runof	f coef	ficient"			
		0. 100 7. 164	Pervious la/S Pervious lniti					
		0. 015	Impervious Man	ning '	n' "			
		98.000 0.889	Impervious SCS Impervious Run	curve off co	e NO. efficient"			
		0. 100	Impervious la/	S coef	ficient"			
		0. 518	Impervious Ini 0.060	0. 059			c.m/sec"	
			itchment 201 Irface Area		Pervi ous 0. 239	Impervious 0.221	Total Area 0.460	" hectare"
		Ti	me of concentra	tion	38. 126	4.270	13.390	minutes"
			me to Centroid ainfall depth		147.852 46.462	93.563 46.462	108. 188 46. 462	minutes" mm"
		Ra	infall volume		111.14	102.59	213.72	C. M"
п			ninfall losses noff depth		32. 549 13. 913	5. 585 40. 876	19. 606 26. 855	mm'' mm''
		Ru	inoff volume		33.28	90.26	123.53	C.M"
		Ma	unoff coefficien aximum flow		0. 300 0. 007	0. 889 0. 058	0. 582 0. 060	c.m/sec"
	40	HY 4	DROGRAPH Add Run Add Runoff "	noff "				
			0.060	0. 119	0.000	0. 000"		
	33	CA 1	TCHMENT 202" Tri angul ar SCS	н				
		1	Equal Length"					
н		1 202	SCS method" No description	u –				
		42.000 0.410	% Impervious" Total Area"					
		54.000	Flow length"					
		0. 600 0. 238	Overl and Sl ope Pervi ous Area"					
		54.000	Pervious lengt					
		0. 600 0. 172	Pervious slope					
		54.000	Impervious len	gth"				
		0. 600 0. 250	Impervious slo Pervious Manni	ng 'n'				
		78.000 0.300	Pervious SCS C Pervious Runof	urve N	0. "			
		0. 100	Pervious la/S	coeffi	ci ent"			
		7. 164 0. 015	Pervious Initia Impervious Man					
		0.010			Page 2			

	40	Su Ti Ra Ra Ru Ru Ru Ma	A6814A_ Impervious SCS Impervious Rur Impervious Ia, Impervious Ia, Impervious Ini 0.047 Itchment 202 Inface Area me of concentra me to Centroid infall depth infall volume infall losses noff depth noff volume inoff coefficier ximum flow DROGRAPH Add Ru Add Runoff "	S Curve noff co (S coe tial 0.11 ation	oeffi ci ent" ffi ci ent" abstracti on' 9 0.000 Pervi ous 0.238 37.303 146.812 46.462 110.49 32.546 13.916 33.09 0.300 0.007	0.000 (	ut C.m/sec" Total Area 0.410 14.781 110.523 46.462 190.49 21.246 25.215 103.38 0.547 0.047	" hectare" minutes" mm" c.m" mm" c.m" " c.m/sec"
	33		0. 047 TCHMENT 204"	0. 16	6 0.000	0. 000"		
11 11	33	1 1	Triangular SCS Equal length"	5"				
11 11		1 204	SCS method" No description	ייר				
н П		30. 000 0. 240	% Impervious" Total Area"					
н П		35.000	Flow length" Overland Slope	e"				
11 11		0. 168 35. 000	Pervious Area Pervious Lengt	1				
		2.000 0.072	Pervious slope Impervious Are	e" ea"				
		35.000 2.000	Impervious ler Impervious slo	ppe"				
		0. 250 78. 000	Pervious Manni Pervious SCS (	Curve	No. "			
		0.300 0.100	Pervious Runot Pervious La/S	coeff	i ci ent"			
		7.164	Pervious Initi Impervious Mar	nni ng	' n' "			
 		98.000 0.889 0.100	Impervious SCS Impervious Rur Impervious Ia	noff c	oefficient"			
н н		0. 518	Impervious Ini 0. 021		abstraction'		c.m/sec"	
11 11			itchment 204 Irface Area	0.10	Pervi ous 0. 168		Total Area 0.240	" hectare"
11 11		Ti	me of concentra me to Centroid	ation	20. 040 125. 053	2. 244 90. 534	10. 145 105. 859	minutes" minutes"
11 11			infall depth infall volume		46. 462 78. 06	46. 462 33. 45	46. 462 111. 51	mm'' C. m''
11 11			infall losses noff depth		32. 557 13. 905	5.824 40.637	24.537 21.925	mm'' mm''
		Ru	noff volume noff coefficier	nt	23.36 0.300	29. 26 0. 889	52. 62 0. 476	C. M"
  	40	Ma HY 4	ximum flow DROGRAPH Add Ru Add Runoff "	unoff	0. 007 "	0.020	0. 021	c.m/sec"
11 11	33		0. 021 TCHMENT 203"	0. 18	5 0.000	0. 000"		
 		1	Triangular SCS Equal length"	5"				
		1	SCS method"					

Page 3

A6814A_10yr_Pe 203 No description" 52.000 % Impervious" 0.280 Total Area" 47.000 Flow Length" 0.800 Overland Slope" 0.134 Pervious Area" 47.000 Pervious length" 0.800 Pervious slope" 0.146 Impervious Area" 47.000 Impervious length" 0.800 Impervious length" 0.800 Impervious slope" 0.250 Pervious Manning 'n' 78.000 Pervious SCS Curve I 0.300 Pervious Runoff coe 0.100 Pervious Initial abs 0.015 Impervious Manning ' 98.000 Impervious Runoff coe 0.100 Impervious Runoff coe 0.100 Impervious Runoff coe	No." fficient" icient" straction 'n'" e No." oefficient	" t"	Jt	
  0.518 Impervious Initial a 0.038 0.18	abstracti		c.m/sec"	
40 HYDROGRAPH Copy to Outflow 40 HYDROGRAPH Copy to Outflow 40 HYDROGRAPH Copy to Outflow 40 HYDROGRAPH Copy to Outflow 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 5 40 HYDROGRAPH Combine 4 40 HYDROGRAPH Combine 4 4 4 4 4 4 4 4 4 4 4 4 4	Pervi ous 0. 134 31. 484 139. 482 46. 462 62. 44 32. 550 13. 911 18. 70 0. 300 0. 004 " 3 0. 0 fl ow"	Impervious 0. 146 3. 526 92. 527 46. 462 67. 65 5. 999 40. 462 58. 91 0. 889 0. 037 00 0. 000"	Total Area 0. 280 10. 261 103. 839 46. 462 130. 09 18. 744 27. 718 77. 61 0. 606 0. 038	" hectare" minutes" mm" c.m" mm" c.m" " c.m/sec"
  Maximum flow Hydrograph volume	488	0.223 c.m/se 0.804 c.m"	∋c"	
  0.038 0.223 40 HYDROGRAPH Start - New 2 Start - New Tributa	Tri butar			
0.0380.00033CATCHMENT 205"1Tri angul ar SCS"1Equal Length"1SCS method"205No description"39.000% Impervious"0.320Total Area"74.000FLow Length"0.800Overl and Slope"0.195Pervious Area"74.000Pervious slope"0.125Impervious Area"74.000Impervious slope"0.125Impervious length"		23 0. 223"		

 7	0.800 0.250 78.000 0.300 0.100 7.164	A6814A_10yr_F Impervious slope" Pervious Manning 'r Pervious SCS Curve Pervious Runoff coe Pervious la/S coeff Pervious lnitial ab	n'" No." efficient" ficient" ostraction"	i fi ce_v3a. o	Jt	
 ¢	Su	Impervious Manning Impervious SCS Curv Impervious Runoff o Impervious Ia/S coe Impervious Initial 0.034 0.00 atchment 205 urface Area me of concentration	ve No." coefficient" efficient" abstraction	0.223 (	c.m/sec" Total Area 0.320 17.371	" hectare" minutes"
 40	Ti Ra Ra Ru Ru Ru Ma	me to Centroid ainfall depth ainfall volume ainfall losses unoff depth unoff volume unoff coefficient aximum flow /DROGRAPH Add Runoff	151. 908 46. 462 90. 69 32. 549 13. 913 27. 16 0. 300 0. 005	94.079 46.462 57.98 5.525 40.937 51.09 0.889 0.033	114. 150 46. 462 148. 68 22. 010 24. 452 78. 25 0. 529 0. 034	mi nutes" mm" c. m" mm" c. m" c. m/sec"
 33	4 C/ 1 1 206 5.000 0.210	Add Runoff " 0.034 0.03 ATCHMENT 206" Triangular SCS" Equal length" SCS method" No description" % Impervious" Total Area"		0. 223"		
 1	12.000 2.000 0.199 12.000 2.000 0.010 12.000 2.000 0.250 78.000	Flow length" Overland Slope" Pervious Area" Pervious length" Pervious slope" Impervious Area" Impervious length" Impervious slope" Pervious Manning 'r Pervious SCS Curve	ו' " No. "			
	0. 300 0. 100 7. 164 0. 015 98. 000 0. 889 0. 100 0. 518	Pervious Scs curve Pervious Runoff coe Pervious Initial at Impervious Manning Impervious SCS Curv Impervious Runoff c Impervious Ia/S coe Impervious Initial 0.013 0.03	effi ci ent" fi ci ent" ostracti on" ' n' " /e No. " coeffi ci ent" effi ci ent" abstracti on		c.m/sec"	
	SU Ti Ra Ra Ru Ru Ru	atchment 206 urface Area me of concentration me to Centroid ainfall depth ainfall volume ainfall losses unoff depth unoff volume unoff coefficient	Pervi ous 0. 199 10. 543 113. 081 46. 462 92. 69 32. 580 13. 881 27. 69 0. 300	Impervious 0.010 1.181 88.888 46.462 4.88 6.141 40.320 4.23 0.889	Total Area 0. 210 9. 301 109. 873 46. 462 97. 57 31. 258 15. 203 31. 93 0. 329	hectare" minutes" minutes" mm" c.m" mm" c.m"
	Ма	aximum flow	0.012 Page 5	0.003	0.013	c.m/sec"

		A6814A_10yr_Pond_75mm orifice_v3a.out
	40	HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.013 0.045 0.223 0.223"
	33	CATCHMENT 207"
		1 Tri angul ar SCS" 1 Equal Tength"
		1 SCS method"
		207 No description"
		51.000 % Impervious" 0.240 Total Area"
		71.000 Flow length"
		0.800 Overland Slope"
		0. 118    Pervious Area" 71. 000    Pervious Length"
		0.800 Pervious slope"
		0.122 Impervious Area"
		71.000 Impervious Length" 0.800 Impervious slope"
		0.250 Pervious Manning 'n'"
		78.000 Pervious SCS Curve No."
		0.300 Pervious Runoff coefficient" 0.100 Pervious La/S coefficient"
		7.164 Pervious Initial abstraction"
		0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No."
		0.889 Impervious Runoff coefficient"
		0.100 Impervious Ia/S coefficient"
		0.518 Impervious Initial abstraction" 0.033 0.045 0.223 0.223 c.m/sec"
		Catchment 207 Pervious Impervious Total Area "
		Surface Area         0. 118         0. 122         0. 240         hectare"           Time of concentration         40. 326         4. 516         13. 332         minutes"
		Time to Centroid 150.626 93.915 107.876 minutes"
		Rainfall depth 46.462 46.462 46.462 mm" Rainfall volume 54.64 56.87 111.51 c.m"
		Rainfall volume 54.64 56.87 111.51 c.m" Rainfall losses 32.544 5.519 18.761 mm"
		Runoff depth 13.918 40.943 27.701 mm"
		Runoff volume 16.37 50.11 66.48 c.m" Runoff coefficient 0.300 0.889 0.600 "
		Maximum flow 0.003 0.032 0.033 c.m/sec"
	40	HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.033 0.078 0.223 0.223"
	33	CATCHMENT 208"
		1 Tri angul ar SCS" 1 Equal Tength"
		1 SCS method"
		208 No description"
		45.000 % Impervious" 0.180 Total Area"
		45.000 Flow length"
		0.800 Overland Slope" 0.099 Pervious Area"
		45. 000 Pervious Length"
		0.800 Pervious slope"
		0.081 Impervious Area" 45.000 Impervious Length"
"		0.800 Impervious slope"
		0.250   Pervious Manning 'n'" 78.000   Pervious SCS Curve No."
		0.300 Pervious Runoff coefficient"
		0.100 Pervious Ia/S coefficient"
		7.164 Pervious Initial abstraction" Page 6

		A6814A_10yr_Pond_75mm orifice_v3a.out 0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No." 0.889 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction" 0.021 0.078 0.223 0.223 c.m/sec" Catchment 208 Pervious Impervious Total Area " Surface Area 0.099 0.081 0.180 hectare"	
		Time of concentration30.6733.43511.488minutes"Time to Centroid138.45592.384106.005minutes"Rainfall depth46.46246.46246.462mm"Rainfall volume46.0037.6383.63c.m"Rainfall losses32.5515.95620.583mm"Runoff depth13.91140.50525.878mm"Runoff coefficient0.3000.8890.565"Maximum flow0.0030.0200.021c.m/sec"	
	40	HYDROGRAPH Add Runoff "	
		4 Add Runoff " 0.021 0.100 0.223 0.223"	
	33	CATCHMENT 209"	
		1 Triangular SCS" 1 Equal Length"	
		1 SCS method"	
		209 No description" 80.000 % Impervious"	
		0.020 Total Area"	
		10.000 Flow Length" 0.500 Overland Slope"	
		0.004 Pervious Area"	
		<ul><li>10. 000 Pervious Length"</li><li>0. 500 Pervious sLope"</li></ul>	
		0.016 Impervious Area"	
		10.000 Impervious length"	
п		0. 500 Impervious slope" 0. 250 Pervious Manning 'n'"	
		78.000 Pervious SCS Curve No."	
		<ul> <li>0. 300 Pervi ous Runoff coefficient"</li> <li>0. 100 Pervi ous Ta/S coefficient"</li> </ul>	
		7.164 Pervious Initial abstraction"	
		0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No."	
		0.889 Impervious Runoff coefficient"	
		0.100 Impervious Ia/S coefficient"	
		0.518 Impervious Initial abstraction" 0.005 0.100 0.223 0.223 c.m/sec"	
		Catchment 209 Pervious Impervious Total Area "	
		Surface Area         0.004         0.016         0.020         hectare"           Time of concentration         14.324         1.604         2.604         minutes"	
		Time to Centroid 117.862 89.513 91.742 minutes"	
		Rainfall depth 46.462 46.462 46.462 mm" Rainfall volume 1.86 7.43 9.29 c.m"	
		Rainfall losses 32.574 5.766 11.127 mm"	
		Runoff depth         13.888         40.696         35.334         mm"           Runoff volume         0.56         6.51         7.07         c.m"	
п		Runoff volume 0.56 6.51 7.07 c.m" Runoff coefficient 0.300 0.889 0.771 "	
	10	Maximum flow 0.000 0.005 0.005 c.m/sec"	
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "	
		0.005 0.103 0.223 0.223"	
	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"	
		0.005 0.103 0.103 0.223"	
		Page 7	

11 11	40	A6814A_10yr_Pond_75mm orifice_v3a.out HYDROGRAPH Combine 1" 6 Combine "
		1 Node #"
  	40	 Maximum flow 0.326 c.m/sec" Hydrograph volume 719.108 c.m" 0.005 0.103 0.103 0.326" HYDROGRAPH Start - New Tributary"
	10	2 Start - New Tributary"
	33	0.005 0.000 0.103 0.326" CATCHMENT 210"
		1 Tri angul ar SCS" 1 Equal Length"
		1 SCS method" 210 No description"
		38.000 % Impervious" 0.260 Total Area"
		22.000 Flow Length" 0.500 Overland Slope"
		0. 161 Pervious Area" 22. 000 Pervious Length"
		0.500 Pervious slope"
		0.099 Impervious Area" 22.000 Impervious length"
		0.500 Impervious slope" 0.250 Pervious Manning 'n'"
		78.000 Pervious SCS Curve No." 0.300 Pervious Runoff coefficient"
		0.100 Pervious Ia/S coefficient" 7.164 Pervious Initial abstraction"
		0. 015 Impervious Manning 'n'" 98. 000 Impervious SCS Curve No. "
		0.889 Impervious Runoff coefficient"
		0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction"
		0.027 0.000 0.103 0.326 c.m/sec" Catchment 210 Pervious Impervious Total Area
		Surface Area         0.161         0.099         0.260         hectare"           Time of concentration         22.989         2.575         9.907         minutes"
		Time to Centroid 128.775 91.056 104.603 minutes" Rainfall depth 46.462 46.462 46.462 mm"
		Rainfall volume 74.90 45.90 120.80 c.m" Rainfall losses 32.555 5.978 22.456 mm"
		Runoff depth         13.906         40.484         24.006         mm"           Runoff volume         22.42         40.00         62.41         c.m"
		Runoff coefficient 0.300 0.889 0.523 "
	40	Maximum flow 0.006 0.026 0.027 c.m/sec" HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.027 0.027 0.103 0.326"
	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"
	40	0.027 0.027 0.027 0.326" HYDROGRAPH Combine 1"
		6 Combine " 1 Node #"
		Maximum flow 0.351 c.m/sec"
		Hydrograph volume 781.522 c.m"
	40	0.027 0.027 0.027 0.351" HYDROGRAPH Confluence 1"
		7 Confluence " 1 Node #"
		Page 8

Ρ	ag	e	8

  	Maximum flow 0.351 c.m/sec" Hydrograph volume 781.522 c.m" 0.027 0.351 0.027 0.000"
 54	POND DESIGN" 0. 351 Current peak flow c.m/sec" 0. 233 Target outflow c.m/sec" 782.0 Hydrograph volume c.m" 14. Number of stages" 401. 250 Minimum water level metre" 402. 550 Maximum water level metre" 0 Keep Design Data: $1 = True; 0 = False"$ Level Di scharge Volume" 401. 250 0.000 0.0" 401. 350 0.004 27.3" 401. 450 0.005 76.4" 401. 550 0.006 130.2" 401. 650 0.007 188.9" 401. 650 0.007 188.9" 401. 750 0.008 252.7" 401. 850 0.009 321.7" 401. 850 0.010 396.1" 402. 050 0.011 561.7" 402. 250 0.065 653.2" 402. 350 0.137 750.7" 402. 450 0.143 854.3" 402. 550 0.455 963.0"
	Peak outflow0.033c.m/sec"Maximum level402.191metre"Maximum storage598.883c.m"
 40	Centroi dal lag 0.027 0.351 0.033 0.000 c.m/sec" HYDROGRAPH Combi ne 2" 6 Combi ne " 2 Node #"
   	Maximum flow0.033c.m/sec"Hydrograph volume769.090c.m"0.0270.3510.0330.033"
 40	HYDROGRAPH Start - New Tributary" 2 Start - New Tributary" 0.027 0.000 0.033 0.033"
33	CATCHMENT 211" 1 Tri angul ar SCS" 1 Equal Length" 1 SCS method" 211 No description" 40.000 % Impervious" 0.260 Total Area" 47.000 Flow Length" 2.500 Overl and Slope" 0.156 Pervious Area" 47.000 Pervious length" 2.500 Pervious slope" 0.104 Impervious Area" 47.000 Impervious length" 2.500 Pervious slope" 0.104 Impervious length" 2.500 Impervious Slope" 0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No." 0.300 Pervious Runoff coefficient" 0.100 Pervious la/S coefficient" 7.164 Pervious Initial abstraction" Page 9

		A6814A_10yr_Pond_75mm orifice_v3a.out 0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No." 0.889 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction" 0.028 0.000 0.033 0.033 c.m/sec"
		Catchment 211 Pervious Impervious Total Area "
		Surface Area         0.156         0.104         0.260         hectare"           Time of concentration         22.368         2.505         9.250         minutes"
		Time to Centroid 127.993 90.935 103.520 minutes
		Rainfall depth 46.462 46.462 46.462 mm"
		Rainfall volume 72.48 48.32 120.80 c.m"
		Rainfall losses 32.572 5.944 21.921 mm" Runoff depth 13.890 40.517 24.541 mm"
		Runoff volume 21.67 42.14 63.81 c.m"
		Runoff coefficient 0.300 0.889 0.535 "
	40	Maximum flow 0.006 0.028 0.028 c.m/sec"
п	40	HYDROGRAPH Add Runoff " 4 Add Runoff "
		0.028 0.028 0.033 0.033"
	40	HYDROGRAPH Copy to Outflow"
		8 Copy to Outflow"
п	40	0. 028 0. 028 0. 028 0. 033" HYDROGRAPH Combine 2"
	40	6 Combine "
		2 Node #"
		Movimum flow $0.026$ o m/cood"
		Maximum flow 0.036 c.m/sec" Hydrograph volume 832.895 c.m"
		0.028 0.028 0.028 0.036"
	40	HYDROGRAPH Confluence 2"
		7 Confluence " 2 Node #"
		Maximum flow 0.036 c.m/sec"
		Hydrograph volume 832.895 c.m"
		0. 028 0. 036 0. 028 0. 000"

			A6814A_25yr_l	Pond_75mm or	i fi ce_v3a. o	ut	
			MIDUSS Output				>"
			MIDUSS version MIDUSS created		V		rev. 385" gust-08-05"
		10	Uni ts used:				ie METRIC"
			Job folder:		0:	\Private De	velopment\"
			A6814A - Sinclair Su				
			Output filename: Licensee name:	A0814A	_25yr_Pond_		CPC"
			Company		Triton Engi	neering Ser	
	01	<b>т</b> 1	Date & Time last us	sed:	20/	07/2017 at	3:04:09 PM"
	31	5.000	ME PARAMETERS" Time Step"				
		180.000	Max. Storm Length"				
		1500.000	Max. Hydrograph"				
	32		FORM Chicago storm"				
		1 1387.380	Chicago storm" Coefficient A"				
		9.697	Constant B"				
		0.820	Exponent C"				
		0. 400 180. 000	Fraction R" Duration"				
		1.000	Time step multiplie	er"			
			aximum intensity	153.1			
		6	otal depth 025hyd Hydrograpl	56.4 h extension		s file"	
	33		ATCHMENT 200"	I extensi on		5 1110	
		1	Tri angul ar SCS"				
		1	Equal length" SCS method"				
		200	No description"				
		43.000	% Impervious"				
		0. 520 55. 000	Total Area" Flow length"				
		1.000	Overland Slope"				
		0. 296	Pervious Area"				
		55.000	Pervious length"				
		1. 000 0. 224	Pervious slope" Impervious Area"				
		55.000	Impervious length"				
		1.000	Impervious slope"	al II			
		0. 250 78. 000	Pervious Manning 'i Pervious SCS Curve	No "			
		0.356	Pervious Runoff coe	efficient"			
		0.100	Pervious la/S coef				
		7. 164 0. 015	Pervious Initial al Impervious Manning				
		98.000	Impervious SCS Curv	ve No."			
		0.907	Impervious Runoff				
		0. 100 0. 518	Impervious la/S coe Impervious Initial				
		0.010	0.073 0.00			c.m/sec"	
			atchment 200	Pervi ous		Total Area	
			urface Area me of concentration	0. 296 27. 641	0. 224 3. 361	0. 520 11. 760	hectare" mi nutes"
			me to Centroid	133.871	91.740	106. 315	minutes"
			ainfall depth	56.404	56.404	56.404	mm''
			ainfall volume ainfall losses	167. 18 36. 361	126. 12 6. 173	293.30 23.380	C.M" mm"
			unoff depth	20.042	50. 231	33. 023	mm''
		Ru	unoff volume	59.41	112.32	171.72	c.m"
			unoff coefficient aximum flow	0. 356 0. 015	0. 907 0. 068	0. 593 0. 073	" c.m/sec"
п	40	H)	DROGRAPH Add Runoff	"	0.000	0.073	C. III/ SEC
				Dago 1			

			A6814A_2	5yr_Po	ond_75mm ori	fi ce_v3a. o	ut	
		4	Add Runoff " 0.073	0. 073	0.000	0. 000"		
	33	-	TCHMENT 201"					
		1	Triangular SCS Equal length"					
"		1	SCS method"					
		201 48. 000	No description % Impervious"					
		0.460	Total Area"					
		56.000 0.600	Flow length" Overland Slope					
		0.239	Pervious Area"					
		56.000 0.600	Pervious lengt Pervious slope					
		0. 221	Impervious Area	a"				
		56.000 0.600	Impervious len Impervious slo	gth" be"				
		0.250	Pervious Manni	ng 'n'	и ц. н			
		78.000 0.356	Pervious SCS C Pervious Runof					
		0. 100	Pervious Ia/S	coeffi	ci ent"			
п		7. 164 0. 015	Pervious Initia Impervious Man					
		98.000	Impervious SCS	Curve	e No."			
		0. 907 0. 100	Impervious Run Impervious Ia/					
		0. 518	Impervious Ini 0.072	tial a 0.073			c.m/sec"	
			tchment 201		Pervi ous	Impervious	Total Area	н
			irface Area me of concentra		0. 239 32. 569	0. 221 3. 960	0. 460 12. 568	hectare" mi nutes"
		Ti	me to Centroid		140. 191	92.609	106. 927	minutes"
			infall depth infall volume		56. 404 134. 92	56. 404 124. 54	56. 404 259. 46	mm'' C. M''
		Ra	infall losses		36.356	5.947	21.759	mm''
			noff depth noff volume		20. 048 47. 95	50. 457 111. 41	34. 644 159. 36	mm'' C. M''
		Ru	inoff coefficien	t	0.356	0. 907	0. 620	
	40	Ma HY	iximum flow DROGRAPH Add Rui	noff "	0. 011	0.070	0. 072	c.m/sec"
		4	Add Runoff "			0.000"		
	33	CA	0.072 TCHMENT 202"	0. 145	0.000	0. 000"		
		1	Tri angul ar SCS	н				
		1	Equal length" SCS method"					
		202 42.000	No description % Impervious"					
		0.410	Total Area"					
		54.000 0.600	Flow length" Overland Slope	н				
		0. 238	Pervious Area"					
		54.000 0.600	Pervious lengt Pervious slope					
		0. 172	Impervious Are	a"				
		54.000 0.600	Impervious len Impervious slo					
		0. 250	Pervious Manni	ng 'n'	"  o "			
		78.000 0.356	Pervious SCS C Pervious Runof					
		0. 100 7. 164	Pervious la/S Pervious lniti					
		0. 015	Impervious Man					
					Page 2			

	40	Su Ti Ra Ra Ru Ru Ru Ma	A6814A_25yr_F Impervious SCS Curv Impervious Runoff c Impervious la/S coe Impervious Initial 0.057 0.14 tchment 202 rface Area me of concentration me to Centroid infall depth infall volume infall losses noff depth noff volume noff coefficient ximum flow DROGRAPH Add Runoff Add Runoff "	re No. " coeffi ci ent" abstracti on 5 0.000 Pervi ous 0.238 31.866 139.284 56.404 134.13 36.366 20.038 47.65 0.356 0.011		ut C.m/sec" Total Area 0.410 13.797 109.091 56.404 231.25 23.620 32.784 134.41 0.587 0.057	" hectare" minutes" minutes" mm" c.m" mm" c.m" " c.m/sec"
11 11	33		0. 057 0. 20 TCHMENT 204"	0.000	0. 000"		
		$\begin{array}{c} 1\\ 1\\ 204\\ 30.\ 000\\ 0.\ 240\\ 35.\ 000\\ 2.\ 000\\ 0.\ 168\\ 35.\ 000\\ 2.\ 000\\ 0.\ 072\\ 35.\ 000\\ 0.\ 072\\ 35.\ 000\\ 0.\ 250\\ 78.\ 000\\ 0.\ 356\\ 0.\ 100\\ 7.\ 164\\ 0.\ 015\\ 98.\ 000\\ 0.\ 907\\ 0.\ 100\\ 0.\ 518\\ \end{array}$	Tri angul ar SCS" Equal length" SCS method" No description" % Impervious" Total Area" Flow length" Overland Slope" Pervious Area" Pervious length" Pervious slope" Impervious area" Impervious length" Impervious length" Impervious Slope" Pervious Manning 'n Pervious Runoff coe Pervious la/S coeff Pervious Initial ab Impervious SCS Curve Impervious SCS Curve Impervious La/S coeff Impervious Runoff coe Impervious la/S coeff	No." fficient" icient" straction" 'n" re No." coefficient" abstraction		c m/soc"	
	33	Su Ti Ta Ra Ra Ru Ru Ru Ma	0.026 0.20 tchment 204 rface Area me of concentration me to Centroid infall depth infall volume infall losses noff depth noff volume noff coefficient ximum flow TCHMENT 203" Triangular SCS" Equal length" SCS method" No description"	2 0.000 Pervi ous 0.168 17.118 120.400 56.404 94.76 36.366 20.038 33.66 0.356 0.012		c.m/sec" Total Area 0.240 9.317 104.510 56.404 135.37 27.252 29.151 69.96 0.521 0.026	" hectare" minutes" mm" c.m" mm" c.m" c.m" c.m/sec"
		52.000 0.280	% Impervious" Total Area"				

		A6814A_25yr_Pond_75mm orifice_v3a.out
		47.000 Flow length"
		0.800 Overland Slope"
		0.134 Pervious Area"
		47.000 Pervious Length"
		0.800 Pervious slope"
		0.146 Impervious Area"
п		47.000 Impervious length" 0.800 Impervious slope"
		0. 250 Pervi ous Manni ng ' n' "
п		78.000 Pervious SCS Curve No. "
п		0.356 Pervious Runoff coefficient"
		0.100 Pervious La/S coefficient"
		7.164 Pervious Initial abstraction"
		0.015 Impervious Manning 'n'"
п		98.000 Impervious SCS Curve No." 0.907 Impervious Runoff coefficient"
п		0. 100 Impervious Ia/S coefficient"
п		0.518 Impervious Initial abstraction"
		0.046 0.202 0.000 0.000 c.m/sec"
		Catchment 203 Pervious Impervious Total Area "
		Surface Area 0.134 0.146 0.280 hectare"
		Time of concentration 26.894 3.270 9.628 minutes"
п		Time to Centroid 132.915 91.598 102.718 minutes" Rainfall depth 56.404 56.404 56.404 mm"
п		Rainfall volume 75.81 82.12 157.93 c.m"
п		Rainfall losses 36.354 6.150 20.648 mm"
		Runoff depth 20.049 50.254 35.756 mm"
"		Runoff volume 26.95 73.17 100.12 c.m"
		Runoff coefficient 0.356 0.907 0.642 "
	40	Maximum flow 0.007 0.044 0.046 c.m/sec"
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "
п		4 Add Runoff " 0.046 0.248 0.000 0.000"
	40	HYDROGRAPH Copy to Outflow"
п		8 Copy to Outflow"
"		0.046 0.248 0.248 0.000"
	40	HYDROGRAPH Combine 1"
		6 Combine "
п		1 Node #"
п		Maximum flow 0.248 c.m/sec"
		Hydrograph volume 565.614 c.m"
п		0.046 0.248 0.248 0.248"
	40	HYDROGRAPH Start - New Tributary"
		2 Start - New Tributary"
	22	0. 046 0. 000 0. 248 0. 248"
п	33	CATCHMENT 205" 1 Tri angul ar SCS"
п		1 Equal Length"
		1 SCS method"
"		205 No description"
		39.000 % Impervious"
		0.320 Total Area"
п		74.000 Flow Length" 0.800 Overland Slope"
п		0. 195 Pervi ous Area"
п		74.000 Pervious Length"
		0.800 Pervious slope"
		0.125 Impervious Area"
		74.000 Impervious length"
		0.800 Impervious slope" 0.350 Dervious Manning Int."
п		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."
		Page 4

	10	Ti Ti Ra Ra Ru Ru Ru Ma	Pervious Runof Pervious Ia/S Pervious Initi Impervious Man Impervious SCS Impervious Run Impervious Ia/ Impervious Ini 0.042 tchment 205 rface Area me of concentra me to Centroid infall depth infall volume infall losses noff depth noff volume noff coefficien ximum flow	f coe coeffi al ab ning ' Curve off co S coe tial a 0.000 tion	i ci ent" stracti on" 'n'" e No. " peffi ci ent" abstracti on' 0 0. 248 Pervi ous 0. 195 35. 314 143. 706 56. 404 110. 10 36. 358 20. 046 39. 13 0. 356 0. 009	-	c.m/sec"	" hectare" minutes" mm" c.m" mm" c.m" " c.m/sec"
	40		DROGRAPH Add Ru Add Runoff "	noff				
		4	0. 042	0.042	2 0. 248	0. 248"		
"	33	CA	TCHMENT 206"			0. 2.0		
		1	Tri angul ar SCS Equal length"					
н		1	SCS method"					
		206	No description					
		5. 000 0. 210	% Impervious" Total Area"					
н		12.000	Flow length"					
		2.000	Overland Slope					
		0.199	Pervious Area"	<b>۳</b>				
		12.000 2.000	Pervious lengt Pervious slope					
		0.010	Impervious Are					
		12.000	Impervious len	gth"				
		2.000 0.250	Impervious slo Pervious Manni					
		78.000	Pervious SCS C	urve l	No. "			
		0.356	Pervious Runof	f coe	ffi ci ent"			
		0. 100 7. 164	Pervious la/S Pervious lniti					
		0.015	Impervious Man					
"		98.000	Impervious SCS	Curve	e No."			
		0. 907 0. 100	Impervious Run Impervious Ia/		oefficient"			
		0. 518	Impervious Ini			ı		
"			0. 020	0.042		0.248 0	c.m/sec"	
			tchment 206		Pervious 0. 199		Total Area	" bootoro"
			rface Area me of concentra	tion	9.006	0. 010 1. 095	0. 210 8. 089	hectare" minutes"
			me to Centroid	ti on	110.011	88.233	107. 487	minutes"
			infall depth		56.404	56.404	56.404	mm''
			infall volume infall losses		112. 53 36. 430	5.92 6.656	118. 45 34. 941	C. M" MM"
			noff depth		19.974	49.748	21. 462	mm''
			noff volume		39.85	5.22	45.07	c.m"
			noff coefficien ximum flow	τ	0. 356 0. 019	0. 907 0. 004	0. 383 0. 020	" c.m/sec"
н	40	HY	DROGRAPH Add Ru	noff '	0.017	0.004	0.020	C. III/ 36C
		4	Add Runoff "			0.040"		
			0. 020	0.06		0. 248"		
					Page 5			

 33	A6814A_25yr_Pond_75mm orifice_v3a.out           CATCHMENT 207"           1         Triangular SCS"           1         Equal length"           1         SCS method"           207         No description"           1.000         % Impervious"           0.240         Total Area"           1.000         Flow length"           0.800         Overland Slope"           0.118         Pervious Area"           1.000         Pervious slope"           0.122         Impervious Slope"           0.800         Pervious Slope"           0.800         Impervious Slope"           0.800         Pervious Slope"           0.800         Impervious Slope"           0.112         Impervious Slope"           0.123         Impervious Slopef"           0.100         Imp
   33	4 Add Runoff" 0.040 0.101 0.248 0.248" CATCHMENT 208" 1 Tri angul ar SCS"
	1 Equal length" 1 SCS method" 208 No description" 5.000 % Impervious" 0.180 Total Area" 5.000 Flow length" 0.800 Overland Slope" 0.099 Pervious Area" 5.000 Pervious length" 0.800 Pervious slope" 0.081 Impervious Area" 5.000 Impervious length" 0.800 Impervious length" 0.800 Impervious slope" 0.250 Pervious Manning 'n'" 8.000 Pervious SCS Curve No." 0.356 Pervious Runoff coefficient" 7.164 Pervious Initial abstraction" 0.015 Impervious SCS Curve No." 0.907 Impervious Runoff coefficient" 7.000 Impervious SCS Curve No." 0.907 Impervious Runoff coefficient" Page 6

	40	Catchment 208         Pervious         Impervious           Surface Area         0.099         0.081           Time of concentration         26.202         3.186           Time to Centroid         132.030         91.460           Rainfall depth         56.404         56.404           Rainfall volume         55.84         45.69           Rainfall losses         36.357         6.149           Runoff depth         20.047         50.255           Runoff volume         19.85         40.71           Runoff coefficient         0.356         0.907           Maximum flow         0.005         0.025           HYDROGRAPH Add Runoff         "	c.m/sec" 5 Total Area 0.180 10.729 104.757 56.404 101.53 22.763 33.640 60.55 0.604 0.026	" hectare" minutes" mm" c.m" mm" c.m" c.m" c.m/sec"
	33	0.026 0.127 0.248 0.248 CATCHMENT 209"		
	40	CATCHMENT 209" 1 Triangular SCS" 1 Equal length" 1 SCS method" 209 No description" 80.000 % Impervious" 0.020 Total Area" 10.000 Flow length" 0.500 Overland Slope" 0.004 Pervious Area" 10.000 Pervious length" 0.500 Impervious Area" 10.000 Impervious Area" 10.000 Impervious length" 0.500 Impervious length" 0.500 Impervious length" 0.500 Pervious SCS Curve No." 0.250 Pervious Runoff coefficient" 7.164 Pervious Ia/S coefficient" 10.000 Impervious SCS Curve No." 0.356 Pervious Manning 'n'" 17.164 Pervious Ia/S coefficient" 10.100 Pervious SCS Curve No." 10.101 Impervious Manning 'n'" 198.000 Impervious Manning 'n'" 198.000 Impervious SCS Curve No." 10.315 Impervious Manning 'n'" 10.0015 Impervious Manning 'n'" 10.0015 Impervious Ia/S coefficient" 10.100 Impervious Ia/S coefficient" 10.101 Impervious Ia/S coefficient" 10.102 Impervious Ia/S coefficient" 10.103 Impervious Ia/S coefficient" 10.104 Impervious Ia/S coefficient" 10.105 Impervious Ia/S coefficient" 10.105 Impervious Ia/S coefficient" 10.106 Impervious Ia/S coefficient" 10.107 Impervious Ia/S coefficient" 10.108 Impervious Ia/S coefficient" 10.109 Impervious Ia/S coefficient" 10.100 Impervious Ia/S coefficient" 10.100 Impervious Ia/S coefficient" 10.101 Impervious Ia/S coefficient" 10.102 Impervious Ia/S coefficient" 10.103 Impervious Ia/S coefficient" 10.104 Impervious Ia/S coefficient" 10.105 Impervious Ia/S coefficient" 10.106 Impervious Ia/S coefficient" 10.107 Impervious Ia/S coefficient" 10.108 Impervious Ia/S coefficient" 10.109 Impervious Ia/S coefficient" 10.100 Impervious Ia/S coefficien	c.m/sec" s Total Area 0.020 2.459 91.168 56.404 11.28 12.106 44.298 8.86 0.796 0.006	" hectare" minutes" minutes" mm" c. m" " c. m/sec"
 	40	0.006 0.131 0.248 0.248 HYDROGRAPH Copy to Outflow"	1	
	40	8 Copy to Outflow"		
	40	0.006 0.131 0.131 0.248 HYDROGRAPH Combine 1" 6 Combine "		
.,		1 Node #"		

 	Maximum flow 0.379 c.m/sec" Hydrograph volume 867.914 c.m"	
  40	0.006 0.131 0.131 0.379" HYDROGRAPH Start - New Tributary" 2 Start - New Tributary"	
 33	0.006 0.000 0.131 0.379" CATCHMENT 210"	
 	1 Triangular SCS" 1 Equal Length" 1 SCS method"	
 	210 No description" 38.000 % Impervious"	
 	0.260 Total Area" 22.000 Flow Length" 0.500 Overland Slope"	
 	0.161 Pervious Area" 22.000 Pervious Length"	
 	0.500 Pervious slope" 0.099 Impervious Area" 22.000 Impervious length"	
 	0.500 Impervious slope" 0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."	
 	0.356 Pervious Runoff coefficient" 0.100 Pervious La/S coefficient"	
 	7.164 Pervious Initial abstraction" 0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No."	
 	0.907 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction"	
	0.034 0.000 0.131 0.379 c.m/se Catchment 210 Pervious Impervious Total	Area "
 	Surface Area 0.161 0.099 0.260 Time of concentration 19.638 2.388 9.181 Time to Centroid 123.630 90.242 103.3	minutes"
 	Rainfall depth56.40456.40456.404Rainfall volume90.9255.73146.6Rainfall losses36.3826.11524.88	5 c.m"
 	Runoff depth20.02250.28831.52Runoff volume32.2749.6881.96	23 mm" 5 C.m"
 40	Runoff coefficient 0.356 0.907 0.565 Maximum flow 0.010 0.032 0.034 HYDROGRAPH Add Runoff "	c.m/sec"
  40	4 Add Runoff " 0.034 0.034 0.131 0.379" HYDROGRAPH Copy to Outflow"	
	8 Copy to Outflow" 0.034 0.034 0.034 0.379"	
 40	HYDROGRAPH Combine 1" 6 Combine " 1 Node #"	
 	Maximum flow 0.411 c.m/sec" Hydrograph volume 949.873 c.m"	
  40	0.034 0.034 0.034 0.411" HYDROGRAPH Confluence 1"	
 	7 Confluence " 1 Node #"	
	Maximum flow 0.411 c.m/sec" Hydrograph volume 949.873 c.m"	
	Page 8	

		A6814A_25yr_Pond_75mm orifice_v3a.out 0.034
11 11	54	POND DESI GN"
		0.411   Current peak flow    c.m/sec" 0.233   Target outflow    c.m/sec"
		950.0 Hydrograph volume c.m" 14. Number of stages"
		401.250 Minimum water level metre"
		402.550 Maximum water level metre" 401.250 Starting water level metre"
		0 Keep Design Data: 1 = True; 0 = False"
		Level Discharge Volume" 401.250 0.000 0.0"
		401. 350 0. 004 27. 3" 401. 450 0. 005 76. 4"
		401. 550 0. 006 130. 2"
		401. 650 0. 007 188. 9" 401. 750 0. 008 252. 7"
		401.850 0.009 321.7"
		402. 050 0. 010 476. 1"
		402. 150 0. 011 561. 7" 402. 250 0. 065 653. 2"
		402. 350 0. 137 750. 7" 402. 450 0. 143 854. 3"
		402. 550 0. 455 963. 0"
		Peak outflow0.063c.m/sec"Maximum Level402.245metre"
		Maximum storage 649.079 c.m"
		Centroidal Lag 8.829 hours" 0.034 0.411 0.063 0.000 c.m/sec"
	40	HYDROGRAPH Combine 2" 6 Combine "
		2 Node #"
		Maximum flow 0.063 c.m/sec"
		Hydrograph volume 936.847 c.m" 0.034 0.411 0.063 0.063"
	40	HYDROGRAPH Start - New Tributary" 2 Start - New Tributary"
		0. 034 0. 000 0. 063 0. 063"
	33	CATCHMENT 211" 1 Tri angul ar SCS"
		1 Equal length" 1 SCS method"
		211 No description"
		40.000 % Impervious" 0.260 Total Area"
		47.000 Flow Length" 2.500 Overland Slope"
		0.156 Pervious Area"
		47.000 Pervious Length" 2.500 Pervious slope"
		0.104 Impervious Area"
		47.000 Impervious length" 2.500 Impervious slope"
		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."
		0.356 Pervious Runoff coefficient" 0.100 Pervious Ia/S coefficient"
		7.164 Pervious Initial abstraction"
		0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No."
		0.907 Impervious Runoff coefficient"
		Page 9

		A6814A_25yr_Po 0.100 Impervious Ia/S coet	ond_75mm ori fficient"	i fi ce_v3a. o	ut	
		0.518 Impervious Initial a	abstraction'			
		0.036 0.000			c.m/sec"	
		Catchment 211	Pervi ous		Total Area	н
		Surface Area	0. 156	0. 104	0. 260	hectare"
		Time of concentration	19.108	2.323	8.595	minutes"
		Time to Centroid	122.957	90.149	102.409	minutes"
		Rainfall depth	56.404	56.404	56.404	mm''
		Rainfall volume	87.99	58.66	146.65	C. M"
		Rainfall losses Runoff depth	36. 388 20. 016	6. 082 50. 321	24. 266 32. 138	mm''
		Runoff volume	31.22	52.33	83. 56	mm'' C. m''
		Runoff coefficient	0.356	0.907	0.576	U. III II
п		Maximum flow	0.010	0.034	0.036	c.m/sec"
	40	HYDROGRAPH Add Runoff '		0.001	0.000	0.117 300
		4 Add Runoff "				
		0.036 0.036		0. 063"		
	40	HYDROGRAPH Copy to Out	fl ow"			
		8 Copy to Outflow"				
		0.036 0.036		0. 063"		
	40	HYDROGRAPH Combine	2"			
		2 Node #"				
		Maximum flow	0.00	68 c.m/s	<u>م</u> د"	
п		Hydrograph volume	1020.40			
		0.036 0.036		0. 068"		
	40	HYDROGRAPH Confl uence		0.000		
		7 Confluence "	- –			
		2 Node #"				
		ш				
		Maximum flow	0.00		ec"	
		Hydrograph volume	1020.40			
		0.036 0.068	3 0.036	0.000"		

			A6814A_50yr_F	ond_75mm or	i fi ce_v3a. o	ut	
			MIDUSS Output				>"
			MIDUSS version MIDUSS created		V	ersion 2.07	rev. 385" gust-08-05"
		10	Units used:			Au	ie METRIC"
			Job folder:		0:	∖Private De	velopment\"
			A6814A - Sinclair Su				
			Output filename:	A6814A	_50yr_Pond_	100mm orifi	ce_v3a.out" CPC"
			Li censee name: Company		Triton Engi	neering Ser	
			Date & Time last us		20/	07/2017 at	3: 01: 10 PM"
	31		ME PARAMETERS"				
		5.000	Time Step"				
п		180. 000 1500. 000	Max. Storm Length" Max. Hydrograph"				
	32		FORM Chicago storm"				
		1	Chicago storm"				
		1644.390	Coefficient A"				
		11.085	Constant B"				
п		0.829 0.400	Exponent C" Fraction R"				
		180.000	Durati on"				
		1.000	Time step multiplie		oo "		
			aximum intensity	164. 3 63. 3			
		6	otal depth 050hyd Hydrograph	n extension		s file"	
	33		ATCHMENT 200"			0 0	
		1	Tri angul ar SCS"				
		1	Equal length" SCS method"				
		200	No description"				
		43.000	% Impervious"				
		0. 520	Total Area"				
		55.000	Flow length"				
		1. 000 0. 296	Overl and Sl ope" Pervi ous Area"				
		55.000	Pervious length"				
		1.000	Pervious slope"				
		0.224	Impervious Area"				
п		55.000 1.000	Impervious length" Impervious slope"				
		0. 250	Pervi ous Manni ng 'r	י י'			
		78.000	Pervious SCS Curve	No. "			
		0. 390 0. 100	Pervious Runoff coe Pervious la/S coeff				
		7. 164	Pervious Initial at				
		0. 015	Impervious Manning	'n'"			
		98.000	Impervious SCS Curv	/e No."			
		0. 916 0. 100	Impervious Runoff o Impervious la/S coe				
		0. 518	Impervious Initial		п		
			0.081 0.00			c.m/sec"	
			atchment 200	Pervi ous		Total Area	
			urface Area me of concentration	0. 296 25. 668	0. 224 3. 258	0. 520 11. 428	hectare"
			me to Centroid	130. 597	91. 275	105. 611	mi nutes" mi nutes"
			ainfall depth	63.385	63.385	63.385	mm''
			ainfall volume	187.87	141.73	329.60	C. M"
			ainfall losses unoff depth	38. 694 24. 691	6. 342 57. 043	24. 783 38. 603	mm'' mm''
			unoff volume	73.19	127.55	200.73	C. M''
		Ru	unoff coefficient	0.390	0.916	0. 616	
	40		aximum flow	_0. 020	0.075	0. 081	c.m/sec"
	40	HY	/DROGRAPH Add Runoff	Dago 1			

				Oyr_Po	ond_75mm ori	i fi ce_v3a. o	ut	
		4	Add Runoff " 0.081	0. 081	0.000	0. 000"		
	33		TCHMENT 201"					
		1 1	Triangular SCS Equal length"					
		1	SCS method"					
		201 48. 000	No description' % Impervious"					
		0.460 56.000	Total Area" Flow length"					
		0.600	Overl and Sl ope					
		0. 239 56. 000	Pervious Area" Pervious lengtl	<b>n</b> "				
		0.600	Pervious slope					
н		0. 221 56. 000	Impervious Area					
		0.600	Impervious slo	be"	н			
		0. 250 78. 000	Pervious Manni Pervious SCS C	urve N	lo. "			
		0. 390 0. 100	Pervious Runof Pervious la/S (					
		7.164	Pervious Initia	al abs	straction"			
		0. 015 98. 000	Impervious Manı Impervious SCS	ni ng Curve	n''' • No.''			
		0. 916	Impervious Runo	off co	efficient"			
		0. 100 0. 518	Impervious Ia/S					
		Ca	0.080 1tchment 201	0. 081	0.000 Pervious		c.m/sec" Total Area	н
		Su	irface Area		0. 239	0. 221	0.460	hectare"
п			me of concentra me to Centroid	tion	30. 244 136. 434	3. 839 92. 150	12. 258 106. 270	minutes" minutes"
		Ra	infall depth		63.385	63.385	63. 385 291. 57	mm" C. M"
		Ra	ainfall volume ainfall losses		151. 62 38. 680	139.95 6.212	23.095	mm''
			noff depth noff volume		24.705 59.09	57. 174 126. 24	40. 290 185. 33	mm'' C. M''
		Ru	inoff coefficien <sup>.</sup>		0.390	0. 916	0. 643	
н	40	ма НҮ	iximum flow ƊROGRAPH Add Rui	noff "	0. 014	0. 076	0.080	c.m/sec"
		4	Add Runoff " 0.080	0. 160		0.000"		
	33		TCHMENT 202"		0.000	0.000		
		1 1	Triangular SCS Equal Length"	1				
		1	SCS method"					
		202 42.000	No description' % Impervious"					
		0. 410 54. 000	Total Area" Flow length"					
		0.600	Overl and SI ope					
		0. 238 54. 000	Pervious Area" Pervious Lengtl	า"				
		0.600	Pervious slope					
		0. 172 54. 000	Impervious Area Impervious Ieng	gth"				
		0. 600 0. 250	Impervious sloj Pervious Mannii	oe" na 'n'	н			
		78.000	Pervious SCS C	urve N	lo. "			
		0. 390 0. 100	Pervious Runof Pervious la/S (					
		7. 164 0. 015	Pervious Initia Impervious Man	al abs	straction"			
		0.010		y	Page 2			

	40	Su Ti Ra Ra Ru Ru Ru Ma	A6814A_5 Impervious SCS Impervious Rur Impervious Ia/ Impervious Ini 0.063 tchment 202 rface Area me of concentra me to Centroid infall depth infall volume infall losses noff depth noff volume noff coefficier ximum flow DROGRAPH Add Ru Add Runoff "	6 Curve noff co (S coe tial a 0.16 ation	oeffi ci ent" ffi ci ent" abstracti on' 0 0.000 Pervi ous 0.238 29.591 135.599 63.385 150.73 38.675 24.710 58.76 0.390 0.015	0.000	ut C.m/sec" Total Area 0.410 13.425 108.342 63.385 259.88 25.093 38.293 157.00 0.611 0.063	" hectare" minutes" mm" c.m" mm" c.m" c.m/sec"
 	33		0. 063 TCHMENT 204"	0. 22	3 0.000	0.000"		
11 11	55	1	Triangular SCS Equal length"	5"				
11 11		1 204	SCS method" No description	ו"				
11 11		30. 000 0. 240	% Impervious" Total Area"					
		35.000 2.000	Flow length" Overland Slope	è				
		0. 168 35. 000	Pervious Area Pervious Lengt	:h''				
		2.000 0.072	Pervious slope	ea"				
11 11		35.000 2.000 0.250	Impervious ler Impervious slo Pervious Manni	ppe"				
11 11		78.000 0.390	Pervious SCS ( Pervious Runof	Curve	No. "			
11 11		0. 100 7. 164	Pervious la/S Pervious Initi	coeff	i ci ent"			
11 11		0.015 98.000	Impervious Mar Impervious SCS	nni ng 🖞	' n' "			
		0. 916 0. 100	Impervious Rur Impervious Ia	noff co 'S coe	oeffi ci ent" ffi ci ent"			
		0. 518	Impervious Ini 0.029	tial ( 0.22	3 0.000	0.000	c.m/sec"	
		Su	tchment 204 rface Area		Pervious 0.168	0. 072	Total Area 0.240	" hectare"
		Ti	me of concentra me to Centroid	ition	15.896 118.150	2.018 89.391	8.978 103.815	minutes" minutes" """
 		Ra	infall depth infall volume infall losses		63. 385 106. 49 38. 718	63. 385 45. 64 6. 178	63. 385 152. 12 28. 956	mm'' C. M'' mm''
н н		Ru	noff depth noff volume		24.667 41.44	57.207 41.19	34. 429 82. 63	mm" C. M"
11 11		Ru	noff coefficier ximum flow	nt	0. 390 0. 015	0. 916 0. 026	0. 548 0. 029	c.m/sec"
 	40	HY 4	DROGRAPH Add Ru Add Runoff "	inoff				
	33	CA	0. 029 TCHMENT 203"	0. 25	2 0.000	0.000"		
		1	Triangular SCS Equal length"	»"				
		1	SCS method"					

		A6814A_50yr_Pond_75m203No description"52.000% Impervious"0.280Total Area"47.000Flow Length"0.800OverLand SLope"0.134Pervious Area"47.000Pervious Iength"0.800Pervious SLope"0.134Pervious SLope"0.134Pervious SLope"0.146Impervious Area"47.000Impervious SLope"0.146Impervious SLope"0.250Pervious Manning 'n'"78.000Pervious SCS Curve No."0.390Pervious La/S coefficient"7.164Pervious Initial abstracti0.015Impervious SCS Curve No."0.916Impervious Runoff coefficier0.100Impervious Manning 'n'"98.000Impervious SCS Curve No."0.916Impervious Runoff coefficier0.518Impervious La/S coefficier	nt" on" ent" it" cti on"	
		0.051 0.252 0 Catchment 203 Pervice Surface Area 0.134 Time of concentration 24.975 Time to Centroid 129.71 Rainfall depth 63.385 Rainfall volume 85.19 Rainfall losses 38.694 Runoff depth 24.691 Runoff volume 33.18	0.000 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.146 0.161 0.000 0.000 0.000 0.000 0.146 0.150 0.000 0.161 0.0000 0.0000 0	0 c. m/sec"         is Total Area         0. 280       hectare"         9. 395       mi nutes"         102. 167       mi nutes"         63. 385       mm"         177. 48       c. m"         21. 868       mm"         41. 518       mm"         116. 25       c. m"
  	40	Runoff coefficient 0.390 Maximum flow 0.009 HYDROGRAPH Add Runoff " 4 Add Runoff " 0.051 0.303 0	0. 916 0. 049 ). 000 0. 000	0.664 " 0.051 c.m/sec"
  	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"	). 303 0. 000	
  	40	HYDROGRAPH Combine 1" 6 Combine " 1 Node #"		
  			0.303 c.m/ 741.949 c.m" 0.303 0.303	
11 11 11	40	HYDROGRAPH Start - New Tribut 2 Start - New Tributary" 0.051 0.000 0	ary" ). 303         0. 303	
	33	CATCHMENT 205" 1 Tri angul ar SCS" 1 Equal Length" 1 SCS method" 205 No description" 39.000 % Impervious" 0.320 Total Area" 74.000 FLow Length" 0.800 OverLand SLope" 0.195 Pervious Area" 74.000 Pervious Length" 0.800 Pervious SLope" 0.125 Impervious Area" 74.000 Impervious Length" Page		

		0. 800 0. 250	Impervious	sl ope"	ond_75mm ori	i fi ce_v3a. ou	ut	
		78.000 0.390	Pervious M Pervious S Pervious R	CS Curve I unoff coet	No." fficient"			
		0. 100 7. 164	Pervious I Pervious I Impervious	nitial abs	straction"			
н н		0.015 98.000 0.916	Impervious	SCS Curve	e No." pefficient"			
		0. 100 0. 518	Impervious Impervious	la/S coet Initial a	fficient" abstraction'			
			0.046 atchment 205 Surface Area	0.000	Pervi ous	Impervious	c.m/sec" Total Area	" boctaro"
 		T	ime of conce ime to Centr		0. 195 32. 793 139. 694	0. 125 4. 163 92. 576	0. 320 15. 674 111. 522	hectare" minutes" minutes"
		R R	ainfall dept ainfall volu	h me	63. 385 123. 73	63. 385 79. 10	63.385 202.83	mm'' C. m''
		R	ainfall loss unoff depth unoff volume	es	38. 676 24. 709 48. 23	5. 914 57. 471 71. 72	25. 899 37. 487 119. 96	mm" mm" C. m"
 		R N	unoff coeffi laximum flow		0. 390 0. 011	0. 916 0. 044	0. 595 0. 046	c.m/sec"
 	40	H 4	YDROGRAPH Ad Add Runoff 0.046	d Runoff ' 		0. 303"		
 	33	C 1	ATCHMENT 206 Tri angul ar		0.000	0. 303		
		1 1 204	Equal leng SCS method					
 		206 5. 000 0. 210	No descrip % Impervio Total Area	us"				
		12.000	Flow lengt Overland S	l ope"				
 		0. 199 12. 000 2. 000	Pervious A Pervious I Pervious s	ength"				
		0. 010 12. 000	Impervious Impervious	Area" Length"				
		2.000 0.250 78.000	Impervious Pervious M Pervious S	anni ng ' n'	No "			
 		0. 390 0. 100	Pervious R Pervious I	unoff coet a/S coeffi	ffi ci ent" i ci ent"			
 		7.164 0.015 98.000	Pervious I Impervious Impervious	Manni ng '	' n' "			
 		0. 916 0. 100	Impervious Impervious	Runoff co la/S coet	oefficient" fficient"			
 		0. 518	Impervious 0.026 atchment 206	0.040	abstraction' 6 0.303 Pervious	0.303 0	c.m/sec" Total Area	
		S T	Surface Area ime of conce	ntration	0. 199 8. 363	0. 010 1. 062	0. 210 7. 578	hectare" minutes"
		R	ime to Centr ainfall dept ainfall volu	h	108. 492 63. 385 126. 45	87.920 63.385 6.66	106. 279 63. 385 133. 11	minutes" mm" c.m"
 		R R	ainfall loss unoff depth	es	38. 757 24. 628	6. 971 56. 414	37. 168 26. 217	mm'' mm''
		R	unoff volume unoff coeffi aximum flow		49.13 0.390 0.024	5.92 0.916 0.004	55.06 0.416 0.026	c.m" " c.m/sec"
		IV			Page 5	0.004	0.020	0. III/ 300

	40	A6814A_50yr_Pond_75mm orifice_v3a.out HYDROGRAPH Add Runoff "
11 11	40	4 Add Runoff "
	40	HYDROGRAPH Add Runoff "
н 11		Rainfall losses       38.684       5.980       22.005       mm"         Runoff depth       24.702       57.405       41.380       mm"
		Runoff volume     29.05     70.26     99.31     c.m"       Runoff coefficient     0.390     0.916     0.658     "
	40	Maximum flow 0.007 0.042 0.044 c.m/sec" HYDROGRAPH Add Runoff
	40	4 Add Runoff "
	33	0.044 0.115 0.303 0.303" CATCHMENT 208" 1 Tri angul ar SCS" 1 Equal length" 1 SCS method" 208 No description" 45.000 % Impervious" 0.180 Total Area" 45.000 Flow length" 0.800 Overl and Slope" 0.099 Pervious Area" 45.000 Pervious length" 0.800 Pervious slope" 0.081 Impervious Area" 45.000 Impervious slope" 0.081 Impervious slope" 0.250 Pervious Slope" 0.250 Pervious SCS Curve No." 0.390 Pervious Runoff coefficient" 7.164 Pervious Initial abstraction" Page 6

		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
п		Runoff coefficient0.3900.9160.627"Maximum flow0.0070.0280.029c.m/sec"	
	40	HYDROGRAPH Add Runoff "	
		4 Add Runoff " 0.029 0.144 0.303 0.303"	
	33	CATCHMENT 209"	
		1 Triangular SCS" 1 Egual Length"	
		1 Equal Length" 1 SCS method"	
		209 No description" 80.000 % Impervious"	
п		80.000 % Impervious" 0.020 Total Area"	
		10.000 Flow Length"	
п		0. 500 Overl and SI ope" 0. 004 Pervi ous Area"	
		10.000 Pervious Length"	
		0.500 Pervious slope" 0.016 Impervious Area"	
		10.000 Impervious length"	
		0.500 Impervious slope" 0.250 Pervious Manning 'n'"	
		78.000 Pervious SCS Curve No."	
		0.390 Pervious Runoff coefficient" 0.100 Pervious La/S coefficient"	
		7.164 Pervious Initial abstraction"	
		0.015 Impervious Manning 'n'"	
п		98.000 Impervious SCS Curve No." 0.916 Impervious Runoff coefficient"	
		0.100 Impervious Ia/S coefficient"	
п		0.518 Impervious Initial abstraction" 0.006 0.144 0.303 0.303 c.m/sec"	
		Catchment 209 Pervious Impervious Total Area "	
		Surface Area         0.004         0.016         0.020         hectare"           Time of concentration         11.363         1.442         2.407         minutes"	
		Time to Centroid 112.333 88.557 90.870 minutes"	
		Rainfall depth 63.385 63.385 63.385 mm" Rainfall volume 2.54 10.14 12.68 c.m"	
		Rainfall Losses 38.745 6.213 12.719 mm"	
		Runoff depth         24.641         57.172         50.666         mm"           Bupoff volume         0.99         9.15         10.12         c.m"	
		Runoff volume 0.99 9.15 10.13 c.m" Runoff coefficient 0.390 0.916 0.811 "	
	40	Maximum flow 0.000 0.006 0.006 c.m/sec"	
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "	
	40	0.006 0.149 0.303 0.303"	
	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"	
		0. 006 0. 149 0. 149 0. 303"	
		Page 7	

Page 7

	40	A6814A_50yr_Pond_75mm orifice_v3a.out HYDROGRAPH Combine 1"
 		6 Combine " 1 Node #"
  	40	Maximum flow 0.452 c.m/sec" Hydrograph volume 1097.060 c.m" 0.006 0.149 0.149 0.452" HYDROGRAPH Start - New Tributary"
н 11	40	2 Start - New Tributary" 0.006 0.000 0.149 0.452"
н П	33	CATCHMENT 210" 1 Tri angul ar SCS"
		1 Equal length" 1 SCS method"
		210 No description" 38.000 % Impervious"
		0.260 Total Area" 22.000 Flow Length"
		0. 500 Overl and SI ope" 0. 161 Pervi ous Area"
		22.000 Pervious Length"
		0.099 Impervious Area"
		22.000 Impervious length" 0.500 Impervious slope"
		0.250 Pervious Manning 'n'" 78.000 Pervious SCS Curve No."
		0.390 Pervious Runoff coefficient" 0.100 Pervious Ia/S coefficient"
		7.164 Pervious Initial abstraction" 0.015 Impervious Manning 'n'"
		98.000 Impervious SCS Curve No." 0.916 Impervious Runoff coefficient"
		0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction"
		0.038 0.000 0.149 0.452 c.m/sec" Catchment 210 Pervious Impervious Total Area "
		Surface Area 0. 161 0. 099 0. 260 hectare" Time of concentration 18. 236 2. 315 8. 901 minutes"
		Time to Centroid 121.092 89.855 102.777 minutes"
		Rainfall depth 63.385 63.385 63.385 mm" Rainfall volume 102.18 62.62 164.80 c.m"
		Rainfall losses38.6886.27126.370mm"Runoff depth24.69757.11437.016mm"
		Runoff volume         39.81         56.43         96.24         c.m"           Runoff coefficient         0.390         0.916         0.590         "
	40	Maximum flow 0.013 0.036 0.038 c.m/sec" HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.038 0.038 0.149 0.452"
	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"
	40	0. 038 0. 038 0. 038 0. 452" HYDROGRAPH Combine 1"
	40	6 Combine " 1 Node #"
		п
		Hydrograph volume 1193.301 c.m"
  	40	0.038 0.038 0.038 0.488" HYDROGRAPH Confluence 1" 7 Confluence " 1 Node #"
		Page 8

11 11 11		Maximum flow 0.488 c.m/sec" Hydrograph volume 1193.301 c.m" 0.038 0.488 0.038 0.000"
  	54	POND DESIGN" O.488 Current peak flow c.m/sec" O.233 Target outflow c.m/sec"
		1200.0 Hydrograph volume c.m" 14. Number of stages" 401.250 Minimum water Level metre"
		402.550 Maximum water level metre" 401.250 Starting water level metre"
 		0 Keep Dešign Data: 1 = True; 0 = False" Level Discharge Volume" 401.250 0.000 0.0"
		401.350       0.004       27.3"         401.450       0.005       76.4"         401.550       0.006       130.2"
		401. 650 0. 007 188. 9" 401. 750 0. 008 252. 7"
		401. 950 0. 010 396. 1" 402. 050 0. 010 476. 1"
		402. 150 0. 011 561. 7" 402. 250 0. 065 653. 2" 402. 350 0. 137 750. 7"
 		402.450 0.143 854.3" 402.550 0.455 963.0" Peak outflow 0.115 c.m/sec"
		Maximum level402.319metre"Maximum storage720.769c.m"
	40	0.038 0.488 0.115 0.000 c.m/sec" HYDROGRAPH Combine 2"
 		2 Node #"
		Maximum flow 0.115 c.m/sec" Hydrograph volume 1180.367 c.m" 0.038 0.488 0.115 0.115"
	40	HYDROGRAPH Start - New Tributary" 2 Start - New Tributary" 0.038 0.000 0.115 0.115"
	33	CATCHMENT 211" 1 Tri angul ar SCS"
 		1 Equal Length" 1 SCS method" 211 No description"
		40.000 % Impervious" 0.260 Total Area" 47.000 Flow Length"
 		2.500 Overl and SI ope" 0.156 Pervi ous Area" 47.000 Pervi ous Tength"
		2.500 Pervious slope" 0.104 Impervious Area"
		47.000 Impervious length" 2.500 Impervious slope" 0.250 Pervious Manning 'n'"
., 11 11		<ul> <li>78.000 Pervious SCS Curve No."</li> <li>0.390 Pervious Runoff coefficient"</li> <li>0.100 Pervious Ia/S coefficient"</li> </ul>
		7.164 Pervious Initial abstraction" Page 9

	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
 40	HYDROGRAPH Add Runoff " 4 Add Runoff "
  40	0.040 0.040 0.115 0.115" HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"
   40	0.040 0.040 0.040 0.115" HYDROGRAPH Combine 2" 6 Combine " 2 Node #"
 40	Maximum flow 0.123 c.m/sec" Hydrograph volume 1278.362 c.m" 0.040 0.040 0.040 0.123" HYDROGRAPH Confluence 2" 7 Confluence " 2 Node #"
  	Maximum flow 0.123 c.m/sec" Hydrograph volume 1278.362 c.m" 0.040 0.123 0.040 0.000"

			A6814A_100yr_	Pond_75mm o	ri fi ce_v3a. (	out	
			MIDUSS Output				>"
			MIDUSS version MIDUSS created		v		' rev. 385" Igust-08-05"
		10	Units used:				ie METRIC"
			Job folder:				vel opment\"
			A6814A - Sinclair S				
			Output filename: Licensee name:	A0014A_			ce_v3a.out" CPC"
			Company		Triton Engi	neering Ser	vices Ltd."
	0.4		Date & Time last u				2:57:27 PM"
	31	5.000	ME PARAMETERS" Time Step"				
п		180.000	Max. Storm Length"				
		1500.000	Max. Hydrograph"				
	32		ORM Chi cago storm"				
		1 1780. 100	Chicago storm" Coefficient A"				
		11.090	Constant B"				
		0. 828	Exponent C"				
		0.400	Fraction R"				
		180. 000 1. 000	Duration" Time step multipli	or"			
			aximum intensity	178. 4	09 mm/hr		
			otal depth	68.9	76 mm''		
	22	6		h extension	used in thi	s file"	
	33	1	ATCHMENT 200" Triangular SCS"				
		1	Equal length"				
		1	SCS method"				
		200 43.000	No description" % Impervious"				
		0. 520	Total Area"				
		55.000	Flow length"				
		1.000	Overland Slope"				
		0.296 55.000	Pervious Area" Pervious length"				
		1.000	Pervious slope"				
		0.224	Impervious Area"				
		55.000 1.000	Impervious length" Impervious slope"				
		0. 250	Pervi ous Manni ng '	n' "			
		78.000	Pervious SCS Curve	No. "			
		0.415	Pervious Runoff co				
		0. 100 7. 164	Pervious la/S coef Pervious Initial a				
		0.015	Impervious Manning	' n' "			
		98.000	Impervious SCS Cur				
		0. 923 0. 100	Impervious Runoff Impervious Ia/S co				
		0. 518	Impervious Initial		"		
			0.088 0.0		0.000	c.m/sec"	
			atchment 200	Pervious		Total Area	
			urface Area me of concentration	0. 296 24. 086	0. 224 3. 148	0. 520 11. 056	hectare" minutes"
			me to Centroid	128. 308	90.952	105.061	minutes"
			ainfall depth	68.976	68.976	68.976	mm''
			ainfall volume ainfall losses	204. 45 40. 357	154.23 6.468	358.68 25.785	с.m" mm"
п			inoff depth	40. 357 28. 619	6. 468 62. 508	25.785 43.191	mm"
		Ru	unoff volume	84.83	139.77	224.60	C. M"
			unoff coefficient	0.415	0.923	0.633	"
	40	Ма µv	aximum flow /DROGRAPH Add Runoff	"0. 024	0.083	0. 088	c.m/sec"
	40			Dago 1			

			A6814A_10	0yr_P	ond_75mm or	i fi ce_v3a. c	out	
		4	Add Runoff " 0.088	0. 088	3 0.000	0.000"		
	33	-	TCHMENT 201"		0.000	0.000		
		1	Triangular SCS Equal length"					
		1	SCS method"					
		201 48. 000	No description' % Impervious"					
		0.460	Total Area"					
		56.000 0.600	Flow length" Overland Slope					
		0.239	Pervious Area"					
		56.000 0.600	Pervious lengt Pervious slope					
		0. 221 56. 000	Impervious Area Impervious Ien	a"				
		0.600	Impervious slo	be"				
		0. 250 78. 000	Pervious Manni Pervious SCS Cu					
"		0. 415	Pervious Runof	f coef	ficient"			
		0. 100 7. 164	Pervious la/S Pervious Initia					
		0. 015	Impervious Man	ning '	n' "			
		98.000 0.923	Impervious SCS Impervious Runo					
		0. 100 0. 518	Impervious la/ Impervious Ini	S coef	fi ci ent"			
		0.516	0. 087	0. 088			c.m/sec"	
			itchment 201 Irface Area		Pervi ous 0. 239	Impervious 0.221	Total Area 0.460	" hectare"
"		Ti	me of concentra	tion	28. 381	3. 710	11. 894	minutes"
			me to Centroid ainfall depth		133. 831 68. 976	91. 809 68. 976	105. 750 68. 976	minutes" mm"
		Ra	infall volume		164.99	152.30	317.29	C. M"
			ninfall losses noff depth		40. 368 28. 608	6.549 62.427	24. 135 44. 841	mm'' mm''
			noff volume noff coefficien <sup>.</sup>	F	68. 43 0. 415	137.84 0.923	206. 27 0. 659	C. M"
	4.0	Ma	aximum flow		0.018	0. 082	0.087	c.m/sec"
	40	НҮ 4	DROGRAPH Add Rui Add Runoff "	NOTT	-			
	33	C A	0.087 TCHMENT 202"	0. 175	5 0.000	0. 000"		
	33	1	Tri angul ar SCS	•				
		1	Equal length" SCS method"					
		202	No description					
		42.000 0.410	% Impervious" Total Area"					
		54.000	Flow length"					
		0. 600 0. 238	Overl and Sl ope Pervi ous Area"					
		54.000 0.600	Pervious lengt Pervious slope					
"		0. 172	Impervious Area	a"				
		54.000 0.600	Impervious leng					
		0. 250	Pervious Manni	ng 'n'	"  o_"			
		78.000 0.415	Pervious SCS Cu Pervious Runof					
		0. 100 7. 164	Pervious la/S o Pervious lnitia	coeffi	ci ent"			
		0. 015	Impervious Mani	ni ng '	n' "			
					Page 2			

	40	Su Ti Ra Ra Ru Ru Ru Ma	A6814A Impervious S Impervious R Impervious I Impervious I 0.069 tchment 202 rface Area me of concent me to Centroi infall depth infall volume infall losses noff depth noff volume noff coeffici ximum flow DROGRAPH Add Add Runoff "	CS Curve unoff c a/S coe nitial 0.17 ration d	oeffi ci ent" ffi ci ent" abstracti on' 5 0.000 Pervi ous 0.238 27.768 133.029 68.976 164.03 40.367 28.609 68.03 0.415 0.018		c.m/sec" Total Area 0.410 12.993 107.731 68.976 282.80 26.200 42.777 175.38 0.628 0.069	" hectare" minutes" mm" c.m" mm" c.m" c.m" c.m/sec"
  	33	CA 1	0.069 TCHMENT 204" Triangular S	0. 24 CS''	4 0.000	0. 000"		
 		1 1 204	Equal length SCS method" No descripti	on"				
 		30.000 0.240 35.000	% Impervious Total Area" Flow Length"					
11 11 11		2.000 0.168 35.000 2.000	Overland Slo Pervious Are Pervious len Pervious slo	a" gth"				
  		0. 072 35. 000 2. 000	Impervious A Impervious I Impervious s	rea" ength"				
  		0. 250 78. 000 0. 415	Pervi ous Man Pervi ous SCS Pervi ous Run	ning 'n Curve	No. "			
  		0. 100 7. 164 0. 015	Pervious Ia/ Pervious Ini Impervious M	tial ab: anning	straction" 'n'"			
  		98.000 0.923 0.100	Impervious S Impervious R Impervious I	unoff c a/S coe	oeffi ci ent" ffi ci ent"			
 		0. 518 Ca	Impervious I 0.034 tchment 204	0. 24		0.000	c.m/sec" Total Area	
 		Ti	rface Area me of concent me to Centroi		0. 168 14. 917 116. 524	0. 072 1. 950 89. 092	0. 240 8. 638 103. 240	hectare" mi nutes" mi nutes"
		Ra Ra	infall depth infall volume infall losses		68.976 115.88 40.366	68.976 49.66 6.292	68. 976 165. 54 30. 144	mm" C. M" mm"
 		Ru Ru	noff depth noff volume		28. 610 48. 07	62. 684 45. 13	38.832 93.20	mm" C. M"
  	40	Ma HY	noff coeffici ximum flow DROGRAPH Add		0. 415 0. 018	0. 923 0. 029	0. 567 0. 034	" c.m/sec"
 	33	4 CA	Add Runoff " 0.034 TCHMENT 203"	0. 27	8 0.000	0.000"		
  		1 1 1	Triangular S Equal length SCS method"					
					Daga 2			

Page 3

		A6814A_100yr_Pond_ 203 No description" 52.000 % Impervious" 0.280 Total Area" 47.000 Flow Length" 0.800 Overland Slope" 0.134 Pervious Area" 47.000 Pervious Length" 0.800 Pervious Slope" 0.146 Impervious Area"	_75mm or	i fi ce_v3a. o	ut	
		<ul> <li>47.000 Impervious length"</li> <li>0.800 Impervious slope"</li> <li>0.250 Pervious Manning 'n'"</li> <li>78.000 Pervious SCS Curve No."</li> <li>0.415 Pervious Runoff coefficie</li> <li>7.164 Pervious la/S coefficie</li> <li>7.164 Pervious Initial abstra</li> <li>0.015 Impervious Manning 'n'"</li> <li>98.000 Impervious SCS Curve No</li> <li>0.923 Impervious Runoff coefficie</li> <li>0.100 Impervious la/S coefficie</li> <li>0.100 Impervious Runoff coefficie</li> <li>0.518 Impervious Initial abstra</li> </ul>	nt" ction" ." icient" ient" raction'			
		Surface Area 0.1 Time of concentration 23.	436 . 468 976 70 361 615 46	0.000 c Impervious 0.146 3.063 90.833 68.976 100.43 6.510 62.467 90.95 0.923	c. m/sec" Total Area 0. 280 9. 118 101. 720 68. 976 193. 13 22. 759 46. 218 129. 41 0. 679	" hectare" minutes" mm" c.m" mm" c.m"
  	40	Maximum flow 0.0 HYDROGRAPH Add Runoff " 4 Add Runoff "	11	0. 054	0. 056	c.m/sec"
 	40	0.056 0.333 HYDROGRAPH Copy to Outflow 8 Copy to Outflow"		0. 000"		
  	40	0.056 0.333 HYDROGRAPH Combine 1" 6 Combine " 1 Node #"	0. 333	0. 000"		
  		Maximum flow Hydrograph volume 0.056 0.333	0.33 828.89 0.333		ec"	
11 11 11	40	HYDROGRAPH Start - New Tri 2 Start - New Tributary" 0.056 0.000	butary" 0.333	0. 333"		
	33	CATCHMENT 205" 1 Tri angul ar SCS" 1 Equal Length" 1 SCS method" 205 No description" 39.000 % Impervious" 0.320 Total Area" 74.000 FLow Length" 0.800 OverLand SLope" 0.195 Pervious Area" 74.000 Pervious Length" 0.800 Pervious SLOPE" 0.125 Impervious Length" 74.000 Impervious Length"	age 4			

 7	0.800 0.250 8.000 0.415 0.100 7.164 0.015	A6814A_100yr Impervious slope" Pervious Manning ' Pervious SCS Curve Pervious Runoff co Pervious Ia/S coef Pervious Initial a Impervious Manning	n'" No." efficient" ficient" bstraction" 'n'"	⁺i fi ce_v3a. o	ut	
	Suı Tir Tir Rai Rai Rai	Impervious SCS Cur Impervious Runoff Impervious Ia/S co Impervious Initial 0.051 0.0 tchment 205 rface Area me of concentration me to Centroid infall depth infall volume infall losses	coeffi ci ent" effi ci ent" abstracti on' 00 0. 333 Pervi ous 0. 195	0.333 (	c.m/sec" Total Area 0.320 15.148 110.799 68.976 220.72 27.000	" hectare" minutes" minutes" mm" c.m" mm"
 	Rur Rur Max	noff depth noff volume noff coefficient kimum flow	28. 620 55. 87 0. 415 0. 014	62.867 78.46 0.923 0.047	41. 976 134. 32 0. 613 0. 051	mm" c.m" c.m/sec"
 40	HYI 4	DROGRAPH Add Runoff Add Runoff "		0 2221		
1 1 7 9	CA <sup>-</sup> 1 1 206 5.000 0.210 2.000 2.000 2.000 0.199 2.000 2.000 0.010 2.000 0.250 8.000 0.415 0.100 7.164 0.015 8.000 0.923 0.100 0.518	0.051 0.0 ICHMENT 206" Tri angul ar SCS" Equal length" SCS method" No description" % Impervious" Total Area" Flow length" Overl and Slope" Pervious Area" Pervious length" Pervious slope" Impervious Slope" Impervious Slope" Impervious Scs curve Pervious Runoff co Pervious Initial a Impervious SCS Curve Pervious Initial a Impervious Initial a Impervious Initial 0.032 0.0 tchment 206	n'" No." efficient" ficient" bstraction" 'n'" ve No." coefficient" abstraction'	0.333 (	c.m/sec" Total Area	1
	Sui Tir Tir Rai Rai Rui Rui Rui Rui	rface Area me of concentration me to Centroid infall depth infall volume infall losses noff depth noff volume noff coefficient	0. 199 7. 848 107. 481 68. 976 137. 61 40. 453 28. 524 56. 90 0. 415	0.010 1.026 87.691 68.976 7.24 7.290 61.686 6.48 0.923	0. 210 7. 151 105. 459 68. 976 144. 85 38. 795 30. 182 63. 38 0. 440	hectare" minutes" minutes" mm" c.m" mm" c.m"
	ivida	kimum flow	0.029 Page 5	0.004	0. 032	c.m/sec"

		A6814A_100yr_Pond_75mm orifice_v3a.out
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "
		0. 032 0. 083 0. 333 0. 333"
	33	CATCHMENT 207" 1 Tri angul ar SCS"
		1 Equal Length"
		1 SCS method" 207 No description"
		51.000 % Impervious"
		0.240 Total Area" 71.000 Flow length"
		71.000 Flow length" 0.800 Overland Slope"
		0.118 Pervious Area" 71.000 Dervious Length"
		71.000 Pervious Length" 0.800 Pervious slope"
		0.122 Impervious Area"
		71.000 Impervious length" 0.800 Impervious slope"
		0.250 Pervious Manning 'n'"
		78.000 Pervious SCS Curve No." 0.415 Pervious Runoff coefficient"
"		0.100 Pervious La/S coefficient"
		7.164 Pervious Initial abstraction" 0.015 Impervious Manning 'n'"
"		98.000 Impervious SCS Curve No."
		0.923 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient"
п		0.518 Impervious Initial abstraction"
		0.048 0.083 0.333 0.333 c.m/sec" Catchment 207 Pervious Impervious Total Area "
п		Catchment 207 Pervious Impervious Total Area " Surface Area 0.118 0.122 0.240 hectare"
		Time of concentration 30.018 3.924 11.871 minutes"
п		Time to Centroid 135.925 92.087 105.439 minutes" Rainfall depth 68.976 68.976 68.976 mm"
		Rainfall volume 81.12 84.43 165.54 c.m"
		Rainfall Losses 40.364 6.210 22.946 mm" Runoff depth 28.612 62.766 46.031 mm"
		Runoff volume 33.65 76.83 110.47 c.m"
		Runoff coefficient         0.415         0.923         0.674         "           Maximum flow         0.008         0.046         0.048         c.m/sec"
	40	HYDROGRAPH Add Runoff "
		4 Add Runoff " 0.048 0.131 0.333 0.333"
	33	CATCHMENT 208"
		1 Tri angul ar SCS" 1 Equal Tength"
"		1 SCS method"
		208 No description" 45.000 % Impervious"
		0.180 Total Area"
		45.000 Flow Length" 0.800 Overland Slope"
		0.099 Pervious Area"
		45.000 Pervious Length" 0.800 Pervious slope"
"		0.081 Impervious Area"
		45.000 Impervious length" 0.800 Impervious slope"
		0.250 Pervious Manning 'n'"
		78.000 Pervious SCS Curve No." 0.415 Pervious Runoff coefficient"
"		0.100 Pervious Ia/S coefficient"
"		7.164 Pervious Initial abstraction"
		Page 6

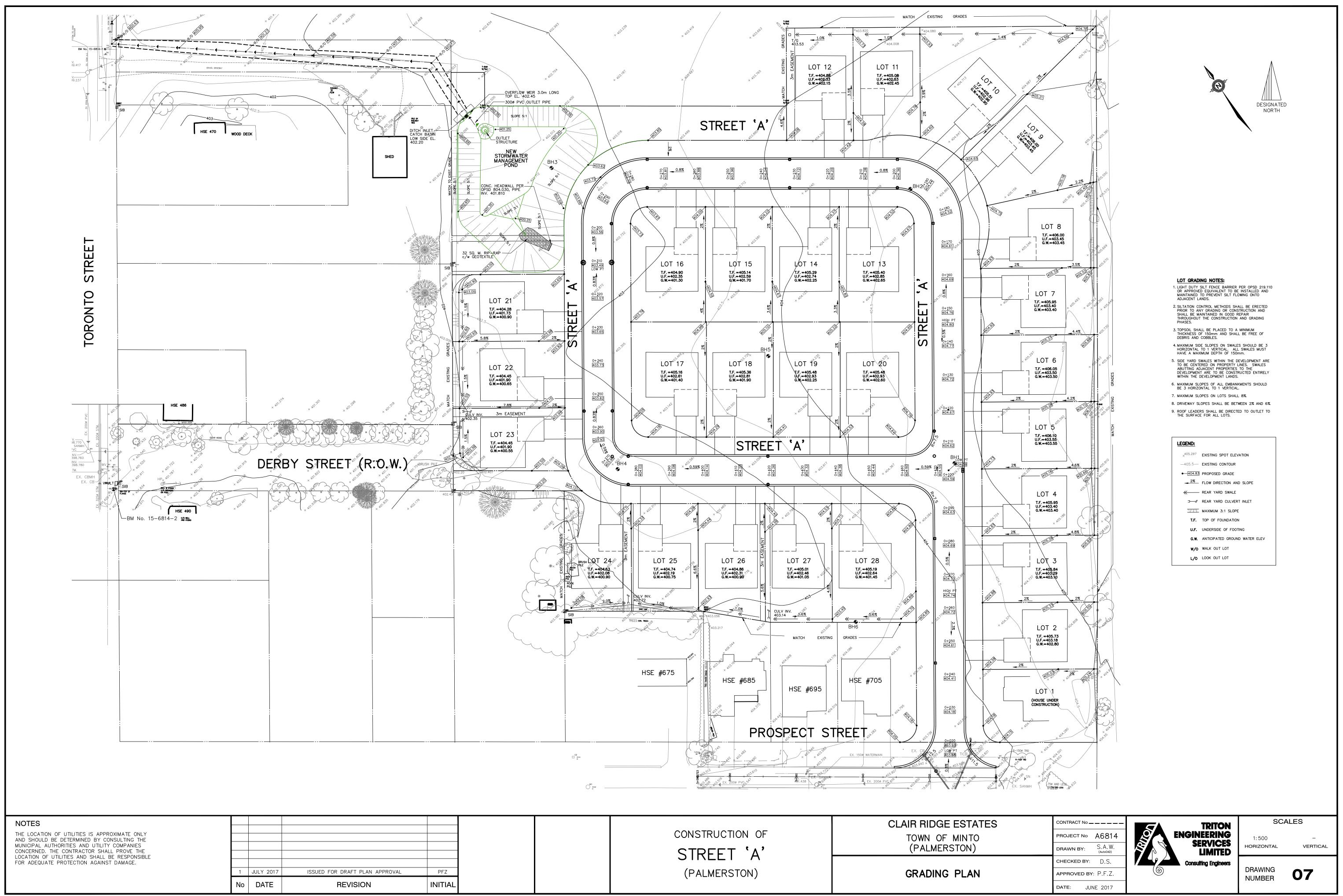
		A6814A_100yr_Pond_75mm orifice_v3a.out	
		0.015 Impervious Manning 'n'"	
		98.000 Impervious SCS Curve No." 0.923 Impervious Runoff coefficient"	
		0.100 Impervious Ia/S coefficient"	
		0.518 Impervious Initial abstraction" 0.032 0.131 0.333 0.333 c.m/sec"	
		Catchment 208 Pervious Impervious Total Area "	
			are" ites"
п		Time to Centroid 126.698 90.715 103.631 minu	ites"
		Rainfall depth 68.976 68.976 68.976 mm" Rainfall volume 68.29 55.87 124.16 c.m"	
		Rainfall losses 40.380 6.556 25.159 mm"	
		Runoff depth28.59762.42143.817mm"Runoff volume28.3150.5678.87c.m"	
		Runoff coefficient 0.415 0.923 0.643 "	
	40	Maximum flow 0.008 0.030 0.032 c.m/ HYDROGRAPH Add Runoff "	'sec"
	40	4 Add Runoff "	
	22	0.032 0.163 0.333 0.333" CATCHMENT 209"	
	33	1 Tri angul ar SCS"	
		1 Equal length" 1 SCS method"	
		209 No description"	
		80.000 % Impervious" 0.020 Total Area"	
		10.000 Flow Length"	
		0.500 Overland Slope" 0.004 Pervious Area"	
		10.000 Pervious Length"	
		0.500 Pervious slope" 0.016 Impervious Area"	
		10.000 Impervious length"	
		0.500 Impervious slope" 0.250 Pervious Manning 'n'"	
		78.000 Pervious SCS Curve No."	
		<ul><li>0. 415 Pervi ous Runoff coeffi ci ent"</li><li>0. 100 Pervi ous La/S coeffi ci ent"</li></ul>	
		7.164 Pervious Initial abstraction"	
		0.015 Impervious Manning 'n'" 98.000 Impervious SCS Curve No."	
		0.923 Impervious Runoff coefficient"	
		0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction"	
		0.007 0.163 0.333 0.333 c.m/sec"	
		Catchinent 209 Fervious Thipervious Total Area	are"
			ites"
		Time to Centroid 111.044 88.311 90.639 minu Rainfall depth 68.976 68.976 68.976 mm"	ites"
		Rainfall volume 2.76 11.04 13.80 c.m"	
		Rainfall losses40.4186.39713.201mm"Runoff depth28.55862.57955.775mm"	
		Runoff volume 1.14 10.01 11.15 c.m"	
		Maximum flow 0.001 0.007 0.007 c.m/	'sec"
	40	HYDROGRAPH Add Runoff " 4 Add Runoff "	
		0.007 0.168 0.333 0.333"	
	40	HYDROGRAPH Copy to Outflow" 8 Copy to Outflow"	
п		0.007 0.168 0.168 0.333"	
		Page 7	

Page 7

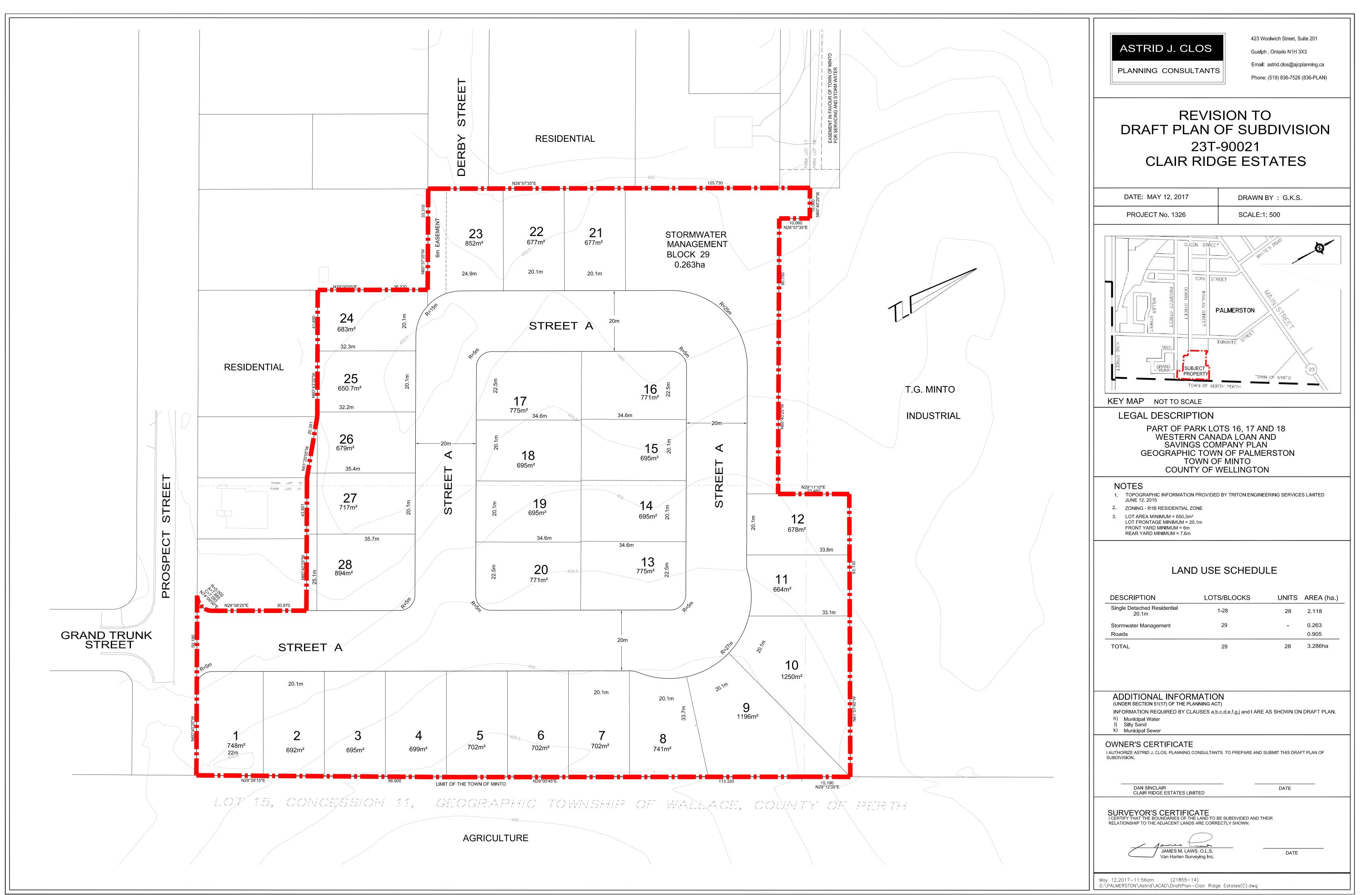
		A6814A_100yr_Pond_75mm orifice_v3a.out
	40	HYDROGRAPH Combine 1" 6 Combine "
		1 Node #"
		Maximum flow 0.501 c.m/sec"
		Hydrograph volume 1227.062 c.m"
	40	0.007 0.168 0.168 0.501" HYDROGRAPH Start - New Tributary"
		2 Start - New Tributary"
	33	0. 007 0. 000 0. 168 0. 501" CATCHMENT 210"
		1 Tri angul ar SCS" 1 Equal Longth"
		1 Equal length" 1 SCS method"
		210 No description" 38.000 % Impervious"
		38.000 % Impervious" 0.260 Total Area"
		22.000 Flow length"
		0. 500 Overl and Sl ope" 0. 161 Pervi ous Area"
		22. 000 Pervious Length"
		0.500 Pervious slope"
		0.099 Impervious Area" 22.000 Impervious Length"
		0.500 Impervious slope"
		0.250   Pervious Manning 'n'" 78.000   Pervious SCS Curve No."
		0. 415 Pervious Runoff coefficient"
		0.100 Pervious La/S coefficient"
		7.164 Pervious Initial abstraction" 0.015 Impervious Manning 'n'"
		98.000 Impervious SCS Curve No."
		0.923 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient"
"		0.518 Impervious Initial abstraction"
		0.042 0.000 0.168 0.501 c.m/sec" Catchment 210 Pervious Impervious Total Area "
		Surface Area 0.161 0.099 0.260 hectare"
		Time of concentration 17.113 2.237 8.587 minutes"
		Time to Centroid 119.339 89.563 102.274 minutes" Rainfall depth 68.976 68.976 68.976 mm"
		Rainfall volume 111.19 68.15 179.34 c.m"
		Rainfall Losses 40.379 6.331 27.441 mm" Runoff depth 28.598 62.645 41.536 mm"
		Runoff volume 46.10 61.89 107.99 c.m"
		Runoff coefficient 0.415 0.923 0.608 "
	40	Maximum flow 0.016 0.039 0.042 c.m/sec" HYDROGRAPH Add Runoff "
		4 Add Runoff "
	40	0.042 0.042 0.168 0.501" HYDROGRAPH Copy to Outflow"
	10	8 Copy to Outflow"
	40	0.042 0.042 0.042 0.501" HYDROGRAPH Combine 1"
н	40	6 Combine "
		1 Node #"
		Maximum flow 0.542 c.m/sec"
		Hydrograph volume 1335.055 c.m"
	40	0.042 0.042 0.042 0.542" HYDROGRAPH Confluence 1"
	.0	7 Confl uence "
		1 Node #"
		Page 8

		A6814A_100yr_Pond_75mm orifice_v3a.out
11 11 11		Maximum flow 0.542 c.m/sec" Hydrograph volume 1335.055 c.m" 0.042 0.542 0.042 0.000"
	54	POND DESI GN"       0.0012       0.0012       0.0012         0.542       Current peak flow c.m/sec"         0.233       Target outflow c.m/sec"         1340.0       Hydrograph volume c.m"         14.       Number of stages"         401.250       Minimum water level metre"         402.550       Maximum water level metre"         0       Keep Design Data: 1 = True; 0 = False"         12.50       Starting water level metre"         0       Keep Design Data: 1 = True; 0 = False"         12.50       0.000       0.0"         401.250       0.000       0.0"         401.350       0.004       27.3"         401.450       0.005       76.4"         401.550       0.006       130.2"         401.650       0.007       188.9"         401.650       0.007       188.9"         401.750       0.008       252.7"         401.850       0.009       321.7"         401.950       0.010       396.1"         402.050       0.010       476.1"         402.050       0.010       476.1"         402.250       0.065       653.2"         402.350       0.137       750.7" </td
		402.550 0.455 963.0" Peak outflow 0.138 c.m/sec"
		Maximum level402.364metre"Maximum storage765.464c.m"Centroidal lag6.957hours"
  	40	0.042 0.542 0.138 0.000 c.m/sec" HYDROGRAPH Combine 2" 6 Combine " 2 Node #"
  		Maximum flow0.138c.m/sec"Hydrograph volume1322.292c.m"0.0420.5420.1380.138"
	40	HYDROGRAPH Start - New Tributary" 2 Start - New Tributary" 0.000 - 0.128 - 0.128"
	33	0.042 0.000 0.138 0.138" CATCHMENT 211" 1 Tri angul ar SCS" 1 Equal length" 1 SCS method" 211 No description" 40.000 % Impervious" 0.260 Total Area" 47.000 Flow length" 2.500 Overland Slope" 0.156 Pervious Area" 47.000 Pervious length" 2.500 Pervious slope" 0.104 Impervious Area" 47.000 Impervious length" 2.500 Impervious length" 2.500 Pervious Slope" 0.250 Pervious Slope" 0.415 Pervious Runoff coefficient" 0.100 Pervious la/S coefficient" 7.164 Pervious Initial abstraction" Page 9

		A6814A_100yr_Pond_75mm orifice_v3a.out 0.015 Impervious Manning 'n'" 28.000 Impervious SCS Curve No." 0.923 Impervious Runoff coefficient" 0.100 Impervious Ia/S coefficient" 0.518 Impervious Initial abstraction" 0.044 0.000 0.138 0.138 c.m/sec"
		Catchment 211 Pervious Impervious Total Area "
		Surface Area         0. 156         0. 104         0. 260         hectare"
		Time of concentration 16.651 2.176 8.052 minutes"
п		Time to Centroid 118.774 89.470 101.366 minutes" Rainfall depth 68.976 68.976 68.976 mm"
п		Rainfall volume 107.60 71.74 179.34 c.m"
п		Rainfall losses 40.420 6.289 26.767 mm"
		Runoff depth 28.557 62.688 42.209 mm"
		Runoff volume 44.55 65.20 109.74 c.m"
		Runoff coefficient         0.415         0.923         0.618         "           Maximum flow         0.016         0.041         0.044         c.m/sec"
	40	HYDROGRAPH Add Runoff "
п	10	4 Add Runoff "
		0.044 0.044 0.138 0.138"
	40	HYDROGRAPH Copy to Outflow"
		8 Copy to OutFlow" 0.044 0.044 0.044 0.138"
	40	0.044 0.044 0.044 0.138" HYDROGRAPH Combine 2"
	10	6 Combine "
		2 Node #"
		Maximum flow 0.151 c.m/sec"
		Hydrograph volume 1432.036 c.m" 0.044 0.044 0.044 0.151"
	40	HYDROGRAPH Confluence 2"
		7 Confluence "
		2 Node #"
		-
		Maximum flow 0.151 c.m/sec" Hydrograph volume 1432.036 c.m"
		Hydrograph volume 1432.036 c.m" 0.044 0.151 0.044 0.000"



	CONSTRUCTION OF	CLAIR RIDGE EST TOWN OF MINT (PALMERSTON)
PFZ	(PALMERSTON)	GRADING PLA
IITIAL		





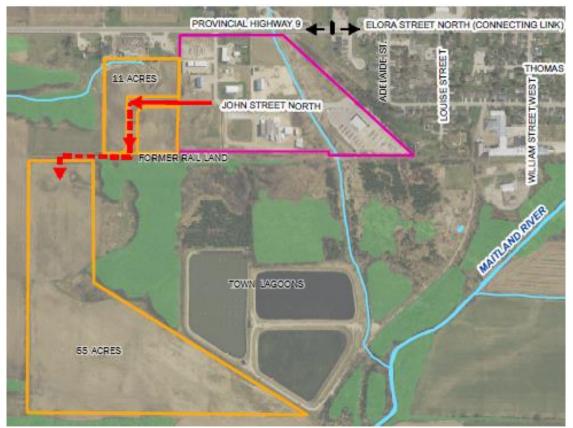
TOWN OF MINTODATE:August 22, 2017REPORT TO:Mayor and CouncilFROM:Bill White, C.A.O. ClerkSUBJECT:Screening Report, Class EA Harriston Industrial Park

# STRATEGIC PLAN:

4.3 Ensure there is sufficient serviced/serviceable land for a variety of uses in Minto's three urban areas, and maintain a supply of municipally owned serviced industrial land for sale to business in accordance with Town policies.

## BACKGROUND

In 2014 the Town initiated a Class Environmental Assessment for 66 acres of municipally owned land at the edge of the Harriston Industrial Park. Once approved the Class EA allows the Town to extend municipal water, sewer, roads and provide for drainage so that industrial lots can be created and sold for development. The time limit on the EA is 10 years. The land is split between 11 acres immediately west of Hutchison and John Street, and 55 acres further south across the former rail lands as shown in orange on map below.



January 6, 2015 staff presented servicing options for the entire 66 acres. The options included several significant infrastructure investments before water and sewer could even be installed into the area including:

Screening Report, Class EA

1.	Water storage facility and watermain upgrades	
	to increase flow for fire protection in the area.	\$1.1-\$1,800,000
2.	Stormwater management facility for surface water	
	from the south half of 55 acre parcel.	\$485,000
3.	Sewage lift station for gravity flow from the 11 acre	
	And 55 acres to existing John Street sewer	<u>\$685,000</u>
	Total added cost	\$2.27-\$2,950,000

With nearly \$3 million in added costs before any of the lands were serviced, Council passed a resolution asking for options to reduce costs.

Staff met several times with B.M. Ross and Triton Engineering to look at options to lower "un-related costs" to service the industrial lands. April 4, 2017 staff presented a servicing option to Council which achieves gravity flow to about 20 acres of the 55 acre parcel without a sewage lift station, stormwater management pond, and water storage facility. The option requires reconstruction of John Street to lower the depth of the sewer, upgrading the watermain and looping it to Adelaide. The roadway would also be widened to improve access to industries on the street. April 4, 2017 Council passed a motion approving moving toward final EA approval based on this option. The sketches below show the road pattern and servicing details for the option proposed:

## Watermains and Road Pattern

# 

Upgrading the watermain on John Street and linking it to Adelaide improves flows for firefighting purposes in the area. Lowering the sanitary sewer on John Street southeast of

## Sanitary Sewers and Road Pattern

Hutchison Street (in front of Phoenix and Farm Fresh) would allow all of the 11 acres and at least 20 of the 55 acres to be serviced with gravity flow sewer. The stormwater management facility would not be needed for lands serviced in this fashion. The cost of this option is shown in the Class EA Screening report at \$1,020,000. It should be clear that this will not result in John Street being opened through to Adelaide only a watermain link with a walkway is recommended.

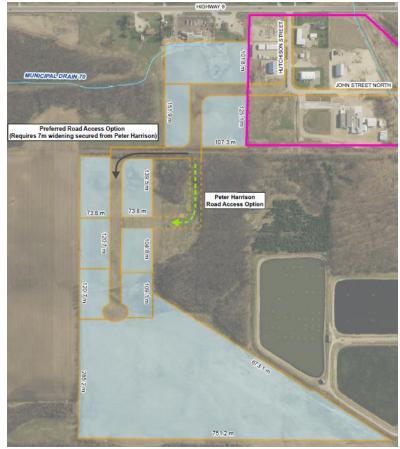
# COMMENTS

The Screening Report is a framework to develop the lands within 10 years based on analysis of environmental, servicing, cultural heritage, financial, social and economic factors. Public and agency consultation is documented. The conclusion in the Screening Report follows:

## 7.2 Study Conclusions

Based upon a review of the current environmental setting, no impacts were identified with the preferred alternative that could not be mitigated. In this respect implementation of the identified industrial park road and servicing extensions appears to be appropriate for the subject lands and should not result in significant environmental effects. It was therefore concluded from the Class EA investigation that the Town of Minto should proceed with implementation of this servicing plan, pending the receipt of all required approvals and in accordance with all mitigation measures defined during the approvals process.

The Screening Report confirms extending roads and services to the 11 acre and 55 acre parcels is the preferred alternative as shown. Limiting the road network to the top 20 acres of the 55 acre site eliminates a costly lift station, storm pond and water storage facility. The Town will have to reconstruct John Street but can provide a much better road profile. The



road pattern services about 23 one acre industrial lots, enough employment lands for several years in Minto, and one 20 acre site at the end of the road. That larger site could have a private lift station and storm pond as part of its site development.

If any person, including Minto Council, has concerns with the findings in the EA Screening Document an order to comply with the Minister of Environment would need to be filed before September 8, 2017, otherwise the document, with the stamp of the consulting engineer, is final.

While this process is four years in the works the resulting document has been scaled to suit the potential need for lots in Minto and the ability of Council to fund projects. Staff appreciates the work of

Screening Report, Class EA

B.M. Ross on this document as well as feedback from various staff as options were assessed and alternatives investigated. The perspective from Triton Engineering also helped ensure the course of action outlined in the document is reasoned and appropriate.

#### FINANCIAL CONSIDERATIONS:

Limiting the road network as shown saves about \$2 million in capital costs plus maintenance of a lift station, pond and water storage facility.

The Town should include the \$1,020,000 estimated cost of John Street reconstruction in a future grant application under the CWWF Fund. Similarly the \$625,000 estimated cost to service the first 11 lots can be planned for a subsequent year when the demand arises. The final phase servicing 13 more industrial lots at a cost of \$1,085,000 would follow.

Based on the cost of the servicing work for the 11 acres alone, the Town should consider a significant increase in the land cost for municipal industrial lands. It is proposed this be discussed in the 2018 budget deliberations.

Council will need to proceed with other watermain improvements over time such as replacing watermain on John from Adelaide to William, William from John to Elora, and on Yonge from Elora to Margaret (Figure 5.1). This work can be completed when road condition warrants and improves water pressure and volume throughout the system.

#### **RECOMMENDATION:**

That Council receives the C.A.O. Clerk's August 22, 2017 report entitled Screening Report, Class EA Harriston Industrial Park, and approves the Municipal Class Environmental Assessment for Expansion of the Harriston Industrial Park (Community of Harriston) Screening Report prepared by B.M. Ross and Associates Limited dated August 9, 2017.

Bill White C.A.O. Clerks

# DRAFT

#### TOWN OF MINTO

### MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR EXPANSION OF THE HARRISTON INDUSTRIAL PARK (COMMUNITY OF HARRISTON)

SCREENING REPORT



#### TOWN OF MINTO

#### MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT FOR EXPANSION OF THE HARRISTON INDUSTRIAL PARK (COMMUNITY OF HARRISTON)

#### **SCREENING REPORT**

July 12, 2017

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File No. 13215

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- Appendix A Planning Related Documents
- Appendix B Archaeological Assessment: Stage 1 & 2 Report
- Appendix C Consultation Program
- Appendix D Servicing Design Brief



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#### **TOWN OF MINTO**

#### CLASS ENVIRONMENTAL ASSESSMENT HARRISTON INDUSTRIAL PARK: ROAD & SERVICING EXTENSIONS

#### ENVIRONMENTAL SCREENING REPORT

#### **1.0 INTRODUCTION**

#### **1.1 Purpose of the Report**

The Town of Minto initiated a Class Environmental Assessment in October 2013 to evaluate the potential impacts of constructing new municipal road extensions within the Harriston Industrial Park to service lands planned for future development. The investigation also evaluated impacts associated with the installation of full municipal services within the planned road allowances. The process followed the procedures set out in the Municipal Class Environmental Assessment (Class EA) document, dated June 2000, as amended in 2007 & 2011. B. M. Ross and Associates Limited (BMROSS) was engaged to conduct the Class EA process on behalf of the proponent.

The purpose of this report is to document the Class EA planning and design process followed for this project. The report includes the following major components:

- An overview of the general project area.
- A summary of the deficiencies associated with the existing service infrastructure.
- A description of the alternative solutions considered for resolving the defined problems.
- A synopsis of the decision-making process conducted to select a preferred alternative.
- A detailed description of the preferred alternative.

#### **1.2 Municipal Class Environmental Assessment (Class EA) Process**

Municipalities must adhere to the Environmental Assessment Act of Ontario (EA Act) when completing road, sewer or waterworks activities. The Act allows the use of Class Environmental Assessments for most municipal projects. The Municipal Class Environmental Assessment is an approved planning document which describes the process that proponents must follow in order to meet the requirements of the EA Act. The Class EA approach allows for the evaluation of alternatives to a project, and alternative methods of carrying out a project, and identifies potential environmental impacts. The process also involves mandatory requirements for public input. The Class EA process is a method of evaluating projects which have the following important characteristics in common:

- They are recurring.
- They are usually similar in nature.
- They are usually limited in scale.
- They have a predictable range of environmental effects.
- They are responsive to mitigating measures.

If a Class EA planning process is followed, a proponent does not have to apply for formal approval under the EA Act. The development of the Class EA process for this project has followed the procedures set out in the Class EA document. Figure 1.1 presents a graphical outline of the procedures.

The Class EA planning process is divided into these five phases:

- Phase 1 Problem or opportunity identification.
- Phase 2 Evaluation of alternative solutions to the defined problems/opportunity and selection of a preferred solution.
- Phase 3 Identification and evaluation of alternative design concepts in selection of a preferred design concept.
- Phase 4 Preparation and submission of an Environmental Study Report (ESR) for public and government agency review.
- Phase 5 Implementation of the preferred alternative and monitoring of any impacts.

Throughout the Class EA process, proponents are responsible for having regard for these principles of environmental planning:

- Consultation with affected parties throughout the process.
- Examination of a reasonable range of alternatives.
- Consideration of effects on all aspects of the environment.
- Application of a systematic methodology for evaluating alternatives.
- Clear documentation of the process to permit traceability of decision-making.

#### **1.3** Classification of Project Schedules

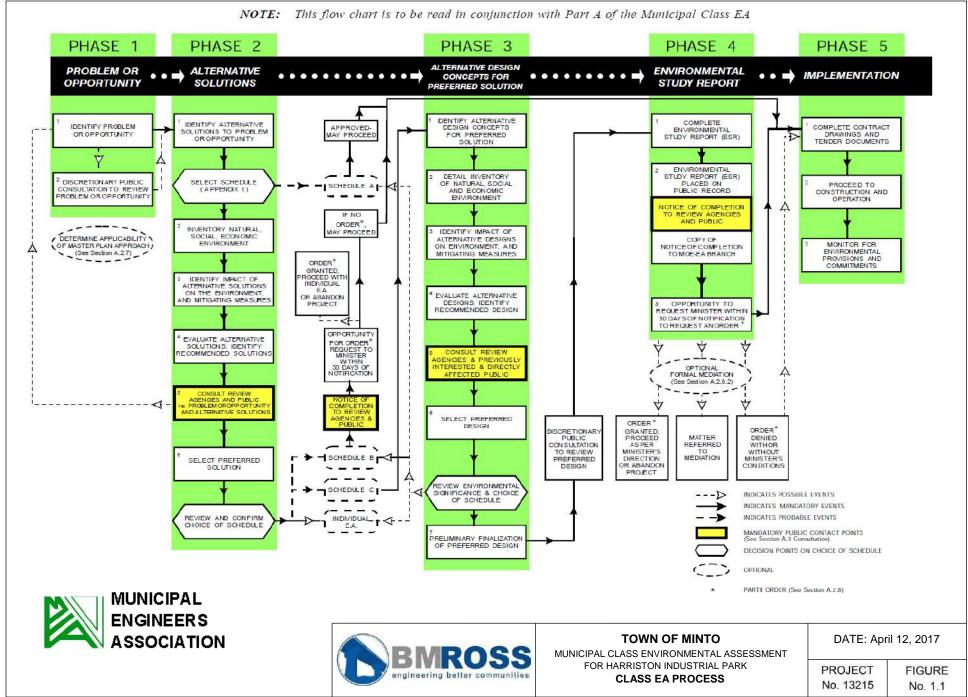
Projects are classified to different project schedules according to the potential complexity and the degree of environmental impacts that could be associated with the project. There are four levels of schedules:

- Schedule A Projects that are approved with no need to follow the Class EA process.
- Schedule A+ Projects that are pre-approved but require some form of public notification.
- Schedule B Projects that are approved following the completion of a screening process that incorporates Phases 1 and 2 of the Class EA process, as a minimum.
- Schedule C Projects that are approved subject to following the full Class EA process.

The Class EA process is self-regulatory and municipalities are expected to identify the appropriate level of environmental assessment based upon the project they are considering.

#### **1.4** Mechanism to Request a Higher Level of Environmental Assessment

Under the terms of the Class EA document, the requirement to prepare an individual environmental assessment for approval is waived. However, if it is found that a project going through the Class EA process has associated with it significant environmental impacts, a person/party may request that the proponent voluntarily elevate the project to a higher level of environmental assessment. If the proponent declines, or if it is believed that the concerns are not properly dealt with, any individual or organization has the right to request that the Minister of the Environmental Assessment Act which addresses individual environmental assessments. This request must be submitted to the Minister within 30 days of the publication of the Notice of Completion of the Class EA process.



#### 2.0 CLASS EA FRAMEWORK

#### 2.1 General Approach

The Town of Minto initiated a formal Class EA process in October 2013 to define and evaluate alternative solutions for resolving servicing deficiencies and evaluating opportunities to expand, with the Harriston Industrial Park. The associated investigations followed the environmental screening process prescribed for Schedule B projects under the Class EA document. In general, the screening process required to conduct a Class EA incorporates these primary components:

- i. Background Review
- ii. Problem/ Opportunity Definition
- iii. Identification of Practical Solutions
- iv. Evaluation of Alternatives
- v. Selection of a Preferred Alternative
- vi. Publish Screening Report and Project Implementation

Figure 2.1 illustrates the general tasks associated with the process.

#### 2.2 Background Review

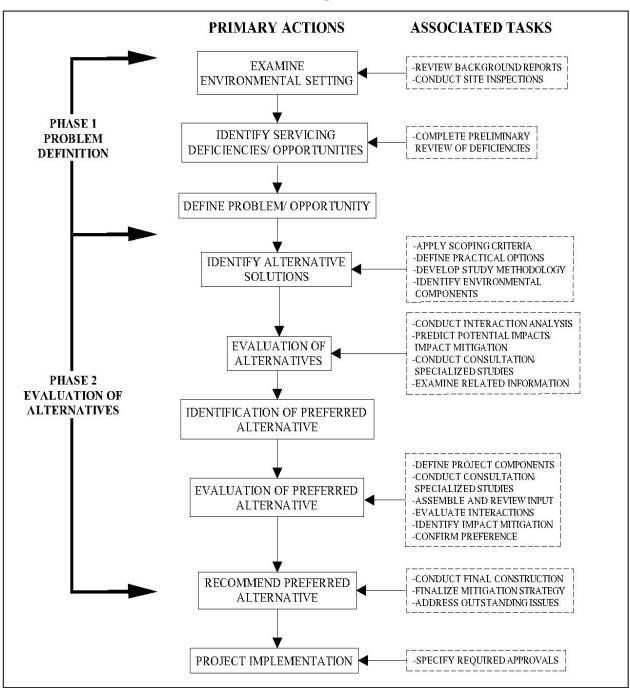
A background review was carried out to obtain a general characterization of the project area and to identify those factors that could influence the selection of alternative solutions to the defined problems.

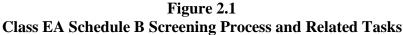
The background review for this Class EA process incorporated these activities:

- Assembly of information on the existing infrastructure and the environmental setting.
- Review of servicing deficiencies at the project site.
- Preliminary assessment of the identified deficiencies and potential remediation.

A desktop analysis of the project setting was completed as part of the background review process. The following represent the key sources of information for this analysis:

- BMROSS. Class Environmental Assessment for Sewage System Improvements: Community of Harriston.
- Chapman, L.J. and Putnam, D.F. *The Physiography of Southern Ontario*.
- Ministry of Natural Resources. Natural Heritage Information Centre website.
- Government of Canada. Species at Risk Public Registry website.
- Town of Minto. Files and discussions with staff.





#### 2.3 Project Study Area

#### (a) Town of Minto

The Towns of Harriston and Palmerston, the Village of Clifford and the Township of Minto amalgamated to form the Town of Minto in January 1999. The new Town has a population of more than 8,500 permanent residents and a land base of approximately 300 km<sup>2</sup>. In general, Minto is comprised of a number of small urban centres dispersed throughout a predominately rural landscape. Minto is located in the northwest corner of Wellington County, abutting the counties of Huron, Bruce and Grey. The Town is situated within a predominately rural region of Midwestern Ontario, serving as a focal point for the surrounding agricultural community. Figure 2.2 illustrates the general location of the Town of Minto and the community of Harriston.

#### (b) Community of Harriston

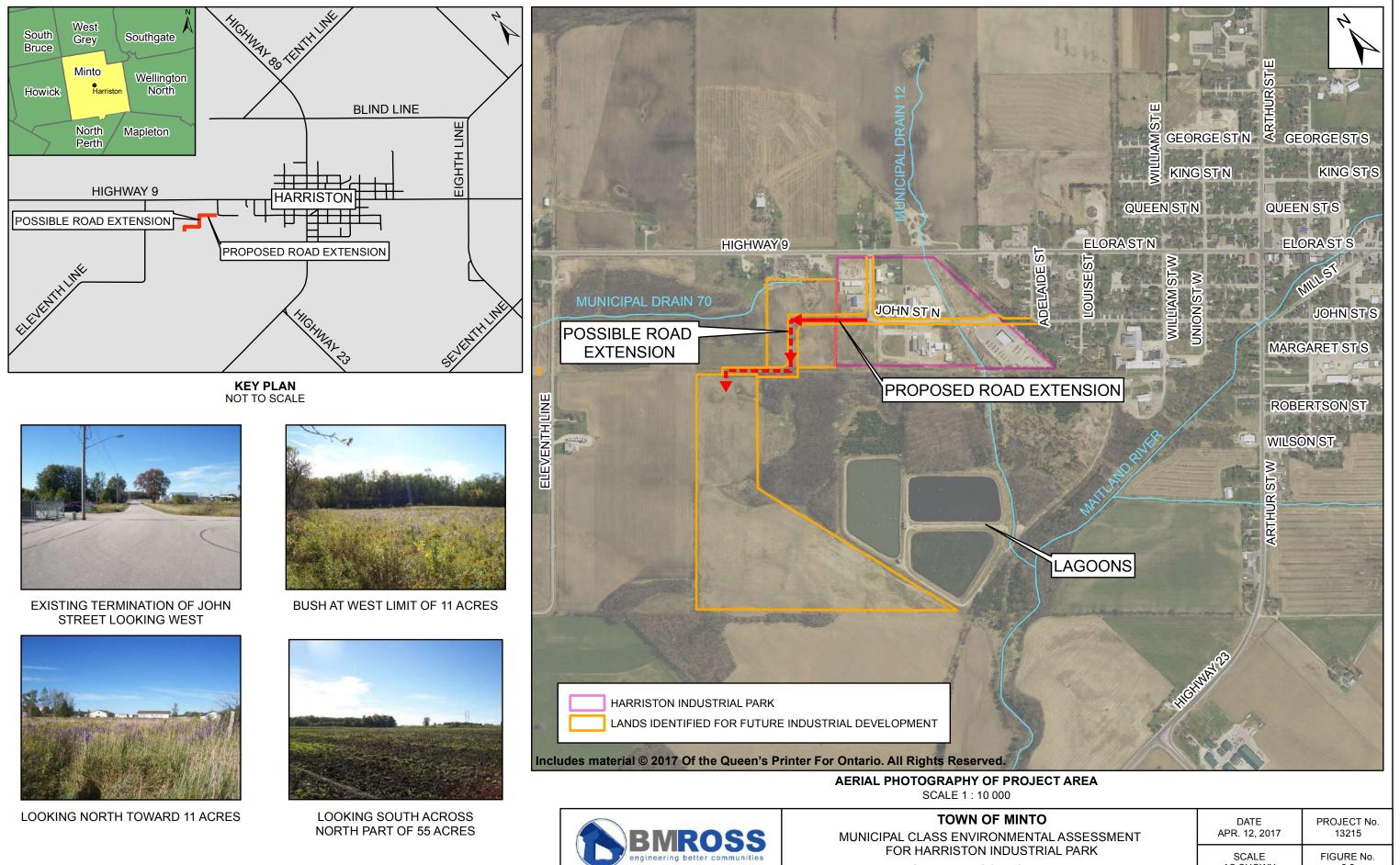
Harriston represents one of the larger urban settlements in Minto with an estimated population of approximately 2,000 persons. The community is located at the centre of the municipality, at the intersection of Provincial Highways No. 9 and No. 89. The community is predominately a residential centre with an established commercial core and an expanding industrial sector. Harriston also provides a variety of facilities for local residents and the surrounding region including an arena, community centre, fire hall, elementary school and middle school. The community is generally bisected by the Maitland River, which meanders from northeast to southwest through the urban centre and includes a significant portion of flood prone lands in the west portion of the settlement.

#### 2.4 Environmental Setting

#### (a) Existing Natural Features

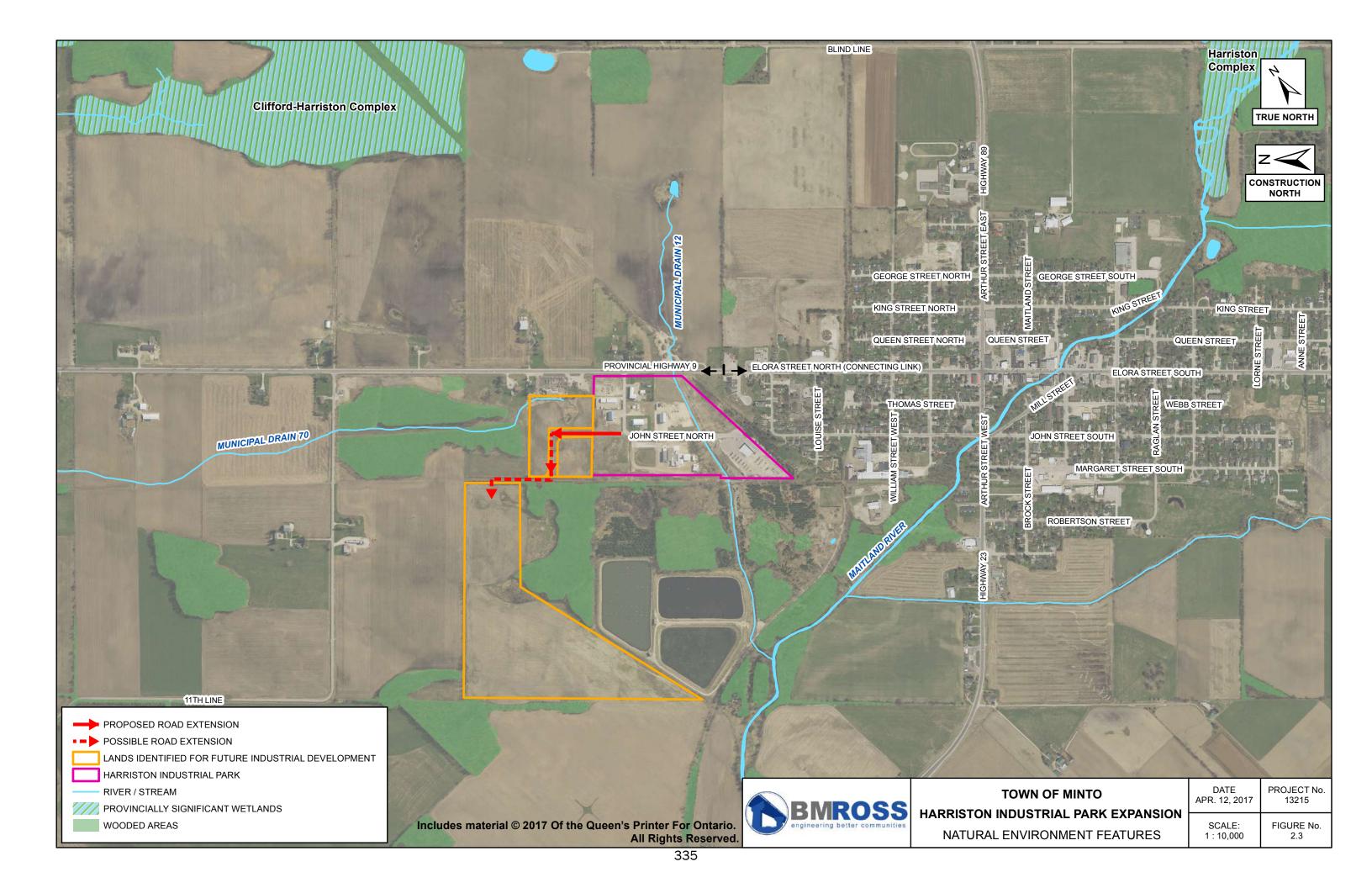
The community of Harriston is located within the Maitland River watershed, which discharges to Lake Huron at Goderich some 200 km downstream. As discussed, the community is located within a predominantly rural landscape and is surrounded on all sides by actively farmed agricultural lands. Natural areas within the urban portion of Harriston are limited to the Maitland River corridor and flood prone lands in the community's southwest corner, adjacent to the waste water treatment plant (WWTP).

The Ontario Ministry of Natural Resources and Forestry's Natural Heritage Information Centre database was consulted to verify the current status of significant features in the vicinity of the project study area. Utilizing a jurisdictional search of the Harriston area, one Provincially Significant Wetland Complex was identified within the immediate vicinity of the project area which is illustrated on Figure 2.3 and described briefly below;



**GENERAL LOCATION** 

TO	DATE	PROJECT No.
TAL ASSESSMENT	APR. 12, 2017	13215
RIAL PARK	SCALE	FIGURE No.
PLAN	AS SHOWN	2.2



 Clifford-Harriston Wetland Complex: Located northeast and northwest of Harriston, the Clifford-Harriston Complex is a provincially significant wetland feature approximately 2,730 ha in size and is generally composed of 96% swamp, 2.5 % marsh and 1.5 % bog. The complex is composed of 30 individual wetlands with the closest wetland feature located approximately 0.9 km from the project study area.

#### (b) Species at Risk Habitat

Two categories of Species at Risk were researched in conjunction with this project. The first are species protected through Federal Legislation; Canada's Species at Risk Act (SARA). The second category represents species identified as rare, threatened or endangered by the Province of Ontario. These species are tracked by the Ministry of Natural Resources and are documented on the Ontario Natural Heritage Information Centre (NHIC) web site. To protect the exact location of an identified species, both sites utilize range maps for identification purposes, which provide a large buffer around the actual species location. A summary of species at risk potentially present within the project study area are displayed on Tables 2.1 and 2.2.

#### (i) Provincial Species at Risk – Endangered Species Act (ESA)

A search of the NHIC website revealed the potential presence of the following species within the project study area.

Species Name	Common Name	Species Type	Sighting	S Rank*
Sistrurus catenatus	Massasauga	Reptile	1962	<b>S</b> 3
Monarda didyma	Scarlet Beebalm	Plant	1925	<b>S</b> 3
Chelydra Serpentine	Snapping Turtle	Reptile	2004	<b>S</b> 3

### Table 2.1Possible Provincial Species at Risk

 S1:
 Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences).

 S2:
 Imperiled—Imperiled in the nation or province because of rarity due to very restricted range, very few populations (often 20 or fewer).

 S3:
 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer).

 S4:
 Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

 S5:
 Secure—Common, widespread, and abundant in the nation or state/province

#### (ii) Federal Species at Risk (SARA)

A search of the Environment Canada Species at Risk website identified the following Schedule 1 species that have possible habitat in the vicinity of the project site.

Component	Endangered	Threatened	Special Concern
Mammals	American Badger jacksoni subspecies	Grey Fox	-
Birds	Henslow's Sparrow, Northern Bobwhite	Least Bittern	Yellow-Breasted Chat virens subspecies
Reptiles & Amphibians	Spotted Turtle		Milksnake, Eastern Ribbon Snake (Great Lakes Pop'n)
Fishes	-	-	-
Lepidopterons	-	-	Monarch
Plants, Lichens, Moss	American Ginseng, Butternut	-	Hill's Pondweed

Table 2.2Possible Federal Species at Risk within the Project Study Area 1.

Notes: 1. Defined by Schedule 1, Species at Risk Act

Land uses within the proposed service area are currently in active agricultural production and therefore contain little natural habitat. Lands abutting the proposed industrial expansion have been reforested and naturalized, providing a wide variety of high quality habitat for natural species potentially located within the areas researched in conjunction with the Class EA. It is therefore unlikely that any of the species identified in Tables 2.1 or 2.2 will be disturbed in conjunction with the proposed road and servicing extensions.

#### (c) Breeding Bird Habitat

The most recent Atlas of the Breeding Birds of Ontario was referenced to identify potential species within the project study area. Proposed construction activities would be located within the geographic survey area entitled Square 17NJ06. A total of 48 birds, including species such as the Hooded Merganser, Northern Harrier, Great Horned Owl and Hairy Woodpecker have confirmed breeding status in this survey region. An additional 21 species were categorized as probable and 17 as possible, in regards to their breeding status.

The survey square extends over 100 square km and includes key habitat for the identified species, such as forests in all stages of growth, natural riverine areas and wetlands. The project study area forms a relatively small portion of this region (~5 ha) and includes limited habitat opportunities, as a majority of the subject lands are actively cultivated and are largely devoid of natural vegetation.

#### (d) Physiography and Soils

Table 2.3 summarizes the general physiographic features and soils evident in the vicinity of the subject property.

Physiographic Features and Soil Types		
Feature	General Characteristics	
Physiography	<ul> <li>Situated within the Dundalk Till Plain physiographic region which extends 2,395 km<sup>2</sup> across the Counties of Dufferin, Grey and Wellington.</li> <li>The till plain evident in the region is characterized as gently undulating with areas scored by shallow troughs (flutings). The plain is also populated by swamps/bogs and by poorly drained depressions.</li> <li>The till in the Wellington County portion of the formation is predominately comprised of loams or silt loams.</li> </ul>	
Soils and Drainage	<ul> <li>Soils in the study area are classified as Huron Clay Loam; a series of the Grey-Brown Podzolic soil group. These till loams are characterized as heavily textured limestone shale till. The series exhibits good drainage characteristics.</li> <li>Surface drainage is primarily from west to east towards the Maitland River. Portions of the existing lands also drain towards two Municipal Drains, Drain No. 70 to the north and Drain No. 12 to the east.</li> </ul>	

Table 2.3	
Physiographic Features and Soil Ty	pe

#### 2.5 Project Study Area Description

#### (a) **Project Site**

The Harriston Industrial Park is currently situated on lands described as Part of Lot 83, Concession D in the Community of Harriston. The park fronts Elora Street North (Highway 9), with site access provided via Hutchison Street and John Street. A number of existing industrial/commercial operations are situated within the park including three construction/ building contractors, a poultry processing plant, a communications equipment manufacturer, a hydro sub-station and a car wash. A number of smaller parcels remain to be developed although most have been purchased in anticipation of development. Figure 2.4 includes site photographs of the existing Industrial Park site.

#### (b) Proposed Industrial Park Expansion

The Harriston Industrial Park currently contains several vacant lots ranging in size from 1.1 ha to 0.5 ha. Although vacant, the lots have been purchased and are anticipated to be developed in the next 1 - 2 years. For this reason, two adjacent municipally-owned parcels have been identified for future industrial development.

#### Figure 2.4: Site Photos



View looking north along John Street from current point of termination

View looking south toward John Street from 11 Acre Abutting site▼



The first is an 11 acre parcel located immediately north of the existing industrial park. An additional 55 acre parcel is also available for future industrial development west of the 11 acre parcel on lands located adjacent to the Harriston wastewater treatment facility. Two new roads would need to be established to provide street access to these parcels. The first road would extend northerly from the intersection of Hutchison and John Street to service the 11 acre site. A second road would be extended west from this point to service the additional 55 acres. The roads would be constructed to a rural municipal standard and would incorporate an asphalt surface. Municipal services, including watermain, sanitary, and roadside ditches would also be installed within the new road allowances. Figure 2.5 illustrates the two parcels of land identified for future industrial development.

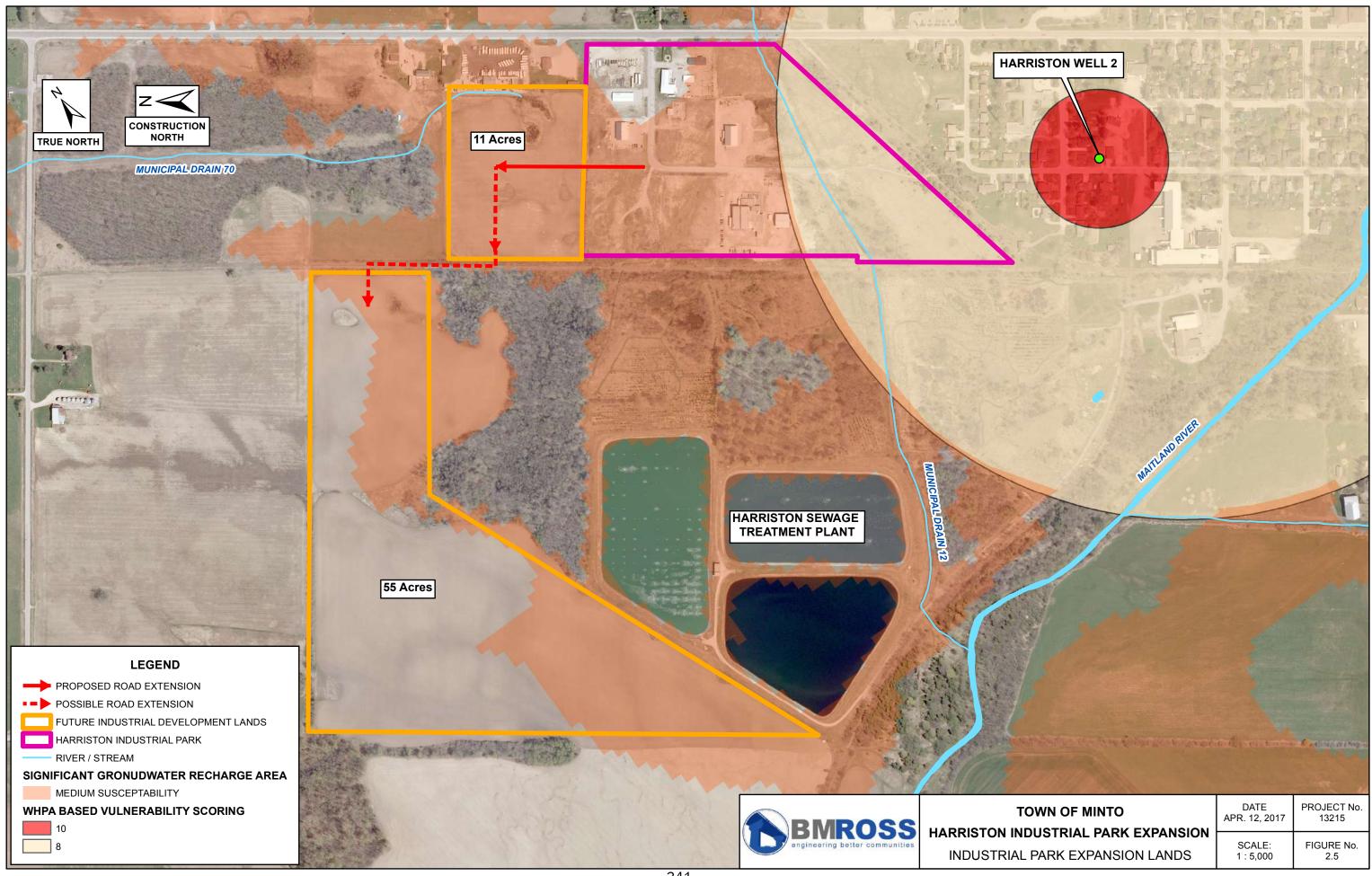
#### (c) Planning Act Considerations

Lower tier municipalities in the County of Wellington, such as the Town of Minto, use the County of Wellington Official Plan as their guiding document for planning matters. Schedule A5-2 of the Wellington County Official Plan (1999) illustrates land use designations within the Community of Harriston (Appendix 'A'). The existing industrial park, as well as additional lands located to the north and northwest have been designated for industrial development.

Schedule 'A' Map 3 of the Minto Zoning By-Law (Appendix 'A'), shows current land uses in the community of Harriston. The existing Industrial Park is zoned M1 – Industrial. The 11 acre potential expansion lands located directly north are zoned M1- 40 (H) which is a site specific industrial zone with a holding provision attached to it. The holding provision identifies deficiencies with the parcel which must be addressed before development can proceed. The deficiencies include completion of a Stage 1 & 2 Archaeological Assessment, completion of suitable stormwater management plan for the subject lands and the possible completion of noise and vibration studies to address potential impacts for adjacent sensitive land uses.

A Stage 1 & 2 Archaeological Assessment was completed for the 55 acre and 11 acre parcels as part of the class EA process and a stormwater management plan was developed as part of the Class EA preferred alternative for use of the subject lands. Based upon consultation with the Wellington County Planning Department, it will be determined if noise and vibration studies are required once a site specific use is identified for individual parcels within the 11 acre site.

The 55 acre site, which is situated west of the 11 acre parcel, beyond the former rail line, is currently zoned future development. Since the site is designated for industrial development in the Wellington County Official Plan schedule, the future development zone would be changed when a site specific Industrial use for the lands is proposed.



#### (d) Source Water Protection

The three municipal wells servicing the community of Harriston were examined in conjunction with the Source Water Protection program undertaken by the Ausable Bayfield Maitland Valley Source Water Protection Region. The goal of the program is to protect drinking water sources from potential threats and risks associated with pre-existing or planned activities. Figure 2.5 illustrates the location of the proposed industrial expansion lands in relation to the well head protection areas (WHPA's) and other vulnerable areas mapped for the program. As shown on mapping, portions of the proposed road extensions, as well as future development lands identified for expansion of the industrial park, are located within some of these vulnerable areas. To address potential risks to drinking water sources, site specific policies may need to be developed for individual site uses as they are proposed within the expanded industrial park lands.

#### 2.6 Existing Sewage Infrastructure

#### (a) Sewage Collection System

A municipally owned and operated sewage system was constructed in Harriston in the mid-1960's consisting of a gravity collection system serving a portion of the community, two sewage pumping stations (SPS's) and a 3-celled facultative lagoon. Through the 1960's and 70's the collection system was gradually extended to the balance of the community. A major upgrading of the wastewater treatment facilities (WWTP) and replacement of the Main SPS took place in the early1980's. At that time the treatment facility was modified to increase storage volume and an aeration system, facilities for phosphorus removal, and a stream flow proportional discharge system were added.

#### (b) Sewage Pumping Stations

Sewage flows generated within the urban limits of Harriston are conveyed by gravity to one of five key sewage pumping stations servicing various quadrants of the community. A small SPS is located on Robertson Street which services the southeast corner of Harriston. In 1991 a small sewage pumping station was constructed near the westerly limits of Harriston, within the Industrial Park. This station, referred to as the Industrial Park SPS, receives flows from adjacent land uses and conveys them to the east, where they discharge to the existing gravity collection system. Another secondary SPS, referred to as the Young Street SPS, is located at the intersection of Young and King Streets in the northeast quadrant. Flows from the north and northeastern portion of the community flow by gravity to this facility, where they are pumped by forcemain across the Maitland River into the gravity collection system flowing to the Main SPS which is located near the southerly limit of William Street. The Main SPS receives gravity flows conveyed from the secondary pumping stations (Robertson St. SPS, Young Street SPS and Industrial Park SPS) as well as gravity flows from the remainder of the community. Sewage is then pumped via forcemain to the WWTP. Following treatment of the sewage within the facility, effluent is discharged to the Maitland River.

#### (c) Industrial Park Sewage Pumping Station Upgrades

As discussed, there are five key sewage pumping stations currently servicing the community of Harriston; the Main (William Street) SPS, the Robertson Street SPS, the Young Street SPS and the Industrial Park SPS, pictured below. The Industrial Park SPS was constructed in 1991 to service land uses in the northwest portion of the community, primarily within the industrial park. Future development areas located east of Highway No. 9 were also considered in the design of the existing station. The original facility was a small submersible station located on the west side of John Street North equipped with two 7.5 kW submersible sewage pumps. Each pump had a rated capacity of 10.0 L/s at 10.0 meters total dynamic head (TDH). The station's wetwell has an inside diameter of approximately 3.0 m and an overall depth of 9.0 m.

The forcemain from this pumping station originally consisted of approximately 200 m of 150 mm diameter pipe which discharged to the gravity collection system further south on John Street. The SPS was not equipped with a fixed diesel generator set, which acts as an alternative power source during extended power outages.



Lands located on the east side of Provincial Highway No. 9, northeast of the Industrial Park SPS, have recently been identified for future residential development. Servicing of the subject lands can best be accommodated by extending a gravity sewer southwest from the development site to the Industrial Park facility. Wet well capacity at the pumping station is sufficient to handle anticipated flows from the proposed residential development, however upgrading of the existing pumps and forcemain would be necessary. Upgrades to the Industrial Park SPS were recently completed (November 2014). The upgrades include the following works:

- Station equipped with two larger submersible pumps with one pump as duty and the other as standby, alternating duty. The pumps are rated at 34.7 L/s.
- Construction of a new 200 mm forcemain from the SPS directly to the existing lagoons. The new forcemain extends south alongside Municipal Drain 12 through privately owned lands to the WWTP.
- A fixed diesel generator set was installed to provide a back-up power supply during power outages.

#### 2.7 Existing Water Supply

#### (a) General

Harriston is currently serviced by a waterworks that consists of: three drilled bedrock wells, three well houses, an elevated 1915 m<sup>3</sup> storage tank and a distribution network of watermains, ranging in diameter from 100 mm to 300mm. There are approximately 77 fire hydrants available for fire protection. The Well House is equipped with a stationary diesel generator that automatically goes into service during a power outage.

The bedrock wells are equipped with submersible pumps that discharge directly into the distribution system. The wells are controlled (start/stop) automatically based on elevated storage tank liquid levels and pressures in the distribution system. Each wellhouse is equipped with an alarm for chlorination system failure and corresponding lockout of well pumps.

Treatment of the raw water supply from Wells #1 and Well #3 occurs in Wellhouse #3, located on King St. Treatment of the raw water supply from Well #2 occurs in Wellhouse #2, located on John St. Disinfection is accomplished using 12% sodium hypochlorite. A feedline is connected to the well pump discharge piping. As raw water flows through the header, 12% sodium hypochlorite is injected full strength under pressure. The raw water is also treated with PW1680 for the sequestering of iron. After being treated the water then flows into the system's underground chlorine contact pipe, which has been designed to provide adequate contact time with chlorine to achieve a 2-log removal/inactivation of viruses. Once the disinfection process is complete, the water then enters the distribution system.

The existing Industrial Park is serviced by 150 mm diameter watermains that are located within existing road allowances on John Street and Hutchinson Street. Service for the new industrial park would be via an extension of the existing watermain distribution system located on John Street.

#### 3.0 CLASS EA PROCESS

#### 3.1 Phase 1 - Identification of Problem/Opportunity

The community of Harriston is one of two major growth centres in the Town of Minto and is well situated to take advantage of additional growth opportunities given its location at the juncture of Highway 9 and Highways 23/89. The existing Harriston Industrial Park, and adjacent lands to the north and west, contain all of the land base identified for future industrial development within the settlement area. Expansion of the Industrial Park will create a broader range of serviced parcel sizes making Harriston more appealing for additional industrial/ commercial growth. The following problem/opportunity has therefore been identified in conjunction with this project:

The extension of John Street north of Hutchison Street, including full municipal services, is required to facilitate the development of additional industrial lands within the community of Harriston.

#### 3.2 Class EA Schedule

Development of the proposed industrial park expansion would involve construction of a new road, where the right of way is entirely separate from any previous right of way and where no road surface previously existed. This type of activity is considered to be a Schedule 'B' activity, approved subject to the completion of Phases 1 & 2 of the Class EA process.

#### 3.3 Phase 2 - Identification of Alternative Solutions

The second phase of the Class EA process involves the identification and evaluation of alternative solutions to resolve the identified problem or opportunity. The evaluation of alternatives is conducted by examining the technical, economic, and environmental considerations associated with implementing any alternative. Mitigation measures that could lessen environmental impacts are also defined. A preferred solution or solutions is then selected.

#### (a) Identification of Practical Alternatives

A limited number of practical solutions to the defined problem were identified at the outset of this study. These alternatives, stated below, build upon the findings of the studies and reports discussed previously in this report. They are as follows:

Alternative 1 – Expand the Harriston Industrial Park to service the 11 acre parcel. This option involves the extension of John Street, north from its current limit to service the 11 acre abutting parcel. Full municipal servicing would be incorporated into the proposed road allowance and/or designated servicing easements.

Alternative 2 – Expand the Harriston Industrial Park to service the 11 Acre and 55 Acre parcels. This option involves the extension of John Street, north from its current limit to service the 11 acre abutting parcel and then a further extension west to service the additional 55 Acres. Full municipal servicing would be incorporated into the proposed road allowances and/or designated servicing easements.

Alternative 3 – Do nothing. This means that the proposed road extensions would not occur. The Do Nothing alternative may be implemented at any time in the design process prior to construction. This decision is typically made when the costs of all alternatives, both financial and environmental, significantly outweigh the benefits.

#### (b) Assessment Methodology

An evaluation of alternatives process was carried out using a comparative assessment method designed to predict the nature and magnitude of environmental impacts resulting from each defined option and to assess the relative merits of the alternative solutions. The evaluation method involves these principal tasks:

- Identification of existing environmental conditions (baseline conditions, inventories)
- Assessment of existing land use activities, infrastructure, natural features and socioeconomic characteristics (i.e., environmental scoping).
- Review of proposed alternatives and related works.
- Identification of environmental components and sub-components that may be affected by the defined alternatives (i.e., define evaluation criteria).
- Prediction of environmental impacts (positive, negative) resulting from the construction and implementation of the preferred alternative.
- Identification and evaluation of measures to mitigate adverse effects
- Selection of a preferred alternative following a comparative analysis of the relative merits of each option.

#### **3.4** Identification of Environmental Components and Sub-Components

#### (a) Environmental Features

Section 3.3 of this report listed the alternative solutions that were identified in conjunction with the Class EA process. As part of the evaluation procedure, it is necessary to assess what effect each option may have on the environment and what measures can be taken to mitigate the identified impacts. The two main purposes of this exercise are to:

- Minimize or avoid adverse environmental effects associated with a project.
- Incorporate environmental factors into the decision-making process.

By definition, the EA Act generally separates the "environment" into five general elements:

- Natural environment
- Social environment
- Cultural environment
- Economic environment
- Technical environment

The identified environmental elements can be further subdivided into specific components which have the potential to be affected by the implementation of the alternative solutions. Table 3.1

provides an overview of the Specific Environmental Components considered of relevance to this investigation.

These components were identified following the initial round of public and agency input, and a preliminary review of each alternative with respect to technical considerations and the existing environmental setting of the project area. Table 3.1 summarizes the environmental features considered of relevance to this Class EA.

Element	Component	Sub-Component
Natural	Aquatic	Aquatic Resources
	Atmosphere	Air Quality, Noise
	Surface Water	Water Quality/ Quantity
		Drainage Characteristics
	Terrestrial	Amphibians & Reptiles
		Birds, Mammals
		Vegetation
	Geologic	Physiographic Features
		Groundwater Quality/ Quantity
Social	Neighbourhood	Disruption
	Community	Health and Safety
		Recreational Activities
Cultural	Heritage	Historical/ Cultural Resources
Economic	Project Area	Capital and Operational Costs
	Community	Property Taxes
Technical	Transportation	Traffic Patterns/ Volumes
		Pedestrian/ Vehicular Safety
	Infrastructure	Condition/ Age
		Servicing Capacity
		• Utilities

 Table 3.1

 Summary of Project-Related Environmental Considerations

#### (b) Impact Analysis

The environmental effects of each study alternative on the identified environmental features are generally determined through an assessment of the following impact predictors (i.e., impact criteria):

- Nature (direct, indirect, cumulative).
- Magnitude (level of effect, loss of function).
- Location/ Extent (where effect occurs, number/ volume affected).
- Scale (localized or regional effects).
- Timing (seasonality of effects, immediate or delayed impacts).
- Duration (period of impact).

• Socio-economic context (characteristics of community, implications for recovery).

For the purposes of this Class EA, impact determination criteria developed by Natural Resources Canada has been applied to predict the magnitude of environmental effects resulting from the implementation of a project. Table 3.2 summarizes the impact criteria.

Level of Effect	General Criteria		
High	Implementation of the project could threaten sustainability of feature and should be considered a management concern. Additional remediation, monitoring and research may be required to reduce impact potential.		
Moderate	Implementation of the project could result in a resource decline below baseline, but impact levels should stabilize following project completion and into the foreseeable future. Additional management actions may be required for mitigation purposes.		
Low	Implementation of the project could have a limited impact upon the resource during the lifespan of the project. Research, monitoring and/or recovery initiatives may be required for mitigation purposes.		
Minimal/ Nil	Implementation of the project could impact upon the resource during the construction phase of the project but would have a negligible impact on the resource during the operational phase.		

Table 3.2Criteria for Impact Determination

Given the criteria defined in Table 3.2, the significance of adverse effects is predicated on these considerations:

- Impacts from a proposed alternative assessed as having a Moderate or High level of effect on a given feature would be considered significant.
- Impacts from a proposed alternative assessed as having a Minimal/ Nil to Low level of effect on a given feature would not be considered significant.

#### **3.5** Evaluation of Alternative Solutions

#### (a) General

The second component of Phase 2 of the Class EA process, being the evaluation of the defined alternatives, is conducted by examining the environmental considerations associated with implementing any alternative. Mitigation measures that could lessen environmental impacts are also defined. A preferred solution or solutions is then selected.

Several activities were incorporated into this assessment process, including a field inspection of the proposed road extension routes, a review of public and agency consultation received to date

and additional consultation with municipal staff and regulatory agencies. Table 3.3 summarizes the primary components of the alternatives being considered.

Alternative	Required Works
Alternative 1 (Extend John St. to service 11 Acre parcel)	<ul> <li>Extend John Street approximately 230 m to the north. The new road would incorporate a rural cross-section 27 metres in width and include two lanes of traffic and roadside ditches.</li> <li>Install watermain and sanitary sewer facilities within the proposed road allowance.</li> <li>Construct individual on-site storm water management facilities on each parcel as they are developed. Site drainage is to be directed generally to the north to the existing Municipal Dain #70 for outlet.</li> </ul>
Alternative 2 (Extend John St. to service 11 Acre and 55 Acre parcels)	<ul> <li>Extend John Street approximately 230 m to the north and then west into the 55 Acre site. The new road will incorporate a rural cross-section 27 metres in width and include two lanes of traffic and roadside ditches.</li> <li>Install watermain and sanitary sewer facilities within the proposed road allowances.</li> <li>Install a deep sanitary sewer from the existing Industrial Park SPS through the 11 acre site and into the 55 acre site, including Municipal Drain #12 crossing on John Street</li> <li>Construct individual on-site storm water management facilities on each parcel within the 11 acre and 55 acre sites, as they are developed.</li> <li>For development of the 55 Acre site, construct a drainage ditch along the westerly extent of the WWTP facility to direct site drainage to the Maitland River.</li> <li>Complete cut and fill grading as required to achieve positive drainage towards the receiving water courses.</li> <li>Install sanitary sewers and watermains within all road allowances within the 55 acre parcel.</li> </ul>
Alternative 3 (Do Nothing)	- No new works planned.

Table 3.3 **Primary Components of the Identified Alternatives** 

#### **(b) Comparative Analysis**

Table 3.4 provides a summary of the key considerations for each option with respect to the environmental components described in Table 3.1. The table identifies benefits and impacts that were identified as significant during the initial evaluation of alternatives. Potential mitigation measures for the identified impacts are also presented.

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Alternative Solution	Anticipated Benefits	Potential Impacts	Potential Mitigation
Alternative 1 (Extend John Street to service 11 Acre parcel)	<ul> <li>Facilitates development of the subject lands that is consistent with the County Official Plan and compatible with surrounding land uses.</li> <li>Provides subject lands with access to John Street and municipal servicing infrastructure.</li> <li>Affected lands are under municipal ownership (i.e., no acquisition costs).</li> <li>Promotes the further development</li> </ul>	<ul> <li>Terrestrial and aquatic habitat could be affected by the project, as road construction would occur on undisturbed lands and in the vicinity of an existing drainage ditch.</li> <li>Construction on undisturbed lands could</li> </ul>	<ul> <li>Implement standard mitigation measures to minimize disruption during the construction phase of the project (e.g., erosion, sediment controls).</li> <li>Consult with the Maitland Valley Conservation Authority and the Ministry of Natural Resources &amp; Forestry to assess the level of impact resulting from construction of the planned works. Provide mitigation and habitat compensation to address any significant concerns identified.</li> <li>An archaeological investigation was carried</li> </ul>
	<ul> <li>of the existing industrial park through the provision of additional development parcel sizes and servicing.</li> <li>Limits traffic disruption by constructing a new roadway and</li> </ul>	<ul> <li>impact upon the cultural heritage value of the area.</li> <li>Minor impacts to traffic movement along John Street may occur due to the installation of services and roadwork in</li> </ul>	<ul> <li>out on the entire industrial park. No significant cultural features were identified on the subject lands.</li> <li>Implement traffic control measures to limit traffic impacts during the construction phase (lane restrictions may be required for short</li> </ul>
	<ul> <li>servicing corridor within relatively undeveloped areas.</li> <li>Utilizes the existing Hwy. 9 access point.</li> <li>Least expensive alternative.</li> </ul>	<ul> <li>close proximity to existing roadways.</li> <li>Traffic volumes in the vicinity of the project site will increase following further industrial development (facilitated by the road/ servicing improvements)</li> </ul>	durations). - The identified impact cannot be mitigated in a substantive manner. However, the magnitude of traffic generated from industrial development is not expected to be significant in nature.

## Table 3.4Preliminary Evaluation of Alternatives

#### Town of Minto Class EA for New Road and Servicing Extensions (Harriston Industrial Park)

Alternative	Anticipated	Potential	Potential
Solution	Benefits	Impacts	Mitigation
Alternative 2 (Extend John Street to service 11 Acre and 55 Acre parcels)	<ul> <li>Facilitates development of the subject lands that is consistent with the County Official Plan and compatible with surrounding land uses.</li> <li>Provides subject lands with access to John Street and municipal servicing infrastructure.</li> <li>A majority of the affected lands are under municipal ownership (i.e., no acquisition costs).</li> </ul>	<ul> <li>Terrestrial and aquatic habitat could be affected by the project, as road construction would occur on undisturbed lands and in the vicinity of an existing drainage ditch.</li> <li>Installation of deep sewer on John Street may impact Municipal Drain #12.</li> </ul>	<ul> <li>Implement standard mitigation measures to minimize disruption during the construction phase of the project (e.g., erosion, sediment controls).</li> <li>Consult with the Maitland Valley Conservation Authority and the Ministry of Natural Resources &amp; Forestry to assess the level of impact resulting from construction of the planned works. Provide mitigation and habitat compensation to address any significant concerns identified.</li> </ul>
	- Provides a broader range of development parcel sizes to attract a greater variety of potential industrial/commercial clients.	- Construction on undisturbed lands could impact upon the cultural heritage value of the area.	<ul> <li>An archaeological investigation was carried out on the entire industrial park. No significant cultural features were identified on the subject lands.</li> </ul>
	<ul> <li>Limits traffic disruption by constructing a new roadway and servicing corridor within relatively undeveloped areas.</li> <li>Ensures that proposed servicing is sized appropriately to provide services to all lands identified for future industrial development.</li> </ul>	- Significant impacts to traffic movement along John Street will occur during construction of deep sanitary sewer within limits of the John Street road allowance.	<ul> <li>Implement traffic control measures to limit traffic impacts during the construction phase (lane restrictions may be required for short durations).</li> <li>Alternative temporary access routes may need to be established during installation of the sewer to accommodate existing established industrial land uses.</li> </ul>
	- Allows future development of the 55 Acre site to be phased over time without the need for additional environmental assessment review.	- Traffic volumes in the vicinity of the project site will increase following further industrial development (facilitated by the road/ servicing improvements)	- The identified impact cannot be mitigated in a substantive manner. However, the magnitude of traffic generated from industrial development is not expected to be significant in nature.
Alternative 3 (Do Nothing)	- Results in no additional environmental impacts.	- Fails to address the defined problem.	- The identified impact cannot be mitigated.

Class EA for New Road and Servicing Extensions (Harriston Industrial Park)

#### (c) Environmental Effects Analysis

The potential interactions between the identified alternatives and environmental components (Table 3.1) were examined as part of the evaluation of alternatives phase. The purpose of this analysis was to determine, in relative terms, the environmental effects of constructing and operating each identified alternative on the defined environmental components and sub-components (using the impact criteria described in Table 3.2). In this regard, the level of effect for the environmental interactions were rated as High, Moderate, Low and Minimal/Nil. Potential mitigation measures were also considered as part of this evaluation.

Table 3.5 summarizes the outcome of the environmental effects analysis carried out for Alternatives 1 and 2. Alternative 3 (Do Nothing) is assumed to have no impacts upon the identified environmental components.

## Table 3.5Alternative Solutions:Environmental Effects Analysis

Environmental Component	Alternative Solution	Level of Effect	Impact Considerations (Construction and Operational Activities)
Natural			
• Aquatic	(1) Service 11 Acres	Minimal/ Nil	<ul> <li>Impacts to aquatic habitat may occur during construction. Impacts are expected to be minor in nature and would be minimized with standard mitigation measures.</li> <li>No impacts anticipated from the operation of the proposed works.</li> </ul>
	(2) Service 11 & 55 Acres	Low to Moderate	<ul> <li>A small drainage run bisects the 55 Acre parcel. Potential impacts to aquatic habitat could be anticipated from a road crossing of this feature.</li> <li>Construction of the deep sanitary sewer on John Street could impact aquatic habitat as the Municipal Drain will need to be crossed during installation.</li> </ul>
	(3) Do Nothing	Minimal/ Nil	No impacts anticipated.
• Atmosphere	(1) Service 11 Acres	Minimal/ Nil	<ul> <li>Standard construction mitigation will be implemented to mitigate construction-related impacts on air quality and ambient noise levels.</li> <li>No impacts anticipated from the operation of the proposed works.</li> </ul>
	(2) Service 11 & 55 Acres	Minimal/ Nil	<ul> <li>Standard construction mitigation will be implemented to mitigate construction-related impacts on air quality and ambient noise levels.</li> <li>No impacts anticipated from the operation of the proposed works.</li> </ul>
	(2) Do Nothing	Minimal/ Nil	No impacts anticipated.
Surface Water	(1) Service 11 Acres	Low	<ul> <li>Sediment and erosion impacts may occur during construction. Impacts are expected to be minor in nature and would be minimized with standard mitigation measures.</li> <li>On-site stormwater management facilities will be constructed on each parcel as they develop to control surface water flows leaving the site.</li> <li>No impacts anticipated from the operation of the proposed works.</li> </ul>

• Terrestrial	<ul> <li>(2) Service 11 &amp; 55 Acres</li> <li>(3) Do Nothing</li> <li>(1) Service 11 Acres</li> <li>(2) Service 11 &amp; 55 Acres</li> </ul>	Moderate Minimal/ Nil Minimal/Nil Low to Medium	<ul> <li>A small drainage run bisects the 55 Acre parcel. Potential impacts to surface water may occur during construction. Sediment and erosion control measures would be implemented during construction.</li> <li>On-site stormwater management facilities will be constructed on each parcel as they develop to control surface water flows leaving the site.</li> <li>Storm drainage will be directed to the Maitland River via a new outlet to be constructed at the southwest corner of the 55 Acre parcel. This may result in impacts to the Maitland River.</li> <li>No impacts anticipated.</li> <li>Given that the 11 Acre parcel is actively cultivated, no impacts to terrestrial habitat are anticipated.</li> <li>No impacts anticipated from the operation of the proposed works.</li> <li>Road construction required to access the 55 Acre parcel may impact forested areas located adjacent to the former rail line, which will be utilized as part of the proposed road access for the 55 acre parcel.</li> <li>To minimize impacts, tree clearing will be minimized as much as possible and will occur outside of sensitive breeding seasons for birds and wildlife.</li> <li>Sub-surface soil conditions along the rail line may require special handling during construction of the road to address potential contamination.</li> </ul>
	(3) Do Nothing	Minimal/ Nil	• No impacts anticipated.
Social • Neighbourhood	(1) Service 11 Acres	Low	<ul> <li>Development of the 11 Acre parcel may impact adjacent properties fronting on Highway No. 9.</li> <li>Construction-related impacts would be minimized with standard mitigation measures.</li> <li>No impacts anticipated from the operation of the proposed works, providing that measures to minimize impacts are incorporated into the design.</li> </ul>

	(2) Service 11 & 55 Acres	Low	• Development of the 11 Acre parcel may impact adjacent properties fronting on Highway No. 9. The 55 Acre parcel is more isolated from adjacent properties,
			<ul> <li>therefore fewer impacts are anticipated.</li> <li>Construction-related impacts would be minimized with standard mitigation measures.</li> <li>No impacts anticipated from the operation of the proposed works, providing that measures to minimize impacts are incorporated into the design.</li> </ul>
	(3) Do Nothing	Minimal/ Nil	<ul> <li>No impacts anticipated.</li> </ul>
• Community	(1) Service 11 Acres	Low	<ul> <li>Construction and operational activities associated with the proposed works do not present a significant threat to public health and safety.</li> <li>Standard health and safety measures will be utilized by construction contractors.</li> </ul>
	(2) Service 11 Acres & 55 Acres	Low	<ul> <li>Construction and operational activities associated with the proposed works do not present a significant threat to public health and safety.</li> <li>Standard health and safety measures will be utilized by construction contractors.</li> </ul>
	(3) Do Nothing	Low	• A lack of commercial/industrial growth and development in the community may negatively impact the community over the long term.
Cultural • Heritage	(1) Service 11 Acres	Minimal/ Nil	<ul> <li>No impacts anticipated, given the findings of the archaeological assessment previously conducted on the subject lands.</li> </ul>
	(2) Service 11 Acres & 55 Acres	Minimal/ Nil	• No impacts anticipated, given the findings of the archaeological assessment previously conducted on the subject lands.
	(3) Do Nothing	Minimal/ Nil	No impacts anticipated.
Economic • Project & Community	(1) Service 11 Acres	Low	• Construction and operational activities associated with the proposed works should not generate significant economic impacts.
	(2) Service 11 Acres & 55 Acres	Low/Medium	<ul> <li>Servicing of both the 11 Acre and 55 Acre parcel may result in economic hardship if development of the site is not anticipated in the immediate future.</li> <li>Cost savings may be realized by phasing the expansion over a number of years as development occurs.</li> </ul>
	(3) Do Nothing	Low	• A lack of commercial/industrial growth and development in the community may negatively impact the community over the long term.

Technical			
Transportation	(1) Service 11 Acres	Low	<ul> <li>Traffic movement in the vicinity of the project site may be temporarily impacted during the construction phase of the project. (Traffic control measures will be implemented to provide site access, as required).</li> <li>No impacts are anticipated from the operation of the proposed works.</li> </ul>
	(2) Service 11 Acres & 55 Acres	Low to Moderate	<ul> <li>Traffic movement in the vicinity of the project will be temporarily impacted during installation of the deep sanitary sewer on John Street. Alternative temporary access routes will need to be established to allow access to existing established industrial developments during construction. Upgrades to John Street, including a wider road platform and an improved turning radius at Hutchison Street, have been included.</li> <li>No impacts are anticipated from the operation of the proposed works.</li> </ul>
	(3) Do Nothing	Minimal/ Nil	No impacts anticipated.
Infrastructure	(1) Service 11 Acres	Low	• Most infrastructure is already sized to accommodate the 11 Acre parcel which abuts the existing industrial park, except for watermains which will require upgrading to achieve recommended fire protection pressures.
	(2) Service 11 Acres & 55 Acres	Low to Moderate	<ul> <li>Efficiencies will be realized by designing and sizing infrastructure to accommodate the additional 55 Acres now rather than retrofitting at a later date.</li> <li>Extending servicing to the 55 Acre site will require construction of a deeper sanitary sewer on John Street to provide gravity service to the site.</li> </ul>
	(3) Do Nothing	Minimal/ Nil	No impacts anticipated.

## 3.6 Identification of a Preferred Solution

As an outcome of the preliminary assessment of alternatives summarized in Tables 3.4 and 3.5, the proponent indicated a preference for implementing Alternative 2 – Service both the 11 Acre and 55 Acre parcels, to address the defined problem.

The following are the key attributes associated with Alternative 2 which justified its preliminary selection as the preferred servicing plan:

- Facilitates the development of the subject lands for industrial purposes, as prescribed by existing Municipal and County planning documents.
- Provides efficiencies by sizing infrastructure to accommodate development of all lands designated for industrial development.
- Allows for phased development of the 11 acre and 55 acres sites to keep pace with demand and spread capital costs over a number of years.
- Minimizes traffic disruption by limiting construction activities primarily to areas outside of existing road allowances.
- Proposes development on lands not considered to be ecologically or culturally significant.
- Represents the most practical option from an engineering perspective.

## 4.0 PUBLIC CONSULTATION PROGRAM

#### 4.1 General

Public consultation is an integral component of the Class EA process. Public consultation allows for an exchange of information which assists the proponent in making informed decisions during the evaluation of alternative solutions. During Phases 1 and 2 of the study process, consultation was undertaken to obtain input from the general public, adjacent property owners and review agencies that might have an interest in the project. In general, the consultation program involved the preparation of information describing the defined problem, the identified alternatives and the preferred alternatives under consideration. Comments obtained through the various consultation methods described in this section of the report were incorporated into the evaluation of alternatives phase of the investigation.

The components of the initial public consultation program are summarized in this section of the Screening Report and documented in Appendix 'C'. Comments received from the program and related correspondence are also discussed below and documented in the appendix.

# 4.2 Initial Public Notice

Contents:	General project description
Issued:	October 2, 2013
Placed In: Minto Express (October 2 & 9, 20	
	Wellington Advertiser (October 4 <sup>th</sup> , 2013)
Circulated To:	28 Adjacent property owners
Input Period:	Concluded November 1, 2013

No Comments were received as a result of this notice.

# 4.3 Review Agency Circulation

Contents:	General study information, site plan illustrating proposed works
Circulated:	October 2, 2013
Distributed To:	11 review agencies
Input Period:	Concluded November 8, 2013

Comments Received:

Review Agency	Comments/ Concerns	Action Taken
Ministry of the Environment (MOE) (October 9, 2013) Via mail	<ul> <li>Reviewed requirements associated with a Schedule B Class EA and documentation for same.</li> <li>Confirmed that First Nations and Métis communities should be consulted as part of the process.</li> </ul>	- Information noted and filed.
Festival Hydro (October 31, 2013) Via-mail	<ul> <li>The subject lands are not located within the area that they service.</li> <li>Hydro One is the service provider for this area.</li> </ul>	<ul> <li>Additional circulations will be directed to Hydro One.</li> </ul>
Ministry of Tourism, Culture and Sport (November 8, 2013) Via email	<ul> <li>Project study area should be screened for potential impacts to buried cultural material as well as built cultural heritage.</li> <li>Screening Check-Lists provided to assist with identifying potential concerns.</li> </ul>	- A Stage 1 & 2 Archaeological Assessment of the subject lands was completed.
Maitland Valley Conservation Authority (November 8, 2013) Via-e-mail	<ul> <li>Reviewed the project information and sent a map outlining the location of regulated areas.</li> <li>Industrial lands identified for future development are located adjacent to areas identified as environmentally sensitive in the Wellington Cty. O.P.</li> <li>Class EA should consider impacts associated with future industrial development not just the road and servicing extensions.</li> </ul>	- Information noted and filed.

## 4.4 Aboriginal Consultation

#### (a) Aboriginal Consultation Process

The Crown has a duty to consult with First Nation and Métis communities if there is a potential to impact on Aboriginal or treaty rights. This requirement is delegated to project proponents as part of the Class EA process, therefore the project proponent has a responsibility to conduct adequate and thorough consultation with Aboriginal communities as part of the Class EA consultation process. The project study area is located within the traditional territory of the Saugeen Ojibway Nation (SON) and also contains a number of sensitive natural features which may be of concern to First Nation and Métis communities in the area. These features include the Maitland River and the Clifford-Harriston Wetland Complex, both located in the vicinity of the project site.

## (b) Background Review

In order to identify Aboriginal Communities potentially impacted by the project the Aboriginal and Treaty Rights Information System (ATRIS) was consulted. A search was conducted for Aboriginal Communities, including their traditional territories, within a 50 km radius of the project study area. Utilizing this process, several aboriginal communities and organizations were identified in conjunction with this project as follows: Chippewas of Saugeen First Nation, Chippewas of Nawash Unceded First Nation, Historic Saugeen Métis, Metis Nation of Ontario, and Great Lakes Métis Council. Correspondence was subsequently forwarded to each community/organization detailing the proposed project and asking for input. A response was received from the Historic Saugeen Métis indicating that, due to the location of the project at the edge of their traditional territory, they would not request additional information on the project. Copies of all correspondence received or sent is included within Appendix 'C'

## 4.5 **Project Update Letter**

Contents:	General study information, site plan illustrating proposed works, details related to the preferred servicing plan.
Circulated:	April 10, 2017
Distributed To:	8 review agencies, 19 adjacent property owners, 5 Aboriginal Communities
Input Period:	Concluded May 16, 2017

<b>Review Agency</b>	<b>Comments/ Concerns</b>	Action Taken
Geoff Osborne	- Manages energy facility located on	- Advised that construction not
Manager NRStor Inc.	John Street N. in the Industrial Park.	scheduled until 2018 or later.
(Via phone and	- Concerned with potential	- Industrial Park residents will be
email)	access/power interruptions during	contacted prior to construction
	construction that may impact their	to minimize impacts to existing
	operations.	residents as much as feasible.

**Comments Received:** 

Review Agency	Comments/ Concerns	Action Taken
Adjacent Property Owners (via Fax) May 16, 2017	<ul> <li>Owns property adjacent to proposed Industrial Park expansion lands.</li> <li>Concerned with potential impacts to property from noise, odour, environmental impacts related to future Industrial uses.</li> <li>Would like a treed buffer erected between the properties to screen out potential impacts.</li> </ul>	- Comments forwarded to the Town and Project Manager for their consideration.
Adjacent Property Owners (via email) May 16, 2017	<ul> <li>Received information package about the Industrial Park expansion.</li> <li>Own property immediately south of 55 Acres.</li> <li>Would be open to discussions with the Town about the access to the 55 acres going through their property.</li> </ul>	<ul> <li>Information noted and filed.</li> <li>Advised that expansion into the 55 acres may not occur for a number of years.</li> <li>Town would contact them to discuss options in advance.</li> </ul>
Joseph Muller MTCS May 15, 2017 Via email	<ul> <li>Reiterated comments submitted during initial consultation phase of the Class EA.</li> <li>Noted that all documentation related to project screenings should be included in the EA documentation.</li> </ul>	- Stage 1 & 2 Archaeological Assessment and Screening Check-Lists included in EA documentation.

# 5.0 PROJECT SPECIFIC EVALUATIONS

## 5.1 General

A number of project specific evaluations were undertaken in conjunction with the Class EA in order to better define potential impacts associated with implementation of the preferred alternative and to identify suitable mitigation measures to address those impacts. These studies include a conceptual stormwater management plan for the lands being serviced by the proposed road extensions, as well as Stage 1 & 2 archaeological assessments of all lands potentially disturbed in conjunction with the planned works. The lands to be serviced by the proposed road and servicing extensions are currently actively farmed agricultural lands. Construction of the proposed road extensions will alter the natural drainage patterns as fill placement associated with road construction and lot grading is needed to direct drainage to a new outlet.

## 5.2 Storm Water Management

## (a) General

A conceptual stormwater management plan was prepared in conjunction with the Class EA process in order to define facilities required to implement Alternative 2. The following sections of this report discuss the major components of the plan for this site including water quality and quantity controls as well as regulatory requirements.

## (b) Stormwater Quality and Quantity Controls

Development of the 11 acre site will require that individual on-site stormwater quality and quantity measures be incorporated into the design of each site. Overall site drainage will be directed to the existing open Municipal Drain #70 located at the northeast corner of the site via rear yard swales, except for the southwest portion of the site which currently drains to the rail corridor. The Town may consider improvements to Municipal Drain #70 through the Drainage Act.

Development of the 55 acre site will be completed in 2 phases. Phase 1 will include construction of the main access road a distance of approximately 350 metres into the site. Road construction will incorporate roadside ditches and construction of a drainage ditch along the southwest perimeter of the 55 acre parcel in order to convey surface drainage flows from the northeast portion of the site to a new outlet at the Maitland River. Similar to development of the 11 acre site, individual on-site stormwater quality and quantity measures will be incorporated into the design of each individual site as it is developed.

Phase 2 would include development of the remaining undeveloped acreage of the 55 acre site located in the southwest corner adjacent to the WWTP. Similar to the rest of the site, stormwater drainage will be accommodated through the construction of individual on-site quantity and quality control measures.

An existing drainage run, which currently conveys surface runoff from farmlands located north of the 55 acre site, will be accommodated by installation of a culvert within the road allowance. This runoff will continue discharging to privately owned lands located east of the WWTP and will not be included within stormwater flows managed on the 55 Acre site.

## **Drainage Ditch Design**

In order to convey surface water flows from the northeast portion of the 55 Acres to the Maitland River, an open drainage ditch will be constructed along the southwest boundary of the site, adjacent to the Harriston WWTP. The ditch will be constructed at an approximate depth of 3 metres with 3:1 side slopes. A treed buffer will be installed along the top of bank to provide screening from adjacent industrial developments.

#### **Additional Treatment Measures**

Development of individual parcels within the expanded industrial park could occur over a number of years. To minimize impacts to existing infrastructure, on-site sediment and erosion control measures will be implemented during the development of individual parcels. A treatment train approach would be implemented in the drainage area to control pollution at the source. In particular, the following controls would be implemented.

**Lot Level Controls -** Reduced lot grading could be required to promote natural infiltration and sedimentation.

**Conveyance Controls -** Long, broad grassed swales could be required, to promote infiltration and sedimentation.

## (c) Stormwater Quantity Control

## 11 Acre and Phase 1 – 55 Acres

Pre to post control of the 2 to 100 year storm events to be provided through on site control measures. It is proposed that the west lot discharge to the former C.N.R. railway ditch while the north and easterly parcels outlet to Municipal Drain 70. Under post development conditions the proposed road allowances will have uncontrolled flows. As such, over control of design flows from individual parcels will be required to maintain net pre to post conditions.

#### **Major and Minor Drainage System**

Design of all on-site conveyance systems to be based on flows up to and including the 5 year event and directed to the intended outlet for the individual lots. Major system surface flow will be directed safely off-site to the individual lot's intended outlet.

## 5.3 Cultural Heritage Features

As part of the Class EA process Timmins Martelle Heritage Consultants were engaged to complete an archaeological assessment of those portions of the subject lands being proposed for development. The assessment involved two stages of analysis: The first, conducted in the summer of 2014, examined the 55 acre site. The second, completed in November 2014, examined the 11 acre site. Both field investigations were preceded by completion of a Stage 1 background review which included an examination of historical data on the parcels. It was determined from this assessment that the potential for historical archaeological sites being present on the properties was high due to proximity to the Maitland River and proximity to an early transportation corridor (Hwy. 9). Stage 2 of the process involved field assessments of each parcel entailing a pedestrian survey after the sites had been ploughed and weathered. There were no findings of historical significance identified through these reviews, although two isolated find spots were identified on the 55 acre site. No additional assessment was recommended. A report, summarizing the process, was submitted to the Ministry of Tourism, Culture and Sport for clearance, which was received on June 28, 2016. The Report is included within Appendix 'B'.

## 5.4 Water Servicing

#### (a) General

As noted previously, Harriston is currently serviced by a waterworks that consists of: three drilled bedrock wells, three wellhouses, an elevated 1915 m<sup>3</sup> storage tank and a distribution network of watermains, ranging in diameter from 100 mm to 300mm. There are approximately 77 fire hydrants currently available for fire protection. Distribution watermains currently extend into the existing Industrial Park and will be extended north on John Street, in conjunction with planned road construction, to service the expanded industrial park lands.

#### (b) **Pressures and Fire Flows**

The initial evaluation of providing water servicing to the industrial park expansion identified that existing available fire flows to the existing industrial park are significantly deficient (i.e. 56-66 L/s) in relation to suggested target flow rates (i.e. 150 L/s). It was determined that there is currently an inadequately sized connection between the existing elevated tank and the industrial park in terms of transmitting large fire flows (i.e. generally only smaller diameter looped watermain). An option for constructing ground level storage and pumping was considered, but is cost prohibitive and would increase annual O&M costs. Looping the 200mm dia. Elora Street watermain to Hutchison Street was evaluated but it will not significantly increase fire flow rates to the industrial park expansion parcels.

Further analysis was completed to evaluate the effect of upgrading sections of the existing distribution system to improve that connection. It was determined that there should be a minimum 300mm dia. connection between the elevated tank and the existing industrial park connection at Adelaide Street. Figure 5.1 illustrates our understanding of existing 300mm dia.

mains and the proposed location where watermains could be upgraded to a minimum 300mm dia. to provide that connectivity. The Town would need to confirm these are their preferred

## (c) Recommended Servicing Approach

routes, and decide when these upgrades would be constructed.

The watermain installed within the existing and proposed industrial park will be a long dead-end line (potentially up to 2km). Therefore, to transmit higher fire flows through a long dead-end watermain without a booster pump will require a watermain larger than 300mm dia. Evaluations indicate fire flows >124 L/s will be achieved for a 350mm dia. dead-end line and >145 L/s using a 400mm dia. This includes replacement of the existing industrial park's 200mm dia. watermain on John Street. The Town will need to select the size of watermain that will be used.

There will be additional operational and maintenance efforts required by the Town's drinkingwater system Operator to help prevent problems (e.g. low chlorine residual) associated with low water use for such a long larger diameter dead-end line (e.g. regular flushing of the watermain).

#### 5.5 Sanitary Servicing

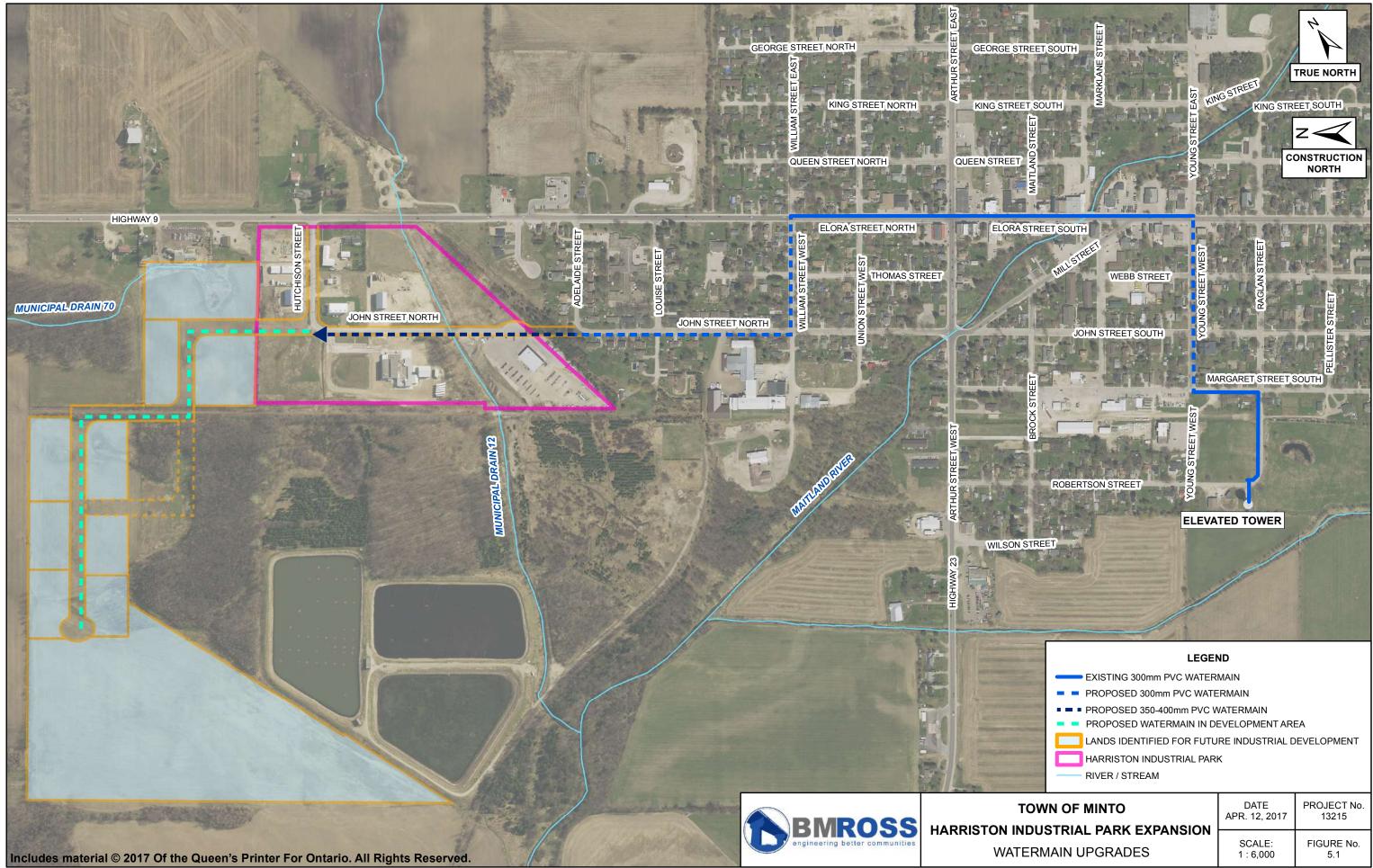
#### (a) General

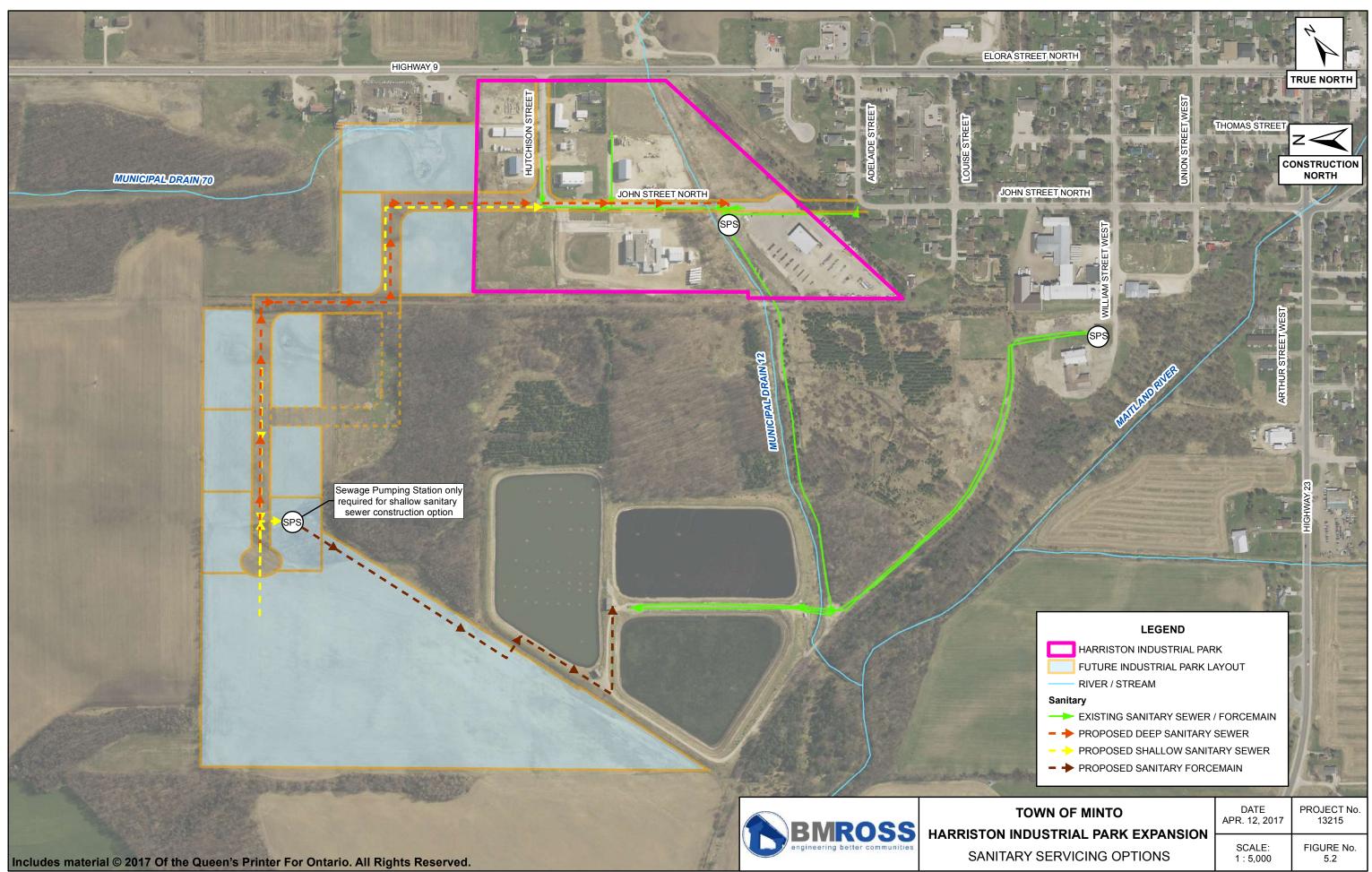
As discussed, Harriston is currently serviced by a municipally owned and operated sewage system that was constructed in the mid-1960's consisting of a gravity collection system, five sewage pumping stations (SPS's) and a 3-celled facultative lagoon. The Main SPS receives gravity flows conveyed from the secondary pumping stations as well as gravity flows from the remainder of the community. Sewage is then pumped via forcemain to the WWTP. Following treatment of the sewage within the facility, effluent is discharged to the Maitland River.

#### (b) Sanitary Servicing Options

The initial sanitary servicing option that was considered by the Town was the extension of the existing John Street gravity sewer to service Phase 1 (11 acre site), and the servicing of Phase 2 through the construction of a new Sewage Pumping Station (SPS) along with the associated gravity sewer and forcemain discharge to the sewage lagoons. The existing industrial park is serviced by the John Street (Industrial Park) SPS.

Another option was subsequently evaluated, that being the replacement of the existing John Street sanitary sewer with a deep sewer and the extension of that sewer north and west into the Phase 1 and Phase 2 parcels. Sewage discharges from the industrial park to the sewage lagoons would be provided by the existing newly upgraded Industrial Park SPS. This option cannot provide gravity service to the furthest southwesterly section of Phase 2 unless one large site is developed, although it may still then require its own pumping station. Smaller developments could be serviced by individual lot sewage pumps. Figure 5.2 illustrates the sanitary servicing options that were reviewed as part of the Class EA.





#### (c) Recommended Servicing Approach

Following a review of these options, the Town selected the deep sanitary sewer option for servicing of the 11 Acre and 55 Acre sites. This option was selected for the following reasons:

- Would avoid construction and subsequent maintenance costs associated with another sewage pumping station.
- Road reconstruction on John Street, needed to install the deep sanitary sewer, would
  provide an opportunity to improve the road surface and drainage to better accommodate
  the existing industrial users.
- Better long term solution to the servicing needs of the area.

## 5.6 Road and Parcel Configurations

#### (a) Methodology

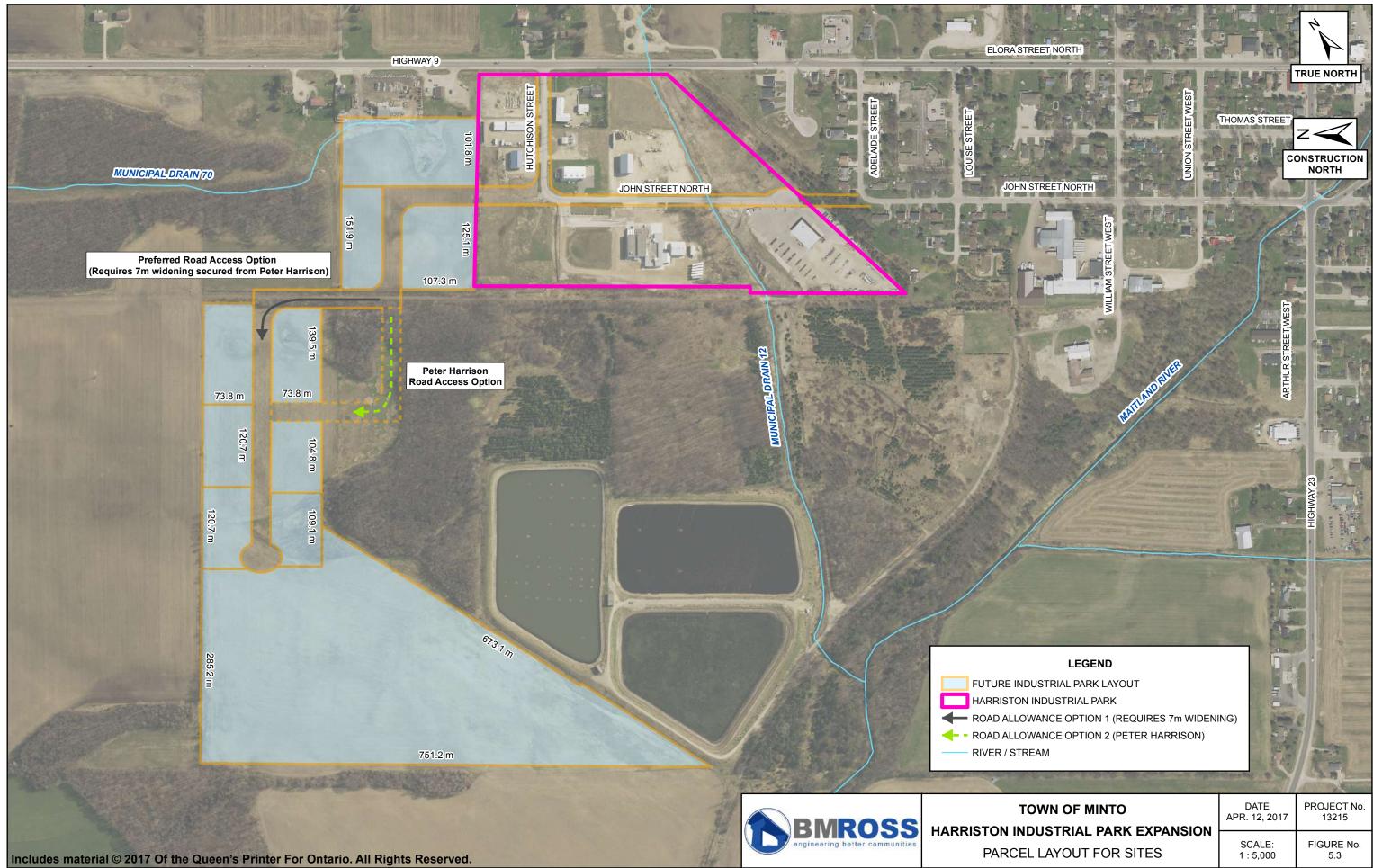
The proposed industrial park expansion is comprised of two parcels being 11 acres (4.5 ha) and 55 acres (18.2 ha) in size respectively. To ensure that the broadest range of available lot sizes are made available for development, a variety of road and lot servicing alternatives were explored in conjunction with the Class EA process.

#### (b) Selection of a Preferred Road Alignment

The municipality reviewed the various road and parcel alignment alternatives presented and indicated a preference for Option 2, shown on Figure 5.3. This alignment option was selected because if offered a variety of parcel sizes and required the least amount of road construction while providing access to the greatest amount of industrial land for development. The parcel configuration illustrated on Figure 5.3 is conceptual and may change based on the area required for any individual development.

#### (c) Access to 55 Acre Site

During review of the various road and parcel configurations available to the Municipality, a different routing option to access the 55 acre site become apparent. An adjacent property owner, who owns the lands located directly west of the 11 acre site, expressed interest in permitting the road access through their property. This new route would allow the westerly extension of John Street to continue directly west from the 11 acre site rather than travelling north along the former rail line before entering the 55 acre site. This option would open additional lands for industrial development but would require construction within a small wooded area situated at the northwest extent of the private parcel. This alternate route is illustrated on Figure 5.3.



#### (d) Road Cross Section

Proposed road extensions within the industrial park expansion will be constructed to a rural cross section with an 8 metre paved road surface, gravel shoulders, and roadside ditches to convey surface water flows. The road allowance will be a total of 27 metres in width to allow for the wider road platform and roadside ditches.

#### 5.7 Proposed Phasing Plan

Due to the large scale of the planned Industrial Park expansion, a proposed phasing plan is recommended for implementation purposes. The recommended phases are based primarily upon the two main parcels which comprise the Town's industrial land holdings, with Phase 1 being associated with the 11 acre parcel and Phases 2 & 3 with the 55 acre site. However, limitations presented by existing site topography and ease of servicing also play a role. Table 5.1 describes the primary components of the proposed phasing plan and identifies the individual servicing components associated with each phase of the expansion as well as an anticipated high level opinion of costs for implementation.

Harriston Industrial Park Expansion	
Upgrades within Existing Industrial Park	X
	Anticipated Cost*
Watermain from John/Adelaide to John/Hutchinson	\$325,000.00
Sanitary sewer from SPS to Hutchinson	\$150,000.00
John Street reconstruction	\$445,000.00
Drain #12 culvert upgrades road culverts/subdrains	\$100,000.00
Total	\$1,020,000.00
Phase 1 – 11 Acre Site	
Phase 1 – 11 Acre Site	
John Street Extension to cul de sac	\$245,000.00
John Street Watermains	\$225,000.00
John Street Sanitary Sewers	\$155,000.00
Total Phase 1	\$625,000.00
Phase 2 – East Part 55 Acre Site	· · · · ·
Road Extension west via Rail Corridor	\$345,000.00
Construction of Drainage Ditch and outlet to Maitland River	\$275,000.00
Watermains within road allowances	\$285,000.00
Sanitary sewers within road allowances	\$180,000.00
Total Phase 2	\$1,085,000.00

 Table 5.1

 Proposed Phasing Plan:

 Harriston Industrial Park Expansion

 name day within Existing Industrial Park

\*High level opinions of cost based upon 2015 construction pricing. Exclusions include but are not limited to: hydro servicing;

## 5.8 Anticipated Costs

It is anticipated that the Industrial Park expansion will be implemented over a 5-20 year time frame with project costs potentially offset through provincial or federal grant programs. Table 5.1 illustrates anticipated costs for the first two phases of the proposed plan. Phase 1 of the proposed expansion (11 acre site) is anticipated to be scheduled for construction in 2018/19 while the remaining phases could be completed as time, finances, and/or other economic drivers dictate. Given that development of Phase 3 could be 15-20 years in the future and the scope of that development will be dependent on the size and scale of the proposal, opinions of cost are not shown for that phase of the Industrial Park expansion.

The above costs include full road construction, a contingency allowance (20%) and an engineering allowance (15%). It is anticipated that the costs associated with Phases 2 & 3 will be partly allocated to future industrial park users either through an area rating by-law or future development charges should they come into effect.

## 6.0 IDENTIFICATION OF POTENTIAL IMPACTS

#### 6.1 General Project Scope

#### (a) Construction Phase

The construction plan for this project generally includes the following general tasks:

- Mobilize to the site.
- Provide traffic signs, barricades and roadside protection at the limits of the construction area, as required.
- Complete site layout, including service locates.
- Employ erosion and sediment controls and protect existing drainage outlet (conduct routine inspections of erosion controls throughout construction period).
- Clear and grub trees to facilitate construction (as required).
- Excavate for, and place, structures, service piping and drainage facilities, including bedding (native or granular backfill).
- Place and grade granular material associated with road subbase.
- Grade and restore disturbed areas and place erosion protection around culvert ends.
- Complete infiltration/exfiltration and deflection testing of sanitary sewers, and CCTV inspections.
- Reconnect existing drains and services, complete all required inspections and testing.
- Swab, test, flush, disinfect and sample watermains.
- Place granular base and asphalt surfacing.
- Carry out standard site restoration activities.
- Complete all required documentation and reporting on the works.
- Conduct any required remediation (i.e., surface sealing).

## 6.2 Environmental Effects

#### (a) General

In reviewing the various criteria identified in Section 4 of this report and additional comments provided during the public and agency consultation program, a number of specific environmental elements were identified which could be adversely affected by the implementation of the preferred alternative. The impact of specific components of the proposed construction on the identified environmental elements, are summarized in Table 6.1. Specific mitigation measures for the identified impacts are also presented. The table identifies impacts directly related to road and servicing construction which are generally short-term in nature and of limited duration. Impacts of a greater magnitude and duration (traffic volume, aesthetic impacts, impacts related to development of the subject lands) are also discussed in the following section.

Table 6.1Construction Related Environmental Effects

	Environmental Components Key Project Works and Activities	Geology and Hydrology Resources	Aquatic Resources	Significant Environmental Features	Cultural Heritage Resources	Social Environment	Economic Environment	Technical Environment
1	<b>Construction Component</b>							
	Contractor Mobilization to the site	0	0	0	0	•	0	0
	Establishment of Temporary Storage Areas	0	•	0	0	•	0	0
	Traffic Control Plan Implementation	0	0	0	0	•	0	0
	Site Clearing	0	٠	•	0	0	0	0
	Installation of Sediment Control Devices	0	٠	0	0	0	0	0
	Drain crossing of sanitary sewer on John St.	0	٠	0	0	0	0	•
	Road and Servicing Excavation	•	•	0	•	•	0	•
	Dewatering	•	•	0	0	0	0	0
	Temporary Storage of Fuels	•	•	0	0	0	0	0
	Installation of sewers and watermains	•	•	0	0	0	0	•
	Grading	0	•	0	0	•	0	0
	Construction Traffic	0	0	0	0	•	0	0
	Site Restoration (seeding/topsoil)	0	0	0	0	0	0	0

• Potential for adverse effect • No adverse effect expected

## (b) Construction Mitigation

Construction-related activities associated with project implementation have the potential to impact upon existing environmental features, the general public and construction workers. The contractor will therefore be responsible for carrying out these activities in accordance with industry safety standards and all applicable legislation. Mitigation measures will also be incorporated into the construction specifications to ensure that operations are conducted in a manner that limits detrimental effects to the environment.

Table 6.2 outlines a series of standard mitigation measures that are typically incorporated into construction specifications. For this project, contract specifications may need to be modified depending upon the nature of the construction activity and any additional requirements of the regulatory agencies.

Construction Activity	Typical Mitigation Measure
Refuelling and Maintenance	- Identify suitable locations for designated refuelling and maintenance areas.
	<ul> <li>Restrict refuelling or maintaining equipment near watercourses. Non-spill equipment is required within 30 m of any watercourse. Fuelled equipment shall be stored overnight not less than 30 m from the edge of water.</li> <li>Avoid cleaning equipment in watercourses and in locations where debris</li> </ul>
	<ul><li>can gain access to sewers or watercourses.</li><li>Prepare to intercept, clean up, and dispose of any spillage that may occur (whether on land or water).</li></ul>
Traffic	- The Contractor shall prepare and submit a traffic plan to the Project
Control	Engineer and Town for review and acceptance. Alternative access routes
	for the existing Industrial Park users may be explored during construction of the deep sewer on John Street.
	- The Contractor will provide adequate signage and barricades.
Disposal	- Dispose of all construction debris in approved locations.
	- Do not empty fuel, lubricants or pesticides into sewers or watercourses.
Pesticides	- Co-ordinate the use of pesticides and herbicides with affected landowners and the local pesticide control officer.
Work in	- Inform the Contract Administrator of the proposed schedule for each
Sensitive	watercourse crossing or other work in sensitive areas.
Areas	<ul> <li>Avoid encroachment on unique natural areas; do not disturb habitats of rare or endangered species. Restrict the number of locations where equipment is allowed to cross a watercourse.</li> <li>Restore stream channels following completion of the required work, including protection of stream banks.</li> </ul>

 Table 6.2

 Typical Mitigation for Construction-Related Activities

Construction Activity	Typical Mitigation Measure
Silt Control	<ul> <li>Excavation &amp; construction adjacent to watercourses shall not proceed until the channel has been isolated from the work area through installation of turbidity curtains parallel to the stream banks.</li> <li>Silt fences shall be installed and maintained down slope from any stockpile locations.</li> </ul>
Dust Control	<ul> <li>Cover or wet down dry materials and rubbish to prevent blowing dust and debris.</li> <li>Avoid the use of chemical dust control products adjacent to wetlands and watercourses.</li> </ul>
Site Clearing	<ul> <li>Protective measures shall be taken to safeguard trees from construction operations.</li> <li>Equipment or vehicles shall not be parked, repaired or refuelled near the drip line area of any tree not designated for removal. Construction and earth materials shall also not be stockpiled within the defined drip line areas.</li> <li>Restrict tree removal to areas designated by the Contract Administrator.</li> <li>Minimize stripping of topsoil and vegetation.</li> </ul>
Sedimentation/ Erosion Control	<ul> <li>Erect sediment fencing to control excess sediment loss during construction.</li> <li>Minimize removal of vegetation from sloped approaches to watercourses.</li> <li>Protect watercourses, wetlands, catch basins and pipe ends from sediment intrusion.</li> <li>Complete restoration works following construction.</li> <li>Install straw bale check dams in ditch lines following rough grading of ditches.</li> </ul>
Noise Control	<ul> <li>Site procedures should be established to minimize noise levels in accordance with local by-laws.</li> <li>Night time or Sunday work shall not be permitted, except in emergency situations.</li> </ul>

## c) **Operations Phase**

Upon completion of the project the proponent, in accordance with normal municipal practices, would maintain the road and municipal services. In this regard, the roadway/ services will be subject to routine maintenance and snow removal activities. Standard response procedures would also be employed to resolve maintenance problems and emergencies.

## 6.3 Assessment of Interactions

Based upon the findings of the general impact assessment (Tables 3.4 and 3.5), the environmental interactions analysis (Table 6.1) and input received through the agency consultation program, the project has the potential to impact upon three environmental elements being the Social Environment, the Natural Environment and the Economic Environment.

A description of the potential impacts is described in detail within this section of the report. Measures designed to minimize the impacts are also presented. The determination of appropriate mitigation measures incorporated an assessment of previous studies and investigations, site specific requirements and an evaluation of a broad range of alternatives. This assessment was based on a consideration of three broad approaches to impact mitigation; avoidance, minimization of adverse effects, and compensation.

#### 6.4 Social Impacts

#### (a) **Potential Impact to Residents/Adjacent Properties (short term)**

A majority of the works associated with the preferred alternative will occur on lands located within existing industrial areas with limited residential development or adjacent to vacant agricultural lands zoned for future development. However, reconstruction of John Street to install the deep sewer and the extension of John Street, north to service the 11 acre parcel, will impact residents within the existing industrial park as well as property owners located on Highway No. 9 adjacent to the subject lands. Steps will be taken to minimize the impacts to residents however proposed construction activities may present temporary access issues to some properties. Residents living immediately adjacent to the work area may experience construction related impacts (noise/traffic disruption/restricted access) through much of the construction period.

#### (b) Impact to Adjacent Properties (long-term)

As discussed within Section 2.5 of the report, the 11 Acre parcel to be serviced in conjunction with the preferred alternative, is currently zoned MI-40 (H). As noted, the (H) represents a holding zone which would be lifted once the identified studies have been completed. A Stage 1 & 2 Archaeological Assessment was completed on the subject lands in conjunction with the Class EA process. No significant buried cultural material was identified during the assessment. Potential impacts related to sound and vibration, as it affects adjacent properties located along Highway No. 9, will be dealt with when the individual parcels are developed and specific uses are known. The Ministry of the Environment and Climate Change has very specific criteria to assess the level of impact for a given activity or use. It would therefore be more practical to ensure that appropriate setbacks or measures are incorporated for each individual site at the time that each property is rezoned to remove the holding zone.

## 6.5 **Potential Impacts to Natural Features**

#### (a) General

Construction activities associated with the proposed road and servicing extensions, could pose a risk to aquatic habitat, given that certain aspects of the construction will be required immediately adjacent to an open watercourse. Accordingly, a series of protective measures will be incorporated into construction plans to help mitigate any identified impacts. As well, any lands disturbed by the construction process would be restored. All remediation planned for the project will also be carried out in accordance with the mitigation and restoration requirements of the regulatory agencies. The following provides detailed descriptions of potential impacts associated with components of the environment identified above and the specific measures proposed to mitigate the impacts to specific features of the natural environment.

#### (b) Lot Layout

At the outset of the Class EA process, it was proposed that the planned road extension going west from John Street to service the 55 Acre parcel could be constructed in two locations. The first option would extend directly south from the terminus of John Street through lands owned by an adjacent property owner, and would therefore bisect a small wooded area. This road option was considered feasible, as it maximized lot sizes within the 55 Acre parcel and opened up additional lands for industrial development. A second road option was also considered which utilized the municipally-owned former rail line lying between the 11 acre and 55 acre parcels. Following an assessment of lot layout options for the 55 Acre parcel, it was determined that the northerly route which utilized the former rail line and stayed completely within municipally owned lands, was the preferred route for access to the 55 acre parcel. This route would also minimize impacts to the small forested area located immediately west of the 11 acre site.

#### (c) Aquatic Habitat

For this project, construction of stormwater management facilities for the 11 Acre and 55 Acre parcels will require construction in the vicinity of existing open municipal drains, which ultimately discharge to the Maitland River or one of its tributaries. A series of remedial measures have been proposed which will minimize impacts to the river during construction. To minimize potential impacts to the adjacent watercourses, sediment and erosion control measures will be implemented at the construction sites to prevent sediment laden runoff from reaching the channels. Sediment and erosion control measures will consist of sediment fences around the work areas, straw bale filters installed within roadside ditches and erosion protection around topsoil stockpiles.

## d) Terrestrial Habitat

Small wooded areas are located adjacent to the boundaries of the 11 acre and 55 acre sites, as well as the former CNR rail line. Minor impacts to these forested areas may occur during construction of the proposed road extensions and drainage upgrades. To minimize impacts to these areas, tree removal associated with the proposed road and servicing construction will be minimized as much as possible. The limit of clearing will be clearly demarcated prior to the onset of construction through the installation of exclusionary fencing.



In addition, all tree removal would be timed to occur outside of the breeding bird season (April 1 to August 30) to minimize impacts to local wildlife. All disturbed areas will be restored following the completion of construction.

## 6.6 Potential Impact to Economic Environment

Development of the proposed road and servicing extensions represents a significant capital expenditure to the Town of Minto. The Town is seeking funding from several sources in order to minimize the impact of the project on local residents. Other measures being utilized by the municipality to offset the impact of project costs are as follows:

- The project will be phased over a number of years to coincide with demand.
- A reserve fund will be established to pay for capital costs associated with the project.
- New development proposed for lands serviced in conjunction with this project may be subject to development charges.

The municipality is confident that the above noted measures will provide sufficient financial mitigation to offset the financial impact of the project on municipal residents.

## 7.0 CONCLUSIONS AND STUDY RECOMMENDATIONS

## 7.1 General

The purpose of this part of the study was to develop conclusions and recommendations for future action. This stage involved the completion of a final evaluation of study findings and the identification of a preferred alternative.

## 7.2 Study Conclusions

Based upon a review of the current environmental setting, no impacts were identified with the preferred alternative that could not be mitigated. In this respect implementation of the identified industrial park road and servicing extensions appears to be appropriate for the subject lands and should not result in significant environmental effects. It was therefore concluded from the Class EA investigation that the Town of Minto should proceed with implementation of this servicing plan, pending the receipt of all required approvals and in accordance with all mitigation measures defined during the approvals process.

## 7.3 Selection of the Preferred Alternative

Given the above, selection of Alternative 2, Extension of Roads and Services to service both the 11 Acre and 55 Acre parcels, has been selected as the preferred solution to the identified problems. The works associated with the preferred alternative are summarized below.

## 7.4 **Proposed Works**

The following sections summarize the initial conceptual designs associated with the preferred alternative as well as the proposed implementation phasing.

#### (a) 11 Acre Parcel – Phase 1

- Consult with existing industries regarding traffic control and establish, if suitable, a temporary access route.
- Installation of a larger watermain and a deeper sanitary sewer within the existing John Street road allowance, including a crossing of Municipal Drain 12.
- Extend John Street approximately 230 m to the north culminating in the construction of a temporary cul de sac. The new road will incorporate a rural cross-section 27 metres in width and include two lanes of traffic and roadside ditches.
- Construction of individual on-site storm water management facilities on each parcel within the 11 acre site, as they are developed. Where possible, site drainage is to be directed to the northeast to the existing Municipal Dain #70 for outlet; otherwise, drainage should be directed to the John Street ditch.
- Easements may be needed, adjacent to rear lot limits, in order to safely convey stormwater to an appropriate outlet.
- (b) 55 Acre Parcel Phase 2
- Obtain a 7m widening along the westerly side of the former rail lands
- Extension of road access west to the limit of the 11 acre site and then north along the former rail line to access the 55 acre parcel. The new road will incorporate a rural cross-section 27 metres in width and include two lanes of traffic and roadside ditches.

- Installation of watermains and sanitary sewer facilities within the proposed road allowances for a distance of approximately 350 metres.
- Construction of individual on-site storm water management facilities on each parcel within the east portion of the 55 acre site, as they are developed. Site drainage is to be directed to the southwest to a proposed drainage ditch for outlet.
- Construction of a drainage ditch along the southwest limit of the site, adjacent to the WWTP, and then through an unopened road allowance, to convey stormwater drainage flows from the north portion of the site to the Maitland River.

## (c) 55 Acre Parcel – Phase 3

- Extension of road access west to the limit of development. The new road will incorporate a rural cross-section 27 metres in width and include two lanes of traffic and roadside ditches.
- Installation of watermains within the proposed road allowance.
- Installation of sanitary sewer as far west as feasible to obtain gravity flow. Servicing could be extended beyond this point through installation of individual pumped systems discharging to the gravity sewer.
- Construction of individual on-site storm water management facilities on each parcel within the west portion of the 55 acre site, as they are developed. Site drainage is to be directed to the drainage ditch constructed during Phase 3 for outlet.

## 7.5 Class EA Project Schedule

The recommended solution is considered a Schedule "B" project under the terms of the Class EA document, as the project involves the construction of a new road and servicing extensions outside of existing utility corridors or road allowances. This project is approved following the completion of an environmental screening process.

## 7.6 Final Public Consultation

A Notice of Completion was recently published in the local newspaper and circulated to adjacent property owners and review agencies (refer to Appendix C). The notice identified the preferred alternative and provided the basis for appeal of the selected servicing plan (i.e., a Part II Order request to the Minister of the Environment prior to the conclusion of the review period).

The following summarizes the distribution of the notice:

Contents:	Identification of preferred solution, key project components
Issued:	July 12, 2017
Placed In:	Harriston Review (July 12; July 19, 2017)
Distributed To:	10 review agencies, 43 Adjacent Property Owners
Review Period:	Concludes August 11, 2017

## 7.7 **Project Implementation**

It is anticipated that the planned works described within this report will be constructed over several construction seasons, pending the successful completion of the Class EA process, the receipt of all necessary approvals and the securement of adequate funding. The works will be completed by a qualified Contractor following a competitive selection process. The constructed works will be warranted by the Contractor for a period prescribed in the contract documentation (typically one year). Following construction, the Town of Minto will maintain the physical condition and operation of all built works and will perform remediation work as required and in accordance with the requirements of applicable regulatory agencies.

## 7.8 Approvals

## (a) General

A limited number of approvals will be required in order to facilitate the implementation of the recommended solution. The following are the key approvals required to permit the construction of the proposed works.

#### (b) Conservation Authorities Act

Some components of this project may involve construction on lands regulated by the Maitland Valley Conservation Authority. In accordance with the Conservation Authorities Act, an application will be submitted to the Conservation Authority to obtain approval for the project. The application will set out the measures proposed to protect sensitive lands, such as stream banks, during construction in order to minimize the negative impacts of the project on the ecology of the area. The Authority may require additional measures be incorporated into the construction plan as part of the approvals process.

#### (c) Ontario Water Resources Act

The works associated with the preferred alternative are subject to the Ontario Water Resources Act. Consequently, the project cannot proceed until the municipality has received the necessary Environmental Compliance Approvals (ECA) from the MOECC. These Certificates will define how the project must be implemented.

## 7.9 Summary of Impact Mitigation

A series of remediation measures will be implemented in order to minimize the environmental impacts associated with the proposed works. The following represent the key measures of the proposed mitigation plan:

- Erosion and sediment control measures will be implemented throughout the entire work zone to minimize sediment loadings to watercourses.
- The Ontario Occupational Health and Safety Act will apply to all project related activity in order to minimize the risks posed by construction.
- Consultation with existing Industrial Park owners will occur in advance of construction to identify alternative access routes and review existing entrance requirements.
- Local traffic will be permitted access to those portions of municipal road allowances not directly impacted by the proposed construction activities. Signage advising of the impending construction will be erected well in advance of the proposed construction.
- Construction activities will be conducted in accordance with contract documentation and the impact mitigation requirements of various regulatory agencies. The work will be monitored through on-site supervision.
- Any areas which are disturbed as a result of construction will be restored following completion of the project.
- Any necessary approvals will be obtained from regulatory review agencies prior to implementation of the proposed works.
- Any required tree removals should occur outside of the bird breeding season.

#### 7.10 Class EA Study Completion

The following activities are required in order to complete the formal Class EA screening process:

- Address outstanding issues resulting from issuance of the Notice of Completion.
- Finalize the Screening Report following the conclusion of the 30-day review period.
- Advise the Town of Minto and the Ministry of the Environment and Climate Change (MOECC) when the study process is complete (assuming no Part II Order requests are filed).

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# 8.0 SUMMARY

This report documents the Municipal Class Environmental Assessment process conducted to define a solution to deficiencies and servicing opportunities associated with the Harriston Industrial Park serving the community of Harriston.

The related problems and opportunities were established as:

The extension of John Street north of Hutchison Street, including full municipal services, is required to facilitate the development of additional industrial lands within the community of Harriston.

The preferred solution, to extend roads and servicing to service both the 11 acre and 55 acre municipally-owned industrial parcels, represents the most practical approach to resolving the defined problems with the existing Harriston Industrial Park. The proposed project is a Schedule B activity under the terms of the Class EA. The Town of Minto intends to proceed with the implementation of this project upon completion of the Class EA investigation and after receipt of all necessary approvals.

All of which is respectfully submitted.

B. M. ROSS AND ASSOCIATES LIMITED

Per \_\_\_\_\_

Frank Vanderloo, P. Eng. Project Manager

Per \_\_\_\_\_

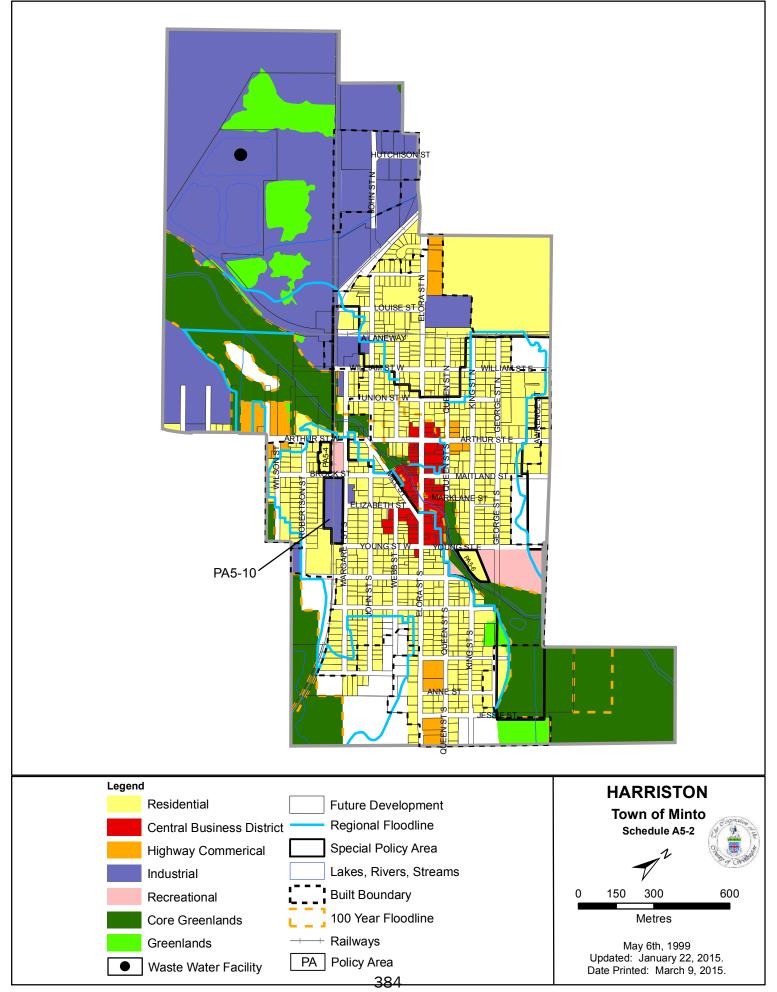
Kelly Vader, RPP, MCIP Environmental Planner

#### References

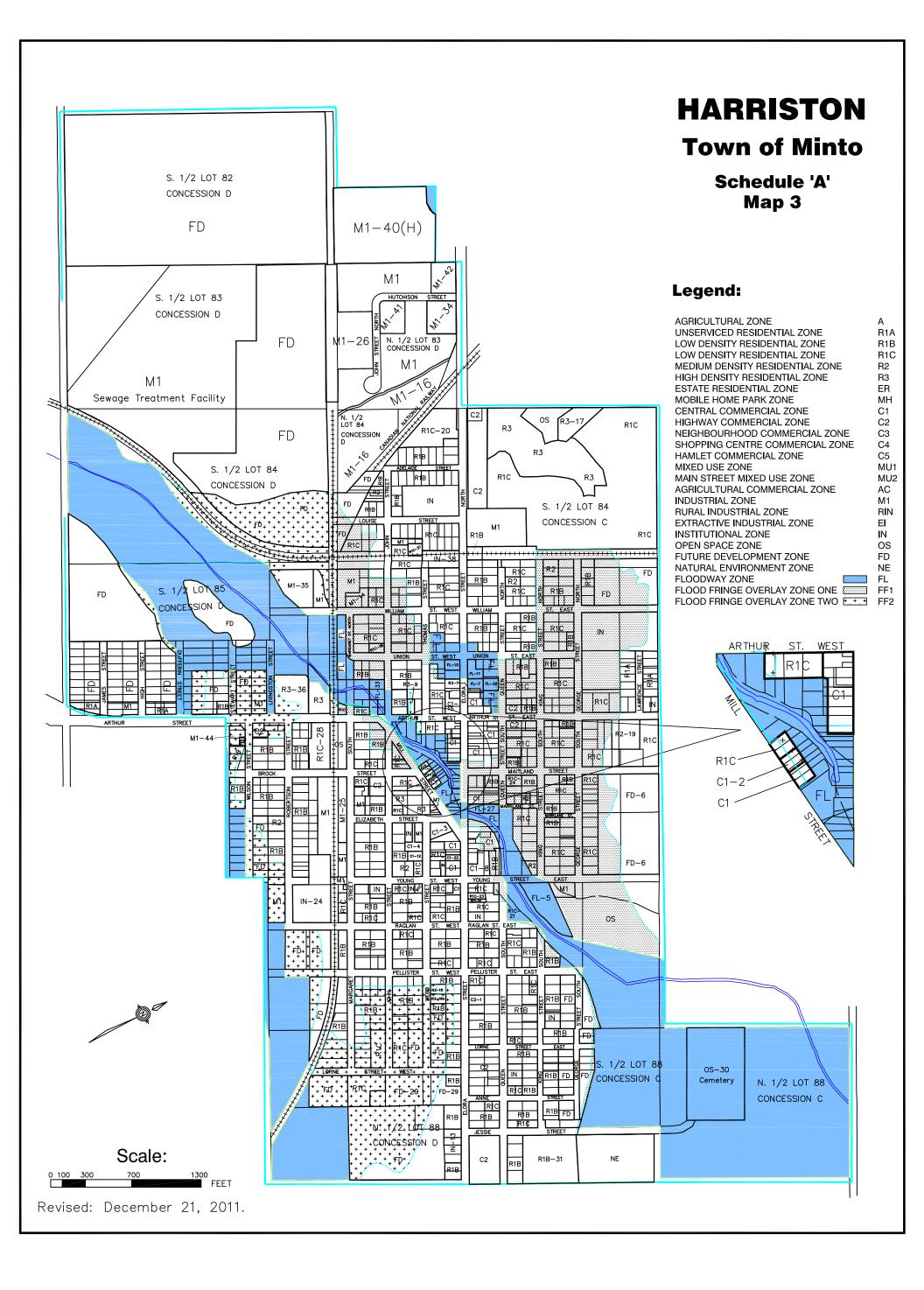
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# **APPENDIX A**

# PLANNING RELATED DOCUMENTS



Document Path: F:\Land Information System\Official Plan 2012\OPA 81 - New Official Schedules\Urban\Harriston\Harriston- Schedule A5-2.mxd



# **APPENDIX B**

# ARCHAEOLOGICAL ASSESSMENT: STAGE 1 & 2 REPORT



Ministry of Tourism, Culture and Sport

Programs & Services Branch 401 Bay Street, Suite 1700 Toronto ON M7A 0A7 Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes A Checklist for the Non-Specialist

The purpose of the checklist is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including but not limited to:
  - · the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- Planning Act
- Environmental Assessment Act
- Aggregates Resources Act
- Ontario Heritage Act Standards and Guidelines for Conservation of Provincial Heritage Properties

#### Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- · identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

#### Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

	Property Name n Industrial Park Expansion		
Project or Town of	Property Location (upper and lower or single tier municipality) Minto		
Proponent Bill Whi	Name ite, CAO/Clerk, Town of Minto		
Proponent	Contact Information		2 - 2010 2
Screenin	g Questions		
1. Is the	ere a pre-approved screening checklist, methodology or process in place?	Yes	No
A DAY AND AND A DAY AND A	ease follow the pre-approved screening checklist, methodology or process.		
	ntinue to Question 2.		
	creening for known (or recognized) Cultural Heritage Value		and and and a
2. Hast	he property (or project area) been evaluated before and found <b>not</b> to be of cultural heritage value?	Yes	No
If Yes, do	o not complete the rest of the checklist.		
The prop	onent, property owner and/or approval authority will:		
	summarize the previous evaluation and		
	add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken		
The surm	nary and appropriate documentation may be:		
•	submitted as part of a report requirement		
•	maintained by the property owner, proponent or approval authority		
If No, con	tinue to Question 3.		
		Yes	No
3. Is the	property (or project area):		
a	identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value?		1
b.	a National Historic Site (or part of)?		$\checkmark$
C.	designated under the Heritage Railway Stations Protection Act?		$\checkmark$
d.	designated under the Heritage Lighthouse Protection Act?		1
e.	identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?		1
f.	located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?		1
If Yes to a	any of the above questions, you need to hire a qualified person(s) to undertake:	त्वान् विद्यालय स्वर्भवेद रिजन	
•	a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated		
	ment of Cultural Heritage Value has been prepared previously and if alterations or development are , you need to hire a qualified person(s) to undertake:		
•	a Heritage Impact Assessment (HIA) - the report will assess and avoid, eliminate or mitigate impacts		
If No, con	tinue to Question 4.		

Part B: Sc	reening for Potential Cultural Heritage Value		
		Yes	No
4. Doest	property (or project area) contain a parcel of land that:		
a.	i the subject of a municipal, provincial or federal commemorative or interpretive plaque?		<ul> <li>Image: A start of the start of</li></ul>
b.'	mas or is adjacent to a known burial site and/or cemetery?		$\checkmark$
C.	i≝in a Canadian Heritage River watershed?	Π	1
d.	contains buildings or structures that are 40 or more years old?		$\checkmark$
Part C: Ot	n er Considerations		
		Yes	No
5. Is there	Iccal or Aboriginal knowledge or accessible documentation suggesting that the property (or project area)	):	
a.	i sconsidered a landmark in the local community or contains any structures or sites that are important in efining the character of the area?		<ul> <li>Image: A start of the start of</li></ul>
b.	mas a special association with a community, person or historical event?		1
C.	contains or is part of a cultural heritage landscape?		1
	r mee or more of the above questions (Part B and C), there is potential for cultural heritage resources on the within the project area.		
You need	hire a qualified person(s) to undertake:		
	Cultural Heritage Evaluation Report (CHER)		
	ty is determined to be of cultural heritage value and alterations or development is proposed, you need to person(s) to undertake:	)	
	Heritage Impact Assessment (HIA) - the report will assess and avoid, eliminate or mitigate impacts		
If No to all property.	the above questions, there is low potential for built heritage or cultural heritage landscape on the		
The propo	meent, property owner and/or approval authority will:		
•	=summarize the conclusion		
•	add this checklist with the appropriate documentation to the project file		
The summ	and appropriate documentation may be:		
•	submitted as part of a report requirement e.g. under the Environmental Assessment Act, Planning Act		
•	maintained by the property owner, proponent or approval authority		

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- · the municipal addresses of all properties within the project area
- · the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's <u>Ontario Heritage Toolkit</u> or <u>Standards and Guidelines for</u> <u>Conservation of Provincial Heritage Properties</u>.

In this context, the following definitions apply:

- qualified person(s) means individuals professional engineers, architects, archaeologists, etc. having relevant, recent experience in the conservation of cultural heritage resources.
- proponent means a person, agency, group or organization that carries out or proposes to carry out an undertaking
  or is the owner or person having charge, management or control of an undertaking.

#### 1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- · one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

#### Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) or equivalent has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- · there is evidence that its heritage attributes may have changed
- new information is available
- · the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

**Note**: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- · the Ministry of Tourism, Culture and Sport
- 3a. Is the property (or project area) identified, designated or otherwise protected under the Ontario Heritage Act as being of cultural heritage value e.g.:
- i. designated under the Ontario Heritage Act
  - individual designation (Part IV)
  - part of a heritage conservation district (Part V)

Stage 1 and 2 Archaeological Assessment Municipal Class Environmental Assessment John Street Extension – Harriston Industrial Park Part of Lots 82 and 83, Concession D Former Township of Minto, Town of Harriston, Now the Town of Minto, Community of Harriston, Wellington County, Ontario

Submitted to

**B. M. Ross and Associates Limited** 62 North Street, Goderich, ON N7A 2T4

and

The Ontario Ministry of Tourism, Culture and Sport

Prepared by



@ the Museum of Ontario Archaeology 1600 Attawandaron Road, London, ON N6G 3M6 Phone: (519) 641-7222 Fax: (519) 641-7220

Archaeological License Number: Matthew Beaudoin, Ph.D., P324 Our File: 2013-073 PIF Number: P324-0034-2014

#### May 2015

(Original Report submitted to Ministry of Tourism, Culture and Sport 27 May 2015)

## **Executive Summary**

A Stage 1 and 2 archaeological assessment was conducted for a roughly 29.48 hectare (roughly 72.8 acre) parcel that is part of Lots 82 and 83, Concession D, in the former Township of Minto, Town of Harriston, now part of the Town of Minto, Community of Harriston, Wellington County. The parcel encompasses lands for a proposed expansion of the Harriston Industrial Park, located on the southeast side of Highway 9 in Harriston. John Street North will also be extended west and south to provide access to the new industrial lands. The latter will sit west of the community's existing sewer lagoons. Our assessment was carried out as part of a municipal Class Environmental Assessment for the proposed expansion and at the request of B.M Ross and Associates, who are coordinating the EA work on behalf of the municipality. The assessment was conducted in accordance with the *Ontario Heritage Act* (RSO 1990) and with Section 5(3)(c) of the *Environmental Assessment Act*. The purpose of our work was to determine whether there were potential or known heritage resources present that might be impacted by the proposed undertaking.

The Stage 1 background study included a review of current land use, historic and modern maps, registered archaeological sites and previous archaeological studies, past settlement history for the area, and a consideration of topographic and physiographic features, soils and drainage. According to the map-based review, the survey area is intersected by or in proximity to (i.e., within 300 metres of) at least three features signalling archaeological potential: 1) a major watercourse (the Maitland River); 2) lesser watercourses (Drain 70, Drain 12 and an unnamed tributary, likely associated with the original route of Drain 70); 3) 19<sup>th</sup> century transportation routes (Highway 9 and the former Wellington Grey and Bruce Railway); and 4) mapped 19<sup>th</sup> century structures (those of J. Dickson and G. Hughes). As such, the project lands demonstrated potential for the discovery of archaeological resources and a Stage 2 archaeological assessment was recommended.

The proposed impact areas encompass active agricultural lands, overgrown and treed lands, as well as partially disturbed zones adjacent to the existing industrial park. The Stage 2 archaeological assessment consisted of a pedestrian survey of the ploughed agricultural portion (88.36%; 26.05 ha) and a test pit survey of grassed and wooded lands (0.12ha; 0.41 %). The treed lands contained pristine soils and these were test pitted at a five metre interval. The grassed extension of John Street North through the existing industrial park was judgmentally test pitted to confirm disturbance (0.19 ha; 0.64%). Another 9.4% of the project lands were not surveyed due to low archaeological potential. These lands included the railway easement which runs through the north end of the industrial park expansion (0.89 ha; 3.02%), as well as low-lying, wet areas (6.38%; 1.88 ha). Finally 1.19% (0.35 ha) of the project lands, representing a stretch of the John Street North extension south of the railway, was not yet assessed due to the fact that it had not been ploughed. It will require assessment at a future date.



The Stage 2 survey resulted in the discovery of two archaeological find spots. The first, designated Location 1 (AlHf-4), was a find of an early Middle Archaic Stanley Stemmed/Stanley Neville projectile point. Despite the intensification of the survey interval and a thorough investigation of the area surrounding the find, no additional artifacts were noted. As such, this is considered an isolated find. The second find spot, designated Location 2, consisted of a non-diagnostic biface fragment and two flakes. Again, an intensified survey at this location did not result in the discovery of additional archaeological material.

All work met provincial standards and two archaeological locations were identified during the Stage 2 assessments. The locations do not meet provincial criteria for further investigation. Location 1 is an isolated projectile point and its cultural heritage value and interest has been sufficiently documented. Stage 3 testing is not recommended. Location 2 consists of a biface and two flakes with low cultural heritage value. Stage 3 testing is not recommended. Given this, all of the surveyed portions of the project area should be considered free of archaeological concern.

A 180 metre long 20 metre wide corridor south a railway easement that bisects the Harriston Industrial Park extension lands was not surveyed as it was not ploughed at the time of the Stage 2 assessment. As such, this area has further archaeological concern and will require Stage 2 assessment at a later date and if the proposed route for the John Street extension is retained.

Should construction plans change to incorporate new areas not previously subject to Stage 1 evaluation or Stage 2 survey, additional archaeological assessment will also be required.

These recommendations are subject to report review and acceptance by the Ministry of Tourism, Culture and Sport and to the provisions established in Section 5.0 of this report.



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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	<i>Environmental Planner</i> B.M. Ross and Associates Limited, Goderich, Ontario
Robert von Bitter	Archaeological Data Coordinator Ministry of Tourism, Culture and Sport, Toronto, Ontario
Frank Vanderloo	<i>Principal</i> B.M. Ross and Associates Limited, Goderich, ON
Bill White	<i>CAO/Clerk</i> Town of Minto, ON



Stage 1 and 2 Archaeological Assessment Municipal Class Environmental Assessment John Street Extension – Harriston Industrial Park Part of Lots 82 and 83, Concession D Former Township of Minto, Town of Harriston, Now the Town of Minto, Community of Harriston, Wellington 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 28.1 hectare (roughly 69 acre) parcel that is part of Lots 82 and 83, Concession D, in the former Township of Minto, Town of Harriston, now part of the Town of Minto, Community of Harriston, Wellington County. The parcel encompasses lands for a proposed expansion of the Harriston Industrial Park, located on the southeast side of Highway 9 in Harriston. John Street North will also be extended west and south to provide access to the new industrial lands. The latter will sit west of the community's existing sewer lagoons. Our assessment was carried out as part of a municipal Class Environmental Assessment for the proposed expansion and at the request of B.M Ross and Associates, who are coordinating the EA work on behalf of the municipality. The assessment was conducted in accordance with the *Ontario Heritage Act* (RSO 1990) and with Section 5(3)(c) of the *Environmental Assessment Act*. The purpose of our work was to determine whether there were potential or known heritage resources present that might be impacted by the proposed undertaking.

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 conduct all required archaeological activities (including the collection of artifacts, where present) was given by Kelly Vader, B.M. Ross and Associates, agent for the Town of Minto.

#### 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. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the Provincial Policy Statement which stipulates that municipalities shall have regard for the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest. The

purpose of a Stage 1 background study is to determine if there is potential for cultural resources to be found on a property for which a change in land use is pending. It is used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. In accordance with *Provincial Policy Statement* 2.6, if significant sites are found, a strategy (usually avoidance, preservation or excavation) must be put forth for their mitigation.

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. 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 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 2011 *Standards and Guidelines for Consultant Archaeologists*, a Stage 1 background study must include a review of:

- an up-to-date listing from the Ontario Archaeological Sites Database (OASD) of registered archaeological sites within 1 km of the study area;
- reports of previous archaeological fieldwork within a radius of 50 metres around the property;
- topographic maps at 1:10,000 (recent and historical) or the most detailed scale available;
- historic settlement maps (e.g., historical atlas);
- 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 aforementioned requirements:



- a database search was filed with Robert von Bitter of the Ministry of Tourism, Culture and Sport requesting a listing of registered archaeological sites within 1 km of the subject lands (received July 2, 2014);
- a review of known prior archaeological reports for the property and adjacent lands (note the Ministry of Tourism, Culture and Sport currently does not keep a publicly accessible record of archaeological assessments carried out in the Province of Ontario, so a complete inventory of prior assessment work nearby is not available);
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca;
- a series of historic maps was reviewed relating to post-1800 land settlement.

There are no applicable archaeological management plans for the area and no historical plaques in the vicinity of the project lands.

Additional sources of information were also consulted, including modern aerial photographs, local history accounts, soils and physiography 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, this information was used to create a summary of the characteristics of the subject lands, in an effort to evaluate their archaeological potential. The Province (MTC 2011 – Section 1.3.1) has recently 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:
  - o food or medicinal plants (e.g., migratory routes, spawning areas, prairie)
  - o 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
- 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 metres 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 traditional 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 differs.

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 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 Archaeological Context

### 2.2.1 Project Lands: Overview and Physical Setting

The Town of Minto wishes to expand the Harriston Industrial Park, a parcel of land located southeast of Highway 9 on the western periphery of the Harriston settlement area (Maps 1 to 3). The expansion lands fall to the north and south of a former railway easement which sits north of the community's sewage lagoons. The expansion extends west from the existing industrial complex and will also require an extension of John Street North to service the new lands. The extension of John Street North will travel westward for roughly 250 metres then turn south for another 250 metres before it turns westward once more to service the proposed industrial lots south of the railway easement. Here it will connect to a main roadway through the southerly industrial lots, which terminates at both ends with cul-de-sacs. The latter will be flanked by industrial lots ranging in size from 0.84 ha to 3.8 ha (2.1 to 9.4 acres). The project lands cumulatively encompass roughly 28.1 ha or roughly 69 acres and fall within Lots 82 and 83, Concession D, in the former Township of Minto, Town of Harriston, now in the Town of Minto, Wellington County (Maps 1 and 2). The lands are primarily active agricultural fields, although these are cut in places by small wetlands and low-lying areas. Two separate agricultural fields in the north (5 ha; Image 1) and south (23 ha; Image 2) are cut by a former railway easement (Image 3) and are west of the existing portion of John Street North (Image 4). The northernmost field backs onto commercial/industrial lots along Highway 9. The currently undeveloped portion of the John Street right-of-way east of the northern agricultural field is overgrown and shows signs of obvious prior disturbance, with a used gravel trail passing throughout, moderated ditched sections and services (Images 5 to 8). Part of the southerly section of John Street crosses through a mature woodlot (Image 9). The limits of the project area are largely defined by field edges and property boundaries or were otherwise established in the field by survey stakes, proponent mapping and GPS coordinates.

The subject property falls within the physiographic region known as the Teeswater Drumlin Field (Chapman and Putnam 1984:139). The region lies in front of the northwest limb of the Horseshoe Moraine. In the vicinity of Harriston, the drumlins are well-formed and consist of low, wide, oval hills with gentle slopes. The southwest section of the project area lies within a drumlinized till plain, while the rest of the property lies within a spillway surrounding a finger of the Saugeen Kames Moraine, which is located directly to the northeast (Chapman and Putnam 1984:139) (Map 4). The underlying bedrock in the area consists of a brown dolomite and brown to bluish argillaceous dolomite of the Bertie-Akron formation (Hoffman et al. 1963:10). This formation runs in a narrow band from the northwest corner of the Town of Minto, through the community of Harriston, to the community of Palmerston on the south edge of the Town of Minto (Hoffman et al. 1963:11). Harriston loam, a relatively stone-free



loam with good drainage (Hoffman et al. 1963:28), is found within the majority of the north half and the very southeast corner of the parcel, while Listowel loam, an imperfectly drained soil (Hoffman, *et al* 1963: 28), is found within the majority of the south half of the project area. A linear deposit of Parkhill loam, a poorly drained loam that occurs in depressions (Hoffman, *et al* 1963: 26), cuts through the north end of the project area (Map 5). The property is characterized by gently rolling topography, with many low rises and swales, as well as flatter lands to the south of the railway easement. Water collects seasonally in some of the lower dips in the landscape.

The general vicinity of the project area is drained by the Maitland River which is located to the southeast (Map 6). The river begins in Arthur Township, Wellington County and flows west into Harriston. It continues west into Huron County turns southwest flowing past Auburn and empties into Lake Huron in Goderich, Ontario. Drain 70, a channelized tributary of the Maitland River, flows east to west along the parcel's north boundary (Image 10). Another tributary of the latter watercourse bisects the southern agricultural field (Image 11), while Drain 12, a tributary of the Maitland River, runs to the east-southeast of the project area.

## 2.2.2 Summary of Registered or Known Archaeological Sites

According to the Ontario Archaeological Sites Database (OASD), there are no registered archaeological sites within one kilometre of the project area (date received July 2, 2014).

### 2.2.3 Summary of Past Archaeological investigations Within 50 Metres

During the course of this study, no record was found of archaeological investigation within 50 metres of the project lands. It should be noted that the Ministry of Tourism, Culture and Sport does not maintain an accessible database of archaeological assessment areas in the province and therefore it cannot be determined if additional studies were done in the immediate vicinity.

## 2.2.4 Dates of Archaeological Fieldwork

The Stage 2 fieldwork was conducted on June 12, 25, November 24 and December 1, 2014.

## 2.3 Historical Context

## 2.3.1 Early First Peoples Settlement in Southern Ontario

Very little archaeological investigation has occurred in this portion of Wellington County. However, using region-specific and province-wide models, a baseline cultural chronology for traditional First Peoples settlement in the area can be proposed and is generalized below. A tabular summary of the same information appears in Table 1.



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
	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	rly 950 - 400 B.C. expanding stemmed p		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, first Europeans	Neutral Iroquois
Contact Aboriginal A.D. 1700 -		A.D. 1700 - 1875	treaties, mixture of Native & European items	Chippewa, Ojibway	
		Euro-Canadian	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

# Table 1: Generalized Chronology for First Peoples Settlement in Southwestern Ontario

### 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's first peoples would have crossed the landscape in small groups (i.e., bands or family units) searching for food, particularly migratory game species. In this area, caribou may have provided the staple of Paleoindian diet, supplemented by wild plants, small game 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 usually identified by the presence of fluted projectile points often manufactured on a highly distinctive whitish-grey chert named "Fossil Hill" (after the formation) or "Collingwood," from the Niagara Escarpment west of Collingwood. In Ontario, Paleoindian sites are often found in association with former glacial shorelines, beaches and embayments.

#### Archaic

Settlement and subsistence patterns change significantly during the Archaic period as both the landscape and ecosystem adjusted to the retreat of the glaciers.



Building on earlier patterns, early Archaic populations continued the mobile lifestyle of their predecessors. Through time and with the development of more resource rich local environments, these groups gradually reduced the size of the territories they exploited on a regular basis. 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 conditions 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 environments 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 plenty. 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 (where and when preserved) and waste flakes, a byproduct of the tool making process.

## Early, Middle and Transitional Woodland

Significant changes in cultural and environmental patterns are witnessed in the Early, Middle and Transitional Woodland periods (ca. 950 B.C. to 1000 A.D.). Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by roughly 1,000 years ago. Archaeologically, the most significant changes by Woodland peoples are the appearance of artifacts manufactured from modeled clay and the emergence of more sedentary villages. The earliest pottery was crudely made by the coiling method and early house structures were simple oval enclosures. The Early and Middle Woodland periods are also characterized by extensive trade in raw materials, objects and finished tools, with sites in Ontario containing trade items with origins in the Mississippi and Ohio River valleys. A rise in mortuary ceremonialism is also evident, culminating in the construction of large burial mounds.

### Late Woodland - Iroquoian Period

In Southwestern Ontario after roughly 1000 A.D., there is a clear record of Iroquoian populations in various regions. By the contact period the Petun or Tobacco Nation was resident along the south shore of Nottawasaga Bay, the Huron or Wendat Nation resided northwest of Lake Simcoe and the Neutral or Nation settled along the shore of Lake Erie. It is thought that populations ancestral to these groups migrated to their historic homelands from locations to the south and southeast. Iroquoian groups practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash) but also grew tobacco. Their villages incorporated any number of longhouses, multi-family dwellings that contained several families related through the



female line. *The Jesuit Relations* describe several of the prominent Iroquoian centres in existence in the 17<sup>th</sup> century, including a number of sites where missions were established. While pre-contact Iroquoian 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).

Iroquoian horticulturalists lived side by side with more mobile Algonquin speakers, most notably the Odawa (or "Ottawa") and Ojibwa in this portion of Ontario. Because Iroquoian and Algonquin groups interacted closely and regularly, it is often difficult to differentiate them archaeologically. Petun, Huron-Wendat and Neutral populations were driven out of their historic homelands by Five Nations Iroquois circa 1650 after being heavily decimated by European epidemic disease and warfare.

# 17th and 18th Century Odawa and Ojibwa

At the time of European contact in the early 17th century, the Bruce Peninsula was occupied by Algonquin speaking Odawa groups who maintained a close relationship with the Iroquoian speaking Petun peoples living along the southern shore of Nottawasaga Bay (Fox 1990:461). The Ojibwa, who are also Algonquian speakers, lived in the region extending from the Georgian Bay area to the north shore of Lake Superior prior to European contact (Schmalz 1991). Both the Odawa and Ojibwa were disrupted and displaced by Iroquois hostilities in the 1650s (Schmalz 1977), but had regrouped by the last quarter of the 17th century (Ferris 1989) and returned to their homeland. In the 1690s Ottawa, Potawatomi and Ojibwa groups pushed the Iroquois out of their historic territory (Schmalz 1977). Some Ojibwa settled on the Bruce Peninsula while others moved south to the north shore of Lake Ontario and the southern shores of Lake Huron.

### 2.3.2 Historic Euro-Canadian and Municipal Settlement

The subject property is situated within Lots 82 and 83, Concession D, South of Highway 9, in the Former Township of Minto, Wellington County. In 1877, the property was just outside the urban limits of Harriston. A brief discussion of early Euro-Canadian and municipal settlement in both the township and the town is provided below, together with a consideration of features that would otherwise indicate historic era archaeological potential.

Wellington County originally formed part of the Wellington District, which was established in 1838 and incorporated all of Wellington, Waterloo and Grey Counties and a portion of the County of Dufferin. The County of Wellington gained political independence from these other counties in the 1850s and held its first council in January of 1864. The Township of Minto was first surveyed in 1853 and settlement of the



township proceeded shortly after (HAPC 1906:2). While the first settlers appeared in the township in the early 1850s, it was not until 1856 that the first patent in the Township was earned by one Augustus C. Fyfe (HAPC 1906:6). From 1856 to 1862, settlement in the township was slow but steady. In 1854 a sawmill built by George Harrison was established in the location of the future Town of Harriston. The settlement of Harriston itself was laid out by Harrison, the community's founder, in 1855 and 1856. Mr. Harrison built one of the first houses in the settlement and by 1856 he and James Stark built and opened its first hotel. Between 1856 and 1859 a gristmill, school, blacksmith shop, and general merchandise store were present in the community. The Knox Presbyterian Church was the first church in Harriston, a frame structure erected around 1860. In 1861 a new general store was built. Despite these establishments settlement within Harriston itself remained slow, with only a dozen houses built within its boundaries by 1859. Poor road conditions would also hamper settlement for some time; many of the major roads from Guelph, Hamilton and Mount Forest where regularly flooded and unpassable (HAPC 1906:8).

Conditions for settlement improved in 1863 when the Elora and Saugeen Road (Highway 9) was built throughout the Township. This road entered the southeast corner of the township, passed through the middle of Harriston, and continued northwest to the settlement of Clifford on the northwest edge of the township (HAPC 1906:96-97, Harrison 1978: 29-31). The Wellington, Grey and Bruce Railway was built in 1870 and reached from the south edge of the Township all the way to the Town of Harriston. After the establishment of the railway settlement in the township rapidly increased (HAPC 1906:2,6). A second railway, a segment of the Toronto, Grey and Bruce Railway, came in 1873. The former would eventually be taken over by the Grand Trunk Railway.

On January 1, 1873, Harriston was incorporated as a village and in 1874 it was incorporated as a town with A. Meiklejohn as its Mayor. From this time on the town grew rapidly and by 1906 it had a waterworks system, fire department, town hall, a library, four churches, a high school, two weekly newspapers, two banks, over a dozen businesses and manufacturing factories and a population of about eighteen hundred people (HAPC 1906:8).

According to the *Illustrated Historical Atlas of Wellington County* (Walker & Miles 1877), the western portion of the project area (part of Lot 82, Concession D) was owned by G. Hughes, while the eastern portion (part of Lot 83, Concession D) was owned by J. Dickson (Map 7). Dickson's structure was on the west side of his landholding, but outside of the project area. The residence of Hughes fronted Highway 9, but was also outside of the project area. The 1906 atlas map does not depict any 20<sup>th</sup> century structures within the subject property, which was then owned by John Chambers and Benjamin Tarr (Map 8). However, it should be noted that historic maps are not always accurate representations of past land use conditions of the time. The historic mapping indicates that Highway 9 (north of the project area) was open by 1877 and the railway through the project area was also active by that time. While the 1877 map



indicates that 11<sup>th</sup> Line was also open, the 1906 atlas map depicts it as unopened road allowance. This road segment is currently inactive.

# 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 lands are intersected by or in proximity to (i.e., within 300 metres of) at least three features signalling archaeological potential: 1) a major watercourse (the Maitland River); 2) lesser watercourses (Drain 70, Drain 12 and an unnamed tributary); 3) 19<sup>th</sup> century transportation routes (Highway 9 and the former Wellington, Grey and Bruce Railway); and 4) mapped 19<sup>th</sup> century structures (those of J. Dickson and G. Hughes). Potential for the discovery of First Peoples sites is indicated by the proximity of a potable water and watercourses. The potential for the discovery of 19<sup>th</sup> century and EuroCanadian sites is demonstrated by the proximity of the historic transportation routes and mapped structures.

A review of project maps and aerial photographs revealed that the project lands are largely agricultural fields that have not witnessed prior development and retain archaeological potential. Some lands appeared to contain prior disturbance (railway easement, John Street North immediate westerly extension) or low-lying and wet areas of likely low potential.

## 2.5 Recommendations

Given that the project lands demonstrated potential for the discovery of archaeological resources, a Stage 2 archaeological assessment was recommended. In keeping with provincial standards, all grassed and treed lands were recommended for test pit survey using a five metre interval. The active agricultural lands were recommended for a pedestrian survey using a five metre interval. Areas identified as possible zones of disturbance (i.e., the railway easement and immediate extension of John Street) and potentially low-lying and wet were recommended for more detailed review in the field at which time a thorough inspection could be undertaken and photo-documentation could take place. In sum, all of the property was considered to have archaeological potential pending a Stage 2 field inspection and, therefore, 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).



## 3.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

## 3.1 Field Methods

The Stage 2 fieldwork was conducted on four separate dates in 2014:

- June 12, 2014 hot, humid then thunderstorms delayed fieldwork;
- June 25, 2014 warm, humid, overcast weather;
- November 24, 2014 cool with rain fieldwork suspended; and
- December 1, 2014 cool, sunny, overcast weather.

In accordance with MTCS standards (MTC 2011:29, Section 2.1, Standard 3), all fieldwork was undertaken in appropriate lighting and weather conditions.

The Stage 2 field assessment consisted of a combined pedestrian and test pit survey. The active agricultural lands were subject to a pedestrian survey at a five metre interval (Images 12 and 13). Prior to survey, the fields had been ploughed and allowed to weather under several rains. Surface visibility that was greater than 80 percent (Images 14 and 15). When artifacts were identified on the surface, the survey interval was reduced to one metre and an intensified survey of a minimum of 20 metres beyond the find was undertaken.

Smaller portions of the project area were subject to test pitting (Image 16). Test pits measuring approximately 30 cm (shovel-width) were excavated through the first 5 cm of subsoil with all fill screened through 6 mm hardware cloth. When screening was completed, the soil strata in the test pits was examined before they were backfilled with soil, recapped with sod, and tamped down with foot and shovel. Test pitting extended to within 1 m of all built features, where present.

A small section of woodlot within the proposed John Street extension south of the railway was subject to a standard test pit survey at a five metre transect interval. Typical test pits in the woodlot contained natural soils consisting of brown clay loam topsoil over yellowish brown silt clay subsoil. Here test pits measured approximately 20 cm in depth (Image 17).

During a test pit survey it was established that the grassed area immediately northwest of John Street contained no intact topsoil (Image 8). Test pits placed judgementally throughout the 20 metre wide road easement confirmed the area was graded and leveled with clay and sand fill (Image 18). Gravel intrusions were found throughout the fill layer and yellowish-brown silt clay subsoil was encountered at roughly 45 cm below surface. Other areas of obvious and extensive disturbance included the paved portion of John Street at the northeast limit of the project area (Images 5 to 8) and the railway easement (Image 3). Low-lying and wet areas were encountered along the northeast boundary near Highway 9 (Image 10), in association with the tributary bisecting the southern agricultural field (Images 11 and 19) and in two small depressions within the agricultural field just south of the railway easement (Images 20 to 22). These areas were



deemed to be of low archaeological potential and were eliminated from survey following photo-documentation.

It should be noted that a 180 metre long, 20 metre wide extension of John Street located south of the railway easement was not ploughed at the time of the Stage 2 assessment and could not be surveyed (Image 23). This 20 metre wide strip of land will require survey in the future and if the proposed boundaries of the road extension are retained throughout the completion of the EA.

In sum, 88.36% (26.05 ha) of the project area was ploughed and surveyed via a pedestrian survey at five metre intervals. Another 0.41% (0.12 ha) of the property was in woodlot containing pristine soils which was test pitted at a five metre interval, while 0.64% (0.19 ha) was judgementally test pitted to confirm disturbance. Roughly 9.4% of the property was not surveyed because it was deemed to be of low archaeological potential. This included land occupied by the railway easement (3.02%; 0.89 ha), as well as low-lying, wet areas (6.38%; 1.88 ha). Finally 1.19% (0.35 ha) of the project area could not be surveyed because it was not ploughed at the time of the Stage 2 assessment.

Map 9 illustrates the Stage 2 field conditions observed and assessment methods used during this project. The same set also shows the location and orientation of photos appearing in this report. Map 10 illustrates the results overlaid on the proposed technical plan provided by the proponent.

## 3.2 Record of Finds

Two archaeological find spots were identified during the Stage 2 pedestrian survey. These have been designated Location 1 and Location 2. A general description of our findings at each of these locations is provided below. More specific details about site locations occur in the "Supplementary Documentation" portion of this report.

## Location 1 (AlHf-4)

Location 1 consists of a single artifact, a complete projectile point manufactured on Bois Blanc formation chert, likely from a source on the Lake Huron shoreline (Image 24). The piece is a complete stemmed, Stanley Stemmed (Stanley/Neville) projectile point dating to the early part of the Middle Archaic (ca. 8000-7500 BP; Ellis 1987). The tool has a narrow and short stem with basal thinning to produce a shallow concavity at the base. The blade has a plano-convex profile, long sinuous edges that have been moderately reworked, and the distal margins project at a right angle from the stem. The maximum length, width and thickness measurements of the tool are 57.6 mm, 29.3 mm and 5.3 mm, respectively. Despite the intensification of the survey interval to one metre and a search of a radius of 20 metres around the find, no additional archaeological material was recovered.



Cat.	Context	Artifact	n	Comments
1	surface	projectile point	1	Bois Blanc; complete; stemmed; Stanley Neville
		Total	1	

 Table 2: Location 1 (AlHf-4) Stage 2 Artifact Catalogue

Location 2 (no Borden number assigned)

Location 2 consists of three lithic artifacts (all collected) found in a 7 metre (north-south) by 12 metre (east-west) area (Image 25). The first of these is an undiagnostic and crude biface end fragment made on Kettle Point chert. The extant portion of the tool measures 16.4 mm in maximum length, 29.5 mm in width and 8.1 mm in thickness. The two other artifacts collected include two possible secondary flakes of Bois Blanc chert. Neither have well-defined flake characteristics. Despite the intensification of the survey interval to one metre and a search of 20 metres around the periphery of the artifact location, no additional archaeological material was recovered.

 Table 3: Location 2 Stage 2 Artifact Catalogue

Cat.	Context	Artifact	n	Comments
1	surface	biface	1	Kettle Point; fragment
2	surface	chipping detritus	2	2 possible Bois Blanc flakes
		Total	3	

## Table 4: Inventory of Documentary Records

- Field notes and field maps June 12, 25, November 24 and December 1, 2014
- Photo catalogue- images June 12 (P1050717-78), June 25 (P1070701-16), November 24 (P1040093-97) and December 1 (P1050010-30)
- One plastic bag containing two individual bagged artifacts sorted by catalogue number with paper labels:

Bag 1: John St. Extension Harriston Industrial Park, 2013-073, Stage 2, Location 1, All Artifacts

Bag 2: John St. Extension Harriston Industrial Park, 2013-073, Stage 2, Location 2, All Artifacts

All within a larger project bag with project label:

Large Bag: John St. Extension Harriston Industrial Park, 2013-073, Stage 2, All Locations, All Artifacts

- Bag is located within a "Various Small Projects completed in 2014" banker's box
- Artifacts and files held at Timmins Martelle Heritage Consultants Inc., @ the Museum of Ontario Archaeology, 1600 Attawandaron Road, London, ON N6G 3M6



## **3.3** Analysis and Conclusions

A Stage 2 archaeological assessment was carried out in keeping with the Province of Ontario's *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). The pedestrian survey documented two archaeological locations. Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* establishes provincial criteria for determining if archaeological locations require Stage 3 assessment. Based on these criteria the requirement for Stage 3 testing for each location can be evaluated.

Location 1 (AlHf-4) is a Middle Archaic Stanley Stemmed/Stanley Neville projectile point dating to ca. 8,000 to 7,500 years before the present (Ellis 1987). Given that the intensified survey did not reveal additional archaeological material, this is an isolated find that has been sufficiently documented. Therefore, the site does not meet any of the criteria listed in Section 2.2 for Stage 3 assessment and no further work is recommended.

Location 2 consists of a biface and two possible flakes found in a 7 metre (northsouth) by 12 metre (east-west) area. This is a small find spot of native artifacts but, because the pieces are not more specifically diagnostic, a more precise cultural or temporal affiliation cannot be assigned to them. Given the location consists of less than five non-diagnostic artifacts within a 10 by 10 metre area it does not meet provincial criteria for further testing and no further assessment is recommended.

### 3.4 Recommendations

All work met provincial standards and two archaeological locations were identified during the Stage 2 assessments. The locations do not meet provincial criteria for further investigation. Location 1 is an isolated projectile point and its cultural heritage value and interest has been sufficiently documented. Stage 3 testing is not recommended. Location 2 consists of a biface and two flakes. Stage 3 testing is not recommended. Given this, all of the surveyed portions of the project area should be considered free of archaeological concern.

A 180 metre long 20 metre wide corridor south a railway easement that bisects the Harriston Industrial Park extension lands was not surveyed as it was not ploughed at the time of the Stage 2 assessment. As such, this area has further archaeological concern and will require Stage 2 assessment at a later date and if the proposed route for the John Street extension is retained.

Should construction plans change to incorporate new areas not previously subject to Stage 1 evaluation or Stage 2 survey, additional archaeological assessment will also be required.



These recommendations are subject to report review and acceptance by the Ministry of Tourism, Culture and Sport and to the provisions established in Section 5.0 of this report.

# 4.0 SUMMARY

A Stage 1 and 2 archaeological assessment was conducted for a proposed expansion of the Harriston Industrial Park complex and John Street North in the Community of Harriston, Wellington County, Ontario. The Stage 1 assessment revealed that most of the project lands exhibited potential for the discovery of archaeological resources. As such, a Stage 2 field survey was undertaken, including a pedestrian survey of agricultural lands and test pit survey of grassed, wooded areas. Low-lying and wet, as well as areas of former disturbance, were photo-documented and eliminated from the survey. The pedestrian survey resulted in the discovery of two archaeological locations, both of which are occurrences of single or a small number of native artifacts that do not meet provincial criteria for further investigation. All surveyed areas should be considered free of archaeological concern. A stretch of the proposed John Street North road extension, south of a railway easement that bisects the property, was not surveyed because the area was not ploughed at the time of assessment. This will require survey at a later date if the route of John Street is retained through project completion. Furthermore, should construction plans change to incorporate other areas not investigated during this study, additional assessment will also be required.

## 5.0 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 project area 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 Cemeteries at the Ministry of Small Business and Consumer Services. The Registrar of Cemeteries, Cemeteries Regulation Unit can be reached at (416) 326-8404 or (416) 326-8393.

## 6.0 **BIBLIOGRAPHY**

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# 7.0 IMAGES



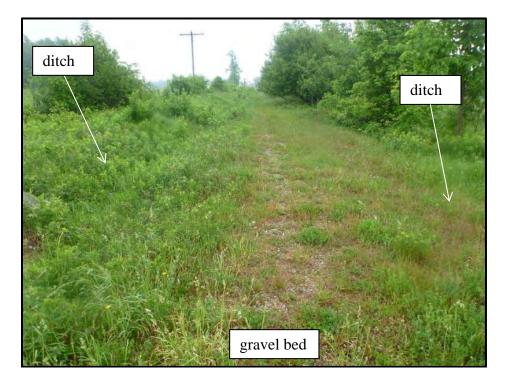


Image 1: North Agricultural Field (looking east)

Image 2: South Agricultural Field (looking east)







**Image 3: Railway Easement with Gravel Bed and Ditches (looking southeast)** 

Image 4: Existing Portion of John Street Through Harriston Industrial Park (looking east)







Image 5: Services at End of Current Portion of John Street (looking west)

Image 6: Services at End of Current Portion of John Street (looking southwest)







Image 7: Gravelled Trail Through Unopened Portion of John Street (looking west)

Image 8: Disturbed Surface of John Street Extension West of Existing Road







**Image 9: Woodlot Forming Part of John Street Extension (looking north)** 

Image 10: Low-lying and Wet Lands Along North Boundary (looking northeast)







#### **Image 11: View of Tributary Crossing South Agricultural Field (looking south)**

Image 12: Pedestrian Survey Within North Agricultural Field (looking east)





### Image 13: Pedestrian Survey in Progress Within South Agricultural Field (looking northeast)



Image 14: Surface Visibility Within North Agricultural Field







Image 15: Surface Visibility Within South Agricultural Field

Image 16: Test Pit Survey in Progress (looking northeast)







**Image 17: Typical Test Pit Within Woodlot** 

Image 18: Disturbed Test Pit in Grassed Area Near John Street North





#### Image 19: Wetland Associated with Tributary Crossing Southern Agricultural Field (looking southwest)



Image 20: Wetland in Southern Agricultural Field (looking southwest)

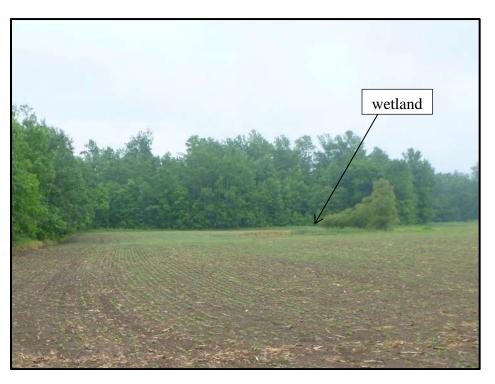






Image 21: Standing Water in Wetland in Southern Agricultural Field

Image 22: Small Wetland in Southern Agricultural Field East of Woodlot (looking east)





### Image 23: Unploughed Portion of John Street Extension South of Railway (looking northeast)



Image 24: Location 1 (AlHf-4) Stage 2 Artifact

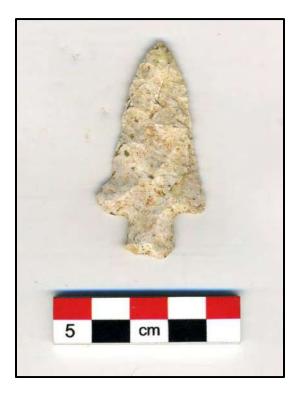
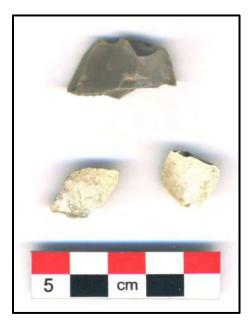




Image 25: Location 2 Stage 2 Artifacts

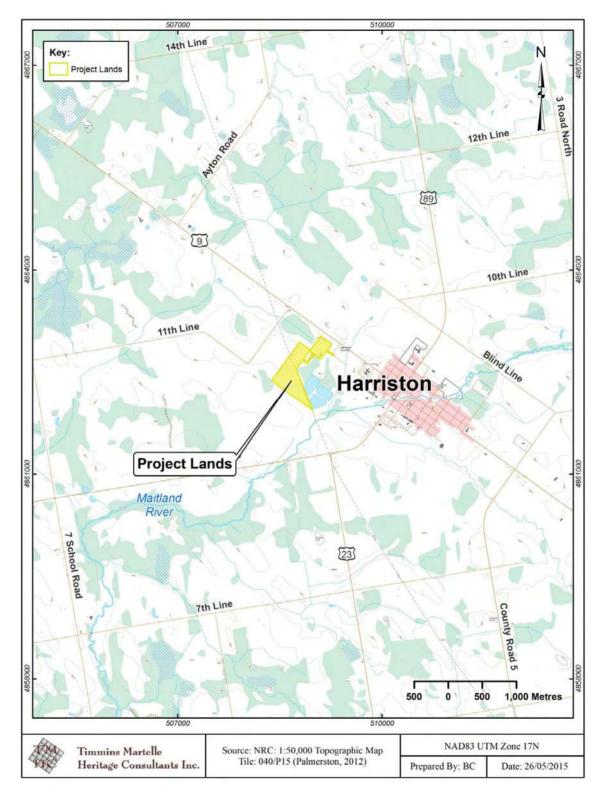


*Top: crude biface fragment; Bottom: potential flakes of Bois Blanc chert (poor flake characteristics)* 



8.0 MAPS

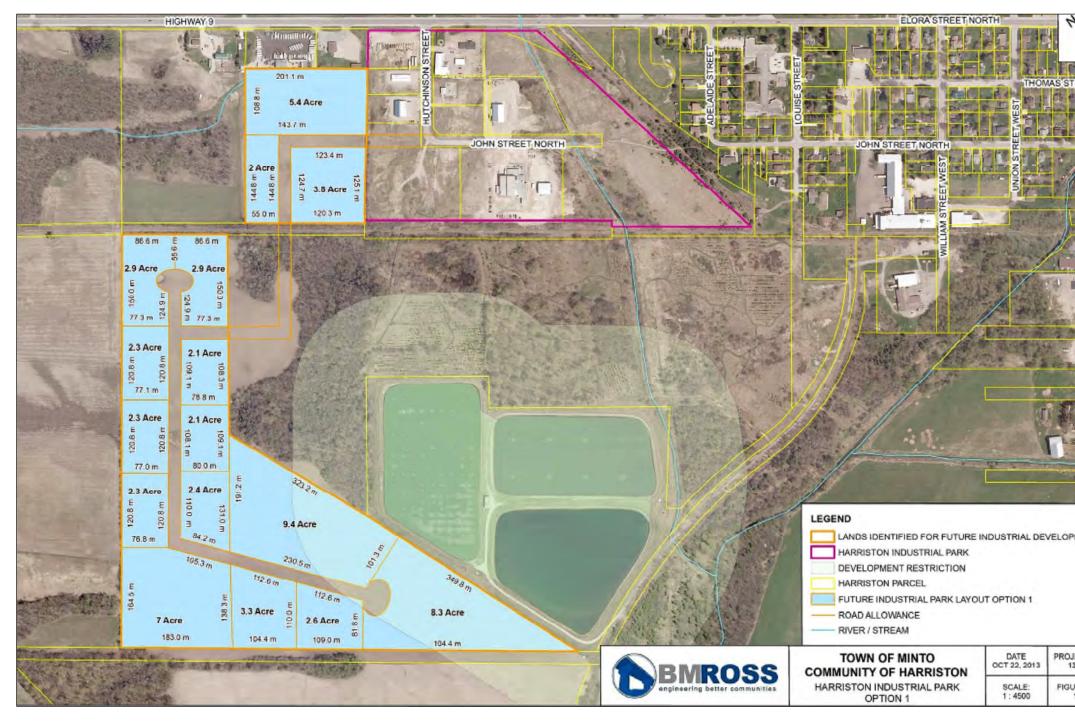










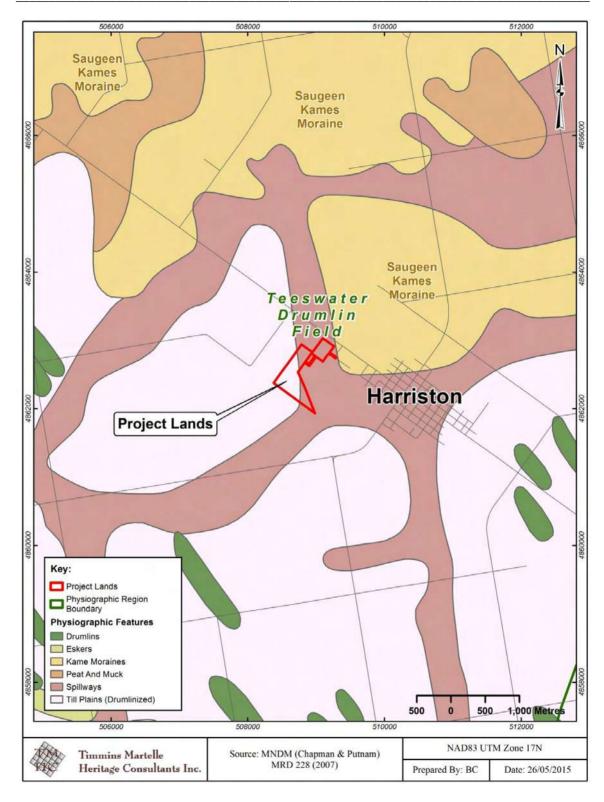


#### Map 3: Proponent Map

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No.	Source: BM Ross (2013)
No.	Coordinate System: NAD83 UTM Zone 17N
	Date: 26/05/2015 Prepared By: BC/TP

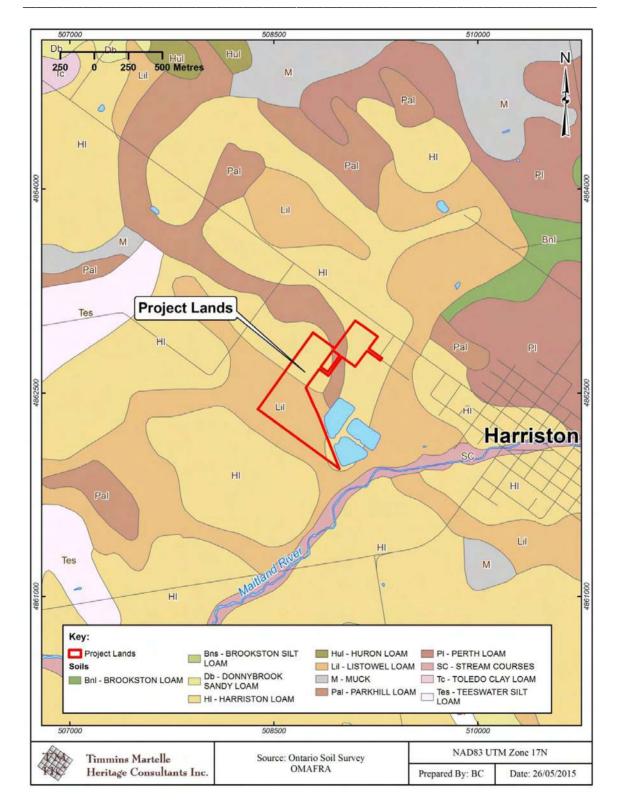




Timmins Martelle Heritage Consultants Inc., Stage 1 and 2 Archaeological Assessment, John Street Extension– Harriston Industrial Park, Minto, Wellington County, ON

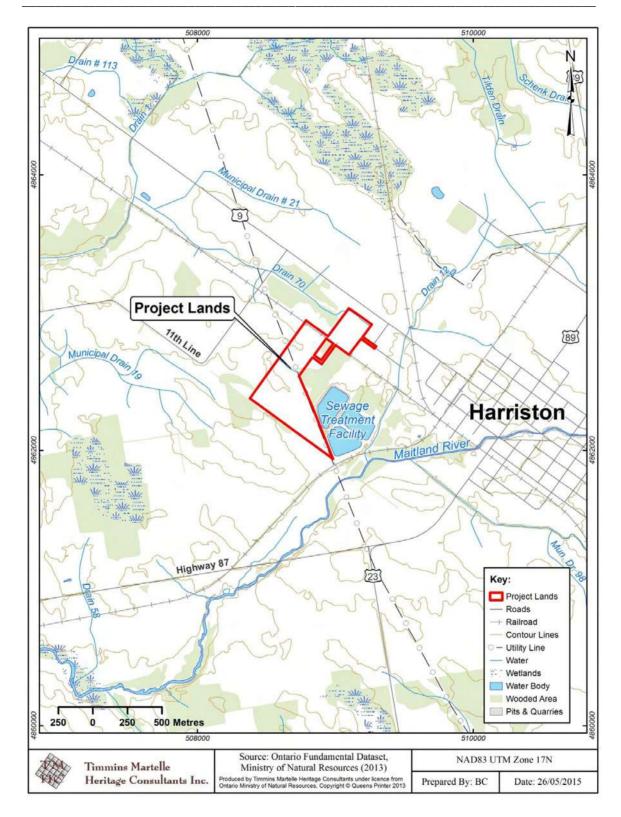
Map 4: Physiography within the Vicinity of the Project Lands



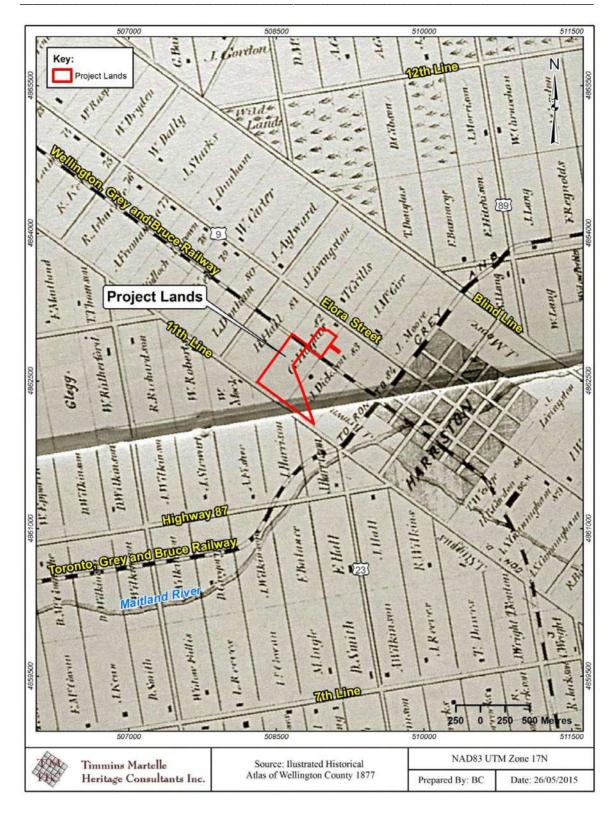


Timmins Martelle Heritage Consultants Inc., Stage 1 and 2 Archaeological Assessment, John Street Extension– Harriston Industrial Park, Minto, Wellington County, ON

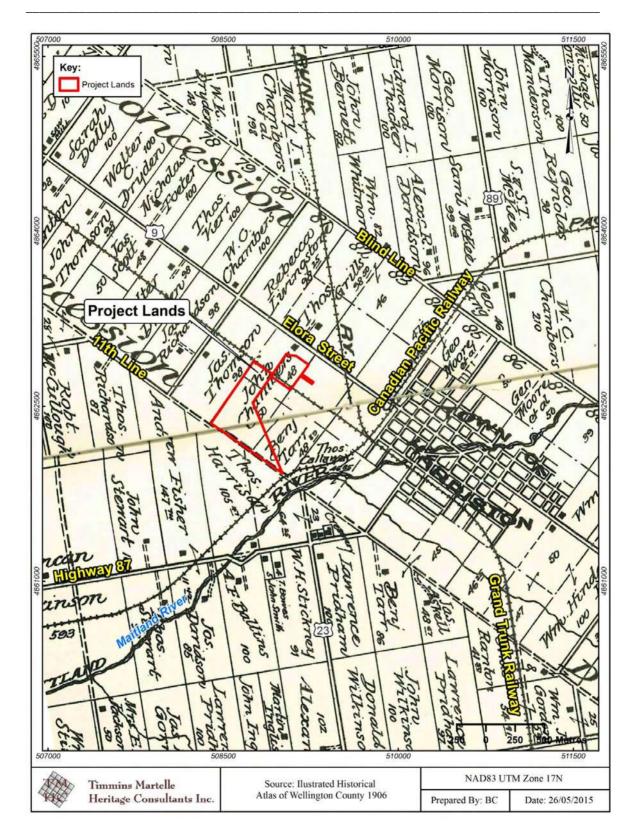
Map 5: Soils within the Vicinity of the Project Lands









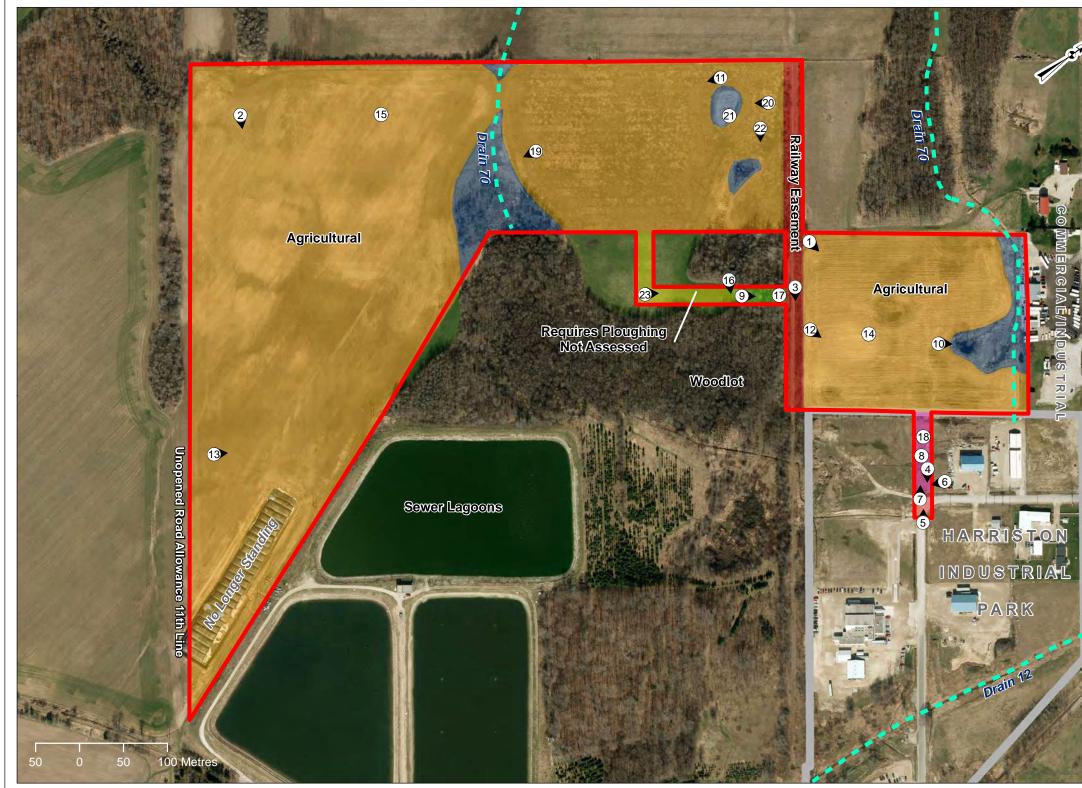


Timmins Martelle Heritage Consultants Inc., Stage 1 and 2 Archaeological Assessment, John Street Extension– Harriston Industrial Park, Minto, Wellington County, ON

Map 8: Project Lands Shown on the 1906 Map of Minto Township



#### Timmins Martelle Heritage Consultants Inc. Stage 1 & 2 Archaeological Assessment John Street Extension - Harrison Industrial Park, Town of Minto, Wellington County, ON



Map 9: Stage 2 Field Conditions and Assessment Methods

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Key:	
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Agricultural Field Not Assessed)	(Requires Ploughing,
Woodlot (Test Pit	Survey, 5m Interval)
Areas of Low Archa	eological Potential
Low-lying and We	et (Not Surveyed)
Built Structures (E	Disturbed, Not Surveyed)
	SWOOP 10)
	e System: M Zone 17N
Date: 26/05/2015	Prepared By: BC/TP



ELORA STREET NORTH HIGHWAY 9 MME HARRISTON 5.4 Acre INDUSTRIA Agricultural Drain 70 JOHN STREET NORTH 123.4 m PAR 3.8 Acre 55.0 m 120.3 **Railway** Easement 86.61 2.9 Acr Woodlot 124.9 m 77 3 m Requires Ploughing Not Assessed 2.3 Acre 2.1 Acre 78.8 m 2Drain 70 2.1 Acre Sewer Lagoons 77.0 m 80.0 m 2.3 Acre 2.4 Acre Agricultural 9.4 Acre LEGEND 84.2 m LANDS IDENTIFIED FOR FUTURE INDUSTRIAL DEVEL HARRISTON INDUSTRIAL PARK DEVELOPMENT RESTRICTION HARRISTON PARCEL FUTURE INDUSTRIAL PARK LAYOUT OPTION 1 3.3 Acre 8.3 Acre ROAD ALLOWANCE 2.6 Acre 7 Acre RIVER / STREAM 183.0 m 104.4 m Unopened Road Allowance 11th Line DATE OCT 22, 2013 TOWN OF MINTO AND READ AND THE PARTY BMROSS COMMUNITY OF HARRISTON HARRISTON INDUSTRIAL PARK OPTION 1 SCALE: 1:4500

Map 10: Stage 2 Field Conditions and Assessment Methods Shown on Proponent Mapping

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STREET	Timmins Martelle Heritage Consultants Inc.         Key:         Project Lands         Ploughed Agricultural Field (Requires Ploughing, Not Assessed)         Woodlot (Test Pit Survey, 5m Interval)         Agricultural Field (Requires Ploughing, Not Surveyed)         Built Str
ROJECT No. 13215 FIGURE No. 1.0	Source: BM Ross (2013)Coordinate System: NAD83 UTM Zone 17NDate: 26/05/2015Prepared By: BC/TP



Stage 1 and 2 Archaeological Assessment Municipal Class Environmental Assessment John Street Extension – Harriston Industrial Park Part of Lots 82 and 83, Concession D Former Township of Minto, Town of Harriston, Now the Town of Minto, Community of Harriston, Wellington County, Ontario

> **SUPPLEMENTARY DOCUMENTATION** (to be removed for public circulation of this report)





## P324-034-2014 Location 1 (AlHf-4)

Location 1 is an isolated find spot located within the south ploughed field along the western boundary of the project area. The find consists of a complete Bois Blanc chert projectile point located roughly three metres east of a north-south trending treed field edge and approximately 55 metres south of a Drain 70 wetland adjacent to west property boundary. The Bois Blanc chert source is likely along the Lake Huron shoreline. The point is a Stanley/Neville projectile point Middle Archaic piece dating circa 8000-7500 B.P. (Ellis 1987). Upon discovery of the artifact, the pedestrian survey transect was decreased to a one metre interval for a 20 metre radius around the find spot. No other archaeological material was identified. The site does not meet provincial criteria for further intensification as per Standard 1 a. of Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*. Therefore, Stage 3 testing is not recommended.

A GPS reading was taken using a WAAS enabled GPS unit manufactured by Garmin. One coordinate was taken as per section 5.2a of the *Standards and Guidelines for Consultant Archaeologists* and is presented in the table below. Using NAD 83 and at an elevation of 384 metres asl the point was taken at the find spot with an accuracy of 5 metres or better.

Point	Zone	UTM	Accuracy
Artifact	17T	508568 E	+/- 5 m
Location	1/1	4862627 N	+/- J III
West		508568 E	
Property	17T	4862628 N	+/- 5 m
Boundary		4002020 IN	
Drain 70	17T	508577 E	+/- 5 m
Wetland	1/1	4862647 N	+/ <b>-</b> J III



#### P324-034-2014 Location 2 (no Borden designation)

Location 2 is a scatter of three artifacts located within the south ploughed field south of Drain 70. The find consists of a biface made on Kettle Point chert and two Bois Blanc chert flakes located roughly 90 metres east from a north-south trending treed field edge and approximately 45 metres south from the east wetland associated with Drain 70. The scatter measures seven metres (north-south) by 12 metres (east-west). Upon discovery of the initial find, the pedestrian survey transect was decreased to a one metre interval for a 20 metre radius around the find spot. No other archaeological material was identified beyond what is presented. The site does not meet provincial criteria for further investigation as per Standard 1 a. of Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*. Therefore, Stage 3 is not recommended.

GPS readings were taken using WAAS enabled GPS unit manufactured by Garmin. Five coordinates were taken as per section 5.2b of the *Standards and Guidelines for Consultant Archaeologists* and is presented in the table below. Using NAD 83 and at an elevation reading of 381 metres asl the points were taken with an accuracy of 5 metres or better.

Point	Zone	UTM	Accuracy
Site Centre	17T	508641 E 4862501 N	+/- 5 m
Site North Boundary	17T	508648 E 4862502 N	+/- 5 m
Site South Boundary	17T	508635 E 4862499 N	+/- 5 m
Site East Boundary	17T	508641 E 4862499 N	+/- 5 m
Site West Boundary	17T	508635 E 4862504 N	+/- 5 m
West Property boundary	17T	508527 E 4862575 N	+/- 5 m
Drain 70 Wetland	17T	508626 E 4862516 N	+/- 5 m





## SD Map 1: Stage 2 Field Conditions, Assessment Methods and Location of Archaeological Find Spots

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Key:	
Project Lands	
Assessment Parce	el
/ Drainage Channel	or Drain
Areas of Archaeolog	ical Potential
Topsoil Stripped - (Judgementally Te	Confirmed Disturbance st Pitted)
Ploughed Agricultu Survey, 5m Interva	ural Field (Pedestrian al)
Agricultural Field ( Not Assessed)	Requires Ploughing,
Woodlot (Test Pit S	Survey, 5m Interval)
Areas of Low Archae	eological Potential
Low-lying and We	t (Not Surveyed)
Built Structures (D	isturbed, Not Surveyed)
Source: S (20)	
Coordinate NAD83 UTM	
Date: 26/05/2015	Prepared By: BC/TP



ELORA STREET NORTH HIGHWAY 9 MME HARRISTON 5.4 Acre INDUSTRIAL Agricultural Drain 70 JOHN STREET NORTH 123.4 m PAR 2 Acre 38 Acre 120.3 55.0 m **Railway** Easement 86.6 r 2.9 Acr Woodlot 77 3 m 🕺 9 77.3 m Requires Ploughing Not Assessed 2.3 Acre 2.1 Acre 8 77.1 m 78.8 m <sup>2</sup>Drain 70 2.1 Acre Location 1 AIHI-4 Sewer Lagoons 80.0 m 2.4 Acre 2.3 Acre Agricultural LEGEND 9.4 Acre 84.2 m 76.8 m LANDS IDENTIFIED FOR FUTURE INDUSTRIAL DEVEL HARRISTON INDUSTRIAL PARK DEVELOPMENT RESTRICTION HARRISTON PARCEL FUTURE INDUSTRIAL PARK LAYOUT OPTION 1 8.3 Acre 2.6 Acre ROAD ALLOWANCE Acre RIVER / STREAM 183.0 m 109 0 104.4 m Unopened Road Allowance 11th Line DATE OCT 22, 2013 TOWN OF MINTO NATIONAL & CONTRACTOR BMROSS COMMUNITY OF HARRISTON HARRISTON INDUSTRIAL PARK OPTION 1 SCALE: 1:4500

SD Map 2: Stage 2 Field Conditions, Assessment Methods and Location of Archaeological Find Spots

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ROJECT No. 13215 Coordinate System:		
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Date: 26/05/2015 Prepared By: BC/TP	IGURE No. 1.0	
		Date: 26/05/2015 Prepared By: BC/TP



#### Ministry of Tourism, Culture and Sport

Archaeology Programs Unit Programs and Services Branch Culture Division 401 Bay Street, Suite 1700 Toronto ON M7A 0A7 Tel.: (416) 212-5107 Email: jenna.down@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 Tél. : (416) 212-5107 Email: jenna.down@ontario.ca



Jun 28, 2016

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

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 and 2 Archaeological Assessment Municipal Class Environmental Assessment John Street Extension – Harriston Industrial Park Part of Lots 82 and 83, Concession D Former Township of Minto, Town of Harriston, Now the Town of Minto, Community of Harriston, Wellington County, Ontario", Dated May 27, 2015, Filed with MTCS Toronto Office on Jun 9, 2015, MTCS Project Information Form Number P324-0034-2014

Dear Dr. Beaudoin:

This office has reviewed 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.<sup>1</sup> This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment/mitigation of the study area as depicted in Map 2 and Map 9 of the above titled report and recommends the following:

All work met provincial standards and two archaeological locations were identified during the Stage 2 assessments. The locations do not meet provincial criteria for further investigation. Location 1 is an isolated projectile point and its cultural heritage value and interest has been sufficiently documented. Stage 3 testing is not recommended. Location 2 consists of a biface and two flakes. Stage 3 testing is not recommended. Given this, all of the surveyed portions of the project area should be considered free of archaeological concern.

\*A 180 metre long 20 metre wide corridor (yellow on Map 9) south a railway easement that bisects the Harriston Industrial Park extension lands was not surveyed as it was not ploughed at the time of the Stage 2 assessment. As such, this area has further archaeological concern and will require Stage 2 assessment at a later date and if the proposed route for the John Street extension is retained.

Should construction plans change to incorporate new areas not previously subject to Stage 1 evaluation or

Stage 2 survey, additional archaeological assessment will also be required.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. 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 any further information regarding this matter, please feel free to contact me.

Sincerely,

Jenna Down Archaeology Review Officer

cc. Archaeology Licensing Officer Kelly Vader,B.M. Ross and Associates Ltd. Bill White,Town of Minto Bill White,Town of Minto

<sup>1</sup>In 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; misleading or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

# **APPENDIX C**

# **CONSULTATION PROGRAM**



## TOWN OF MINTO (COMMUNITY OF HARRISTON)

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT HARRISTON INDUSTRIAL PARK: ROAD & SERVICING EXTENSIONS

## NOTICE OF STUDY COMMENCEMENT

## THE PROJECT:

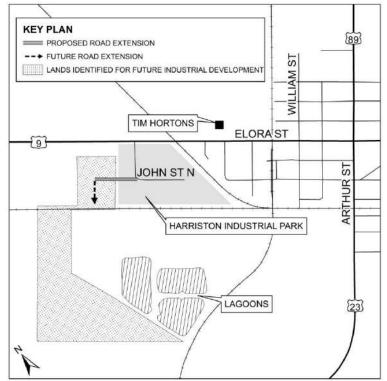
The Town of Minto is planning to extend road and municipal services within the Harriston Industrial Park in order to service additional industrial lands located west of John Street (refer to accompanying key plan). Servicing extensions, which will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions or adjacent lands, will also be examined in conjunction with the project.

#### 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 (approved October 2000, as amended in 2007 and 2011). The of the Environmental purpose Assessment process is to identify any potential environmental impacts associated with the project and to plan for appropriate mitigation of any includes impacts. The process consultation with the public, stakeholders and government 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 **November 1, 2013** at the address listed below. 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 Municipal Class EA process, please contact the Project Engineers: B. M. Ross and Associates: 62 North Street, Goderich, Ontario, N7A 2T4. Telephone (Toll Free): (888) 524-2641. Fax (519) 524-4403. Kelly Vader, Environmental Planner (e-mail: kvader@bmross.net).

Bill White, CAO-Clerk Town of Minto This Notice Issued October 2, 2013



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. 13215

October 2, 2013

See Attached List

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

The Town of Minto is planning to extend road and municipal services within the Harriston Industrial Park in order to service additional industrial lands located west of John Street. Servicing extensions, which will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions or adjacent lands, will also be examined in conjunction with the project.

Phase one of the proposed road and servicing project would involve an extension of John Street to service the 11 acre parcel located immediately west of John Street. Subsequent phases to the southwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) designated for industrial development.

The planning for this project is following the environmental screening process set out for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document (approved October 2000, as amended in 2007 and 2011, under the terms of the *Environmental Assessment Act*). The purpose of the Class EA screening process is to identify any potential environmental impacts associated with the proposed works and to plan for appropriate mitigation of any indentified impacts. This process includes consultation with the public, stakeholder 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 **November 8, 2013.** If you have any questions or require further information on this project, please contact the undersigned.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per

Kelly Vader, RPP, MCIP Environmental Planner

KV:es Encl. c.c. Bill White, CAO-Clerk, Town of Minto

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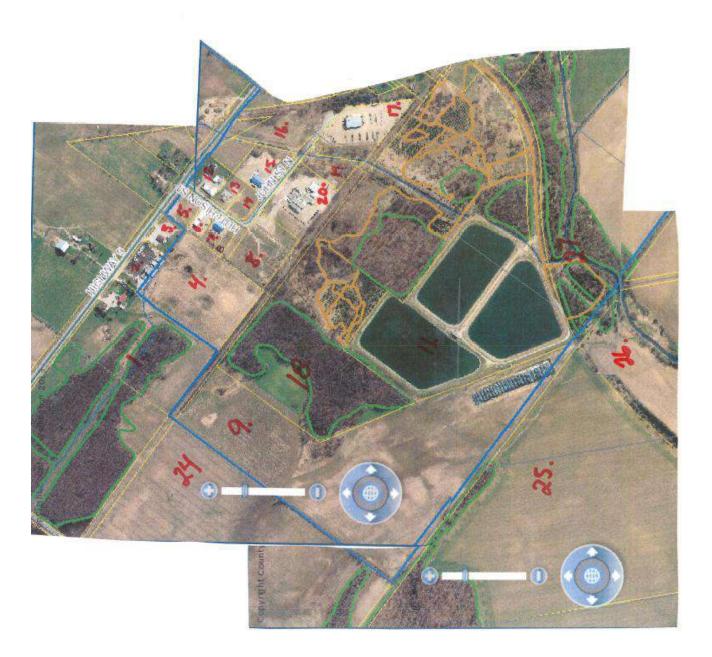
## TOWN OF MINTO (COMMUNITY OF HARRISTON)

## MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT HARRISTON INDUSTRIAL PARK: ROAD & SERVICING EXTENSIONS

## **REVIEW AGENCY CIRCULATION LIST**

REVIEW AGENCY	INVOLVEMENT
Ministry of the Environment (EA Coordinator) - Southwest District Office - London	Mandatory Contact
Ministry of Natural Resources (District Planner) - Guelph Office	Potential Impact upon Natural Environment
Ministry of Culture, Tourism and Sport - Culture Services Unit (Toronto)	Potential Impact upon Heritage Features
Ministry of Transportation (London)	Impact on Transportation
Maitland Valley Conservation Authority	Potential Impact on Environmental Features
Town of Minto	Copy of Correspondence - Proponent
<ul> <li>Wellington County</li> <li>Administration</li> <li>Emergency Services (EMS, Fire Dispatch, CEMC)</li> <li>Planning and Development Department</li> </ul>	General Information
Minto Fire Department – Harriston Station 87 Elora St. S., Harriston, ON N0G 1Z0	General Information
Festival Hydro 187 Erie St, Stratford, ON N5A 2M6	General Information
Union Gas (London)	General Information
Bell (Kitchener)	General Information

Properties Circulated in Conjunction with the Industrial Park Expansion Class EA



#### **Ministry of the Environment**

West-Central Region Technical Support Section Air, Pesticides & Environmental Planning 12th Floor 119 King St W Hamilton ON L&P 4Y7 Fax: (905)521-7820 Tel:

October 9, 2013

Mr. Bill White, CAO-Clerk The Corporation of the Town of Minto 5941 Highway 89 R.R. 1, P.O. Box 160, Harriston Minto, Ontario, N0G 1Z0 Canada

Ms Kelly Vader
 B.M. Ross and Associates Ltd.
 62 North Street
 Goderich, Ontario

Dear Ms Vader and Mr. White:

RE: Town of Minto - Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Response to Notice of Commencement Reference Number 8086-9CBLQ4

This letter is our response to the Notice of Study Commencement for the above noted project. This response acknowledges that the Town of Minto has indicated that its study is following the Schedule "B" process as per the MEA Class EA in order to determine a preferred means of extending roads, water, sanitary and stormwater management servicing for an expansion to the existing Harriston Industrial Park.

Thank you for the opportunity to comment on this project.

Based on the information submitted, we have identified the following key project details with respect to the proposed undertaking:

In accordance with the Class EA, Schedule "B" projects require that a Project File be prepared. The Project File shall be organized in such a way as to clearly demonstrate that the appropriate steps in Phases 1 and 2 have been followed and explain the following:

• background to the project and earlier studies;

## Ministère de l'Environnement

Direction régionale du Centre-Ouest Section du Soutien Technique Air, pesticides et plantification environnementale 12e étage 119 rue King W Hamilton ON L8F 4Y7 Télécopieur: (905)521-7820 Tél:



You must contact the Director, Environmental Approvals Branch if a project may **adversely affect an Aboriginal or treaty right**, or if a **Part II Order request is anticipated**; the Ministry will then determine whether the Crown has a duty to consult. Information and resources to assist you in fulfilling this requirement are provided as an attachment.

Should you or any members of your project team have any questions regarding the above, please contact me at (905) 521-7864 or at Barbara.slattery@ontario.ca. Yours truly,

Barbara Muttery Barbara Slattery

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Environmental Assessment/Planning Coordinator West Central Region

File Storage Number: EA05 MI CL HA
cc. Cam Hall, MOE - Guelph District Office (via email only) Martha Weber, MOE - Guelph (via email only)

## Kelly Vader

From: Sent: To: Subject: Jac Vanderbaan [vanderj@festivalhydro.com] October-31-13 5:37 PM kvader@bmross.net Class EA - Town of Minto

Kelly,

Festival Hydro received a package from BM Ross regarding the Harriston Industrial Park: Road and Servicing Extension. Our service area does not include this location. Our nearest serviced area is the community of Brussels, about 40 km away.

I think Hydro One is the hydro provider for that area.

Sincerely,

Jac Vanderbaan, P.Eng., CMA Chief Operating Officer Festival Hydro Inc. Tel 519-271-4703x241 Fax 519-271-7204



B. M. ROSS AND ASSOCIATES LIMITED Engineers and Planners Box 1179, 206 Industrial Drive Mount Forest, ON, Canada N0G 2L0 p. (519) 323-2945 • f. (519) 323-3551 www.bmross.net

File No. 13215

October 20, 2014

Planning Department Hydro One Box 130, 56 Embro Street Beachville, ON N0J 1A0

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

The Town of Minto is planning to extend road and municipal services within the Harriston Industrial Park in order to service additional industrial lands located north and northwest of John Street. Servicing extensions, which will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions or adjacent lands, will also be examined in conjunction with the project. The enclosed Figure 1.0 provides a general location plan.

Phase One of the proposed road and servicing project would involve an extension of John Street to service the 11 acre parcel located immediately north of John Street. Subsequent phases to the northwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) designated for industrial development.

The planning for this project is following the environmental screening process set out for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document (approved October 2000, as amended in 2007 and 2011, under the terms of the *Environmental Assessment Act*). The purpose of the Class EA screening process is to identify any potential environmental impacts associated with the proposed works and to plan for appropriate mitigation of any indentified impacts. This process includes consultation with the public, stakeholder 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 **November 21, 2014.** 

Please also comment on the following (pictures enclosed):

- 1. There is an existing overhead hydro line that crosses the 55 acre site along and beyond the northwest side of the sewage lagoons. Is this owned by Hydro One? Is there a registered easement and if so please provide details?
- 2. There is an existing pole line along the former railway tracks that lie on the west side of the 11 acres. Who owns that pole line? Is there an easement?

 $\label{eq:linear} $$ 192.168.0.1 data 13215-Minto-Class_EA-Harriston_Industrial_Pk\Projects\Class EA\Agency Consultation 13215-14Oct20-HydroOne.docx$ 

- 3. Will there need to be any property allocated within this Industrial Park for a substation or other Hydro One works?
- 4. The Town of Minto urban areas are typically supplied by Westario Power. In the Palmerston Industrial Park there was a question regarding whether Westario or Hydro One is the supplier and whether a Service Area Amendment would be required. Do you foresee Hydro One being able to provide services in this new Harriston industrial park area or will a Service Area Amendment apply?

If you have any questions or require further information on this project, please contact the undersigned.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per \_\_\_\_\_

Frank Vanderloo, P. Eng.

Encl.

c.c. Bill White, CAO-Clerk, Town of Minto (letter, by email only)

458

Ministry of Tourism, Culture and Sport

Culture Services Unit Programs and Services Branch 401 Bay Street, Suite 1700 Toronto ON M7A 0A7 Tel: 416 314 7145 Fax: 416 314 7175 Ministère du Tourisme, de la Culture et du Sport

Unité des services culturels Direction des programmes et des services 401, rue Bay, Bureau 1700 Toronto ON M7A 0A7 Tél: 416 314 7145 Téléc: 416 314 7175



November 8, 2013 (EMAIL ONLY)

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

#### RE: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions MTCS file no. 0000336

Dear Kelly Vader:

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Commencement for your project. For this undertaking, it is the mandate of MTCS, under the *Ontario Heritage Act* (*OHA*), to conserve, protect and preserve Ontario's cultural heritage, including:

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

Under the EA process, a determination of the project's potential impact on these cultural heritage resources is required. Please advise MTCS whether archaeological and/or heritage impact assessments will be completed for your EA project, and forward them to MTCS, before issuing a Notice of Completion.

#### **Archaeological Resources**

Screening your EA project with the attached MTCS *Criteria for Evaluating Archaeological Potential* determines whether it may impact archaeological resources. MTCS archaeological sites data are available at <u>archaeologysites@ontario.ca</u>. If your EA project area exhibits archaeological potential, then an archaeological assessment (AA) is recommended by an *OHA* licensed archaeologist and the AA report forwarded to MTCS for review. On brief review of our data, there are no registered archaeological sites in the immediate vicinity of the project, but is in an area of archaeological potential.

#### **Built Heritage and Cultural Heritage Landscapes**

The MTCS Screening for Impacts to Built Heritage and Cultural Heritage Landscapes checklist attached determines whether your EA project may impact these cultural heritage resources: the clerks for the Town of Minto and Wellington County can provide information on property registered or designated under the *Ontario Heritage Act.* If your EA project may impact known or potential cultural heritage resources, MTCS recommends that a Heritage Impact Assessment (HIA) be prepared by a qualified consultant. The MTCS *Info Sheet #5: Heritage Impact Assessments and Conservation Plans* outlines the scope of HIAs. Please send completed HIAs to MTCS and the local municipality for review, and make it available to local heritage organizations with an interest, such as the Harriston Historical Society.

#### **Environmental Assessment Reporting**

HIA and AA reports and their recommendations are part of the EA project. The Environmental Study Report should document and summarize any determinations that no cultural heritage resources are impacted and no technical studies are warranted as part of the EA process. MTCS is in no way liable if the information in the completed checklists is found to be inaccurate or incomplete.

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

Sincerely,

Joseph Muller Heritage Planner Joseph.Muller@ontario.ca

Copied to: Bill White, CAO-Clerk, Town of Minto

Disclaimer: The Ministry of Tourism, Culture and Sport reserves the right to review projects for their potential to impact archaeological, built heritage and cultural heritage landscape resources, and recommend that archaeological and/or heritage impact assessments be undertaken.

Please notify MTCS if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out a determination of their nature and significance.

If human remains are encountered, all activities must cease immediately and the local police be contacted as well as the Cemeteries Regulation Unit of the Ministry of Consumer Services must be contacted. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

#### **Ministry of Tourism and Culture Criteria for Determining Archaeological Potential**

A Checklist for the Non-Specialist

Feat	ure of Archaeological Potential	Yes	No	Unknown
1.	Known archaeological sites within 300 m of property	-		
Phy	sical Features	Yes	No	Unknown
2.	Water on or near the property If yes, what kind of water?		۵	
	<ul> <li>a) Primary water source (lake, river, large creek, etc)</li> <li>within 300 m, OR</li> <li>50 m for properties in northern Ontario and Canadian Shield terrain*</li> </ul>	-	۵	D
	<ul> <li>b) Secondary water source (stream, spring, marsh, swamp, etc)</li> <li>within 300 m, OR</li> <li>50 m for properties in northern Ontario and Canadian Shield terrain*</li> </ul>		٦	
	<ul> <li>c) Past water source (beach ridge, river bed, relic creek, ancient shoreline, etc)</li> <li>within 300 m, OR</li> <li>150 m for properties in northern Ontario and Canadian Shield terrain*</li> </ul>	D		•
3.	Elevated topography on property (knolls, drumlins, eskers, plateaus, etc)	a		□
4.	Pockets of sandy soil in a clay or rocky area on property			
5 <i>.</i>	Distinctive land formations on property (mounds, caverns, waterfalls, peninsulas, etc)	٩	8	
Cult	ural Features	Yes	No	Unknown
6.	Known burial site or cemetery on or adjacent to the property (cemetery is registered with the Cemeteries Regulation Unit)			
7.	Food or scarce resource harvest areas on property (traditional fishing locations, agricultural/berry extraction areas, etc)		f ,	
8.	Indications of early Euro-Canadian settlement within 300 m of property (monuments, cemeteries, structures, etc)			Q
9.	Early historic transportation routes within 100 m of property (historic road, trail, portage, rail corridor, etc)			
Proj	perty-specific Information	Yes	No	Unknown
10.	Property is designated and/or listed under the Ontario Heritage Act (municipal register and lands described in Reg. 875 of the Ontario Heritage Act)	u	<b>e</b>	
11.	Local knowledge of archaeological potential of property (from aboriginal communities, heritage organisations, municipal heritage		1	
11.	committees, etc)			

\*Northern Ontario is defined as Manitoulin Island, the Districts of Muskoka, Haliburton and Nipissing, and areas to the north. The Canadian Shield is defined as the area of Ontario underlain by the Precambrian Shield.

<sup>†</sup>Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include: quarrying, major landscaping involving grading below topsoil, building footprints, sewage and infrastructure development. Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential.

#### Scoring the results:

 If Yes to any of 1, 2a-c, 6 or 11
 → archaeological potential is determined – assessment is required

 If Yes to two or more of 3 to 5 or 7-10
 → archaeological potential is determined – assessment is required

 If Yes to 12 or No to 1 to 10
 → low archaeological potential is determined – assessment may or may not be required (depending on answers from 1-11)

If 3 or more Unknown

 $\rightarrow$  more research is required (See note below for more information)

-

**Note:** If archaeological potential features are unknown, a professional archaeologist licensed under the *Ontario Heritage Act* should be retained to carry out a minimum Stage 1 archaeological assessment report confirming potential or low potential. All reports are to be in compliance with provincial archaeological assessment standards and guidelines.

#### Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

This checklist is intended to help proponents determine whether their project could affect known or potential cultural heritage resources. The completed checklist should be returned to the appropriate Heritage Planner or Heritage Advisor at the Ministry of Tourism and Culture.

		eening for	Recognized Cultural Heritage Value
YES	NO	Unknown	
		D	<ol> <li>Is the subject property designated or adjacent* to a property designated under the Ontario Heritage Act?</li> </ol>
	2	D	<ol> <li>Is the subject property listed on the municipal heritage register or a provincial register/list? (e.g. Ontario Heritage Bridge List)</li> </ol>
			3. Is the subject property within or adjacent to a Heritage Conservation District?
			4. Does the subject property have an Ontario Heritage Trust easement or is it adjacent to such a property?
		a	5. Is there a provincial or federal plaque on or near the subject property?
			6. Is the subject property a National Historic Site?
a			7. Is the subject property recognized or valued by an Aboriginal community?
Step 2	2 — Scr	eening Po	tentia i Resources
			Built heritage resources
YES	NO	Unknown	<ol> <li>Does the subject property or an adjacent property contain any buildings or structures over forty years old<sup>1</sup> that are:</li> </ol>
			<ul> <li>Residential structures (e.g. house, apartment building, shanty or trap line shelter)</li> </ul>
			<ul> <li>Farm buildings (e.g. barns, outbuildings, silos, windmills)</li> </ul>
			<ul> <li>Industrial, commercial or institutional buildings (e.g. a factory, school, etc.)</li> </ul>
			<ul> <li>Engineering works (e.g. bridges, water or communications towers, roads, water/sewer systems, dams, earthworks, etc.)</li> </ul>
	1		<ul> <li>Monuments or Landmark Features (e.g. cairns, statues, obelisks, fountains, reflecting pools, retaining walls, boundary or claim markers, etc.)</li> </ul>
	1		2. Is the subject property or an adjacent property associated with a known architect or builder?
	2		3. Is the subject property or an adjacent property associated with a person or event of historic interest?
ū		۵	4. When the municipal heritage planner was contacted regarding potential cultural heritage value of the subject property, did they express interest or concern?
VEO			Cultural heritage landscapes
YES	NO	Unknown	5. Does the subject property contain landscape features such as:
			<ul> <li>Burial sites and/or cemeteries</li> </ul>
			<ul> <li>Parks or gardens</li> </ul>
	2		<ul> <li>Quarries, mining, industrial or farming operations</li> </ul>
Q			Canals
a			<ul> <li>Prominent natural features that could have special value to people (such as waterfalls, rocky outcrops, large specimen trees, caves, etc.)</li> </ul>
		D	<ul> <li>Evidence of other human-made alterations to the natural landscape (such as trails, boundary or way-finding markers, mounds, earthworks, cultivation, non-native species, etc.)</li> </ul>
		a	6. Is the subject property within a Canadian Heritage River watershed?
			7. Is the subject property near the Rideau Canal Corridor UNESCO World Heritage Site?
			8. Is there any evidence from documentary sources (e.g., local histories, a local recognition program, research studies, previous heritage impact assessment reports, etc.) or local knowledge or Aboriginal oral history, associating the subject property/ area with historic events, activities or persons?

# Maitland Valley Conservation Authority



Providing leadership to protect and enhance our water, forests and soils!

#### **MEMORANDUM**

TO: CC:	Kelly Vader, Environmental Planner, B.M. Ross & Associates Ltd. Bill White, CAO-Clerk, Town of Minto
FROM:	Brandi Walter, Environmental Planner/Regulations Technician, MVCA
DATE:	November 8, 2013
SUBJECT:	Town of Minto – Class Environmental Assessment
	Harriston Industrial Park: Road and Servicing Extensions
	Community of Harriston

Maitland Valley Conservation Authority (MVCA) has reviewed the notice of Class Environmental Assessment for the John Street road and servicing extensions. Based on our review of resource mapping and the County of Wellington Official Plan (May 15, 2013) and Zoning By-Law for the Town of Minto, we offer the following comments.

The proposed road and servicing extension will allow for future development of industrial lands within the Community of Harriston. Currently the properties identified for future development are designated industrial in the County of Wellington's Official Plan and are zoned Industrial Special Zone (M1-40 (H)) and Future Development. MVCA understands that a zoning by-law amendment will be required for the lands zoned FD, and to remove the holding symbol on the M1-40 (H) lands prior to industrial development on the subject lands.

#### Natural Heritage Features (Greenlands)

Located adjacent to the subject lands are Significant Woodlands, and Wildlife and Plant Habitat (see attached aerial photo).

The above features are identified as Greenlands in the County of Wellington's Official Plan (OP). The Greenlands policies in the OP require the following where development is proposed adjacent to the greenlands systems;

- 1. identify the nature of the natural heritage resource(s) potentially impacted by the development;
- 2. prepare, were required, an environmental impact assessment to address potential impacts
- 3. consider enhancement of the natural area where appropriate and reasonable; and
- 4. demonstrate that there will be no negative impacts on the natural heritage resources or features or on its ecological function.





No development will be approved unless the County is satisfied that the Greenland Policies are met.

We understand that the Class E.A. process is a provincial requirement for assessment of the impacts of municipal services and infrastructure, which differs from the review process for planning applications where the above requirements are mandatory. However, it is our opinion that the Township must also assess the impacts of the future industrial developments, which will be a consequence of the road and service extensions. It is prudent for the Class E.A. to assess the potential impacts of future industrial development on the above-noted natural heritage features, where mitigation or prohibition is identified early in the process. As such, it makes sense for the Township to have regard for the County's policies for future industrial development adjacent to the natural heritage features prior to approving the road and services extension.

Therefore, we recommend that B.M. Ross consider the impacts of future industrial use to the adjacent natural heritage features, considering that these lands will require a zoning by-law amendment prior to development.

#### Natural Hazards and MVCA Regulated Lands

The subject lands and proposed road extension are not located in floodplain or other areas that would be a significant hazard to development.

MVCA's resource mapping shows that the subject lands contain watercourses. Watercourses plus 15 metres from stable top of bank are MVCA regulated areas, pursuant to *Ontario Regulation 164/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation)*. As such, proposed development (construction, grading, filling) adjacent to the watercourse and proposed interference or alteration with the watercourse requires the permission of MVCA prior to doing the work.

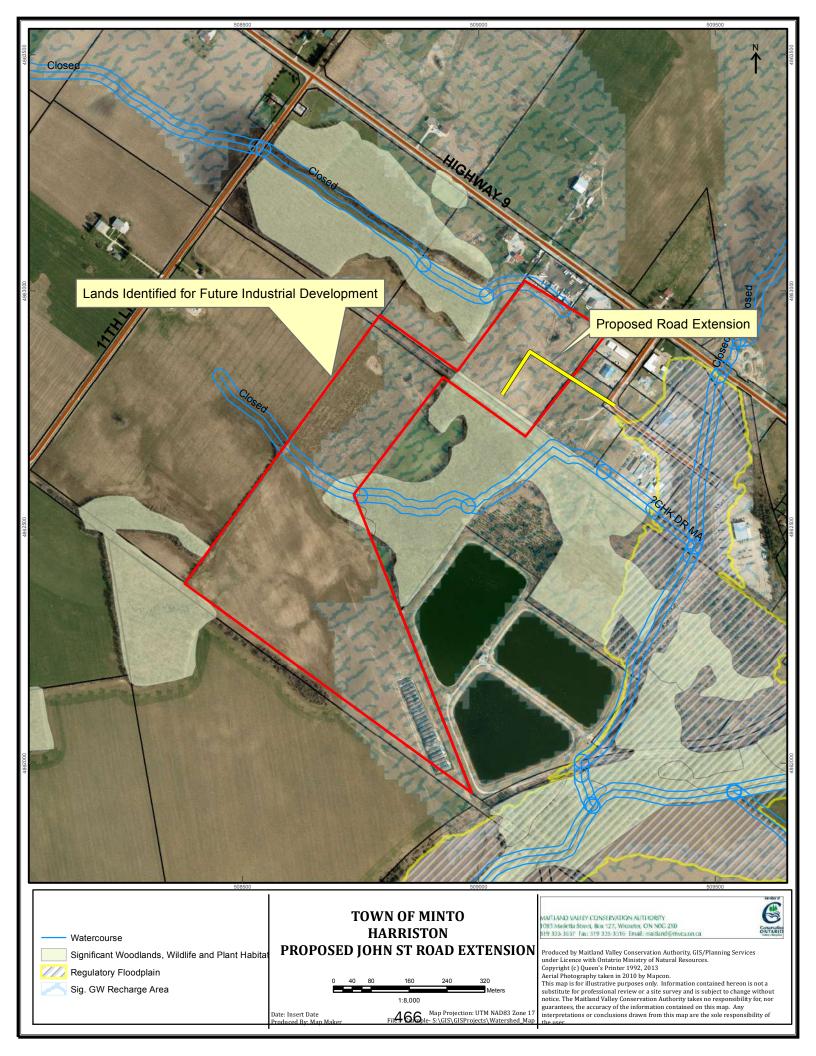
#### Stormwater Management and Proposed Facilities

MVCA wishes to review the stormwater management plans and proposed facilities for the subject lands. Please contact Steve Jackson of this office for pre-consultation of the stormwater management plans.

#### Groundwater Resources

MVCA's resource mapping identifies that the subject lands are partially underlain by a Significant Groundwater Recharge Area. We expect that the Class E.A. will make recommendation for mitigation to prevent contamination of the groundwater resource from Industrial use.

Thank you for the opportunity to comment at this time. Feel free to contact this office if you have any questions.





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. 13215

Z:\13215-Minto-Class\_EA-Harriston\_Industrial\_Pk\Projects\Class EA\Agency Consultation\First Nations\First Nations Letter

Date

First Nation Letter (See Attached List)

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

The Town of Minto is planning to extend road and municipal services within the Harriston Industrial Park in order to service additional industrial lands located west of John Street. Servicing extensions, which will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions or adjacent lands, will also be examined in conjunction with the project.

Phase one of the proposed road and servicing project would involve an extension of John Street to service the 11 acre parcel located immediately west of John Street. Subsequent phases to the southwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) designated for industrial development.

The planning for this project is following the environmental screening process set out for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document (approved October 2000, as amended in 2007 and 2011, under the terms of the *Environmental Assessment Act*). The purpose of the Class EA screening process is to identify any potential environmental impacts associated with the proposed works and to plan for appropriate mitigation of any indentified impacts. This process includes consultation with the public, stakeholder and government review agencies.

Your community has been identified as possibly having an interest in this project. For your convenience, a response form is enclosed along with a self-addressed stamped envelope. Please return by **December 15, 2013**. If you have any questions on this matter or require further information, please contact the undersigned at 888-524-2641 or by e-mail at <u>kvader@bmross.net</u>.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per

Kelly Vader, RPP, MCIP Environmental Planner

KV: Encl. c.c. Bill White, CAO-Clerk, Town of Minto

 $\label{eq:lass_lass_lass} Z: 13215-Minto-Class\_EA-Harriston\_Industrial\_Pk\Projects\Class\_EA\Agency\Consultation\First\Nations\First\Nations\Letter$ 

#### TOWN OF MINTO COMMUNITY OF HARRISTON

#### CLASS ENVIRONMENTAL ASSESSMENT HARRISTON INDUSTRAIL PARK: ROAD & SERVICING EXTENSIONS PROJECT 13215

#### AGENCY CIRCULATION LIST: ABORIGINAL INTERESTS

#### Additional First Nation Consultation List

Chippewas of Saugeen Hwy. 21, R.R. # 1 Southampton ON N0H 2L0

Chief Ralph Akiwenzie Chippewas of Nawash Unceded First Nation R.R. #5 Wiarton ON N0H 2T0

Ray Raciot, President Grey Bruce Penninsula Metis Council 380 9<sup>th</sup> Street East Owen Sound ON N4K 1P1

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

Historic Saugeen Métis 204 High Street, Box 1492 Southampton ON N0H 2L0

#### **Response Form**

**Project Name:** Class EA, Harriston Industrial Park: Road & Servicing Extensions, Harriston, ON

**Project Description:** The Town of Minto is planning to extend road and municipal services within the Harriston Industrial Park in order to service additional industrial lands located west of John Street. Servicing extensions, which will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions or adjacent lands, will also be examined in conjunction with the project.

Phase one of the proposed road and servicing project would involve an extension of John Street to service the 11 acre parcel located immediately west of John Street. Subsequent phases to the southwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) designated for industrial development.

Project Location: Harriston, Town of Minto, Wellington County, Ontario

(Key Plan of Project Location attached)

Please Detach and Return in Envelope Provided

Name of Aboriginal Community: \_\_\_\_\_\_

Please check appropriate box

Please send additional information on this project.



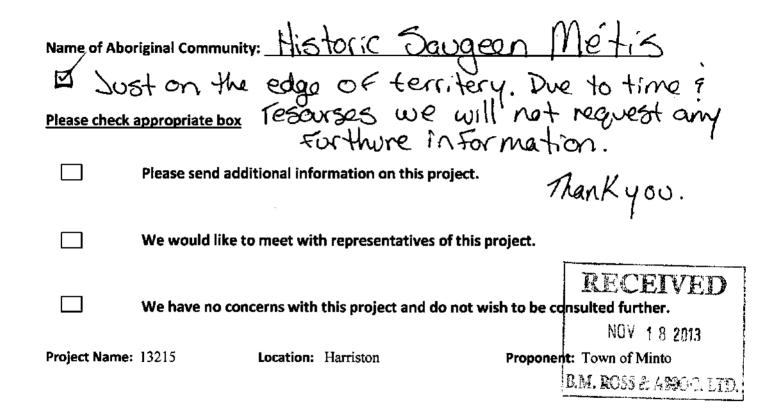
We would like to meet with representatives of this project.

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

Project Name: 13215

Location: Harriston

**Proponent:** Town of Minto





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. 13215

April 10, 2017

Dear Resident

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

The Town of Minto initiated a Class EA process to expand the Harriston Industrial Park in September 2013. The planned expansion will include the extension of a road network and full municipal services in order to service lands designated for industrial development located north and west of John Street adjacent to the existing industrial park. The proposed servicing extensions will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions and/or adjacent lands. The subject lands are currently in agricultural production and are designated for Industrial Development in the Wellington County Official Plan. Below is a photo of the subject lands looking north.



After completing the initial phases of the EA process in 2014, the project was put on hold for two years while servicing implications were considered and other municipal priorities. The Municipality now plans to complete the Class EA so they can move forward with implementation of the preferred Alternative. Information on the project was circulated to review agencies and adjacent property owners during the initial consultation phase of the Class EA in 2013 and there were no negative impacts identified with the proposed servicing plan at that time.

This correspondence is being forwarded to provide an update on study investigations and to seek input on the preferred road and servicing alternatives prior to formal selection of a preferred design. Phase one of the proposed road and servicing project would involve an extension of John Street to service an 11 acre parcel located immediately northwest of the existing industrial park. Subsequent phases to the southwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) located adjacent to the Harriston sewage treatment facility (STP), which are designated for industrial development in the Wellington County Official Plan.

#### i) Road and Servicing Extensions

Figure No. 2.1 (attached) illustrates the road pattern proposed to service the two industrial parcels along with anticipated water and sanitary servicing extensions. The planned road cross-section would include a 27 metre wide road allowance with an 8 metre paved, two lane road surface and roadside ditches to convey surface water drainage. To access the 55 acre parcel, the road extension would travel north along the former rail line a distance of approximately 200 metres before turning west into the 55 acres. An internal road would be constructed down the centre of the 55 acres with development parcels located on each side for future industrial site development.

#### ii) Sanitary Servicing

Sanitary servicing of the industrial park expansion would occur in two phases. Phase 1 would involve servicing of the 11 acre site with a deep gravity sewer extending the length of John Street in conjunction with the planned road extension. Sewage from the 11 acre site would be conveyed by gravity south along John Street to the existing Industrial Park sewage pumping station (SPS), which was recently upgraded and has sufficient capacity to accept sanitary sewage flows from the site. Phase 2 of the sanitary servicing plan would involve the extension of the gravity sewer into the 55 acre parcel as far as possible given the existing topography while maintaining sufficient cover. Based on topographic information obtained from the site, the sewer would extend approximately 600 metres along the proposed access roadway before insufficient cover is encountered. Additional properties beyond this point could be serviced by individual grinder pump units discharging to the gravity sewer.

#### iii) Water Servicing

Harriston is currently serviced by a waterworks that consists of: three drilled bedrock wells, three well houses, an elevated 1915 m<sup>3</sup> storage tank, and a distribution network of watermains ranging in diameter from 100 mm to 300mm. The existing watermain distribution system would be extended along John Street and then westerly to service the additional 55 acre site. The existing water system has sufficient supply to service the future needs of the industrial park expansion; however available fire flow rates would be less than target fire protection rates selected by the Town. Additional upgrades to the existing Harriston water distribution system are planned which would improve water flows to the Industrial Park over time.

#### iv) Stormwater Management

Stormwater management servicing of the expanded industrial park would also be accomplished in two primary phases. Phase 1 would involve development of the 11 acre site which would generally drain to the northeast to an existing municipal drain (Municipal Drain 70) located at the northeast corner of the site. Stormwater management would be accomplished through individual on-site detention facilities constructed as sites are developed. Overland flows would be conveyed to the rear of the lots and then towards the existing open municipal drain, which may need to be upgraded at some point as development proceeds.

Drainage of the 55 acre site would involve the construction of a drainage ditch adjacent to the existing sewage treatment facility which would convey flows from the central and northeast portions of the site, west to a discharge location to the Maitland River via a new outlet sewer. Limited filling would need to occur in order to achieve positive drainage flows within the site. Stormwater management would be accomplished through individual on-site detention facilities constructed as sites are developed. External drainage arising north of the site would be collected and discharged south of the site to an existing drainage run located east of the sewage lagoons.

#### v) Class EA Investigations

A Stage 1 & 2 Archaeological Investigation was completed as part of the Class EA process on both the 11 Acre and 55 Acre sites. The review included a background investigation (Stage 1) and an on-site review (Stage 2) to look for evidence of buried cultural material. There were no cultural materials identified during the review and no further investigations were recommended for the site.

The planning for this project is following the environmental screening process set out for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document (approved October 2000, as amended in 2007 and 2011). The purpose of the Class EA screening process is to identify any potential environmental impacts associated with the proposed works and to plan for appropriate mitigation of any identified impacts. This process includes consultation with the public, stakeholder and government review agencies.

As an adjacent property owner, you were previously contacted regarding this project and we are soliciting your input on the proposed servicing plan. Please forward any questions or concerns to the undersigned prior to May 16, 2017.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per \_\_\_\_

Kelly Vader, RPP, MCIP Environmental Planner

KV:es Encl.

c.c. Bill White, CAO-Clerk, Town of Minto



B. M. ROSS AND ASSOCIATES LIMITED Engineers and Planners
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File No. 13215

April 7, 2017

'Agency' See Attached List

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

The Town of Minto initiated a Class EA process to expand the Harriston Industrial Park in September 2013. The planned expansion will include the extension of a road network and full municipal services in order to service lands designated for industrial development located north and west of John Street adjacent to the existing industrial park. The proposed servicing extensions will include sanitary sewers, watermains and stormwater drainage on the proposed road extensions and/or adjacent lands. The subject lands are currently in agricultural production and are designated for Industrial Development in the Wellington County Official Plan. Below is a photo of the subject lands looking north.



After completing the initial phases of the EA process in 2014, the project was put on hold for two years while servicing implications were considered and other municipal priorities. The Municipality now plans to complete the Class EA so they can move forward with implementation of the preferred Alternative. Information on the project was circulated to review agencies and adjacent

property owners during the initial consultation phase of the Class EA in 2013 and there were no negative impacts identified with the proposed servicing plan at that time.

This correspondence is being forwarded to provide an update on study investigations and to seek input on the preferred road and servicing alternatives prior to formal selection of a preferred design. Phase one of the proposed road and servicing project would involve an extension of John Street to service an 11 acre parcel located immediately northwest of the existing industrial park. Subsequent phases to the southwest would require further road and servicing extensions to service the additional lands (approximately 55 acres) located adjacent to the Harriston sewage treatment facility (STP), which are designated for industrial development in the Wellington County Official Plan.

#### i) Road and Servicing Extensions

Figure No. 2.1 (attached) illustrates the road pattern proposed to service the two industrial parcels along with anticipated water and sanitary servicing extensions. The planned road cross-section would include a 27 metre wide road allowance with an 8 metre paved, two lane road surface and roadside ditches to convey surface water drainage. To access the 55 acre parcel, the road extension would travel north along the former rail line a distance of approximately 200 metres before turning west into the 55 acres. An internal road would be constructed down the centre of the 55 acres with development parcels located on each side for future industrial site development.

#### ii) Sanitary Servicing

Sanitary servicing of the industrial park expansion would occur in two phases. Phase 1 would involve servicing of the 11 acre site with a deep gravity sewer extending the length of John Street in conjunction with the planned road extension. Sewage from the 11 acre site would be conveyed by gravity south along John Street to the existing Industrial Park sewage pumping station (SPS), which was recently upgraded and has sufficient capacity to accept sanitary sewage flows from the site. Phase 2 of the sanitary servicing plan would involve the extension of the gravity sewer into the 55 acre parcel as far as possible given the existing topography while maintaining sufficient cover. Based on topographic information obtained from the site, the sewer would extend approximately 600 metres along the proposed access roadway before insufficient cover is encountered. Additional properties beyond this point could be serviced by individual grinder pump units discharging to the gravity sewer.

#### iii) Water Servicing

Harriston is currently serviced by a waterworks that consists of: three drilled bedrock wells, three well houses, an elevated 1915 m<sup>3</sup> storage tank, and a distribution network of watermains ranging in diameter from 100 mm to 300mm. The existing watermain distribution system would be extended along John Street and then westerly to service the additional 55 acre site. The existing water system has sufficient supply to service the future needs of the industrial park expansion; however available fire flow rates would be less than target fire protection rates selected by the Town. Additional upgrades to the existing Harriston water distribution system are planned which would improve water flows to the Industrial Park over time.

#### iv) Stormwater Management

Stormwater management servicing of the expanded industrial park would also be accomplished in two primary phases. Phase 1 would involve development of the 11 acre site which would generally drain to the northeast to an existing municipal drain (Municipal Drain 70) located at the northeast corner of the site. Stormwater management would be accomplished through individual on-site detention facilities constructed as sites are developed. Overland flows would be conveyed to the rear of the lots and then

Drainage of the 55 acre site would involve the construction of a drainage ditch adjacent to the existing sewage treatment facility which would convey flows from the central and northeast portions of the site, west to a discharge location to the Maitland River via a new outlet sewer. Limited filling would need to occur in order to achieve positive drainage flows within the site. Stormwater management would be accomplished through individual on-site detention facilities constructed as sites are developed. External drainage arising north of the site would be collected and discharged south of the site to an existing drainage run located east of the sewage lagoons.

#### v) Class EA Investigations

A Stage 1 & 2 Archaeological Investigation was completed as part of the Class EA process on both the 11 Acre and 55 Acre sites. The review included a background investigation (Stage 1) and an on-site review (Stage 2) to look for evidence of buried cultural material. There were no cultural materials identified during the review and no further investigations were recommended for the site.

The planning for this project is following the environmental screening process set out for Schedule 'B' activities under the Municipal Class Environmental Assessment (Class EA) document (approved October 2000, as amended in 2007 and 2011). The purpose of the Class EA screening process is to identify any potential environmental impacts associated with the proposed works and to plan for appropriate mitigation of any identified impacts. This process includes consultation with the public, stakeholder and government review agencies.

Your organization was previously contacted regarding this project and we are soliciting your input on the proposed servicing plan. Please forward your response to our office by **May 16, 2017.** If you have any questions or require further information on this project, please contact the undersigned.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per \_\_\_\_\_

Kelly Vader, RPP, MCIP Environmental Planner

KV: Encl.

c.c. Bill White, CAO-Clerk, Town of Minto



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. 13215

April 7, 2017

'FN' See Attached List

#### Re: Town of Minto – Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Community of Harriston

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Drainage of the 55 acre site would involve the construction of a drainage ditch adjacent to the existing sewage treatment facility which would convey flows from the central and northeast portions of the site, west to a discharge location to the Maitland River via a new outlet sewer. Limited filling would need to occur in order to achieve positive drainage flows within the site. Stormwater management would be accomplished through individual on-site detention facilities constructed as sites are developed. External drainage arising north of the site would be collected and discharged south of the site to an existing drainage run located east of the sewage lagoons.

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Your community was previously contacted regarding this project and therefore we are soliciting your input on the proposed servicing plan. Please forward any questions or concerns to the undersigned prior to May 16, 2017.

Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per \_\_\_\_

Kelly Vader, RPP, MCIP Environmental Planner

KV:es Encl.

c.c. Bill White, CAO-Clerk, Town of Minto

Jim & Doreen Harkness 5808 Hwy #9, Harriston, ON, N0G 1Z0 Ph: 519-338-3946 • Fax: 519-338-2756 Email: jimh@harknessequipment.ca Email: Mail: Fax: 519-524-4403 May 15, 2017 3:30 % Inter-Office: Date: May 12, 2017 Page(s):

B.M. Ross & Associates Ltd 62 North Street Goderich, On., N7A 2T4

Attention:Kelly Vaderc.c.Bill White, Town of Minto

Re: Harriston Industrial Park File #13215, your letter dated April 10, 2017

As adjacent land owners here is our response.

1. We don't want to stand in the way of progress or Harriston expansion. Hopefully the addition of more tax base will lower or at least maintain the excessive business tax we pay on our Lot 76, Conc C premises at present.

On the other hand.

- A. Property we own adjacent to the proposed expansion has been in the family name for 127 years (1890) when my grandfather purchased it.
- B. The two storey brick home on the property has undergone extensive renovations as a future retirement home for Doreen and I.
- C. We are looking forward to retirement on this pastoral acreage where I was raised. Last week five deer were grazing on the proposed industrial land mid-afternoon.
- D. At present there is little problem with the existing industrial park, we are approximately 2000 feet from the most active industry Tenderfresh, although it is visible.
- E. When the lagoons were built 60-70 years ago there was an ongoing problem with odour when the wind came from the south. With the prevailing winds town folk in Harriston put up with the odour for years. That problem appears to have been rectified but may surface again as population and industry increase.
- F. We do on quiet summer nights hear pumps at the lagoon under certain conditions.

Continued...

The conditions we would like to see on the park expansion are.

- 1. Acceptance of industry only that is non-polluting with respect to
  - Air quality, soil and water pollution.
  - Noise pollution.
  - Visual pollution.
- 2. To achieve at least conditions 2 & 3 of above we are requesting a windbreak or tree cover; two rows wide on the proposed property and that the tree cover height be sufficient to cover heights of the buildings in the park. Also that the trees be an evergreen variety for year round protection.
- 3. That any lighting in the park be directed downwards to eliminate glare and visibility of hi-intensity lighting from the residence on adjoining property.
- 4. That sufficient source of natural gas be available in the proposed industrial park expansion that the existing or larger grain drier on this adjoining property could be serviced (approximately 1000 feet distance from property line.)

Upon completion of our tenure on the property it is willed to our four sons. In the meantime I am available to act on my and their behalf and answer any questions that may arise subject to our conditions on the park expansion.

June Regards,

Jim & Doreen Harkness Alan Harkness – Vancouver Doug Harkness – Clifford John Harkness – Harriston James Harkness – Toronto

JH/kb

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

May 15, 2017 (EMAIL ONLY)

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

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

Ministère du Tourisme,

Téléc: 416 212 1802

de la Culture et du Sport



#### RE: MTCS file #: 0000336 Proponent: Town of Minto Subject: Municipal Class Environmental Assessment Harriston Industrial Park: Road and Servicing Extensions Location: Harriston, Town of Minto, County of Wellington, Ontario

Dear Kelly Vader:

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice 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**

An archaeological assessment (AA) has been undertaken under PIF# P324-0034-2014 by an archaeologist licenced under the *OHA*, who submitted the report directly to MTCS for review. The report recommends no further AA, and has been entered into the *Ontario Public Register of Archaeological Reports*.

#### Built Heritage and Cultural Heritage Landscapes

As noted in our prior correspondence of November 8, 2013, the MTCS <u>Criteria for Evaluating Potential for</u> <u>Built Heritage Resources and Cultural Heritage Landscapes</u> should be completed to help determine whether your EA project may impact cultural heritage resources. The Clerks for the Town of Minto and County of Wellington 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: Bill White, CAO-Clerk, Town of Minto

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MTCS makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MTCS be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MTCS if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the Ontario Heritage Act and the Standards and Guidelines for Consultant Archaeologists.

If human remains are encountered, all activities must cease immediately and the local police as well as the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services must be contacted. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.

## **APPENDIX D**

## SERVICING DESIGN BRIEF

Town of Minto Community of Harriston Industrial Park Expansion Upgrade Options Design Brief

Job # :	13215
Date :	June 16, 2014
Revised :	

#### 1.0 <u>Background</u>

The Town of Minto is looking at servicing for development two industrial properties near the existing Wastewater Treatment Plant. One is approximately 5 ha located immediately northwest of the existing industrial park area and Hutchinson Street. The other is approximately 22 ha located north and west of the existing Wastewater Treatment Plant. Both areas are currently being used for agricultural purposes. Two options have been developed to service these areas. The difference between the two options is how the roads (and ultimately sewer and water services) will be laid out. The purpose of these design notes are to conceptually establish how the sewer layout will look so that the two options can be compared on a cost basis.

The sewers and original SPS design were completed under 87167.

For the purposes of these notes, we will call the 5 ha. parcet of land - Area 1 and the 22 ha. parcel of land - Area 2.

The first effort is to determine if Area 1 and 2 can be drained by gravity to the existing industrial park SPS and if that SPS has capacity to handle these extra flows.

#### 2.0 From 12106

According to the design brief for the upgrades to the Industrial Park SPS, Area 1 was considered as part of the 20-year design flow to this station. Area 2 was not considered. The following flow rates were used to project future flows for Area 1:

Industrial Sewage Flow	=	35 m <sup>3</sup> /ha/day 0.4051 L/ha/sec	
Infiltration	=	15,000 L/ha/day 0.174 L/ha/sec	This number is assumed based on existing conditions. In comparison with 1982 MOE guidelines (227 L/cap/d) this value (193 L/cap/d) appears reasonable.
Peaking factor	=	2.5 (based on e	xisting conditions)

There was 6 ha. of undeveloped land noted in the existing industrial park lands which was also accounted for in the 20-year SPS upgrade design. Of the 6 ha., 3.6 ha. would feed into the sewer on the same side as the proposed 5 ha. development lands, the remainder would feed into the SPS from the other direction. The existing industrial development is contributing 2 L/s of ADF and 6.1 L/s of PDF. For the undeveloped industrial land and Area 1, a peaking factor of 2.5 was established based on existing conditions. For the existing industrial lands, Farm Fresh was calculated to be contributing 2 L/s of ADF + infiltration and the remainder of the existing industries were identified as dry industries. All of the existing industries were identified as producing a PDF of 6.1 L/s. We will assume that Farm Fresh has a peak flow = ADF x peak factor of 2.04 + Infiltration = 4.43 L/s. Then the remaining 5 industrial contributors will split the remaining 1.67 L/s of PDF equally.

#### 3.0 Projected Flows - Option 1

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Refer to Figure No. 1.0 for a plan view indicating drainage	area locations.
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Drainage	Area	Drainage Area	Peak	Peak	Total Peak
Area	(Ha)	Avg Q (L/s)	Sewage Q (∐s)	Infiltration Q (L/s)	Sewage Q (L/s)
A	1.8	0.73	1.82	0.31	2.14
B	0.2	0.08	0.20	0.03	0.24
Ċ	0.5	0.20	0.51	0.09	0.59
D	0.5	0.20	0.51	0.09	0.59
Ē	0.6	0.24	0.61	0.10	0.71
F	0.6	0.12	0.24	0,10	0.34
G	0.4	0.12	0.24	0.07	0.31
Ĥ	0.4	0.12	0.24	0.07	0.31
	0.4	0.12	0.24	0.07	0.31
Ĵ	1.0	0.12	0.24	0.17	0.41
ĸ	2.0	2.04	4.08	0.35	4.43
Total	8.4	4.09	8.92	1.46	10.37
1A	1.5	0.61	1.52	0.26	1.78
1B	0.8	0.32	0.81	0.14	0.95
1C	2.2	0.89	2.23	0.38	2.61
Total	4.5	1.82	4.56	0.78	5.34
2A	3.4	1.38	3.44	0.59	4.03
2B	1.1	0.45	1.11	0.19	1.30
2C	1.3	0.53	1.32	0.23	1.54
2D	2.8	<b>1</b> .13	2.84	0.49	3.32
2E	0.9	0.36	0.91	0.16	1.07
2F	1.0	0.41	1.01	0.17	1.19
2G	3.8	1.54	3,85	0.66	4.51
2H	0.9	0.36	0.91	0.16	1.07
21	0.8	0.32	0.81	0.14	0.95
2J	0.9	0.36	0.91	0.16	1.07
2K	0.8	0.32	0.81	0.14	0.95
2L	1.2	0.49	1.22	0.21	1.42
2M	1.2	0.49	1.22	0.21	1.42
Total	20.1	8.14	20.36	3.49	23.85

#### 4.0 Projected Flows - Option 2

Drainage	Drainage Area		Peak	Peak Infiltration Q	Total Peak
Area	( Ha )	Avg Q (L/s)	Sewage Q ( L/s / ha )	(L/s / ha)	Sewage Q (L/s / ha)
A	1.8	0.73	1.82	0.31	2.14
в	0.2	0.08	0.20	0.03	0.24
č	0.5	0.20	0.51	0.09	0.59
Ď	0.5	0.20	0.51	0.09	0.59
E	0.6	0.24	0.61	0.10	0.71
F	0.6	0.12	0.24	0.10	0.34
G	0.4	0.12	0.24	0.07	0.31
H	0.4	0.12	0.24	0.07	0.31
	0.4	0.12	0.24	0.07	0.31
j	1.0	0.12	0.24	0.17	0.41
ĸ	2.0	2.04	4.08	0.35	4.43
Total	8.4	4.09	8.92	1.46	10.37
1A	0.8	0.32	0.81	0.14	0.95
1B	0.8	0.32	0.81	0.14	0.95
1C	0.4	0.16	0.41	0.07	0.47
1D	0.4	0.16	0.41	0.07	0.47
1E	1.1	0.45	1.11	0.19	1.30
1F	1.1	0.45	1.11	0.19	1.30
Total	4.6	1.86	4.66	0.80	5.46
2A	3.2	1.30	3.24	0.56	3.80
2B	0.9	0.36	0.91	0.16	1.07
2C	0.9	0.36	0.91	0.16	1.07
2D	0.6	0.24	0.61	0.10	0.71
2E	0.8	0.32	0.81	0.14	0.95
2F	0.9	0.36	0.91	0.16	1.07
2G	2.7	1.09	2.73	0.47	3.20
2H	0.8	0.32	0.81	0.14	0.95
21	0.9	0.36	0.91	0.16	1.07
2J	1.5	0.61	1.52	0.26	1.78
2K	0.9	0.36	0.91	0.16	1.07
2L	1.1	0.45	1.11	0.19	1.30
2M	0.9	0.36	0.91	0.16	1.07
2N	0.8	0.32	0.81	0.14	0.95
20	1.1	0.45	1.11	0.19	1.30
2P	1.1	0.45	1.11	0.19	1.30
Total	19.1	7.74	19.34	3.32	22.66

#### 5.0 Sanitary Sewer Layout

#### 5.1 Can we service Area 1 and Area 2 by Gravity to the Industrial Park SPS?

There are points in Area 2 that are 1300m away from the existing stub at Hutchinson Street and John Street that have critically low elevations at approximately 380.7 masl. The sanitary sewer stub at this intersection is a 200mm dia. sewer with an invert of 377.315 masl.

Using a 200mm dia. sewer at min grade (0.40%) this would m	ean a rise of:	5.2 m
Without accounting for extra fall across bends and manholes.	This will not be possible.	

Using a 300mm dia. sewer the min grade changes to 0.22% which means a rise of: 2.86 m

377.315 + 2.86 =

6 = 380.175 masl

This would give us 0.3m of cover, therefore still not possible.

Based on the above, we will not be able to service both Areas 1 and 2 by gravity sewer, but what about just Area 1?

#### 5.2 Can we service just Area 1 by Gravity to the Industrial Park SPS?

There are 3 critically low areas along the future roadway which include:

1. 380.2 masl at approximately 50m from the existing stub.

- 2. 380.8 masl at approximately 290m from the existing stub.
- 3. 381.5 masl at approximately 375m from the existing stub.

Using a 200mm dia. sewer at min grade

would mean r	espective rises of	f:	Cover at point
	1.	0.2 m	2.485
	2.	1.16 m	2.125
	3.	1.5 m	2.485
Using a 250m	ım dia. sewer at r	nin grade	
(0.28%) would	d mean respective	e rises of:	Cover at point
	1.	0.14 m	2.495
	2.	0.812 m	2.423
	3.	1.05 m	2.885
Using a 300m	ım dia. sewer at r	nin grade	
would mean r	espective rises of	f.	Cover at point
	1.	0.11 m	2.475
	2.	0.638 m	2.547
	3.	0.825 m	3.06

Servicing Area 1 will be possible by gravity.

Assume we will be using a 250mm dia. sewer at min. grade with the goal of achieving a min. cover of 2.4m. If the Town feels that none of the future industrial users in Area 1 will require a basement or deeper foundation, we could consider a 200mm dia. sewer or a shallower one.

#### 5.3 What can we use for Area 2?

Topography in Area 2 is such that there is generally a low spot followed by a high spot followed by a low spot followed by another high spot and then ending in a low spot as you move from the north to the south. In other words there are two local high spots. To minimize sewer burial depths, locate the new SPS between these two high spots. Option 1 and Option 2 take similar paths but the sewer lengths are longer in Option 2 so consider only Option 2 for the initial layout.

Grade infront of the proposed SPS is approximately 381.5 masl.

The critical elevation to the south is 380.6 masl which is located 465m away. Hence, we need to figure out the fall required from the southerly direction (assume 0.3m extra for safety). Assume at our lowest point we need 2.4m of cover.

Using a \_\_\_\_\_ dia. sewer at min grade would mean a fall of:

	Length (m)	Min Grade (%)	Fall (m)	Cover at starting point (m)	Cover prior to SPS (m)	Sewer Inv. prior to SPS (masl)	Say
200mm dia.	465	0.4	1.86	2.4	5.16		
250mm dia.	465	0.28	1.302	2.4	4.602	376.348	376.350
300mm dia.	465	0.22	1.023	2.4	4.323		

To keep the sewer more shallow, assume 250mm dia. at min. grade. Sewer invert at road prior to SPS will be at 376.500,

Will 200mm dia. work heading towards the north?

The critical elevation towards the north is 381.7 masl which is located 310m away. Assume at our lowest point we need 2.4m of cover with 0.3m of added safey.

Using a \_\_\_\_ dia. sewer at min grade would mean a fall of:

	Length (m)	Min Grade (%)	Fall (m)	Cover at starting point (m)	Cover prior to SPS (m)	Sewer Inv. prior to SPS (masl)
200mm dia.	310	0.4	1.24	2.4	3.74	377.26
250mm dia.	310	0.28	0.868	2.4	3.368	377.582
300mm dia.	310	0.22	0.682	2.4	3.182	

Grade to the south is critical, we can use a 200mm dia sewer at high grade (up to 0.8%) to the north.

Sewer Design Shee Harriston Industrial Pa Conceptual Design (Se Project No. 13215	ark - Option 1				For Manning's R n =	oughness use 0.013						Date Rev. Page	Jun 12/14
	1	<b>Fributary Ar</b>	rea	Design Flows					Pipe	Design			
MH to MH	Existing ( ha )	Future (ha)	Acc Area (ha)	Peak Sewage (Vs)	Infiltration ( I/s)	Total Accumulated Peak Flow (1/s)	Pipe Dia (mm)	Length (m)	Grade (%)	Capacity (L/s)	Veocity (m/s)	u/s invert (m)	d/s Invert (m)
Area 1 + Existing Ind.													
11 to 10	0.0	2.3	2.3	2.3	0.40	2.73	250	65	0.28	31,5	0.64	378.487	378.305
10 to 9	0.0	0.0	2.3	0.0	0.00	2.73	250	60	0.28	31.5	0.64	378.255	378.087
9 to 8	0.0	2.2	4.5	2.2	0.38	5.34	250	120	0.28	31.5	0.64	378.037	377.701
8 to 3	0.0	0.0	4.5	0.0	0.00	5.34	250	120	0.28	31.5	0.64	377.651	377.315
1 to 2	1.4	0.5	1.9	1.2	0.33	1.55	200	75	0.53	23.9	0.76	378.109	377.711
2 to 3	0.4	0.7	3.0	0.9	0.19	2.69	200	73	0.5	23.2	0.74	377.711	377.322
3 to 4	2.0	1.8	11.3	5.9	0.66	14.59	200	100.5	0.6	25.4	0.81	377.269	376.669
5 to 4	1,0	0.6	1_6	0.8	0.28	1.12	200	103	0.4	20.7	0.66	377.140	376.727
4 to 6	0.0	0.0	12.9	0.0	0.00	15.71	200	80	0.95	32.0	1.02	376.664	375.903
6 to 7	0.0	0.0	12.9	0.0	0.00	15.71	200	91.5	0,89	30.9	0.98	375.886	375.069
	1	Fributary Ar	ea	Design Flows					Pipe	Design	<u>.</u>		
MH to MH	Existing (ha)	Future (ha)	Acc Area (ha)	Peak Sewage ( I/s)	Infiltration (I/s)	Total Accumulated Peak Flow (1/s)	Pipe Día (mm)	Length (m)	Grade (%)	Capacity (⊔/ş)	Veocity (m/s)	u/s invert (m)	d/s invert (m)
Area 2													
12 to 13	0.0	2.4	2.4	2.4	0.42	2.85	200	85	0.80	29.3	0.93	379.090	378.410
13 to 14	0.0	1.7	4.1	1.7	0.30	4.86	200	115	0.80	29,3	0.93	378.360	377.440
14 to 15	0.0	1.7	5.8	1.7	0.30	6.88	200	105	0.80	29.3	0.93	377.390	376.550
19 to 18	0.0	8.3	8.3	8.4	1.44	9.85	200	120	0.4	20.7	0.66	378.560	378.080
18 to 17	0.0	1.3	9.6	1.3	0.23	11.39	200	120	0.4	20.7	0.66	378.030	377.550
17 to 16	0.0	3.8	13.4	3.8	0.66	15.90	200	105	0.4	20.7	0.66	377.500	377.080
16 to 15	0.0	0.9	14.3	0.9	0.16	16.96	200	120	0.4	20.7	0.66	377.030	376.550
15 to SPS	0.0	0.0	20.1	0.0	0.00	23.85	250	30	0.5	42.0	0.86	376.500	376.350

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Therefore, all sewers have a full-flow velocity above 0.6m/s and all projected flow rates are below pipe capacities so the proposed layout will work.

ewer Design Shee arriston Industrial Pa onceptual Design (Se oject No. 13215	ark - Option 2				For Manning's R n =	oughness use 0.013						Date Rev. Page	Jun 12/1
		Fributary Ar	ea	Design Flows			T		Pipe	Design			
MH to MH	Existing (ha)		Acc Area (ha)	Peak Sewage ( I/s)	Infiltration (1/s)	Total Accumulated Peak Flow ( I/s)	Pipe Dia (mm)	Length (m)	Grade (%)	Capacity (L/s)	Veocity (m/s)	u/s Invert (m)	t d/s inve (m)
Area 1 + Existing Ind.													
						4 00	250	65	0.28	31,5	0.64	378,487	378.30
11 to 10	0.0	1.6	1.6 2.0	1.6 0.4	0.28	<u>1.90</u> 2.37	250	60	0.20	31.5	0.64	378.255	
10 to 9	0.0	0.4	4.6	2.6	0.07	5.46	250	120	0.28	31.5	0.64	378.037	377.7
9 to 8	0.0	0.0	4.0	0.0	0.45	5.46	250	120	0.28	31.5	0.64	377.651	377.3
8 to 3	1,4	0.0	1.9	1.2	0.33	1.55	200	75	0.53	23.9	0.76	378.109	
2 to 3	0.4	0.5	3.0	0.9	0.19	2.69	200	73	0.5	23.2	0.74	377.711	-
3 to 4	2.0	1.8	11.4	5.9	0.66	14.71	200	100.5	0.6	25.4	0,81	377.269	376.6
5 to 4	1.0	0.6	1.6	0.8	0.28	1.12	200	103	0.4	20.7	0.66	377.140	
V (0 4				•••									
4 to 6	0,0	0.0	13.0	0.0	0.00	15.83	200	80	0.95	32.0	1.02	376.664	375.9
6 to 7	0.0	0.0	13.0	0.0	0.00	15.83	200	91.5	0.89	30.9	0.98	375.886	375.0
· · <del></del> - 1		Fributary An	butary Area Design Flows						Pipe	Design	<u> </u>		
MH to MH	Existing ( ha )		Acc Area (ha)	Peak Sewage ( I/s)	Infiltration ( 1/\$)	Total Accumulated Peak Flow (1/s)	Pipe Dia (mm)	Length (m)	Grade (%)	Capacity (L/s)	Veocity (m/s)	u/s Inver (m)	t d/s inv (m)
Area 2													
				-									
12 to 13	0.0	2.2	2.2	2.2	0.38	2.61	200	120	0.8	29.3	0.93	378.920	377.9
13 to 14	0.0	1,7	3.9	1.7	0.30	4.63	200	110	0.7	27.4	0.87	377.910	
14 to 15	0.0	2.0	5.9	2.0	0.35	7.00	200	90	0.6	25.4	0.81	377.090	376.
21 to 20	0.0	5.9	5.9	6.0	1.02	7.00	250	120	0.28	31.5	0.64	378.368	378.
20 to 19	0.0	0.9	6.8	0.9	0.16	8.07	250	105	0.28	31.5	0.64	377.982	
19 to 18	0.0	1.8	8.6	1.8	0.31	10.20	250	115	0.28	31.5	0.64	377.638	
22 to 18	0.0	0.6	0.6	0.6	0.10	0.71	200	85	0.6	25.4	0.81	379.410	378.
18 to 17	0.0	0.8	10.0	0.8	0.14	11.86	250	95	0.28	31.5	0.64	377.266	377.
17 to 16	0.0	0.8	10.8	0.8	0.14	12.81	250	95	0.28	31.5	0.64	376.950	
24 to 23	0.0	1.5	1.5	. <u> </u>	0.26	1.78	200	70	1.2	35.9	1.14	378.834	377.
23 to 16	0.0	0.9	2.4	0.9	0.16	2.85	200	105	1.2	35.9	1.14	377.944	376.
			13.2	0.0	0.00	15.66	250	30	0.28	31.5	0.64	376.634	376.
16 to 15	0.0	0.0											

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Therefore, all sewers have a full-flow velocity above 0.6m/s and all projected flow rates are below pipe capacities so the proposed layout will work.

## TOWN OF MINTO HARRISTON INDUSTRIAL PARK EXPANSION

File No. 13215

# ROAD CONCEPTUAL DESIGN NOTES

# DESIGN NOTES

D.N. No.	Description	Designer Name	Date
1	<ul> <li>Background information used for evaluating various typical sections for this industrial park expansion:</li> <li>Hutchison St. road measurements (Oct 17/14)</li> <li>Municipal Works Design Manual excerpts</li> <li>MTO Geometric design standards excerpts</li> <li>Interoffice email communications</li> <li>Rough ACAD sections</li> <li>Palmerston Industrial Park drawings and sections</li> </ul>	FCV	Nov/14
2	Noble Lane section (Palmerston Industrial Park) – 21.34m ROW	-	Job #07186
3	Minto Road section (Palmerston Industrial Park) – 20.1m ROW	-	Job #01158
4	Preliminary recommended typical section – 27m ROW selected by Town to accommodate variations in grade + hydro line	FCV	Nov/14
5			

## TOWN OF MINTO HARRISTON INDUSTRIAL PARK EXPANSION

File No. 13215

# WATER SERVICING CONCEPTUAL DESIGN NOTES

# DESIGN NOTES

D.N. No.	Description	Designer Name	Date
1	Water distribution system rehabilitation study - excerpts	-	Feb 19/91
2	ESR for water storage expansion - excerpts	-	Dec 18/95
3	MOE Design Guidelines for DWS – fire protection excerpts	-	2008
4	Preliminary WaterCAD model results & hydrant flow test results	AJG	2014
5	Email from Town fire department re: superior tanker shuttle rate Email to Town re: typical design levels used for fire protection	Town FCV	Nov 24/14 Nov 24/14
6	O. Reg. 213/07 Fire Code – Part 6 Fire Protection	-	-
7	Water Supply for Public Fire Protection	FUS	1999
8	Existing water distribution system upgrade lengths and existing sizes and materials	FCV	Jan/15
9	Elevated storage schematic with key liquid elevations	-	Sep/95
10	Elevated storage shop drawing dimensions and elevations and calculations to determine fire storage elevations	Landmark FCV	May 25/01 Jan/15
11	Model comparison to hydrant flow tests	AJG	Jan 23/15
12	Consider surplus storage situation in relation to fire protection	FCV	Jan 23/15
13	Consider higher elevated tank level during fire Consider surplus well supply capacity re: fire protection	FCV	Jan 23/15
14	Consider possible impact of Well 2 on fire flow	FCV	Jan 23/15
15	Town input on target fire flow Steve's comment on sprinkler statement for ESR	Town SDB	Jan 29/15 Feb 2/15
16	Additional model run results post-Jan 26/15 meeting with Town staff	AJG	Feb 20/15
17	Revised Fire Protection Considerations Memo	FCV	Mar 13/15
18			



# TOWN OF MINTODATE:August 29, 2017REPORT TO:Mayor and CouncilFROM:Bill White, C.A.O. ClerkSUBJECT:First G. Capital Subdivision (Gill) File 23T-1003, Main<br/>Street Palmerston

#### STRATEGIC PLAN

9.1 Establish and maintain streamlined planning approval processes that use innovative and cost effective tools to protect Town and public interest and ensure development proceeds quickly and affordably

#### BACKGROUND

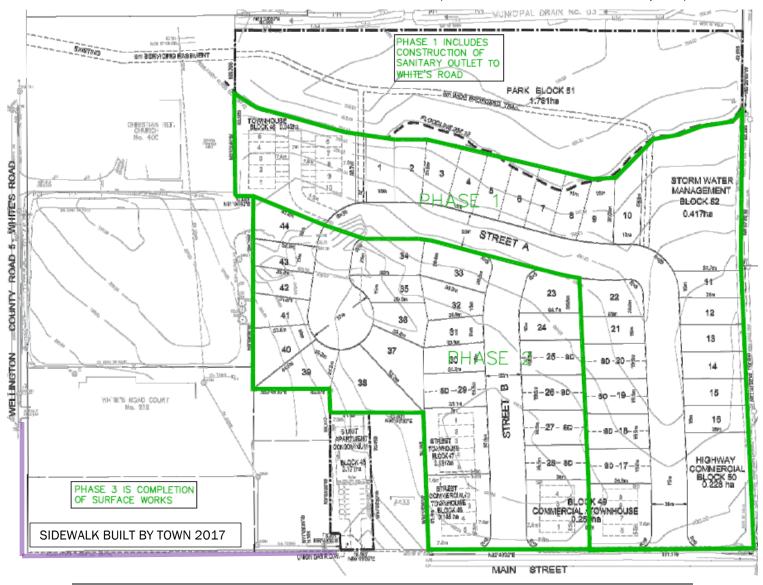
At the September 6, 2016 meeting Council approved an extension to the draft plan of subdivision proposed by Harj Gill on the northeast section of Palmerston, north of Main Street and east of Toronto Street. The map below shows the subject lands, proposed layout and zoning currently in place.



The property is zoned Mixed Use (MU2-40) along the front and mostly medium density residential on the interior (R2H). The holding provision related to servicing the lands. There is a block of high density residential (R3(H) in the northwest corner of the property beside the Christian Reformed Church. The subdivision will have 44 single and semi-detached lots, and four blocks of higher density residential, residential-commercial and highway commercial. The Developer built a six unit building on lands southwest of the subdivision.

Within the subdivision the Developer will construct sanitary sewer, and water, paved roadway with curbs and gutter, and sidewalk. Watermain will be looped in the subdivision from Main to White's Road through an easement. Storm water will flow through a collection system within the roads to a stormwater management pond on the northeast corner, before being outlet into Municipal Drain 3 to the north through the Park Block. The developer will build a walkway through the park and stormwater block to Street A.

The subdivision will have two main phases beginning with the northeastern section as shown below. Phase 3 is identified as "surface works" (boulevards, sidewalks, final asphalt):



First Capital Subdivision Palmerston

The County draft plan approval for the above subdivision layout has a series of conditions to be met before the lot fabric can be registered on title and lands can be transferred to new owners. Conditions include the Developer's engineer designing and supervising all the infrastructure installation to the Town's satisfaction, and meeting all other zoning, parkland or other financial requirements. One draft plan condition is the Developer sign a subdivision agreement with the Town dealing with infrastructure and financial obligations.

Following meetings with the developer, staff sent a draft subdivision agreement for his review by email December 23, 2016. After further meetings the attached letter was received by the Mayor August 21.

#### COMMENT

The attached draft subdivision agreement was used for the Keith Gray Subdivision (Tuffy MacDougall Court) and is based on models used all over Ontario. The agreement contains certain policy considerations that Council has approved and applied to development in the past. The Developer's letter requests relief from certain standard provisions as noted in bold. The following summarizes the terms of the subdivision agreement by section:

- 1. Sets out order of events before Town conditions are cleared, registration of the subdivision agreement, lots are sold, permits are issued or buildings occupied.
- 2. Lists attachments to the agreement including any special or unique requirements.
- Requires the developer provide \$12,000 for Town engineering and legal costs of which \$3,000 will be retained for administration. The Developer has asked that the deposit be reduced to \$6,000 which is acceptable.
- 4. Requires Developer to employ and retain professional engineers throughout the process. The Town consented to the Developer continuing with Triton Engineering given their historic involvement with the file.
- 5. Confirms Developer is responsible for all development costs unless specifically stated.
- 6. If subdivision is not registered within three years Town may declare it null and void and keep all deposits.
- 7. Requires Developer obtain all other agency approvals.
- 8. Developer is to use professional contractors approved by the Town
- 9. Before work begins the Town is to receive a schedule of work to be completed.
- 10. Four days written notice is needed before developer starts work
- 11. Process for approval of underground servicing once installed and rectifying any deficiencies noted by the Town.
- 12. Schedule for above ground work to be provided and potential \$1,000 per day penalty on Developer for each day work is not finished.
- 13. Standards for services being installed including private utilities such as electrical, cable and similar.

- 14. Developer's engineer to supervise construction, and when Town is satisfied work is complete a Certificate of Substantial Completion and Acceptance is issued which starts a two year maintenance period during which the Developer pays for all servicing repairs.
- 15. Allows for servicing work to be staged or phased with Town approval.
- 16. Confirms Town does not maintain services until two year maintenance period is over.
- 17. Requires Developer deposit 100% of the cost of the servicing work set by the engineer which the Town holds until work is substantially complete. Clause contains provisions for reducing the security but never to less than 25% of the remaining works. The Developer has asked that the deposit be reduced from 100% to 50%. For reasons set out later in this report staff recommends at least 60% security be required.
- 18. Procedures during two year maintenance period including how full security is returned.
- 19. The Town finally accepts fill responsibility for installed services after the two year maintenance and certificate of maintenance and final acceptance is issued; at least four lots have to be built on or two years have to pass. Developer must supply "as-built" drawings. The Developer is stating the Town could wait until 70% of any phase is built on (rather than just 4 lots) before assuming services, and this is acceptable.
- 20. Allows reduction of the security deposit once developer demonstrates paid accounts with the Town keeping 10% above the value of the work remaining. The Developer asks that the Town keep only 5% "mark-up" above the cost of remaining work. This could work depending on the security deposit Council requires under Section 17. If Council agrees to less than 100% security no reduction should be considered by the Town until the cost of remaining works is below the security % retained.
- 21. No securities are reduced unless proper declaration is made that accounts are paid.
- 22. The Town can use any services installed by the Developer if it wishes to do so and this does not cause the Town to assume the services.
- 23. Requires Developer remove snow on the roads until Town issues a certificate of maintenance and final acceptance. The Town and Developer can have an agreement for winter maintenance. The Developer asks that the Town remove snow for \$20 per occurrence. Staff does not recommend this clause include a figure as it is arbitrary and may not represent the true cost depending on how much road is to be cleared, the condition of the road and the frequency of clearance based on number of homes built.
- 24. Town can do emergency repairs if needed which does not constitute assuming services.
- 25. Developer indemnifies the Town.
- 26. Developer to carry \$5,000,000 liability insurance and provide certificate to the Town.
- 27. Private utility costs and approvals to be obtained by Developer and provided to Town.
- 28. Implements Town Street naming protocol.
- 29. Developer to control debris in an orderly and sanitary fashion.
- 30. All access roads to be properly maintained.
- 31. Developer to repair any damage made to Town services and private utilities during the period contractor is constructing the subdivision.
- 32. Dust control to be maintained on roads by Developer.

- 33. Requires a master grading and drainage plan be provided and approved by the Town Engineering firm and other authorities. Individual lots shall have site specific grading plans conforming to this overall plan.
- 34. Drainage work installed on a lot has to be maintained according to the overall and site specific grading and drainage plans. Developer is to provide adequate drainage during subdivision development and supply all easements needed for drainage.
- 35. Requires the Developer to convey to the Town all land and easements needed and pay the cost of preparing and registering deeds. The Developer has agreed to build a walking trail up to White's Road. This work will be set out in the subdivision agreement. There is a park shown as Block 54 in the subdivision plan to be dedicated to the Town.
- 36. Subdivision agreement is registered on title immediately before the final subdivision plan is registered, ensuring all future lot owners must comply with the agreement.
- 37. Any survey bars moved must be replaced by Developer and certified.
- 38. Procedure for notice.
- 39. Mortgagees that become owners have same obligations as Developer.
- 40. Provisions for assigning or transferring mortgage
- 41. Building Permits not issued until proper grading and drainage plan is submitted, all agency approvals are in place, underground services substantially complete and tested, surface drainage is provided, fees paid, and road has curb, gutter, sidewalk, full depth gravel and first lift of asphalt. The Developer has asked that sidewalk in the subdivision be built after 70% of homes are in place, and asks that building permits be available even if curbs and first lift of asphalt is not finished. He has also asked for a model home to be permitted. Staff agrees sidewalk work can be delayed due to potential for damage during construction. Building Permits can be issued with full depth Granular A in place only, but the Town will not provide winter maintenance for a gravel subdivision road. The subdivision agreement should specify first lift of asphalt as soon as possible in the spring. The Developer should make a separate submission on a model home showing location and design and if approved should sign a model home agreement and post security with the Town.
- 42. Sets the rules before buildings can be occupied.
- 43. Damages paid per day by Developer for each unit occupied before Town approval.
- 44. Town to approve before Developer places sod or pavement on a boulevard area.
- 45. Lots in a hazard area or needing special attention require and engineer's letter to Town.
- 46. Individual subdivision lots can be released from obligations in the agreement except for street lights, water/sewer billing, and grading and drainage which always apply.
- 47. Subdivision will not be cleared until private utilities agree.
- 48. Developer to keep lands up to date as far as all payments including taxes.
- 49. Standards for water and sewers.
- 50. Payments not made can be charged against the Developer's lands.
- 51. Signage for un-assumed road during construction.
- 52. Tree Planting requirements in the subdivision. This clause should be changed to reflect the Town's requirements in its new Tree Planting policy.
- 53. Developer responsible for meeting any rules for a contaminated site if applicable.

- 54. Requirements for plan submission
- 55. Cost of water, sewer and street lights to be paid by any new purchase and the developer.
- 56. Covenants that bind the Developer.
- 57. Definitions key to enforcing the agreement
- 58. There are several Schedules to the agreement that will be completed. Much of the information is standard. Schedule D will contain the engineer's cost estimate for the work to be done in the subdivision. It provides the cost to be used to set the security amount. Schedule E is specific fees to be paid to the Town, while Schedule G lists lands that the Developer must deed to the Town. Schedule H will reference the Master Grading and Drainage Plan and Tree Retention details.

Staff is recommending no less than 60% of the total servicing costs to be set out Schedule D be held as security by the Town. The Developer has asked for 50% and the Town standard is 100%. Many municipalities require 100% and some require more than that when accepting securities. Municipalities with high growth would not consider a reduction and if asked most lawyers would ask why the Town should assume any risk in this fashion.

Staff is concerned reducing this requirement sets precedence for future subdivisions some of which may be developed by companies not known to the Town. However, the Town is not faced with multiple subdivisions proceeding at different stages throughout the municipality. Also having the Town Engineering Consultant involved with the review and supervision of the work with the Developer provides some comfort that the Town's exposure on a reduced security is not too high. If the Town accepts a reduced security the agreement should be worded so that it is clear the amount is not reduced until the value of the remaining work in a phase is less than 60% of the total cost listed in Schedule D.

Regarding the applicant's request that the Town extend sidewalk on Main Street to the entrance to the subdivision this should be negotiated and set out in the Schedules to the subdivision agreement. The Town built over 170 metres of sidewalk this year to the Developers six unit building southwest of the proposed subdivision. About 100 metres of sidewalk is needed to reach Street A in Phase 1. If the Town agrees to build more sidewalk on Main Street it should not be until the Developer has built the sidewalks inside the subdivision and at least base asphalt installed on interior roads.

Servicing details in the subdivision are being finalized by Triton Engineering. Staff will work with Triton to ensure the subdivision agreement protects Town interests. The Town Solicitor will register the agreement when appropriate.

#### FINANCIAL CONSIDERATIONS

The Developer's cost to service the entire subdivision is projected at \$2.515 million with Phase 1 being \$1,501,786. If the Council accepts 60% security, \$901,071 would be provided to the Town and held until the projected cost of the servicing work in Phase 1 is

less than that amount. After which the subdivision agreement allows reductions with a 10% "mark-up". When services are accepted the Town keeps 10% or \$90,107 for two years while the Developer completes any repairs needed to the infrastructure. This is no doubt a significant investment by the Developer and Town staff will work diligently, along with the consulting engineer, to ensure approvals and reductions under the agreement are processed quickly and efficiently.

Town legal, planning and engineering costs to be covered under the subdivision agreement and the fees and charges by-law. The final subdivision agreement will be signed by Mayor and C.A.O. Clerk when engineering details are final.

#### RECOMMENDATION

That Council receives the C.A.O. Clerk's report dated August 29<sup>th</sup>, 2017 First G. Capital Subdivision (Gill) File 23T-1003, Main Street Palmerston and Harjinder Gill's August 21, 2017 letter, and that the subdivision agreement be finalized with respect to servicing and other requirements as outlined in the staff report and specifically that the security required under Section 17 be 60% of the total servicing costs, and that the Town and developer reach a separate agreement on winter maintenance costs and the model home request.

Bill White, C.A.O. Clerk

#### August 21 st 2017

#### Town of Minto

Bill White Mayor and Council

As there are many challenges to do subdivision of this size it is utmost important that all stake holders make necessary adjustment for this to proceed . I would like to request a few adjustments in the subdivision agreement ,which are as follows.

Building permits to be issued as soon as services are in, such as water sewage hydro, gas and utilities ( should be committed)

Allowed to start construction on model home as soon as possible

3 Deposit for Towns legal and engineering costs to be changed to the amount \$6000.00

17 Amount of initial deposit be reduced to 50% of the cost

19 Paragraph 2 can be applied after 70 % completion

19 Paragraph 4 to be deleted as it does not apply here

20 Adjust the security amount from 10 % t0 % 5 %

Town looks after snow removal \$20.00 each time bases

Town to extend side walk on main street up to the end of subdivision

35 .2 Parkland As was agreed in draft subdivision agreement developer to construct walking trail up to Whites road in lieu of parkland.

Curbs asphalt base coat and side walk are very important to market the houses ,but due to the timing of this project i request the following changes

41 F 1 side walk to be built after 70 % or more built as it usually gets damaged during construction activity

2 Asphalt as we are trying to start construction in fall of 2017 and since paving companies start shutting their plants by end of September, to be allowed to do asphalt base coat as soon as plant opens in spring of 2018

Harjinder Gill

First G Capital Inc

# Between

# TOWN OF MINTO

and

# FIRST G CAPITAL INC.

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- 3. TOWN'S LEGAL AND ENGINEERING COSTS
- 4. DEVELOPER'S CONSULTING ENGINEER
- 5. DEVELOPER'S EXPENSES
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# **INDEX OF SCHEDULES**

# DECLARATION OF PROGRESS AND COMPLETION

(Plans to be lodged with the Town)

Schedule "A"	Description of Lands being subdivided and draft plan of Subdivision
Schedule "B"	Draft Plan of Subdivision and Conditions of Draft Approval
Schedule "C"	Town's Engineering Standards
Schedule "D"	Works to be constructed and itemized estimate of Costs of Construction of each part of the works
Schedule "E"	List of Monies Payable by the Developer to the Town
Schedule "F"	List of Lots Requiring Special Attention
Schedule "G"	Land and Easements to be Deeded to the Town
<u>Schedule "H"</u>	Building Envelope Plan, which may include Lot Grading and Drainage, Landscaping and Tree Retention (as needed)
Schedule "I"	List of Approved Engineering Drawings
Schedule "J"	Declaration of Progress and Completion

THE AGREEMENT made in quadruplicate on the 1<sup>st</sup> day of May of 2017.

BETWEEN:

#### FIRST G CAPITAL INC.

hereinafter called the DEVELOPER of the FIRST PART

-and-

#### THE TOWN OF MINTO hereinafter called the TOWN of the SECOND PART

-and-

#### hereinafter called the MORTGAGEE of the THIRD PART

WHEREAS the Developer is the owner of the land described in Schedule "A" to this Agreement and proposes to subdivide it for the purpose of selling, conveying, or leasing it in lots, by a registered plan of subdivision;

AND WHEREAS the Developer warrants that he is the registered owner of the lands and has applied to the County of Wellington, hereinafter called the County, for approval of a plan of subdivision hereinafter called the Plan, which is described hereto in Schedule "B" to this Agreement;

AND WHEREAS the Developer represents that the Mortgagee(s)is(are)the only mortgagee(s) of the lands;

AND WHEREAS a condition of the County of Wellington draft plan approval requires that the Developer enter into an Agreement with the Town to construct and install certain roadways, sanitary sewer, watermain, storm sewers, street lights, landscaping, conservation works, and any other requirements as hereinafter provided and herein referred to as the "Works" and to make financial arrangements with the Town for the installation and construction of required services before final approval of the Plan by the County;

AND WHEREAS the Developer is required to meet all conditions of Draft Approval for the subject Plan of Subdivision which are attached as Schedule "B" to this Agreement prior to Final Approval and registration of the Plan of Subdivision;

AND WHEREAS the Developer is required to dedicate, for public parks purposes, certain portions of the lands or make a cash payment to the Town in lieu of dedicating such land;

AND WHEREAS the word "Developer", where used in the Agreement, includes an individual, an Association, a Partnership, or a Corporation and wherever the singular is used herein, it shall be construed as including the plural.

NOW THEREFORE THIS AGREEMENT WITNESSETH that, in consideration of other good and valuable consideration and the sum of Ten Dollars (\$10.00) of lawful money of Canada, now paid by each of the parties hereto to each of the other parties hereto (the receipt of which is hereby acknowledged), the parties hereto hereby covenant, promise and agree with each other as follows:

# 1. ORDER OF PROCEDURE

# Before the Town advises the County that its conditions have been met respecting the proposed subdivision, the Developer shall:

- a) Deposit with the Town all deposits and cash outlined in Schedule 'E' including cash-in-lieu of parkland, subdivision agreement preparation, and the cost of remaining works on signing of agreement.
- b) Submit a General Plan outlining the services to be installed.

#### Prior to registering the Agreement, the Developer shall:

- a) Deposit with the Town, securities and insurance as outlined in the Agreement.
- b) Pay, in full, outstanding taxes or drainage and local improvement charges, whichever is applicable.
- c) Agree with the Town on the parcel(s) of land or easements to be deeded to the Town if applicable.
- d) Agree with the Town on the parcel(s) of land to be deeded to the Town for public purposes in accordance with Schedules "G" of the Subdivision Agreement.
- e) Have submitted and obtained the Town Engineer's approval of the following, all to be in accordance with the Town's approved Engineering Standards, and as may be applicable:
  - i) The Master Servicing Layout Plan including but not limited to Roads, Sidewalk, Street Lighting, Sanitary Sewer, Storm Drains and Watermain, whichever is applicable, comprising Plans and Profiles;
  - ii) The Master Servicing Layout Plan for utilities, including but not limited to hydro, telephone, gas;
  - iii) The Construction Plans for the Storm Water Management System;
  - iv) The Lot Grading and Landscaping Plan;
  - v) The Construction Plans of the Water Supply and Distribution System;
  - vi) The Construction Plans for access and internal roads;
  - vii) The Construction Plans for Storm and Sanitary Sewer;
  - viii) The Building and Sewage System Envelope Plan.
- f) Submit the Ministry of the Environment Certificate of Approval for the Water Treatment System, Water Distribution System, Sanitary System and Storm Sewer System where required.

#### Prior to the sale of the lot and/or the issuance of building permits, the Developer shall:

- a) Have obtained final approval of the Plan from the County of Wellington and have obtained registration of the Plan.
- b) Have complied with all the requirements of Section 41 of this Agreement.

#### Prior to any person occupying a building within the Subdivision, the Developer shall:

a) Have complied with all the requirements of Section 42 of this Agreement.

#### 2. ATTACHED SCHEDULES

The following Schedules are attached to and form part of this Subdivision Agreement, if deemed necessary by the Town:

- a) Schedule "A" Description of Lands being subdivided and draft plan of Subdivision
- b) Schedule "B" Draft Plan of Subdivision and Conditions of Draft Approval
- c) Schedule "C" Town's Engineering Standards
- d) Schedule "D" Works to be constructed and itemized estimate of Costs of Construction of each part of the works.
- e) Schedule "E" List of Monies Payable by the Developer to the Town
- f) Schedule "F" List of Lots Requiring Special Attention
- g) Schedule "G" Land and Easements to be Deeded to the Town
- h) Schedule "H" Building Envelope Plan, including Lot Grading and Drainage, Landscaping and Tree Retention Plan where applicable.

- i) Schedule "I" List of Approved Engineering Drawings
- j) Schedule "J" Declaration of Progress and Completion

#### 3. TOWNS LEGAL AND ENGINEERING COSTS

The Developer agrees to pay all costs and deposits outlined in Schedule 'E' to this agreement. The Town agrees that any funds not utilized by the Town shall be reimbursed to the Developer except for \$3,000 which shall be retained for administrative costs pursuant to the Town's Fees and Services By-law.

The Developer agrees to pay to the Town the cost of the Town's Engineer for supervision and inspection of works associated with this plan of subdivision on behalf of the Town. And in this regard, agrees that the sum of \$12,000 outlined in Schedule 'E' payable to the Town prior to signing of this agreement is an initial deposit.

As accounts are received from the Town's lawyer and engineer, they will be paid by the Town and then submitted to the Developer for reimbursement, so that the initial deposit will again be built-up to enable the Town to pay the next accounts as they are received.

#### 4. <u>DEVELOPER'S CONSULTING ENGINEER</u>

The Developer shall employ professional engineers registered with the Association of Professional Engineers of Ontario to prepare and provide:

- a) Servicing designs according to Provincial, Town and other applicable standards.
- b) Master servicing drawings, grading and drainage plans and lot specific grading plans,
- c) Necessary construction contract(s) for installation of required work,
- d) All approvals from the Town, the Ministry of the Environment, Conservation Authorities, Utilities, and other Agencies, where applicable,
- e) Field layout, contract administration, and construction supervision services for required work consistent with the provisions of Section 14 of this agreement,
- f) All records of construction and, upon completion, to advise the Town Engineer of all construction changes and to prepare final "as constructed" drawings,
- g) Representation for the Developer in all matters pertaining to the construction and liaise with Town representatives,
- h) Co-ordination and scheduling to comply with the timing provisions of this Agreement and the requirements of the Town for all Works specified in this Agreement,
- i) To the Town a certificate with respect to each lot or building block for which a building permit application is made, certifying that the proposed construction is in conformity with the overall grading plan,
- j) To the Town, for each lot or block within the Plan, a certificate of final grade elevation indicating the property is in conformity with the overall grading plan at the time of preliminary acceptance.

#### 5. DEVELOPER'S EXPENSES

Every provision of this Agreement, by which the Developer is obligated in any way, shall be deemed to include the words "at the expense of the Developer" unless specifically stated otherwise.

#### 6. VOIDING AGREEMENT

In the event that the Plan of Subdivision is not registered within three years from the date of signing the Subdivision Agreement, the Town may, at its option, declare this Agreement to be null and void, and any deposits or security in possession of the Town shall be forfeited to the Town who shall secure any balance owing with respect to preparation, administration, review and processing of this agreement.

#### 7. APPROVAL OF PLANS AND CONSTRUCTION OF WORKS

The Developer and his/her registered professional consulting engineer shall have the plans and specifications for the Works approved by the Town, the Ministry of the Environment, Conservation Authorities, Utilities, and all other agencies, as required such plans to meet the applicable standard of the said agency.

Following the registration of the Plan, the Developer shall cause to be constructed all requisite Works, in order to provide services to the lots and building blocks within the Plan.

## 8. <u>CONTRACTOR</u>

The Works as set out in Schedule "D" shall be installed by professional contractor(s) retained by the Developer and approved in writing by the Town.

#### 9. SCHEDULING OF WORKS

Prior to the start of construction, the Developer shall supply, for the Town's approval, a Schedule of Works setting out the order in which he considers the various sections of the Works within the Plan will be built. The Town may amend this schedule and the Developer must construct, install, or perform the Works as the Town from time to time may direct.

#### 10. NOTIFICATION OF COMMENCEMENT

The Developer shall not commence the construction of any of the Works until the Developer has provided ninety-six (96) hours written notice to the Town of his intent to commence work.

It is the intent of this Agreement that the Works be performed expeditiously and continuously, that all underground services be installed within one year of the date of the signing of the Agreement, and that all above-ground services be installed in accordance with the Declaration of Progress and Completion as required under Clause 11 of this Agreement, unless extended by the Town. Should, for any reason, there be a cessation or interruption of construction, the Developer shall provide ninety-six (96) hours written notification to the Town before work is resumed.

#### 11. PROGRESS OF WORKS

After the completion of the Underground Services, the Developer or his Engineer shall complete the Declaration of Progress and Completion and, from that date, the said Declaration shall apply and take precedence over Item 16. Prior to signing the Declaration of Progress and Completion, the Developer shall install all works in accordance with the Schedule of Works or as directed by the Town, and if he fails to do so, or having commenced to install the aforesaid Works, fails or neglects to proceed with reasonable speed, or in the event that the aforesaid works are not being installed in the manner required by the Town, then, upon the Town giving seven (7) days written notice by prepaid registered mail to the Developer, the Town may, without further notice, enter upon the said lands and proceed to supply all materials and to do all the necessary works in connection with the installation of the said works, including the repair or reconstruction of the faulty work and the replacement of materials not in accordance with the specifications, and to charge the cost thereof, together with the cost of engineering, to the Developer who shall forthwith pay the same upon demand.

If the Developer fails to pay the Town within thirty (30) days of the date on the bill, the money owing may be deducted from the cash deposit or Letter of Credit. In the event that the Town must enter upon said lands and have the works completed or repaired due to situations as outlined above, any or all original drawings and specifications prepared by the Developer's engineer must be turned over to the Town for its use should it require same. It is understood and agreed between the parties hereto that such entry upon the lands shall be as agent for the Developer and shall not be deemed, for any purpose whatsoever, as an acceptance or assumption of the said works by the Town. The Town, in addition to all other remedies it may have, may refuse to issue building permits until such works are completely installed in accordance with the requirements of the Town. It is agreed that a copy of this Clause shall be delivered by the Developer to each and every builder who is or will be seeking to obtain a building permit for any lot or part of a lot on the said plan.

#### 12. DECLARATION OF PROGRESS AND COMPLETION

- a) Prior to the approval of the underground services, the Developer shall provide the Town with an undertaking for the completion dates of all remaining works required by the Agreement and in a form similar to that attached to this Agreement as The Declaration of Progress and Completion.
- b) It is understood and agreed that, should the Developer fail to construct the remaining services, as stipulated, and by such dates as provided in the Declaration, the Developer shall pay to the Town, as predetermined liquidated damages, the sum of One Thousand Dollars (\$1000.00) for each and every day the said services are behind schedule of construction.

#### 13. WORKS TO BE INSTALLED

a) The Works to be installed are set out in Schedule "D" to this Agreement. This schedule is to set out the Works in general terms only and shall not be construed as covering all items in detail. If at any time, and from time to time during the development of the Subdivision, the

Town is of the opinion that additional Works are necessary to provide adequately any of the public services required by the Plan, the Developer shall construct, install, or perform such additional Works at the request of the Town.

- b) All catch basins and storm drains shall be flushed and cleaned by the Developer to the satisfaction of the Town prior to preliminary acceptance of the services by the Town, annually and again prior to Final Acceptance, at the sole discretion of the Town.
- c) Underground electrical distribution service shall be provided for all lots and blocks within the subdivision, according to standards and specifications approved by Westario. The Developer shall be responsible for design, approval, installation and acceptance of all electrical services.
- d) The Developer ensure that the electrical distribution, telephone, cable television and other such private utilities are located in a common trench, and shall be solely responsible for any and all arrangements respecting these private services with the responsible supplier.
- e) The Developer shall use its best efforts to locate all hydro transformers and switching boxes that are placed above and below ground are installed with consideration of individual lot access and development.
- f) Street lighting shall be supplied and erected by the Developer to the Town's specifications. All street lighting shall be erected and installed under the supervision and inspection of Westario.

#### 14. INSPECTION AND ACCEPTANCE OF WORKS

- a) The Developer and his/her Registered Professional Consulting Engineer shall provide adequate supervision to ensure and to certify that Services required by this Agreement are installed in accordance with the engineered design in a good and workmanlike manner in accordance with all applicable municipal, County, Provincial or other standard.
- b) The Developer's engineer shall provide full time on-site inspection of the work being done pursuant to this Agreement.
- c) The Town, or its agents, shall have the right at any and at all times to enter onto the property to make whatever inspections it deems necessary, to stop work that it believes is not being done properly; and or to require that any work that has not been done properly be redone.
- d) When the Town has been notified in writing that all the services have been completed, the Town shall make an inspection. When the Town is satisfied that work is substantially complete, the Town shall issue a Certificate of Substantial Completion and Acceptance. The Certificate may contain a list of minor deficiencies which have to be corrected by the Developer, but which are not considered of sufficient importance to delay the issuance of the Certificate and the acceptance of the services by the Town. The two-year Maintenance period will commence when this Certificate is issued.

#### 15. <u>STAGING</u>

Any staging or phasing of servicing shall be outlined in this agreement and is subject to approval by the Town at its sole discretion. Where staging or phasing is applied, approval to move to a subsequent stage shall be granted when the services in the preceding stage have been brought up to the standards for occupancy as set out in Section 42.

#### 16. ASSUMPTION OF SERVICES

Notwithstanding anything hereinafter set out, the Town shall not be obligated to assume the responsibility for and take over service provision to the Subdivision until Sections 18 and 19 have been complied with. The Developer is responsible for the maintenance and shall provide securities to the Town in the amount agreeable to the Town in the form of a Letter of Credit or a certified cheque, to ensure that the maintenance of the services, including snowplowing and sanding, are properly carried out, if deemed necessary by the Town.

If applicable and by mutual consent, this clause may be amended to adjust the required number of occupied dwellings before the Town assumes the work and services.

# 17. <u>SECURITIES</u>

At the time of executing the Subdivision Agreement and prior to registration, the Developer shall deposit with the Treasurer of the Town securities to cover the faithful performance of the Contract for the installation of the said services and the payment of all obligations arising there under the following:

- a. Cash in the amount of One Hundred Percent (100%) of the estimated cost of the remaining work as set out in Schedule "E" of this Agreement.
- b. Cash deposit for engineering, legal and planning costs for the Town as required by municipal fees and services by-law.
- c. Any other cash payments or deposits as may be required by this agreement and the Schedules thereto.

As work is completed and preliminary acceptance is granted by the Town for any portion of the work approved by the Developer's consulting engineer and accepted by the Town's Engineer, the cash security may be reduced to an amount equal to 125% of the estimated cost of the remaining work. In no case will the security be reduced to less than 25% of the estimated cost of the remaining work until the expiration of the guaranteed maintenance period and the issuance of the certificate of final acceptance as provided for in Clause 19.

#### 18. MAINTENANCE OF WORKS

The Developer will be responsible for the repair and maintenance of all Subdivision services for a period of two (2) years from the date of the Certificate of Substantial Completion and Acceptance or until such time as four (4) of the lots in the subdivision have occupied dwellings erected thereon, whichever is the greater. This shall be called the **Maintenance Period**. If, during this period, the Developer fails to carry out maintenance work within 24 hours after receipt of a request from the Town, then the Town may, without further notice, undertake such maintenance work and the total cost of such work shall be borne by the Developer, the money owing may be deducted from the cash deposit or letter of credit. If the Developer fails to reimburse the Town held deposit within thirty (30) days of the date of billing, then no further approvals or release of monies shall occur.

During the Maintenance Period, Ten Percent (10%) of the estimated cost of the Works in Schedule "D" shall be retained by the Town in cash or security as the case may be. Towards the end of the Maintenance Period, the Developer shall make a written request to the Town for a final inspection to be made and, notwithstanding the period noted above, the Maintenance Period will continue for a minimum of the original two (2) year or for thirty (30) days after the receipt of the Developer's written request for a final inspection, whichever period of time is the greater.

#### 19. FINAL ACCEPTANCE OF WORKS/SUBSTANTIAL COMPLETION

On receipt of the Developer's request for a final inspection, the Town will inspect the work and, if satisfied, will issue the Certificate of Maintenance and Final Acceptance, at which time the remaining 10% of the cash or Letters of Credit will be released by the Town in accordance with Section 17.

It should be noted that the Certificate of Maintenance and Final Acceptance may be applied for by the Developer either after four (4) lots have been developed or two years after the receipt of the Certificate of Substantial Completion and Acceptance, whichever is the greater.

Prior to the issuance of a Certificate of Maintenance and Final Acceptance and prior to releasing the remaining 10% of the cash or letter of credit, the Developer shall provide to the Town drawings and plans as per Section 54.

The Developer acknowledges that notwithstanding the Town issuing a Certificate of Final Acceptance, security held in regard to the Developer's contribution to roadway reconstruction on Highway 9 shall be retained by the Town until the work on the Highway is complete.

#### 20. DISCHARGE OF SECURITIES

After the completion of Fifty Percent (50%) of the services in the Subdivision or in an approved stage of the Subdivision, the Developer may, as the work further proceeds to completion, submit a written application to the Town along with a Statutory Declaration of Accounts Paid and upon the Certificate of the Town engineer, to draw on the cash or Letter of Credit in amounts of not less than 10% of the cost of the work itemized in Schedule "D". After the completion of 70% of the work, the Town shall retain, at all times, sufficient security in the form of cash or Letter of Credit, to finance the completion of the works itemized in Schedule "D", with an additional 10% of the cost of the works, as itemized in Schedule "D", being retained by the Town until the expiry of the Maintenance Period to guarantee the maintenance of the work during the period.

#### 21. STATUTORY DECLARATION OF ACCOUNTS PAID

Upon applying for a reduction or discharge of securities or for a Certificate of Substantial Completion and Acceptance for the services within the Subdivision, the Developer shall supply the Town with a Statutory Declaration that all accounts for work and materials for said services have been paid except for normal guarantee holdbacks and that there are no claims for liens or otherwise in connection with such work done or materials supplied for or on behalf of the Developer in connection with the Subdivision.

# 22. <u>USE OF WORKS BY TOWN</u>

The Developer agrees that:

- a) The Works may be used prior to acceptance, by the Town or other authorized persons for the purpose for which such works are designed.
- b) Such use shall not be deemed an acceptance of the Works by the Town.
- c) Such use shall not, in any way, relieve the Developer of his obligations in respect of the Works so used.

#### 23. WINTER ROAD MAINTENANCE

Prior to the issuance of the Certificate of Maintenance and Final Acceptance, and subject to Section 13, the Developer shall be responsible for all winter road maintenance within the Subdivision. In the event that proper vehicular access or snow removal is not provided by the Developer, the Town, through its servants, contractors, or agents, may provide access and remove snow without notice to the Developer. Such removal of snow shall be only carried out at times deemed to be an emergency by the Town. All costs of such works shall be paid by the Developer within thirty (30) days of the date of billing or otherwise may be deducted from the deposited securities.

The Developer further agrees that any work done by the Town pursuant to this contract before the roads are accepted by the Town shall not be deemed in any way to be an acceptance by the Town of the roads in the said Subdivision upon which such work is done. The Developer acknowledges that the Town, while providing access by removing snow, may damage or interfere with the Works of the Developer and cause damage to such Works and the Developer hereby waives all claims against the Town that he might have arising therefrom and covenants that he will make no claim against the Town for such interference or damage, providing the work is carried out in a normal and reasonable manner.

Representation may be made requesting that the Town consider entering into a separate agreement with the Developer to undertake the winter road maintenance within the Subdivision.

#### 24. EMERGENCY REPAIRS

Employees or agents of the Town may enter onto the lands at any time or from time to time for the purpose of making emergency repairs to any of the Works. Such entry and repairing shall not be deemed an acceptance of any of the Works by the Town, or an assumption by the Town of any liability in connection therewith, or a release of the Developer from any of his obligations under the Agreement.

#### 25. DEVELOPER'S LIABILITIES

Until the Town has issued the Certificate of Maintenance and Final Acceptance for the Works, the Developer shall indemnify the Town against all actions, causes of action, suits, claims and demands whatsoever which may arise either directly or indirectly by reason of the Developer undertaking the Plan.

#### 26. INSURANCE

The Developer shall provide a certificate of insurance against all damages or claims for damage from a licensed Insurance Company satisfactory to the Town. Such policy or policies shall be issued in the joint names of the Developer and the Town and the form and content shall be subject to the approval of the Town. The policy shall remain in the custody of the Town during the life of this Agreement. The minimum limits of such policies shall be \$5,000,000.00 all inclusive, but the Town shall have the right to set higher amounts.

The policy shall be in effect for the period of this Agreement including the period of guaranteed maintenance. The issuance of such a policy of insurance shall not be construed as relieving the Developer from responsibility for other or larger claims, if any, for which he may be held responsible.

#### 27. UTILITY COSTS AND CHARGES

The Developer shall deal directly with Westario and all other Utility companies and shall be responsible for obtaining all approvals and permits and pay all fees and charges directly to the Utility. Copies of all approvals shall be provided to the Town prior to registration if requested.

# 28. STREET NAMES AND NUMBERS

The Developer shall name all streets within the Lands forming part of the Plan with names of Town of Minto Veterans of the First or Second World War as per the policy of the Town and subject to final approval by Town Council. Block or building numbers for municipal addressing purposes shall be assigned by the Town and shall be identified by the Developer on the lot during construction of any dwelling or other permitted building in accordance with any applicable Town requirements.

#### 29. CONSTRUCTION REFUSE

All construction refuse and debris from the Subdivision must be disposed of in an orderly and sanitary fashion in a dumping area provided by the Developer off the site of the Subdivision and approved by the Town. The Town is not responsible for the removal or disposal of refuse and debris. The Developer agrees to deliver a copy of this Clause to each and every builder obtaining a building permit for any lot or part of lot on the said Plan of Subdivision.

The Developer shall, at all times, keep the streets and boulevards in the Subdivision clear and free of all materials and obstructions which might interfere with the installation of hydro, telephone, gas, or other utilities.

The Developer shall immediately remove all mud and debris from the street, easements, and road allowances within the Plan of Subdivision as and when directed by the Town.

#### 30. ACCESS ROADS

All access roads must be maintained by the Developer in good repair acceptable to the Town during the time of construction and no roadway outside the limits of the proposed subdivision may be closed without the written consent of the Town. For the purpose of obtaining such consent, the Developer shall advise the Town of the date and time he wishes to close the roadway.

The Developer agrees that all roads abutting on the Lands to be included in the final Plan and to be used for access during the construction of the houses or other buildings on the Plan shall be kept in good and usable condition throughout the period of construction and, if damaged, the Developer agrees to restore same immediately. All trucks making delivery to or taking materials from the Lands shall be adequately covered and not unreasonably loaded so as not to scatter refuse, rubbish, or debris on the said streets abutting. Debris or mud deposited on abutting streets by traffic from the Lands shall be removed immediately. If not removed after one (1) day's notice, the deposited material may be removed by the Town or someone designated by the Town at the Developer's expense.

#### 31. DAMAGE TO EXISTING PLANT

The Developer shall repair any damages caused to any existing road, or existing structure or plant located on the road allowance, as a result of the Subdivision development and shall pay for any costs involved in the relocation of existing services, such as hydrants, telephone poles, etc., which may become necessary because of the development of the Subdivision.

#### 32. DUST CONTROL

Prior to the acceptance of the completed roads, the Developer shall apply calcium chloride or other suitable dust suppressant to the roads in quantities sufficient to prevent any dust problem to traffic or home occupants.

#### 33. DRAINAGE PLAN

Prior to the registration of this Agreement, the Developer shall have a Master grading and drainage plan and stormwater management report as required approved by the Town's Engineer and other authorities as required; and lodged with the Town. All lots shall be graded in accordance with this plan as part of initial site works.

Each lot shall have site specific lot grading and drainage plans, confirming development is and will be in accordance with the overall plan. This site specific plan shall include details of foundation drains and sump outlet, finished floor elevation, in addition to any other usual details needed to confirm conformity with the overall drainage plan on the lands.

#### 34. DRAINAGE

#### 34.1 RESPONSIBILITY OF DEVELOPER AND FUTURE OWNERS

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It is understood and agreed by the parties hereto that drainage of surface waters on the lots and blocks in the Plan, after the release provided for in Section 46 hereof has been issued by the Town, remains the sole responsibility of the Developer and subsequent owners who shall not to impede, change or alter approved drainage and shall maintain adequate drainage of such surface waters. There shall be no alteration of the drainage without the express permission of the Town.

#### 34.2 LOT GRADING AND DRAINAGE PLANS

All lots and blocks within the Plan and all lands abutting the Plan shall be graded to drain in accordance with the master grading and drainage plans as approved by and lodged with the Town under Section 33. At the time of building permit, a site specific lot grading and drainage plan prepared by a certified professional shall be submitted as part of the building permit application.

Until the roads laid out according to the Plan have been expressly assumed by By-law of the Town as part of the Town road system, the Developer shall provide adequate drainage of the surface water from the area subdivided, and shall ensure that proper erosion control measures are also taken. The Developer shall layout such roads and grade same, together with the lands surrounding same, in such a manner that no damage or harm shall result by reason of the drainage there from persons or property outside the Plan or to the Lands.

The Developer, at its sole cost and expense, including all registration costs and applicable taxes, if any, shall grant and convey to the Town, free and clear of any and all encumbrances, easements affecting the Lands as may be necessary or required in the sole opinion of the Town to provide for any drainage work that may be required to furnish an outlet for storm water or natural watercourses draining on or from any part of the Lands. All such easements shall be shown on the approved final engineering drawings.

The Developer agrees that, if required drainage work for the subdivision results in drainage through property other than Lands subject of the subdivision plan, all such work shall be carried out by means of a storm drain and appurtenances of sufficient size for the drainage requirements of the area and the same shall be subject to the prior approval of the Town and the Conservation Authority as needed. The Developer shall, at its sole cost and expense, including all registration costs and applicable taxes, if any, obtain from land owners adjoining the Lands all necessary easements and lands required by the Town with respect to the adjacent properties to properly facilitate drainage of the Lands and the contributing areas. The easements, land, servicing requirements and the documentation thereof shall be subject to the prior approval of the Town.

If, as the Plan develops, it becomes apparent to the Town, Conservation Authority or any other agency having jurisdiction that further work is necessary, either upon the Lands or beyond the boundaries thereof, with respect to the grading and drainage plans or with respect to the works contemplated in any part of this Section, the Developer shall, at its sole cost and expense, forthwith provide the same upon receipt of a written notice identifying sufficient particulars thereof from the Town. The necessity of such drainage work shall be at the sole discretion of the Town.

#### 34.3 REGISTERED DRAINAGE EASEMENT/RIGHT-OF-WAY

An easement shall be granted over any Lot or Block on the Plan, as required, for drainage purposes; and a covenant registered on title in regard to the maintenance responsibilities associated with said easement if deemed necessary.

#### 35. LANDS FOR MUNICIPAL PURPOSES

The Developer agrees to grant in fee simple unto the Town, lands for municipal purposes other than roads, which shall be mutually agreed upon by the Developer and the Town, or to make cash payment in lieu thereof as provided by The Planning Act. A list of blocks, easements and right-of - ways shall be set out in Schedule "G" of this Agreement.

The deeds for the said lands are to be approved by the Town's Solicitor and thereafter, forthwith registered and deposited with the Town Clerk. All transactions shall be free and clear of all encumbrances. The cost of preparation and registration of the said deeds shall be paid by the Developer.

#### 35.1 Reserves/Blocks for Road Purposes

The Developer agrees to grant, at his expense, all such blocks for easements and rights-of-way as may be required for the installation and supply of services to the Subdivision. Prior to executing

this Agreement, all known easements shall be filed with the Town in a form approved by the Town's Solicitor.

If at any time, and from time to time during the development of the subdivision, the Town is of the opinion that additional easements are necessary to provide or protect adequately any of the public services required by the Plan, the Developer shall provide such additional easements at the request of the Town.

The Developer agrees to convey to the Town in fee simple, any 0.3 m reserves or blocks to facilitate proper road standards as required by the Town.

#### 35.2 Parkland

The Developer agrees to grant in fee simple unto the Town lands as provided by the Planning Act, as required by the Town and outlined in Schedule 'E'.

#### 35.3 Easements

Easements shall be granted for such Other Purposes as may be deemed necessary for the servicing of the development, or as required by the Town or such other Agency who may have an interest. In particular the Developer shall supply the Town with an easement along the rear of Lots 9 to 11 for the purposes of installation of a sanitary sewer force main said main cannot be constructed on adjacent lands to be acquired by the Province of Ontario by the Town.

#### 36. <u>REGISTRATION</u>

The Developer consents to the registration of the Subdivision Agreement by the Town, and at the sole discretion of the Town, upon the title to the lands. The Developer acknowledges that such registration will occur immediately prior to registration of the subdivision plan. The Developer is responsible for the cost of registration.

#### 37. REPLACEMENT OF SURVEY BARS

Prior to the acceptance of the Subdivision by the Town, the Developer agrees to supply a statement from an Ontario Land Surveyor, approved by the Town, that, after the completion of the Subdivision work, he has found or replaced all survey monuments and iron bars as shown on the registered plan.

#### 38. LEGAL NOTICE TO DEVELOPER

Any notice required to be given hereunder may be given by registered mail addressed to the Developer at his principal place of residence and shall be effective as of the date of the deposit thereof in the Post Office.

#### 39. MORTGAGEE BECOMING OWNER

The Mortgagee hereby agrees that, in the event of the Mortgagee becoming the owner of the lands by way of foreclosure, purchase, or otherwise, either beneficially or in trust, then the mortgage shall be deemed to be postponed to this Agreement and the Mortgagee shall be subject to the terms of this Agreement as though the Mortgagee executed this Agreement in the capacity of Developer.

#### 40. ASSIGNMENT OR TRANSFER OF MORTGAGE

The Mortgagee agrees that, in the event of the Mortgagee assigning or transferring the mortgage on the Lands, the assignment or transfer shall be subject to the terms hereof in the same manner as if the assignee or transferee had executed this Agreement.

#### 41. <u>REQUIREMENTS FOR BUILDING PERMITS</u>

The approval of the Plan by the Town or the acceptance by the Town of the Works shall not be deemed to give any assurance that municipal building permits, when applied for, will be issued in respect of the lots or blocks shown on the Plan.

Notwithstanding the foregoing, no building permits will be given until:

- a) Plans submitted confirm the proposed development is in conformity with the building envelope and master grading and drainage plan established for the respective lot.
- b) All Conservation Authority, Ministry of Environment and other applicable approvals have been obtained and submitted to the Town.

- c) All internal sanitary sewer mains and water lines, if applicable, have been tested and a Certificate of Substantial Completion and Acceptance has been issued by the Town's Engineer for these works.
- d) The storm sewer system, if applicable, has been tested and a Certificate of Substantial Completion and Acceptance has been issued by the Town's Engineer for these works.
- e) All fees required for the connection to the municipal systems has been paid to the Town.
- f) A road consisting of grading, curb, gutter, sidewalk and full depth of Granular "A" sub base, and first lift of asphalt has been constructed.
- g) Approval of the Town has been obtained for the construction of any buildings to be erected on lots or blocks listed in Schedule "F" hereto.
- h) A certificate has been given by the Developer's Consulting Engineer that the building to be erected on any lot or block within the Plan is in conformity with the overall grading plan or has received the approval of the Town with respect to any variance to the grading plan.
- i) The Developer has provided sufficient documentation confirming the electrical distribution system, street lighting, telephone, cable tv., gas and similar private utilities will be installed within six weeks of the date of issuance of a building permit.

#### NOTE:

**1.** In the case of lots built-on by a third Party, the Town reserves the right to request a similar certificate as required under Section 4 (i) or (j), but it may be provided by a Professional Engineer other than the Developer's Consulting Engineer or an Ontario Land Surveyor. If the Town has their engineer prepare the certificate, the cost of the work will be added to the cost of the Building Permit.

**2.** It is agreed that a copy of this Section shall be delivered by the Developer to each and every property owner and builder obtaining a building permit or any prospective purchaser of the lands or dwelling for any lot on the said Plan.

#### 42. <u>REQUIREMENTS FOR OCCUPANCY</u>

No buildings erected on the lots or blocks within the Plan shall be occupied until a Certificate of Occupancy has been issued by the Town and this Certificate will not be issued until:

- a) The roadway from the entrance of the Subdivision to and including the block of which the building is a part, has received the full specified thickness of Granular "A" and first lift of asphalt.
- b) The water system and sewage system connections have been installed and approved by the Town or other agency having jurisdiction.
- c) The traffic, street lights, and street signs have been installed and approved by the Town.
- d) The unit has been identified with the street number in accordance with Town policy.
- e) A certificate has been given by the Developer's consulting engineer, Ontario Land Surveyor or alternate, that the building constructed and the final grading of the lot or block is in conformity with the overall grading plan or such variance there from has been approved by the Town.
- f) The plumbing, electrical work, and exterior finish have been completed, and a sufficient documentation has been provided by the Developer confirming the electrical distribution system, street lighting, telephone, cable tv., gas and similar private utilities have been installed.

# NOTE:

**1.** In the case of lots built-on by a third Party, the Town reserves the right to request a similar certificate as required under Section 4 (i) or (j), but it may be provided by a Professional Engineer other than the Developer's Consulting Engineer or an Ontario Land Surveyor. If the Town has their engineer prepare the certificate, the cost of the work will be added to the cost of the Building Permit.

**2.** It is agreed that a copy of this Section shall be delivered by the Developer to each and every property owner and builder obtaining a building permit or any prospective purchaser of the lands or dwelling for any lot on the said Plan.

#### 43. OCCUPANCY LIQUIDATED DAMAGES

Notwithstanding the above, if for any reason whatsoever, occupancy of any building occurs before the requirements listed in Clause 42 are met to the satisfaction of the Town, then the Owner of the building agrees to pay to the Town liquidated damages in the amount of \$200.00 per dwelling unit per day to cover the additional costs of administration, inspection, and fire protection, etc. The liquidated damages are to commence at and include the day of occupancy and end when the Owner of the building obtains a certificate from the Town that the requirements under Clause 42 are met.

NOTE: It is agreed that a copy of this Clause shall be delivered by the Developer to every builder obtaining a building permit or any prospective purchaser of the dwelling for any lot within the Plan.

#### 44. ROADWAYS, SIDEWALKS AND WALKWAYS

The roadways, curbs, gutters, sidewalks and walkways shall be constructed in a manner and in the locations set out in the approved Engineering drawings.

Prior to any pavement being applied or sod placed to finish any boulevard area within the subdivision, all services must have been approved by the Town, final inspections in place, and certificates required by this agreement issued.

#### 45. LOTS REQUIRING SPECIAL ATTENTION

Any lot which will require special attention in order to be serviced will be listed on Schedule "F" of this Agreement.

Prior to the issuance of the building permit for any lot listed on Schedule "F", the Developer's engineer must submit a letter to the Town outlining the measures to be taken to address the constraint on the lot. The proposal must be approved prior to applying for a building permit. No accessory buildings or structures shall be permitted within a natural or man-made drainage feature, notwithstanding that a building permit may not be necessary.

#### 46. <u>RELEASE OF LANDS</u>

The Developer, when not in default of the Subdivision Agreement, shall be entitled to an effective release in a form for registration in the Land Titles Office for each lot or block designated by the Developer. Such release shall not be issued until:

- a) The Town has certified that the necessary services for occupancy have been constructed and the Developer is not in default of his agreement to provide services.
- b) A certificate has been given by the Developer's consulting engineer confirming that the building constructed and the final grading of the lot or block is in conformity with the overall grading plan for the lands or such variance there from as has been approved by the Town.

Every such release shall operate as a discharge of all levies hereunder by the Town in respect to each lot or block described in the release with the exception of the responsibility for lot grading and drainage, street lighting, sewage and water rates where applicable.

#### 47. THIRD PARTY CLEARANCE

Prior to the Town releasing the proposed Plan for registration, the Developer shall provide the Town with:

- A letter from Westario stating that the Developer has entered into a satisfactory agreement with them with respect to the costs of installing wiring and/or equipment, and outlining the financial contributions in this regard;
- b) Where applicable, a letter from the Gas utility stating that a satisfactory agreement has been made with respect to the cost of installing gas facilities, and outlining the financial arrangements concluded in this regard.
- c) A letter from the local company providing telephone service stating that the Developer has entered into a satisfactory agreement with them with respect to the costs of installing wiring and/or equipment, and outlining the financial contributions in this regard;
- d) A letter from the local cable company responsible for providing cable service stating that the Developer has entered into a satisfactory agreement with them with respect to the costs of installing wiring and or equipment, and outlining the financial contributions in this regard; and,
- e) A letter from the local company providing data communication or fibre optic service stating that the Developer has entered into a satisfactory agreement with them with respect to the costs of installing wiring and/or equipment, and outlining the financial contributions in this regard.
- f) Prior to the Town releasing the proposed Plan for registration, the Developer shall provide the Town with a letter from Canada Post that the Developer has entered into a satisfactory agreement or arrangement with respect to the provision of postal service.

#### 48. DRAINAGE AND LOCAL IMPROVEMENT CHARGES

a) The Developer agrees to pay for all arrears of taxes outstanding against the property herein described before the approval of the said Plan is obtained.

- b) The Developer further undertakes and agrees to pay all taxes levied on the said lands on the basis and in accordance with assessment and collector's roll entries until such time as the lands herein being subdivided have been assessed and entered on the collector's roll according to the Registered Plan.
- c) Before the Plan is approved, the Developer agrees to commute and pay all charges, including the Town's share, made with respect to The Drainage Act, and the Local Improvement Act which are assessed against the property on the said Plan of Subdivision. These charges are set out in Schedule "E" of the Agreement.

#### 49. SANITARY SEWER, WATER DISTRIBUTION AND SUPPLY

- a) The Developer shall construct sanitary sewers and watermains in a manner and in the locations set out in the approved Engineering Drawings.
- b) Water mains shall not be connected to the municipal system until the construction of the water distribution system is complete and the water lines have been cleaned and tested to the satisfaction of the Town.
- c) Sanitary sewer mains shall not be connected to the municipal system until the construction of the collection system is complete and lines have been inspected and tested to the satisfaction of the Town. All individual properties shall be protected with a backflow prevention valve installed in accordance with applicable municipal and provincial standards and codes to the satisfaction of the Town.
- d) The Developer shall service each and every lot within the Plan during the initial construction so as to avoid the future necessity for disruption to the roadway or drainage system, in compliance with the accepted Plans.
- e) All capital charges shall be paid prior to issuance of a building permit, and all connection charges shall be paid in keeping with the applicable municipal water bylaw.
- f) Connection to the municipal water treatment and supply system and sewage collection system shall be subject to the responsibilities, fees and charges established in the applicable municipal by-laws and policies of the Town.
- g) The Developer agrees that proceeding with any service construction on the subject lands prior to the Works noted herein shall be at his own risk and the Town shall not be held liable for any loss of service provision until The Works receive substantial completion.

#### 50. PLEDGE OF TITLE TO LANDS

The Developer hereby charges and pledges as security for such levy payments and service charges all his rights, title, and interest in these parts of the Lands shown as numbered and/or lettered lots and/or blocks on the Plan and agrees that this Agreement may be registered against the Lands and it is agreed that such payments and costs shall be in lien against the Lands.

#### 51. <u>SIGNS</u>

Signs at least 1.2 m by 1.8 m shall be supplied and erected by the Developer to the Town's satisfaction at each entrance to the Subdivision and the signs shall read as follows:

#### "Roads not assumed or maintained by Municipality"

These signs shall be installed prior to the commencement of construction and be removed after the issuance of the Certificate of Maintenance and Final Acceptance.

#### 52. PRESERVATION AND PLANTING OF TREES

The Developer and subsequent owners must preserve all healthy trees within the limits of the Subdivision, except for the actual area of travelled roadway, boulevard and ancillary driveways and building sites. Whether on the road allowance, on other public lands, or on individual lots, vegetation shall be retained in compliance with the approved Landscape and Tree Retention Plan where applicable listed in Schedule H. Any deviation shall require written Town permission.

#### 53. ENVIRONMENTAL SITE REMEDIATION

The Developer shall be solely responsible for complying with Provincial requirements respecting the environmental condition of the Lands, soils and groundwater associated with the subdivision in the event any site contamination is discovered on the Land or any other lands subject of any work required by any Plan described by this agreement. The Developer shall be responsible for engaging qualified persons to conduct any remediation work, provide documentation and certification to ensure the condition of the Lands is suitable for residential use or other use to which the lands shall be placed. This requirement shall include providing a Record of Site Condition, Site Specific Risk Assessment or any such similar document and registering same with the appropriate approval authorities. The Developer acknowledges that the Town, in signing this agreement, in no way warrants the environmental condition of the Lands or any other public or private lands associated with the subdivision is suitable for the use intended by the Developer.

#### 54. PLANS AND SPECIFICATIONS

- a) The Developer shall prepare, at its expense, all plans, specifications, engineering drawings/calculations, site or other plans as may be required;
- b) The Developer shall prepare estimates of the costs of construction of all services, which shall be herein attached;
- c) The Developer shall supply the following required drawings in both hard copy and digital format (autocad and pdf) to the Town:
  - i. 2 copies of the registered plan;
  - ii. 2 copies of the approved Engineering Drawings including all servicing plans;
  - iii. one mylar copy and one set of computer files (AutoCAD format) on disk of the record drawings, also known as 'as constructed' or 'as-built' drawings, upon completion of the Services for the all the public services/works constructed within or outside of the Plan. This set of drawings shall be accompanied by a certificate from the Developer's Engineer certifying that all the Services have been installed under his supervision and that the work conforms to the approved plans and specifications.

#### 55. WATER DISTRIBUTION SYSTEM AND STREET LIGHTING INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR COSTS

- a) The Developer shall construct and install the sewage collection, water distribution system, and street lighting, and maintain and keep the same in repair until a Certificate of Maintenance and Final Acceptance is issued pursuant to Section 19 hereof.
- b) The Developer covenants and agrees that it will require of every purchaser of any part of the said lands that such purchaser shall be required to pay fees for sewage collection and water supply in accordance with the billing requirements of the Town.
- c) After the assumption of the ownership of the water distribution system and sewage collection system by the Town, the Developer and every subsequent owner of the lands or any parts thereof shall be responsible to pay an annual utility rate to the Town to cover the cost of maintaining, operating, and replacing the sewage collection system and water distribution system, such rate to be levied against all owners of lands within the Plan.
- d) The Developer agrees to deliver a copy of this clause to every builder obtaining a Building Permit and to every prospective purchaser of any dwelling for any lot on the said lands.
- e) No owner of any part of the lands described in Schedule "A" hereto shall construct or install any private water well water source on the said lands or any part thereof.

# 56. <u>COVENANTS</u>

- a) The Developer covenants and agrees not to convey or otherwise dispose of any part of the lands, unless the person to whom the transfer is to be made enters into a covenant in a form satisfactory to the Town to abide by the provision of this Agreement and not to apply for a Building Permit unless the requirement of Section 41 have been fully complied with and which covenant shall require that any further conveyance shall not be made unless the person to whom it is to be further conveyed enters into a similar covenant in a form satisfactory to the Town. The provisions of this Section will not apply to the sale of any lot on which a building has been erected and such lot has been discharged from the provisions of this agreement.
- b) In the event that the Developer sells a lot to a building contractor and the purchaser executes a covenant with the Town to abide by the terms of this Subdivision Agreement including the provisions of this Section, then the Developer shall be released from the terms of this Section in regard to his obligation relating to landscaping and drainage.
- c) The Developer hereby covenants and agrees with the Town at its sole cost and expense in the manner and within the time limited by this Subdivision Agreement to comply in full with all of the terms and conditions set forth in the Schedules attached hereto and by this reference forming a part hereof, including any amendments or revisions hereinafter made thereto where applicable, any other governmental agency, to the satisfaction of the Town.
- d) The Developer hereby covenants and agrees to execute such further or other deeds, contracts, agreements, or assurances, whether under seal or otherwise, as may be necessary or appropriate and reasonably required by the Town in the circumstances in order to give effect to all other provisions of this Subdivision Agreement.
- e) The Developer covenants and agrees to comply with all relevant building, zoning, and other by-laws of the Town, including the Building Code of the Province of Ontario, in connection with the implementation of all of the provisions of this Subdivision Agreement including the construction of the works herein required to be made as well as in connection with the issuance of building permits and occupancy permits for building lots or blocks set forth on the

Plan of Subdivision finally approved and further covenants and agrees to pay all requisite fees and costs required by the Town in that regard pursuant to said By-laws and the Building Code.

- f) The Developer covenants and agrees to comply with any and all requirements of the County of Wellington necessary to finalize conditions of draft plan approval.
- g) The Developer covenants and agrees not to call into question, directly or indirectly, or to oppose any proceedings whatsoever, whether in law or in equity or before any administrative tribunal, governmental authority, or board or court, the right of the Town to enter into this Agreement and to enforce or rely on or perform each and every term, covenant, proviso, agreement, and condition contained herein and the Developer further covenants and agrees that the provisions of this Clause may be pleased by the Town as an estoppel against the Developer or its permitted successors and assigns at any such proceedings.

#### 57. **DEFINITIONS**

- a) 'Services' includes all public works and facilities, such as water, drainage, roads, and may include other public facilities such as hydro, postal station, which serve the subject lands as part of the development of a plan of subdivision.
- b) 'Sewage Approval Authority' refers to the Town, or such other approval authority where approval has been transferred by agreement with the Town, of sewage disposal systems and defined under the Ontario Building Code Act.
- c) '**The Works'** refers to any and all installation, construction or alteration of any water main, water appurtenance, water treatment facility, roads, walkways, trails, storm sewer, sanitary sewer, drainage feature or facility, grading, street lighting, landscaping or similar matter to be completed by the Developer through the terms and approvals of this agreement.

**THIS AGREEMENT** shall be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors, and assigns.

It is agreed and understood that Schedules "A" through "J" inclusive, affixed hereto, form part of this Agreement.

# IN WITNESS WHEREOF the parties hereto have executed this Agreement.

# SIGNED, SEALED AND DELIVERED

this	day of	A.D.
		(FIRST G CAPITAL INC.
Developer's Address		(
Mortgagee's Address		(
Mongagee's Address		
		(Mortgagee
		(THE CORPORATION OF THE (TOWN OF MINTO
		George Bridge, Mayor (
		(Bill White, CAO/Clerk

# SCHEDULE "A" OF SUBDIVISION AGREEMENT

#### DESCRIPTION OF LAND BEING SUBDIVIDED

Part of Lot 20 Concession 1 geographic Township of Minto, in the Town of Minto, in the County of Wellington.

As identified within Draft Plan of Subdivision No. 23T\_\_\_\_\_ and Registered Plan 1\_\_\_\_.

# SCHEDULE "B" OF SUBDIVISION AGREEMENT

Conditions of Draft Plan Approval

# SCHEDULE "C" OF SUBDIVISION AGREEMENT

TOWN'S ENGINEERING STANDARDS

# SCHEDULE "D" OF SUBDIVISION AGREEMENT

#### WORKS TO BE CONSTRUCTED & ITEMIZED ESTIMATE OF COSTS OF CONSTRUCTION OF EACH PART OF THE WORKS: CREEK BANK MEADOWS

Works to be constructed include the supply and installation of all Municipal roads and services in accordance with the Engineering Standards and the drawings which have been accepted for construction. More specifically, the works may include construction of the following:

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	Phase 1 (Qty)	PHA	SE 1 COST	Phase 2 (Qtv)		HASE 2 COST	Phase 3 (Qty)		ASE 3		TOTAL
	ON I - ROADS & DRAINAG	GE			(			(0.9)			(0.)	,			
1.1	Traffic Control	100%	LS.	\$500.00	50%	5	250.00	25%	5	125.00	25%	5	125.00	5	500.00
1.2	Tree Protection	100%	LS.	\$500.00	50%	s	250.00	50%	s	250.00	0%	* \$		۰ ۶	500.00
1.3	Supply and Install Light Duty Silt Fence Barrier	400	 m	\$15.00	300	s	4,500.00	100	5	1,500.00	0	5		• s	6,000.00
1.4	(OPSD-219.110)	100%	L.S.	\$3,000.00	100%	5	3,000.00	0%	5		0%	5		5	3.000.00
	Clearing and Grubbing Removal of Full Depth					-	-		-			-			-
1.5	Bituminous Pavement Earth Excavation	60	m²	\$10.00	60	\$	600.00	0	Ş	-	0	\$	-	\$	600.00
1.6	(Grading) Includes Stripping and stockpiling topsoli	26250	m°	\$5.50	26250	\$	144,375.00	0	\$	-	٥	\$	-	\$	144,375.00
1.7	Subexcavation of Unsuitable Sub-grade Material (Provisional)	15000	ma	\$5.50	15000	\$	82,500.00	0	\$	-	0	\$	-	\$	82,500.00
1.8	Placement and Compaction of Suitable Subgrade Material (Provisional)	13000	m°	\$8.00	13000	5	104,000.00	0	\$	-	0	\$	-	\$	104,000.00
1.9	Supply, Excavate For and Install 525 mm Diameter Concrete Storm Sewer	110	m	\$320.00	104	\$	33,280.00	6	\$	1,920.00	0	\$	-	\$	35,200.00
1.10	Supply, Excavate For and Install 450 mm Diameter Concrete Storm Sewer	51	m	\$260.00	22	\$	5,720.00	29	\$	7,540.00	0	\$	-	\$	13,260.00
1.11	Supply, Excavate For and Install 375 mm Diameter Storm Sewer	273	m	\$230.00	182	5	41,860.00	91	\$	20,930.00	0	\$	-	\$	62,790.00
1.12	Supply, Excavate For and Install 300 mm Diameter Storm Sewer	276	m	\$200.00	184	\$	36,800.00	92	\$	18,400.00	٥	\$	-	\$	55,200.00
1.13	Supply, Excavate For and Install 250 mm Diameter Storm Sewer	235	m	\$160.00	168	\$	26,880.00	67	\$	10,720.00	0	\$	-	\$	37,600.00
1.14	Supply, Excavate For and Install 150 mm Dlameter Perforated Corrugated Plastic Sub-Drain With Geotextile	1300	m	\$12.00	720	\$	8,640.00	580	5	6,960.00	٥	\$	-	\$	15,600.00
1.15	Construct 1500 mm Diameter Twin Inlet Catchbasin Maintenance Hole (OPSD-701.011)	7	Each	\$3,400.00	5	\$	17,000.00	2	5	6,800.00	٥	\$	-	\$	23,800.00
1.16	Construct 1200 mm Diameter Catchbasin Maintenance Hole (OPSD- 701.010)	14	Each	\$2,900.00	12	\$	34,800.00	2	\$	5,800.00	٥	\$	-	s	40,600.00
1.17	Construct 600 mm x 600 mm Catchbasin (OPSD-705.010)	5	Each	\$1,200.00	3	\$	3,600.00	2	\$	2,400.00	0	\$	-	\$	6,000.00
1.18	Construct 600 mm x 1450 mm Twin Inlet Catchbasin (OPSD-705.020)	4	Each	\$1,600.00	2	\$	3,200.00	2	5	3,200.00	0	\$	-	\$	6,400.00
1.19	Supply and Install Catchbasin Frame and Grate (OPSD-400.110)	40	Each	\$350.00	28	\$	9,800.00	12	5	4,200.00	٥	\$	-	\$	14,000.00
1.20	Granular "B", Type 1	9000	Tonne	\$9.00	4800	\$	43,200.00	4200	\$	37,800.00	0	\$	-	\$	81,000.00
1.21	Granular "A"	2800	Tonne	\$13.00	1500	\$	19,500.00	1300	\$	16,900.00	0	\$	-	\$	36,400.00
1.22	Calcium Chioride	500	Кд	\$1.00	250	\$	250.00	250	\$	250.00	0	\$	-	\$	500.00
1.23	Water For Compaction and Dust Control	100	ma	\$5.00	50	\$	250.00	50	\$	250.00	0	\$	-	\$	500.00
1.24	Concrete Curb and Gutter (All Types)	1360	m	\$48.00	720	\$	34,560.00	580	\$	27,840.00	60	\$	2,880.00	\$	65,280.00
1.25	Hot Mix Asphalt HL4 Binder Course	850	Tonne	\$98.00	450	\$	44,100.00	350	\$	34,300.00	50	\$	4,900.00	\$	83,300.00
1.26	Hot Mix Asphait HL3 Surface Course Hot Mix Asphait HL3C In	550	Tonne	\$98.00	0	\$	-	0	\$	-	550	\$	53,900.00	\$	53,900.00
1.27	Driveways and Boulevards	1000	m²	\$20.00	0	\$	-	0	\$	-	1,000	\$	20,000.00	\$	20,000.00
1.28	Topsoil from Stockpile (150mm thickness)	5,600	m²	\$3.00	0	\$	-	0	\$	-	5,600	\$	16,800.00	\$	16,800.00
1.29	Sodding	5,600	m²	\$5.00	0	\$	-	0	\$	-	5,600	\$	28,000.00	\$	28,000.00
1.30	Storm Services	54	Each	\$900.00	27	\$	24,300.00	27	\$	24,300.00	0	\$	-	\$	48,600.00
1.31	Sidewalk	1200	m²	\$48.00	0	\$	-	0	\$	-	1,200	\$	57,600.00	\$	57,600.00
SUB-T	OTAL - SECTION I - ROAL	DS & DRA	INAGE			\$	727.215.00		\$	232.385.00		<u>\$</u>	184.205.00	\$	1.143.805.00

Construction Cost Estimate - Engineers Estimate Date: June 22, 2017



EECTON II - SANTARY SEVERS         I<	ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	Phase 1	PH	ASE 1 COST	Phase 2	F	HASE 2	Phase 3	P	HASE 3		TOTAL
Supply:         Exacute for and Supply:         Exacute for and Supply:         Supply:         Exacute for and Supply:         Supply:         Supply: <thsupply:< th=""> <thsupply:< th="">         Su</thsupply:<></thsupply:<>	NO.	ON IL SANITARY SEWER				(uny)			(uty)		COST	(caty)		COST		
1:       Image: Solution Control       00       m       919000       9	SECT															
2.2       Diskey PACH-DIAL       16       Exh       \$3.200.00       11       \$3.300.00       5       \$1.400.00       0       \$       \$       \$4.400.00         Disky part Hall       S3.000.00       11       \$3.350.00       5       \$1.700.00       0       \$       \$       \$5.600.00         Septy Example       S4       Exh       \$3.000.00       27       \$       \$3.400.00       0       \$       \$       \$5.600.00         Septy Example       S4       Exh       \$1.000.00       27       \$       \$3.400.00       0       \$       \$       \$6.400.00         Septy Example       S4       Exh       \$1.000.00       27       \$       \$3.400.00       0       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$       \$       \$       \$6.400.00       \$	2.1	Install 200 mm Diameter	800	m	\$150.00	580	5	87,000.00	220	\$	33,000.00	o	\$	-	\$	120,000.00
2.3       Mainteningender bergernamiser berge	22	Diameter Maintenance	16	Each	\$2,900.00	11	\$	31,900.00	5	\$	14,500.00	٥	\$	-	\$	46,400.00
Image         Image <t< td=""><td>2.3</td><td>Maintenance Hole Frame and Cover (OPSD-</td><td>16</td><td>Each</td><td>\$350.00</td><td>11</td><td>\$</td><td>3,850.00</td><td>5</td><td>5</td><td>1,750.00</td><td>O</td><td>\$</td><td>-</td><td>\$</td><td>5,600.00</td></t<>	2.3	Maintenance Hole Frame and Cover (OPSD-	16	Each	\$350.00	11	\$	3,850.00	5	5	1,750.00	O	\$	-	\$	5,600.00
NUB-TOTAL - SECTION II - SANTARY SEWERS         1         155.150.00         1         0         1         0.150.00         0         1         0.150.00         0         5         0.238.00.0           TR0         DESCREPTION         GTY         UNIT         UNIT PRICE         Planse 1         COST         Planse 2         Planse 2         Planse 2         Planse 2         Planse 2         Planse 2         COST         Planse 2         Planse 2         COST         Planse 2         Planse 2         COST         TOTAL           ECTION II - KATERWORKS         S	2.4	Install 120 mm Dia. (DR- 28, PVC) Sanitary Service Including 50 mm X 75 mm Marker	54	Each	\$1,200.00	27	5	32,400.00	27	\$	32,400.00	0	\$	-	\$	64,800.00
NO.         DEBUGRIPTION         UT         UNIT	SUB-T		ITARY SE	WERS			\$	155,150.00		\$	81,650.00		\$	-	\$	236,800.00
ECTION III - WATERWORKS           31         Ownedson To Ensing Valaemain Incuration To Ensing India 115 mm To Ensing To Ensing India 115 mm To Ensing India 115 mm To Ensi	ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE		PH/	ASE 1 COST					P			TOTAL
1         Victomic 1         5         1,0000         0         5         -         5         3,0000           0 stopp, Exclusife for and initial 50 mm Dia. (3br) Trace Wite: Supply, Exclusife for and 3         600         m         \$1,0000         3         \$         5,10000         2         \$         3,4000         0         \$         -         \$         3,0000           0 stopp, Exclusife for and 3         initial 150 mm Dia. Gale 5         Each         \$1,700.00         3         \$         \$,1000.00         2         \$         3,400.00         0         \$         -         \$         8,600.0           3         initial 150 mm Dia. Gale 5         Each         \$1,700.00         3         \$         2,000.00         2         \$         1,360.00         0         \$         >         \$         3,400.00           3         initial 25 mm Dia. Type With Coper Wither         5         Each         \$         5,000.00         2         \$         3,5100.00         0         \$         >         \$         3,400.00           0 supply, Exclusife for and Initial 25 mm Dia. Type With Coper Wither         54         Each         \$         \$         3,5100.00         27         \$         3,5100.00         0         \$ <td< td=""><td>SECTI</td><td>ON III - WATERWORKS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	SECTI	ON III - WATERWORKS														
Apply Exclusion For and install 150 mole, IDF Target 150 mole, IDF Tar	31		2	each	\$1 500 00	4	ç	1 500 00	4	ę	1 500 00	n	e		ç	3,000,00
3.         Depty         Examilar FO and bindin Standard         5         Each         \$1,700.00         3         \$         5,100.00         2         \$         3,400.00         0         \$         -         \$         8,500.00           1         Supply         Examilar FOr and Supply         5         Each         \$6,600.00         3         \$         2,0400.00         2         \$         13,600.00         0         \$         >         \$         3,4000.00         0         \$         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         3,4000.00         0         \$         >         \$         4,4000.00         0         \$         >         \$         3,5000.00         0         \$         >         \$         3,5000.00         \$         \$         \$         \$         \$         \$         \$	3.1	Supply, Excavate For and Install 150 mm Dia. (DR- 18, CL 150 PVC) Ring- Tite Watermain Including					-	-		-	-		-	-		99,200.00
3.4         Descriptional Formal 5         Each         \$6,800.00         3         \$2,0400.00         2         \$13,600.00         0         \$         \$3,4000.0           3.5         DDP12, EXAVATE FORMAL         14         Each         \$350.00         8         \$2,2600.00         6         \$2,100.00         0         \$         \$4,000.0           1.5         DDP12, EXAVATE FORMAL         14         Each         \$350.00         8         \$2,2600.00         6         \$2,100.00         0         \$         \$         \$4,000.0           1.5         DEP12, EXAVATE FORMAL         14         Each         \$1,000.00         27         \$3,5100.00         0         \$         \$         \$2,000.0           2.6         COMMENT ON NEW PVD Beneticity TO NEW PVD TOTAL - SECTION IN MAKE PVL         \$1,122,600.00         \$         \$5,70,200.0         0         \$         \$         \$2,15,800.00         0         \$         \$         \$2,125,800.00         0         \$         \$         \$2,125,800.00         0         \$         \$         \$2,000.00         0         \$         \$         \$2,000.00         0         \$         \$         \$         \$         \$         \$2,000.00         0         \$         \$         \$         <	3.3	Supply, Excavate For and Install 150 mm Dia. Gate	5	Each	\$1,700.00	3	\$	5,100.00	2	\$	3,400.00	0	\$	-	\$	8,500.00
3.5       Suppy and Indial Anodes (DDP-12, SA Kig) Chinoma (DEP)       14       Each       \$350,000       8       \$2,800,00       6       \$2,210,00       0       \$       \$       4,900,0         IDEP, 2, SA Kig) Chinoma (DR, Type (Top Coper Valer S)       54       Each       \$1,000,00       27       \$35,100,00       27       \$35,100,00       0       \$       \$       \$70,200,0         Indial Sim Dia Type (Top Coper Valer S)       54       Each       \$1,000,00       27       \$35,100,00       27       \$35,100,00       0       \$       \$       \$70,200,0         UU-TOTAL - SECTION III - WATERWORKS       \$       \$1,22,500,00       \$       \$3,7,300,00       \$       \$       \$       \$2,215,800,0       \$       \$       \$2,010,00       0       \$       \$       \$2,215,800,0       \$       \$       \$2,000,00       \$       \$       \$       \$2,010,00       0       \$       \$       \$2,010,00       \$       \$       \$       \$2,010,00       \$	3.4	Supply, Excavate For and	5	Each	\$6,800.00	3	5	20,400.00	2	\$	13,600.00	0	\$	-	s	34,000.00
Initial 25 mm Dia. Type N°C Coppeting One Meding Connection New Pyce Service including Connection New Pyce INDE-TOTAL - SECTION III - WATERWORKS         54         Each         \$1,300.00         27         \$ 35,100.00         27         \$ 35,100.00         27         \$ 35,100.00         0         \$ -         \$ 70,200.0           UIDE-TOTAL - SECTION III - WATERWORKS <b>±</b> 122,500.00 <b>± 5</b> 70,200.0 <b>\$ ±</b> 213,800.00 <b>\$ * 5</b> 70,200.0           TEM NO.         DESCRIPTION         GTV         UNIT         UNIT PRICE         Phase 1         CONST         Phase 2         Phase 3         PHASE 3         TOTAL           TEM NO.         DESCRIPTION         GTV         UNIT         UNIT PRICE         Phase 1         CONST         Phase 3         PHASE 3         TOTAL           ECTION IV - MISCELLANEOUS         100%         LS         \$8,000.00         60%         \$         4,800.00         10%         \$         800.00         5         10,400.00           4.1         Construction Layout         100%         LS         \$8,000.00         0         \$         0         \$         0         \$         10,400.00         13         \$ 39,000.00         \$         10,400.00<	3.5	Supply and Install Anodes (DZP-12, 5.4 Kg) On Iron	14	Each	\$350.00	8	\$	2,800.00	6	\$	2,100.00	0	\$	-	\$	4,900.00
TEM.         DESCRIPTION         QTY         UNIT         PRICE         Phase 1 (aby)         PHASE 1 COST         PHASE 2 (aby)         PHASE 3 (aby)         TOTAL           SECTION IV - MISCELLANEOUS         100%         LS         \$8,000.00         60%         \$4,800.00         10%         \$800.00         \$10,400.0           4.1         Construction Layout         100%         LS         \$8,000.00         60%         \$4,800.00         10%         \$800.00         \$10,400.0           4.2         Provide Bonding         100%         LS         \$8,000.00         27         \$81,000.00         13         \$39,000.00         \$201,000.0           4.3         Electric/street Lighting         54         Each         \$33,000.00         27         \$81,000.00         13         \$39,000.00         \$18,900.00           4.4         Lot Trees         54         Each         \$350.00         0         \$         0         \$4         \$18,900.00         \$18,900.00         \$19%         \$335.00         \$19,335.00         \$19,330.00         \$19,335.00         \$19,335.00         \$19,335.00         \$19,335.00         \$19,335.00         \$19,335.00         \$19,330.00         \$19,330.00         \$19,335.00         \$19,335.00         \$19,325.00         \$19,335.00	3.6	Install 25 mm Dia. Type "K" Copper Water Service Including Connection To New PVC Watermain Including 50 mm X 75 mm Marker At	54	Each	\$1,300.00	27	\$	35,100.00	27	\$	35,100.00	٥	\$	-	\$	70,200.00
NO.         DESCRIPTION         CIT         UNIT         UNIT         PARSE TOST         (aty)         COST	SUB-T	OTAL - SECTION III - WAT	ERWOR	(S			\$	122,500.00		\$	97,300.00		\$	-	\$	219,800.00
NO.         COST         (dry)         COST         COST         (dry)         COST         5         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         5         -         1         0.0000         1         1	ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE		PH	ASE 1 COST		P			P			TOTAL
4.2       Provide Bonding       100%       LS       \$0.00       0%       \$       0%       \$       0%       \$       \$         4.3       Electho/Street Lighting       54       Each       \$3,000.00       27       \$       \$1,000.00       13       \$       39,000.00       \$       201,000.00         4.4       Lot Trees       54       Each       \$350.00       0       \$       0       \$       54       \$       18,900.00       \$       18,900.00       \$       18,900.00       \$       18,900.00       \$       18,900.00       \$       10%       \$       35.00       \$       10%,035.0       \$       10%,		ION IV - MISCELLANEOUS	3			(uty)			(GRY)		COST	(GRY)		COST		
4.3       Electric/Street Lighting       54       Each       \$3,000.00       27       \$ 81,000.00       27       \$ 81,000.00       13       \$ 39,000.00       \$ 201,000.0         4.4       Lot Trees       54       Each       \$350.00       0       \$       0       \$       54       \$ 18,900.00       \$ 201,000.0         4.4       Lot Trees       54       Each       \$350.00       0       \$       0       \$       54       \$ 18,900.00       \$ 18,900.00         4.5       Storm Water       Anagement Pacility, Outlet and Landscaping       1       L.S.       \$100,000.00       60%       \$ 65,000.00       0.4       \$ 40,000.00       10%       \$ 35.00       \$ 105,035.0         SUB-TOTAL - SECTION IV - MISCELLANEOUS       \$ 150,800.00       \$ 125,800.00       \$ 58,735.00       \$ 335,335.0       \$ 335,335.0         TEM       DESCRIPTION       QTY       UNIT       UNIT PRICE       Phase 1 COST       Phase 2       Phase 3       PHASE 3       COST       TOTAL         SECTION II - ROADS AND DRAINAGE       \$ 727,215.00       \$ 232,385.00       \$ 184,205.00       \$ 1,143,805.0         SECTION III - WATERWORKS       \$ 155,150.00       \$ 81,650.00       \$ 18,900.00       \$ 235,835.0       \$ 219,800.0	4.1	Construction Layout	100%	LS	\$8,000.00	60%	\$	4,800.00	60%	\$	4,800.00	10%	\$	800.00	\$	10,400.00
4.4       Lot Trees       54       Each       \$350.00       0       5       0       \$       54       \$       18,900.00       \$       10%       \$       35.00       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0       \$       105,035.0 </td <td>4.2</td> <td>Provide Bonding</td> <td>100%</td> <td>LS</td> <td>\$0.00</td> <td>0%</td> <td>\$</td> <td>-</td> <td>0%</td> <td>\$</td> <td>-</td> <td>0%</td> <td>\$</td> <td>-</td> <td>\$</td> <td>-</td>	4.2	Provide Bonding	100%	LS	\$0.00	0%	\$	-	0%	\$	-	0%	\$	-	\$	-
4.5       Storm Water Management Facility, Outlet and Landscaping       1       L.S.       \$100,000.00       60%       \$65,000.00       0.4       \$40,000.00       10%       \$35.00       \$105,035.0         SUB-TOTAL - SECTION IV - MISCELLANEOUS       \$150,800.00       \$125,800.00       \$125,800.00       \$35,335.0       \$35,335.0         TEM       DESCRIPTION       QTY       UNIT       UNIT PRICE       Phase 1       COST       Phase 3       PHASE 3       COST       TOTAL         SECTION I - ROADS AND DRAINAGE       \$727,215.00       \$232,385.00       \$184,205.00       \$1,143,805.0         SECTION II - ROADS AND DRAINAGE       \$155,150.00       \$81,650.00       \$1,143,805.0         SECTION II - ROADS AND DRAINAGE       \$155,150.00       \$81,650.00       \$-       \$236,800.0         SECTION II - ROADS AND DRAINAGE       \$155,150.00       \$81,650.00       \$-       \$236,800.0         SECTION II - SANITARY SEWERS       \$155,150.00       \$81,650.00       \$-       \$236,800.0         SECTION III - WATERWORKS       \$152,500.00       \$97,300.00       \$-       \$219,800.00         SECTION IV - MISCELLANEOUS       \$150,800.00       \$125,800.00       \$35,335.00       \$335,335.00         SECTION IV - MISCELLANEOUS       \$150,800.00       \$125,800.00<	4.3	Electric/Street Lighting	54	Each	\$3,000.00	27	\$	81,000.00	27	\$	81,000.00	13	\$	39,000.00	\$	201,000.00
4.5       Management Facility, Outlet and Landscaping       1       L.S.       \$100,000,00       60%       \$65,000,00       0.4       \$40,000,00       10%       \$35,00       \$105,035,0         SUB-TOTAL - SECTION IV - MISCELLANEOUS       \$150,800,00       \$125,800,00       \$105,035,0       \$335,335,00       \$335,335,00       \$335,335,00       \$335,335,00       \$335,335,00       \$335,335,00       \$335,335,00       \$335,335,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$35,00,00       \$104,00,00,00       \$35,00,00       \$104,00,00,00       \$104,00,00       \$104,00,00       \$104,00,00,00       \$104,00,00,00       \$35,00,00       \$104,00,00,00       \$104,00,00,00       \$104,00,00,00       \$104,00,00,00       \$104,00,00,00       \$104,00,00,00,00       \$104,00,00,00,00       \$104,00,00,00,00,00,00,00,00,00,00,00,00,0	4,4	Lot Trees	54	Each	\$350.00	0	\$	-	0	\$	-	54	\$	18,900.00	\$	18,900.00
TEM NO.         DESCRIPTION         QTY         UNIT         UNIT PRICE         Phase 1 (Qty)         Phase 2 (Qty)         Phase 3 COST         Phase 3 S 35,000	4.5	Management Facility,	1	LS.	\$100,000.00	60%	\$	65,000.00	0.4	\$	40,000.00	10%	\$	35.00	\$	105,035.00
NO.         DESCRIPTION         OIT         OIT PRICE         (Qty)         PRASE FCOST         (Qty)         COST         (Qty)         COST         IDTAL           SECTION I - ROADS AND DRAINAGE         \$ 727,215.00         \$ 232,385.00         \$ 184,205.00         \$ 1,143,805.0           SECTION II - SANITARY SEWERS         \$ 155,150.00         \$ 81,650.00         \$ -         \$ 236,800.0           SECTION III - WATERWORKS         \$ 155,150.00         \$ 81,650.00         \$ -         \$ 236,800.0           SECTION III - WATERWORKS         \$ 122,500.00         \$ 97,300.00         \$ -         \$ 219,800.0           SECTION III - WATERWORKS         \$ 122,500.00         \$ 97,300.00         \$ -         \$ 219,800.0           SECTION IV - MISCELLANEOUS         \$ 150,800.00         \$ 125,800.00         \$ 335,335.0         \$ 335,335.0           CONTINGENCY & ENGINEERING ALLOWANCE (15%)         \$ 173,349.75         \$ 80,570.25         \$ 36,441.00         \$ 290,361.00           SUB-TOTAL         \$ 1,323,014.75         \$ 617,705.25         \$ 279,381.00         \$ 2,226,101.00           PLUS 13% H.S.T. (of above Sub-Total)         \$ 172,771.92         \$ 80,301.68         \$ 36,319.53         \$ 289,393.13	SUB-T	OTAL - SECTION IV - MIS	CELLAN	EOUS			\$	150,800.00		\$	125,800.00		\$	58,735.00	\$	335,335.00
SECTION II - SANITARY SEWERS       \$ 155,150.00       \$ 81,650.00       \$ - \$ 236,800.0         SECTION III - WATERWORKS       \$ 122,500.00       \$ 97,300.00       \$ - \$ 219,800.0         SECTION III - WATERWORKS       \$ 122,500.00       \$ 97,300.00       \$ - \$ 219,800.0         SECTION IV - MISCELLANEOUS       \$ 150,800.00       \$ 125,800.00       \$ 58,735.00       \$ 335,335.0         CONTINGENCY & ENGINEERING ALLOWANCE (15%)       \$ 173,349.75       \$ 80,570.25       \$ 36,441.00       \$ 290,361.00         SUB-TOTAL       \$ 1,329,014.75       \$ 617,705.25       \$ 279,381.00       \$ 2,226,101.00         PLUS 13% H.S.T. (of above Sub-Total)       \$ 172,771.92       \$ 80,301.68       \$ 36,319.53       \$ 289,333.13	item No.	DESCRIPTION	QTY	UNIT	UNIT PRICE		PH/	ASE 1 COST					P			TOTAL
SECTION III - WATERWORKS       \$ 122,500.00       \$ 97,300.00       \$ - \$ 219,800.00         SECTION IV - MISCELLANEOUS       \$ 150,800.00       \$ 125,800.00       \$ 58,735.00       \$ 335,335.00         CONTINGENCY & ENGINEERING ALLOWANCE (15%)       \$ 173,349.75       \$ 80,570.25       \$ 36,441.00       \$ 290,361.00         SUB-TOTAL       \$ 1,329,014.75       \$ 617,705.25       \$ 279,381.00       \$ 2,226,101.00         PLUS 13% H.S.T. (of above Sub-Total)       \$ 172,771.92       \$ 80,301.68       \$ 36,319.53       \$ 289,333.13		SECTION I - ROADS AND	DRAINA	GE			\$	727,215.00		\$ 2	32,385.00		\$ 1	84,205.00	\$	1,143,805.00
SECTION IV - MISCELLANEOUS       \$ 150,800.00       \$ 125,800.00       \$ 58,735.00       \$ 335,335.0         CONTINGENCY & ENGINEERING ALLOWANCE (15%)       \$ 173,349.75       \$ 80,570.25       \$ 36,441.00       \$ 290,361.00         SUB-TOTAL       \$ 1,329,014.75       \$ 617,705.25       \$ 279,381.00       \$ 2,226,101.00         PLUS 13% HLS.T. (of above Sub-Total)       \$ 172,771.92       \$ 80,301.68       \$ 36,319.53       \$ 289,333.13		SECTION II - SANITARY	SEWERS				\$	155,150.00		\$	81,650.00		\$	-	\$	236,800.00
CONTINGENCY & ENGINEERING ALLOWANCE (15%)       \$ 173,349.75       \$ 80,570.25       \$ 36,441.00       \$ 290,361.00         SUB-TOTAL       \$ 1,329,014.75       \$ 617,705.25       \$ 279,381.00       \$ 2,226,101.00         PLUS 13% HLS.T. (of above Sub-Total)       \$ 172,771.92       \$ 80,301.68       \$ 36,319.53       \$ 289,333.13		SECTION III - WATERWO	ORKS				\$	122,500.00		\$	97,300.00		\$	-	\$	219,800.00
SUB-TOTAL         \$ 1,329,014.75         \$ 617,705.25         \$ 279,381.00         \$ 2,226,101.00           PLUS 13% HLS.T. (of above Sub-Total)         \$ 172,771.92         \$ 80,301.68         \$ 36,319.53         \$ 289,353.13		SECTION IV - MISCELLA	NEOUS				\$	150,800.00		\$ 1	25,800.00		\$	58,735.00	\$	335,335.00
PLUS 13% HLS.T. (of above Sub-Total)         \$ 172,771.92         \$ 80,301.68         \$ 36,319.53         \$ 289,353.13		CONTINGENCY & ENGINEERING ALLOWANCE (15%)				\$	173,349.75		\$	80,570.25		\$	36,441.00	\$	290,361.00	
		CONTINGENCY & ENGIN	CENING												<u> </u>	
TOTAL ESTIMATED CONTRACT COST         \$ 1,501,786.67         \$ 698,006.93         \$ 315,700.53         \$ 2,515,494.13							<u>\$</u> 1	,329,014.75		\$ 6	17,705.25		\$ 2	279,381.00	\$	2,226,101.00
		SUB-TOTAL		otal)			-								-	2,226,101.00 289,393.13

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# SCHEDULE "E" OF SUBDIVISION AGREEMENT

# LIST OF MONIES PAYABLE BY THE DEVELOPER TO THE TOWN

1.	Cash-in-lieu of parkland (As per Planning Act)	Not app	licable
2.	Cost of Subdivision Agreement preparation, registration, etc	\$	6,000.00
3.	Estimated cost of 100% of all required works	\$	,

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# SCHEDULE "F" OF SUBDIVISION AGREEMENT

LOTS REQUIRING SPECIAL ATTENTION

# SCHEDULE "G" OF SUBDIVISION AGREEMENT

#### LANDS AND EASEMENTS TO BE DEEDED TO THE TOWN

Blocks as noted below, Registered Plan M - \_\_\_\_\_ (to be supplied when plan is prepared for registration):

For Public Purposes Blocks 51 and 53 (future public purposes)

Easements as described below (to be supplied when plan is prepared for registration) if necessary.

6.0 metre servicing easement from subject lands westerly to County Road 5, White's Road

# SCHEDULE "H" OF SUBDIVISION AGREEMENT

MASTER GRADING AND DRAINAGE PLAN

# TREE RETENTION PLAN (if required)

Due to size and bulk, the full size plans are lodged at the Town office.

# SCHEDULE "I" OF SUBDIVISION AGREEMENT

#### LIST OF APPROVED ENGINEERING DRAWINGS

#### LODGED WITH THE TOWN

- Drawing No. 1 Plan and Profile Street "A" Rev. \_ dated \_\_\_\_\_ 2017
   Drawing No. 2 Plan and Profile Sanitary Sewer Easement Rev. \_ dated \_\_\_\_\_ 2017
- Drawing No. 3 Overall Grading Plan Rev. \_– dated \_\_\_\_\_\_
   Drawing No. 4 Storm Drainage Details Rev. \_ dated \_\_\_\_\_\_

Subdivision

#### SCHEDULE "J" OF SUBDIVISION AGREEMENT

#### **DECLARATION OF PROGRESS & COMPLETION**

# TOWN OF MINTO

SUBDIVISION	Creek Bank Meadows	
	First G Capital Inc.	
DEVELOPER'S CON	ISULTING ENGINEER	Triton Engineering Services Limited
As required by the A	proopport botwoon the Cor	acretion of the Town of Minte and the Doveloper

As required by the Agreement between the Corporation of the Town of Minto and the Developer

dated:

- 1. The Developer hereby agrees and undertakes to complete the construction of the Works as required by the above mentioned Agreement in accordance with the time schedule for the completion of services as approved by the Town and more specifically in accordance with the following schedule and conditions:
  - (1) Before any buildings erected on the lots or blocks in the Plan are occupied all the Requirements for Occupancy as set out in Item 42 shall be complied with.
  - (2) Granular "B", and a minimum of 75 mm of Granular "A", curbs, gutter, sidewalk on or before
  - (3) Site Grading, storm water retention, topsoil and seeding of private blocks and parks on or before
  - (4) Boulevard restoration of all roads on or before
  - (5) Top 75 mm of Granular "A" and Hot Mix Asphalt Base Course on or before
- 2. The Developer further agrees, that the Town is hereby authorized to carry out, at his expense, any of the work set out in this Declaration not finished on or before the completion dates, to be commenced not sooner than one week following such completion date, it being understood and agreed that the Town's authorization is limited only to that work required under the Declaration.
- 3. The Developer undertakes to properly maintain the gravel road base at all times and to keep all roads in a mud-free condition until such time as the roads, including boulevards, have been completed and assumed by Municipal By-law.
- 4. The Developer further agrees and the Town is hereby authorized to undertake any of the maintenance work as set out under Section 3 above, not completed in accordance with Section 21 of the Agreement at his expense, and without limiting the generality of the foregoing, the municipality's cost shall be the cost of materials, equipment, rental, labour, payroll burden, plus 30% for overhead.
- 5. It is understood and agreed that should the Developer fail to construct the remaining works, as stipulated, and by such dates as provided by this undertaking, the Developer shall pay to the municipality, as predetermined liquidated damages, as stipulated in Section 8b) Declaration of Progress and Completion.

SIGNED	
	Developer
Seal or Witness	
Date	



TOWN OF MINTODATE:August 22, 2017REPORT TO:Mayor Bridge and Members of CouncilFROM:Gordon Duff, Treasurer and Janet Klemp, Tax CollectorSUBJECT:Minutes of Settlement and Assessment Adjustments

#### STRATEGIC PLAN:

Manage Town finances in a transparent and fiscally responsible manner using a wide variety of accepted methods such as maintaining healthy reserves, investing conservatively, sensible user fees, property tax control, and responsible borrowing.

#### BACKGROUND:

Under Section 40 (20) of the Assessment Act, The Town of Minto is required to amend the assessment roll with regard to decisions made by the Assessment Review Board (ARB) under actions brought to the Board under the following circumstances:

- their current value assessment is too high;
- updated structure data which changed their assessment;
- their property classification is incorrect; or
- if a property has more than one property class, the portion that is attributable to each class is incorrect.

The Town is also required to approve adjustments made as Advisory Notices of Adjustment (ANAs) under Sections 19.1 (5) and (7) of the Assessment Act and as Post Roll Amended Notices (PRANs) under Section 32 (1.1) of the Assessment Act. These ANAs and PRANs will result in decreased tax levies due to changes in assessments. The effects of these changes may affect the phase-in amounts of these assessments.

Requests for Reconsideration occur when a taxpayer asks the Municipal Property Assessment Corporation (MPAC) to review an assessment. If successful, Minutes of Settlement are issued to the Town the appropriate adjustments are made after Council approval.

#### COMMENTS:

Attached is a listing of adjustments from the above mentioned sources which have been received in our office. These assessment changes deal with properties that appealed to the Municipal Property Assessment Corporation due to incorrect property structure details on their roll, approved into the Farm Property Class Tax Rate Program, properties changed to exempt (municipal owned), appeals due to tax class change, updated site data, adjustments based on similar property sales, barn demo and gravel pit revaluation.

#### FINANCIAL CONSIDERATIONS:

The Town of Minto bears the cost of its share of these tax reductions, while the portions relating to the County of Wellington and the related School Boards are charged back to these bodies.

#### **RECOMMENDATION:**

That Council receives the September 2017 report from the Treasurer and Tax Collector regarding Assessment Adjustments and approves the adjustments outlined.

Respectfully submitted by,

Reviewed by,

Janet Klemp, AMCT Tax Collector Gordon R. Duff, CPA, CGA Treasurer

#### TOWN OF MINTO Minutes of Settlement September 2017

Roll Number	Assessment Change	Effective Date				
Roll Nulliber	Assessment Change	Effective Date	General	County	School Board	Total
Minutes of Settlemen	nt					
ľ	FT added of 46,700					
2341 000 001 03302	RT of 269,425 decreased to 222,725					
2541 000 001 05502	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
ľ	Rate Program	2017	(190.82)	(224.26)	(62.69)	(477.77)
2341 000 001 05950	RT of 12,700 removed	Jan 1 - Dec 31,				
2341 000 001 03930	Municipality purchased property	2017	(69.20)	(81.31)	(22.73)	(173.24)
2341 000 001 06290	RT of 8,375 removed	Jan 1 - Dec 31,				
	Municipality purchased property	2017	(45.63)	(53.62)	(15.00)	(114.25)
						· · ·
2341 000 001 10150	RT of 8,375 removed	Jan 1 - Dec 31,				
1	Municipality purchased property	2017	(45.63)	(53.62)	(15.00)	(114.25)
ľ	FT added of 435,125					
2341 000 001 15100	RT of 578,000 decreased to 142,875					
2341 000 001 13100	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program	2017	(1,777.98)	(2,089.48)	(584.15)	(4,451.61)
	FT added of 157,950					
22/11 000 002 02950	RT of 393,500 decreased to 235,550					
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program	2017	(645.41)	(758.47)	(212.05)	(1,615.93)
2241 000 002 04600	FT of 138,575 increased to 179,750					
2341 000 002 04000	RT of 349,675 decreased to 304,500	Jan 1 - Dec 31,				
	Appeal resulted in adjustment of tax class	2017	(190.04)	(223.33)	(62.43)	(475.80)
2341 000 002 05600	FT of 491,000 increased to 496,959					
2341 000 002 03000	RT of 161,500 decreased to 154,186	Jan 1 - Dec 31,				
	Appeal resulted in adjustment of tax class	2017	(31.73)	(37.29)	(10.42)	(79.44)
	FT added of 228,825					
23/11 000 002 06 /00	RT of 546,750 decreased to 317,925					
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program	2017	(935.00)	(1,098.82)	(307.20)	(2,341.02)
	FT added of 432,064					
22/11 000 002 11200	RT of 543,250 decreased to 89,758					
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,	(1.000.00)			
	Rate Program	2017	(1,882.20)	(2,211.97)	(618.40)	(4,712.57)
	FT added of F 602					
	FT added of 5,603 RT of 36,750 decreased to 7,179					
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program /property revalued as farm	2017	(192.59)	(226.32)	(63.27)	(482.18)
<del> </del>	hate i rogram / property revalued as fallil	2017	(192.59)	(220.52)	(05.27)	(402.18)
1	FT added of 5,323					
2341 000 002 13580						
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program / property revalued as farm	2017			(60.94)	

#### TOWN OF MINTO Minutes of Settlement September 2017

Boll Number	Accessment Change	Effective Dete				
Roll Number	Assessment Change	Effective Date	General	County	School Board	Total
Minutes of Settleme	nt					
2341 000 002 14746	RT of 494,750 decreased to 462,000	Jan 1 - Dec 31,				
2341 000 002 14740	Adjustment based on similar properties	2017	(190.30)	(209.69)	(58.62)	(458.61)
2341 000 002 16002	RT of 334,000 decreased to 330,000	Jan 1 - Dec 31,				
	Adjustment based on similar properties	2017	(21.79)	(25.61)	(7.16)	(54.56)
	FT added of 138,700					
2341 000 002 18000	RT of 260,750 decreased to 122,050	I				
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,	(566.75)		(4.05, 20)	(4, 440, 00)
	Rate Program	2017	(566.75)	(666.04)	(186.20)	(1,418.99)
	FT added of 385,275					
2341 000 002 19400	RT of 439,000 decreased to 53,725	Jan 1 Dec 21				
	Approved into the Farm Property Class Tax	Jan 1 - Dec 31, 2017	(1,574.28)	(1,850.09)	(517.23)	(2.041.60)
	Rate Program FT added of 112,131	2017	(1,574.20)	(1,850.09)	(517.25)	(3,941.60)
	RT of 189,000 decreased to 70,338					
2341 000 002 21050	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program	2017	(493.76)	(580.27)	(162.22)	(1,236.25)
	RT of 44,000 decreased to 39,250	2017	(455.70)	(300.27)	(102.22)	(1,230.23)
2341 000 002 25700	Adjustment based on similar properties/	Jan 1 - Dec 31,				
2341 000 002 23700	Updated site data	2017	(25.88)	(30.41)	(8.50)	(64.79)
	FT of 467,150 decreased to 447,575		( /	()	(/	()
2341 000 003 00400	RT of 136,550 decreased to 136,375	Jan 1 - Dec 31,				
	Updated site data	2017	(27.61)	(32.45)	(9.07)	(69.13)
	FT added of 590,700					
2241 000 002 04700	RT of 767,225 decreased to 176,525					
2341 000 003 04700	Approved into the Farm Property Class Tax	Jan 1 - Dec 31,				
	Rate Program	2017	(2,413.66)	(2,836.54)	(793.01)	(6,043.21)
	FT of 456,675 decreased to 433,975					
2341 000 003 08100	RT of 157,575 decreased to 152,025	Jan 1 - Dec 31,				
2341 000 003 04700 2341 000 003 08100 2341 000 003 08300	Updated structure data	2017	(61.16)	(71.87)	(20.09)	(153.12)
2341 000 003 08300	FT of 522,050 decreased to 514,800	Jan 1 - Dec 31,				
	Demo - bank barn	2017	(9.87)	(11.60)	(3.24)	(24.71)
	FT of 354,750 increased to 426,662					
2341 000 003 08950	RT of 31,700 increased to 100,400	1 1 D 21				
	JT of 102,200 decreased to 15,300	Jan 1 - Dec 31,	(664.02)	(700.07)	(025.54)	(2.270.04)
	Gravel Pit revaluation	2017	(664.03)	(780.37)	(835.51)	(2,279.91)
	RT of 104,250 decreased to 100,250	lan 1 - Doc 21				
	Adjustment based on similar properties	Jan 1 - Dec 31, 2017	(21.79)	(25.61)	(7.16)	(54.56)
	Aujustment based on similar properties	2017	(21.79)	(23.01)	(7.10)	(34.30)
	FT of 486,850 increased 502,266					
2341 000 004 08100	RT of 11,400 decreased to 7,213	Jan 1 - Dec 31,				
	Updated site data	2017	(1.81)	(2.13)	(0.59)	(4.53)
	RT of 238,000 decreased to 144,200	2017	(1.01)	(2.13)	(0.55)	()
2341 000 004 10000	FT of 80,175 decreased to 78,037	Jan 1 - Dec 31,				
	Updated site data	2017	(513.95)	(603.99)	(168.86)	(1,286.80)
	a particular and a second s		(320.00)	, 300.007	(100:00)	(_,0000)

#### TOWN OF MINTO Minutes of Settlement September 2017

Dell Number	Accomment Change	Effective Date				
Roll Number	Assessment Change	Effective Date	General	County	School Board	Total
Minutes of Settleme	nt					
	CT of 12,368 removed					
2341 000 005 1000	RT of 159,450 decreased to 133,938					
2341 000 005 1000	FT of 147,682 increased to 176,735	Jan 1 - Dec 31,				
	Updated structure data & property use	2017	(213.20)	(234.92)	(159.48)	(607.60)
2341 000 005 13210	XT of 2,325,025 decreased to 1,971,375					
2341 000 003 13210	XU of 30,975 increased to 33,375	Jan 1 - Dec 31,				
	Adjustment based on similar properties	2017	(3,049.36)	(3,360.04)	(3,608.68)	(10,018.08)
	RT of 154,000 decreased to 135,000	Jan 1 - Dec 31,				
2341 000 009 07200	Updated structure data	2017	(110.40)	(121.65)	(34.01)	(266.06)
	RT of 111,250 decreased to 106,750			· · ·		
2341 000 009 11751	Updated structure data / Adjustment	Jan 1 - Dec 31,				
	based on similar properties	2017	(26.15)	(28.81)	(8.06)	(63.02)
	RT of 114,250 decreased to 109,000			. ,		, ,
2341 000 009 11754	Updated structure data / Adjustment	Jan 1 - Dec 31,				
2341 000 009 11754	based on similar properties	2017	(30.50)	(33.61)	(9.40)	(73.51)
	RT of 115,000 decreased to 110,500		(/	( /	( /	( /
2341 000 009 11757	Updated structure data / Adjustment	Jan 1 - Dec 31,				
	based on similar properties	2017	(26.15)	(28.81)	(8.06)	(63.02)
	RT of 118,250 decreased to 112,750	2017	(20.13)	(20:01)	(0.00)	(03:02)
2341 000 009 11759	Updated structure data / Adjustment	Jan 1 - Dec 31,				
23 11 000 003 11/33	based on similar properties	2017	(31.95)	(35.21)	(9.85)	(77.01)
	RT of 114,000 decreased to 108,5000	2017	(51.55)	(33:21)	(3.03)	(77.01)
2341 000 009 11760	Updated structure data / Adjustment	Jan 1 - Dec 31,				
2341 000 005 11/00	based on similar properties	2017	(31.95)	(35.21)	(9.85)	(77.01)
	RT of 118,250 decreased to 114,750	2017	(51.55)	(55.21)	(5.65)	(77.01)
23/11 000 009 11761	Updated structure data / Adjustment	Jan 1 - Dec 31,				
2341 000 009 11701	based on similar properties	2017	(20.34)	(22.41)	(6.27)	(49.02)
	RT of 5,575 removed	Jan 1 - Dec 31,	(20.34)	(22.41)	(0.27)	(45.02)
2341 000 010 00300	Municipality purchased property	2017	(32.39)	(35.69)	(9.98)	(78.06)
		2017	(32.39)	(33.03)	(3.38)	(78.00)
	CT of 84,350 decreased to 80,500					
2341 000 010 01600	RT of 35,400 decreased to 31,500	Jan 1 - Dec 31,				
	Adjustment based on similar properties	2017	(56.01)	(61.72)	(46.45)	(164.18)
	IU of 6,825 increased to 37,650	2017	(50.01)	(01.72)	(+0.+5)	(104.10)
	CT of 818,450 decreased to 479,411					
2341 000 011 06570	IT of 1,036,475 increased to 1,201,163	Jan 1 - Dec 31,				
	Corrected property state & condition	2017	(361.24)	(398.04)	(908.43)	(1,667.71)
	RT of 146,000 decreased to 55,750	Jan 1 - Dec 31,	(301.24)	(398.04)	(508.45)	(1,007.71)
2341 000 012 02200	Demo House due to fire	2017	(524.42)	(577.84)	(161.55)	(1 263 81)
	RT of 157,750 decreased to 136,000	2017	(324.42)	(577.04)	(101.33)	(1,263.81)
23/11 000 012 0/000	Updated structure data / Adjustment	Jan 1 - Dec 31,				
2341 000 012 04900	based on similar properties	2017	(126.20)	(120.26)	(38.93)	(204 67)
	RT of 167,500 decreased to 162,500	2017	(126.38)	(139.26)	(58.93)	(304.57)
2241 000 012 11000	Updated structure data / Adjustment	Jan 1 Dec 21				
2341 000 012 11800		Jan 1 - Dec 31,		(22.04)		(70.04)
	based on similar properties	2017	(29.05)	(32.01)	(8.95)	(70.01)

### TOWN OF MINTO Minutes of Settlement September 2017

Dell Number	Accomment Change	Effective Dete					
Roll Number	Assessment Change	Effective Date	General	County	School Board	Total	
Minutes of Settleme	nt						
2341 000 013 10200	CT of 10,300 removed RT of 303,875 decreased to 296,700 Updated structure data & property use	Jan 1 - Dec 31, 2017	(130.93)	(144.27)	(118.44)	(393.64)	
2341 000 013 15000	RT of 137,500 decreased to 122,000 Updated structure data & condition / Adjustment based on similar properties	Jan 1 - Dec 31, 2017	(90.07)	(99.24)	(27.75)	(217.06)	
						-	
			(17,668.84)	(20,391.88)	(9,985.88)	- (48,046.60)	
						-	



## TOWN OF MINTO

DATE:August 31, 2017REPORT TO:Mayor and CouncilFROM:Gordon Duff, TreasurerSUBJECT:Approval of Accounts

## STRATEGIC PLAN:

Manage Town finances in a transparent and fiscally responsible manner using a wide variety of accepted methods such as maintaining healthy reserves, investing conservatively, sensible user fees, property tax control, and responsible borrowing.

### BACKGROUND

The following is a summary of accounts by Department paid for August 15, 2017

Administration People & Property Health & Safety	\$ 149,258.61 1,120.79
Health Services	
Building	1,162.97
Economic Development	5,324.16
Incubator	
Tourism	2,491.28
Fire	1,154.90
Drains	710.00
Roads	88,526.05
Cemetery	3,032.69
Waste Water	42,007.34
Streetlights	7,301.50
Water	2,303.03
Town Landscaping Care	661.50
Recreation	6,863.60
Clifford	20,903.75
Harriston	5,627.94
Palmerston	14,190.92
Norgan	4,288.18

## \$ 356,929.21

The following is a summary of accounts by Department paid for August 31, 2017

Administration	\$ 223,661.50
People & Property	360.75

Health & Safety	
Health Services	
Building	1,036.24
Economic Development	58,096.09
Incubator	5,651.66
Tourism	1,074.08
Fire	3,540.84
Drains	
Roads	178,080.26
Cemetery	
Waste Water	9,240.82
Streetlights	679.05
Water	23,757.03
Town Landscaping Care	530.66
Recreation	14,765.10
Clifford	2,799.16
Harriston	18,886.86
Palmerston	26,235.72
Norgan	3,064.10

\$ 571,459.92

#### COMMENTS:

The above information is provided to provide an update on monthly spending by Department as public information. Council also receives three budget update reports per year outlining the status of budget to actual for the capital plan and operating budgets.

Council receives by email a detailed summary of accounts including personal information about identifiable individuals that is protected under the Municipal Freedom of Information Act. The auditor supports Council approving the accounts in this fashion.

#### FINANCIAL CONSIDERATIONS:

Council's approval of the accounts increases transparency by disclosing monthly spending by Department.

#### **RECOMMENDATION:**

That Council of the Town of Minto receives the Treasurer's report dated July 28, 2017 regarding Approval of Accounts, and approves the Town of Minto accounts by Department for June and July 2017.

Gordon Duff, Treasurer



TOWN OF MINTODATE:August 30, 2017REPORT TO:Mayor and CouncilFROM:Gordon Duff, TreasurerSUBJECT:Connecting Link – Intake #2–

## STRATEGIC PLAN:

5.1 Actively seek out Federal and Provincial grants and revenue-sharing programs, and promote sustainable and equitable funding programs that require a minimal amount of reporting and promote local autonomy.

5.3 Ensure financial plans to include a blend of capital financing methods including long term debt, user fees, grants, internal reserves and taxation, and maintain reserves to the point where Minto reduces reliance on borrowing or tax increases to finance major capital expenditures.

## BACKGROUND:

The Ontario government restored the Connecting Link program in 2015. The Town of Minto was successful in obtaining a grant in the amount of \$967,903 in the first round to assist with funding work on Elora Street in Clifford from James Street to the southern urban limits. The first section of this work was completed from Grein's Lumber to Park Street was finished this summer at a cost of \$314,293.

The Town submitted an application under Intake #2 to complete the Connecting Link project north from James Street to the urban limits. The Town received successful notification of funding under this round on March 29, 2017 in the amount of \$987,665. This work is in final design stage with a public meeting proposed in November to review the design and servicing aspects of the work.

## COMMENTS:

As per usual practice, the Province of Ontario requires a Contribution Agreement to be signed between the Municipality and Her Majesty's government in order to facilitate the transfer of funds. This Agreement is attached and requires the document to be signed on behalf of the Town of Minto by its representatives, normally the Mayor and CAO/Clerk.

The two intakes provide for road reconstruction on Elora from one end of Clifford to the other with most of the work planned for 2018. Connecting Link does not cover water and sewer work which will be entirely the Town's share. Regarding servicing extension from

James Street northwest on Elora Street the landowners proposing to develop their lands should be making a fair contribution to the work.

## FINANCIAL CONSIDERATIONS:

The Town will include these funds in the capital or operating budgets as appropriate. External borrowing, reserve funds, current taxes and user fees will be used to fund the Town's share per approved capital budgets. For all phases, the total cost of the project including elements covered by Intakes #1 and #2 and recognizing ineligible costs such as waterworks, sanitary sewers and streetscapes is forecast to be approximately \$4,050,000.

## **RECOMMENDATION:**

That Council receives the report from the Treasurer dated August 30, 2017 regarding the Contribution Agreement for the Ontario Connecting Links Program Intake 2 – 2017-18 and considers a by-law in open session authorizing the Mayor and CAO Clerk to sign the agreement.

Gordon Duff, CPA, CGA Treasurer



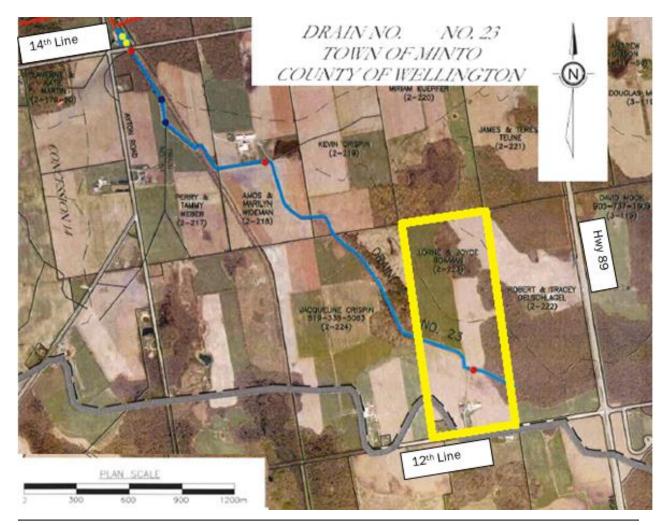
TOWN OF MINTODATE:August 22, 2017REPORT TO:Mayor Bridge and Members of CouncilFROM:Mike McIsaac, Roads ForemanSUBJECT:Municipal Drain #23 Improvement

## STRATEGIC PLAN:

Support programs that maintain Minto's strong agricultural identity, enhance agricultural work, and protect and restore the natural environment given Minto's location in the heartland of Ontario surrounded by farmland and acknowledging that farming and a healthy natural environment are inextricably linked.

## BACKGROUND:

Staff received a Section 78 Drainage Act request from a local landowner asking that part of Municipal Drain #23 be improved from the existing open ditch to a closed underground system (tile system) on Con 13 Pt Lot 22 to maximize the cropping potential of this property.



Section **78(1)** states that where drainage works are constructed pursuant to a by-law passed under the Drainage Act, and Council considers it appropriate to undertake project(s) for the better use, maintenance or repair of the drainage works or of lands or roads, the municipality <u>may</u> undertake and complete the project in accordance with a report by an engineer appointed by it and without a petition.

A request such as this requires a new engineer's report and assessment schedule.

## COMMENTS:

Dietrich Engineering Limited has been appointed by Council to conduct procedures under the Drainage Act. It is proposed that Dietrich provide a report to Council under Section 78.1 outlining the improvements needed to address the concerns in Municipal Drain 9. Information will be provided to impacted landowners and Council prior to a decision being made on whether to proceed. As with any procedure under the Drainage Act this will require some time before the project proceeds.

## FINANCIAL CONSIDERATIONS:

The cost of the Engineering Report is assessed against all affected landowners and road authorities if Council decides to proceed with the project. The Engineer will also set the percentage assessment of the approved works that each landowner and road authority will pay upon completion of the project.

## **RECOMMENDATION:**

That the Council of the Town of Minto receives the Roads & Drainage Foreman's August 22, 2017 report regarding the Municipal Drain 23 Petition and Improvement under Section 78 of the *Drainage Act* and appoints Dietrich Engineering Limited to represent the Town's interest in this regard.

Mike McIsaac Roads & Drainage Foreman

# Notice of Request for Drain Improvement

Drainage Act, R.S.O. 1990,c. D.17, subs. 78(1)

To: The Council of the Corporation of the Town of Minto	
Re: #23 (Name of Drain)	
In accordance with section 78(1) of the <i>Drainage Act</i> , take notice that I/we, as owner(s) of land affected, request that the above mentioned drain be improved.	
The work being requested is (check all appropriate boxes):	
Changing the course of the drainage works;	
Making a new outlet for the whole or any part of the drainage works;	
Constructing a tile drain under the bed of the whole or any part of the drainage works;	
Constructing, reconstructing or extending bridges or culverts;	
Constructing, reconstructing or extending embankments, walls, dykes, dams, reservoirs, pumping stations or other protective works in connection with the drainage works;	
Otherwise improving, extending to an outlet or altering the drainage works;	
Covering all or part of the drainage works; and/or	
Consolidating two or more drainage works.	
Provide a more specific description of the proposed drain improvement you are requesting:	177
Replacing the open ditch with a tile and filling in the ditch a	nd
making it workable land.	_
Property Owners:	3
• Your municipal property tax bill will provide the property description and parcel roll number.	
<ul> <li>In rural areas, the property description should be in the form of (part) lot and concession and civic address.</li> <li>In urban areas, the property description should be in the form of street address and lot and plan number, if available.</li> </ul>	
In urban areas, the property description should be in the form of street address and for and plan herites), it dealable.	

Property Description 5988 12th Line	Harniston, ON	NO6 120	MINTO	CON	13 PT	LOT 22
Ward or Geographic Township Minto	ì	Parcel Roll Number 23 41		22 300	0000	
<i>τ.μμ.</i>						

If property is owned in partnership, all partners must be listed. If property is owned by a corporation, list the corporation's name and the name and corporate position of the authorized officer. Only the owner(s) of the property may request a drain improvement.

Enter the mailing address and public Last Name Bowmo	imary contact information of property $\mathcal{N}$	First Name Lorne Joyce	Middle Initial R.
Mailing Address		Vojee	
Unit Number Street/Ro	ad Number Street/Road Name		PO Box
City/Town		Province	Postal Code
Harriston		Ontario	NOG 120
Telephone Number	Cell Phone Number (Optional)	Email Address (Optional)	
519-338-5623	519-323-6308	lornebowman	mwpol.ca

To be completed by recipient municipality:

Notice filed this 17 day of MUGUST 20 17	
Name of Clerk (Last Name, First Name)	Signature of Clerk
WHITE, BILL	Sallaht





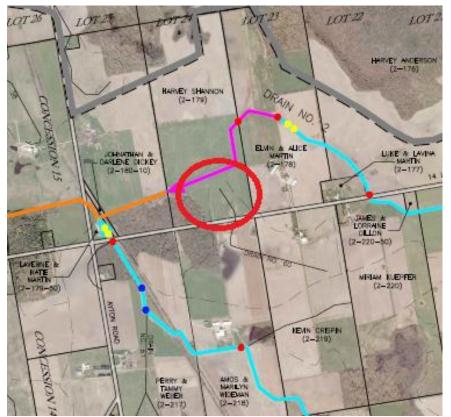
TOWN OF MINTODATE:August 31, 2017REPORT TO:Mayor Bridge and Members of CouncilFROM:Mike McIsaac, Roads ForemanSUBJECT:Municipal Drain #60 Improvement

## STRATEGIC PLAN:

Support programs that maintain Minto's strong agricultural identity, enhance agricultural work, and protect and restore the natural environment given Minto's location in the heartland of Ontario surrounded by farmland and acknowledging that farming and a healthy natural environment are inextricably linked.

## BACKGROUND:

Staff has received a Section 78 Drainage Act request from one local landowner requesting asking that part of Municipal Drain #60 be improved due to multiple failures in the existing 1964 tile drain on Lot 24 Con 15.



A request such as this must be completed with a new Engineers report and assessment schedule.

Section 78(1) states if a drainage works was constructed under a by-law passed under the Act and the responsible Council considers it appropriate to undertake work for the better use, maintenance or repair of the drainage works or of lands or roads, the undertake municipality may and complete the project in accordance with the report of an engineer appointed by Council and without a petition required by section 4.

## COMMENTS:

Dietrich Engineering Limited has been appointed by Council to conduct procedures under the Drainage Act. It is proposed that Dietrich provide a report to Council under Section 78.1

outlining the improvements needed to address the concerns in Municipal Drain 60. Dietrich Engineering completed the 2005 Report for the upper portion of this drain and is currently working on a Section 78 for MD #2 which is the outlet for this drain as well.

## FINANCIAL CONSIDERATIONS:

The cost of the Engineering Report is assessed against all affected landowners and road authorities if Council decides to proceed with the project. The Engineer will also set the percentage assessment of the approved works that each landowner and road authority will pay upon completion of the project.

## **RECOMMENDATION:**

That the Council receives the Road Foreman's report regarding Municipal Drain #60 Improvement under Section 78 of the *Drainage Act* and appoints Dietrich Engineering Limited to represent the Town's interest in this regard.

Mike McIsaac Road Foreman



TOWN OF MINTODATE:August 30, 2017REPORT TO:Mayor and CouncilFROM:Mike McIsaac, Roads ForemanSUBJECT:Municipal Curb Painting for Visual Needs Student

## STRATEGIC PLAN:

7.9 Upgrade community facilities to ensure access is available for persons of all abilities in compliance with applicable regulations keeping in mind community need, affordability and standards for communities of similar size.

## **BACKGROUND:**

A letter was received from the Upper Grand District School Board UGDSB requesting to paint the municipal curb around Norwell District Secondary School at 135 Cumberland Street in Palmerston to assist with student with blind/low vision accommodations to be made by the School Board. (See attached request letter)

## COMMENTS:

The letter includes a sketch showing the requested areas to be painted as the east side of Cumberland from Main Street to Raglan Street as well as a small portion of the west side. The south side of Raglan Street form Cumberland Street to York Street and small portion of the west side of York Street between Raglan and Main Street also being proposed by UGDSB.

## FINANCIAL CONSIDERATIONS:

There are no financial considerations, the cost for the painting and upkeep would be the responsibility of the Upper Grand District School Board.

## **RECOMMENDATION:**

That Council receives the Road Foreman's Report dated August 30, 2017 regarding Municipal Curb Painting for Visual Needs Student and approves the Upper Grand District School Board painting a 4" yellow line along the top of the concrete municipal curbs in the area outlined in the report subject to the Board maintaining the painting.

Mike McIsaac Road Foreman



John Veit – Manager of Plant Operations Upper Grand District School Board 500 Victoria Road North, Guelph, ON, N1E 6K2

August 28, 2017

Town of Minto Public Works Department 5941 Highway #89 Harriston, ON N0G 1Z0

## **Re: Municipal Curb Painting for Visual Needs Student**

To Whom It May Concern,

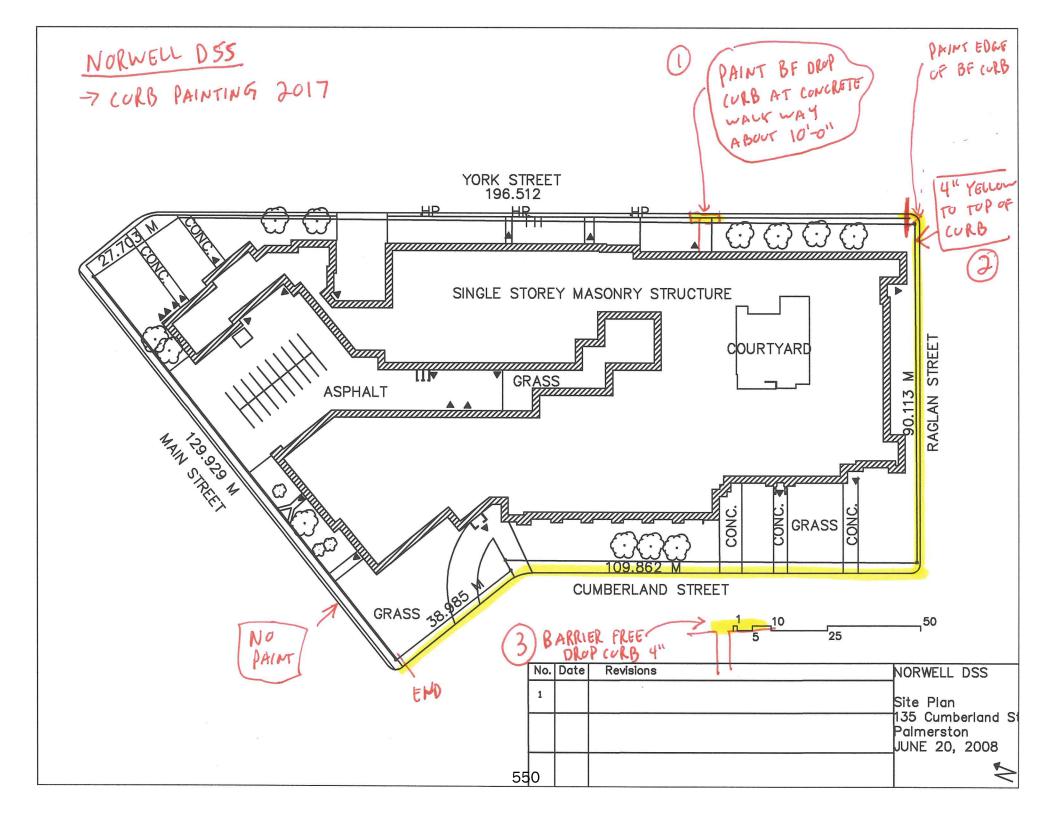
Norwell DSS (135 Cumberland St, Palmerston, ON N0G 2P0) currently has a student with blind/low vision accommodation needs. In consultation with the student, special education consultants, and Itinerant Vision Teacher, several recommendations for upgrades have been identified inside and outside the school to ensure safety, independence, and accessibility for our student. All recommendations on our property have been addressed.

An outstanding recommendation is to paint a 4" yellow line along the top concrete curb around the school. This line provides a strong visual clue for the student while walking and waiting for their school bus. The line would be similar to parking lot lines.

Modifications to Municipal Property require approval from the Town of Minto. We are requesting permission to install this traffic paint in order to support our student. See attached sketch

Sincerely,

John Veit Manager of Plant Operations JV / jh





TOWN OF MINTODATE:August 30, 2017REPORT TO:Mayor and CouncilFROM:Mike McIsaac, Roads ForemanSUBJECT:Winter Operational Improvements

## STRATEGIC PLAN:

11.0 Maintain and enhance infrastructure to protect public health and safety, prevent property damage, maintain high quality of life, and effectively manage financial resources to ensure Minto is an attractive and viable community for family living and business investment.

## **BACKGROUND:**

The Town Winter Control operating budget of \$480,000 provides services according to the attached Snow Removal Policy approved by Council in 2015. The budget and policy must ensure the Town meetings minimum maintenance standards set by the Province. In almost all cases the Town exceeds these standards when conducting winter control operations.

Currently during any winter event 13 Full time/part time staff use 12 pieces of equipment to provide winter control operations generally between 3:00am and 1:00pm with one operator from 5:30pm to 7:00pm to cover the maintenance requirements with Wellington County for CR 2 & 3. Equipment used during an event is as follows:

- 1 patrol pick- up truck equipped with a plow and sander
- 3 tandem axle plow trucks
- 1 grader
- 4 single axle plow trucks
- 3 sidewalk units.



Current routes are outlined in the Snow Removal Policy. Beginning October 1 Town staff must patrol roads every morning documenting weather, road temperature and condition, and other information to determine whether crews should be called out for winter patrol. This process continues by regulation through to April 30. Town patrol at 3:00am during a snow event would have plows on the road by no later than 4:00am most days. Urban areas

are cleared by early morning and sidewalk routes to schools prepared before 8:30am weekdays. Rural areas are plowed through early morning hours.

In addition to regular routes the Town contracts out snow bank removal in parts of Harriston, Palmerston and Clifford when banks exceed 1.0 metre in height. Town staff also plows, sand and salt municipal and facility parking lots; previously the Town contracted out snow removal on municipal and facility parking lots with Town staff sanding and salting after the contractor removed the snow.

Staff historically receives a few complaints about winter operations. Our ability to respond is dictated by the Snow Removal Policy and minimum maintenance standards. While budget to actual often varies from year to year depending on the intensity of the weather, staff realizes there is a limit to funding. One common complaint is a lack of attention to rural roads later in the afternoon. This has become more apparent over the years with the changing lifestyle of the general public. In rural areas there is consistent pressure for a higher level of service particularly later in the afternoon and evening. Some business owners in Palmerston believe snow banks in the urban areas should be removed before they are 1.0 metre high.

## COMMENTS:

Efforts are constantly being made to maximize the most efficient use of staff and equipment to provide a high level of service to enhance public safety. Staff has looked at operations as described by the snow removal policy, minimum maintenance standards and efficiency of its available equipment. For the 2017-18 winter season staff proposes to extend operator presence during the weekdays to the rural area by adding a second shift. This will provide a total service timeline of 3:00am to 11:30am and 2:00pm to 10:30pm Monday to Friday. Weekends will be patrolled with call in as required once daily between 3:00am to 11:30am.

To accommodate the second shift and increase rural coverage 14 Full time/part time staff using 12 pieces of equipment will be deployed daily. Equipment used by the first shift during an event would then be as follows:

1 patrol pick- up truck equipped with a plow and sander

2 tandem axle plow trucks

2 graders

- 3 single axle plow trucks
- 3 sidewalk units
- 2 backhoes (with snow pusher attachment)

During the second shift two staff will use the 2 tandem plow trucks to provide afternoon service to rural hardtop roads only. New routes have been developed with urban snow removal continuing as per current procedures

These changes improve staff availability from 14 hours a day to a maximum of 21 hours daily from 14 hours. The Lead Hand and Roads & Drainage Foreman will be available daily from 7:00m to 3:30pm in addition to the coverage outlined.

By deploying the two backhoes and both graders in the snow removal process staff eliminates the need for one tandem plow truck and one single axel plow truck. The Town already owns the backhoes and the graders, but by surplussing a tandem and single axel the Town saves over \$600,000 in capital equipment purchases every 10 years and upwards of \$20,000 in annual maintenance. Off winter season these two vehicles are rarely used.

While there is added use of the backhoe under this approach, the winter deployment does not change their replacement schedule (6-8 years) and they can be replaced for 40% less than the plow trucks. Backhoes are also regularly used off winter for numerous projects as are the Town graders. Graders have a 16-18 year replacement period and are comparable in price to a tandem plow truck.

By using the same number of units, just different equipment, maximizes Town capital and operational resources. Using the 2 graders to 100% service all gravel areas provide a higher level of service to residents as well as improved safety to our operators. Clearing gravel roads with plow trucks has high potential for operator error particularly in icy conditions.

Municipal and facility parking lots will be cleared with the 2 backhoes and one extra staff member will accommodate an earlier completion time as well as leaves potential opportunity to attend to downtown snow on a daily basis during a normal snowfall. That staff member will also be able to help speed up operations in other parts of the Town to improve response. Deploying the backhoes for municipal and facility parking lots may be controversial with some snow removal contractors who had hoped the Town might revert back to contracting this service out. It should be clear that the new process does not increase the fleet and that the added staff person will be seasonal part time and not a permanent full time staff member..

## FINANCIAL CONSIDERATIONS:

It is not proposed to change the 2018 winter control budget due to these internal operating improvements. Staff would buy a snow pusher attachment for the current John Deere backhoe for \$14,000. A similar attachment was included with the new JCB backhoe.



There are unspent funds in the capital equipment budget to outfit the second backhoe on a full time basis this year.

It is proposed Council support purchasing the attachment so that Town staff can apply the new snow removal strategy this winter. The

Snow Removal Policy would not be changed until after the winter control season when staff will provide a report to Council on the overall success of the program. The single axel and tandem plow trucks would not be considered surplus until Council and staff are comfortable with the new system.

## **RECOMMENDATION:**

That Council receives the Road Foreman's Report dated August 30, 2017 regarding Winter Operational Improvements and Council approve the implementation of the winter operational changes for 2017-18 and purchase of a snow pusher attachment, and that staff report back in spring 2018 on the results of the new strategy.

Mike McIsaac Road Foreman

Section: Public Works	Policy Number: 4.24
Policy: Snow Removal Policy	Effective Date: April 15, 2014
Date Last Revised: September 29, 2015	Current Revision Date: September 29, 2015



## 1.0 <u>Policy Statement</u>

Ensure a cost efficient and effective winter roadway maintenance program to reduce risk of accident or injury, minimize economic loss to the community, and facilitate the movement of emergency responders and police services.

## 2.0 <u>Purpose</u>

To set winter snow and ice control standards so the Town roadway network is safe and reliable, within reasonable budget controls, while protecting the environment and providing excellent customer/citizen service.

At all times the Town will try to meet or exceed <u>Provincial Minimum Maintenance Standards</u> for winter road maintenance subject to resource availability, weather conditions and other factors beyond the Town's control.

## 3.0 <u>Weather monitoring</u>

Staff will monitor weather as required by minimum standards every day between October 1<sup>st</sup> and April 30<sup>th</sup> no less than three times in a 24 hour period for the winter months and for the remaining months once a day.

This will include obtaining the Environment Canada Forecast on-line, publically broadcast, or other means, and recording the date, time and results of monitoring.

Weather monitoring along with road conditions shall be the basis upon with winter maintenance resources shall be allocated.

## 4.0 <u>Patrol</u>

The Town will commence winter patrol operations as weather requires beginning on October 1, to April 30<sup>th</sup>.

Winter patrol by the Public Works Director, Roads Superintendent, Lead Hand, or other appointed qualified staff will generally commence at 3:30 am, or earlier if needed and be completed on municipal roadways using a four wheel drive Town vehicle equipped with "V" plow. The Patroller shall visually inspect and document conditions of a sufficient number of roads within all areas of the municipality to assess the need for winter maintenance.

Documentation by the Patroller shall include recording in writing or electronically information on temperature, precipitation, condition and similar information needed to form a decision on what winter maintenance services will be called upon. The Patroller shall also document

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the time and location of resources. Information from all patrols shall be stored in a central location where it is easily retrievable.

Additional patrol operations shall occur where required by minimum standards or as needed in the opinion of the Public Works Director or Roads Superintendent.

During the winter months the Town will maintain a snow removal icon on the website. The Patroller shall update this section of the website with relevant information including current weather conditions, the time and number of plows called out that day, scheduled dates for snow bank removal and/or shelving, and public relations information.

#### 5.0 <u>Plowing Operations</u>

The Town shall keep in force a by-law prohibiting parking on any municipal street between the hours of 2:00am and 6:00am beginning November 1<sup>st</sup> and concluding March 31<sup>st</sup>. Enforcement shall be completed by the Police and appointed By-law enforcement officers.

Winter maintenance crews will be called upon by the Patroller to conduct maintenance according to minimum standards or as assigned between the hours of 3:30 a.m. and 12:00 p.m. throughout the week. Additional hours may be assigned outside of this period as needed so long as prescribed limits on working hours are maintained.

Winter maintenance crews shall consist of full time operators within the Public Works Department as well as Seasonal Full Time operators. Winter maintenance of municipal roadways shall be conducted on 10 routes as shown on the attached map. Within each route the operations are intended to address the following priorities (see attached maps for reference).

## a) Town Priority 1 Roads

- Paved higher traffic routes in urban and urban areas, Main Street Business Districts, School Routes, major industry, places of worship weekends
- County Roads 2 and 3
- Sanding storm frequency, every 4 to 8 hours.
- Plow within 24 hours after end of snowfall as permitted by weather.

#### b) Town Priority 2 Roads

- Lower traffic routes, gravel roads, dead end streets
- Ice bladed as needed
- Sanding standard frequency, once every 24
- Plow within 24 hours after the end of snowfall hours as permitted by weather.

#### c) Sidewalks

- snow removal on sidewalks in designated urban areas and school routes as per maps attached
- Weekdays remove snow on sidewalks to school routes and within business districts unless schools are closed

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- Weekends clear sidewalks to places of worship
- Where practical the Town may modify sidewalk maintenance to accommodate the requirements of special needs children as a priority, as well as special needs adults.

The level of winter maintenance on roads and sidewalks Saturdays, Sundays and statutory holidays will be modified on an event-by-event basis so that Provincial Standards are met. Town residents may notice a slight reduction in the level of service on roadways during these periods as well as during prolonged winter storms.

## 6.0 Snowbank Maintenance

Snow will be removed from business districts where there is a lack of visibility, pedestrian access is significantly hindered or there is inadequate snow storage on the boulevard and/or when snow banks are over 1.0 m high in the following areas:

- a) **Clifford** Elora Street from Queen to Nelson
- b) **Palmerston** Main Street Queen to Henry, Jane St Main St to Inkerman St, William St Main St to Bell St, Bell St William to James St and James St Bell to Main St
- c) Harriston Elora Street Young to William; Arthur Street Queen to Mill

Outside these business areas snow will be removed from arterial roadways, key intersections, school routes, and in the area of institutions and Churches as required when the driving width or parking area restricts safe vehicular movement.

Snow removal on public laneways or on narrow streets will occur where there is inadequate space to continue to plow or provide for reasonable local traffic movement.

Town staff shall annually contract for snow bank removal, subject to the Town Purchasing By-law, by way of a bid that will include supply of a blower, three trucks, and skid steer or similar. The Town shall supervise the operations and will provide a snow storage area in accordance with this policy.

Where snow removal is not practical or cost effective at the discretion of the Public Works Director or designate the Town will initiate a snow bank "shelving" process. Shelving involves plowing back the upper half of the snow bank to increase snow storage and visibility. Shelving will occur at key intersections to maintain visibility, and may occur at any other location the Public Works Director or designate advises. Residents are encouraged to monitor the Town's website to see if the Patroller has authorized "shelving" for any particular day.

Fire Hydrants shall be cleared of snow so as to allow firefighter access as required in the interest of public safety. Where a thaw is anticipated in the weather forecast, Town staff shall ensure most catch basins are clear to improve surface water flow off municipal streets.

## 7.0 <u>Snow Storage</u>

The Town will store excess snow to avoid infiltration into streams and rivers, drinking water recharge area for municipal wells, and areas where infiltration into the sanitary sewer

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system may be located. If required the Town will implement risk management practices so as to minimize the impact of snow storage on the environment where practical to do so.

### 8.0 Lion's Park

Town will contract to remove snow on the Palmerston Lions Park Trail from Main Street south to Albert Street within 48 hours. Snow will not be hauled away.

### 9.0 <u>Public Parking Lots</u>

Council shall decide based on recommendations from the Public Works Director or designate the level of maintenance Town staff shall conduct on municipally owned parking lots and laneways. In the event Council chooses to contract out maintenance of the Town owned parking lots this process shall be governed by the Town's purchasing by-law based on the number of plowing occurrences where the amount of snow on the lot exceeds 5 cm.

### 10.0 <u>Severe Snowfall Event</u>

A severe snowfall response can be initiated at the discretion of the Public Works Director or designate if there is a snowfall event of 30 cm or more or a blizzard as defined by Environment Canada that threatens the mobility of the roadway network. The focus of this severe snowfall response will be to restore mobility for emergency responders and not to open roads to public travel. This severe snowfall response includes:

- Deployment of all available resources to ensure mobility of emergency responders on the roadway network.
- Delegation of control of deployment of all available resources in all Town Departments associated with snow clearing to the Roads and Drainage Superintendent

During a severe snow event the Town will not be able to plow designated routes but will focus on arterial roads in urban and rural areas as much as possible anticipating the routes of emergency responders in consultation with the Fire Chief.

In the event of the closing of Provincial Highways and County Roads in the municipality the Town shall post such closures on its website. In the event Highway 89 is closed the Town municipal office will be closed. Plow operators will carry identification with them in their personal vehicles so as to obtain clearance to assemble at the Operations Centre on Highway 89. If necessary the Patrol Vehicle will assist where possible.

Where road closures prevent the travelling public from using the highway system the following procedure shall apply:

- 1. Police and Fire shall advise the Town if there are members of the public requiring temporary accommodation.
- 2. Facilities staff shall contact daily users and advise that highway closures will prevent access to urban areas and therefore all facility bookings are cancelled.
- 3. Facilities staff will accommodate any persons within a facility unable to leave due to highway closures. If there are no persons in the facility and no persons identified by Police and Fire requiring temporary accommodation, Facilities staff shall post a sign with a phone number that can be called in the event assistance is needed. The phone number shall be of a member of staff who can attend to the facility safely.

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- 4. Staff shall have health and safety in mind when responding to a Facility
- 5. A Town Facility shall not take the place of a hotel or other place of accommodation which should be the first priority for members of the travelling public requiring assistance.
- 6. This procedure is separate and independent of any situation under a snow emergency where operations are controlled by the Town's Emergency Response Centre.

#### Snow Emergency

In the event of an extreme winter storm that causes the closure of a significant portion of the roadway network, the Public Works Director or designate can advise the Mayor or designate who shall declare a snow emergency. This will initiate the activation of the Emergency Operations Centre. In this event, all control of snow clearing activities will be coordinated through the Emergency Operation Centre.

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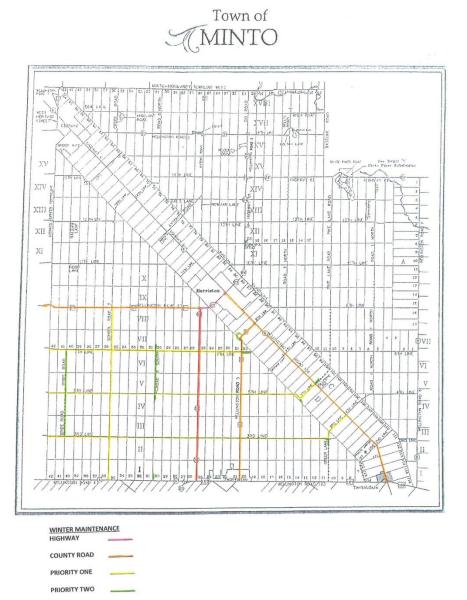


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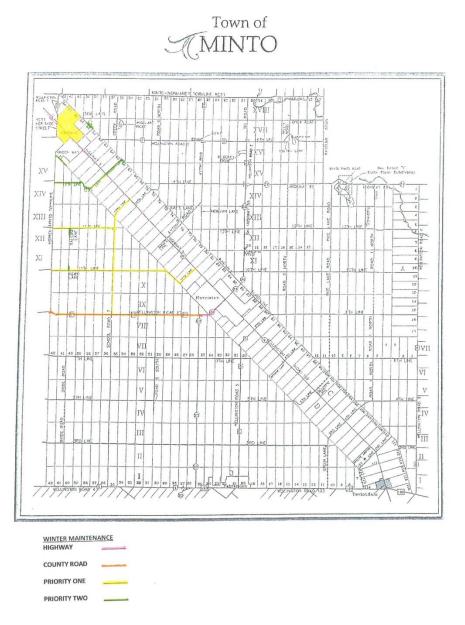


PRIORITY TWO

Section: Public Works	Policy Number: 4.24
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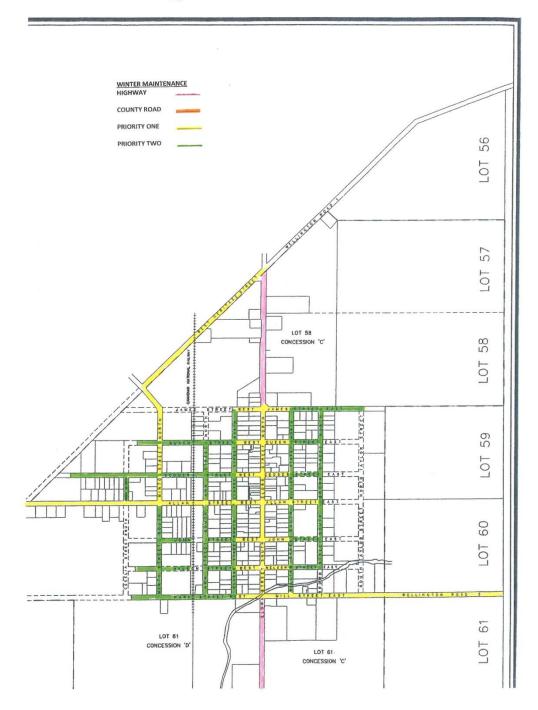


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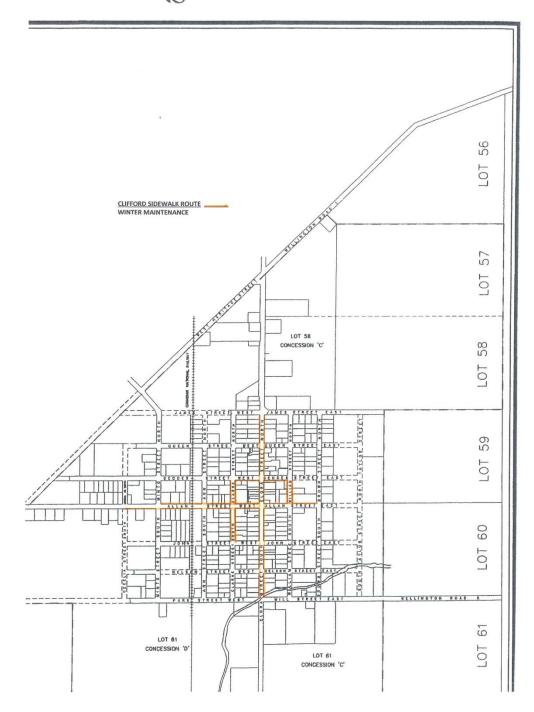
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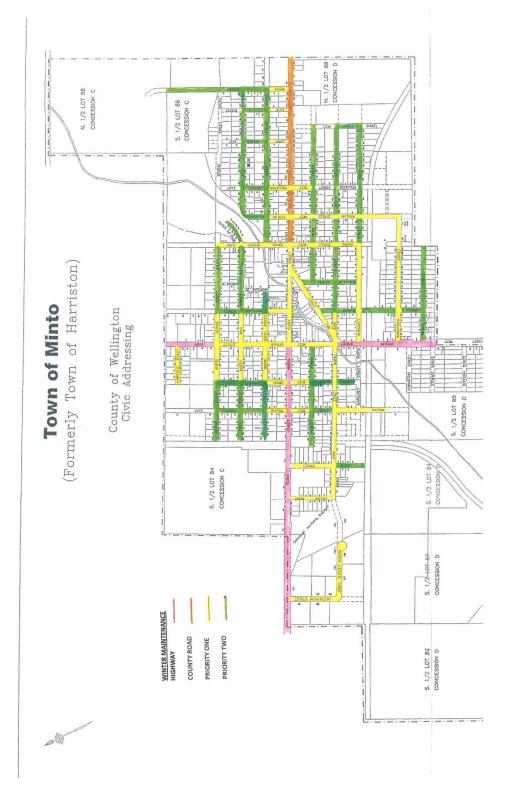


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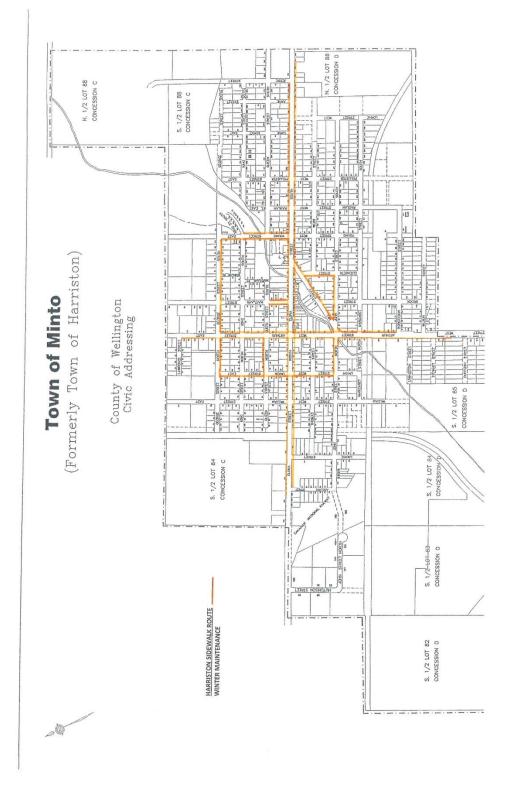
Town of CLIFFORD



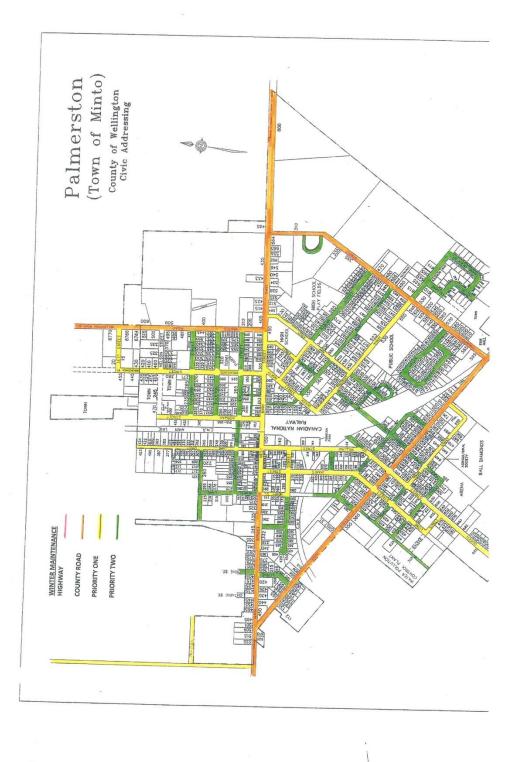
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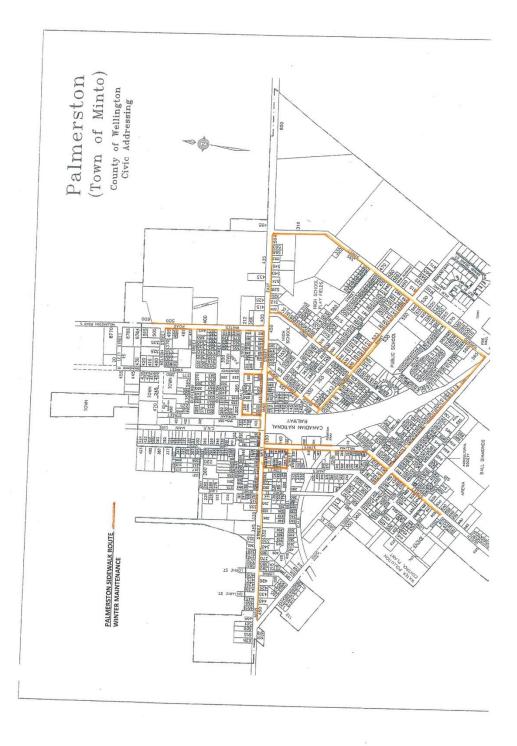
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TOWN OF MINTODATE:August 24, 2017REPORT TO:Mayor and CouncilFROM:Bill White C.A.O. ClerkSUBJECT:Public Works Update Asphalt Work, Pedestrian Crossings

## STRATEGIC PLAN:

11.0 Maintain and enhance infrastructure to protect public health and safety, prevent property damage, maintain high quality of life, and effectively manage financial resources to ensure Minto is an attractive and viable community for family living and business investment.

## **BACKGROUND:**

The 2017 Public Works capital budget includes over \$4.5 million of work or about 80% of the total annual capital budget for the Town. Previous reports on pedestrian crossings, cemeteries, sidewalk contract, asphalt work and Clifford sewage system provided some information to Council on this years' capital work. This report provides a further update on the status of major projects including asphalt work and pedestrian crossings.

### Asphalt Paving

May 16 Council awarded \$398,730 in asphalt work to the Murray Group. This included paving over 3km of the 16<sup>th</sup> Line, several blocks in Minto urban areas, and paving parts of the Clifford Arena and Community Centre parking lots. This also encompassed final asphalt on the James Street Palmerston project where most of the work was done last year, and paving Norman Street in the area of the new County Housing project. Excessive rain this spring and summer delayed the Murray Group with their work in the region. The sand pad work on the 16<sup>th</sup> Line began the last week of August. The rest of their Minto work will be finished in September.

#### Sidewalks

May 16 Reeves Construction was awarded \$96,000 in sidewalk work funded from capital and operational funds, including new sidewalks and repairs in all three urban areas. Work on William Street Harriston was added to the contract at Council's request to link the soon to be relocated pedestrian crossover at Elora Street to the walkway to Minto Clifford School at George Street. Most of the sidewalk work is done, but there is a section of Prospect Street out near Clair Ridge Estates subdivision that was finished as there were homes under construction. Curb and sidewalk for the street will be budgeted for 2018.

#### Pedestrian Crossings

At the July 4 meeting staff reported to Council on the design of six pedestrian crossings in Minto to be retrofit to meet Wellington Safe Communities standards for School Crossings,

Crosswalks and Pedestrian Crossovers and the requirements of the Ontario Traffic Manual. This included a new pedestrian crossover at Jane and Main Street in Palmerston. It was hoped the crossovers would all be finished before school starts in September.

The Town completed the Prospect Street crossing to Palmerston Public School. The County may complete its crossing at Brunswick and Main in Palmerston before school starts. The final design for crossings at Elora Street & William and Arthur & George in Harriston await Provincial approval. They will not likely be finished before school starts. The attached letter was received from a Harriston resident about the relocation of the Elora Street crossing from Union to William. Staff is not recommending the crossing revert back to Union Street as it is "non-compliant" due to lack of separation from the Arthur Street lights.

The crossing at Main and Jane in Palmerston requires curb extensions into the roadway to facilitate safe pedestrian crossing. The original price for this work from the Jane Street contactor was very high. Alternate pricing is being obtained from Reeves Construction who is approved for curb and sidewalk work. The curb extensions are to be finished this fall so the crossing is operational before winter provided a reasonable price is given.

## Ann Street Clifford

At the May 2 meeting Council awarded a \$371,865 contract to Moorefield to service two blocks of Ann Street between Allan and Nelson. These blocks support 10 vacant lots of which six were sold during a bid process this spring. Moorefield started to stage equipment and will finish the project within three weeks this September.

Four of the six lots sold by bid closed and are proceeding to permit. Remaining two lots will close this fall with permits taken this year. Triton Engineering is coordinating with the Chief Building Official and Moorefield to ensure servicing work and the new home elevation connect properly. There are already about 12 homes finished or underway across the five blocks of Ann Street. Public Works is looking at installing two street lights this year. Storm sewer, curbing and paving of some blocks of Ann Street will be proposed for 2018.

## George Street South Harriston

At the June 20 Council meeting Moorefield was awarded the George Street South reconstruction at a cost of \$1.182 million. Temporary services are installed. Road removal and reconstruction began last week and will be well underway by mid-September. Weather permitting the first lift of asphalt will be finished mid-November. The extension request to allow final asphalt next spring under the CWWF Grant is expected to be approved shortly.

This work started at the Young and George intersection and will continue through Fall Fair. Staff met with Bruce Shannon of the Agricultural Society to coordinate Fair access and parking using the former trailer park and front of the Public Works shop. Every effort is being made have abandoned trailers removed before the Fair. Staff worked respectfully

#### Public Works Update Asphalt Work, Pedestrian Crossings

with trailer owners allowing lots of time to take out personal items before demolition. Leaving trailers in place much longer with gas and electrical access is not desirable.

In 2018 curbing and final lift of asphalt for George Street North should be considered at budget. Triton Engineering is coordinating grading and drainage work next week on the park/storm pond including bringing the larger fill piles to a more maintainable condition.

## Elora Street Clifford

Steed and Evans completed \$314,293 Phase 1 Highway 9 (Elora Street) re-pave before Homecoming as required by contract. The remaining work from Park to James (Phase 2) and from James to West Heritage (Phase 3) is in detailed design.

A public meeting will be scheduled in November to discuss the project and secondary planning issues for the northwest part of Clifford. The plan is to tender in December so that the contractor can begin work early in the spring of 2018. Depending on final servicing details Phase 3 could extend into 2019 although the plan is to complete most of the project in 2018. Developers have already inquired about water and sewer availability for larger parcels near Wightman, Wicked Sticks and W.C. Smith. The Town will require developer contributions to pay toward this servicing work.

## Highway 9

Last week the Town received the Province's notice of project for Highway 9 re-construction work between Harriston and Clifford in 2018. This will mean traffic will be down to one lane in sections and/or detours in Minto next year. The Province and Town will coordinate traffic detours to ensure safe and reasonable access on Highway 9. It has only been three years since the Harriston reconstruction and care is needed to minimize impact on local business.

A final phase of Highway 9 (Elora Street Adelaide north) reconstruction in Harriston was never budgeted by the Town including curb, roadway widening, stormwater work, water main extension (Adelaide to Hutchison) and sanitary sewer crossing (from Schickedanz to the John Street). Council approved asphalt paving as an interim improvement last year.

Staff will ask the Province to accommodate Town infrastructure beyond the connecting link in their capital schedule. The intent is the Town pay certain material costs to coordinate its servicing needs with work the Province will be doing. An application to another stage of the Connecting Link funding could be considered, but the cost of the sewer crossing and watermain link to Hutchison Street is eligible under this grant. Any Town expenditures toward this section of Highway 9 will be determined by Council at the 2018 budget.

## Cemeteries

The circular roadway around the Harriston cemetery extension has been laid out by staff who will prepare the lands for the roadway for plot layout. The RFP for design work in all

three cemeteries for cremation interment options will occur through the fall and winter. Council has directed that public input be obtained before any option proceeds.

#### COMMENTS:

Staff and Triton Engineering continue to work with contractors to complete projects within budget and time allocations, and have done an exceptional job considering the June 23 flood and the amount of work available to contractors. Staff is pleased that contractors made their best effort to get jobs done in Minto in a timely way. Triton Engineering's help keeping projects on target and working with contractors and utilities on scheduling is very much appreciated.

#### FINANCIAL CONSIDERATIONS:

Work described in this report is approved in the 2017 budget.

#### **RECOMMENDATION:**

That Council receives the C.A.O. Clerk's August 24, 2017 report Public Works Update Asphalt Work, Pedestrian Crossings.

Bill White C.A.O. Clerk

#### **Bill White**

From: Sent: To: Subject: Karen L. Allen <ka.riverbankid@hotmail.com> August-14-17 9:56 PM Bill White Re: proposed cross walk relocation

Thank you Mr White, I appreciate this. After speaking with my teens on the matter also they felt bad vibes as even they don't enjoy waiting for the bus with the rude, poor mouthed and numerous smoking teens awaiting the Highschool bus to NDSS. It is nothing they like to hear nor see and they felt sad for the wee ones if they were crossing there.

Good luck regardless.

Sincerely,

Karen L. Allen

From: Bill White <<u>BWhite@town.minto.on.ca</u>> Sent: July 28, 2017 9:27 AM To: Karen L. Allen Cc: Mike McIsaac; Jackie Hymers; Annilene McRobb Subject: RE: proposed cross walk relocation

Thank you for the letter. With your permission I can place it on the Council agenda as correspondence so that they may provide direction on a response.

Bill White, CAO/Clerk

Town of Minto

T 519.338.2511 x 222

F 519.338.2005

C 519.323.7602

E <u>bwhite@town.minto.on.ca</u>

www.town.minto.on.ca

From: Karen L. Allen [mailto:ka.riverbankid@hotmail.com] Sent: July-26-17 6:16 PM To: Bill White Subject: proposed cross walk relocation

Dear Mr. White,

As a resident in the neighbourhood of the proposed relocation of the school crossing on Union and Elora St North, I feel I must object. Whether or not a professional engineer has examined the situation, he does NOT reside here. The sight lines in both direction have an advantage to children and pedestrians where it currently exists. You have the ability to see traffic in both directions and also the traffic light, allowing you to know when one side is safe for certain. As having lived on Elora street for nine years this September I can honestly say during the summer months it is safer to cross at Union than William, the traffic is excessive and increasing its speed to the crest of the hill from Arthur street. When we cross at Union the traffic calms and allows safe passage. It is not so at William St. It has been literally taking one's life in their hands to cross, and I see painted lines making no improvement at all unless you are willing to add Pedestrian Cross Walk Lights to actually stop traffic. Without this there is no advantage and it remains much safer at Union. The neighbourhood is also much nicer. The residents in the apartment/home on the corner of William and Elora has been known to curse a blue streak at anyone, including children. Nothing I would wish on another, let alone a child on their way to or from school.

I was saddened to see the dividing line on Elora St North was repainted improperly as to the standards of the engineer Mr Jeremy Gibson, during construction physically made that line be blacken over by the paint crew and the line straighten it out. I presume he was not around this time and it looks as if a drunkard painted the lines.

The lights at Elora and Arthur desperately require an advanced green to turn left. The traffic does not properly flow here. The use the right turn lanes are filled with impatient to go straight and those that wish to turn right cannot. The result being attempting a proper left hand turns hold up traffic greatly as drivers are afraid to turn left when they should as some impatient driver is swooping around the right an into the opposing left hand turner. Please implement this before lives are lost.

Sincerely,

A Concerned Minto Resident,

Karen L Allen



TOWN OF MINTODATE:September 1, 2017REPORT TO:Mayor and CouncilFROM:Bill White, C.A.O. Clerk & Gordon Duff TreasurerSUBJECT:Ontario Community Infrastructure Fund Top Up

# STRATEGIC PLAN:

- 5.1 Actively seek out Federal and Provincial grants and revenue-sharing programs, and promote sustainable and equitable funding programs that require a minimal amount of reporting and promote local autonomy.
- 5.3 Ensure financial plans to include a blend of capital financing methods including longterm debt, user fees, grants, internal reserves and taxation, and maintain reserves to the point where Minto reduces reliance on borrowing or tax increases to finance major capital expenditures.

## BACKGROUND

August 2014 Ontario announced a \$100 million annual Ontario Community Infrastructure Fund (OCIF) with both *merit-based* and *formula-based* components. The Province advises OCIF will grow to \$300 million per year for 2019 and beyond. Minto's *formula-based* funding was \$130,000 in 2015 – 2016 and \$223,161 in 2017. In 2018 the amount grows to \$315,205 and \$476,143 in 2019 and beyond.

The following are approved OCIF *merit based* projects since program announcement:

- 2015 Bride Road Culvert \$454,444 funding for the \$652,000 project completed by Reeves Construction under budget.
- 2016 Jane & Inkerman Palmerston \$1,300,000 funding for \$2,090,000 project nearing completion by Hanna & Hamilton (includes added Town share for sewer work).

The attached letter confirms the Town is eligible for \$1,208,652 OCIF Top-up funding by applying before September 27, 2017. Eligibility for the 2017 intake is targeted to communities whose formula-based grants in 2018 and 2019 add up to a combined total of less than \$2 million (Minto total \$791,348). Eligible communities with critical infrastructure projects may submit proposals to the new top-up component to bring their total OCIF funding up to \$2 million over 2 years. The Town is eligible for up to 90% of a project's total eligible cost, to a maximum of \$1,208,652.

# COMMENTS

Based on the criteria for the OCIF top up program, the Town should select a project that has a critical health and safety aspect, is identified in the comprehensive asset management plan and the there is a demonstrated need for funding.

At 90% the Town could receive full funding for a project that was \$1,342,947. Staff met with Triton Engineering to discuss eligible projects and the following were identified for Council consideration:

- Brunswick Street Palmerston Lift Structure, Culvert
- Structures A, B, C and D Minto Normanby Townline
- 12<sup>th</sup> Line Reconstruction O'Dwyer's to CR 6
- Queen Street North Harriston
- Queen Street Palmerston
- Palmerston Sewage Plant Upgrades

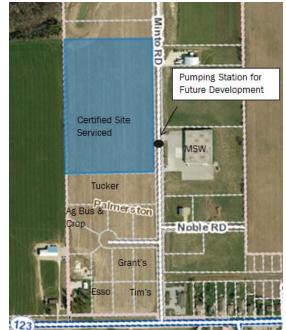
Two projects not listed are the Minto Road Lift Station (\$750,000 plus) in the Palmerston Industrial Park and John Street reconstruction in the Harriston Industrial Park (\$1,020,000). It is felt these projects may be more suited to the Clean Water and Wastewater Fund (CWWF). Park Street in Clifford (\$752,000) is a project identified for 2020 and would be a lower priority since OCIF top up funding is for work to be finished in 2019.

The Brunswick Street project in Palmerston includes a lift station to take about 20 homes off private sewage pumps and septic, a major culvert crossing, and road and servicing work on Nelson Street. This project has not been successful in two applications under the former Small Communities Fund. It is a strong project for OCIF Top Up, but the Town would need to fund 50% within the 2018 and 2019 budget year (\$1.2 million). Adding that to the

potential \$2 million in borrowing for Clifford Elora Street is a concern in 2018. One option is to split the work into two projects completing part under OCIF Top Up and the rest under CWWF. This would maximize grant amount and minimize Town contribution.

Reconstructing the Minto Normanby Townline and associated structures is a priority but the project is a boundary Road with West Grey. The road has a condition rating of 5 and \$2,500,000 \$1,470,000 \$750,000 \$1,330,000 \$2,000,000







links Grey Road 3, Ayton Road and Grey Road 10 to Neustadt and Hanover. These are four of the poorest culvert structures in the municipality, but West Grey has advised this project is not on their list for OCIF this year. Staff suggests this project remain a priority for 2019 budget and a future joint application with West Grey.

12<sup>th</sup> Line reconstruction was deferred from the 2017 capital budget. The road is heavily used by gravel contractors and has several winding bends that are safety concerns. Two family members on the road asked Council to look at improvements this year. Some resurfacing work was done this summer but full reconstruction is warranted. It may be a project for the annual asphalt work like the 3 km of work on 16<sup>th</sup> Line under way now.

Queen Street North in Harriston is one of the poorest roads in the municipality. Water and sewer infrastructure is slated for replacement. This project was set for 2018 in this year's budget. The project amount is right within the maximum grant allocation.

Queen Street in Palmerston was identified by a neighbour as a safety concern due to lack of sidewalks. In ground infrastructure will soon need replacement, and could be enhanced to open lands at the south end of Palmerston for development.

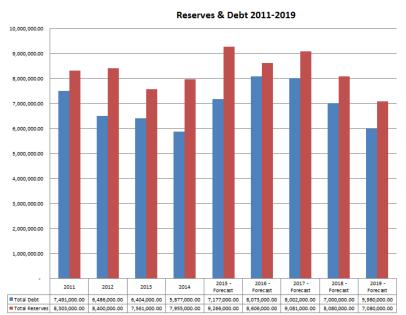
Palmerston Sewage Plant upgrades are needed to address aging equipment. The age and condition of the existing clarifier is a concern, and a second clarifier may be required to increase redundancy and assist with future upgrades. The Wastewater Foreman brought forward information on the need for some work, and continues to identify priority items and a phasing program working with Triton. County growth forecast project between 25 and 32 homes per year in Minto urban areas, including over 630 homes in Palmerston in 25 years. As stated to Council during review of the County forecasts, on-going improvement to inflow and infiltration at the waste water plant as well as upgrades to increase capacity will be needed to support this kind of growth. The annual budget includes some funding for repairs

to major items on an on-going basis, but these do not increase plant capacity. A future CWWF application is warranted to address both aging equipment and plant capacity.

#### FINANCIAL CONSIDERATIONS:

The Town's Fiscal Accountability Policy states that reserves retained not exceed debt unless funding specific grant programs. This chart illustrates Reserves and Debt 2011-2019.

Since 2012 the Town spent \$23.17 million on capital, or about \$4.6 million



per year. The asset management plan calls for expenditures between \$2.6 and \$6 million annually to maintain existing assets. Annual depreciation on the gross "book value" of our tangible assets (\$68 million) is \$2.8 million. The 2017 capital budget is just over \$6 million.

## **RECOMMENDATION:**

That Council receives the report from the Treasurer and C.A.O. Clerk September 1, 2017 report regarding Ontario Community Infrastructure Fund Top Up Funding, and that Council select one of the projects identified for submission under the program.

Gordon Duff, Treasurer

Bill White, CAO/Clerk

#### Ministry of Agriculture, Food and Rural Affairs

Office of the Minister

77 Grenville Street, 11<sup>th</sup> Floor Toronto, Ontario M7A 1B3 Tel: (416) 326-3074 Fax: (416) 326-3083

#### **Ministry of Infrastructure**

Office of the Minister

Hearst Block, 8th Floor 900 Bay Street Toronto, Ontario M7A 1L2 Telephone: 416-325-6666 Fax: 416-314-5464 Ministère de l'Agriculture, de l'Alimentation et des Affaires rurales

Bureau du ministre

77, rue Grenville, 11<sup>e</sup> étage Toronto (Ontario) M7A 1B3 Tél. : 416 326-3074 Téléc. : 416 326-3083

#### Ministère de l'Infrastructure

Bureau du ministre

Édifice Hearst, 8e étage 900, rue Bay Toronto (Ontario) M7A 1L2 Téléphone : 416 325-6666 Télécopieur : 416 314-5464



June 26, 2017

His Worship George Bridge Mayor Town of Minto gbridge@town.minto.on.ca

Dear Mayor Bridge:

As part of the largest infrastructure investment in Ontario's history, our government is committed to helping rural communities improve vital local infrastructure. That's why we are tripling the Ontario Community Infrastructure Fund (OCIF) annually to \$300 million by 2019, and providing communities like yours with more stable, predictable and bankable OCIF formula funding.

This year, the Top-Up Application Component of OCIF is also increasing to \$100 million to help communities apply for additional funding to address larger critical infrastructure projects. I am pleased to inform you that we are now accepting proposals for the 2017 intake of OCIF Top-Up Application funding. **The Town of Minto is eligible to apply for up to \$1,208,652.** 

Your community may submit one project proposal, either individually or in partnership with another community. The deadline for submitting proposals for OCIF Top-Up Application funding is Wednesday, September 27, 2017, at 5 p.m.

Please note that this is a competitive application process that will assess projects primarily on their critical health and safety aspects. An assessment of the applicant's asset management plan will also be considered as part of this process.

For more information about OCIF, please visit our government's infrastructure funding <u>website</u> (www.ontario.ca/municipalinfrastructure). Should you have any additional questions, please call OMAFRA's contact centre (1-877-424-1300) or email <u>OCIFApps@ontario.ca</u>.

.../2

Working together, we are investing to build Ontario up, grow our economy, create jobs across the province, and make everyday life easier for Ontarians.

Sincerely,

Jeff Leal Minister of Agriculture, Food and Rural Affairs *Minister Responsible for Small Business* 

Bob Chiarelli Minister of Infrastructure

# The Corporation of the Town of Minto By-law 2017-68

# To Amend Zoning By-law Number 01-86 For the Town of Minto

WHEREAS, the Council of the Corporation of the Town of Minto deems it necessary to amend By-law Number 01-86;

NOW THEREFORE the Council of the Corporation of the Town of Minto enacts as follows:

1. THAT Section 37.30 – M1-30(H) Zone (Palmerston), is amended by adding the following new site specific permitted use:

37.30	f) The cultivation of cannabis in a greenhouse is permitted on
	a 3 acre portion of Part Lot 24, Con 1, 200 Minto Road,
	Palmerston directly north of and adjoining the property
	known as 140 Minto Road.

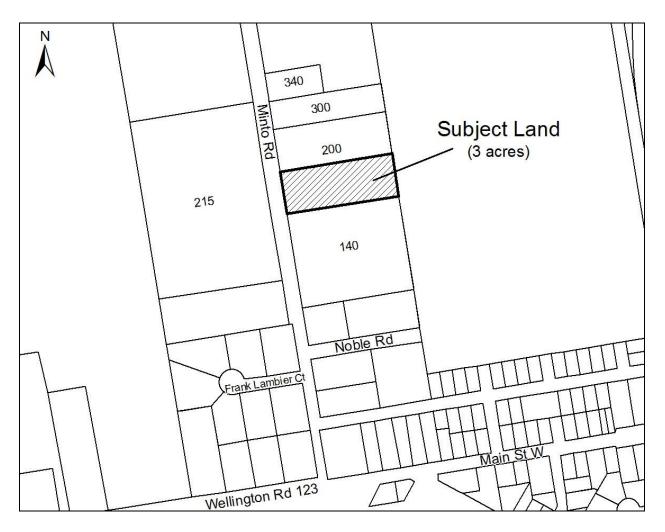
- 2. THAT except as amended by this By-law, the land shall be subject to all applicable regulations of Zoning By-law 01-86, as amended.
- 3. THAT this By-law shall come into effect upon the final passing thereof pursuant to Section 34(21) and Section 34(22) of The Planning Act, R.S.O., 1990, as amended, or where applicable, pursuant to Sections 34 (30) and (31) of the Planning Act, R.S.O., 1990, as amended.

Read a first, second, third time and passed in open Council this  $5^{th}$  day of September, 2017.

Mayor George A. Bridge

## Town of Minto BY-LAW NUMBER 2017-68

SCHEDULE "A"



# EXPLANATORY NOTE BY-LAW NUMBER 2017-68

**THE PROPOSED AMENDMENT** applies to a 3 acre portion of Part Lot 24, Con 1, Parts 1, 2, 3 and 6 of RP 61R11700; Parts 4 and 5 PT of RP 61R9419; Parts 2 and 6, with a civic address of 200 Minto Road, Palmerston. The subject property is directly north of 140 Minto Road (MSW).

**THE PURPOSE AND EFFECT** of the amendment is to permit the cultivation of cannabis in a greenhouse on the subject property. A medical cannabis production facility is proposed on the property.

# The Corporation of the Town of Minto By-law 2017-69

# To Amend Zoning By-law Number 01-86 For the Town of Minto

**WHEREAS,** the Council of the Corporation of the Town of Minto deems it necessary to amend By-law Number 01-86;

NOW THEREFORE the Council of the Corporation of the Town of Minto enacts as follows:

- 1. THAT Schedule "A" Map 1 of the Town of Minto Zoning By-law 01-86 is amended by rezoning Part Lot 21, Con 5 (Minto), 9042 Wellington Road 5, as shown on Schedule "A" attached to and forming part of this By-law, from:
  - Agricultural (A) to "Agricultural Exception (A-36.116)
  - Agricultural (A) to "Agricultural Exception (A-36.117)
- 2. THAT Section 36, Rural Area Exception Zones, is hereby amended by adding the following new exceptions:

<b>36.116</b> CON 5 PT LOT 14	Notwithstanding any other provisions of this By-law, a residential dwelling shall be prohibited in this zone. Other agricultural uses that are not accessory to a dwelling are permitted.
<b>36.117</b> CON 5 PT LOT 14	Notwithstanding Section 8.5.2.1 of this By-law, a minimum lot area of 0.34 ha (0.8 acres) is permitted.

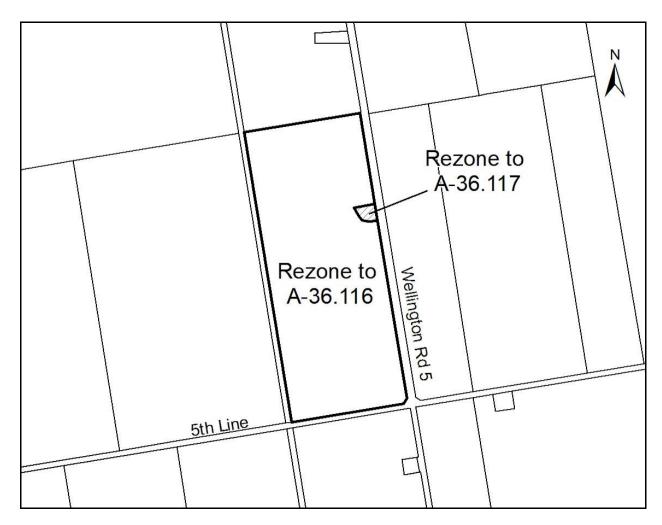
- 3. THAT except as amended by this By-law, the land shall be subject to all applicable regulations of Zoning By-law 01-86, as amended.
- 4. THAT this By-law shall come into effect upon the final passing thereof pursuant to Section 34(21) and Section 34(22) of The Planning Act, R.S.O., 1990, as amended, or where applicable, pursuant to Sections 34 (30) and (31) of the Planning Act, R.S.O., 1990, as amended.

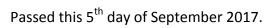
Read a first, second, third time and passed in open Council this 5<sup>th</sup> day of September, 2017.

Mayor George A. Bridge

# Town of Minto BY-LAW NUMBER 2017-69

SCHEDULE "A"





MAYOR

CLERK

# EXPLANATORY NOTE BY-LAW NUMBER 2017-69

**THE SUBJECT LAND** is located on Part Lot 14, Con 5 (Minto), municipal address 9042 Wellington Road 5. The proposed retained agricultural parcel is 40.4 ha (99.83 acres) and contains an existing shed. The proposed severed parcel is 0.34 ha (0.8 acres) in size and contains an existing single detached dwelling.

**THE PURPOSE AND EFFECT** of the amendment is to rezone the property to restrict future residential development on the proposed retained agricultural portion of property, and to recognize a reduced minimum lot area of 0.34 ha (0.8 acres) for the severed parcel which contains an existing single detached dwelling.

# The Corporation of the Town of Minto By-law No. 2017-70

# For the purpose of amending By-law 2017-25, a Bylaw to regulate collection and treatment of sanitary sewage and storm water in the Town of Minto

**WHEREAS** The Corporation of the Town of Minto (the "Town" or the "municipality") operates water production, treatment, storage and distribution systems and systems for the collection and treatment of sewage;

**AND WHEREAS** under Section 11 of the Municipal Act, 2001 (the "Act") the Town may pass by-laws within the "Public Utilities" sphere of jurisdiction which includes sewage treatment, collection of sanitary sewage;

**AND WHEREAS** subsection 9 (3) of the Act provides that a by-law under Section 11 respecting a matter may "regulate or prohibit respecting the matter" and "require persons to do things respecting the matter";

**AND WHEREAS** Part III of the Act (Specific Municipal Powers) under the heading "Public Utilities" contains specific powers and provisions with respect to such systems;

**AND WHEREAS** Part XIV of the Act (Enforcement) provides that the Town may pass By-laws providing that any person who contravenes a by-law passed under the Act is guilty of an offence, and contains other enforcement provisions;

**AND WHEREAS** the Council of the Corporation of the Town of Minto deems it necessary and expedient to amend By-law 2017-25 a By-law to regulate collection and treatment of sanitary sewage and storm water in the Town of Minto;

**NOW THEREFORE** Council of The Corporation of the Town of Minto enacts as follows:

1. That Section 8.2.7 be deleted and replaced with the following:

8.2.7 Where an oil interceptor installed to the requirements of the Town is not properly maintained, the Town may require an alarmed monitoring device to be installed at the owner's sole cost and expense. Failure to install an alarmed monitoring device when required by the Town to do so shall constitute an offence under this bylaw.

2. That Section 8.6.4 be deleted and replaced with the following:

8.6.4 No person shall operate from a premise from which dental amalgam may be discharged unless a waste amalgam separator is installed and properly maintained in good working order and in accordance with manufacturer's recommendations.

3. This By-law shall come into full force and effect upon final passing thereof.

Read a first, second, third and finally passed in open Council this 5<sup>th</sup> day of September, 2017

Mayor George A. Bridge

CAO/Clerk Bill White

# The Corporation of the Town of Minto By-law No. 2017-71

To authorize the Mayor and CAO Clerk to execute an Agreement regarding Connecting Links Contribution Program with Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation, Reconstruction of Elora Street, Clifford

**WHEREAS** Section 9 of the Municipal Act, S.O. 2001, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

**AND WHEREAS** the Government of Ontario has created the Connecting Links Program to provide funding to help municipalities construct and repair roads and bridges on designated Connecting Links;

**AND WHEREAS** the highway named in Schedule "A" of this By-law is a highway under the jurisdiction and control of the Town of Minto and has been designated as a Connecting Link or as an extension to the Connecting Link by the Minister of Transportation in accordance with subsection 21(1) of the Act;

**AND WHEREAS** the purpose of this application is the requested project eligible costs pertaining to Phase 2 of the project.

**NOW THEREFORE** the Council of the Corporation of the Town of Minto enacts as follows:

- 1. That the Mayor and C.A.O. Clerk are hereby authorized to sign and execute the Connecting Links Contribution Program Agreement attached hereto as Schedule "A".
- 2. That this By-law shall come into force and take effect on the date of final passing thereof.

Read a first, second, third time and passed in open Council this  $5^{th}$  day of September, 2017

Mayor George Bridge

# The Corporation of the Town of Minto By-law No. 2017-72

# To confirm actions of the Council of the Corporation of the Town of Minto Respecting a meeting held September 5, 2017

WHEREAS the Council of the Town of Minto met on September 5, 2017 and such proceedings were conducted in accordance with the Town's approved Procedural By-law.

**NOW THEREFORE** the Council of the Corporation of the Town of Minto hereby enacts as follows:

1. That the actions of the Council at its Committee of the Whole/Council meeting held on September 5, 2017 in respect to each report, motion, resolution or other action passed and taken by the Council at its meeting, is hereby adopted, ratified and confirmed, as if each resolution or other action was adopted, ratified and confirmed by its separate By-law.

2. That the Mayor and the proper officers of the Corporation are hereby authorized and directed to do all things necessary to give effect to the said action, or obtain approvals, where required, and, except where otherwise provided, the Mayor and the C.A.O. Clerk are hereby directed to execute all documents necessary in that behalf and to affix the Corporate Seal of the Town to all such documents.

3. This By-law shall come into force and takes effect on the date of its final passing.

Read a first, second, third time and passed in open Council this 5<sup>th</sup> day of September, 2017.

Mayor George A. Bridge