

Agenda  
Environment and Climate Change Committee

**Meeting #:** 2021-02  
**Date:** Wednesday, March 17, 2021, 2:30 p.m.  
**Location:** Zoom  
**Chair:** Elaine Kennedy  
**Prepared By:** Manon L. Levesque, City Clerk

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Pages

**Call Meeting to Order**

**Roll Call**

**Declaration of Conflict of Interest**

**Adoption of Agenda**

The Agenda of March 17, 2020, is being presented for adoption.

**Adoption of Minutes**

1

The following Minutes are being presented for Adoption:

- January 20, 2021

**Presentations**

1. Introduction of the City's Strategic Planning Coordinator, 2021-19-Infrastructure and Municipal Works

4

2. Introduction of the City's Sustainability Project Co-Ordinator, 2021-18-Infrastructure and Municipal Works

7

**Reports**

1. The Art of Effective Meetings, 2021-15-Infrastructure and Municipal Works

10

Action Recommended

That the Committee receive Report 2021-15-IMW for information purposes.

- |   |           |
|---|-----------|
| <b>2. Tree Canopy and Natural Vegetation Protection Policy, 2021-16-Infrastructure and Municipal Works</b>  | <b>16</b> |
| <p>Action Recommended<br/>That the Committee receive Report 2021-16-IMW for information purposes.</p>   |           |
| <b>3. Cost Analysis for Cornwall's Greenhouse Gas Emissions, 2021-26-Infrastructure and Municipal Works</b>   | <b>57</b> |
| <p>Action Recommended<br/>That the Committee receive Report 2021-26-IMW for information purposes.</p>   |           |
| <b>4. Sustainable Development in the City's Official Plan, 2021-24-Infrastructure and Municipal Works</b>   | <b>67</b> |
| <p>Action Recommended<br/>That the Committee receive Report 2021-24-IMW for information purposes.</p>   |           |
| <b>5. Climate Action, 2021-17-Infrastructure and Municipal Works</b>  | <b>74</b> |
| <p>Action Recommended</p> <ul style="list-style-type: none"><li>a. That the Committee receive Report 2021-17-IMW</li><li>b. That Administration review the said Resolutions and return to the next Committee Meeting with information on the feasibility of implementing such a plan of action.</li></ul> |           |
| <b>6. Environment and Climate Change Committee's Next Steps, 2021-14-Infrastructure and Municipal Works</b>   | <b>79</b> |
| <p>Action Recommended<br/>That the Committee receive Report 2021-14-IMW and set its next steps for implementation.</p>  |           |

## **New Business**

## **Next Scheduled Meeting**



**Minutes**  
**Cornwall City Council**

Meeting #: 2021-01  
Date: Wednesday, January 20, 2021, 2:30 PM  
Location: Zoom

Attendance Committee Members:

Elaine Kennedy, Chair  
Eric Bergeron, Councillor  
Neil MacLean, Transition Cornwall +  
Phil Barnes, Raisin River Conservation Area  
Georgia Bock, River Institute of Environmental Sciences  
Jesse Good  
Praisie Hunter

Regrets: Carilyne Hébert, Councillor  
Caroline Kuate, Eastern Ontario Health Unit  
Bill de Wit, Acting General Manager, Infrastructure and  
Municipal Works

Attendance Administration:

Carl Goodwin, Division Manager  
Hafiz Laiq-ur Rehman, Engineering Technologist (Asset  
Management)

Chair: Elaine Kennedy  
Prepared By: Manon L. Levesque, City Clerk

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**1. Call Meeting to Order**

## **2. Declaration of Conflict of Interest**

There were no Conflict of Interest declared.

## **3. Presentation**

### **1. Eco Sustainability of Kingston, 2021-408-Infrastructure and Municipal Works**

Geoff Hendry, from Sustainable Kingston spoke to the group about its working relationship with the municipality and the recommendations presented to the City of Kingston.

## **4. Reports**

### **1. Environment and Climate Change Committee's Next Steps, 2021-410-Infrastructure and Municipal Works**

- a. There was a discussion about Councillor Eric Bergeron, Councillor Carilyne Hébert and Jesse Good meeting with Catherine Wells to discuss Council's Strategic Plan
- b. There was a discussion about providing Council with respect to the Budget
- c. There was a discussion about inviting Catherine Wells to the next meeting

### **Next Steps**

The Environment and Climate Change Committee's mandate is to provide a local perspective on climate change initiatives with respect to greenhouse gas emissions targets as well as provide a framework to work towards climate change goals, strategic direction and priority actions, namely:

- Reduce our contributions to climate change while increasing our ability to adapt to climate change conditions
- Reduce and offset greenhouse gas emissions produced within our community
- Establish a baseline of greenhouse gas emissions with a corresponding plan for achieving a set target in emission reductions

Specifically, the Environment and Climate Change Committee will work towards the following objectives, based on the four areas of focus:

- Identify and advise on ways to build local climate action awareness, and promote environmental stewardship within the City of Cornwall
- Identify and address local sources of greenhouse gas emissions by developing local greenhouse gas inventories, setting greenhouse targets, developing and carrying out local climate change action plans
- Prepare and implement a Climate Change Adaptation Plan
- Review, research, and provide feedback on community-related climate action items as directed by Council, including strategic planning, by-laws and policy development

These objectives will be on the Agenda for the next meeting for discussion.

## **5. Next Scheduled Meeting**

Wednesday, March 17, 2021 at 2:30 p.m.



**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-19-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Introduction of the City's Strategic Planning Coordinator

**Purpose**

To introduce Katherine Wells, the City's Strategic Planning Coordinator.

**Background / Discussion**

Katherine will be speaking of Pillar 5 of the Strategic Plan: Being Leaders in Sustainability and Climate Change Impact.

Document Title:	Strategic Planning Coordinator - 2021-19-Infrastructure and Municipal Works.docx
Attachments:	- Cornwall Strategic Priorities 2019-2022.pdf
Final Approval Date:	Mar 10, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 9, 2021 - 9:35 AM**

**Bill de Wit - Mar 10, 2021 - 9:45 AM**

# STRATEGIC PRIORITIES 2019-2022

## WE WILL EARN OUR REPUTATION BY:

### *Developing waterfront through ownership, partnerships for business, recreational opportunities.*

1. Pop-up businesses
2. Sports and recreation opportunities
3. Development of Pointe Maligne Park with budgeted funds
4. Sustained pressure to own strategic parts of our waterfront
5. Encourage private sector development (residential, retail, commercial)

### *Attracting, enhancing workforce that meets demands of local employers.*

1. Convene a workforce group
2. Explore short-term affordable housing as way to facilitate relocation of workers
3. Lobby government officials to reverse trends of immigrants to large centres
4. Facilitate liaison activities between job creators, educators, and senior government to define needed skills, improve existing programs

### *Growing quality of housing stock, including affordable housing.*

1. Create a taskforce
2. Create rental licensing registry to enable a database and adherence to applicable by-laws and standards
3. Look at options to increase enforcement of property standards, building & fire codes

### *Economic development and pursuing diverse population growth of 50,000.*

1. Better branding for areas of the City
2. Attract remote workers via incentives
3. Focus on reducing number of vacant commercial spaces
4. Continue to invest in infrastructure
5. Encourage infill project (e.g. Brookdale)

### *Being leaders in sustainability and climate change impact.*

1. Create Environmental & Climate Change Committee
2. Composting
3. Water meters
4. Education on recycling & waste reduction
5. Plastic bag ban
6. Identify what the City could take the lead on

## MISSION

To provide services that enable a financially and environmentally sustainable community which will care and provide for the needs and values of its residents.



## VISION

The City of Cornwall is recognized as a welcoming and healthy community with a strong municipal government providing effective services and infrastructure.





**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-18-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Introduction of the City's New Sustainability Project Co-Ordinator

**Purpose**

To introduce Angela Parker, the City's new Sustainability Project Co-Ordinator.

**Background / Discussion**

Angela holds a Master of Science degree in geography, urban and environmental studies from Concordia University (Montreal). She has extensive experience in customer service and working collaboratively with stakeholders and the general public. Angela also has experience in designing and delivering customer focused programs and services.

The position leads the City of Cornwall's Zero Carbon and Climate Lens Program which includes climate change mitigation and adaptation strategies, sustainable operations activities, green procurement, and energy management.

The position is the key contact and liaison for all internal and external inquiries related to the program in their transition to more sustainable operations. Through a collaborative process involving staff, vendors, funding agencies, and consultants, the position is responsible for developing, implementing, and maintaining a sustainability program encompassing all areas of the organization, its facilities, operations, and culture.

This position will also oversee the procurement of energy and renewable energy and provide support to the procurement and operational staff.



Document Title:	Sustainability Project Co-Ordinator - 2021-18-Infrastructure and Municipal Works.docx
Attachments:	
Final Approval Date:	Mar 12, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 9, 2021 - 9:35 AM**

**No Signature - Task assigned to Bill de Wit was completed by workflow administrator Manon L. Levesque**

**Bill de Wit - Mar 12, 2021 - 11:09 AM**

**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-15-Infrastructure and Municipal Works  
Prepared By: Manon Levesque, City Clerk  
Meeting Date: March 17, 2021  
Subject: The Art of Effective Meetings

**Purpose**

To review the manner in which an effective meeting should be conducted.

**Recommendation**

That the Committee receive Report 2021-15-IMW for information purposes.

**Background / Discussion**

Oftentimes the difference between a successful committee and one that is challenged comes down to how organized the committee meetings are.

**1. Agenda**

The agenda keeps the members on track during the meeting. Because each member receives a copy of the agenda in advance of the meeting, it also serves to help members prepare and thus participate fully in the meeting.

It is the responsibility of the Chair, with the assistance of the Recording Secretary and Division Manager, to set the agenda for the meeting.

The Recording Secretary should attach all handouts, reports and other documents that support the agenda items in advance of the meeting so that the members may prepare for the upcoming meeting.

It is the members' responsibility to read the proposed agenda and prepare for meaningful discussion at the meeting.

At the start of the meeting, the agenda is approved by motion by recording the mover and seconder.

## **2. Minutes**

The minutes of a meeting act as the public record for all the interactions throughout the meeting. They are accurate records of the actions during committee meetings and a summary of discussions.

The Recording Secretary and Division Manager will assist the Chair in planning, conducting, and concluding a meeting. While the Recording Secretary and Division Manager are conducting their duties of recording the meeting, the Chair can spend his/her time more effectively and efficiently.

Recording Secretaries often take on many tasks. Their responsibilities start before meetings and continue during and beyond the meeting. Preparation, administrative, clerical, and follow up work falls under the roles of the Recording Secretary.

Just as the agenda requires an approved format, so do the minutes.

## **3. Motions**

Making decisions or taking action is done through motions, thus making them critical to an effective meeting. A motion is a proposal by a member that the group take certain action.

Recording motions and who made them is also important for the history of that committee. A mover makes a formal motion that requires a seconder. For a motion to move forward, it must have support.

The seconder is one who agrees or is willing to support a motion. Following the 'second', the motion is open for debate and discussion. The Chair reads out the motion that is now before the committee for discussion. The motion is open for discussion. The mover has the first opportunity to speak about the motion set for discussion.

In order for any motion to be valid, a quorum must be present as indicated in the by-laws. A quorum is the minimum number of members whose attendance is required to conduct business at the meeting. Since there are 9 voting members on the Environment and Climate Change Committee, quorum will be 5. Once quorum is established, the number of yea votes must exceed the number of nay votes as designated in the by-law for the motion to pass.

The Chair must determine if a quorum is present. The only business that is not null and void without quorum is the motion to adjourn the meeting in the absence of quorum.

#### **4. How to Pass a Vote**

When deciding the fate of an issue, it is not always as easy as a show of hands; the vote determines the direction that the members wish to take the organization. The close of the vote commits members to that decision.

Once a motion is made, seconded, and sufficient debate has taken place, the Chair calls for a vote.

In order for any motion to be valid:

- A quorum must be present as indicated in the by-laws.
- The number of yea votes must exceed a certain number of nay votes as designated in the by-laws for the motion to pass.
- The only business that is not null and void without quorum is the motion to adjourn the meeting in the absence of quorum.

The Chair must also determine who of those present are actually eligible to vote, as it is a privilege of those with full membership on the committee. Guests are not eligible to vote.

## 5. CARE

The **CARE** model calls on participants in discussion to be clear, concise, adaptable, respectful, and exact. As a participant, you can adhere to the following:

**Clear and Concise** - During any discussion, carefully formulate your ideas before you speak so that you are clear and concise.

**Adaptable** - Be flexible and willing to adapt your view to the views of others.

**Respectful** - Always be respectful to others that are participating in a discussion.

**Exact** - When participating in a discussion, make comments that are exact and on topic.

## 6. Proper Conduct at a Meeting

In a meeting it is important for members to keep on track and stay focused. If any difficulties arise, the Chair should use parliamentary procedure to ensure cooperation from all members and to resolve any conflict.

All members play an important role in the committee meeting ensuring a positive working environment and ensuring the committee accomplishes its goals. Each member needs to approach the committee in a professional manner and display respect for all other members, those they represent and the public who interacts with the committee. However, it falls to the Chair to demand a professional, respectful, equitable and orderly environment during a meeting.

Trust and respect are the base for effective meetings and the basis for ground rules.

Here are keys to a great meeting:

- Remember to have fun.
- Be prepared, be early and bring the needed documentation.
- It is best to have only one person talking at a time.
- When you participate, sit up straight, and pay attention to your body language.

- A good rule of thumb is to turn off all electrical devices.
- Keep your ego in check, do not interrupt or start a side meeting.
- Remember to challenge the idea, not the person.

## **7. Duties of the Chair**

- Determine quorum and call the meeting to order Identify agenda items.
- Gauge discussion among members and ensure adequate consideration has been given to each item.
- Offer guidance and ask questions without taking a specific position on a matter
- Keep a record and determine speaking order and ensure all members have had an opportunity to provide their input
- Ensure Administration has an opportunity to comment, where appropriate
- Facilitate consideration of main motions, ensuring there are seconders
- Rule on procedures with the assistance of staff, as appropriate
- Ensure items are dispensed with in a timely and fair manner
- Facilitate decorum and appropriate behaviour



Document Title:	The Art of Effective Meetings - 2021-15-Infrastructure and Municipal Works.docx
Attachments:	
Final Approval Date:	Mar 12, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 9, 2021 - 9:34 AM**

**Bill de Wit - Mar 12, 2021 - 11:06 AM**

**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-16-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Tree Canopy and Natural Vegetation Protection Policy

**Purpose**

To receive the recently Council-approved Tree Canopy and Natural Vegetation Protection Policy.

**Recommendation**

That the Committee receive Report 2021-16-IMW for information purposes.

**Background / Discussion**

On October 26, 2021, Council approved the Tree Canopy and Natural Vegetation Protection Policy as presented and directed Administration to prepare a report to address the actionable items and recommendations of the Environment and Climate Change Committee.

Attached to this report is the Tree Canopy and Natural Vegetation Protection Policy as approved by Council and a copy of Report 2020-376-IMW that was presented to Council.

Under separate cover, the Committee is being requested to identify actional items and recommendations as they relate to the Terms of Reference.

Document Title:	Tree Canopy and Natural Vegetation Protection Policy - 2021-16-IMW.docx
Attachments:	- Tree Canopy and Natural Vegetation Protection Policy.signed.pdf - 2020-376-IMW.pdf
Final Approval Date:	Mar 12, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 5, 2021 - 1:10 PM**

**Bill de Wit - Mar 12, 2021 - 11:00 AM**

# **The Corporation of the City of Cornwall Tree Canopy and Natural Vegetation Protection and Enhancement Policy**

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Department: Planning, Development and Recreation

Parks and Landscaping

Policy Number: TCNVPEP-2019-03-25

Effective Date: November 9, 2020

Council Approval: November 9, 2020

## **Definitions**

“Urban Tree canopy” – is defined as the layer of tree leaves, branches and stems that provide tree coverage of the ground when viewed from above. Where a height cut-off of 2 metres be used for separating tree canopy from other vegetation.

“Natural vegetation” – shall mean the native plant life that grows naturally without human intervention in a geographic region.

“Shoreline buffer” “Ribbon of Life”

– shall mean a treed or vegetated strip of land that borders a creek, river or lake.

**A. Background and Purpose** On March 30<sup>th</sup>, 2017 Royal Assent was given to Bill 68. This bill introduced a series of reforms to the *Municipal Act, 2001*, the *Municipal Conflict of Interest Act*, the *Municipal Elections Act, 1996*, *Planning Act* and others. As a whole, this Bill focusses largely on matters of municipal governance and financial accountability, however changes are also introduced that are intended to allow municipalities to be more proactive in combating and mitigating climate change. Of the

various reforms introduced, an amendment to Section 270 of the *Municipal Act* has the effect of requiring all municipalities to adopt and maintain policies with respect to the protection and enhancement of the tree canopy and natural vegetation in the municipality. More specifically, Section 270 requires that:

270(1) *A municipality shall adopt and maintain policies with respect to the following matters (...)*

7. *The manner in which the municipality will protect and enhance the tree canopy and vegetation in the municipality.*

This section of Bill 68 comes into force and effect on March 1, 2019.

Of note, Bill 68 also:

- Allows for municipalities to conserve the environment in accordance with regulations, including powers to require green roofs or alternative roof surfaces in circumstances specified by the Building Code;
- Empowers municipalities to pass by-laws respecting climate change as part of their powers to enact by-laws relating to the economic, social, and environmental well-being of the municipality;
- Amends Section 2 of the *Planning Act* to make the “mitigation of greenhouse gas emissions and adaptation to a changing climate” an enumerated matter of provincial interest in which decision makers must have regard in considering planning matters.

## **B. Rationale for Tree Canopy and Natural Vegetation Policy**

Tree cover and natural vegetation infrastructure have been found to produce a number of benefits which are broadly broken down into three themes:

### **Economic:**

- Enhances aesthetic beauty of streetscape – a draw for new businesses and people;
- Increases property values;
- More attractive for tourism;
- Reduces cost of cooling in the summer and heating winter (wind reduction);

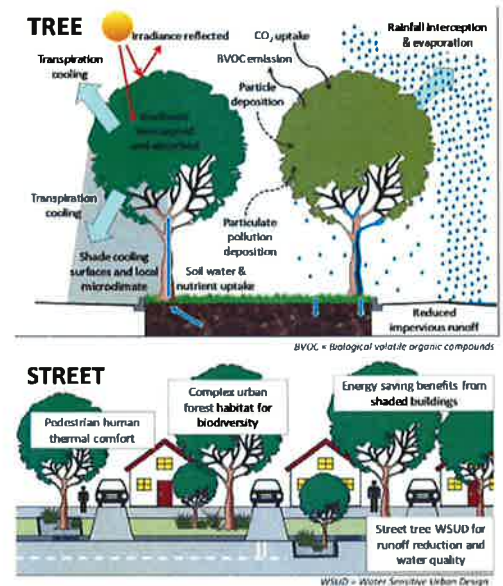
- Saves costs through reduced mowing;

### **Community:**

- Creates more walkable communities, public spaces and recreational areas;
- Creates more comfortable and beautiful city;
- Calms traffic and shades parked cars;
- More people outside means safer streets;
- Encourages more walking, jogging and cycling;
- Reduces sun exposure and heat related illness;
- Studies show the presence of trees improves mental well-being, fostering health and healing;

### **Environmental**

- Moderates temperature, especially in the summer;
- Trees provides the vital supply of oxygen needed for humans to breathe;
- Helps manage stormwater run-off, reduces flooding and enhances water quality;
- Creates wildlife habitat for birds, butterflies, pollinators, plants and animals;
- Helps reduce air pollution;
- Prevents erosion, especially along slopes.



For shoreline areas, a vegetative buffer contains pollutants (salt, fertilizer, septic leachate), reduces erosion, encourages infiltration and improves wildlife habitat, which leads to better outcomes for fish.

On a watershed basis, a minimum 30% tree canopy coverage is recommended by Conservation Authorities, Environment Canada and others to allow rivers and lakes within the watershed to maintain a healthy ecological and hydrological function. The Raisin Region Conservation Authority completed a Forest Cover and Trends Analysis in 2019 (Appendix A) which analyzed the forest cover trends within the region. The report determined the forest cover, overall, for the Raisin Region watershed to be approximately 34%. The report also analyzed the forest cover by municipality and determined the percentage of forest cover within the City of Cornwall to be approximately 20%.

An update to the 2019 Trends Analysis report by the Raisin River Conservation Authority Urban Canopy Assessment Aug 2020 using a different and greater detail method (Appendix B) analyzed the urban tree canopy down to trees above 2m in height determined the urban tree canopy to be 32%. The report includes the identification of areas with low tree canopy cover.

Anticipated effects of climate change include heavy rainfall events and unseasonable precipitation. Runoff from rainfall and snowmelt in a forested area has been demonstrated to be significantly less than in a developed or cleared area in both overall volume and peak flow. A healthy forest cover and natural vegetation areas makes watersheds more resilient to effects of climate change and on a broader scale, helps to

sequester carbon and is consistent with the goals outlined for the community in the Official Plan as well as the City's five Strategic Priorities, one of which is Environmental Sustainability.

## **C. Advocacy**

The City needs partners to achieve a higher percentage of tree canopy. The following programs of advocacy and explanation of the benefits of the policy will help with public understanding and will encourage actions by all to meet the desired goals.

- Encourage tree planting and the non-removal of trees on private property through various incentives such as workshops, bulk tree purchases, neighborhood planting bees etc.
- Encourage an adopt-a-tree program for the ongoing care of trees planted by the City.
- Publicise the opportunity for residents to request a City street tree in front of their house.
- Work closely with local arborist companies to promote best tree maintenance practices.
- Work closely with the four school boards to promote adding to and preserving the current tree canopy and to reduce grass mowing areas and introduce naturalized areas wherever possible.
- Seek partnerships with the Raisin Region Conservation Authority and local advocacy groups to create and fund tree canopy enhancements in available vacant spaces, shorelines and public areas such as the 'Tiny Forest @ the Library'.
- Support partner agencies in delivery of programs such as the Raisin Region Conservation Authority Tree Seedling Program, the 50 Million Tree Program and the Edible Cities Program.
- Proactively seek other emerging partnership and funding opportunities, amending the policy to include these.
- Promote and publicize the Commemorative Tree Planting Program to encourage buying and planting of trees.
- Promote and publicize the City Arboretum as a place to learn about all the different city trees available.
- Identify and celebrate 'Legacy Trees' as well as naturalized areas and the importance of the 'Ribbon of Life' along shorelines, providing signs to raise awareness of their value.
- Plan for the publication and distribution of this policy on the City website, in other municipal advertising and at the pre-consultation stage of development applications.



- Support the ongoing assessment of the quality and quantity of the tree canopy condition in the city. Support tree inventory and mapping as resources permit to ensure targets are being met.
- Provide information for the public on cost savings, carbon and energy reductions resulting from city actions such as reduced mowing areas.

## **D. Municipal Role**

The City through its various departments will take the following measures within its own operations to preserve and enhance the urban tree canopy as well as increase areas of natural vegetation within the city. Its actions can also serve a model for the actions taken by citizens on their own property.

### **Goals and Priorities**

- Environment and Sustainability is one of the city's current five key priorities and this Policy provides one of the key means to achieve the initiatives contained in that priority.
- The City endeavours to increase the overall urban tree canopy coverage to at least the 30% recommended by Conservation Authorities and Environment Canada as needed to maintain a healthy ecological and hydrological function, through its own planting initiatives on public property and public advocacy to promote plantings on private property.

### **Subdivision Development – Boulevard Tree Planting and Parkland Dedication Requirements:**

The City's standards for all new subdivision developments are outlined in detail within the Department of Infrastructure Planning's Subdivision Manual. As part of the subdivision development process, Developers enter into a contractual agreement with the municipality called the "Subdivision Agreement". This Subdivision Agreement is a binding contract which specifies the Developer's obligations, including boulevard tree planting and parkland dedication. Typically the Subdivision Agreement stipulates one new boulevard tree for every building unit. (ie. One boulevard tree for every single family dwelling, and two boulevard trees for semi detached dwellings, etc). New boulevard tree plantings are to be native tree species as much as possible and shall be in conformance with the City's tree planting specification. Also the Subdivision Agreement typically specifies that a minimum of 5% of the overall development be dedicated as parkland, unless determined by the Department Manager that the neighbourhood already has adequate parkland. In the event that the neighbourhood is determined to already have



adequate parkland, the Developer is required to provide the City with cash in lieu of a parkland dedication valued at 5% of the raw land value of the entire development.

### **Site Plan Development – Landscaping Requirements**

Development sites subject to site plan approval are required to supply a landscaping plan as part of the review process. Proponents are typically encouraged to include a high degree of landscaping elements typically on private lands which includes planting of a variety of species and callipers as defined in the site plan design guideline manual. There is a key focus on landscaping major streets and City entrances. Every effort to protect and preserve existing mature trees shall be made where practical. It should be noted that removal of trees from the site will likely mean that a higher level of landscaping will be required to compensate. Various City staff will provide commentary during the site plan review process to ensure that the proposed landscaping plan is in concert with their respective by-laws and the governing site plan design manual.

Identify and ensure the preservation of high quality existing trees, whenever City owned property is sold, with the sale process applying the appropriate plan of subdivision and/or site plan controls to ensure the protection of said trees, when reasonably feasible. Parks and Landscape staff will review each City owned property to be listed for sale, and will identify any high quality existing trees that warrant protection.

### **City Tree Management Operation Policies**

The preservation of existing trees will be a key priority, when reasonably feasible, when undertaking City Public works projects such as construction of new sidewalks and roadways or other public works. There are a number of circumstances, however in which the removal of a City owned tree is required. The following explains the tree replacement policies that are in place to protect the City's tree canopy.

### **City Initiated Tree Removals and Replacement Plantings**

- There are a number of conditions in which a City owned tree may require removal, such as due to poor health condition, or a tree may be causing damage to private property, etc. If a City tree is deemed to require removal, the Parks and Landscape Dept. endeavours to plant replacement trees at a 1:1 ratio. As much as possible, staff attempt to locate the replacement planting in the same location as the removed tree, however there are occasions where the same location is not suitable for a new planting. In those circumstances the replacement tree will be planted in a more suitable location.
- Priority will be given to areas of the City that have little or no tree canopy.

- Provide opportunity to abutting property owners to select preferred species from list.
- New and/or replacement plantings shall be native species whenever possible and shall be in conformance with the City's tree planting specifications.
- The City shall endeavour to ensure that there is a minimum of one boulevard tree in front of every property (provided that the boulevard is capable of supporting a tree planting).

### **Tree Removals Resulting from City Construction Projects and/or Infrastructure Repairs**

- Some tree removals are required as a result of the City's infrastructure renewal projects or as a result of underground infrastructure repairs. Typically, such work is initiated by the City's Municipal Works and Infrastructure Planning Department. Whenever there is a concern that such work may impact the health of a City tree, the Parks and Landscape Department will assist by reviewing the impact and make a recommendation as to whether the tree should be removed. Upon the completion of the project/work the Municipal Works and Infrastructure Planning Department shall work with the Parks and Landscape Department to replace any removed trees with replacement plantings. Replacement plantings shall be native species as much as possible and shall be in conformance with the City's tree planting specifications.

### **Emerald Ash Borer (EAB) Management Plan**

- The City has implemented a management plan to deal with an invasive species, the Emerald Ash Borer, which is an insect that attacks and kills ash tree species. At the beginning of the plan in 2014, the City identified approximately 3500 ash trees located on City owned land (boulevards, parks, City building properties, City owned woodlots). The EAB Management Plan includes three main activities: the removal of infected trees, TreeAzin injection treatment, and planting replacement trees. Each year staff review the condition of the City ash tree inventory and identify infected trees requiring removal and contractors are retained to remove said infected trees. The plan includes a tree replacement strategy at a 1:1 ratio. As much as possible, staff attempt to locate the replacement planting in the same location as the removed tree, however there are occasions where the same location is not suitable for a new planting. In those circumstances the replacement tree will be planted in a more suitable location. Replacement plantings shall be native species as much as possible and shall be in conformance with the City's tree planting specifications. The plan also includes a TreeAzin injection treatment which is intended to prolong the life of specific ash trees on City boulevards and parks that have been identified and characterized

as significant. The purpose of the treatment is not to save the tree from its inevitable demise, but is intended to prolong the life of the tree until such time that removal is required. This delay in the removal of the treated tree will provide new plantings in the area the opportunity to become established so that when the treated tree is removed the impact to the canopy in the vicinity won't be as severe.

## **Potential Threats**

- There is always the potential threat that other invasive species similar to the Emerald Ash Borer or diseases (such as Dutch Elm Disease) may threaten the health of the tree canopy in Cornwall and the surrounding area. Staff from the Parks and Landscape Department endeavour to participate in industry conferences, education and network opportunities in order to remain current on industry trends and threats.

## **Naturalization of Public Spaces and Shoreline Areas**

- All shoreline areas will include a “ribbon of life” revegetation for new and renovated waterfront developments in accordance with the best practices outlined in this policy.
- The Parks and Landscape Department completed a review of its grass cutting operations in 2018 and identified areas for naturalization. Reducing grass cutting operations wherever possible, allows areas to return to their natural state, providing increased opportunities for new tree growth thus improving the City's tree canopy. The Parks and Landscape Department will continue to look for new opportunities to reduce grass cutting operations wherever possible and to naturalize areas.

## **E. Best Practices**

These practices are provided to support residents, staff and others in developing planting plans that ensure the long-term survival of tree and vegetation plantings.

- Encourage native trees that are best adapted to local environment and contribute to the ecological system;
- Identify trees which over the long term may be susceptible to changing climate (ie. Trembling aspen, white spruce) and those that are more likely to thrive (oak). Some examples of these species are included in Schedule “A”.

o

Schedule "A"

Trees	Shrubs	Partial Shade	Full Sun	Shoreline
<b>Riparian Zone</b>	Black Chokeberry	Bearberry	Black-eyed Susan	Blue Flag Iris
Balsam Fir	Nannyberry	Bloodroot	Big Bluestem Grass	Blue Vervain
Red Maple	Northern Bush	Bunchberry	Canada Goldenrod	Boneset
Tamarack	Honeysuckle	False Solomons Seal	Common Milkweed	Cardinal Flower
Black Spruce	Pagoda Dogwood	Jack-in-the-pulpit	Flat-topped Aster	Swamp Milkweed
Eastern Hemlock	Red Osier Dogwood	Wild Columbine	New England Aster	Joe Pye Weed
	Smooth Wild Rose	Foamflower	Pearly Everlasting	White Turtlehead
<b>Medium Sized</b>	Swamp Rose	Ostrich Fern		
Chokecherry	Sweet Gale			
Pin Cherry	Winterberry Holly			
Serviceberry	Common Elderberry			
Striped Maple	Highbush Cranberry			
Ironwood	Lowbush Blueberry			
Eastern White Cedar	Meadowsweet			
	Serviceberry			
	Steeplebush			
<b>Large Sized</b>				
Bur Oak				
Red Oak				
Silver Maple				
Trembling Aspen				
White Birch				
Red Spruce				
Eastern White Pine				
Butternut				
Sugar Maple				

- Identify trees for planting that are better suited to certain constrained lands such as small spaces and urban conditions (road salt, compaction, etc).
- Planting tips to help ensure the right trees survive in the right places with minimal maintenance.
- For other vegetation, encourage mix of shrubs and flowers to enhance biodiversity, create habitat (pollinators) and improve desirability of public and private green spaces;
- Where to Plant: Consideration should be given to where trees and vegetation are planted. Prior to planting a tree, property lines, utilities (power lines, buried water/sewer laterals or other 'hard' infrastructure) should be considered. The location of a tree should take into context its future size as it relates to a building's foundation and roof.
- Identify and remove invasive species: Recognizes that the ecological benefit of removing invasive species over the long term exceeds the limited benefits of allowing them to remain in place;
- Shoreline naturalization: Hardening the shoreline with stone or concrete should be avoided. Vegetated areas adjacent to watercourses, lakes, rivers and wetlands are known as shoreline buffers. Shoreline buffers protect water from pollutants by filtering contaminants, providing habitat for native species and preventing shoreline erosion.
- Shoreline buffers should be at least 15-30 metres upland from the shore as recommended by the Ministry of Natural Resources and Forestry; and composed

of natural vegetation with a broad corridor of undisturbed vegetation. Shoreline buffers should not be grassed.

- **Maintenance and Preservation:** Trees and vegetation require special care and treatment. If it appears the vegetation is struggling, it is recommended you speak to a professional.
- **Commercial / Higher Density Uses:** In addition to this applying to single detached homes and smaller residential uses, it can also provide guidance to larger commercial/multiple residential developments. In addition to the benefits listed previously, increased vegetative buffers help beautify commercial properties and match the natural beauty of the Cornwall area.
- **Other benefits that can be considered:** Green parking lots to reduce stormwater flows and the costs of stormwater maintenance. Vegetated aisles and parking islands to increase shaded areas and reduce micro climates. Green roofs to reduce total stormwater runoff and enhance the urban canopy. The City of Toronto Design Guidelines for "Greening" Surface Parking lots provides an excellent reference.

## F. Appendices

**Appendix A:** Raisin Region Conservation Authority completed a Forest Cover and Trends Analysis in 2015

**Appendix B:** City of Cornwall Tree Planting Policy

A blue ink signature of Bernadette Clement, consisting of a stylized 'B' followed by a horizontal line and a wavy flourish.

**Bernadette Clement**  
Mayor

A blue ink signature of Maureen Adams, featuring a stylized 'M' and 'A' followed by a horizontal line.

**Maureen Adams**  
Chief Administrative Officer

**The Corporation of the City of Cornwall**  
**Regular Meeting of Council**  
**Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2020-376-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: October 26, 2020  
Subject: Environment and Climate Change Committee Review of Draft  
Tree Canopy and Natural Vegetation Protection Policy

**Purpose**

To provide Council with recommendations regarding the proposed Tree Canopy and Natural Vegetation Protection policy.

**Recommendation**

- a. That Council approve the Tree Canopy and Natural Vegetation Protection Policy as presented.
- b. That Council direct Administration to prepare a report to address the actionable items / recommendations of the Environment and Climate Change Committee.

**Financial Implications**

There are no financial implications at this time.

**Strategic Priority Implications**

Being leaders in Sustainability and climate change impact

1. Create Environment and Climate Change Committee
6. Identify what the City can take the lead on.

## **Background / Discussion**

A Tree Canopy and Natural Vegetation Protection Policy is a requirement of *Municipal Act, 2001*, the *Municipal Conflict of Interest Act*, the *Municipal Elections Act, 1996*. Bill 68 Section 270 and a draft version was presented to Council on Nov 25, 2019. At the time, Council made the following decision: Motion to receive the presentation and refer the presentation to the Environment and Climate Change Committee for recommendations.

The Environment and Climate Change Committee's mandate is to provide a local perspective on climate change initiatives with respect to greenhouse gas emissions targets as well as provide a framework to work towards climate change goals, strategic direction and priority actions, namely:

- Reduce our contributions to climate change while increasing our ability to adapt to climate change conditions.
- Establish a baseline of greenhouse gas emissions with a corresponding plan for achieving a set target in emission reductions.
- Reduce and offset greenhouse gas (GHG) emissions produced within our community.

Specifically, the Environment and Climate Change Committee will work towards the goals, based on the four areas of focus: Focus area 4:

4. Review, research, and provide feedback on community-related climate action items as directed by Council, including strategic planning, by-laws and policy development.

## **Context**

The environment and our ecosystems surround us. Human interaction can improve the natural environment, can benefit from those living systems, and can harm the functioning of the urban ecosystem.



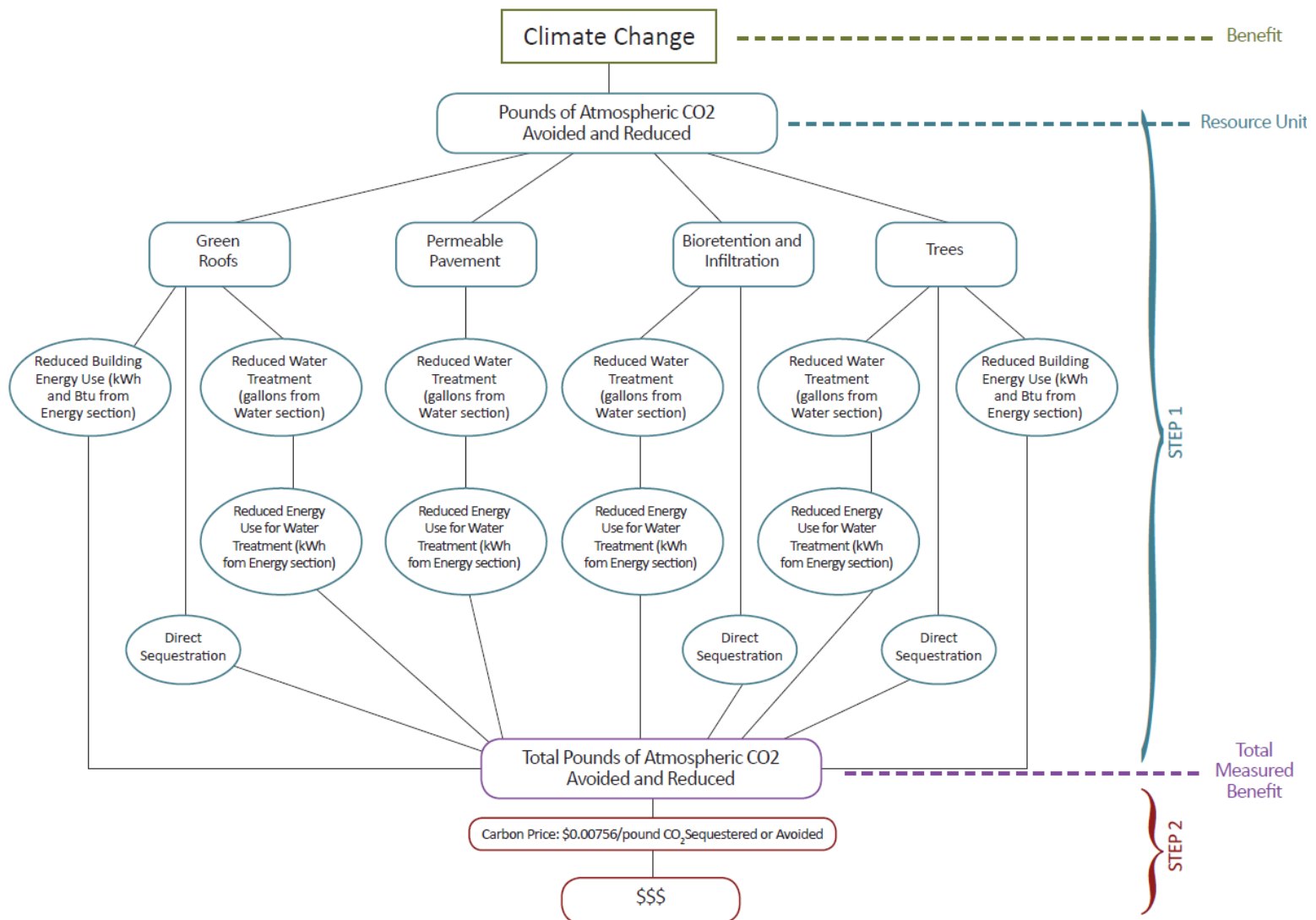


Figure 1. Benefits of Climate Change Mitigation.

## The role of Trees and Vegetation in Climate Change Mitigation

The current knowledge level of our urban systems has developed to the point that cities can make important contributions to limiting and reversing climate change. Potentially more important - is the growing body of knowledge that municipalities can improve the health of the residents living in their municipality while improving the health of the natural environment.

As described in the Draft Tree Canopy and Natural Vegetation Protection Policy, trees and vegetation in our urban space provide important contributions as we venture outside our houses.



An understanding of the tree canopy and natural vegetation values can help communities decide where, when and to what extent green infrastructure practices should become part of future planning, development and redevelopment.

Policies like the Tree Canopy and Natural Vegetation Protection Policy can:

- Inform decision-makers and planners about the multiple benefits Tree Canopy and Natural vegetation incorporated into green infrastructure and Low Impact Development (LID) delivers to communities.
- Cultivate Public Education Opportunities through Community tree planting, community flower bed planting as elements in the policy are enacted.

The Environment and Climate Change Committee recognizes that the Tree Canopy and Natural Vegetation policy will have significant positive effects in our efforts to reduce our contributions to climate change while increasing our ability to adapt to climate change conditions.

The following list of actionable items were designed to support the outcomes of the Tree Canopy and Natural Vegetation policy into the activities of the City of Cornwall:

- a) The Committee recommends to Council the addition of a schedule of when Tree Canopy will be measured.
- b) The Committee recommends to Council that Administration prepare a report, as soon as possible, that assesses the environmental, climate change, social, cultural and economic value to a tree, derived from the tree canopy which can be used to inform policy development.
- c) The Committee recommends to Council that Administration investigate methods to create a Tree Inventory to support the growth and/or maintenance of the tree canopy.
- d) The Committee recommends that the City prepare a list of native tree species, and prioritize these, for maintaining and growing the urban forest tree canopy. Presently mainly non-native species are on the list in the Policy. Note: the species listed in Schedule "A" do not match the species in <https://www.cornwall.ca/en/live-here/forestry.aspx>.
- e) The Committee recommends to Council that the Tree Canopy Policy, section titled "City Initiated Tree Removals and Replacement Plantings" be amended by changing the ratio 1:1 with 3:1.

- f) The Committee recommends to Council that using the tree canopy data and the environmental, climate change, social, cultural and economical value report, establish a budget to grow and maintain the tree canopy which will include creating a tree asset management plan for public land.
- g) The Committee recommends to Council that a consultant be hired to write the Best Practices from the Tree Canopy and Natural Vegetation policy into the appropriate City approved site plans, development and subdivision standards, engineering standards, street scape plans, by laws, etc. The adopted Best Practices (green development) should increase climate adaption and lower GHG emissions and contain a measurement element that tracks progress as a companion to the environmental, climate change, social, cultural and economic value report suggested in this list of actionable items.
- h) The Committee recommends to Council that the Administration develop a new GIS interactive map which could be placed on the City website that shows current and planned tree canopy.

### **Accessibility Impact**

None at this time.

Document Title:	Draft Tree Canopy Protection and Enhancement Policy - 2020-376-IMW.docx
Attachments:	- Urban-Canopy-Assessment-Cornwall-Final.pdf - DRAFT Tree Canopy and Natural Vegetation Policy Climate Change draft edit Oct 15 2020.docx
Final Approval Date:	Nov 2, 2020

This report and all of its attachments were approved and signed as outlined below:

**Bill de Wit - Oct 21, 2020 - 9:29 AM**

**Tracey Bailey - Oct 21, 2020 - 9:53 AM**

**Maureen Adams - Nov 2, 2020 - 7:13 PM**

# Urban Canopy Assessment

*An estimate of coverage within the City of Cornwall*



**Raisin Region**  
Conservation Authority

18045 County Road 2  
PO Box 429  
Cornwall, ON K6H 5T2

August 25, 2020

Final Report



## Abstract

The urban canopy coverage within the City of Cornwall, as of Spring 2019, was digitized using Geographic Information System (GIS) software and high-resolution aerial photography. Through GIS tools, the total urban canopy coverage was calculated to be approximately 19.9 km<sup>2</sup>. This represents a canopy coverage estimate of 32% within the City of Cornwall.

Additional GIS analyses were performed to determine the canopy coverage on a 1 km square grid and 500-meter square grid basis across the city to produce a visual map to identify canopy coverage within the city boundary.

### Suggested Citation

Raisin Region Conservation Authority. *Urban Canopy Assessment, An estimate of coverage within the City of Cornwall*. August 2020.

### For Internal Use

Primary Author(s): Phil Barnes, Olivia Harrington, Brittany Hum.

## Table of Contents

<b>Abstract .....</b>	<b>i</b>
<b>Table of Contents.....</b>	<b>ii</b>
<b>List of Figures .....</b>	<b>ii</b>
<b>Introduction.....</b>	<b>1</b>
<b>Methodology.....</b>	<b>1</b>
<b>Results.....</b>	<b>5</b>
Additional Analyses .....	5
Limitations .....	5
<b>References .....</b>	<b>9</b>

## List of Figures

Figure 1: DRAPE image at 1:10,000 scale .....	2
Figure 2: DRAPE image at 1:500 scale.....	3
Figure 3: DRAPE image at 1:500 scale with Urban Canopy digitized .....	4
Figure 4: Estimated Urban Canopy Coverage.....	6
Figure 5: Urban Canopy Coverage Estimate (percent) by 1km x 1km Grid .....	7
Figure 6: Urban Canopy Coverage Estimate (percent) by 500m x 500m Grid .....	8

## Introduction

An urban canopy can provide many benefits such as heat mitigation, storm water management, carbon storage and sequestration, improved air quality, and shade (Green Infrastructure Ontario Coalition, 2016).

Of interest to watershed management is the role trees and an urban canopy can play in controlling stormwater runoff and protecting surface waters from sediment and nutrient loading. In cities, trees can play an important role in stormwater management by reducing the amount of runoff that enters stormwater and combined sewer systems. Trees, acting as mini-reservoirs, control stormwater at the source (USEPA, 2013).

In 2019, the City of Cornwall created the *Cornwall Environment and Climate Change Committee*, of which the Raisin Region Conservation Authority was a member. The committee was initially tasked with reviewing a *Tree Canopy and Natural Vegetation Protection and Enhancement Policy*.

This report is intended to provide a preliminary estimate of the urban canopy coverage within the City of Cornwall.

## Methodology

The urban canopy was digitized manually within ESRI ArcMap software. A GIS technician traced the urban canopy outline in the software using a high-quality aerial image. The image used was from the Digital Raster Acquisition Project Eastern Ontario (DRAPE), 2019.

The DRAPE image for the City of Cornwall was acquired in the spring of 2019 under the best conditions possible to achieve cloud free, snow free, ice free, and smoke free captures. Normally this photo would have been acquired with “leaf-off” conditions; however, due to a late spring thaw and persistent early snow presence, by the time the image was captured, the leaves were fully engaged thus allowing visualization of the canopy (Figure 1).

The orthophotography has a pixel resolution of 16cm and is accurate to 45 centimetres on the ground at 95%. The imagery was acquired by a Vexcel UltraCam X and Vexcel UltraCamEagle digital cameras and was later orthorectified using an elevation dataset generated through image correlation.

Digitization was done at a minimum of 1:500 scale view (Figure 2). The GIS technician would zoom in as necessary to clarify proper delineation of the canopy and to isolate shadows. The canopy of all trees, bushes, and shrubs with an approximate minimum height of 2 meters were digitized (Figure 3). The 2-meter cut-off height is consistent with other North American communities including the 2019 assessment of Canada’s Capital Region (City of Ottawa et al, 2019).



Figure 1: DRAPE image at 1:10,000 scale





Figure 2: DRAPE image at 1:500 scale

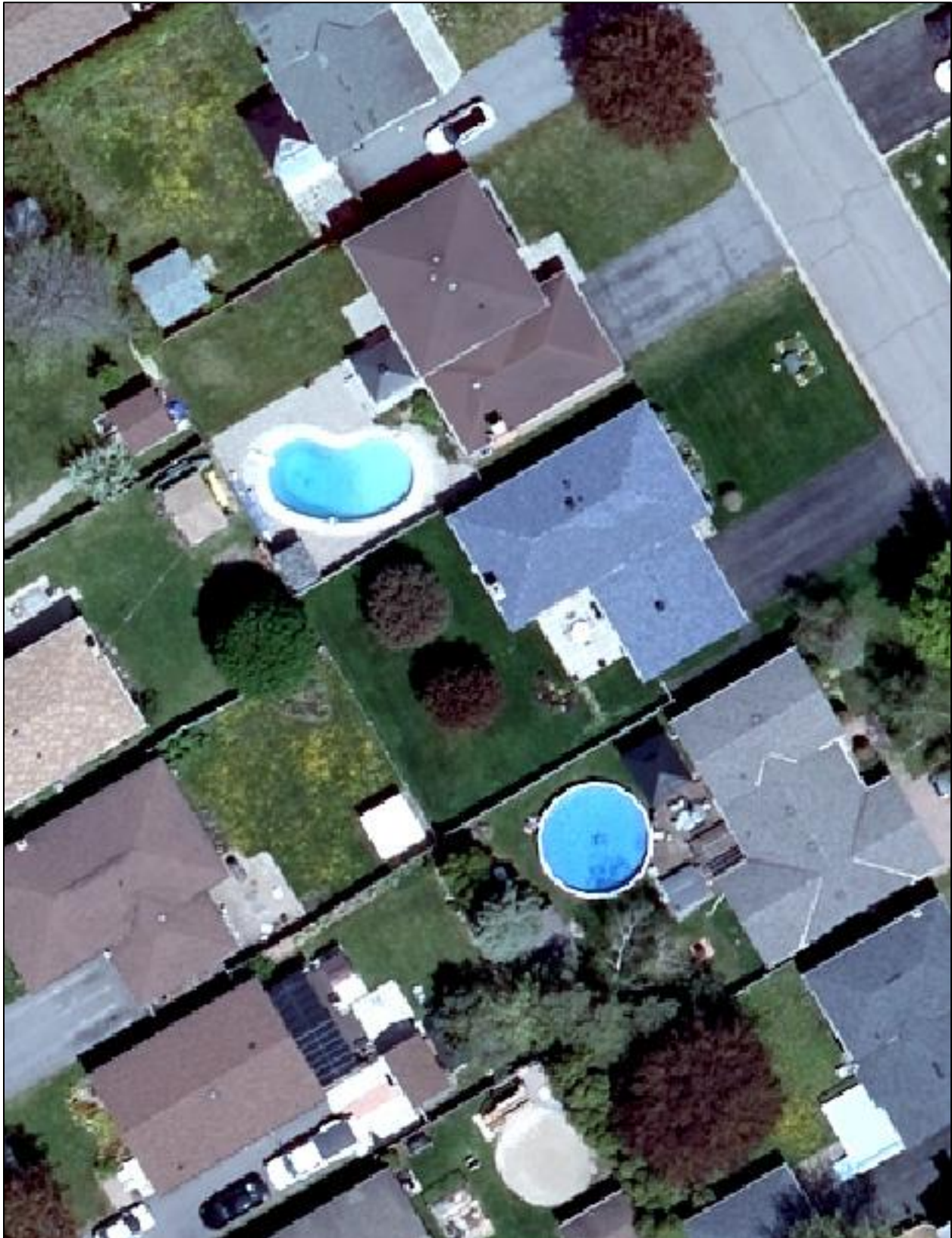




Figure 3: DRAPE image at 1:500 scale with Urban Canopy digitized



## Results

The urban canopy within the City of Cornwall was digitized by manually tracing a series of 40,388 discrete polygon shapes overtop of the DRAPE aerial imagery. Using ArcMap tools, the individual shapes were *merged* to remove any overlap and *dissolved* to create a single polygon shape. A *clip* operation was performed by overlaying the City of Cornwall municipal boundary over the canopy layer to produce a final polygon representing the urban canopy for the city (Figure 4).

The area of the urban canopy shape was calculated within the software to be 19.9 km<sup>2</sup>. The total area within the City of Cornwall's urban boundary was determined to be 62.0 km<sup>2</sup>. The urban tree canopy coverage for the City of Cornwall in the spring of 2019 was therefore estimated to be 32%.

## Additional Analyses

Since that the urban canopy was digitized in a GIS program, it affords a multitude of additional analyses.

A basic spatial analysis was performed by overlaying a simple 1km x 1km square grid over the city. The percentage of canopy coverage per cell was computed and colour coded. The result is a map that permits a quick visual representation of canopy coverage by general location (Figure 5). This process was also repeated for a finer grid of 500 meters x 500 meters (Figure 6).

Additional analyses could be performed such as: urban canopy coverage on public lands, canopy coverage on city owned property, canopy coverage by official plan zoning, canopy coverage by stormsewershed, and canopy coverage by neighbourhood to name a few.

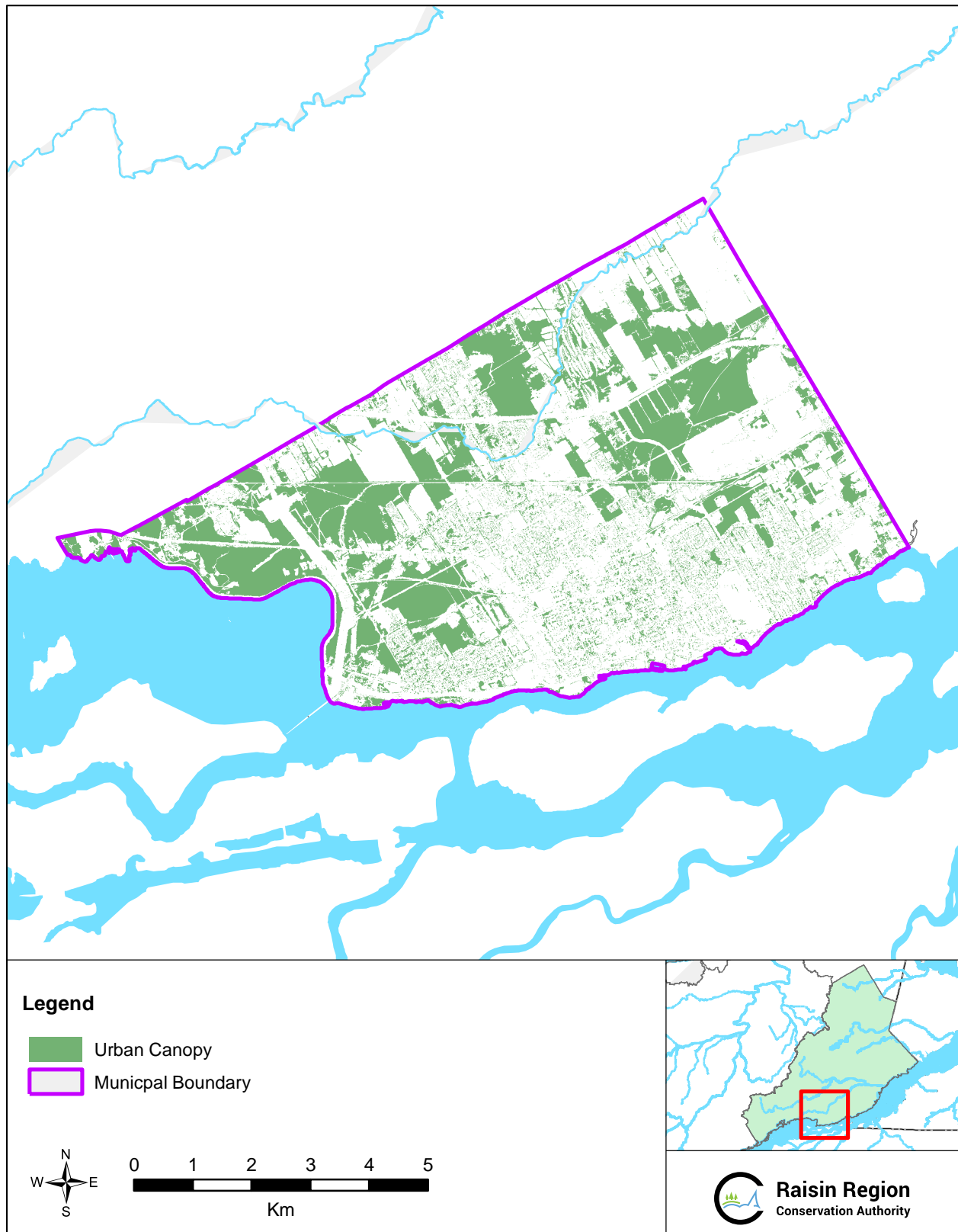
The dataset can also be analysed to estimate the overall or local impact to canopy coverage due to clear-cutting of certain areas (i.e. known future subdivision developments).

The dataset may also prove useful in identifying priority areas for planting and or maintenance.

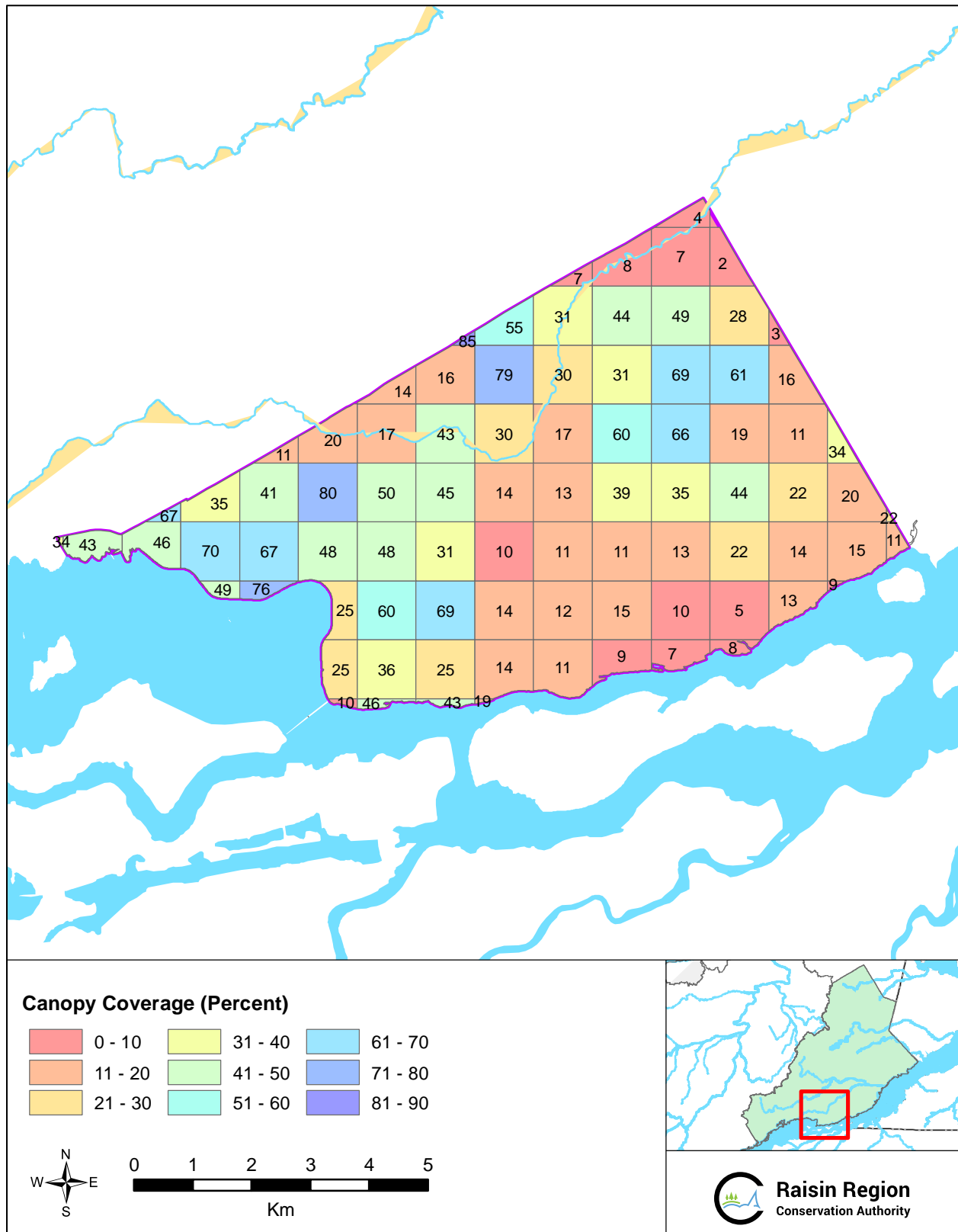
## Limitations

This assessment is intended to be a preliminary estimate and has not been reviewed by a Registered Professional Forester. The canopy delineation was performed manually by hand using operator judgement to determine if the vegetation exceeded the 2-meter height cut-off for tree canopy coverage. This assessment is not intended to be a replacement for field data collection. An improved assessment could be made with multispectral color infrared imagery and light detection and ranging data (LiDAR).

**Figure 4: Estimated Urban Canopy Coverage**

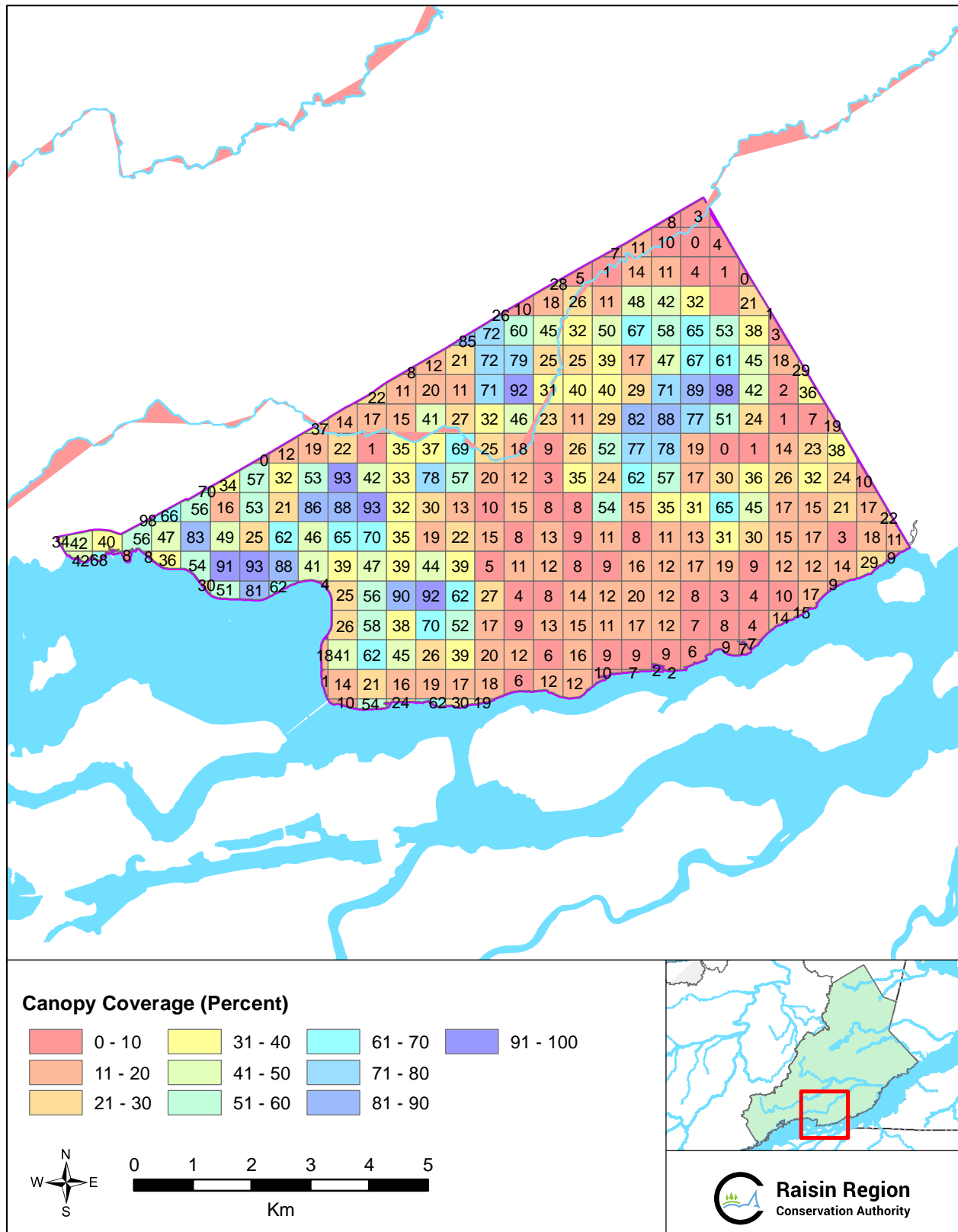


**Figure 5: Urban Canopy Coverage Estimate (percent) by 1km x 1km Grid**





**Figure 6: Urban Canopy Coverage Estimate (percent) by 500m x 500m Grid**



## References

City of Ottawa, Ville de Gatineau, National Capital Commission. *Tree Canopy Assessment, Canada's Capital Region, Fall 2019*, 2019. Retrieved from: [http://ncc-website-2.s3.amazonaws.com/documents/FINAL\\_Tree\\_Canopy\\_Assessment\\_EN.pdf](http://ncc-website-2.s3.amazonaws.com/documents/FINAL_Tree_Canopy_Assessment_EN.pdf).

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## **DRAFT (Administration)**

# **The Corporation of the City of Cornwall Tree Canopy and Natural Vegetation Protection and Enhancement Policy**

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Department: Planning, Development and Recreation

Parks and Landscaping

Policy Number: TCNVPEP-2019-03-25

Effective Date: TBD

Council Approval: TBD

### **Definitions**

“Urban Tree canopy” – is defined as the layer of tree leaves, branches and stems that provide tree coverage of the ground when viewed from above. Where a height cut-off of 2 metres be used for separating tree canopy from other vegetation.

“Natural vegetation” – shall mean the native plant life that grows naturally without human intervention in a geographic region.

“Shoreline buffer” “Ribbon of Life”

– shall mean a treed or vegetated strip of land that borders a creek, river or lake.

**A. Background and Purpose** On March 30<sup>th</sup>, 2017 Royal Assent was given to Bill 68. This bill introduced a series of reforms to the *Municipal Act, 2001*, the *Municipal Conflict of Interest Act*, the *Municipal Elections Act, 1996*, *Planning Act* and others. As a whole, this Bill focusses largely on matters of municipal governance and financial accountability, however changes are also introduced that are intended to allow municipalities to be more proactive in combating and mitigating climate change. Of the various reforms introduced, an amendment to Section 270 of the *Municipal Act* has the effect of requiring all municipalities to adopt and maintain policies with respect to the protection and enhancement of the tree canopy and natural vegetation in the municipality. More specifically, Section 270 requires that:

270(1) *A municipality shall adopt and maintain policies with respect to the following matters (...)*

7. *The manner in which the municipality will protect and enhance the tree canopy and vegetation in the municipality.*

This section of Bill 68 comes into force and effect on March 1, 2019.

Of note, Bill 68 also:

- Allows for municipalities to conserve the environment in accordance with regulations, including powers to require green roofs or alternative roof surfaces in circumstances specified by the Building Code;
- Empowers municipalities to pass by-laws respecting climate change as part of their powers to enact by-laws relating to the economic, social, and environmental well-being of the municipality;
- Amends Section 2 of the *Planning Act* to make the “mitigation of greenhouse gas emissions and adaptation to a changing climate” an enumerated matter of provincial interest in which decision makers must have regard in considering planning matters.

## **B. Rationale for Tree Canopy and Natural Vegetation Policy**

Tree cover and natural vegetation infrastructure have been found to produce a number of benefits which are broadly broken down into three themes:

### **Economic:**

- Enhances aesthetic beauty of streetscape – a draw for new businesses and people;
- Increases property values;
- More attractive for tourism;
- Reduces cost of cooling in the summer and heating winter (wind reduction);

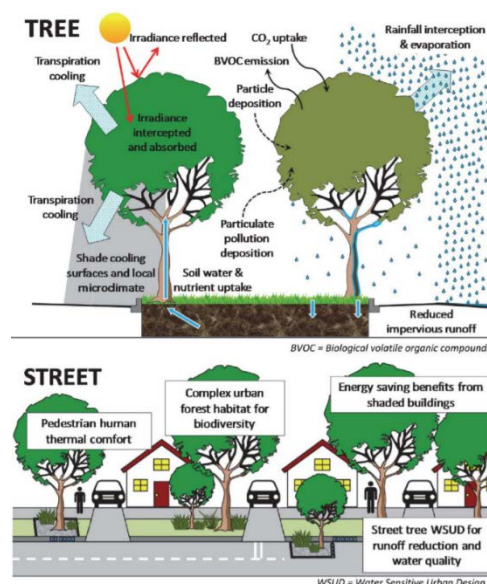
- Saves costs through reduced mowing;

### **Community:**

- Creates more walkable communities, public spaces and recreational areas;
- Creates more comfortable and beautiful city;
- Calms traffic and shades parked cars;
- More people outside means safer streets;
- Encourages more walking, jogging and cycling;
- Reduces sun exposure and heat related illness;
- Studies show the presence of trees improves mental well-being, fostering health and healing;

### **Environmental**

- Moderates temperature, especially in the summer;
- Trees provides the vital supply of oxygen needed for humans to breathe;
- Helps manage stormwater run-off, reduces flooding and enhances water quality;
- Creates wildlife habitat for birds, butterflies, pollinators, plants and animals;
- Helps reduce air pollution;
- Prevents erosion, especially along slopes.



For shoreline areas, a vegetative buffer contains pollutants (salt, fertilizer, septic leachate), reduces erosion, encourages infiltration and improves wildlife habitat, which leads to better outcomes for fish.

On a watershed basis, a minimum 30% tree canopy coverage is recommended by Conservation Authorities, Environment Canada and others to allow rivers and lakes within the watershed to maintain a healthy ecological and hydrological function. The Raisin Region Conservation Authority completed a Forest Cover and Trends Analysis in 2019 (Appendix A) which analyzed the forest cover trends within the region. The report determined the forest cover, overall, for the Raisin Region watershed to be approximately 34%. The report also analyzed the forest cover by municipality and determined the percentage of forest cover within the City of Cornwall to be approximately 20%.

An update to the 2019 Trends Analysis report by the Raisin River Conservation Authority Urban Canopy Assessment Aug 2020 using a different and greater detail method (Appendix B) analyzed the urban tree canopy down to trees above 2m in height determined the urban tree canopy to be 32%. The report includes the identification of areas with low tree canopy cover.

Anticipated effects of climate change include heavy rainfall events and unseasonable precipitation. Runoff from rainfall and snowmelt in a forested area has been demonstrated to be significantly less than in a developed or cleared area in both overall volume and peak flow. A healthy forest cover and natural vegetation areas makes watersheds more resilient to effects of climate change and on a broader scale, helps to

sequester carbon and is consistent with the goals outlined for the community in the Official Plan as well as the City's five Strategic Priorities, one of which is Environmental Sustainability.

## C. Advocacy

The City needs partners to achieve a higher percentage of tree canopy. The following programs of advocacy and explanation of the benefits of the policy will help with public understanding and will encourage actions by all to meet the desired goals.

- Encourage tree planting and the non-removal of trees on private property through various incentives such as workshops, bulk tree purchases, neighborhood planting bees etc.
- Encourage an adopt-a-tree program for the ongoing care of trees planted by the City.
- Publicise the opportunity for residents to request a City street tree in front of their house.
- Work closely with local arborist companies to promote best tree maintenance practices.
- Work closely with the four school boards to promote adding to and preserving the current tree canopy and to reduce grass mowing areas and introduce naturalized areas wherever possible.
- Seek partnerships with the Raisin Region Conservation Authority and local advocacy groups to create and fund tree canopy enhancements in available vacant spaces, shorelines and public areas such as the 'Tiny Forest @ the Library'.
- Support partner agencies in delivery of programs such as the Raisin Region Conservation Authority Tree Seedling Program, the 50 Million Tree Program and the Edible Cities Program.
- Proactively seek other emerging partnership and funding opportunities, amending the policy to include these.
- Promote and publicize the Commemorative Tree Planting Program to encourage buying and planting of trees.
- Promote and publicize the City Arboretum as a place to learn about all the different city trees available.
- Identify and celebrate 'Legacy Trees' as well as naturalized areas and the importance of the 'Ribbon of Life' along shorelines, providing signs to raise awareness of their value.
- Plan for the publication and distribution of this policy on the City website, in other municipal advertising and at the pre-consultation stage of development applications.

- Support the ongoing assessment of the quality and quantity of the tree canopy condition in the city. Support tree inventory and mapping as resources permit to ensure targets are being met.
- Provide information for the public on cost savings, carbon and energy reductions resulting from city actions such as reduced mowing areas.

## **D. Municipal Role**

The City through its various departments will take the following measures within its own operations to preserve and enhance the urban tree canopy as well as increase areas of natural vegetation within the city. Its actions can also serve a model for the actions taken by citizens on their own property.

### **Goals and Priorities**

- Environment and Sustainability is one of the city's current five key priorities and this Policy provides one of the key means to achieve the initiatives contained in that priority.
- The City endeavours to increase the overall urban tree canopy coverage to at least the 30% recommended by Conservation Authorities and Environment Canada as needed to maintain a healthy ecological and hydrological function, through its own planting initiatives on public property and public advocacy to promote plantings on private property.

### **Subdivision Development – Boulevard Tree Planting and Parkland Dedication Requirements:**

The City's standards for all new subdivision developments are outlined in detail within the Department of Infrastructure Planning's Subdivision Manual. As part of the subdivision development process, Developers enter into a contractual agreement with the municipality called the "Subdivision Agreement". This Subdivision Agreement is a binding contract which specifies the Developer's obligations, including boulevard tree planting and parkland dedication. Typically the Subdivision Agreement stipulates one new boulevard tree for every building unit. (ie. One boulevard tree for every single family dwelling, and two boulevard trees for semi detached dwellings, etc). New boulevard tree plantings are to be native tree species as much as possible and shall be in conformance with the City's tree planting specification. Also the Subdivision Agreement typically specifies that a minimum of 5% of the overall development be dedicated as parkland, unless determined by the Department Manager that the neighbourhood already has adequate parkland. In the event that the neighbourhood is determined to already have

adequate parkland, the Developer is required to provide the City with cash in lieu of a parkland dedication valued at 5% of the raw land value of the entire development.

### **Site Plan Development – Landscaping Requirements**

Development sites subject to site plan approval are required to supply a landscaping plan as part of the review process. Proponents are typically encouraged to include a high degree of landscaping elements typically on private lands which includes planting of a variety of species and callipers as defined in the site plan design guideline manual. There is a key focus on landscaping major streets and City entrances. Every effort to protect and preserve existing mature trees shall be made where practical. It should be noted that removal of trees from the site will likely mean that a higher level of landscaping will be required to compensate. Various City staff will provide commentary during the site plan review process to ensure that the proposed landscaping plan is in concert with their respective by-laws and the governing site plan design manual.

Identify and ensure the preservation of high quality existing trees, whenever City owned property is sold, with the sale process applying the appropriate plan of subdivision and/or site plan controls to ensure the protection of said trees, when reasonably feasible. Parks and Landscape staff will review each City owned property to be listed for sale, and will identify any high quality existing trees that warrant protection.

### **City Tree Management Operation Policies**

The preservation of existing trees will be a key priority, when reasonably feasible, when undertaking City Public works projects such as construction of new sidewalks and roadways or other public works. There are a number of circumstances, however in which the removal of a City owned tree is required. The following explains the tree replacement policies that are in place to protect the City's tree canopy.

### **City Initiated Tree Removals and Replacement Plantings**

- There are a number of conditions in which a City owned tree may require removal, such as due to poor health condition, or a tree may be causing damage to private property, etc. If a City tree is deemed to require removal, the Parks and Landscape Dept. endeavours to plant replacement trees at a 1:1 ratio. As much as possible, staff attempt to locate the replacement planting in the same location as the removed tree, however there are occasions where the same location is

not suitable for a new planting. In those circumstances the replacement tree will be planted in a more suitable location.

- Priority will be given to areas of the City that have little or no tree canopy.
- Provide opportunity to abutting property owners to select preferred species from list.
- New and/or replacement plantings shall be native species whenever possible and shall be in conformance with the City's tree planting specifications.
- The City shall endeavour to ensure that there is a minimum of one boulevard tree in front of every property (provided that the boulevard is capable of supporting a tree planting).

### **Tree Removals Resulting from City Construction Projects and/or Infrastructure Repairs**

- Some tree removals are required as a result of the City's infrastructure renewal projects or as a result of underground infrastructure repairs. Typically, such work is initiated by the City's Municipal Works and Infrastructure Planning Department. Whenever there is a concern that such work may impact the health of a City tree, the Parks and Landscape Department will assist by reviewing the impact and make a recommendation as to whether the tree should be removed. Upon the completion of the project/work the Municipal Works and Infrastructure Planning Department shall work with the Parks and Landscape Department to replace any removed trees with replacement plantings. Replacement plantings shall be native species as much as possible and shall be in conformance with the City's tree planting specifications.

### **Emerald Ash Borer (EAB) Management Plan**

- The City has implemented a management plan to deal with an invasive species, the Emerald Ash Borer, which is an insect that attacks and kills ash tree species. At the beginning of the plan in 2014, the City identified approximately 3500 ash trees located on City owned land (boulevards, parks, City building properties, City owned woodlots). The EAB Management Plan includes three main activities: the removal of infected trees, TreeAzin injection treatment, and planting replacement trees. Each year staff review the condition of the City ash tree inventory and identify infected trees requiring removal and contractors are retained to remove said infected trees. The plan includes a tree replacement strategy at a 1:1 ratio. As much as possible, staff attempt to locate the replacement planting in the same location as the removed tree, however there are occasions where the same location is not suitable for a new planting. In those circumstances the replacement tree will be planted in a more suitable location. Replacement plantings shall be native species as much as possible and shall be



in conformance with the City's tree planting specifications. The plan also includes a TreeAzin injection treatment which is intended to prolong the life of specific ash trees on City boulevards and parks that have been identified and characterized as significant. The purpose of the treatment is not to save the tree from its inevitable demise, but is intended to prolong the life of the tree until such time that removal is required. This delay in the removal of the treated tree will provide new plantings in the area the opportunity to become established so that when the treated tree is removed the impact to the canopy in the vicinity won't be as severe.

## **Potential Threats**

- There is always the potential threat that other invasive species similar to the Emerald Ash Borer or diseases (such as Dutch Elm Disease) may threaten the health of the tree canopy in Cornwall and the surrounding area. Staff from the Parks and Landscape Department endeavour to participate in industry conferences, education and network opportunities in order to remain current on industry trends and threats.

## **Naturalization of Public Spaces and Shoreline Areas**

- All shoreline areas will include a "ribbon of life" revegetation for new and renovated waterfront developments in accordance with the best practices outlined in this policy.
- The Parks and Landscape Department completed a review of its grass cutting operations in 2018 and identified areas for naturalization. Reducing grass cutting operations wherever possible, allows areas to return to their natural state, providing increased opportunities for new tree growth thus improving the City's tree canopy. The Parks and Landscape Department will continue to look for new opportunities to reduce grass cutting operations wherever possible and to naturalize areas.

## **E. Best Practices**

These practices are provided to support residents, staff and others in developing planting plans that ensure the long-term survival of tree and vegetation plantings.

- Encourage native trees that are best adapted to local environment and contribute to the ecological system;
- Identify trees which over the long term may be susceptible to changing climate (ie. Trembling aspen, white spruce) and those that are more likely to thrive (oak). Some examples of these species are included in Schedule "A".



Schedule "A"

Trees	Shrubs	Partial Shade	Full Sun	Shoreline
<b>Riparian Zone</b>	Black Chokeberry	Bearberry	Black-eyed Susan	Blue Flag Iris
Balsam Fir	Nannyberry	Bloodroot	Big Bluestem Grass	Blue Vervain
Red Maple	Northern Bush	Bunchberry	Canada Goldenrod	Boneset
Tamarack	Honeysuckle	False Solomons Seal	Common Milkweed	Cardinal Flower
Black Spruce	Pagoda Dogwood	Jack-in-the-pulpit	Flat-topped Aster	Swamp Milkweed
Eastern Hemlock	Red Osier Dogwood	Wild Columbine	New England Aster	Joe Pye Weed
	Smooth Wild Rose	Foamflower	Pearly Everlasting	White Turtlehead
<b>Medium Sized</b>	Swamp Rose	Ostrich Fern		
Chokecherry	Sweet Gale			
Pin Cherry	Winterberry Holly			
Serviceberry	Common Elderberry			
Striped Maple	Highbush Cranberry			
Ironwood	Lowbush Blueberry			
Eastern White Cedar	Meadowsweet			
	Serviceberry			
<b>Large Sized</b>	Steeplebush			
Bur Oak				
Red Oak				
Silver Maple				
Trembling Aspen				
White Birch				
Red Spruce				
Eastern White Pine				
Butternut				
Sugar Maple				

- Identify trees for planting that are better suited to certain constrained lands such as small spaces and urban conditions (road salt, compaction, etc).
- Planting tips to help ensure the right trees survive in the right places with minimal maintenance.
- For other vegetation, encourage mix of shrubs and flowers to enhance biodiversity, create habitat (pollinators) and improve desirability of public and private greenscapes;
- Where to Plant: Consideration should be given to where trees and vegetation are planted. Prior to planting a tree, property lines, utilities (power lines, buried water/sewer laterals or other 'hard' infrastructure) should be considered. The location of a tree should take into context its future size as it relates to a building's foundation and roof.
- Identify and remove invasive species: Recognizes that the ecological benefit of removing invasive species over the long term exceeds the limited benefits of allowing them to remain in place;
- Shoreline naturalization: Hardening the shoreline with stone or concrete should be avoided. Vegetated areas adjacent to watercourses, lakes, rivers and wetlands are known as shoreline buffers. Shoreline buffers protect water from pollutants by filtering contaminants, providing habitat for native species and preventing shoreline erosion.
- Shoreline buffers should be at least 15-30 metres upland from the shore as recommended by the Ministry of Natural Resources and Forestry; and composed

of natural vegetation with a broad corridor of undisturbed vegetation. Shoreline buffers should not be grassed.

- **Maintenance and Preservation:** Trees and vegetation require special care and treatment. If it appears the vegetation is struggling, it is recommended you speak to a professional.
- **Commercial / Higher Density Uses:** In addition to this applying to single detached homes and smaller residential uses, it can also provide guidance to larger commercial/multiple residential developments. In addition to the benefits listed previously, increased vegetative buffers help beautify commercial properties and match the natural beauty of the Cornwall area.
- **Other benefits that can be considered:** Green parking lots to reduce stormwater flows and the costs of stormwater maintenance. Vegetated aisles and parking islands to increase shaded areas and reduce micro climates. Green roofs to reduce total stormwater runoff and enhance the urban canopy. The City of Toronto Design Guidelines for “Greening” Surface Parking lots provides an excellent reference.

## F. Appendices

**Appendix A:** Raisin Region Conservation Authority completed a Forest Cover and Trends Analysis in 2015

**Appendix B:** City of Cornwall Tree Planting Policy

**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-26-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Cost Analysis for Cornwall's Greenhouse Gas Emissions

**Purpose**

To present the Committee with a copy of Report 2021-07-IMW as presented to Council at its Regular Meeting of Council of February 22, 2021.

**Recommendation**

That the Committee receive Report 2021-26-IMW for information purposes.

**Background / Discussion**

On February 22, 2021, Council, at its Regular Meeting of Council of February 22, 2021, received Report 2021-07-IMW and requested the development of a Zero Carbon Roadmap report.

As a result, the new position of the Sustainability Development Co-Ordinator has been designed and the next steps to creating a Zero Carbon Roadmap begins.

Document Title:	Cost Analysis for Cornwall's Greenhouse Gas Emissions - 2021-26-Infrastructure and Municipal Works.docx
Attachments:	- Cost Analysis Cornwall Greenhouse Gas Emissions - 2021-07-IMW.pdf
Final Approval Date:	Mar 10, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 10, 2021 - 8:04 AM**

**Bill de Wit - Mar 10, 2021 - 10:05 AM**

**The Corporation of the City of Cornwall**  
**Regular Meeting of Council**  
**Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-07-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: February 22, 2021  
Subject: Cost Analysis Cornwall Greenhouse Gas Emissions

**Purpose**

To provide Council with a cost analysis report for Cornwall's Greenhouse Gas (GHG) emissions

**Recommendation**

- a. That Council receive Report 2021-07-Infrastructure and Municipal Works.
- b. That Council request development of a Zero Carbon Roadmap report.

**Financial Implications**

There are no financial implications at this time.

**Strategic Priority Implications**

Being leaders in sustainability and climate change impact.

**Background / Discussion**

At their regular meeting of December 14, 2020, Council approved the following: "Motion to direct Administration for a report on a cost analysis associated with determining Cornwall's greenhouse gas emissions".

## Greenhouse Gas Summary Information

Green House Gas (GHG) accumulation in the atmosphere has resulted in a general warming trend of the atmosphere and a more unstable climate which has shown an increasing frequency of extreme weather events. A significant and measurable contribution is human combustion of carbon-based organic materials and the decrease of natural carbon storage.

The five primary greenhouse gases are carbon dioxide, methane, nitrous oxide, and two chlorofluorocarbons. Carbon dioxide (CO<sub>2</sub>) is most important greenhouse gas and emissions are measured as eCO<sub>2</sub> or equivalent CO<sub>2</sub>, meaning the concentrations of methane, nitrous oxide, and two chlorofluorocarbons are converted to CO<sub>2</sub> and reported as eCO<sub>2</sub>.

CO<sub>2</sub> is by far the most important greenhouse gas in both total amount and rate of increase and is responsible for 80 percent of the increased warming influence captured by the Annual Greenhouse Gas Index (AGGI) (atmospheric eCO<sub>2</sub> measured in mg/L) since 1990. The vast majority of CO<sub>2</sub> released into the atmosphere has been the result of burning of carbon-based fuels for energy (transportation and industry) and heating (homes and industry).

The current eCO<sub>2</sub> level in the atmosphere is 425 mg/L. The stable level before the industrial revolution was 280 mg/L.

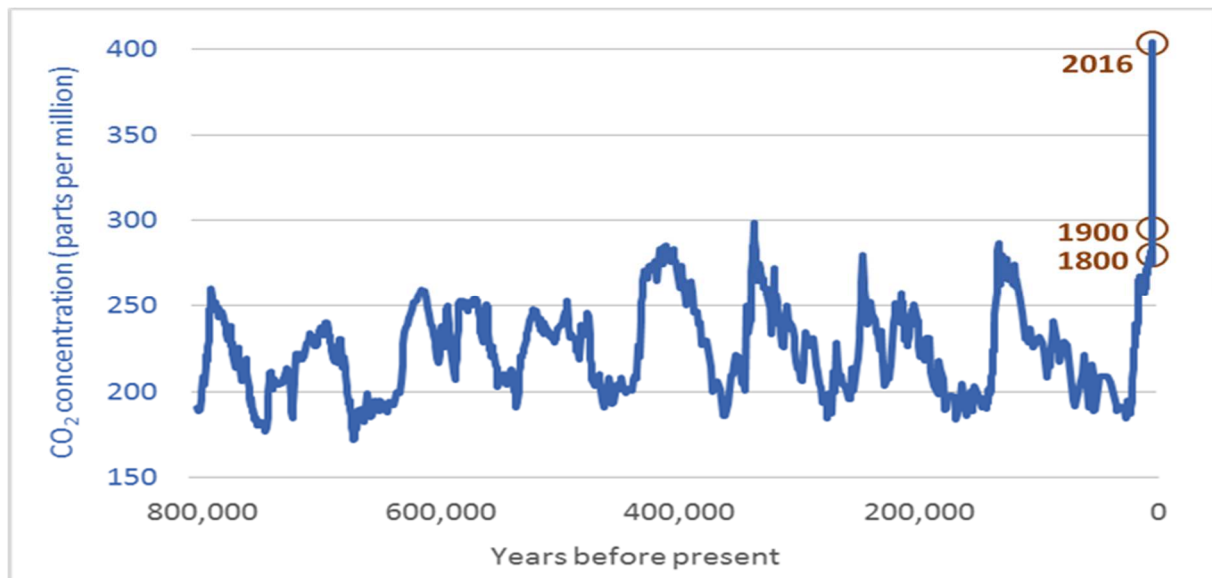
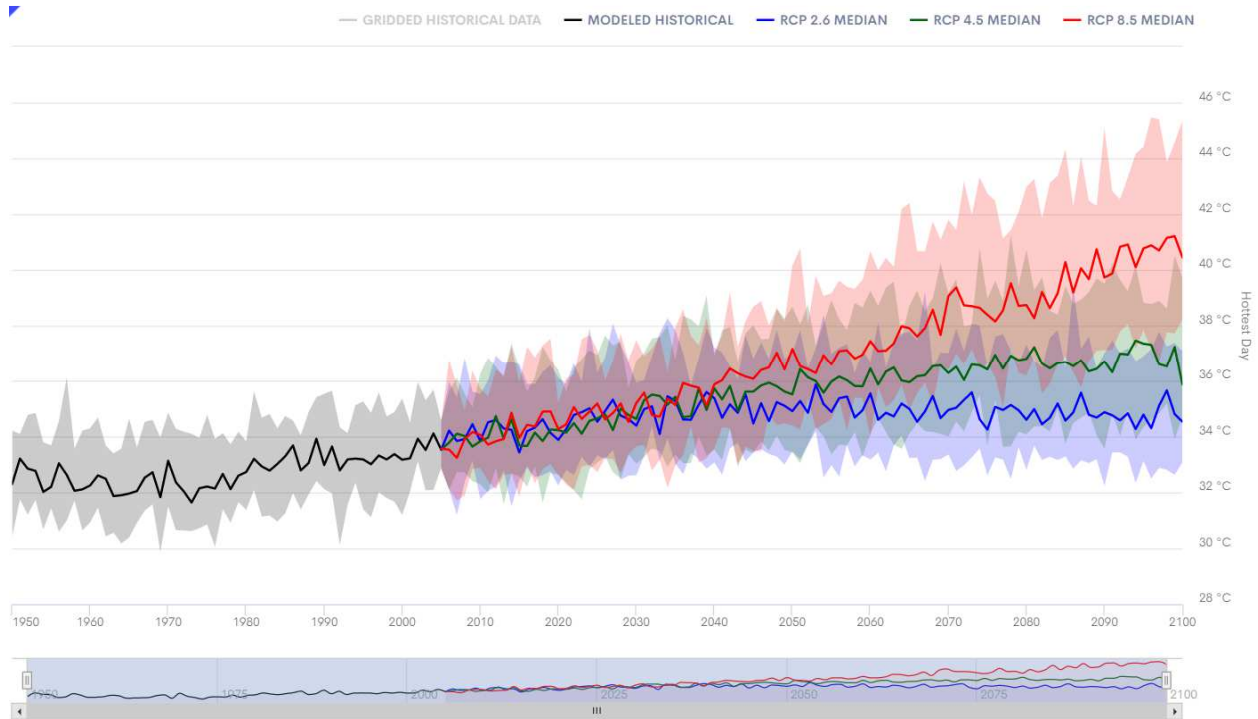


Figure 1. Historical Atmospheric CO<sub>2</sub> Concentration (mg/L).



*Figure 2. Cornwall Hottest Day Predictions.*

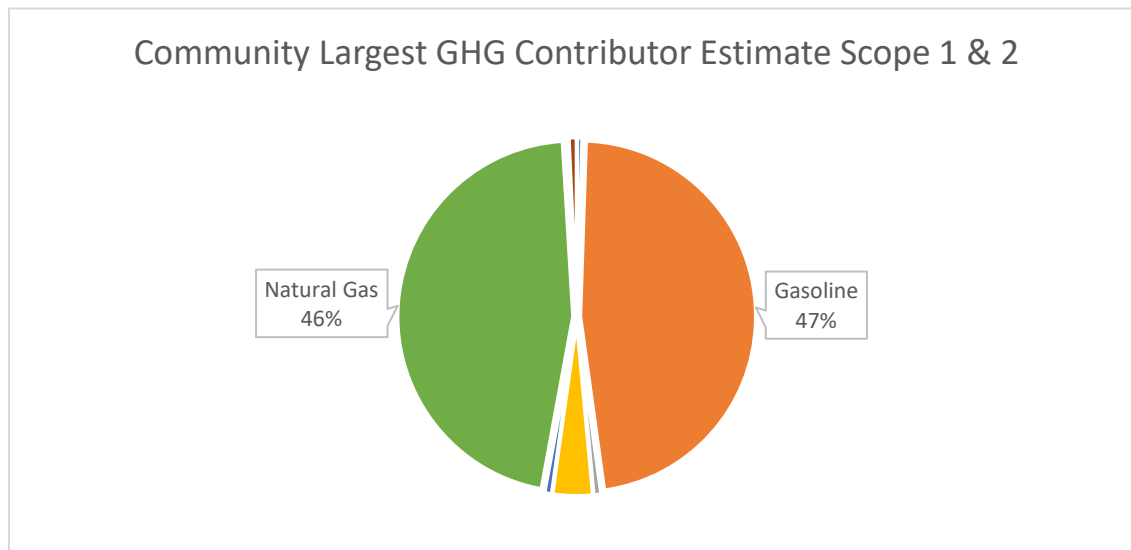
Figure 2 depicts the prediction for Cornwall's hottest day over the 30 years. The red line is the prediction without GHG emissions reduction. The blue line occurs if the world aggressively moves to zero carbon emissions.

### **GHG Community Wide Emissions Inventory**

GHG inventories conducted in communities consisted primarily of two scopes of measurement. Scope 1 inventories GHG emissions that are direct discharges from all private and public sources within the community. Scope 1 includes natural gas consumption for heating and vehicle fuel consumption. Scope 2 inventories GHG emissions are indirect emissions from purchased energy sources such as those emissions that result from the generation of electricity purchased from a utility provider.

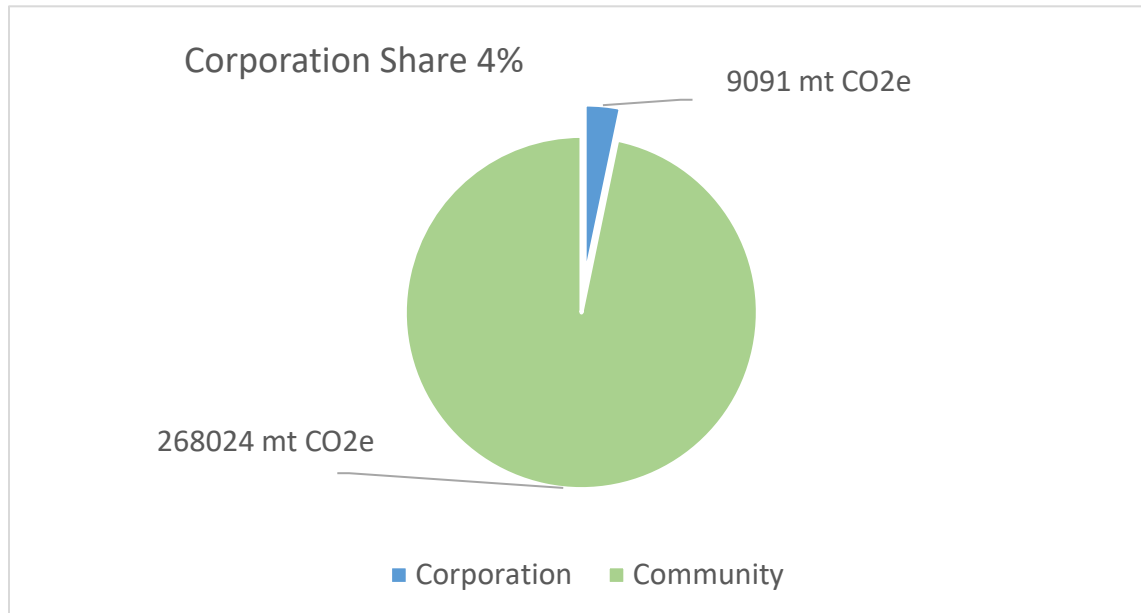
With respect to the City of Cornwall GHG emissions, this information which can be derived from information supplied by Cornwall Electric and Enbridge Gas who provide annual energy consumption within individual municipalities. The Kent Group is an analytics company which provides data relating to the downstream (refining and fuels marketing/retailing) petroleum industry and have provided annual sales of gasoline and diesel sold within Cornwall.

Figures 3 & 4, provide an important overview and context for climate mitigation in Cornwall. The main targets for climate mitigation are heating fuels and vehicle fuels. If utilizing natural gas or furnace oil for heating and/or using vehicles and equipment fueled with diesel or gasoline, then all these sources of GHG should be targeted for mitigation or ultimately, elimination. How this will be conducted will be somewhat complicated although the technological solutions and policy tools currently exist to guide motivated people and organizations to navigate the map to zero carbon in a sustainable manner.



*Figure 3. Largest Scope 1 & 2 CO<sub>2</sub> Emission Sources.*





*Figure 4. Corporation to Community Large Source Emissions.*

## Climate Lens

Innovative policy has resulted in a shifting away from just simply measuring GHG emissions, creating wide inventories, modelling and the creation of new plans. The innovative approach now endeavours to directly remove the carbon energy emissions using a sustainable business case.

Recently, the Federation of Canadian Municipalities (FCM) has published work on the creation of methods to move change. An organization called The Clean Air Partnership, which was selected by FCM to deliver their new climate change efforts, has developed a municipal "Climate Lens". The lens imagines using special glasses to discover and integrate GHG reduction (mitigation) and climate adaption into projects and community planning.

The Climate Lens process is a requirement applicable to Infrastructure Canada's Investing in Canada Infrastructure Program (ICIP), Disaster Mitigation and Adaptation Fund (DMAF) and Smart Cities Challenge. It has two components: the GHG mitigation assessment, which measures the anticipated GHG emissions impact of an infrastructure project, and the climate change resilience assessment, which employs a risk management approach to anticipate, prevent,

withstand, respond to, and recover and adapt from climate change related disruptions or impacts.<sup>1</sup>

Use of the Climate Lens process will be a prerequisite for governmental grant applications for any net zero initiatives that the City may apply for. As the Climate Lens tool (process) can measure the GHG reduction and climate risk directly of the project for which grants have been applied.

### **Zero Carbon Roadmap**

It is proposed that the Environmental Services Department transition an existing full-time position to assume the role of Sustainable Operations Project Coordinator. The Project Coordinator will, among other responsibilities, initiate a collaborative process involving staff, vendors, funding agencies, and consultants which would result in the development of a Zero Carbon Roadmap for presentation to, and approval by, Council. The position will be responsible for developing, implementing and maintaining a sustainability program encompassing all areas of the Corporation, its facilities, operations and culture including community engagement and partnerships. The roadmap concept starts with the consideration of a destination being zero carbon energy. Then through the creation of a map, discover multiple ways to get to the destination. This concept allows agile progress towards the destination even if one road gets washed away by a flood. Simply get the map out and plot a different route.

Asset Management plans by design include the requirement to monitor and control long term costs, risks and level of service. The Project Coordinator will promote that a Zero Carbon goal could be integrated into existing plans without the need to build and design entirely new and separate plans. In addition, the City already has a number of positions in the organization with asset management responsibility and training.

Additionally, each Capital Project sheet could contain a paragraph with the Climate Lens applied and would identify to Council and Administration the Climate Mitigation and Climate Adaptation of each capital projects and quantify the expected risk reductions.

There is no additional cost to the Corporation to establish a Sustainable Operations Project Coordinator as the Environmental Services Department will transition an existing a full-time position to assume responsibilities. There will be

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<sup>1</sup> <https://www.infrastructure.gc.ca/pub/other-autre/cl-occ-eng.html#1.1>

some direct costs involved with the training and meetings required to build knowledge and build the tools to imbed the Climate Lens into the Corporation's existing plans and policies. The training and software development costs will be absorbed within the existing training budget allocated to the Department.

### **Integration of GHG Mitigation into the Community**

A number of cities have developed a non-profit organization to lead the community wide net zero goals. These have proven very effective. The Clean Air Partnership has created a guidance paper for such an initiative as described herein. The premise is to use public engagement to find a GHG reduction project in one sector, implement an energy reduction/GHG reduction initiative, celebrate the success and then replicate that success in other sectors. This has been found to be significantly more effective than compliance through building codes, incentive alone and community statements. Two excellent examples of non-profit organizations carrying out GHG reduction work in the community include the group in the City of Kingston called Sustainable Kingston, and in the City of London the non-profit party is called Project Neutral. Cornwall's Sustainable Operations Project Coordinator would examine the feasibility of the City developing Cornwall's own organization which would provide education and promotion of GHG reduction activities.

Document Title:	Cost Analysis Cornwall Greenhouse Gas Emissions - 2021-07-IMW.docx
Attachments:	
Final Approval Date:	Feb 18, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Feb 18, 2021 - 11:05 AM**

**Bill de Wit - Feb 18, 2021 - 11:19 AM**

**Maureen Adams - Feb 18, 2021 - 11:29 AM**

**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-24-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Sustainable Development in the City's Official Plan

**Purpose**

To present the Committee with the section of the draft Official Plan's section on sustainable development.

**Recommendation**

That the Committee receive Report 2021-24-IMW for information purposes.

**Background / Discussion**

It is a major intention of the Official Plan to support sustainability, energy conservation and efficiency, improved air quality, and adaptation to climate change through measures to promote the wise management and conservation of resources.

Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is achieved by simultaneously considering environmental, social, cultural, and economic factors as the basis for making decisions. As such, many sections and principles embedded in this Plan contribute to the long-term sustainability of the City of Cornwall.

Document Title:	Sustainable Development in the City Official Plan - 2021-24-IMW.docx
Attachments:	- Sustainable Development.pdf
Final Approval Date:	Mar 9, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 9, 2021 - 3:51 PM**

**Bill de Wit - Mar 9, 2021 - 4:17 PM**

# 13.0 SUSTAINABLE DEVELOPMENT

## 13.1 Introduction

It is a major intention of the Official Plan to support sustainability, energy conservation and efficiency, improved air quality, and adaptation to climate change through measures to promote the wise management and conservation of resources.

Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is achieved by simultaneously considering environmental, social, cultural, and economic factors as the basis for making decisions. As such, many sections and principles embedded in this Plan contribute to the long-term sustainability of the City of Cornwall, including:

- Land use policies that call for compact, mixed-use and higher density growth patterns to reduce overall transportation needs by minimizing the total number and length of automobile trips and making public and active transportation more feasible and make it easier to protect the natural environment.
- Transportation policies that encourage the use of transit and active modes of transportation including through providing infrastructure;
- Economic development policies that foster economic growth and promote arts and culture;
- Policies that support social development and inclusiveness such as through encouraging affordable housing and accessible design;
- Stormwater management practices that minimize negative impacts of development on water quality and quantity; and,
- Conservation measures that protect cultural heritage, natural heritage, agricultural, water and other resources for the long term.

One key goal of sustainable planning is to mainstream climate change mitigation and adaptation into municipal decision-making. Mitigating climate change through cutting or capturing emissions of greenhouse gases can involve developing and managing greenhouse gas (GHG) inventories, carbon management policy/policy development, and planning for carbon neutrality.

Climate change is already increasing the frequency and severity of extreme weather events, meaning that adapting to climate change is also a key priority. Even when greenhouse gas levels are reduced, the effects of climate change are expected to continue. Impacts of climate change can include:

- Extreme rainfall and storm surge events, overwhelming infrastructure and increasing flooding;
- Reduced winter cover on lakes, lower water levels and increased evaporation rate;
- Changing water temperatures;
- Reduction of water supply due to extended drought conditions;
- Higher temperatures with more frequent and longer dry spells; and,
- Changes in insect/pest and disease patterns.

Cornwall must prepare for these changes now, and over the long term, with an understanding that land use planning can contribute to adaptive and mitigative solutions to climate change.

There are many avenues through which the City can promote sustainability and one of these is land use planning.

### **13.2 Sustainable Development Goals**

The major goals of the Official Plan with respect to sustainability are to:

1. Balance environmental, social, cultural and economic factors when making land use decisions.
2. Reduce the greenhouse gas emissions of the Corporation of the City of Cornwall, and those of the city as a whole.
3. Prepare for the impacts of climate change so that Cornwall is resilient and adaptable to change over time.
4. Encourage new development to be designed and built according to sustainability and climate resilience measures or standards.



### **13.3 Sustainable Development Policies**

In order to achieve these sustainability goals, it will be the intention of the City to:

1. Take a leadership role in reduction of greenhouse gas emissions including through municipal demonstration projects and corporate procurement.
2. Promote and support measures taken by developers and citizens to reduce greenhouse gas emissions.
3. Design and plan infrastructure in accordance with the anticipated changes associated with climate change.
4. Encourage low impact development to maximize the amount of vegetation and porous surfaces within the settlement area reduce heat island effect and minimize the impacts of storm events.
5. Consider climate change when assessing the risks associated with natural hazards.
6. Encourage the use of sustainable design standards such as Leadership in Energy and Environmental Design for development, and incorporation of sustainable development forms, technologies and techniques. The City, at its sole discretion, may use incentives to encourage sustainable design.
7. Incorporate sustainability criteria into the subdivision design manual.
8. Promote an orderly and compact urban development pattern maintaining a convenient commuting distance to the Business Districts and other employment areas such as the Industrial Park.
9. Encourage medium and high density development on appropriate sites (e.g. by intensification on suitable vacant parcels).
10. Identify ways of increasing the overall density of new subdivisions while still maintaining a relative low density development character.
11. Intensify development within the Downtown and Le Village B.D.'s and encourage the creation of appropriate sub-centres in suburban locations.
12. Encourage greater use of the public transit system (See Chapter 12).
13. Investigate and encourage greater use of walkways and recreational trails/bike paths wherever appropriate and encourage such continued

connected green corridors in the form of walking, cycling routes and trails, for example.

14. Investigate ways in which the City's Zoning By-law, subdivision standards and other planning related legislation or requirements can be amended to encourage energy conservation. Consider granting of minor variances for energy conserving innovations.
15. As part of the Subdivision Design Manual, provide guidelines on development of passive solar oriented subdivisions including guidelines on lot, street, and house orientation and use of landscaping for climate control.
16. Investigate ways of increasing public information and understanding of energy conservation and use a citizen task force on energy conservation or similar approaches.
17. Examine ways of encouraging energy retrofitting of existing buildings.
18. Work closely with local groups and associations in improving building standards relative to energy conservation.
19. Participate in appropriate Government energy conservation programs which may be of use to Cornwall.
20. Undertake such studies and secondary plans that are necessary to implement the intent of this section and make necessary amendments to this Plan where appropriate.
21. Consider appropriate options for the utilization of alternative and renewable energy systems/techniques when reviewing development and redevelopment, proposals/projects while ensuring applicable approvals for such options are achievable and do not negatively impact on surrounding land use(s)".
22. Consider how the proposed development/redevelopment may be contributing to the mitigation of climate change by utilizing appropriate systems/techniques and adaptation considerations including but not limited to:
  - i. the reduction of greenhouse emissions
  - ii. the improvement of air quality
  - iii. the promotion of compact development form
  - iv. the orientation of development to increase exposure to sun
  - v. the amount of impervious landscape being proposed and its potential impact on stormwater runoff

- vi. the promotion of green infrastructure
  
- vii. the promotion of design and orientation which
  - maximizes energy efficiency and conservation, and considers the mitigating effects of vegetation;
  - maximizes opportunities for the use of renewable energy systems and alternative energy systems, as shown in the Ministry proposed wording.
  
- 23. Encourage the use of natural building materials with noteable energy rentention and thermal mass properties.
  
- 24. Develop a built environment encompassing sound construction principles and techniques meeting or exceeding the legislative code standards of the Province.

**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-17-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Climate Action

**Purpose**

To review the City of Brantford's and the City of London's Resolutions on Climate Action.

**Recommendation**

- a. That the Committee receive Report 2021-17-IMW
- b. That Administration review the said Resolutions and return to the next Committee Meeting with information on the feasibility of implementing such a plan of action.

**Background / Discussion**

On November 12, 2019, the City and Brampton declared a Climate Emergency and Imperative Climate Action. Attached to this report is a copy of that Resolution.

On February 4, 2020, the City of London approved Climate Actions. Attached to this report is a copy of that Resolution.

Carl Goodwin is being asked to review this Resolution and return to the next Committee Meeting with information on the feasibility of implementing such a plan of action.



Document Title:	Climate Action - 2021-17-Infrastructure and Municipal Works.docx
Attachments:	- City of Brantford's Declaration of Climate Emergency and Imperative Climate Action.pdf
Final Approval Date:	Mar 12, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 10, 2021 - 8:03 AM**

**Bill de Wit - Mar 12, 2021 - 11:07 AM**

# COMMITTEE OF THE WHOLE OPERATIONS AND ADMINISTRATION AGENDA

Tuesday, November 12, 2019

## **6.7 Resolution Declaring a Climate Emergency and Imperative Climate Action for the City of Brantford - Councillor Antoski**

WHEREAS in April 2016 world leaders from 175 countries recognized the threat of climate change and the urgent need to combat it by signing the Paris Agreement, agreeing to keep global warming to “well below 2°C above pre-industrial levels” and to “pursue efforts to limit the temperature increase to 1.5°C”; and

WHEREAS Canada has disproportionately contributed to the climate and ecological crises and thus bears an extraordinary responsibility to rapidly solve these crises; and

WHEREAS the United Nations Intergovernmental Panel on Climate Change and the scientific consensus confirm that the only way to limit global temperature increase to 1.5°C is to become net carbon neutral by 2050; and

WHEREAS an emergency mobilization on an unprecedented scale will be required to reach net-zero greenhouse gas emissions across all sectors by 2050; and

WHEREAS a national scientific analysis and independent assessment published in 2019 reported that Canada’s temperature is rising at twice the global rate and that the rise is due to global emissions of carbon dioxide from human activity. Further, the report confirmed that the effects of widespread climate warming are already evident in Canada and are projected to intensify in the near future, including more frequent and intense droughts, forest fires, rainfall, and other extremes of weather and climate; and

WHEREAS the transition to becoming net carbon neutral by 2050 involves so many economic, social, and environmental unknowns over the next 30 years that it is unrealistic and impossible to reasonably or reliably predict the financial cost or the resources that will be available to make the transition. At the same time, the magnitude and scale of the challenge compared to the time remaining demands that we not wait any longer for these figures before we begin to take action. The only immediate and realistic solution is to take action based on the costs we can reasonably forecast and the resources are available; and

WHEREAS the City of Brantford has experienced the social impacts and borne the financial costs of severe flooding events in 2017 and 2018 due to more intense storms and greater volatility in local climate patterns; and

# COMMITTEE OF THE WHOLE OPERATIONS AND ADMINISTRATION AGENDA

Tuesday, November 12, 2019

WHEREAS the City of Brantford joins with 466 other Canadian municipalities, the Government of Canada and more than 650 other governments around the world in recognizing climate change as a clear and present danger to our community and the existential imperative to begin the transition to an ecologically, socially and economically regenerative economy;

NOW THEREFORE BE IT RESOLVED:

- A. THAT the City of Brantford DECLARES that a climate emergency threatens our city, province, nation, civilization, humanity and the natural world; and
- B. THAT the City of Brantford further DECLARES its commitment, in principle, to becoming net carbon neutral by 2050; and
- C. THAT the City of Brantford COMMITS to maximum transparency with the residents, businesses, community organizations, and other partners in the climate action mobilization; and
- D. THAT the City of Brantford COMMITS to a citywide climate emergency mobilization effort to adapt to current climate change impacts and mitigate future climate change; and
- E. THAT the City of Brantford ADOPT a carbon reduction strategy target which would reasonably and effectively lead the city to becoming net carbon neutral by 2050; and
- F. THAT Staff BE DIRECTED to develop a carbon reduction strategy in collaboration with the Environmental and Sustainability Policy Advisory Committee, to be provided to Council by August 2020 that details the following:
  - i. A process to ensure that by August 1, 2021, every matter coming before City Council will quantify and report its impact relative to the climate emergency and Brantford's carbon reduction strategy; and
  - ii. A public reporting framework regarding the climate emergency that includes quarterly updates on the impact of municipal actions and decisions on Brantford's carbon reduction strategy; and
  - iii. A communications and engagement plan to educate Brantford residents about the climate emergency, the carbon reduction strategy, and the immediate need to mobilize at the local, provincial, national, and global levels; and
  - iv. Methodology and tools that will be used quantify and report the carbon impact of municipal actions and decisions; and
  - v. The resources required to quantify and report on the carbon impact of each municipal action and decision; and
  - vi. The resources required to implement the community-wide communications and engagement plan.



**The Corporation of the City of Cornwall  
Environment and Climate Change Committee  
Report**

Department: Infrastructure and Municipal Works  
Division: Environment  
Report Number: 2021-14-Infrastructure and Municipal Works  
Prepared By: Carl Goodwin, Division Manager  
Meeting Date: March 17, 2021  
Subject: Environment and Climate Change Committee's Next Steps

**Purpose**

To review the Environment and Climate Change Committee's next steps for implementation.

**Recommendation**

That the Committee receive Report 2021-14-IMW and set its next steps for implementation.

The Environment and Climate Change Committee's mandate is to provide a local perspective on climate change initiatives with respect to greenhouse gas emissions targets as well as provide a framework to work towards climate change goals, strategic direction, and priority actions, namely:

- Reduce our contributions to climate change while increasing our ability to adapt to climate change conditions
- Reduce and offset greenhouse gas emissions produced within our community
- Establish a baseline of greenhouse gas emissions with a corresponding plan for achieving a set target in emission reductions

Specifically, the Environment and Climate Change Committee will work towards the following objectives, based on the four areas of focus:

- Identify and advise on ways to build local climate action awareness, and promote environmental stewardship within the City of Cornwall
- Identify and address local sources of greenhouse gas emissions by developing local greenhouse gas inventories, setting greenhouse targets, developing and carrying out local climate change action plans
- Prepare and implement a Climate Change Adaptation Plan
- Review, research, and provide feedback on community-related climate action items as directed by Council, including strategic planning, by-laws and policy development

Document Title:	Environment and Climate Change Committee's Next Steps - 2021-14-Infrastructure and Municipal Works.docx
Attachments:	
Final Approval Date:	Mar 12, 2021

This report and all of its attachments were approved and signed as outlined below:

**Carl Goodwin - Mar 5, 2021 - 1:05 PM**

**Bill de Wit - Mar 12, 2021 - 10:57 AM**