



**Community Issues Committee Action Report
for the February 21st, 2017 meeting held in
the Council Chambers following Corporate Services Committee**

PRESENT: Mayor Antonakos, Deputy-Mayor Flynn, Councillor Black, Councillor Doucett, Councillor Redmond, Councillor Fritz, Councillor Trimble, Les Reynolds, Director of Protective Services, Duncan Rogers, Clerk, Paul Knowles, Chief Administrative Officer, Phil Hogan, Treasurer

- 1) **DECLARATION OF PECUNIARY/CONFLICT OF INTEREST AND GENERAL NATURE THEREOF** – now or anytime during the meeting
- 2) **PUBLIC MEETING – NONE THIS EVENING**
- 3) **REGISTRATION OF PUBLIC WISHING TO SPEAK**
- 4) **PLEASE TURN OFF ALL CELL PHONES AND PAGERS**
- 5) **IF THERE IS AN ADDENDUM, IN ACCORDANCE WITH SECTION 15.2.4 (OF THE STRIKING REPORT) DOES THE COMMITTEE WISH TO APPROVED THIS ADDENDUM**

COMMITTEE/BOARD	MEMBER OF COUNCIL	UPDATES
Municipal Heritage Committee	Councillor Redmond	Canada 150 Events – 5 th Annual Heritage supper
BIA Board		AGM – March 1 st at 6:30
MVCA	Councillor Doucett Deputy-Mayor Flynn	Wetland regulation proposals – further discussion to be had on this issue
Chamber of Commerce	Deputy-Mayor Flynn	
Youth Centre Board	Councillor Trimble	
Library Board	Councillor Doucett	New Strategic Plan for the Library – 2017 – 2021
Daycare	Councillor Fritz	Financial surplus – January licensing done at Carambeck – strong waiting list – Summer camp program being worked on

TO BE DISCUSSED

COMMUNICATION 127387

Received from Les Reynolds, Director of Protective Services
Addressed to Planning and Protection Committee
Date October 14th, 2016
Topic Noise By-law (27-2013)

SUMMARY

Staff have recently noticed an increase in noise complaints that could best be described as neighbourhood issues arising from noises produced from the operation of residential mechanical systems such as air conditioning units, pool pumps etc. The noise resulting from such cases is often of a type that some people consider normal, while others are bothered by it, particularly since this type of noise is often present on a recurring, long term basis.

UPDATE – February 21st, 2017

As directed, staff have researched practices in other municipalities and have come to the conclusion that by and large our current by-law is in line with other similar communities. The major difference in various by-laws centres around whether the criteria for a violation is quantitative (measured by decibel levels) or qualitative (subject to interpretation by the investigating officer). While most municipalities our size rely on strictly qualitative enforcement, quantitative measures have been introduced in some larger municipalities we looked at (Calgary, Ottawa, Brockville).

While staff feel that our existing by-law continues to largely meet our needs, some practices were identified that would be an improvement:

- A number of communities, recognizing the limited resources available for enforcement, place some onus on the complainant to document the type and level of unwanted noise over a period of time and advises them to be prepared to testify in court if required
- Municipalities that have recently updated their noise by-laws tend to identify residential mechanical systems such as air conditioners and pool pumps as potential sources of unwanted noise. This matches our recent experiences and should be included in any new by-law
- Noise from stationary sources such as air conditioners or pool pumps could be subject to maximum quantitative levels
- Any new by-law should specify that it does not apply to noise heard through a common wall or floor in multi-unit residences
- The definition of 'noise' should be updated

127387 Continued

STAFF RECOMMENDATION

THAT staff prepare a draft by-law incorporating the suggested changes for Council's consideration. Bring forward

COMMITTEE DECISION

THAT staff prepare a draft by-law incorporating the suggested changes for Council's consideration. Bring forward

COMMUNICATION 128099

Received from Joanne Henderson, Manager Parks and Recreation
Addressed to Community Issues Committee
Date February 15th, 2017
Topic Liquor Event

SUMMARY

There has been a request to serve liquor in the Town Hall Auditorium at the Heritage Dinner being held on Thursday March 9th, 2017. The Manager of Parks and Recreation has no concerns.

STAFF RECOMMENDATION

THAT alcohol be allowed to be served at the Heritage Dinner.

COMMITTEE DECISION

THAT alcohol be allowed to be served at the Heritage Dinner.

COMMUNICATION 128100

Received from Paul Knowles, Chief Administrative Officer
Addressed to Community Issues Committee
Date February 17th, 2017
Topic Youth Ambassadors Program

SUMMARY

Through their contacts with the US Embassy in Ottawa, the Sister City Committee has learn of an exciting opportunity for youth from Canada to participate in their Youth Ambassadors Program. This program is a three-week exchange designed for Canadians to visit the United States of America. Conducted in the English language, the program brings together students, ages 15 to 18, and adult mentors from across Canada to promote mutual understanding, increase leadership skills, and position youth to make a difference in their communities. Program themes include: civic education, community service, youth leadership, and social inclusion.

128100 Continued

The Center for the Study of Canada at SUNY Plattsburgh is proud to be organizing the Youth Ambassadors Program with Canada thanks to sponsorship by the Bureau of Educational and Cultural Affairs, United States Department of State, and support from the United States Embassy in Ottawa, and Fulbright Canada.

Program Location

The Youth Ambassadors Program with Canada is an intensive program with three segments:

- 1) Pre-departure orientation in Ottawa, Ontario, Canada, to take place July 17 to 18, 2017;
- 2) Exchange experience in the United States of America to include:
 - a) Plattsburgh, New York, and the Adirondack Park from July 19 to 30, 2017;
 - b) Washington, D.C. from July 31 to August 5, 2017.
- 3) Return home travel by August 6, 2017 and follow-on community service activities in Canada to be implemented following the exchange experience. Details about this program are available at the link below;

<http://web.plattsburgh.edu/offices/academic/cesca/youthleadership.php>

STAFF RECOMMENDATION

THAT the Town promote this opportunity for youth to the community.

COMMITTEE DECISION

THAT the Town promote this opportunity for youth to the community.

COMMUNICATION 128101

Received from	Paul Knowles, Chief Administrative Officer
Addressed to	Community Issues Committee
Date	February 14 th , 2017
Topic	Low Impact Design (LID) for Stormwater

SUMMARY

Low Impact Design (LID) for stormwater is being promoted as an improved method for managing stormwater. LID commonly includes low slope swales, rain gardens and other design features that would introduce rain water into the ground rather than draining the stormwater through impervious channels and pipes to a surface outlet. The attached bulletin, from MOECC describes LID.

COMMENT

LID is currently generating significant discussion in the Province. As an example of the ongoing discussion, the City of Markham has identified significant issues with draft stormwater reports produced by MOECC (see attached).

128101 Continued

Credit Valley Conservation Authority is considered a leader in promoting LID and they maintain a list of LID projects (shown below) from around the province on their web site.

- Ecole Secondaire Jeunes san Frontieres
- Credit Valley Conservation
- Riverwood
- Unifay-Fedar Investments
- Armstrong Manufacturing
- Mississauga Transit Maintenance Terminal
- Green Glade Senior Public School
- Lakeside Park
- Edith Street Parking Lot
- South Shell Park
- Hugh Garner Housing Co-operative
- Collingwood Public Library
- Unitarian Church (Mississauga)
- Laurel Creek Nature Centre
- Toronto Water Customer Service Centre
- Hillside Community Festival
- Mountain Equipment Co-op (Burlington)
- Plasti-Fab Ltd.
- The Queensway Sustainable Sidewalk
- Heart's Desire
- Environment 3 building, University of Waterloo
- Clairfields, Westminster Woods and Pine Ridge Subdivisions
- Elementary Teachers' Federation of Ontario Office
- George Richardson Stormwater Management Pond Retrofit
- Island Lake Public School – Environmental Learning Centre
- University of Toronto Mississauga
- Portico Church
- Bernardi Construction Company Ltd
- IMAX Corporation
- Terra Cotta Conservation Area
- Elm Drive
- Lakeview
- O'Connor Park
- King Street Bioretention Planters
- Regent Park
- Activa Group Sportsplex
- Trent University
- Cambridge City Hall
- Wychwood at Upper Churchville
- Guelph City Hall
- Enermodal Engineering
- Vale Living with Lakes Centre
- Bloor West Neighbourhood
- McFarlane-Pine Glen

These projects are almost exclusively localized projects on corporate/condo sites where a clear owner is responsible for maintaining the LID features.

One of the LID projects is three residential subdivisions in Guelph. To quote from the Case Study on this project *"Use of on-site infiltration practices was driven by ideal soil conditions and inability to connect to municipal storm sewer system."* The Case Study also explains there was multi-year groundwater and surface water studies prior to construction. Furthermore, the subdivisions are actually contained with a condominium corporation so the condo can be responsible for maintaining the LID infrastructure.

LID stormwater systems have their place but, in general, in our area:

- ✓ there is usually no clearly identified need;
 - surface discharge is generally available;
 - the Tier 1 Water Budget and Water Quantity Street Assessment for our region, prepared by the Source Water Protection Committee does not identify any general groundwater quantity concerns:

128101 Continued

- ✓ soil conditions are not ideal; and
- ✓ development of subdivisions do not include a condo corporation.

STAFF RECOMMENDATION

THAT LID storm systems be considered only in appropriate circumstances.

COMMITTEE DECISION

THAT LID storm systems be considered only in appropriate circumstances.

COMMUNICATION 128102

Received from	Les Reynolds, Director of Protective Services
Addressed to	Community Issues Committee
Date	February 16 th , 2017
Topic	Temporary Parking Restrictions

SUMMARY

With the heavier than normal snow accumulation that we have experienced this winter, many of the side streets have seen the roadway narrowed to the point where staff are very concerned about not only the normal flow of traffic but the potential for a situation where emergency vehicles are delayed because of a street being impassable.

The Traffic and Parking By-law (46-2003) provides as follows:

8. PARKING PROHIBITED - SPECIAL CIRCUMSTANCES

- (a) If the OPP Inspector or Designate is of the opinion that for some temporary period, the safety of the public, the proper movement of traffic or the proper and safe performance of some vital function of the Corporation, or a local board, requires the prohibition or limitation of parking on a highway, he is authorized to prohibit parking on such highway during such times and days as he deems proper and necessary, and he shall erect authorized signs or otherwise give notice to indicate such prohibition.
- (b) When authorized signs have been erected or notice has otherwise been given under subsection 1, no person shall park a vehicle or permit a vehicle to remain parked on the highway at any time during which such parking is prohibited. A vehicle already parked when such signs are erected shall be forthwith removed.

Staff feel that the situation justifies utilization of this provision in order to ensure the safety of our residents.

128102 Continued

STAFF RECOMMENDATION

THAT wherever parking is permitted on both sides of a street, parking be prohibited on the even numbered side of the street at all times, effective February 22nd, 2017 until such time as it is considered safe to rescind this restriction. Notice of this temporary prohibition is to be disseminated through the municipal website, social media channels and area media outlets.

AND FURTHER that Sec. 8 (a) of By-law 46-2003 be amended by replacing the words “OPP Inspector” with the words “Director of Protective Services” to provide consistency with other sections of the by-law.

COMMITTEE DECISION

THAT wherever parking is permitted on both sides of a street, parking be prohibited on the even numbered side of the street at all times, effective February 27th, 2017 until such time as it is considered safe to rescind this restriction. Notice of this temporary prohibition is to be disseminated through the municipal website, social media channels and area media outlets.

AND FURTHER that Sec. 8 (a) of By-law 46-2003 be amended by replacing the words “OPP Inspector” with the words “Director of Protective Services” to provide consistency with other sections of the by-law.

COMMUNICATION 128103

Received from	Various Committees
Addressed to	Community Issues Committee
Date	January/February 2017
Topic	Action Reports/Minutes

SUMMARY

Action Report for the February 7th, 2017 meeting of the Parks and Recreation Committee is attached. Noteworthy items include;

128079	Heaters in the Stands Arena #2
128081	Carambeck Usage
128082	Community Gardens
128087	Arena Dressing Rooms

STAFF RECOMMENDATION

THAT Council approves Committees’ decisions.

COMMITTEE DECISION

THAT Council approves Committees’ decisions.

COMMUNICATION 128104

Received from Paul Knowles, Chief Administrative Officer
Addressed to Community Issues Committee
Date February 21st, 2017
Topic Closed Meeting

SUMMARY

As authorized by the Municipal Act, Council should review selected items in closed session.

STAFF RECOMMENDATION

THAT in accordance with Section 239 of the Municipal Act, S.O. 2001, that the meeting be closed to the public with the following agenda:

AGENDA

06-12-16-2 personal matters about an identifiable individual, including municipal or local board employees; - General nature – Hiring Committee

COMMITTEE DECISION

THAT in accordance with Section 239 of the Municipal Act, S.O. 2001, that the meeting be closed to the public with the following agenda:

AGENDA

06-12-16-2 personal matters about an identifiable individual, including municipal or local board employees; - General nature – Hiring Committee

REPORT TO COUNCIL

06-12-16-2 Bring forward

COMMUNICATION 128119

Received from Mayor Antonakos
Addressed to Community Issues Committee
Date February 21st, 2017
Topic Bill 17 – Saving the Girl Next Door Act

SUMMARY

Bill 17 is an Act to enact the Human Trafficking Awareness Day Act, the Child Sexual Exploitation and Human Trafficking Act, 2016 and to amend the definition of “sex offender” under *Christopher’s Law (Sex Offender Registry), 2000* to include criminal offences for trafficking of victims under the age of 18.

128119 Continued

STAFF RECOMMENDATION

THAT a letter be forwarded Yasir Naqvi, Attorney General of Ontario, supporting Bill 17.

COMMITTEE DECISION

THAT a letter be forwarded Yasir Naqvi, Attorney General of Ontario, supporting Bill 17.



**Community Issues Committee Agenda
for the February 21st, 2017 meeting to be held in
the Council Chambers following Corporate Services Committee**

- 1) **DECLARATION OF PECUNIARY/CONFLICT OF INTEREST AND GENERAL NATURE THEREOF – now or anytime during the meeting**
- 2) **PUBLIC MEETING – NONE THIS EVENING**
- 3) **REGISTRATION OF PUBLIC WISHING TO SPEAK**
- 4) **PLEASE TURN OFF ALL CELL PHONES AND PAGERS**
- 5) **IF THERE IS AN ADDENDUM, IN ACCORDANCE WITH SECTION 15.2.4 (OF THE STRIKING REPORT) DOES THE COMMITTEE WISH TO APPROVED THIS ADDENDUM**

COMMITTEE/BOARD	MEMBER OF COUNCIL	UPDATES
Municipal Heritage Committee	Councillor Redmond	
BIA Board		
MVCA	Councillor Doucett Deputy-Mayor Flynn	
Chamber of Commerce	Deputy-Mayor Flynn	
Youth Centre Board	Councillor Trimble	
Library Board	Councillor Doucett	
Daycare	Councillor Fritz	

TO BE DISCUSSED

COMMUNICATION 127387

Received from Les Reynolds, Director of Protective Services
Addressed to Planning and Protection Committee
Date October 14th, 2016
Topic Noise By-law (27-2013)

SUMMARY

Staff have recently noticed an increase in noise complaints that could best be described as neighbourhood issues arising from noises produced from the operation of residential mechanical systems such as air conditioning units, pool pumps etc. The noise resulting from such cases is often of a type that some people consider normal, while others are bothered by it, particularly since this type of noise is often present on a recurring, long term basis.

UPDATE – February 21st, 2017

As directed, staff have researched practices in other municipalities and have come to the conclusion that by and large our current by-law is in line with other similar communities. The major difference in various by-laws centres around whether the criteria for a violation is quantitative (measured by decibel levels) or qualitative (subject to interpretation by the investigating officer). While most municipalities our size rely on strictly qualitative enforcement, quantitative measures have been introduced in some larger municipalities we looked at (Calgary, Ottawa, Brockville).

While staff feel that our existing by-law continues to largely meet our needs, some practices were identified that would be an improvement:

- A number of communities, recognizing the limited resources available for enforcement, place some onus on the complainant to document the type and level of unwanted noise over a period of time and advises them to be prepared to testify in court if required
- Municipalities that have recently updated their noise by-laws tend to identify residential mechanical systems such as air conditioners and pool pumps as potential sources of unwanted noise. This matches our recent experiences and should be included in any new by-law
- Noise from stationary sources such as air conditioners or pool pumps could be subject to maximum quantitative levels
- Any new by-law should specify that it does not apply to noise heard through a common wall or floor in multi-unit residences
- The definition of 'noise' should be updated

STAFF RECOMMENDATION

THAT staff prepare a draft by-law incorporating the suggested changes for Council's consideration. Bring forward

COMMITTEE DECISION

COMMUNICATION 128099

Received from Joanne Henderson, Manager Parks and Recreation
Addressed to Community Issues Committee
Date February 15th, 2017
Topic Liquor Event

SUMMARY

There has been a request to serve liquor in the Town Hall Auditorium at the Heritage Dinner being held on Thursday March 9th, 2017. The Manager of Parks and Recreation has no concerns.

STAFF RECOMMENDATION

THAT alcohol be allowed to be served at the Heritage Dinner.

COMMITTEE DECISION

COMMUNICATION 128100

Received from Paul Knowles, Chief Administrative Officer
Addressed to Community Issues Committee
Date February 17th, 2017
Topic Youth Ambassadors Program

SUMMARY

Through their contacts with the US Embassy in Ottawa, the Sister City Committee has learn of an exciting opportunity for youth from Canada to participate in their Youth Ambassadors Program. This program is a three-week exchange designed for Canadians to visit the United States of America. Conducted in the English language, the program brings together students, ages 15 to 18, and adult mentors from across Canada to promote mutual understanding, increase leadership skills, and position youth to make a difference in their communities. Program themes include: civic education, community service, youth leadership, and social inclusion.

The Center for the Study of Canada at SUNY Plattsburgh is proud to be organizing the Youth Ambassadors Program with Canada thanks to sponsorship by the Bureau of Educational and Cultural Affairs, United States Department of State, and support from the United States Embassy in Ottawa, and Fulbright Canada.

Program Location

The Youth Ambassadors Program with Canada is an intensive program with three segments:

- 1) Pre-departure orientation in Ottawa, Ontario, Canada, to take place July 17 to 18, 2017;
- 2) Exchange experience in the United States of America to include:
 - a) Plattsburgh, New York, and the Adirondack Park from July 19 to 30, 2017;
 - b) Washington, D.C. from July 31 to August 5, 2017.

128100 Continued

- 3) Return home travel by August 6, 2017 and follow-on community service activities in Canada to be implemented following the exchange experience. Details about this program are available at the link below;

<http://web.plattsburgh.edu/offices/academic/cesca/youthleadership.php>

STAFF RECOMMENDATION

THAT the Town promote this opportunity for youth to the community.

COMMITTEE DECISION

COMMUNICATION 128101

Received from Paul Knowles, Chief Administrative Officer
Addressed to Community Issues Committee
Date February 14th, 2017
Topic Low Impact Design (LID) for Stormwater

SUMMARY

Low Impact Design (LID) for stormwater is being promoted as an improved method for managing stormwater. LID commonly includes low slope swales, rain gardens and other design features that would introduce rain water into the ground rather than draining the stormwater through impervious channels and pipes to a surface outlet. The attached bulletin, from MOECC describes LID.

COMMENT

LID is currently generating significant discussion in the Province. As an example of the ongoing discussion, the City of Markham has identified significant issues with draft stormwater reports produced by MOECC (see attached).

Credit Valley Conservation Authority is considered a leader in promoting LID and they maintain a list of LID projects (shown below) from around the province on their web site.

- Ecole Secondaire Jeunes des Frontières
- Credit Valley Conservation
- Riverwood
- Unifay-Fedar Investments
- Armstrong Manufacturing
- Mississauga Transit Maintenance Terminal
- Green Glade Senior Public School
- Lakeside Park
- Edith Street Parking Lot
- South Shell Park
- Hugh Garner Housing Co-operative
- Collingwood Public Library
- University of Toronto Mississauga
- Portico Church
- Bernardi Construction Company Ltd
- IMAX Corporation
- Terra Cotta Conservation Area
- Elm Drive
- Lakeview
- O'Connor Park
- King Street Bioretention Planters
- Regent Park
- Activa Group Sportsplex
- Trent University

128101 Continued

- Unitarian Church (Mississauga)
- Laurel Creek Nature Centre
- Toronto Water Customer Service Centre
- Hillside Community Festival
- Mountain Equipment Co-op (Burlington)
- Plasti-Fab Ltd.
- The Queensway Sustainable Sidewalk
- Heart's Desire
- Environment 3 building, University of Waterloo
- Clairfields, Westminster Woods and Pine Ridge Subdivisions
- Elementary Teachers' Federation of Ontario Office
- George Richardson Stormwater Management Pond Retrofit
- Island Lake Public School – Environmental Learning Centre
- Cambridge City Hall
- Wychwood at Upper Churchville
- Guelph City Hall
- Enermodal Engineering
- Vale Living with Lakes Centre
- Bloor West Neighbourhood
- McFarlane-Pine Glen

These projects are almost exclusively localized projects on corporate/condo sites where a clear owner is responsible for maintaining the LID features.

One of the LID projects is three residential subdivisions in Guelph. To quote from the Case Study on this project *“Use of on-site infiltration practices was driven by ideal soil conditions and inability to connect to municipal storm sewer system.”* The Case Study also explains there was multi-year groundwater and surface water studies prior to construction. Furthermore, the subdivisions are actually contained with a condominium corporation so the condo can be responsible for maintaining the LID infrastructure.

LID stormwater systems have their place but, in general, in our area:

- ✓ there is usually no clearly identified need;
 - surface discharge is generally available;
 - the Tier 1 Water Budget and Water Quantity Street Assessment for our region, prepared by the Source Water Protection Committee does not identify any general groundwater quantity concerns:
- ✓ soil conditions are not ideal; and
- ✓ development of subdivisions do not include a condo corporation.

STAFF RECOMMENDATION

THAT LID storm systems be considered only in appropriate circumstances.

COMMITTEE DECISION

COMMUNICATION 128102

Received from Les Reynolds, Director of Protective Services
Addressed to Community Issues Committee
Date February 16th, 2017
Topic Temporary Parking Restrictions

SUMMARY

With the heavier than normal snow accumulation that we have experienced this winter, many of the side streets have seen the roadway narrowed to the point where staff are very concerned about not only the normal flow of traffic but the potential for a situation where emergency vehicles are delayed because of a street being impassable. The Traffic and Parking By-law (46-2003) provides as follows:

8. **PARKING PROHIBITED - SPECIAL CIRCUMSTANCES**

- (a) If the OPP Inspector or Designate is of the opinion that for some temporary period, the safety of the public, the proper movement of traffic or the proper and safe performance of some vital function of the Corporation, or a local board, requires the prohibition or limitation of parking on a highway, he is authorized to prohibit parking on such highway during such times and days as he deems proper and necessary, and he shall erect authorized signs or otherwise give notice to indicate such prohibition.

- (b) When authorized signs have been erected or notice has otherwise been given under subsection 1, no person shall park a vehicle or permit a vehicle to remain parked on the highway at any time during which such parking is prohibited. A vehicle already parked when such signs are erected shall be forthwith removed.

Staff feel that the situation justifies utilization of this provision in order to ensure the safety of our residents.

STAFF RECOMMENDATION

THAT wherever parking is permitted on both sides of a street, parking be prohibited on the even numbered side of the street at all times, effective February 22nd, 2017 until such time as it is considered safe to rescind this restriction. Notice of this temporary prohibition is to be disseminated through the municipal website, social media channels and area media outlets.

AND FURTHER that Sec. 8 (a) of By-law 46-2003 be amended by replacing the words “OPP Inspector” with the words “Director of Protective Services” to provide consistency with other sections of the by-law.

COMMITTEE DECISION

COMMUNICATION 128103

Received from Various Committees
Addressed to Community Issues Committee
Date January/February 2017
Topic Action Reports/Minutes

SUMMARY

Action Report for the February 7th, 2017 meeting of the Parks and Recreation Committee is attached. Noteworthy items include;

128079 Heaters in the Stands Arena #2
128081 Carambeck Usage
128082 Community Gardens
128087 Arena Dressing Rooms

STAFF RECOMMENDATION

THAT Council approves Committees' decisions.

COMMITTEE DECISION

ADDENDUM

COMMUNICATION 128104

Received from Paul Knowles, Chief Administrative Officer
Addressed to Community Issues Committee
Date February 21st, 2017
Topic Closed Meeting

SUMMARY

As authorized by the Municipal Act, Council should review selected items in closed session.

STAFF RECOMMENDATION

THAT in accordance with Section 239 of the Municipal Act, S.O. 2001, that the meeting be closed to the public with the following agenda:

AGENDA

06-12-16-2 personal matters about an identifiable individual, including municipal or local board employees; - General nature – Hiring Committee

COMMITTEE DECISION

COMMUNICATION 128119

Received from Mayor Antonakos
Addressed to Community Issues Committee
Date February 21st, 2017
Topic Bill 17 – Saving the Girl Next Door Act

SUMMARY

Bill 17 is an Act to enact the Human Trafficking Awareness Day Act, the Child Sexual Exploitation and Human Trafficking Act, 2016 and to amend the definition of “sex offender” under *Christopher’s Law (Sex Offender Registry), 2000* to include criminal offences for trafficking of victims under the age of 18.

STAFF RECOMMENDATION

THAT a letter be forwarded Yasir Naqvi, Attorney General of Ontario, supporting Bill 17.

COMMITTEE DECISION

INTERPRETATION BULLETIN
ONTARIO MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE
EXPECTATIONS RE: STORMWATER MANAGEMENT
February 2015

INTRODUCTION

The environmental health of many watersheds continues to decline as urbanization increases. Conventional (pipe and pond) stormwater management practices that focus on controlling peak flow rate and removal of total suspended solids are not fully achieving the desired protection of the watershed ecosystem. This is due to increased volume of stormwater and resultant sustained flows from end-of-pipe stormwater management facilities and may be exacerbated by more intense storms resulting from climate change. Conventional management practices are not always effective at mitigating in-stream erosion or fully protecting water quality, fish and wildlife habitat, and other aquatic resources from stormwater runoff and contaminants that are not removed by settling.

The purpose of this interpretation bulletin is to clarify the ministry's expectations regarding stormwater management. Specifically, the bulletin clarifies that the ministry's existing policies and guidance emphasize an approach to stormwater management that mimics a site's natural hydrology as the landscape is developed. The main tenet of this approach is to control precipitation as close as possible to where it falls by employing lot level and conveyance controls otherwise known as Low

Impact Development (LID), often as part of a treatment train approach. Also, existing policies and guidance emphasize the need to use watershed/subwatershed plans to guide site-specific stormwater management performance criteria.

Currently, preservation of the natural hydrology is not sufficiently reflected in the Environmental Compliance Approval (ECA) applications submitted to the ministry for stormwater management systems. To improve on this, and to facilitate the uptake of LID stormwater management practices, the ministry is taking a two-step approach. The first step is this interpretation bulletin, which clarifies the ministry's existing requirements and guidance on stormwater management.

The natural hydrologic cycle should be maintained to the greatest extent possible. The ministry's existing acts, regulations, policies and guidelines emphasize the need for this approach to stormwater management.

Too often, preservation of the natural hydrologic cycle is not sufficiently addressed in stormwater management plans submitted to the ministry for an ECA.

The second step is to produce a LID stormwater management guidance document. This document will further support low impact stormwater management by, among other things, specifying the ministry's expectations on water balance, acceptable tools to assess and validate water balance and other calculations, monitoring and maintenance of stormwater facilities (including on private property given the decentralized nature of LID), and the role of low impact development within a treatment train approach. This guidance document will be developed in consultation with stakeholders and will be posted on the Environmental Registry for broader consultation. The guidance document is expected to be released in late 2016.

Low impact development stormwater management is relevant to all forms of development, including new development, redevelopment, infill, and retrofit development. Compact urban development and urban intensification helps to prevent sprawl and thus protect farmland, wetlands, and green spaces, and also provides for efficient use of land, water and energy resources and existing infrastructure. Employing LID facilities to the greatest extent possible, when undertaking intensifying urban development, will add to these benefits.

Low impact development stormwater management is relevant to all forms of development, including urban intensification and retrofit.

Urban stormwater runoff management systems are usually designed to meet performance standards based on historical climate data. As a result of climate change, stormwater management facilities constructed today will be expected to perform under climatic conditions that may be significantly different than the recent past. Projected Intensity Duration Frequency (IDF) curves have been made publicly available at Ontario Climate Change Data Portal (Ontario CCDP, see below). LID systems can mitigate impacts from increased precipitation by increasing infiltration; reducing runoff volumes; and, delaying the runoff peak.

WHAT ARE THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE REQUIREMENTS AND GUIDANCE FOR STORMWATER MANAGEMENT?

Maintaining natural hydrology and controlling precipitation as close as possible to where it falls is not a new requirement of the ministry. These principles are outlined in acts, regulations, policies and guidelines, along with protecting water quality. For example:

Ontario Environmental Protection Act: Provides for the protection and conservation of the natural environment.

Ontario Water Resources Act: Provides for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use to promote Ontario's long-term environmental, social and economic well-being. Under section 53,

the act specifies that no person shall use, operate, establish, alter, extend or replace new or existing sewage works except under and in accordance with an ECA. The Act includes stormwater in the definition of sewage. (Note: some stormwater facilities are exempted from the ECA requirement by Ontario Regulation 525/98.)

Water Management Policies, Guidelines, Provincial Water Quality Objectives (PWQO) of the Ministry of the Environment and Climate Change (also referred to as the 'Blue Book'): Gives direction on how to manage the quality and quantity of both surface and ground waters.

With respect to surface water quality, the goal stated in this document is to ensure water quality satisfactory for aquatic life and recreation. Direction is provided on how to deal with situations where water quality of the receiving body is not meeting the PWQO. For example, water quality not meeting the PWQO shall not be degraded further and all reasonable and practical measures shall be taken to upgrade the water quality to meet the objectives.

The 'Blue Book' also requires the preservation of ground water quality to a quality protective of the greatest number of beneficial uses, and that surface and ground-water quantity is managed to ensure a fair sharing among users, water conservation, and sustainability of the resource.

Guidance Documents: Specifically, the *Stormwater Management Planning and Design Manual*, March 2003:

The ministry's March 2003 *Stormwater Management Planning and Design Manual* (2003 Manual) states that performance criteria for stormwater works should reflect watershed, sub-watershed, and environmental management plans developed in consultation with the local conservation authority and municipality. This Manual conveys that meeting the set of criteria addressing all water resource concerns typically requires a combination of stormwater management practices as part of a treatment train approach. Lot level and conveyance controls, specifically infiltration-based controls, are required to maintain the natural hydrologic cycle to the greatest extent possible.

Infiltration of stormwater is needed to maintain ground water sources of drinking water, and to maintain stream base flows. At the same time, ground water quality must be protected from contamination, requiring the appropriate selection of LID measures, which would be determined by the hydrogeology of an area. Assessment reports under the Clean Water Act can provide local and watershed based hydrogeological information, including the delineation of 'vulnerable areas', to support this analysis.

In addition to ministry guidance on stormwater management, practitioners of stormwater management need to consider other stormwater management requirements of other entities most notably the Ministries of Natural Resources, Transportation, Municipal Affairs and Housing, and Agriculture and Food; conservation authorities; municipalities; and the Federal Departments of Environment Canada and Fisheries and Oceans Canada.

WHAT AREAS OF THE MINISTRY’S GUIDANCE ON LID CAN BE IMPROVED?

There are gaps in ministry support for implementing LID that the ministry plans to address through the forthcoming LID stormwater management guidance document. Gaps include inconsistencies in the 2003 Stormwater Manual. For example, Section 4.9 of the 2003 Stormwater Manual presupposes that lot level and conveyance controls cannot, on their own, satisfy all of the stormwater management criteria (flooding, erosion, water balance, and water quality), and that in all cases end-of-pipe facilities will be required. However, it has been demonstrated that LID installations, when properly sited, designed and maintained, can meet all of the requirements and no end-of-pipe controls are required.

Another example is the minimum infiltration rates currently specified in the manual. The 2003 Stormwater Manual contains guidance for a number of lot level and conveyance controls but specifies that the application of a number of management practices may not be suitable if the native soil has a percolation rate less than 15 mm/hr (see for example Pg. 4-6: Table 4.1: Physical Constraints for SWMP Types - infiltration trenches, reduced lot grading, soakaway pits, rear yard ponding, and pervious pipes). This has contributed to the limited application of these measures as many of the soils within Ontario do not meet this criterion. The infiltration rate has an obvious effect on the speed with which a facility will be emptied between rainfall events. Thus, LID facilities should be sized for optimum control of water quantity. Area-wide quantity criteria may be achieved through the use of multiple smaller LID facilities distributed over a large area. For example, stormwater management practices such as bioretention and biofiltration use multiple treatment mechanisms including retention, filtration, evaporation and transpiration as well as infiltration. If the lot level and conveyance facilities can be sized such that they empty between events, or will be installed in areas where quantity control is not a primary concern (areas draining directly to a large surface water body like Lake Ontario, for example), LID facilities can be used where the infiltration rate is less than 15 mm/hr to achieve water balance and water quality (including thermal impacts) through retention, filtration, evaporation and transpiration. Thus, the soil infiltration capacity guidance in the manual should not be interpreted as a prohibition. Rather, it should be interpreted as a caution that controls relying primarily on infiltration may not be as effective on soils with low infiltration rates as they would be on soils with higher rates of infiltration.

SUPPORT FOR LID IN ONTARIO

Property owners, stormwater practitioners, and approving authorities are beginning to gain confidence in making more use of LID. In part as a result of the number of useful guidance documents on selecting and designing LID facilities (see for example *Low Impact Development Stormwater Management Planning And Design Guide*, TRCA and CVCA, 2010; *Minnesota Stormwater Manual*, 2008; and, *Low Impact Development Manual for Michigan*, SEMCOG 2008) and because of the support of some conservation authorities in Ontario. Ontario's Great Lakes Strategy commits the government to actions in support of reducing stormwater impacts including developing guidance for source control measures, enhancing the province's approach to stormwater approvals, and seeking environmental considerations such as LID early in municipal planning decisions. Planning authorities are encouraged to promote low impact development.

LID facilities, like end-of-pipe facilities, require periodic maintenance. The Credit Valley Conservation Authority identified maintenance solutions for LID facilities reflective of their decentralized character, and in some cases location on private property (Survey of Municipal Policies and Administrative Approaches for Overcoming Institutional Barriers to Low Impact Development, CVCA, 2010).

LID can be less costly than conventional stormwater management practices. A 2007 US EPA report summarizes 17 case studies of developments that include LID practices and concludes that applying LID techniques can reduce project costs and improve environmental performance (USEPA, 2007).

CONCLUSION –WHAT ECA APPLICANTS CAN EXPECT FROM THE ECA REVIEW PROCESS

LID techniques can be applied to reduce the volume of runoff from urban areas and help maintain the hydrologic cycle. It is expected that low impact development and other source control practices that better mimic the hydrologic cycle, will be reflected in the ministry's ECA process. The ministry encourages ECA applicants to arrange a pre-consultation meeting with the ministry and other various relevant parties such as the approving municipality or other planning approval authority, and the local conservation authority. It is critical that options and opportunities for the incorporation of LID practices be considered during the watershed and subwatershed planning process, and early in the development planning process and not left to the preparation of the detailed stormwater management plan submission.

Going forward, the Ministry expects that stormwater management plans will reflect the findings of watershed, sub-watershed, and environmental management plans, and will employ LID in order to maintain the natural hydrologic cycle to the greatest extent possible.

References and Sources:

Stormwater Management Planning and Design Manual, MOE, March 2003
Understanding Stormwater Management: An Introduction to Stormwater Management Planning and Design, MOE, 2003
Stormwater Pollution Prevention Handbook, MOE, 2001
Stormwater Management Practices Planning and Design Manual, MOE, June 1994
Interim Stormwater Quality Control Guidelines for New Development, MOE, May 1991
Minnesota Stormwater Manual, 2008
Low Impact Development Manual for Michigan, SEMCOG 2008
Low Impact Development Stormwater Management Planning And Design Guide, TRCA and CVCA, 2010
Survey of Municipal Policies and Administrative Approaches for Overcoming Institutional Barriers to Low Impact Development, CVCA, 2010
Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, United States Environmental Protection Agency, December 2007
Integrated Surface and Groundwater Model Review and Technical Guide, 2011, Prepared by AquaResource Inc. for the Ministry of Natural Resources
Water Budget Reference Manual, 2013, Prepared by Aqua Resource for the Ministry of Natural Resources
Integrated Watershed Management, Navigating Ontario's Future; A Water Budget Overview, Conservation Ontario

Helpful websites with LID Resources for Ontario:

www.sustainabletechnologies.ca

www.creditvalleyca.ca/low-impact-development/

[Ministry of Natural Resources at www.waterbudget.ca](http://www.waterbudget.ca)

[http://www.conservation-](http://www.conservation-ontario.on.ca/media/IWM_WaterBudgetOverview_Final_Jun2.pdf)

[ontario.on.ca/media/IWM_WaterBudgetOverview_Final_Jun2.pdf](http://www.conservation-ontario.on.ca/media/IWM_WaterBudgetOverview_Final_Jun2.pdf)

<http://www.conservation-ontario.on.ca/what-we-do/what-is-watershed-management/integrated-watershed-management>

<http://www.ontariocdp.ca/>

MOECC Contact Information

For comments or questions concerning this Interpretation Bulletin, please contact your [local office of the Ministry of the Environment and Climate Change](#) at <https://www.ontario.ca/environment-and-energy/ministry-environment-regional-and-district-offices>

For information about an ECA application package, or to apply for an ECA amendment, please see list below, or contact the Environmental Approvals Access and Service Integration Branch

Email: EAABGen@ontario.ca

General Inquiry:	416-314-8001
Toll Free:	800-461-6290

Environmental Compliance Approvals

<https://www.ontario.ca/environment-and-energy/guide-applying-environmental-compliance-approval>

MEMO

TO: David Thompson, Chair MEA/MOECC Liaison Committee
c. Scott Mathers, City of London

FROM: Robert Muir, M.A.Sc., P.Eng., Manager, Stormwater, City of Markham

DATE: November 21, 2016

SUBJECT: **Review of MOECC Stormwater Volume Control Recommended Minimum Runoff Volume Control Targets for Ontario, Draft Report, April 30, 2016, MOECC Low Impact Development Stormwater Management Guidance Manual Draft Chapter 5 - Model Selection Framework, May 2016, and Jurisdictional Scan of Canadian, US and International Stormwater Management Volume Control Criteria, Draft Final Report, February 17, 2016**

We have reviewed the MOECC Recommended Minimum Runoff Volume Control Targets for Ontario, Draft Report, the MOECC Low Impact Development Stormwater Management Guidance Manual Draft Chapter 5 - Model Selection Framework, and Jurisdictional Scan of Canadian, US and International Stormwater Management Volume Control Criteria, Draft Final Report and offer the following comments. We have identified significant concerns with the document that must be considered – these are identified below under the following themes:

- 1) importance of local condition drivers for LID mitigation are not adequately considered,
- 2) critical existing infrastructure and property impacts have been omitted,
- 3) costs have been omitted and are prohibitive, rendering implementation infeasible, and
- 4) local goals and alternative solutions have not been adequately defined.

Recommendations to address each concern have been provided below.

1) Local environment conditions have not been adequately considered

1a) Local environment baseflow stresses in existing urban areas are not universal and do not warrant intervention with generic mitigation measures

Sections 4.1 and 5.1 assumes recharge has declined in existing urban areas and that baseflow has declined, when in fact the opposite has occurred in local systems. For example, while the Rouge River

watershed urban area has increased from 4.0%¹ to 43.4%² from the mid 1960's to the late 1990's, the baseflow has increased. Specifically, over this same period the average summer flow has increased by 221% in the Rouge River and 33% in the Little Rouge River³. Similarly, urbanization of the Highland Creek watershed has increased from 39.4% to 88.4% over the period while average summer flow has increased by 351%. The baseflow in also increasing⁴ and as stated the Toronto and Region Source Protection Area' Approved Assessment Report:

"These overall increases to baseflow volumes are contrary to the common thought that increased impervious cover leads to reduced baseflow..."

Recommendation 1a): Revise guidance to apply only to watersheds with defined baseflow stresses, where infiltration LIDs to restore recharge is shown to be effective through comprehensive study.

1b) Local environment potable water supply stresses in existing urban areas are not universal and do not warrant intervention beyond existing Source Protection Plan quantity management policies

The Leading Jurisdictions report and appendices note water supply a rationale for implementing stormwater volume targets in some jurisdictions and the Section 2.1 notes "Preservation of groundwater quantity and levels" as one rationale for volume controls.

There are "more than 970 wellhead protection areas and 150 intake protection zones within the source protection areas in Ontario"⁵. Only 22 municipal systems have required Tier 3 water quantity stress assessments⁶, indicating that water quantity stresses were confirmed at the earlier Conceptual, Tier 1 or Tier 2 evaluations. Of these systems with Tier 3 assessments, only 18 are groundwater systems that would require recharge management policies – this represents a very small fraction of potable water supplies.

In Markham, appropriate recharge and demand management policies have been implemented to address Tier 3 quantity management requirements. The applicable management zone does not extend to most existing urban areas south of Major Mackenzie Drive.

¹ 1966 Land Use per Ducks Unlimited. Canada Land Inventory Land Use 1:50,000 scale mapping for Southern Ontario

² SOLRIS Version 1.2 land cover GIS mapping, as compiled in the Ontario Land Cover Compilation Version 2.0

³ Rouge River State of the Watershed Report, page 5-10, <http://www.trca.on.ca/dotAsset/37761.pdf>

⁴ Approved Assessment Report: Toronto and Region Source Protection Area,, Section 3.4.2 Surface Water Trends, Figure 3.23: Mean Annual Flow, Baseflow, and Precipitation Trends – Rouge River

⁵ <http://conservationontario.ca/what-we-do/source-water-protection>

⁶ Personal communication, Scott Bates, Water Budget Program Analyst, Program Services Section, Ministry of Natural Resources & Forestry

Recommendation 1b): Remove general references to groundwater quantity management related to municipal water supply as Clean Water Act / Source Protection Plans have already identified and implemented appropriate recharge and demand management policies in the limited number of systems where this is required for municipal water quantity risk management.

1c) Local social impacts associated with LID implementation have been omitted

While LID demonstration projects have demonstrated success in several cases of achieving community acceptance, e.g., enlisting resident assistance to maintain LID features, it is recognized that this comes at considerable expense and community acceptance cannot be expected to be universal. In addition, changing demographics with older Ontarians can pose a barrier to maintenance of some LID features.

The LID guidance document assumes that LID implementation could be integrated as part of maintenance/renewal activities (e.g., pavement grinding and resurfacing) or as part of ECA applications for storm system works (e.g., flood control upgrades). No community consultation is completed as part of maintenance/renewal activities and no LID measures have been included as part of planning studies for storm system works. In the case the Markham's West Thornhill Stormwater Flood Control Class EA, source controls were evaluated as part of the study and deemed ineffective at addressing the flood reduction goals. Consequently, implementation of LIDs such that social impacts are addresses is not practical as part of maintenance/renewal activities and is contrary to approved planning studies that have already undergone public consultation.

Recommendation 1c): Remove references to maintenance/renewal activities, exclude approved studies, and work with the MEA/Class EA committee to establish appropriate study Schedule for LID implementation so that social impacts can be addressed.

2) Existing infrastructure and property impacts of infiltration measures have been omitted

2a) Flooding and operational cost impacts to partially separated wastewater systems has been omitted

Section 2.1 in the Leading Jurisdictions Report refers to "Urban flood prevention" as a rationale for volume controls and Table 2.1 notes volume controls have moderate to high efficacy in achieving "Flood Control". The document does not take a broad enough view of urban flooding, apparently focusing on surface water flooding and ignoring the key risks urban flooding related to wastewater infrastructure that can be adversely affected by volume control measures.

It is commonplace that urban areas built between 1960 and 1980 are serviced by partially separated sewer systems that exhibit high extraneous flow rates during wet weather events. Analysis of historical flooding events in the City of Toronto (May 2000, August 2005, July 2013) demonstrates that the 1961-

1980 era developments have the highest relative proportion of reported flooding⁷. In the City of Markham, the proportion of properties flooded during the August 19, 2005 extreme rainfall was highest for partially separated properties serviced before 1980, with over 2.5% of properties flooded. In contrast, only 0.3% of fully separated properties were flooded. These data indicate that partially separated sewer systems are at significantly higher risk of flooding than new fully separated areas. Statistical analysis of wet weather flows by the City of Ottawa support the variability in risk for different systems, identifying average 100 year extraneous flow rates of 4.87 L/s/ha in partially separated systems and only 0.57 L/s/ha in newer separated systems⁸.

Wastewater systems are sensitive to groundwater conditions that contribute to extraneous flow rates that cause property flooding / sewer back-ups. As indicated in the document *Infiltration/Inflow Control/Reduction for Wastewater Collection Systems. A Best Practice by the National Guide to Sustainable Municipal Infrastructure*, by the Federation of Canadian Municipalities and National Research Council:

"Uncontrolled infiltration/inflow in sanitary sewers can have very detrimental effects on social, economic and environmental aspects of urban areas. Excessive flows can severely limit the capacity of existing sewer systems to serve expanded populations. They also generate sewer backups, basement flooding and health risks, increase the operation and maintenance costs of the treatment and pumping facilities, and give rise to overflow of wastewater to streets or to watercourses."⁹

And further that inflow and infiltration (I/I) is affected by groundwater levels:

"Groundwater infiltration (GWI) — Flow deriving from groundwater flowing into the sewer cracks in the pipe, manholes, etc. This I/I component tends to be continuous and dependent on groundwater levels. "

City of Ottawa analysis of monitored extraneous flows also identified factors affecting these flows including age of pipe, and noted the importance of groundwater conditions:

"Other factors are more prevalent with respect to extraneous flows such as construction practices, type of material, groundwater levels, etc." ¹⁰

⁷ Analysis by R. Muir: <http://www.cityfloodmap.com/2016/04/design-standard-adaptation-vs-climate.html>

⁸ City of Ottawa, Sanitary Sewer Extraneous Flow Analysis, E. Tousignant, P.Eng., October 1, 2008.

⁹ *Infiltration/Inflow Control/Reduction for Wastewater Collection Systems, A Best Practice by the National Guide to Sustainable Municipal Infrastructure*, Federation of Canadian Municipalities and National Research Council, March 2003

https://www.fcm.ca/Documents/reports/Infraguide/Inflow_Infiltration_Control_Reduction_for_Wastewater_Collection_Systems_EN.pdf

¹⁰ City of Ottawa, Sanitary Sewer Extraneous Flow Analysis, E. Tousignant, P.Eng., October 1, 2008.

Given observed flood history data for wastewater systems and infrastructure management best practices, infiltration LID implementation in existing urban areas that is intended to replenish groundwater systems and raising groundwater levels (or have recharge intercepted in trenches or foundation drains in partially separated sewer systems), would put additional stress on wastewater. This would contribute to increased operating costs where infiltrated water enters the wastewater sewer system during moderate conditions, and increased sewer backups and overflows during extreme conditions. Where LID implementation has a tangible benefit on groundwater levels, it will have a tangible dis-benefit on I/I stresses.

The effect of infiltration LIDs on groundwater levels has been identified through numerous monitoring and analysis studies that have demonstrated:

- i) local groundwater mounding potential in the vicinity of an infiltration LID, with increases of groundwater level of over 1 m for extreme events¹¹, and
- ii) statistically significant regional scale increases in groundwater level following infiltration LID implementation¹², and
- iii) recharge targets of 10 mm will result in extensive groundwater level increases, even up to surface¹³.

The US Transportation Research Board in its *Evaluation of Best Management Practices for Highway Runoff Control, Issue 565* has identified I/I risks with infiltration BMPs in urban areas:

“In urban areas, unrestricted infiltration may exacerbate infiltration and inflow (I/I) problems in both separate and combined systems; the likelihood of this scenario must be evaluated before constructing unlined infiltration systems.”¹⁴

Recommendation 2a): Recognizing the key causes of urban flooding related to wastewater systems, revise guidance to apply infiltration LIDs only to urban areas with no partially separated wastewater

¹¹ Villanova University, The Graduate School, Department of Civil and Environmental Engineering, The Observed Effects of Stormwater Infiltration on Groundwater, Matthew Damien Machusick, 2009
https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjso-107XQAhWs6YMKHdtPA8gQFggjMAA&url=https%3A%2F%2Fwww1.villanova.edu%2Fcontent%2Fdam%2Fvillanova%2Fengineering%2Fvcase%2Fvusp%2FMachusick%252009Thesis%252004_28_09.pdf&usg=AFQjCNHoQDNxwHISnqTYOPM9le8jHbYYBA&sig2=8VmthXVnITZqjc5Qv8rRjQ

¹² Impact of Storm Water Recharge Practices on Boston Groundwater Elevations, Journal of Hydrologic Engineering 17(8):923-932 · August 2012
https://www.researchgate.net/publication/236325104_Impact_of_Storm_Water_Recharge_Practices_on_Boston_Groundwater_Elevations

¹³ North Markham Subwatershed Study, Phase 2 Assessment.

¹⁴ Section 2.2.3.2, https://books.google.ca/books?id=jKR-CF7PG6AC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

systems to prevent flooding and operational impacts due groundwater levels. Broaden report to acknowledge urban flooding issues related to wastewater systems and infiltration LID impacts.

2b) Flooding impacts to adjacent properties has been omitted

Flooding of adjacent properties has not been acknowledged as a constraint to implementing volume retention in Section 4.3.1.5.

Comprehensive analysis of groundwater effects due to LID implementation has been completed for the North Markham Urban Area (Future Urban Area (FUA)), where coupled surface and groundwater modelling at a subwatershed scale allowed effects of groundwater recharge to be assessed in terms of groundwater levels. This comprehensive assessment leverages considerable long-term, investment in the development of the regional groundwater models, refinements to water quantity stress models in three tiers of Clean Water Act refinements, and further analysis refinement at a subwatershed level to refine and calibrate the modelling tools to assess local impacts.

In North Markham, the comprehensive modelling results indicate that groundwater levels will increase above existing levels in some areas even if low LID implementation targets for recharge (i.e., 4 mm event) are implemented. If more moderate targets (10 mm event) are implemented, “Most parts of the FUA show a rise in water table above existing conditions and the potential for ponded water in areas where it rises to ground surface”, according to the Phase 2 analysis report (page 79-80). Based on this detailed modelling, infiltration LIDs implemented in existing urban areas are predicted to impact groundwater levels, which in turn adversely affect I&I stresses as noted above, and also adversely affect adjacent properties.

The MOECC LID design guidance of 25- 33 mm, 625-825% greater than a target that can increase groundwater levels in some areas, and 250-330% greater than a target that can increase groundwater levels in most areas, would clearly increase groundwater levels significantly in most areas, resulting in significantly higher I&I impacts, and adjacent property impacts.

Other jurisdictions, including the cited leading jurisdiction of Seattle, Washington, have opted to prevent infiltration from LIDs due to adjacent property impacts. This includes the Seattle 2nd Avenue SEA Street swales where groundwater impacts to adjacent properties were identified through engineering analysis:

"Our original hope for retaining flows and allowing infiltration into the native soils throughout the length of the block was not possible because some homes had an existing groundwater intrusion problem. To limit the potential for stormwater to adversely impact the residences of concern, our geotechnical

engineers identified some swales that needed an impermeable liner – for example, a six inch depth of natural clay material was used as the preferred material.”¹⁵

Similarly the Seattle Swale on Yale is lined to prevent water from infiltrating into the ground adjacent to the proposed developments¹⁶.

Recommendation 2b): Revise guidance to apply infiltration LIDs only to urban areas where groundwater impacts to adjacent properties can be shown to be avoided through technical studies, or where indemnities from adjacent property owners is obtained – add adjacent property impacts as a volume retention constraint.

3) Costs have been omitted and are prohibitive

3a) LID demonstration project, literature, and local project costs indicate excessive, prohibitively high costs for implementation when applied to target management areas

The MOECC document notes “Excessive costs alone shall not be considered an acceptable constraint” under 4.3.1.3 Linear Development Volume Retention, and 4.3.1.5.2 Alternative #2: maximum extent possible (MEP).

Incremental LID implementation costs for additional elements beyond standard design features has been estimated based on completed projects and unit costs for various measures. The incremental, additional cost is \$390,000 per hectare of service area (untreated catchment)¹⁷.

The untreated urban area in Ontario is estimated by urban land use area in place in the late 1990’s – early 2000’s and equates to 852,045 hectares¹⁸. Retrofit costs for each Ontario municipality are appended at the end of this document in Table 1.

The incremental LID implementation cost is therefore $\$390,000 \times 852,045 = \$332,000,000,000$, i.e., over \$330 billion. The City of Markham portion of this cost is \$4.18 billion which is considered prohibitive as it is equivalent to 34 times the city’s 2016 capital budget of \$122.9 million¹⁹.

¹⁵

<http://www.seattle.gov/UTIL/EnvironmentConservation/Projects/GreenStormwaterInfrastructure/CompletedGISProjects/StreetEdgeAlternatives/index.htm>

¹⁶ http://www.seattle.gov/util/cs/groups/public/@spu/@drainsew/documents/webcontent/01_013152.pdf

¹⁷ CVC, University of Toronto and TRCA demonstration projects per City of Markham analysis.

¹⁸ SOLRIS Version 1.2 land cover GIS mapping, as compiled in the Ontario Land Cover Compilation Version 2.0

¹⁹ City of Markham 2016 Budget, <https://www.markham.ca/wps/wcm/connect/markhampublic/129bc6d6-2289-49a2-b199-8893c02af011/2016-Budget-Signed-v2.pdf?MOD=AJPERES&CACHEID=129bc6d6-2289-49a2-b199-8893c02af011>

Organizations such as Credit Valley Conservation has identified over 140,000 kilometres of municipal roadway in Ontario²⁰, equating to 281,621 hectares of right of way²¹.

The incremental LID implementation cost for roadways alone, assuming no external property runoff is therefore $\$390,000 \times 281,621 = \110 billion. This is cost considered prohibitive as well.

Recommendation 3a): Given prohibitive costs and the significant impact to existing municipal services due to LID retrofit implementation in existing urban areas, guidance should be restricted to greenfield development areas unless direct consultation with all affected municipalities is completed and Council approval for implementation funding is secured. Excessive costs should be acknowledged as a constraint to volume control implementation.

3b) LID demonstration project, literature, and local project costs indicate only severely limited, technically ineffective implementation of LIDs can be achieved considering even Ontario's entire stormwater infrastructure deficit

The entire national infrastructure deficit for water supply, wastewater, stormwater and roads is \$170 billion, of which stormwater comprises 23% or \$39.1 billion²². The Ontario stormwater infrastructure deficit has been stated as \$6.8 billion²³.

Assuming all Ontario stormwater infrastructure deficit spending is allocated to LID implementation, the area that can be treated is about 17,400 hectares, or 2% of the untreated urban area of Ontario. This would result in an equivalent composite treatment volume of 0.5 mm, assuming a target treatment volume of 25 mm. It is suggested that even this considerable investment, although not prohibitive, would not result in a tangible benefit if only 2% of untreated area is addressed.

Recommendation 3b): Given limited funding and necessarily limited implementation, detailed cost-benefit analysis of outcomes should be completed considering realistic implementation goals for specific watersheds or catchments to address specific areas of clear provincial interest. Alternative solutions to address areas of interest, including more cost effective approaches such as pollution prevention or improved operational practices at existing facilities should be evaluated to help identify alternative financially viable solutions. Excessive costs should be acknowledged as a constraint to volume control implementation.

²⁰ <http://www.creditvalleyca.ca/wp-content/uploads/2015/01/Grey-to-Green-ROW-Road-Right-Of-Way.pdf>

²¹ Assuming 20.1 metre, 66 foot right of way width

²² Canadian Construction Association, Canadian Public Works Association, Canadian Society for Civil Engineers and Federation of Canadian Municipalities. 2012. Municipal Roads and Water System. Volume 1

²³ Urban Stormwater Fees: How to Pay for What We Need, Environmental Commissioner of Ontario, November, 2016, <https://media.assets.eco.on.ca/web/2016/11/Urban-Stormwater-Fees.pdf>

3c) LID project implementation costs are more expensive than traditional servicing projects, contrary to promotional documents that indicate 25% savings, highlighting the need to consider excessive costs as a prohibitive constraint to retrofit implementation (e.g., linear development)

The CVC has reported that there are on average savings of 25% on road retrofits by applying LIDs:

"LID road retrofits save 25 per cent on average compared to traditional stormwater management practices."²⁴

The reference for the average costs savings is from USEPA²⁵, but it does not in fact demonstrate such average savings for the two roadway project included in the reference.

The first road project is the 2nd Avenue SEA Street in Seattle Washington. The USEPA gives the convention project cost of \$868,803, and LID cost of \$651,548, suggesting 25% savings. However the Seattle Public Utilities actual project costs of \$850,000²⁶ for the LID design suggesting very little savings (only 2.2%). Seattle Public Utilities notes the high soft cost of associated with LID design as follows "This included an extensive design and communications budget due to the need to work closely with residents on the design."

The second project is Crown Street, Vancouver British Columbia, a street redevelopment project. The project added 79% of the capital cost in consultant design fees and aesthetic design features (capital cost \$396k, consultant and aesthetic design features cost \$311k), which is line with Markham's experience on Glencrest Park Raingarden implementation where relatively high design, consultation and project management costs were encountered compared to conventional design. The USEAP report notes that on the Crown Street project "Discounting the extra costs, the \$396,000 construction cost is 9 percent higher than the estimated \$364,000 conventional curb-and-gutter design cost." Markham's experience with the Glencrest Park Raingarden is that costs are in the order of \$213k / hectare for open space implementation with limited construction constraints.

The average cost of roadway LID retrofits is therefore 5-6% more than conventional design (averaging SEA Seattle and Crown Street Vancouver), or 38% more than conventional design if additional

²⁴ <http://www.creditvalleyca.ca/wp-content/uploads/2015/07/Advancing-Low-Impact-Development-as-a-Smart-Solution-for-Stormwater-Management-v1.pdf>

²⁵ <https://www.h-gac.com/community/low-impact-development/documents/Reducing-Stormwater-Costs-through-LID.pdf>

²⁶

<http://www.seattle.gov/UTIL/EnvironmentConservation/Projects/GreenStormwaterInfrastructure/CompletedGSIProjects/StreetEdgeAlternatives/CommunityCostBenefits/index.htm>

consultant fees and aesthetic design features are considered – this is 63% higher than the average reduced costs cited by CVC.

Other USEPA case studies are for rural, large lot subdivisions (e.g., Auburn Hills Subdivision, Southwestern Wisconsin, Gap Creek Subdivision, Sherwood Arkansas, Laurel Springs Subdivision, Jackson, Wisconsin, Mill Creek Subdivision, Kane County, Illinois, Prairie Crossing Subdivision, Grayslake, Illinois, Prairie Glen Subdivision, Germantown, Wisconsin) that are not relevant to Ontario urban areas and not relevant to urban roadway retrofits.

Detailed economic studies on source control implementation have acknowledged that implementation of LIDs would be more costly in retrofit settings than in greenfield settings. For example, a study of the Rouge River watershed²⁷ identified:

“The average per-house costs of the intervention strategies for medium density residential development in urban greenfield areas is \$2,785 while the average cost is \$4,607 in urban retrofit areas. These values suggest that retrofitting old developments is more costly than integrating best practices into the new development. In addition, the Rouge River Study modeling results suggest that the surface water quality improvements from the urban retrofit areas are less than the surface water quality improvements from urban green field development under the SC (source control) scenario, relative to FBO (uncontrolled full build out).”

Recommendation 3c): LID implementation costs should be acknowledged to be higher than conventional design, and funding for additional incremental costs retrofit costs should be considered in the comprehensive evaluation of alternative management solutions beside LIDs, including conventional designs with pollution prevention activities. Significantly higher retrofit costs, compared to greenfield implementation should also be acknowledged. Excessive costs should be acknowledged as a prohibitive constraint in general and for linear development retrofit (reconstruction / resurfacing) projects in Section 4.3.1.3.

4) Local goals and alternative solutions have not been adequately defined

Local studies can define water resources management strategies that are attuned to local goals and conditions, as well as regional and provincial ones. Subwatershed studies for the North Markham Urban Area (Future Urban Area (FUA)) are an example of this. This very comprehensive work identified local goals for LID implementation with a 10 mm volume target.

²⁷

<http://www.greeninfrastructureontario.org/sites/greeninfrastructureontario.org/files/Final%20Rouge%20Report%20Nov%2030.pdf>

Recommendation 4): The guidance should identify that LID targets for greenfield development can be set by comprehensive higher level studies that identify alternative implementation targets and alternative solutions.

Conclusions

The MOECC stormwater volume control documents fail to recognize the importance of local conditions that set goals for stormwater mitigation measures – in Markham, local data conditions do not support the need to actively address recharge / baseflow concerns in existing areas beyond the specific, approved Clean Water Act policies determined through detailed Tier 3 water budget analyses. The guidance also fails to recognize social impacts of LID implementation, or adequate planning, consultation and approval requirements for maintenance/renewal activities.

The MOECC documents fail to recognize the critical importance of local infrastructure systems and the obvious impacts of infiltration measures on wastewater systems. Sometimes chronic groundwater issues already impact wastewater systems. Infiltration of runoff in existing urban areas with partially separated sewers will aggravate existing wet weather capacity issues during extreme rainfall events, as well as increase long term pumping and treatment costs. The MOECC has mandated extraneous flow reduction targets in the Region of York and the infiltration of runoff in existing right of ways will be counter-productive to achieving that target.

Implementation costs in existing areas are simply prohibitive (e.g., equivalent to 34 times the City of Markham 2016 capital budget). Assuming scaled back implementation, assigning all Ontario stormwater deficit funding to LID implementation, only 2% of untreated urban area can be treated, calling into question the intent and cost/benefit of even partial implementation. More cost effective solutions to water resource management challenges must be considered instead of LIDs in order to achieve financially feasible solutions. This is especially so given the reality the LID implementation costs more than traditional servicing projects. The statement in the MOECC document that “Excessive costs alone shall not be considered an acceptable constraint” is unrealistic given the realities of municipal capital project funding and must be revisited.

If you have any questions, or require further information, please contact me at rmuir@markham.ca, (905) 477-7000 ext. 2894.

Table 1 - LID Retrofit Cost per Ontario Municipality

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
City of Barrie	5836	\$ 2,275,397,213
City of Belleville	3418	\$ 1,332,359,598
City of Brampton	15925	\$ 6,208,581,693
City of Brantford	4955	\$ 1,931,925,803
City of Brockville	1287	\$ 501,584,398
City of Burlington	8009	\$ 3,122,356,516
City of Cambridge	5921	\$ 2,308,519,800
City of Clarence-Rockland	2144	\$ 835,827,798
City of Cornwall	2542	\$ 991,133,787
City of Dryden	1861	\$ 725,696,949
City of Elliot Lake	2730	\$ 1,064,168,391
City of Greater Sudbury	19652	\$ 7,661,598,386
City of Guelph	5678	\$ 2,213,801,129
City of Hamilton	24115	\$ 9,401,464,058
City of Kawartha Lakes	12128	\$ 4,728,354,653
City of Kenora	3367	\$ 1,312,596,571
City of Kingston	7458	\$ 2,907,682,499
City of Kitchener	8427	\$ 3,285,434,384
City of London	17389	\$ 6,779,305,984
City of Mississauga	24509	\$ 9,555,173,566
City of Niagara Falls	5748	\$ 2,240,932,529
City of North Bay	5179	\$ 2,019,170,839
City of Orillia	1816	\$ 707,837,418
City of Oshawa	5985	\$ 2,333,212,619
City of Ottawa	41720	\$ 16,265,094,044
City of Owen Sound	1305	\$ 508,882,595
City of Pembroke	958	\$ 373,558,930
City of Peterborough	3793	\$ 1,478,849,856
City of Pickering	4208	\$ 1,640,664,574
City of Port Colborne	1914	\$ 746,249,444
City of Prince Edward County	4163	\$ 1,623,173,462

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
City of Quinte West	4647	\$ 1,811,707,301
City of Sarnia	5551	\$ 2,164,011,985
City of Sault Ste. Marie	7892	\$ 3,076,804,186
City of St. Catharines	6170	\$ 2,405,396,352
City of St. Thomas	1925	\$ 750,652,924
City of Stratford	1852	\$ 722,205,744
City of Temiskaming Shores	1743	\$ 679,548,131
City of Thorold	1701	\$ 663,320,169
City of Thunder Bay	10507	\$ 4,096,288,663
City of Timmins	8338	\$ 3,250,583,737
City of Toronto	53697	\$ 20,934,317,510
City of Vaughan	12834	\$ 5,003,659,847
City of Waterloo	4475	\$ 1,744,655,113
City of Welland	3345	\$ 1,303,912,418
City of Windsor	10673	\$ 4,160,875,955
City of Woodstock	2224	\$ 867,169,696
County of Brant	5686	\$ 2,216,581,813
Haldimand County	7119	\$ 2,775,288,639
Municipality of Arran-Elderslie	1414	\$ 551,084,070
Municipality of Bayham	1014	\$ 395,155,278
Municipality of Bluewater	1735	\$ 676,521,836
Municipality of Brighton	1321	\$ 514,996,590
Municipality of Brockton	1927	\$ 751,144,149
Municipality of Brooke-Alvinston	850	\$ 331,383,770
Municipality of Callander	128	\$ 49,868,091
Municipality of Central Elgin	2077	\$ 809,731,480
Municipality of Central Huron	1661	\$ 647,390,450
Municipality of Centre Hastings	463	\$ 180,647,927
Municipality of Charlton and Dack	376	\$ 146,604,292
Municipality of Chatham-Kent	13837	\$ 5,394,323,927
Municipality of Clarington	5832	\$ 2,273,774,416
Municipality of Dutton/Dunwich	1008	\$ 393,111,432
Municipality of French River	807	\$ 314,690,899

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Municipality of Gordon / Barrie Island	0	\$ -
Municipality of Greenstone	5313	\$ 2,071,521,370
Municipality of Grey Highlands	2502	\$ 975,432,137
Municipality of Hastings Highlands	733	\$ 285,805,125
Municipality of Highlands East	90	\$ 34,973,453
Municipality of Huron East	2131	\$ 830,836,603
Municipality of Huron Shores	1093	\$ 426,172,616
Municipality of Killarney	61	\$ 23,736,685
Municipality of Kincardine	2539	\$ 989,975,900
Municipality of Lambton Shores	2183	\$ 851,038,224
Municipality of Leamington	2894	\$ 1,128,141,652
Municipality of Magnetawan	0	\$ -
Municipality of Markstay-Warren	880	\$ 342,927,554
Municipality of Marmora and Lake	580	\$ 226,112,538
Municipality of McDougall	594	\$ 231,498,467
Municipality of Meaford	1860	\$ 725,003,971
Municipality of Middlesex Centre	3003	\$ 1,170,606,283
Municipality of Morris-Turnberry	963	\$ 375,392,251
Municipality of Neebing	93	\$ 36,298,005
Municipality of North Grenville	2151	\$ 838,722,516
Municipality of North Middlesex	1751	\$ 682,609,515
Municipality of North Perth	1881	\$ 733,267,074
Municipality of Northern Bruce Peninsula	1822	\$ 710,416,348
Municipality of Oliver Paipoonge	1245	\$ 485,233,629
Municipality of Port Hope	1947	\$ 758,959,886
Municipality of Powassan	520	\$ 202,674,096
Municipality of Red Lake	872	\$ 339,910,030
Municipality of Shuniah	1734	\$ 675,872,717
Municipality of Sioux Lookout	2161	\$ 842,301,440
Municipality of South Bruce	1325	\$ 516,408,861
Municipality of South Huron	1863	\$ 726,258,348

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Municipality of Southwest Middlesex	1466	\$ 571,575,162
Municipality of St.-Charles	16	\$ 6,149,082
Municipality of Temagami	1303	\$ 508,101,898
Municipality of Thames Centre	2424	\$ 944,949,883
Municipality of the Nation	2410	\$ 939,485,007
Municipality of Trent Hills	2174	\$ 847,415,441
Municipality of Tweed	1185	\$ 462,172,378
Municipality of Wawa	1540	\$ 600,408,305
Municipality of West Elgin	1243	\$ 484,716,088
Municipality of West Grey	2492	\$ 971,344,445
Municipality of West Nipissing	1339	\$ 522,031,631
Municipality of West Perth	1853	\$ 722,240,831
Municipality of Whitestone	353	\$ 137,630,668
Norfolk County	8760	\$ 3,415,266,857
Town of Ajax	3718	\$ 1,449,481,629
Town of Amherstburg	2071	\$ 807,371,846
Town of Arnprior	581	\$ 226,314,291
Town of Aurora	2608	\$ 1,016,659,934
Town of Aylmer	432	\$ 168,376,078
Town of Bancroft	289	\$ 112,551,886
Town of Blind River	1514	\$ 590,232,933
Town of Bracebridge	2509	\$ 978,204,048
Town of Bradford West Gwillimbury	2047	\$ 797,863,137
Town of Bruce Mines	193	\$ 75,131,081
Town of Caledon	6008	\$ 2,342,124,841
Town of Carleton Place	451	\$ 175,867,256
Town of Cobalt	144	\$ 56,315,417
Town of Cobourg	1293	\$ 504,128,241
Town of Cochrane	1164	\$ 453,760,153
Town of Collingwood	1616	\$ 629,890,566
Town of Deep River	537	\$ 209,481,069
Town of Deseronto	103	\$ 40,148,857

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Town of East Gwillimbury	2364	\$ 921,792,141
Town of Englehart	199	\$ 77,543,346
Town of Erin	1415	\$ 551,627,926
Town of Espanola	926	\$ 361,094,100
Town of Essex	2053	\$ 800,459,612
Town of Fort Erie	3964	\$ 1,545,507,309
Town of Fort Frances	1080	\$ 420,944,581
Town of Gananoque	326	\$ 127,139,509
Town of Georgina	3197	\$ 1,246,579,464
Town of Goderich	580	\$ 226,024,819
Town of Gore Bay	0	\$ -
Town of Gravenhurst	1544	\$ 602,074,960
Town of Greater Napanee	2169	\$ 845,687,382
Town of Grimsby	1478	\$ 576,075,133
Town of Halton Hills	3974	\$ 1,549,191,495
Town of Hanover	471	\$ 183,437,382
Town of Hawkesbury	557	\$ 217,068,738
Town of Hearst	985	\$ 384,067,632
Town of Huntsville	2378	\$ 927,265,789
Town of Ingersoll	843	\$ 328,655,718
Town of Innisfil	3405	\$ 1,327,561,384
Town of Iroquois Falls	2241	\$ 873,695,969
Town of Kapuskasing	1738	\$ 677,425,339
Town of Kearney	0	\$ -
Town of Kingsville	2644	\$ 1,030,852,823
Town of Kirkland Lake	1167	\$ 454,918,040
Town of Lakeshore	4206	\$ 1,639,673,352
Town of Lasalle	2024	\$ 789,108,809
Town of Latchford	395	\$ 154,077,927
Town of Laurentian Hills	851	\$ 331,629,383
Town of Lincoln	2321	\$ 904,765,938
Town of Marathon	974	\$ 379,664,152
Town of Markham	10732	\$ 4,184,077,556
Town of Mattawa	193	\$ 75,367,922

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Town of Midland	1307	\$ 509,654,520
Town of Milton	5163	\$ 2,012,855,092
Town of Minto	1137	\$ 443,277,766
Town of Mississippi Mills	1400	\$ 545,724,456
Town of Mono	1175	\$ 457,944,336
Town of Moosonee	277	\$ 108,095,775
Town of New Tecumseth	2371	\$ 924,379,844
Town of Newmarket	2963	\$ 1,155,229,192
Town of Niagara-on-the-Lake	2538	\$ 989,510,991
Town of Northeastern Manitoulin and the Islands	253	\$ 98,473,032
Town of Oakville	7890	\$ 3,076,128,752
Town of Orangeville	1174	\$ 457,593,461
Town of Parry Sound	640	\$ 249,515,892
Town of Pelham	1679	\$ 654,750,050
Town of Penetanguishene	731	\$ 284,989,341
Town of Perth	470	\$ 183,323,347
Town of Petawawa	1503	\$ 586,136,469
Town of Petrolia	419	\$ 163,191,902
Town of Plympton-Wyoming	1450	\$ 565,312,046
Town of Prescott	331	\$ 129,157,039
Town of Rainy River	0	\$ -
Town of Renfrew	520	\$ 202,858,306
Town of Richmond Hill	6032	\$ 2,351,554,603
Town of Saugeen Shores	1504	\$ 586,443,485
Town of Shelburne	363	\$ 141,525,379
Town of Smiths Falls	528	\$ 205,665,305
Town of Smooth Rock Falls	776	\$ 302,682,206
Town of South Bruce Peninsula	1837	\$ 716,258,415
Town of Spanish	596	\$ 232,296,707
Town of St. Marys	608	\$ 236,893,168
Town of Tecumseh	2187	\$ 852,634,705
Town of the Blue Mountains	2173	\$ 847,196,144
Town of Thessalon	220	\$ 85,955,571

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Town of Tillsonburg	1006	\$ 392,085,123
Town of Wasaga Beach	2033	\$ 792,687,733
Town of Whitby	5046	\$ 1,967,074,693
Town of Whitchurch-Stouffville	3244	\$ 1,264,781,098
Township of Addington Highlands	261	\$ 101,920,378
Township of Adelaide-Metcalf	967	\$ 377,058,907
Township of Adjala-Tosorontio	1340	\$ 522,549,171
Township of Admaston/Bromley	660	\$ 257,322,857
Township of Alberton	82	\$ 31,798,035
Township of Alfred and Plantagenet	1731	\$ 674,863,952
Township of Algonquin Highlands	744	\$ 290,208,605
Township of Alnwick/Haldimand	1707	\$ 665,328,927
Township of Amaranth	835	\$ 325,594,335
Township of Armour	407	\$ 158,735,791
Township of Armstrong	151	\$ 58,964,522
Township of Ashfield-Colborne- Wawanosh	1712	\$ 667,285,055
Township of Asphodel-Norwood	759	\$ 295,901,549
Township of Assiginack	0	\$ -
Township of Athens	472	\$ 183,858,432
Township of Atikokan	546	\$ 212,910,871
Township of Augusta	1479	\$ 576,461,095
Township of Baldwin	436	\$ 170,165,540
Township of Beckwith	854	\$ 332,769,726
Township of Billings	0	\$ -
Township of Black River-Matheson	4110	\$ 1,602,287,635
Township of Blandford-Blenheim	1357	\$ 529,110,531
Township of Bonfield	231	\$ 90,034,491
Township of Bonnechere Valley	0	\$ -
Township of Brethour	2	\$ 807,012
Township of Brock	1704	\$ 664,434,196
Township of Brudenell, Lyndoch and Raglan	0	\$ -

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of Burpee and Mills	0	\$ -
Township of Calvin	291	\$ 113,551,880
Township of Carling	95	\$ 36,938,352
Township of Carlow/Mayo	0	\$ -
Township of Casey	23	\$ 8,842,047
Township of Cavan-Monaghan	1674	\$ 652,469,363
Township of Central Frontenac	0	\$ -
Township of Central Manitoulin	0	\$ -
Township of Centre Wellington	2596	\$ 1,012,045,930
Township of Chamberlain	252	\$ 98,385,313
Township of Champlain	1361	\$ 530,575,434
Township of Chapleau	412	\$ 160,437,534
Township of Chapple	0	\$ -
Township of Chatsworth	1562	\$ 608,934,564
Township of Chisholm	0	\$ -
Township of Clearview	2436	\$ 949,739,325
Township of Cockburn Island	0	\$ -
Township of Coleman	762	\$ 296,998,033
Township of Conmee	165	\$ 64,455,714
Township of Cramahe	1071	\$ 417,611,270
Township of Dawn-Euphemia	1299	\$ 506,610,680
Township of Dawson	0	\$ -
Township of Dorion	573	\$ 223,568,695
Township of Douro-Dummer	1180	\$ 460,023,269
Township of Drummond/North Elmsley	1091	\$ 425,295,429
Township of Dubreuilville	465	\$ 181,297,045
Township of Ear Falls	545	\$ 212,586,312
Township of East Ferris	227	\$ 88,578,361
Township of East Garafraxa	570	\$ 222,305,545
Township of East Hawkesbury	765	\$ 298,050,658
Township of East Luther Grand Valley	450	\$ 175,516,382
Township of East Zorra-Tavistock	1080	\$ 420,979,668

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of Edwardsburgh/Cardinal	1394	\$ 543,557,804
Township of Elizabethtown-Kitley	2054	\$ 800,889,433
Township of Emo	0	\$ -
Township of Enniskillen	888	\$ 346,059,112
Township of Essa	1631	\$ 635,837,895
Township of Evanturel	160	\$ 62,227,658
Township of Faraday	15	\$ 5,745,576
Township of Fauquier-Strickland	853	\$ 332,743,411
Township of Front of Yonge	546	\$ 212,945,958
Township of Frontenac Islands	556	\$ 216,656,460
Township of Galway-Cavendish and Harvey	1481	\$ 577,320,738
Township of Gauthier	0	\$ -
Township of Georgian Bay	1426	\$ 556,031,406
Township of Georgian Bluffs	2060	\$ 803,187,664
Township of Gillies	0	\$ -
Township of Greater Madawaska	0	\$ -
Township of Guelph/Eramosa	1496	\$ 583,118,946
Township of Hamilton	1958	\$ 763,494,944
Township of Harley	214	\$ 83,508,219
Township of Harris	78	\$ 30,455,939
Township of Havelock-Belmont- Methuen	760	\$ 296,103,302
Township of Head, Clara and Maria	617	\$ 240,559,810
Township of Hilliard	46	\$ 17,903,390
Township of Hilton	56	\$ 21,815,645
Township of Hornepayne	732	\$ 285,199,866
Township of Horton	498	\$ 194,279,415
Township of Howick	861	\$ 335,506,550
Township of Hudson	0	\$ -
Township of Huron-Kinloss	1621	\$ 632,048,446
Township of Ignace	778	\$ 303,261,150
Township of James	0	\$ -

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of Jocelyn	0	\$ -
Township of Johnson	0	\$ -
Township of Joly	13	\$ 5,035,054
Township of Kerns	0	\$ -
Township of Killaloe, Hagarty and Richards	0	\$ -
Township of King	3119	\$ 1,215,930,544
Township of La Vallee	0	\$ -
Township of Laird	0	\$ -
Township of Lake of Bays	978	\$ 381,137,827
Township of Lake of the Woods	113	\$ 43,859,359
Township of Lanark Highlands	420	\$ 163,928,739
Township of Larder Lake	0	\$ -
Township of Laurentian Valley	1053	\$ 410,383,247
Township of Leeds and the Thousand Islands	2142	\$ 835,257,627
Township of Limerick	148	\$ 57,631,197
Township of Loyalist	1653	\$ 644,539,591
Township of Lucan Biddulph	682	\$ 265,726,310
Township of Macdonald, Meredith and Aberdeen Additional	54	\$ 20,973,545
Township of Machar	96	\$ 37,438,349
Township of Machin	1104	\$ 430,330,484
Township of Madawaska Valley	0	\$ -
Township of Madoc	382	\$ 148,806,032
Township of Malahide	1462	\$ 569,838,332
Township of Manitouwadge	1150	\$ 448,532,117
Township of Mapleton	1607	\$ 626,688,832
Township of Matachewan	0	\$ -
Township of Mattawan	108	\$ 42,280,422
Township of Mattice-Val Cote	380	\$ 148,200,773
Township of McGarry	0	\$ -
Township of McKellar	0	\$ -
Township of McMurrich-Monteith	0	\$ -

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of McNab/Braeside	911	\$ 355,015,193
Township of Melancthon	849	\$ 331,173,246
Township of Minden Hills	1215	\$ 473,874,055
Township of Montague	664	\$ 259,050,916
Township of Moonbeam	459	\$ 178,832,149
Township of Morley	0	\$ -
Township of Mulmur	850	\$ 331,445,174
Township of Muskoka Lakes	293	\$ 114,209,770
Township of Nairn and Hyman	726	\$ 283,059,529
Township of Nipigon	788	\$ 307,296,211
Township of Nipissing	130	\$ 50,640,016
Township of North Algona Wilberforce	68	\$ 26,377,018
Township of North Dumfries	1298	\$ 506,084,368
Township of North Dundas	1796	\$ 700,030,452
Township of North Frontenac	804	\$ 313,278,627
Township of North Glengarry	1948	\$ 759,503,742
Township of North Huron	711	\$ 277,103,428
Township of North Kawartha	265	\$ 103,192,299
Township of North Stormont	1340	\$ 522,487,768
Township of Norwich	1629	\$ 635,171,232
Township of O'Connor	4	\$ 1,614,024
Township of Opasatika	264	\$ 102,867,740
Township of Oro-Medonte	3791	\$ 1,478,139,334
Township of Otonabee-South Monaghan	1442	\$ 562,329,609
Township of Papineau-Cameron	665	\$ 259,173,722
Township of Pelee	190	\$ 74,210,035
Township of Perry	616	\$ 240,094,901
Township of Perth East	2200	\$ 857,739,934
Township of Perth South	1090	\$ 424,769,117
Township of Pickle Lake	857	\$ 333,936,385
Township of Plummer Additional	53	\$ 20,657,758
Township of Prince	556	\$ 216,577,513

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of Puslinch	1231	\$ 480,093,312
Township of Ramara	2010	\$ 783,740,424
Township of Red Rock	537	\$ 209,516,156
Township of Rideau Lakes	2222	\$ 866,257,421
Township of Russell	1399	\$ 545,496,388
Township of Ryerson	0	\$ -
Township of Sables-Spanish Rivers	2525	\$ 984,589,971
Township of Schreiber	192	\$ 74,964,416
Township of Scugog	2526	\$ 984,625,059
Township of Seguin	626	\$ 243,963,297
Township of Severn	2678	\$ 1,044,150,980
Township of Sioux Narrows-Nestor Falls	0	\$ -
Township of Smith-Ennismore- Lakefield	2575	\$ 1,003,949,492
Township of South Algonquin	835	\$ 325,629,423
Township of South Dundas	2419	\$ 942,897,265
Township of South Frontenac	2213	\$ 862,617,095
Township of South Glengarry	2597	\$ 1,012,510,839
Township of South Stormont	2190	\$ 853,731,189
Township of Southgate	1530	\$ 596,513,594
Township of South-West Oxford	1464	\$ 570,890,956
Township of Southwold	1255	\$ 489,330,093
Township of Springwater	2971	\$ 1,158,316,891
Township of St. Clair	3090	\$ 1,204,570,971
Township of St. Joseph	0	\$ -
Township of Stirling-Rawdon	803	\$ 313,059,330
Township of Stone Mills	1276	\$ 497,400,215
Township of Strathroy-Caradoc	1955	\$ 762,065,129
Township of Strong	420	\$ 163,849,792
Township of Tarbutt and Tarbutt Additional	0	\$ -
Township of Tay	1054	\$ 411,093,769
Township of Tay Valley	548	\$ 213,805,602

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Township of Tehkummah	0	\$ -
Township of Terrace Bay	747	\$ 291,348,948
Township of the Archipelago	420	\$ 163,867,336
Township of the North Shore	1170	\$ 456,268,908
Township of Tiny	2636	\$ 1,027,633,546
Township of Tudor and Cashel	113	\$ 44,201,462
Township of Tyendinaga	916	\$ 357,111,670
Township of Uxbridge	2328	\$ 907,493,990
Township of Val Rita-Harty	1082	\$ 421,795,452
Township of Wainfleet	1088	\$ 424,312,980
Township of Warwick	897	\$ 349,550,317
Township of Wellesley	1148	\$ 447,426,862
Township of Wellington North	1766	\$ 688,688,422
Township of West Lincoln	1809	\$ 705,065,506
Township of White River	556	\$ 216,788,038
Township of Whitewater Region	1730	\$ 674,285,008
Township of Wilmot	1896	\$ 739,319,666
Township of Wollaston	0	\$ -
Township of Woolwich	2576	\$ 1,004,098,614
Township of Zorra	1813	\$ 706,740,934
United Townships of Dysart, Dudley, Harcourt, Guilford, Harburn, Bruton, Havelock, Eyre and Clyde	563	\$ 219,647,668
Village of Burk's Falls	154	\$ 59,920,656
Village of Casselman	239	\$ 93,201,137
Village of Hilton Beach	0	\$ -
Village of Merrickville-Wolford	508	\$ 198,156,583
Village of Newbury	59	\$ 22,903,357
Village of Oil Springs	92	\$ 35,798,009
Village of Point Edward	305	\$ 119,007,984
Village of South River	170	\$ 66,438,157
Village of Sundridge	180	\$ 69,990,765
Village of Thornloe	5	\$ 2,096,477



Community & Fire Services Commission
 Asset Management Department

LEGALNAME1 Ontario Municipality per Open Data GIS Dataset	Urban Area Built by 2000 Where LID Retrofit Can Apply per Ontario Land Classification v2 (Hectares)	Retrofit LID Cost at \$390k Per Hectare (average unit cost)
Village of Westport	2	\$ 666,662
TOTAL	852,045 total hectares	\$ 332,178,923,064 total cost



Parks and Recreation Committee Action Report
for the February 6, 2017 meeting held in
the Arena Board Room at 7:00 p.m.

Present: Councillor Ross Trimble, Jan Ferguson, John Andrews, Bill
Levesque, Paul Pillsworth, Revere Richard Kidd, Manager
of Recreation and Culture Joanne Henderson, Facilities Clerk
Steph Scollan
Absent: Tom Marshall (regrets)

- 1) **DECLARATION OF PECUNIARY/CONFLICT OF INTEREST AND GENERAL NATURE THEREOF** – now or anytime during the meeting
 - 2) **PUBLIC MEETING – NONE THIS EVENING**
 - 3) **REGISTRATION OF PUBLIC WISHING TO SPEAK**
 - 4) **PLEASE TURN OFF ALL CELL PHONES AND PAGERS**
 - 5) **IF THERE IS AN ADDENDUM, IN ACCORDANCE WITH SECTION 15.2.4 (OF STRIKING REPORT) DOES THE COMMITTEE WISH TO APPROVE THIS ADDENDUM?**
-

TO BE DISCUSSED

Communication 128079

Received from Joanne Henderson, Manager of Recreation and Culture
Addressed to Parks and Recreation Committee
Date February 1, 2017
Topic Heaters in the stands

SUMMARY

The heaters in the stands in arena #2 have been red tagged and are no longer permitted to be used. Staff have received the following pricing for the replacement of the existing heaters plus one additional heater that will provide heat on the visitor's side.

Carleton Refrigeration	- \$10,750.00 plus tax
CorCann	- \$11,950.00 plus tax
Purdy Plumbing	- \$ 9,950.00 plus tax
Reliable Home Environment	- \$15,750.00 plus tax

COMMENT

This is not a budgeted item and will be funded from reserves.

STAFF RECOMMENDATION

That Purdy Plumbing replace the heaters in arena #2 for a price of \$9,950.00 plus tax.

COMMITTEE DECISION

That Purdy Plumbing replace the heaters in arena #2 for a price of \$9,950.00 plus tax.

Communication 128080

Received from Joanne Henderson, Manager of Recreation and Culture
Addressed to Parks and Recreation Committee
Date February 1, 2017
Topic Spring and Summer Ice Rates

SUMMARY

The proposed Spring and Summer Ice Rental rates for 2017 are attached.

COMMENT

The rates reflect an approximate 3 percent increase.

STAFF RECOMMENDATION

That the 2017 Spring and Summer ice rental rates be approved as written.

COMMITTEE DECISION

That the 2017 Spring and Summer ice rental rates be approved as written.

Communication 128081

Received from Joanne Henderson, Manager of Recreation and Culture
Addressed to Parks and Recreation Committee
Date February 1, 2017
Topic Carambeck Usage

SUMMARY

Staff have prepared a summary of the bookings at Carambeck. They are attached. At the present time, there is no availability in the gym in the evenings Monday to Friday. There is a waitlist of organizations wishing to have more gymnasium space. The library will also see two new programs beginning at the end of February/beginning of March. The meeting room is used almost every evening by at least one group.

COMMENT

All space that is available to be used during the week is occupied. There is availability on the weekends.

STAFF RECOMMENDATION

For committee's information. Receive and file.

COMMITTEE DECISION

For committee's information. Receive and file.

Communication 128082

Received from	Joanne Henderson, Manager of Recreation and Culture
Addressed to	Parks and Recreation Committee
Date	February 1, 2017
Topic	Community Gardens

SUMMARY

Request from the Neighbourhood Tomato and the Food Bank to build and maintain 10 more garden beds behind the Carambeck Community Centre. The beds would be 4 x 12 x 8 inches high. They are also requesting access to water during designated hours. They are also exploring composting options to maintain and dispose of garden waste. They plan to apply for a Community Enrichment Grant to cover the cost of the materials to build the beds. They will provide volunteers to build and maintain the beds throughout the season.

COMMENT

They have spoken to Meghan at the Youth Centre and she has confirmed that she will be using the two existing beds throughout the summer months. She is open to partnering with the two organizations to create gardening programs with her Day Camp participants. They will also be extending a similar invitation to the Day Camp Program at Carambeck.

STAFF RECOMMENDATION

That staff consider this request provided that the beds can be accommodated in the area without interfering with facility operations.

COMMITTEE DECISION

That staff gather more information about the existing community gardens. Bring Forward.

Communication 128086

Received from Joanne Henderson, Manager of Recreation and Culture
Addressed to Parks and Recreation Committee
Date February 1, 2017
Topic Bronze membership for seniors

SUMMARY

Staff have received another request for a membership rate that would accommodate seniors who participate in both public swims and aquafit. Staff are proposing a Bronze Membership for seniors and it would be discounted by \$25.00 per year compared to the Bronze Membership for individuals. The Bronze Membership for seniors would be \$528.25 per year.

COMMENT

The variety of Bronze Memberships will now accommodate families, individuals and seniors.

STAFF RECOMMENDATION

That a Bronze Membership for seniors be offered for a price of \$528.25.

COMMITTEE DECISION

That a Bronze Membership for seniors be offered for a price of \$528.25.

Communication 128087

Received from Joanne Henderson, Manager of Recreation and Culture
Addressed to Parks and Recreation Committee
Date February 1, 2017
Topic Arena Dressing Rooms

SUMMARY

Staff met with Minor Hockey and Girls Hockey and have confirmed that the existing dressing rooms #1 and #2 plus the four additional new change rooms are required for their programs.

COMMENT

The Canadians will be given exclusive use of the existing dressing rooms #3 through #5 and will be permitted to use the existing dressing room #2 during their home games.

STAFF RECOMMENDATION

That the Canadians be given the existing dressing rooms #3 to #5 for their exclusive use and that the existing dressing rooms #1 and #2 be retained for all users of the facility.

COMMITTEE DECISION

That the Canadians be given the existing dressing rooms #3 to #5 for their exclusive use and that the existing dressing rooms #1 and #2 be retained for all users of the facility.