City of Hamilton

PUBLIC WORKS COMMITTEE REVISED

Meeting #: 19-008
Date: June 3, 2019
Time: 9:30 a.m.
Location: Council Chambers, Hamilton City Hall
71 Main Street West

Alicia Davenport, Legislative Coordinator (905) 546-2424 ext. 2729

Pages

1. CEREMONIAL ACTIVITIES

2. APPROVAL OF AGENDA

(Added Items, if applicable, will be noted with *)

3. DECLARATIONS OF INTEREST

4. APPROVAL OF MINUTES OF PREVIOUS MEETING

4.1 May 13, 2019 — 5

5. COMMUNICATIONS

5.1 Correspondence from Julie Twyford respecting Truck Traffic on Residential Streets in Westdale, Hamilton — 15

Recommendation: Be received and referred to the Truck Route Sub-Committee.

6. DELEGATION REQUESTS

6.1 Benjamin Torres Kulik, McMaster Engineering Society, respecting Waiving the HSR Bus Rental fee for the McMaster University Engineering Students' Welcome Week Bus Pull (for a future meeting) — 16

6.2 Robert Wilkins, Ancaster Society for the Performing Arts, respecting the New Ancaster Memorial Arts Centre (for a future meeting) — 17

12. NOTICES OF MOTION

13. GENERAL INFORMATION / OTHER BUSINESS

13.1 Amendments to the Outstanding Business List

13.1.a Items Requiring a New Due Date:

13.1.a.a Full Review of Aberdeen Ave. from Queen to Longwood

Item on OBL: B
Current Due Date: May 13, 2019
Proposed New Due Date: June 17, 2019

13.1.a.b PRESTO Operating Agreement

Item on OBL: N
Current Due Date: April 29, 2019
Proposed New Due Date: September 30, 2019

13.1.a.c Hamilton-Halton Homebuilders' Association (HHHBA) Delegation on Water Main Approval Issues and Recommendations for Master-water/wastewater Servicing Studies

Item on OBL: T
Current Due Date: May 13, 2019
Proposed New Due Date: July 10, 2019

13.1.a.d Annual Report on Watermain Breaks

Item on OBL: AI
Current Due Date: May 13, 2019
Proposed New Due Date: June 17, 2019

13.1.a.e Proposals for Waste Management

Item on OBL: AR
Current Due Date: July 10, 2019
Proposed New Due Date: June 3, 2019

14. PRIVATE AND CONFIDENTIAL

15. ADJOURNMENT

4.1

PUBLIC WORKS COMMITTEE
MINUTES 19-007

9:30 a.m.
Monday, May 13, 2019
Council Chambers
Hamilton City Hall
71 Main Street West

Present: Councillors L. Ferguson (Chair), J.P. Danko (Vice-Chair), C. Collins, J. Farr, T. Jackson, S. Merulla, N. Nann, E. Pauls, M. Pearson, A. VanderBeek, and T. Whitehead

Also Present: Councillor M. Wilson

THE FOLLOWING ITEMS WERE REFERRED TO COUNCIL FOR CONSIDERATION:

1. Intersection Control List (PW19001(b)) (Wards 3, 5, and 13) (Item 7.2)

(VanderBeek/Pearson)
That the appropriate By-law be presented to Council to provide traffic control as follows:

	Intersection		Stop Control Direction		Class	Comments / Petition	Ward
	Street 1	Street 2	Existing	Requested			
Section "B" Dundas							
(a)	Patterson Road	Lillian Avenue	NB	All	A	Converting to all way stop – Councillor approved	13
Section "E" Hamilton							
(b)	Lottridge Avenue	Beechwood Avenue	EB/WB	All	A	Converting to all way stop – Councillor approved	3
(c)	Owen Place	Cromwell Crescent	EB	All	A	Converting to all way stop – Councillor approved	5

Legend
No Control Existing (New Subdivision) - **NC**
Intersection Class: **A** - Local/Local **B** - Local/Collector **C** - Collector/Collector

Result: Motion CARRIED by a vote of 9 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
NOT PRESENT - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

2. Cannabis Packaging Recycling and Waste Control (PW19037) (City Wide) (Outstanding Business List Item) (Item 7.3)

(Pearson/VanderBeek)
That Report PW19037, respecting Cannabis Packaging Recycling and Waste Control, be received.

CARRIED

3. Scheduling and Safety Concerns with DARTS (PW19038) (City Wide) (Outstanding Business List Item) (Item 7.4)

(Whitehead/Nann)
That Report PW19038, respecting Scheduling and Safety Concerns with DARTS, be received.

CARRIED

FOR INFORMATION:

(a) CHANGES TO THE AGENDA (Item 2)

The Committee Clerk advised of the following changes to the agenda:

1. DELEGATION REQUESTS (Item 6)

6.1. Jonathan Jones, respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038) (for today's meeting)

The delegate requested to be moved up on the agenda to be considered immediately following Item 7.4.

6.2. Joe Hruska, Canadian Plastics Industry Association and Resident, respecting Single Use Resolution and Bag Bans (for today's meeting)

(Pearson/VanderBeek)
That the agenda for the May 13, 2019 Public Works Committee meeting be approved, as amended.

Result: Motion CARRIED by a vote of 9 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
NOT PRESENT - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(b) DECLARATIONS OF INTEREST (Item 3)

There were no declarations of interest.

(c) APPROVAL OF MINUTES OF THE PREVIOUS MEETING (Item 4)

(i) April 29, 2019 (Item 4.1)

(Nann/Farr)
That the Minutes of the April 29, 2019 meeting of the Public Works Committee be approved, as presented.

Result: Motion CARRIED by a vote of 9 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson

NOT PRESENT - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(d) DELEGATION REQUESTS (Item 6)

(i) Jonathan Jones, respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038) (for today's meeting) (Added Item 6.1)

(Pauls/Jackson)
That the delegation request, submitted by Jonathan Jones, respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038), be approved for today's meeting.

Result: Motion CARRIED by a vote of 9 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
NOT PRESENT - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(ii) Joe Hruska, Canadian Plastics Industry Association and Resident, respecting Single Use Resolution and Bag Bans (for today's meeting) (Added Item 6.2)

(Pearson/VanderBeek)
That the delegation request, submitted by Joe Hruska, Canadian Plastics Industry Association and Resident, respecting Single Use Resolution and Bag Bans, be approved for today's meeting.

Result: Motion CARRIED by a vote of 9 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko

YES - Chair Lloyd Ferguson
NOT PRESENT - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(e) CONSENT ITEMS (Item 7)

(i) Keep Hamilton Clean & Green Committee Minutes - February 19, 2019 (Item 7.1)

(VanderBeek/Pauls)
That the Minutes of the February 19, 2019 meeting of the Keep Hamilton Clean & Green Committee be received.

CARRIED

(ii) Scheduling and Safety Concerns with DARTS (PW19038) (City Wide) (Outstanding Business List Item) (Item 7.4)

(Jackson/Pauls)
That consideration of Item 7.4, respecting Scheduling and Safety Concerns with DARTS (PW19038), be deferred until after the delegation from Jonathan Jones.

Result: Motion CARRIED by a vote of 10 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
YES - Councillor Esther Pauls
NOT PRESENT - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
YES - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(f) PUBLIC HEARINGS/DELEGATIONS (Item 8)

(i) Jonathan Jones, respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038) (Added Item 8.2)

Jonathan Jones, addressed the Committee respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038), with the aid photos and handouts.

(Whitehead/Pearson)
That the delegation from Jonathan Jones, respecting Item 7.4 - Scheduling and Safety Concerns with DARTS (PW19038), be received.

CARRIED

A copy of the photos and handouts are available on the City's website at www.hamilton.ca or through the Office of the City Clerk.

(ii) Catherine Mulcaster, respecting Banning Plastic Shopping Bags in Hamilton (Approved by the Public Works Committee on April 29, 2019) (Item 8.1)

Catherine Mulcaster, addressed the Committee respecting Banning Plastic Shopping Bags in Hamilton, with the aid of a presentation and handout.

(Danko/Pauls)
That the delegation from Catherine Mulcaster, respecting Banning Plastic Shopping Bags in Hamilton, be received.

CARRIED

A copy of the presentation and handout are available on the City's website at www.hamilton.ca or through the Office of the City Clerk.

(iii) Joe Hruska, Canadian Plastics Industry Association and Resident, respecting Single Use Resolution and Bag Bans (Added Item 8.3)

Joe Hruska, Canadian Plastics Industry Association and Resident, addressed the Committee respecting Single Use Resolution and Bag Bans, with the aid of a presentation.

(Pauls/Jackson)
That the delegation from Joe Hruska, Canadian Plastics Industry Association and Resident, respecting Single Use Resolution and Bag Bans, be received.

CARRIED

A copy of the presentation is available on the City's website at www.hamilton.ca or through the Office of the City Clerk.

(g) MOTIONS (Item 11)

(i) Moving Hamilton Towards a Zero Plastic Waste Plan (City Wide) (Item 11.1)

(Nann/Danko)
WHEREAS, pollution from plastics are a growing and direct threat to ecosystems, food chains and human health;

WHEREAS, the City of Hamilton's ability to accept specific plastics and other recyclables was significantly impacted by global markets, forcing formerly recyclable items like black plastics and polystyrene foam into landfill and the environment;

WHEREAS, in 2018, Hamilton only diverted 34% of all waste from landfill;

WHEREAS, many single-use plastics, such as straws, utensils and stir sticks were never recyclable in Hamilton's program;

WHEREAS, municipalities can play a significant leadership role in addressing the tremendous damage done by plastic pollution by exploring new and alternative approaches to support institutional, organizational, corporate and business excellence in achieving zero plastic waste in landfills and the environment;

WHEREAS, Vancouver, Victoria, Halifax and Montreal have successfully introduced or approved measures to reduce and/or eliminate polystyrene foam and/r single-use plastics going into landfill and the environment, and both Edmonton and Toronto are reviewing what other municipalities are doing to reduce single-use plastics and how to best curb their use; and,

WHEREAS, the Province of Ontario is weighing options for regulations that would lead to full producer responsibility of single-use plastics as part of a broader strategy to send less waste to landfills;

THEREFORE, BE IT RESOLVED:

That staff report back to the Public Works Committee with information on the feasibility of the City of Hamilton creating a Zero Plastic Waste Plan that includes:

(a) Quantify single-use plastics, polystyrene foam and other products that never were or are no longer accepted by our municipal recycling program and identify items that have readily available re-useable or compostable alternatives;
(b) Investigate options for the City of Hamilton to develop a strategy to enable businesses, City facilities and City permitted events to move towards zero plastic waste when alternatives are available;

(c) Review regulatory options for the City of Hamilton to limit or eliminate the acceptance of polystyrene foam and single-use plastics to City landfills, including public education, consultation with business, supplementation of provincial regulations and other methods of increasing landfill diversion rates; and,

(d) Report back with any costs or savings that may be incurred or realized by implementing a City-led Zero Plastic Waste plan.

Result: Motion CARRIED by a vote of 10 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
NOT PRESENT - Councillor Esther Pauls
YES - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
YES - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(h) NOTICES OF MOTION (Item 12)

(i) Resurfacing of Galbraith Drive and Second Street North, Hamilton (Ward 5) (Added Item 12.1)

Councillor C. Collins introduced the following Notice of Motion:

(a) That Public Works staff be directed to schedule the resurfacing of Galbraith Drive, Hamilton in the amount of $245,000 and Second Street North, Hamilton, in the amount of $330,000; and,

(b) That the Councillor Priority Minor Maintenance – Ward 5 project no. 4031611605 be utilized as the funding source.

(i) GENERAL INFORMATION / OTHER BUSINESS (Item 13)

(i) Amendments to the Outstanding Business List (Item 13.1)

(Pearson/Whitehead)
That the following amendments to the Public Works Committee's Outstanding Business List, be approved:

(a) Items considered complete and needing to be removed:

(i) Cannabis Packaging Recycling and Waste Control
Addressed as Item 7.3 on today's agenda - Report PW19037
Item on OBL: AG

(ii) Safety and Scheduling Concerns with DARTS
Addressed as Item 7.4 on today's agenda - Report PW19038
Item on OBL: P

Result: Motion CARRIED by a vote of 10 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
NOT PRESENT - Councillor Esther Pauls
YES - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
YES - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(j) PRIVATE AND CONFIDENTIAL (Item 14)

(i) Closed Session Minutes – April 29, 2019 (Item 14.1)

(Whitehead/Merulla)
That the Closed Session Minutes of the April 29, 2019 Public Works Committee meeting be approved, as presented, and remain confidential.

Result: Motion CARRIED by a vote of 10 to 0, as follows:

YES - Councillor Jason Farr
YES - Councillor Nrinder Nann
YES - Councillor Sam Merulla
YES - Councillor Chad Collins
YES - Councillor Tom Jackson
NOT PRESENT - Councillor Esther Pauls
YES - Councillor John-Paul Danko
YES - Chair Lloyd Ferguson
YES - Councillor Terry Whitehead
YES - Councillor Arlene VanderBeek
YES - Councillor Maria Pearson

(k) ADJOURNMENT (Item 15)

(Jackson/Collins)
That there being no further business, the Public Works Committee be adjourned at 11:19 a.m.

CARRIED

Respectfully submitted,

Councillor L. Ferguson
Chair, Public Works Committee

Alicia Davenport
Legislative Coordinator
Office of the City Clerk

From: J Twyford [redacted]
Sent: May 8, 2019 9:49 AM
To: clerk@hamilton.ca
Cc: Ward 1 Office <ward1@hamilton.ca>; AWWCA Board <board@awwca.ca>
Subject: Truck Traffic

Rose Caterini, City Clerk

Good morning, Ms. Caterina,

I would like to request that this letter be directed to the attention of the Truck Route sub-committee.

There has been a significant increase in the volume of truck traffic traveling through Westdale down small residential streets. Two specific areas of concern are Newton Avenue and the west end of Barclay Street.

Newton Avenue now has tractor-trailers traveling through from Sterling to Main Street to make a left-hand turn onto Main in order to catch the 403 on-ramp; this is becoming a regular route.

Barclay has also seeing truck traffic traveling between Newton and Cline as part of a short-cut between Main Street and King Street (to McMaster at the end of King Street West. The trucks on Newton and Barclay include waste management vehicles (the same as the city recycling trucks though not labeled as city trucks) and tractor-trailers (eg. oil trucks, commercial delivery vehicles, and articulated construction trucks). This traffic pattern has developed within the last five years.

Sincerely,
Julie Twyford

6.1

Form: Request to Speak to Committee of Council
Submitted on Tuesday, May 14, 2019 - 6:56 pm

==Committee Requested==
Committee: Public Works

==Requestor Information==
Name of Individual: Benjamin Torres Kulik

Name of Organization: McMaster Engineering Society

Contact Number: [redacted]

Email Address: mes.buspull@gmail.com

Mailing Address:
1280 Main Street West
John Hodgins Engineering Rm 261

Reason(s) for delegation request: To speak to the public works committee and request waiving of fees to use an HSR bus for the annual McMaster Engineering Welcome Week Bus Pull that will occur August 30th, 2019 and has SEAT approval already.

Will you be requesting funds from the City? No

Will you be submitting a formal presentation? Yes

6.2

Form: Request to Speak to Committee of Council
Submitted on Wednesday, May 15, 2019 - 10:20 am:

==Committee Requested==
Committee: Public Works

==Requestor Information==
Name of Individual: Robert Wilkins

Name of Organization: Ancaster Society for the Performing Arts

Contact Number: [redacted]

Email Address: [redacted]

Mailing Address: [redacted]

Reason(s) for delegation request: speak on the new Ancaster Memorial Arts Centre -- I understand that this matter will be on the agenda for June 17th 2019

Will you be requesting funds from the City? Yes

Will you be submitting a formal presentation? No

Form: Request to Speak to Committee of Council
Submitted on Wednesday, May 21, 2019 - 11:45 am

==Committee Requested==
Committee: Public Works

==Requestor Information==
Name of Individual: Anthony LeBlanc

Name of Organization:

Contact Number: [redacted]

Email Address:

Mailing Address: [redacted]

Reason(s) for delegation request: To deepen the Bay area so that the water level lowers and does less damage to the shore line during storms. The sill could be recycled as fertilizer or burned as fuel for generating electricity or other heat uses:

Will you be requesting funds from the City? No

Will you be submitting a formal presentation? Yes

Form: Request to Speak to Committee of Council
Submitted on Wednesday, May 21, 2019 - 11:45 am

==Committee Requested==
Committee: Public Works

==Requestor Information==
Name of Individual: Anthony LeBlanc

Name of Organization:

Contact Number: [redacted]

Email Address:

Mailing Address: [redacted]

Reason(s) for delegation request: To present an idea on treating non-recyclable plastics through reverse construction of materials and reclaiming usable waste

Will you be requesting funds from the City? No

Will you be submitting a formal presentation? Yes

Hamilton

MINUTES

Keep Hamilton Clean & Green Committee
Tuesday April 16, 2019
5:00 pm
Hamilton City Hall, Room 192
71 Main Street East
Hamilton, ON

Present:	Chair:	Lennox Toppin
	Vice-Chair:	Felicia Van Dyk
	Members:	Allan Mills
		Brenda Duke
		Danielle Hudson
		Heather Donison
		Rick Lipsitt
		Sue Dunlop

Absent with Regrets: Councillor Nann

Absent without Regrets: Marisa Di Censo

Also Present: Alex Moroz, Community Liaison Coordinator, Business Programs, Public Works
Diedre Rozema, Clean & Green Coordinator, Business Programs, Public Works
Jen Baker, Hamilton Naturalists Club
Bruce Thomson, former Committee member
Ron Speranzini, former Committee member

Minutes: Diedre Rozema

A. APPOINTMENT OF CHAIR AND VICE-CHAIR

(Mills / Lipsitt)

a) That Lennox Toppin be appointed as Chair of the Keep Hamilton Clean and Green Committee for 2019; and,

b) That Felicia Van Dyk be appointed as Vice-Chair of the Keep Hamilton Clean and Green Committee for 2019.

CARRIED

1. WELCOME AND INTRODUCTIONS

2. APPROVAL OF AGENDA

(Donison / Van Dyk)
That the agenda for the April 16, 2019 KHCG Committee meeting be approved.

CARRIED

3. DECLARATIONS OF INTEREST

Brenda Duke declared an interest in Item 7.2
Sue Dunlop declared an interest in Item 7.2

4. CONSENT ITEMS

N/A

5. PRESENTATIONS

5.1 Overview of City of Hamilton Advisory Committees

Diedre Rozema, staff liaison, provided Committee members with an overview of the Committee structure, procedural guidelines and the KHCG Committee's focus areas.

(Hudson / Van Dyk)

That the staff presentation Overview of City of Hamilton Advisory Committees, be received.

CARRIED

6. MINUTES OF PREVIOUS MEETING

6.1. Minutes of February 19, 2019

(Mills / Lipsitt)

That the Keep Hamilton Clean & Green Advisory Committee Meeting Minutes, dated February 19, 2019 be approved as presented.

CARRIED

6.2. Business arising from minutes and notes:

Jim Charlier is confirmed to speak to the KHCG Committee for 1 hour at the meeting scheduled for Tuesday, June 18, 2019

The Team Up to Clean Up launch event at a school will not be taking place this year. Instead, an animated video is being developed to support the cigarette litter prevention program.

7. DISCUSSION ITEMS

7.1. Appointment of Chair and Vice Chair

See item A. above.

7.2 Clean & Green Neighbourhood Grant requests

The Committee reviewed and discussed the adjudication's funding recommendations for 2019 grant applicants.

(Mills / Van Dyk)

That the Keep Hamilton Clean and Green Committee approves Clean & Green Neighbourhood funding for Beautiful Alleys for the alleyway cleanup and beautification initiative at a value of $500 as recommended by the Grants sub-committee.

CARRIED

(Lipsitt / Mills)

That the Keep Hamilton Clean and Green Committee approves Clean & Green Neighbourhood funding for Brandon Agnew for the alleyway cleanup and beautification initiative at a value of $500 as recommended by the Grants sub-committee.

CARRIED

(Donison / Lipsitt)

That the Keep Hamilton Clean and Green Committee approves Clean & Green Neighbourhood funding for Pauline Johnson School for the school's indigenous garden at a value of $500 as recommended by the Grants sub-committee.

CARRIED

(Lipsitt / Donison)

That the Keep Hamilton Clean and Green Committee approves Clean & Green Neighbourhood funding for Hill Park Learning for the centre's pollinator garden at a value of $500 as recommended by the Grants sub-committee.

CARRIED

(Donison / Lipsitt)

That the Keep Hamilton Clean and Green Committee does not approve Clean & Green Neighbourhood funding for Gatestone Elementary School as recommended by the Grants sub-committee. Feedback will be provided to this applicant to improve future applications.

CARRIED

(Mills / Van Dyk)

That the Keep Hamilton Clean and Green Committee does not approve Clean & Green Neighbourhood funding for the Escarpment Project as recommended by the Grants sub-committee.

CARRIED

(Mills / Van Dyk)

That the Keep Hamilton Clean and Green Committee does not approve Clean & Green Neighbourhood funding for Project Green as recommended by the Grants sub-committee. Feedback will be provided to this applicant to improve future applications.

CARRIED

7.2. Project Opportunities

7.2.1. Hamilton Public Library – Barton Branch

HPL staff have approached the Committee to determine if there is any interest in a collaborative project to rebuild and replant the garden beds in front of the HPL Barton Branch location.

Committee discussed the proposed project opportunity but will wait for more information before determining a course of action regarding this opportunity.

7.2.2. Red Hill / LINC cleanup day

Staff shared information about an idea to host a maintenance day along the Lincoln Alexander and Re Hill Valley Parkways in the fall. There is potential for the Committee to host a community cleanup event as part of the maintenance day.

Committee discussed the proposed project opportunity but will wait for more information before determining a course of action regarding this opportunity.

8. MOTIONS

None.

9. NOTICE OF MOTIONS

None.

10. GENERAL INFORMATION / OTHER BUSINESS

10.1. Upcoming events and activities

Committee discussed upcoming events and activities. Committee members were encouraged to participate in community events that are relevant to the Committee's work.

Committee discussed the date of the Committee's next meeting, which will be a facilitated workplanning session. Staff will work with the facilitation team to determine the format and date(s) of the session.

11. ADJOURNMENT

(Lipsitt / Mills)
That, there being no further business, the meeting be adjourned at 7:00 p.m.

CARRIED

Next Meeting: May 21, 2019

Hamilton

INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	2018 Annual Energy Report (PW19043) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Tom Chessman (905) 546-2424 Ext. 2494 Linda Campbell (905) 546-2424 Ext. 2810 Tracy Zmudczynski (905) 546-2424 Ext. 5356
SUBMITTED BY: **SIGNATURE:**	Rom D'Angelo, C.E.T.; CFM Director, Energy, Fleet and Facilities Management Public Works Department

COUNCIL DIRECTION

As part of the City's Corporate Energy Policy (PW14050) staff are directed to provide an annual energy report highlighting the progress and results of various City energy initiatives.

INFORMATION

The City of Hamilton's 2018 Annual Energy Report is attached to Report PW19043 as Appendix "A". The report provides a summary of energy usage, performance comparisons and cost savings initiatives for the calendar year 2018. Energy intensity (energy usage per square foot) is the key performance indicator for corporate buildings, and that was down 25% from the base year of 2005.

The report includes updated results for the City's overall utility costs and energy conservation project updates.

Additionally, as per the Corporate Air Quality & Climate Change Strategic Plan (PED06336(a)), wherein Council recommended reporting on Greenhouse Gas Emission inventories on an annual basis, the data for 2017 calendar year are presented within the 2018 Annual Energy Report.

The City of Hamilton's commitment to energy conservation and environmental sustainability plays an important role in supporting the City's Strategic Plan by contributing to a prosperous and healthy community; providing valued and sustainable services; and demonstrating innovation and leadership. Ongoing success of the energy program requires engagement of all Five Values of Our Culture - Collective Ownership; Steadfast Integrity; Sensational Service; Engaged, Empowered Employees; and Courageous Change.

The City's annual energy report will be posted on the City's website once the report has been received by Council at www.hamilton.ca/energy.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" - 2018 Annual Energy Report

ANNUAL ENERGY REPORT 2018

CITY OF HAMILTON

Hamilton

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Introduction

The City continues to demonstrate its commitment in managing its corporate energy portfolio. The Strategic Plan for 2016-2025 outlined several strategic priorities to support and align with the Hamilton's overall mission ***to provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community in a sustainable manner***.

Measuring and reporting on the annual results is key in recognizing how far we've come and how far we still must go to meet our corporate targets and reach our overall strategic goals.

Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

The Clean and Green strategic priority, as part of the overall strategic plan shows commitment to growth in this area for the City of Hamilton. As well, the recent declaration on addressing climate change as a health and wellness emergency pushes Clean and Green priority actions to the forefront. Corporately, this reinforces the support for conservation projects, demand management efforts, and renewable generation development to reduce energy usage, reduce emissions and contribute to the wellbeing of the citizens of Hamilton.

The Annual Energy Report for 2018 is intended as a detailed review of the past 12 months of activities as they relate to energy usage, costs, energy performance, procurement efforts and conservation initiatives for corporate assets. The greenhouse gas emissions reductions and inventory report for the 2017 calendar year is also included.

As we move forward, the reported results help to assess the performance of the measures we've put in place and focus efforts to meet our long-term targets. The Corporate Energy Policy is one way in which we facilitate energy initiatives and guide decision-making for our corporate sites.

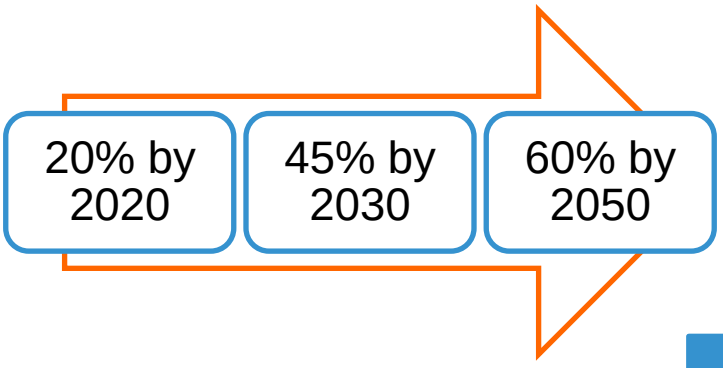
Corporate Energy Policy (CEP)

The current energy policy (PW14050) was approved by council in 2014. The policy is designed to act as a guideline for making energy-related decisions as it pertains to corporate assets. Policy actions are outlined to support making building and process improvements that lead to energy usage reductions and emissions reductions to benefit the City both environmentally and financially. The CEP also solidifies targets related to energy intensity reduction, greenhouse gas (GHG) emissions reductions, and corporate average fuel economy (CAFE).

The policy aims to:

- Facilitate the achievement of City-wide energy and emission reduction targets;
- Address the legislated reporting requirements;
- Define policies for capital investment related to energy;
- Define policies related to energy procurement and exploring renewable energy opportunities; and
- Address regulations concerning GHG emissions.

Figure 1: Corporate Energy Intensity Targets



One of the key performance measures for the City is the energy intensity reduction targets established within the CEP. Energy intensity is the measurement of energy used per square foot of facility space. The energy intensity results for 2018 were a reduction of 25% compared to the base year of 2005. Details on energy intensity are under the Energy Performance section on page 11 of this report.

Energy intensity reduction of 25%

The current targets for meeting the environmental emission reduction were adopted by council and was integrated into the current Corporate Energy Policy. The targets are:

Figure 2: Corporate Emission Reduction Targets

Year	Emission Reduction & Offset Target
2020	20%
2030	50%
2050	80%

The inventory of results of efforts related to GHG emission reductions is shown under the Greenhouse Gas Emissions 2017 Report, on page 19 of this report.

What's next?

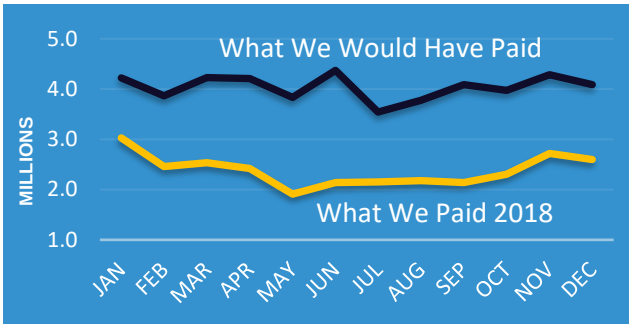
The Corporate Energy Policy is currently undergoing a 5-year review. The intent of the review is to look at the current policies and adjust as required to better align with changes in the regulatory environment and to continue to support energy-related initiatives and improvements that will lead to further reductions in energy consumption and emissions. Engaging all corporate stakeholders during this review process will allow input from staff on what actions can be taken to improve processes, building operations and services as it pertains to energy and environment. With effective policies and plans in place, meeting the upcoming targets for energy intensity and for emissions reduction become easier to obtain. Continuous improvement is key for continued success.

Energy Strategies and Program KPIs

The City has made a commitment to measure and track performance of its varying programs and initiatives across the City. As part of a broader initiative to increase communication and performance goals to its citizens, several key performance indicators have been established to evaluate the City's efforts in energy reduction and GHG reduction.

Every year the City takes steps to reduce or mitigate rising costs, but simply measuring changes in cost is not a true reflection of the impacts of the variety of energy strategies and programs that are carried out year over year. Energy conservation projects that reduce usage, incentive programs, recovering dollars from bill review or optimizing utility rates are all contributing factors that can save or mitigate costs for the City.

Energy Strategies & Programs resulted in $9.9M savings and avoided costs for 2018.



The total results from implementing energy strategies and programs undertaken in 2018 were $9.99 million. The cumulative results from Energy Strategies and Programs for the past 12 years was $78 million.

The program categories are outlined below:

Utility Rates and Commodity Strategies

This category reports the results of the electricity and natural gas costs that would have been incurred by the City had no action been initiated to reduce costs. Actions include procurement, hedging strategies and optimizing utility rates including switching rate class to increase benefits from Global Adjustment (GA) savings opportunities. The 2018 results of natural gas commodity and hedging strategies were $529,700. The 2018 results for GA rates optimization amounted to $6.4 million, for a total of $6.9 million for this category.

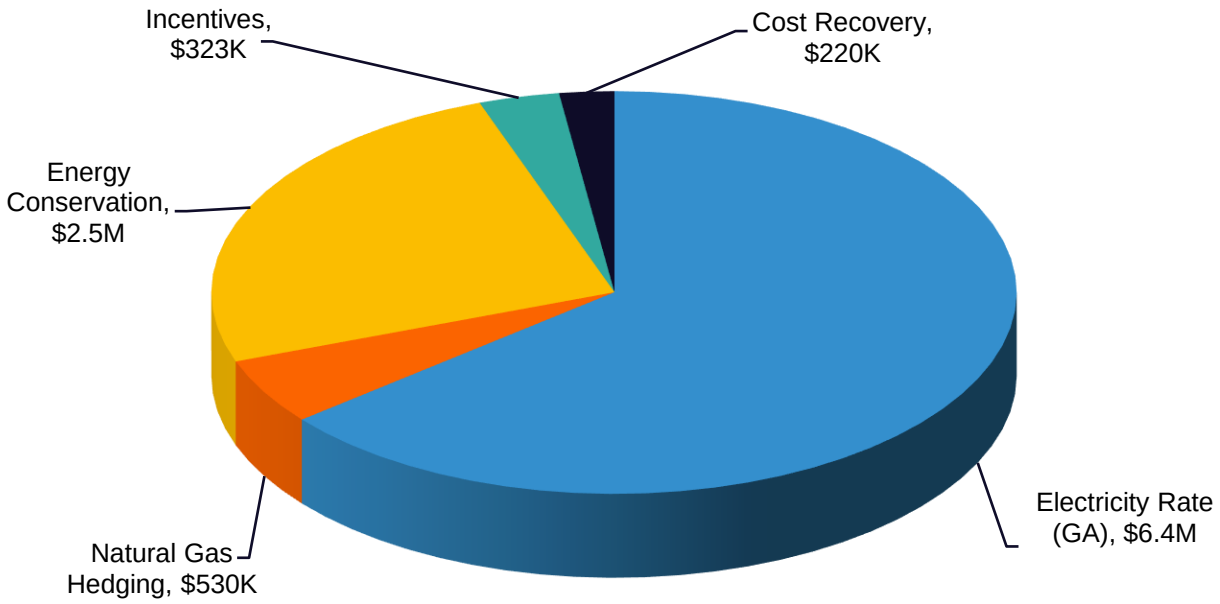
Cost Recovery

This category reports on the results of costs recovered due to the City's continuous efforts to review its utility accounts to correct any billing errors as well as recover credits from tax recovery programs (e.g. Fleet fuel tax credit program). Cost recovery from billing or rate corrections in 2018 were $220,000.

Energy Conservation and Incentive Programs

This category reports the results of the savings achieved from implementing energy efficiency measures, equipment and processes within the City's building assets that lead to reductions in energy consumption as well as financial incentives received for completing those projects. Incentives in this context refers to those from utility providers, the Independent Electricity System Operator (IESO) or provincial or federal funding options that are provided to eligible energy efficiency projects. In 2018, accumulated energy projects amounted to $2.5 million in energy efficiency and the incentives received were $323,300, with the total results in this category of $2.8 million in 2018.

Figure 3: 2018 Total Breakdown of Energy Programs and Strategies



Overall Energy Costs

The City tracks costs and consumption to evaluate performance, but also to help budget for upcoming years. Costs for electricity, natural gas and fuels are compiled and

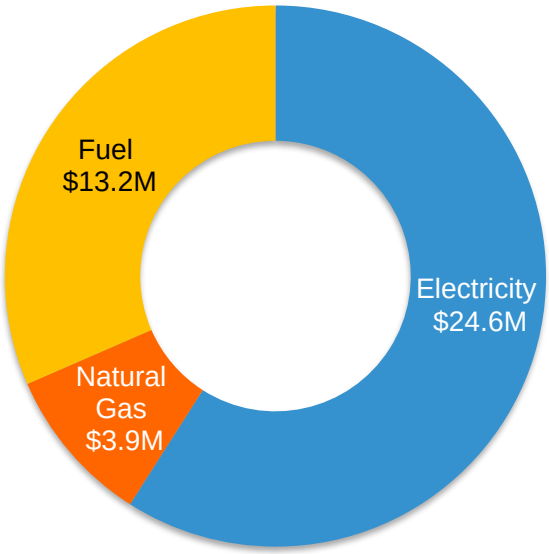
measured against the previous year and compared to the baseline year of 2005. For this report, costs for sites connected to the district energy loop (and supplied by HCE Energy Inc.) are included in electricity and natural gas costs.

Utility costs are a significant operating budget item for corporate buildings. Taking steps to mitigate rising costs through energy efficiency upgrades that reduce consumption can positively impact the overall cost. However, costs themselves are impacted by more than just usage. Utility rates, regulatory changes and legislation, inflation, global markets and weather can all influence costs. Costs for utilities are typically made up of both regulated charges and commodity or market-based charges.

In Ontario, the political environment over the past two years has led to both increases and decreases in regulatory charges for both electricity and natural gas. Natural gas in particular saw the introduction of Cap &Trade charges in 2017, and the subsequent removal of those charges in October 2018. While the City can do little to control regulatory-driven changes to its utility charges, focusing on conservation efforts is critical to reduce usage and reduce the impact those charges have on overall costs.

In 2018, the City spent $41.7 million on electricity, natural gas and vehicle fuels. Overall, this represents less than a 1% decrease from 2017.

Figure 4: 2018 Energy Costs in millions ($M)



Costs incurred by City-owned buildings/sites and exclude City Housing Hamilton. Utilities include Alectra Utilities, Hydro One Utilities and Union Gas (now Enbridge Gas Inc.). Sites linked to the district energy system with utility costs provided from HCE are included in electricity and natural gas respectively. Fuels include diesel, unleaded gasoline and CNG for all Transit and Fleet operations but does not include Hamilton Police Services or Darts. Sites with partial data may be excluded.

The results are:

- Overall electricity costs were $24.6 million in 2018, 6.5% lower than 2017.
- Overall natural gas costs were $3.9 million in 2018, a 0.2% increase over 2017.
- Overall fuels costs were $13.2 million in 2018, a 14.5% increase over 2017.

The selection of buildings/sites included in the report may vary year over year. In any given year, buildings may be added, either built or purchased, or removed, due to property sales or demolition which could impact their inclusion in the reporting. Major renovations may also decommission a site for a time, and it may be excluded as a full year data set may not be available. As such, square footage numbers are also adjusted.

Energy Performance KPIs

Tracking and reviewing costs is important, particularly for setting accurate budgets. However, costs alone cannot determine what might be happening within a building or across the City. Changes to consumption may be an indicator that costs *should* reduce or increase, but cost and consumption are influenced by several other factors that need to be considered.

Regulatory changes have impacted prices greatly over the past few years. Increases to electricity rates for many years outpaced reductions in consumption. However, in the past 2 years, hydro rates have been reduced through a variety of regulated price relief structures. Provincial Cap & Trade legislation, from 2017 and into 2018 automatically increased cost to end-use users of natural gas and fuels. That legislation was repealed in October 2018. However, the Federal carbon tax program, designed to tax emissions from fossil fuels has been mandated for all provinces without a provincial carbon reduction (tax) plan. It is expected to begin in 2019. It is meant to help lower GHG emissions but will also increase the costs to heating and vehicle fuels for Ontario consumers.

Weather has one of the greatest impacts to consumption and costs year over year. With the increase in more extreme weather patterns emerging, hotter summers and colder winters lead to increased consumption for buildings and vehicles, with potentially higher prices, higher emissions and increased strain on energy grids.

Process and equipment improvements, changes in occupancy and programing at the buildings can further impact consumption patterns.

In the section below, we review the energy performance KPIs. Of particular importance is the energy intensity results, which is a KPI outlined specifically in the Corporate Energy Policy. Results in this section allow us to identify and focus on areas of concern and identify opportunities for improvement which support the City's Strategic Plan.

Electricity Consumption and Cost

Electricity is the largest energy expenditure for the City. Hamilton is served by two local distribution companies (Alectra Utilities and Hydro One). Electricity costs are made up of electrical commodity, distribution, transmission, regulatory and delivery charges. Both Alectra Utilities and Hydro One are regulated by the Ontario Energy Board (OEB) and must get approval for any rate changes.

Factors such as implementing efficiency projects, regulatory changes, weather, process improvements, and occupancy changes can all impact cost and consumption.

In 2018 the overall electricity consumption showed a slight increase over 2017 of less than 1%. Although the continued array of energy efficiency projects and peak day reduction activities have helped to mitigate increases to consumption, summer temperatures in 2018 heavily impacted electrical consumption for many sites. The cooling degree days, which are a measure of how much (in degrees) and for how long (in days) the outside temperature was higher than a base temperature, was 67% higher in 2018 versus 2017, and 35% higher than the 5-year average.

Costs, on the other hand, were 6.5% lower than in 2017. One of the major reasons costs decreased was the introduction of Ontario's Fair Hydro Plan in the summer of 2017. For 2018, the City's electricity costs benefited from a full year of reduced rates under the rate relief program. In addition, rates were also impacted by market conditions for both commodity and Global Adjustment.

Figure 5: Electricity Consumption and Cost Comparison

Electricity Overview	2005	2017	2018	Comparisons 2018 vs 2005	Comparisons 2018 vs 2017.
Total Electricity (kWh)	236,362,045	215,322,168	216,150,047	-9%	0.4%
Total Electricity ($)	$20,657,050	$26,341,588	$24,637,207	19%	-6.5%
Total Electricity ($/kWh)	$0.087	$0.122	$0.114	30%	-6.8%

Natural Gas Consumption and Cost

Hamilton is served by one natural gas distribution company, Union Gas. In January 2019, Union Gas and Enbridge Inc. merged to form one distribution company servicing most of Ontario called, Enbridge Gas Inc. Natural gas costs comprises commodity and transportation, and regulated costs for delivery and storage. Regulated costs for Union Gas are also approved by the OEB. The results for natural gas shown below are for the buildings only. CNG for the vehicle fleet is shown in the Vehicle Fuels section on page 13.

Natural Gas is largely impacted by cold weather, particularly if it is prolonged cold temperatures and prices are typically higher during these peak-consuming periods. The consumption for 2018 was higher by 4.6% over 2017. Heating degree days were 9% higher in 2018 compared to 2017, but in line with the 5-year average.

Costs for 2018 were almost the same as 2017, just slightly higher. One reason costs did not increase despite the increase in consumption is due to the repeal of Ontario's Cap & Trade program. The charge of approximately 3.4 cents per m^3 of use was removed in October 2018. The City has also benefited from relatively stable natural gas costs because of the disciplined hedging strategy purchases of natural gas on the wholesale market. The City will purchase forward terms that meet strategy targets to mitigate the fluctuations in commodity costs during unforeseen high-price events.

Figure 6: Natural Gas Consumption and Cost Comparison

Natural Gas Overview				Comparisons	
	2005	2017	2018	2018 vs 2005	2018 vs 2017.
Total Natural Gas (m^3)	15,403,956	12,227,595	12,788,880	-17%	4.6%
Total Natural Gas ($)	$6,520,253	$3,935,717	$3,943,736	-40%	0.2%
Total Natural Gas ($/m^3$)	$0.423	$0.322	$0.308	-27%	-4.2%

Combined Consumption and Cost (Electricity & Natural Gas)

The total combined energy use for electricity and natural gas is converted to equivalent kilowatt hours. Below, we can see the usage increased by 2% in 2018 over 2017, while costs were down 5.6% for 2018 as compared to 2017. As detailed above, weather was a big factor in the increase in usage overall.

Figure 7: Combined Consumption and Cost Comparison

Total Energy Overview				Comparisons	
	2005	2017	2018	2018 vs 2005	2018 vs 2017.
Total Energy (ekWh)	400,722,256	343,345,087	350,049,621	-13%	2.0%
Total Energy Cost ($)	$27,177,303	$30,277,305	$28,580,942	5%	-5.6%
Total Energy ($/ekWh)	$0.068	$0.088	$0.082	20%	-7.4%

Energy Intensity (City-Owned Sites)

One of the KPIs outlined in the Corporate Energy Policy is energy intensity. Energy intensity is the measurement of consumption (in ekWh) per square foot of conditioned space. Conditioned space refers to the useable, occupied space of a site, and not simply the square footage of the overall site. An example would be measuring the energy intensity of a public building within a park, and not the whole of the park. Operational usage is not included. An example is street lighting and traffic lighting. Both use electricity, but there is no building footprint.

Although efforts are undertaken to reduce consumption by implementing energy

efficiency measures, actions may act as mitigation for even higher usage. There was increased usage overall in buildings, largely impacted by the hotter summer and cooler winter. Energy intensity increased 3.8% when compared to 2017. It was a 25% reduction when compared to 2005 base year.

Figure 8: Energy Intensity City-Wide for City-Owned Sites

				Comparisons	
Energy Intensity	2005	2017	2018	2018 vs 2005	2018 vs 2017.
City Total (ekWh/sqft)	45.69	32.88	34.13	-25%	3.8%
City Total ($/sqft)	$2.67	$2.44	$2.33	-13%	-4.5%
Reported Square Footage	5,138,852	5,633,585	5,708,246	11%	1.3%

Figure 9: Energy Intensity Comparison by Reporting Portfolio Category

Energy Intensity	ekWh/sqft				
	2005	2017	2018	2018 vs 2005	2018 vs 2017
City/Town Halls	39.6	23.1	24.3	-39%	5%
Corporate Facilities	44.6	20.6	21.7	-51%	5%
Street Lighting	n/a	n/a	n/a	n/a	n/a
Traffic Lighting	n/a	n/a	n/a	n/a	n/a
Other City Operations	n/a	n/a	n/a	n/a	n/a
Hamilton Water	n/a	n/a	n/a	n/a	n/a
Yards	38.1	26.1	29.7	-22%	14%
Arenas	51.3	39.0	43.3	-15%	11%
Community/Senior Centers	31.1	23.4	24.8	-20%	6%
Rec Centres/Pools	78.6	69.2	66.9	-15%	-3%
Tim Horton's Field	0.0	22.7	21.4	0%	-6%
Rec Parks/Stadiums/Golf	36.5	34.5	31.0	-15%	-10%
Lodges (Macassa, Wentworth)	113.6	45.1	43.5	-62%	-4%
Culture	35.5	30.4	31.4	-12%	3%
Fire/ EMS	45.2	36.0	37.4	-17%	4%
Hamilton Public Libraries	25.2	26.9	31.4	25%	17%
First Ontario Centre	22.5	20.4	22.0	-2%	8%
First Ontario Concert Hall	57.8	49.7	48.2	-17%	-3%
Hamilton Convention Centre	37.2	29.7	32.5	-13%	10%
Hamilton Police Services	59.8	35.2	36.4	-39%	3%
City Wide Total	**45.69**	**32.88**	**34.13**	**-25.3%**	**3.8%**

Additional tables detailing energy consumption, cost and energy intensity by portfolio are provided in Appendix A (pages 29 to 37),

Vehicle Fuels

In addition to reporting on the City's corporate facilities, there is also the City's large fleet of corporate vehicles. The fleet includes a variety of vehicle types such as buses, waste collection vehicles, snow removal trucks, street sweepers, department vehicles, and Fire and EMS vehicles. The fuels used are diesel, unleaded gasoline, and compressed natural gas (CNG). The performance of the fleet as it relates to energy usage is reported below.

CAFE Reduction of 3% compared to base year.

Corporate Average Fuel Economy

The Corporate Energy Policy outlines targets for fleet to achieve an improvement in fuel consumption efficiency. The KPI measurement indicator is the Corporate Average Fuel Economy (CAFE), which is the amount of fuel consumed in diesel litre equivalent (DLE) per 100 km of distance travelled. The long-term goals are to reduce the CAFE by 20% by 2030 as compared to the base level. The base year for CAFE is 2012.

Improving and managing fleet efficiency can be achieved by utilizing vehicles with clean drive technology, abiding fit-for-purpose principles, driver behavior and City-supported bylaws (e.g. anti-idling bylaw). As of 2018, there is a 3% reduction as compared to the base CAFE level.

Figure 10: Corporate Average Fuel Economy 2018 to Base Year Comparison

Diesel Litre Equivalent (DLE) per 100 KM	BASE (2012)	2018
Unleaded Gasoline	20.7	19.4
Diesel	54.5	54.1
CNG	66.2	70.7
Total	46.2	44.8
Overall % Changed in DLE/100 KM		-3%

Tracking of vehicle and fuel data used as a measurement for CAFE continues to be an ongoing exercise. Fueling stations are spread throughout the City and capturing real-time accurate data is key in identifying areas for improvement.

Fuel Consumption and Cost

The City makes wholesale purchases of fuels for its City fleet. The fleet primarily consists of Transit buses, waste collection vehicles, snow removal trucks, street sweepers, departmental vehicles (i.e. medium and light duty vehicles), and Fire and Emergency Services (EMS) vehicles. A good portion is diesel or unleaded gasoline; however, Transit is continually expanding its fleet of CNG buses.

In 2018, the City used 9.1 million litres of diesel fuel, a 2% reduction from 2017. The average cost per litre, was an increase of 17% compared to 2017. The City used 2.2 million litres of unleaded gasoline, a 5% increase over 2017. The average cost per litre was an increase of 11% over 2017.

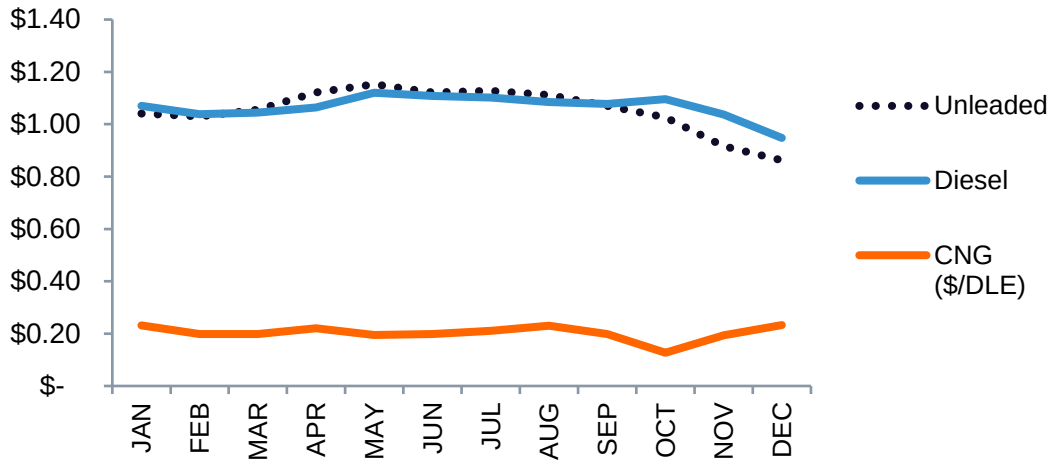
The purchases of CNG increased in 2018 by 22% compared to 2017, with a total of 5.1 million diesel litres equivalent. The primary reason is the increase in CNG-fueled buses in Transit's fleet. The CNG bus fleet increased by 35 buses from 85 in 2017 to 120 in 2018. The bus fleet overall, increased from 251 vehicles in 2017 to 267 vehicles for 2018.

Figure 11: 2018 Consumption and Cost of Fuels

Fuel Type	Consumption Litres	Cost	Average $/L
Diesel	9,172,662	$ 9,752,970	$ 1.06
Unleaded Gasoline	2,248,360	$ 2,372,824	$ 1.06
CNG (DLE)	5,104,215	$ 1,032,545	$ 0.20
Total	**16,525,237**	**$ 13,158,339**	

CNG is a lower cost fuel for buses compared to diesel and gasoline, but they do operate at approximately 75% efficiency per diesel litre equivalent when compared to diesel fueled bus usage. However, despite a lower fuel efficiency, when converted to diesel equivalent dollars and adjusted for efficiency, Transit spent $2.9 million less running their fleet of CNG buses than they would have only using diesel buses. In addition, the lower GHG emissions from using CNG fuel versus diesel is of benefit to the City overall and positively impacts the City's GHG emissions inventory.

Figure 12: 2018 Monthly Fuel Prices ($/DLE)



The natural gas used to fuel the buses is purchased in the same manner as for volumes used to heat buildings, therefore the City can also take advantage of hedging opportunities when market conditions are favorable with the intention of mitigating price fluctuations and stabilizing budgets.

Energy Conservation

Energy Conservation projects are one of the initiatives the City uses to help achieve reductions in energy usage, energy intensity and GHG emissions. Making upgrades to existing buildings or adopting emerging energy efficiency technologies in new facilities can improve operational efficiencies and cost-effectiveness. Energy efficient spaces and processes are critical for meeting corporate targets but are also expected by workers and citizens that use those spaces. Green building has become a desired state, and the City must continue to move in that direction.

Project teams work closely with consultants, engineers, utility personnel and industry experts to retrofit buildings with energy efficient equipment with an eye on reducing energy consumption and improving building operations. Securing any available incentives and funding opportunities and Monitoring & Verification (M&V) plans are also essential for maximizing the success of any retrofit program.

Project Spotlight: Anti-Stagnation Valves at Hamilton Water

Hamilton Water is the single largest user of energy in the City at 36%. Finding opportunities to reduce energy, upgrade equipment, increase operational efficiency and make improvements to water and wastewater facilities are key priorities. The installation of anti-stagnation valves in 2018 aimed to reduce energy use and improve operational efficiencies.

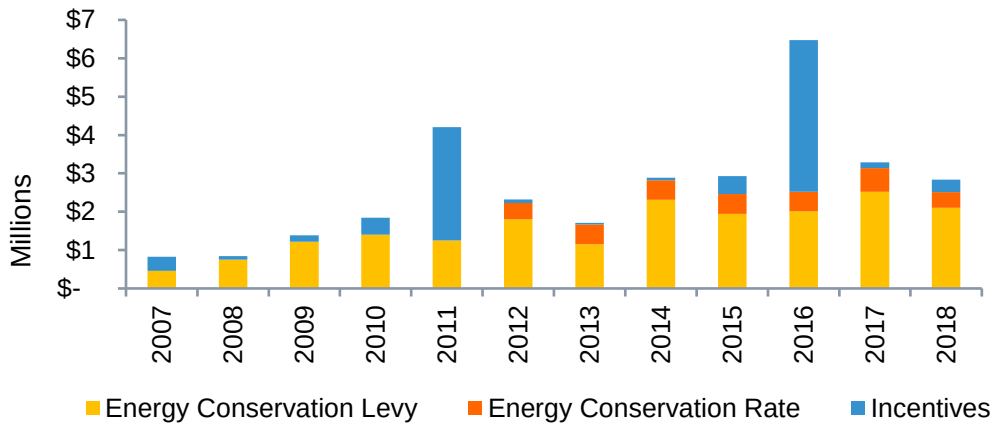
In June 2018, 37 anti-stagnation valves were installed and operational in the water distribution main system. The valves reduce water re-circulation where previously the flow was constant. In addition to the significant annual energy savings of 2.1 million kWh and energy cost savings of over $150,000 at two pumping stations, it is expected that significant maintenance savings will be achieved because of reduced flow through the pumps.

A further 31 valves were installed in October 2018, yielding an additional projected 1.5 million kWh and $200,000 in annual savings for another pumping station. This project was also eligible for incentives from the IESO SaveOnEnergy program.

With the success of these projects, the city is planning to implement this technology at other pumping stations.

The City tracks the energy savings from the projects once they are complete. The 2018 energy savings contribution from projects was $2.5 million, with $323,300 in incentives, for a total of $2.8 million in conservation savings. Cumulatively, since 2005, the value of conservation is $31.3 million in project savings and incentives.

Figure 13: Annual Project Savings & Incentives



2018 Project Highlights

Aquatic Centres - Exterior LED Lighting Upgrades

- Installation of new exterior LED lighting at 9 aquatic centres.
- Benefits include improved lighting conditions, safety and a reduction in lamp maintenance costs.
- $7,000 in incentives expected from the IESO SaveOnEnergy program.

Rosedale Tennis Dome LED Lighting Upgrade

- Installation of new interior LED lighting and controls in the Rosedale tennis dome.
- Benefits include improved lighting conditions and a reduction in lamp maintenance costs.
- $10,570 in incentives recieved from the IESO SaveOnEnergy program.

Fire Stations LED Lighting Upgrade

- Installation of new interior LED lighting at 30 fire stations.
- Benefits include improved lighting conditions and a reduction in lamp maintenance costs.
- $28,300 in incentives recieved from the IESO SaveOnEnergy program.

Macassa Lodge Chiller Upgrade

- Installation of three 60 tonne air cooled chillers (life cycle replacement).
- Benefits include improved cooling system reliability during peak summer months and reduce chiller load.
- $28,500 in incentives are expected from the IESO SaveOnEnergy program.

Lighting Asset Modernization Project - LAMP (Completed by the LAMP Project Team, Engineering Services)

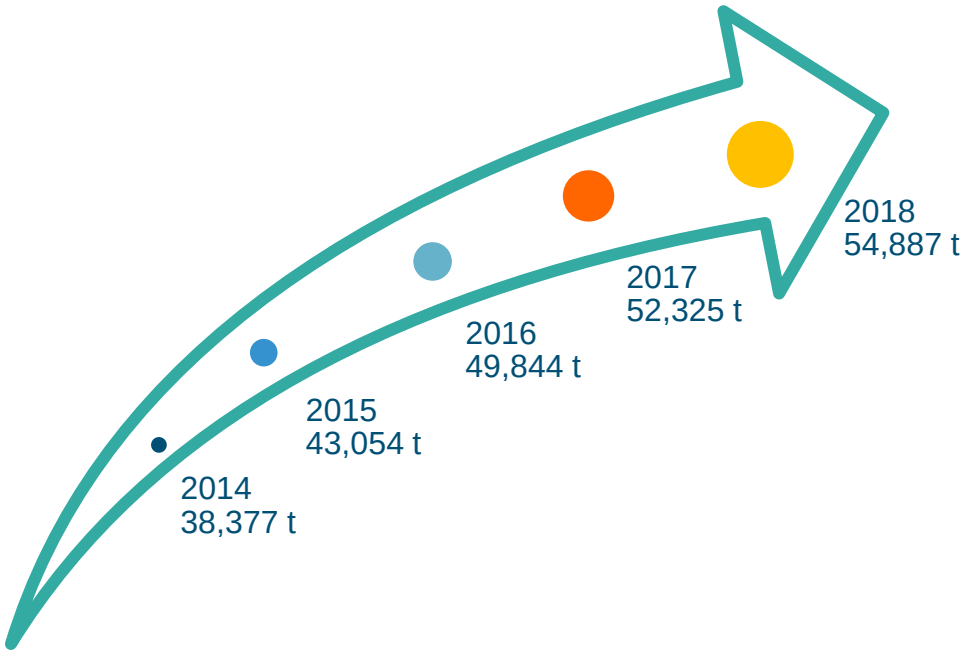
- Converted a further ~27,000 streetlights to LED (targeting cobra-head style street lighting).
- Benefits include improved improved in-service life expectancy and reduced operating costs.
- Approximately $2 million in incentives are expected from the IESO SaveOnEnergy program.

Listing of Upcoming Projects for 2019

- Ice Arenas - Refrigeration and controls.
- Valley Park Aquatic Centre - Interior LED lighting upgrades.
- Norman Pinky Lewis – Solar wall installation.
- Macassa Lodge – BAS upgrade.
- Wentworth Lodge – HVAC and BAS upgrades.
- Lister Block – Interior LED lighting upgrades.
- Traffic Operations – Interior and exterior LED lighting upgrades.
- Wentworth Street Operations Centre – Interior (office space only) LED lighting upgrades.

The benefits of energy conservation projects extend beyond reducing energy usage, improving efficiency and lowering operating costs; they also reduce GHG emissions. Going forward, projects that lower GHG emissions will further enhance its Clean and Green strategic priority as the City responds to a growing concern around meeting climate change reduction targets at home as well as its contributions to broader global initiatives. To date, the cumulative GHG reductions that have occurred because of energy conservation projects is shown in the diagram below.

Figure 14: Cumulative GHG Reductions from Energy Conservation in tCO_2e



Although business cases for projects that reduce energy usage have historically had favorable payback as operating costs are typically lowered, projects that focus strictly on or prioritize reducing GHG emissions may have longer payback periods. Funding, affordable new technology and broad support are needed. A listing of projects with reducing GHG emissions as its primary focus can be found in Appendix A on page 44.

Renewable Energy

Existing renewable generation operations for the City are managed through Hamilton Renewable Power Inc. (HRPI). HRPI owns and operates three 1.6 MW renewable gas fueled units. Two of the units are located at the Glanbrook landfill site. The third unit, a cogeneration unit, producing electricity and heat, is located at the Hamilton Water site at Woodward Avenue.

The three units use raw biogas as a renewable fuel sources to produce electricity for the power grid through a long-term contract with the province. Using renewable fuel contributes to a more efficient and sustainable process, and further offsets GHG emissions. The systems produce 28,000,000 kWh of renewable energy annually, with a

reduction of 100,000 tonnes CO_2e. In 2018 the net benefit from all HRPI operations was approximately $1.1 million, with a cumulative total of $17.5 million from 2006.

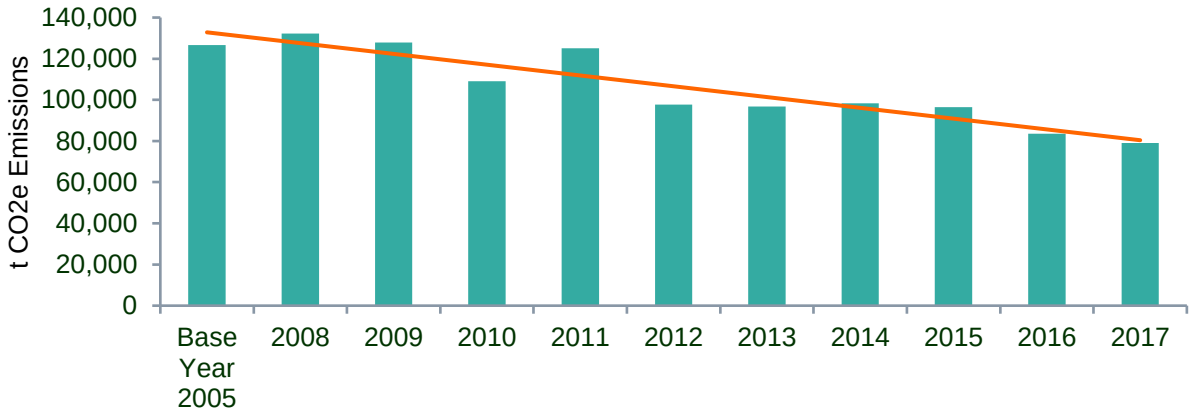
Renewable natural gas is also produced at Woodward Avenue using a Biogas Purification Unit (BPU). The BPU captures excess methane gas from the anaerobic digestion process of the waste water process. The raw biogas is purified, treated and conditioned to yield the utility grade renewable natural gas that can be injected into Union Gas distribution system.

Greenhouse Gas Emissions 2017 Report

GHG emissions related to corporate operations have been inventoried and reported annually since the adoption of the Corporate Air Quality and Climate Change Strategic Plan (PED06336(a)) in 2008. Original targets of a 20% reduction by 2020 were then updated and aligned with the Corporate Energy Policy and the Board of Health Climate Change Actions 2012 report (BOH13024), calling for an 80% reduction in GHG emissions by 2050 from the base year 2005.

Reporting data for the GHG emissions report is one year behind the annual report. Therefore, the data presented here is for the 2017 calendar year. In 2017, the GHG emissions inventory was 79,028 tonnes of CO_2e (carbon dioxide equivalent). This represents a 38% reduction from the base year and 5% reduction from 2016. The inventory does not include HRPI operations.

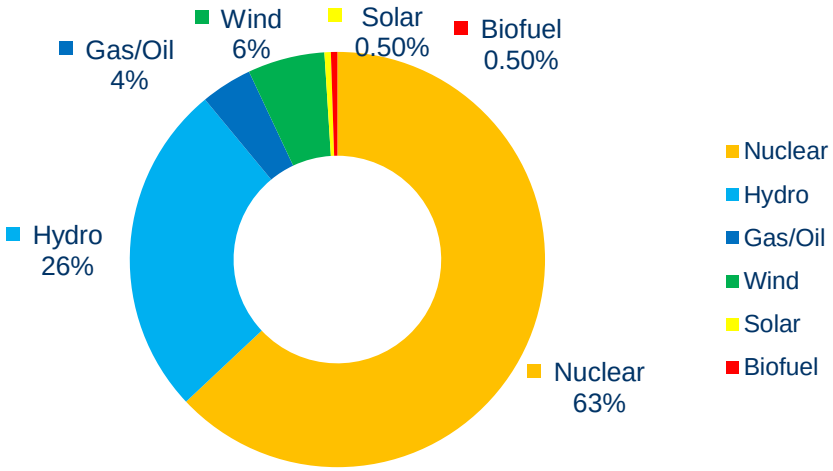
Figure 15: City of Hamilton Corporate GHG Emissions Annual Trends



Since 2005 the inventoried emissions have been on a downward trend. Several factors have contributed to this trend including energy efficiency projects that reduce overall energy usage and fuel conversion in Transit from diesel buses to CNG buses. However, the Ontario electricity emission factor, which is the measurement of the CO_2e intensity of the electricity generation, has had a significant impact on the reduction in GHGs. As the Ontario electricity supply mix moves towards increasing its cleaner power sources, the lower the City's use of electricity impacts the emissions inventory.

Below, the diagram shows the energy output by fuel type for 2017 as reported at the Independent Electricity System Operator (IESO) for transmission-connected generation. The mix varies annually, depending on what fuel source is being dispatched. This data does not include embedded generation.

Figure 16: 2017 Ontario Energy Output by Fuel Type



Source: Transmission-Connected Generation - IESO Mix 2017 Output

Our corporate GHG emissions are generated by the following energy sources: electricity, natural gas, diesel and gasoline.

Figure 17: 2017 Percentage of tCO_2e Emissions by Fuel Source

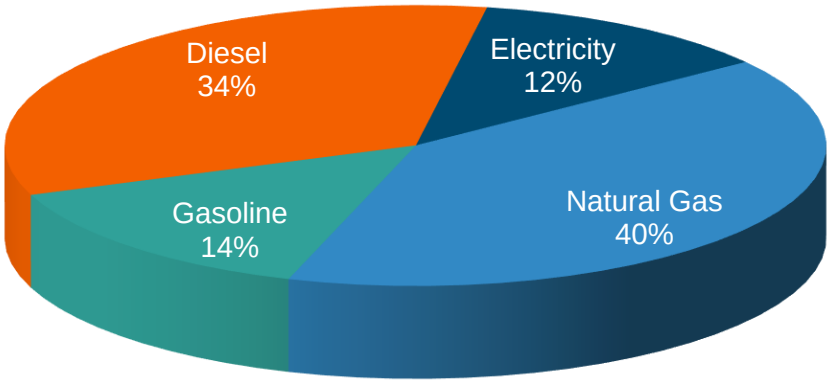
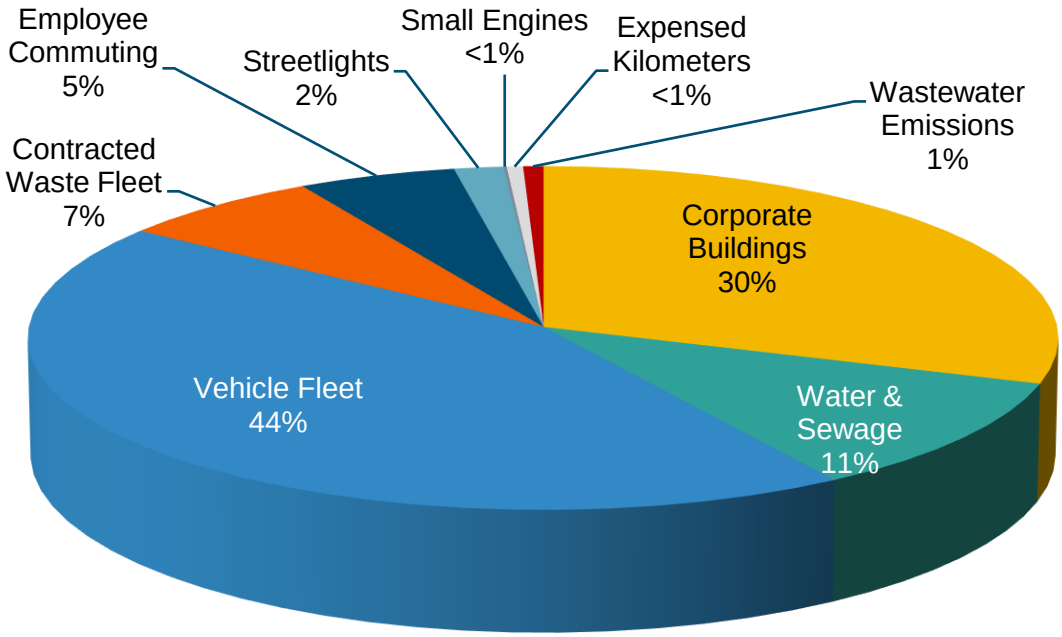


Figure 18: 2017 Percent Tonnes CO_2e of Total by Sector



Of the above reported sectors, the largest emitter is Vehicle Fleet (34,671 t CO2e) at 44%. For 2017, this is a 4% decrease to the base year and a 9% decrease from 2016. While 2017 is lower, the emissions for vehicles have varied over the years. Vehicles have become more efficient and many of the buses have been switched to CNG, which has lower emissions than diesel, but in general the vehicle fleet size has increased. In addition, year over year usage can be impacted by weather conditions. An example

would be the varying demand for large winter-related vehicles (snow-removal, salters and sanders).

Corporate buildings (23,916 t CO2e) makes up 30% of the total inventory and is 49% less than the base year and 2% less than 2016. A large part of this reduction is the completion of energy efficiency initiatives at many corporate sites over the past several years. Some examples include LED lighting installations, BAS controls systems and equipment upgrades.

Water and Sewage, which includes the Woodward Water and Wastewater plant, pump stations, wells and reservoirs throughout the City make up the third largest emission sector, with 11% of the total inventory for 2017. It is a 66% decrease from 2005, and a 5% decrease from 2016. Process efficiencies have had a large impact on this reduction. The Water and Sewage sector is the largest user of electricity in the City.

Street lighting, although not a large overall emitter, has had an impressive reduction of 85% when compared to the base year. The LAMP program (Lighting Asset Modernization Project) has made a large impact to both reducing electrical usage but also in reducing its GHG emissions over the past 3 years.

Continued efforts must be made to further reduce the City's corporate emissions to meet the targets laid out in the Corporate Energy Policy. Investments in renewable energy, retrofit projects that reduce both usage and emissions, greener vehicles and behavioral changes will be necessary to achieve the long-range target of 80% reduction by 2050.

Final Comments

Several factors can impact the success of the energy programs and initiatives that the City measures each year. Regulatory changes, available funding, market factors and budget constraints are among the biggest barriers to that success. The key is to keep targets in sight and focus on making strides to reduce the energy use and the environmental footprint of corporate facilities.

Despite the difficulties in operating in an ever-changing energy environment, implementing energy conservation initiatives that improve efficiency, reduce consumption and/or reduce emissions continues to be a priority. Having a framework

like the Corporate Energy Policy is an effective guideline in championing energy-related programs.

Meeting the targets laid out for reducing consumption and energy intensity, reducing GHG emissions and improving the efficiency of the vehicle fleet, requires behavioral changes and support from all levels of staff. The recent Mayoral declaration to address climate change as an emergency priority in Hamilton shows commitment from the top and empowers staff to re-focus efforts to endorse programs and projects that aim to reduce energy use, reduce corporate emissions and improve the City's carbon footprint overall.

Appendix A

This appendix provides additional tables, charts and graphs to further illustrate the information provided throughout the report.

Energy Strategies and Program KPIs

Figure A-1: Cumulative Results of Energy Programs and Strategies KPIs (2006-2018)

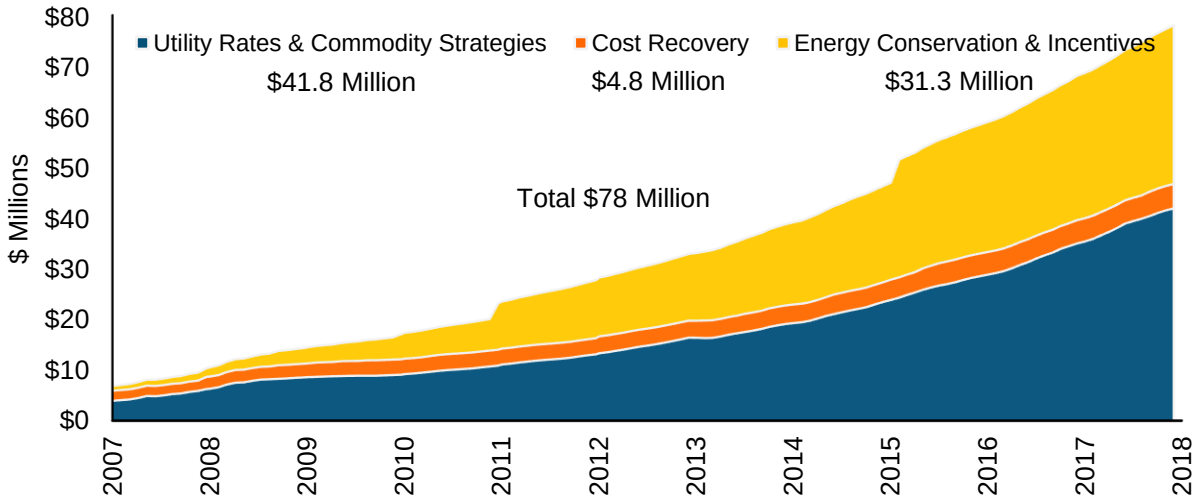


Figure A-2: Three Year Comparison Energy Programs and Strategies

Category	Past 3 Years 2016	2017	2018	2006-2018 Cumulative
Levy RPP/Interval Change	$ -	$ -	$ -	$ 2,886,651
Rate RPP/Interval Change	$ -	$ -	$ -	$ 2,873,163
Levy Global Adjustment	$ 1,279,622	$ 1,344,340	$ 1,953,610	$ 7,092,074
Rate Global Adjustment	$ 3,402,587	$ 4,631,762	$ 4,450,962	$ 21,402,075
Levy Natural Gas	$ 365,430	$ 446,304	$ 465,571	$ 6,491,454
Rate Natural Gas	$ 63,111	$ 66,946	$ 64,126	$ 1,131,095
Energy Conservation Levy	$ 2,008,166	$ 2,286,392	$ 2,101,419	$ 18,681,958
Energy Conservation Rate	$ 513,415	$ 616,098	$ 410,732	$ 3,506,691
Incentives	$ 3,948,039	$ 147,841	$ 323,354	$ 9,139,539
Cash Recovery Levy	$ 593,832	$ 118,099	$ 220,046	$ 4,584,077
Cash Recovery Rate	$ -	$ -	$ -	$ 235,375
Totals	$ 12,174,202	$ 9,657,782	$ 9,989,820	$ 78,024,152

Overall Consumption, Costs and Performance (Electricity and Natural Gas)

Figure A-3: Total Annual Consumption Electricity and Natural Gas (Facilities)

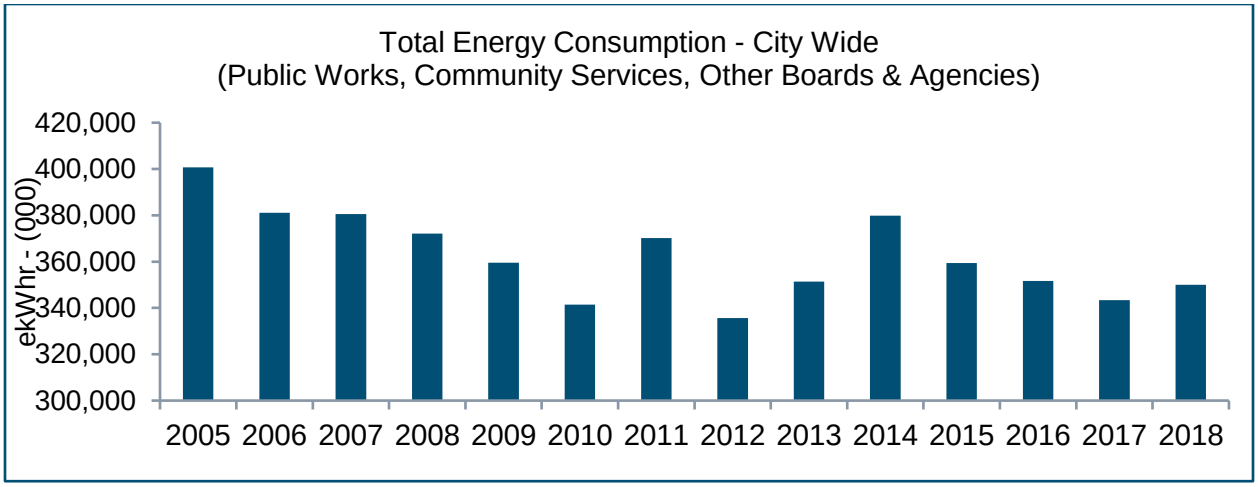


Figure A-4: Total Annual Reported Costs Electricity and Natural Gas (Facilities)

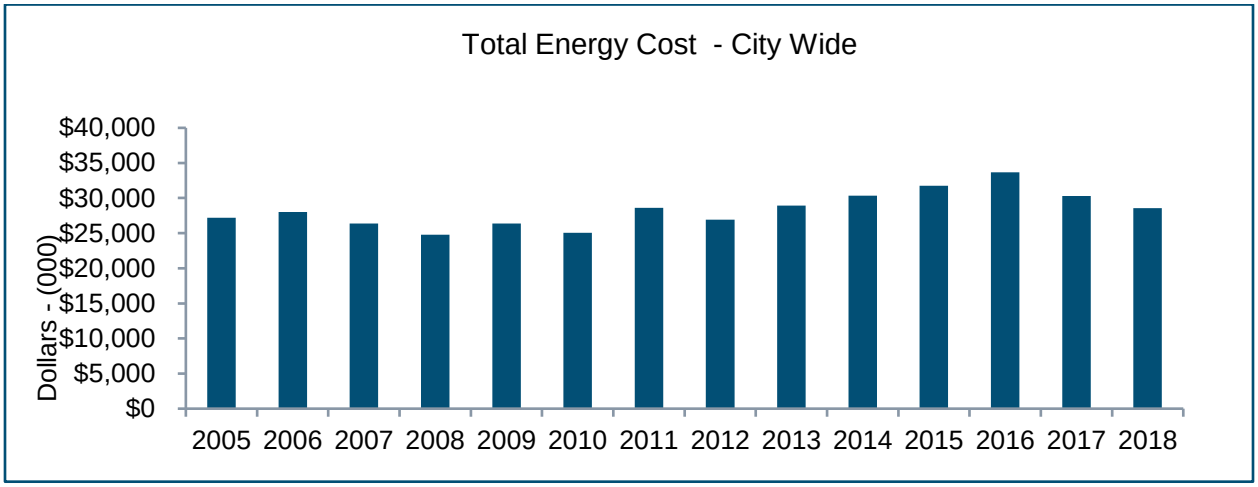


Figure A-5: Total Consumption Comparison by Portfolio Category

Total Energy	in 000's of ekWhs			Comparisons	
Consumption	2005	2017	2018	2018 vs 2005	2018 vs 2017
City/Town Halls	13,775	8,271	8,706	-37%	5%
Corporate Facilities	17,188	6,394	9,404	-45%	47%
Street Lighting	33,602	26,920	20,050	-40%	-26%
Traffic Lighting	5,688	2,067	2,069	-64%	0%
Other City Operations	5,618	4,689	6,349	13%	35%
Hamilton Water	121,040	124,461	126,764	5%	2%
Yards	39,589	25,104	28,503	-28%	14%
Arenas	39,904	34,204	36,345	-9%	6%
Community/Senior Centers	3,834	3,337	3,536	-8%	6%
Rec Centres/Pools	26,789	26,986	25,130	-6%	-7%
Tim Horton's Field	0	7,424	6,995	0%	-6%
Rec Parks/Stadiums/Golf	8,332	4,666	5,063	-39%	9%
Lodges (Macassa, Wentworth)	24,938	15,672	15,113	-39%	-4%
Culture	5,383	4,728	4,932	-8%	4%
Fire/ EMS	10,698	12,346	12,814	20%	4%
Hamilton Public Libraries	9,343	10,479	11,211	20%	7%
First Ontario Centre	10,122	9,160	9,904	-2%	8%
First Ontario Concert Hall	5,466	4,658	4,517	-17%	-3%
Hamilton Convention Centre	4,656	3,712	4,068	-13%	10%
Hamilton Police Services	14,757	8,067	8,573	-42%	6%
City Wide Total	**400,722**	**343,345**	**350,050**	**-13%**	**2%**

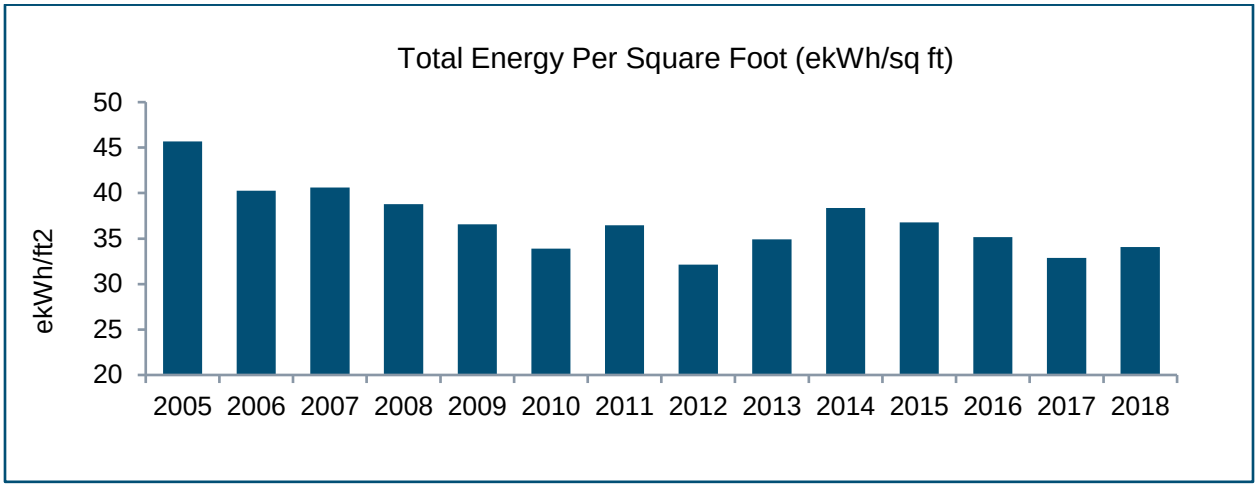
**values are shown in 000's, does include full values in calculation

Figure A-6: Total Cost Comparison by Portfolio Category

Total Energy-$	in 000's of $			Comparisons	
Cost	2005	2017	2018	2018 vs 2005	2018 vs 2017
City/Town Halls	$860	$690	$653	-24%	-5%
Corporate Facilities	$866	$554	$790	-9%	43%
Street Lighting	$2,895	$5,010	$3,728	29%	-26%
Traffic Lighting	$462	$358	$323	-30%	-10%
Other City Operations	$534	$700	$813	52%	16%
Hamilton Water	$9,590	$10,488	$10,436	9%	0%
Yards	$2,205	$1,636	$1,686	-24%	3%
Arenas	$2,455	$2,896	$2,718	11%	-6%
Community/Senior Centers	$224	$248	$246	10%	-1%
Rec Centres/Pools	$1,192	$1,468	$1,405	18%	-4%
Tim Horton's Field	$0	$704	$661	0%	-6%
Rec Parks/Stadiums/Golf	$564	$401	$434	-23%	8%
Lodges (Macassa, Wentworth)	$1,087	$877	$695	-36%	-21%
Culture	$338	$281	$257	-24%	-9%
Fire/ EMS	$614	$896	$819	33%	-9%
Hamilton Public Libraries	$827	$851	$734	-11%	-14%
First Ontario Centre	$840	$880	$961	14%	9%
First Ontario Concert Hall	$454	$324	$257	-43%	-21%
Hamilton Convention Centre	$387	$268	$243	-37%	-9%
Hamilton Police Services	$783	$749	$723	-8%	-3%
City Wide Total	**$27,177**	**$30,277**	**$28,581**	**5%**	**-6%**

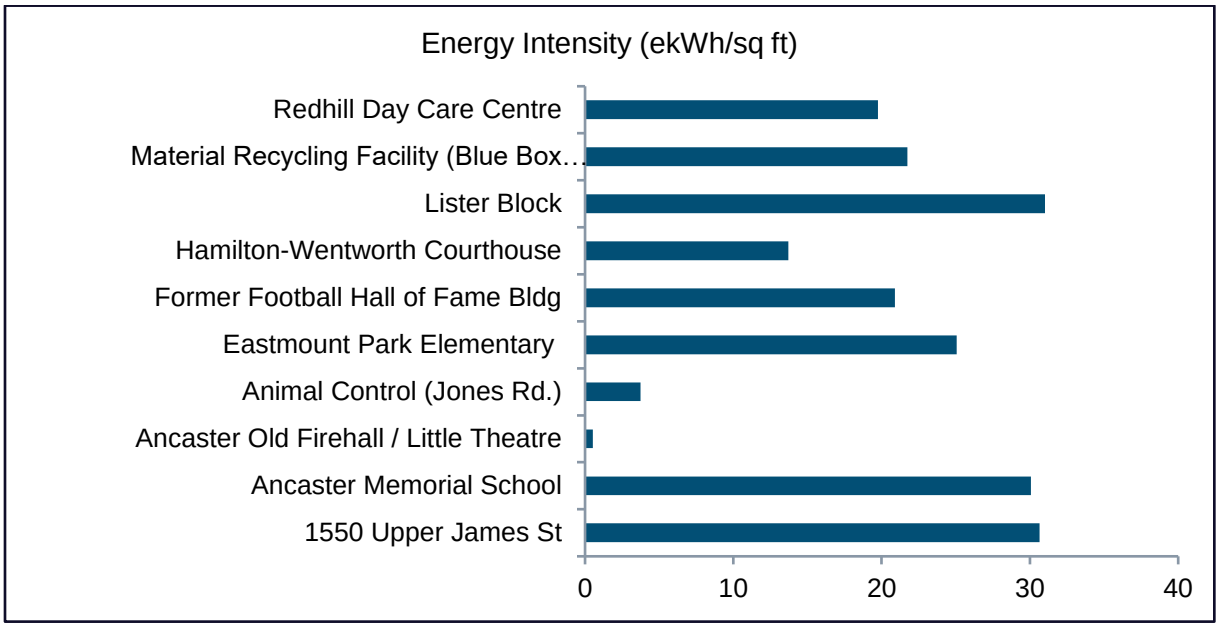
*values are shown in 000's, does include full values in calculation

Figure A-7: Total Annual Energy Intensity City-wide (ekWh/sqft)



The following series of graphs breaks down the energy intensity results per site for 2018 within the specific portfolio category. Energy intensity is calculated by using equivalent kilowatt hours (ekWh) divided by the reported square footage (sqft) for the site. Sites that did not have square footage were removed from the graphs below but were included in overall cost and consumption data sets. There is no energy intensity data for Hamilton Water and Operational sites (i.e. street lights). Also note that the energy intensity axis may have been adjusted depending on grouping.

Figure A-8: Corporate Facilities Energy Intensity



A-9: City and Town Halls Energy Intensity

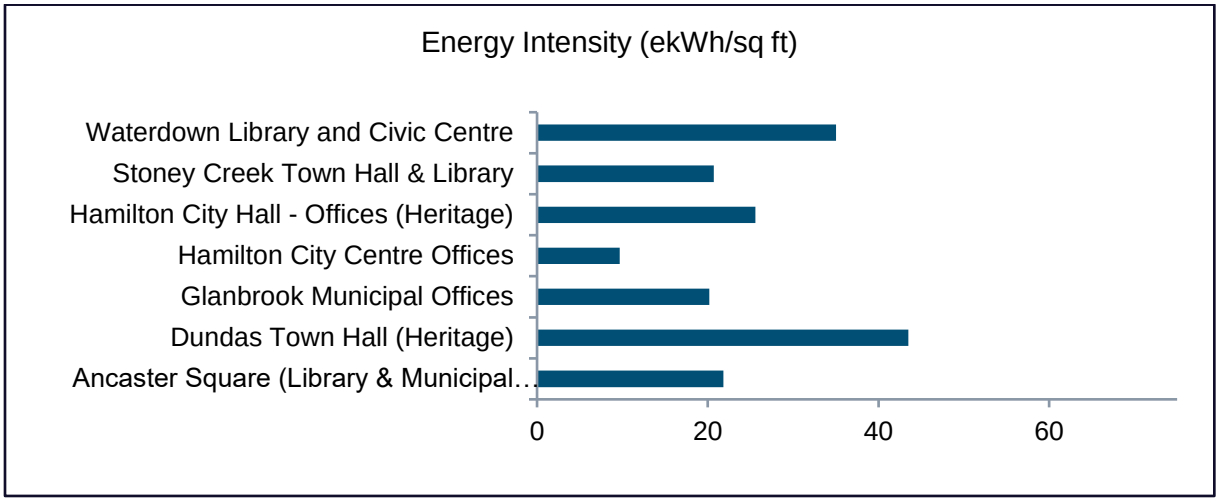


Figure A-10: Arenas Energy Intensity

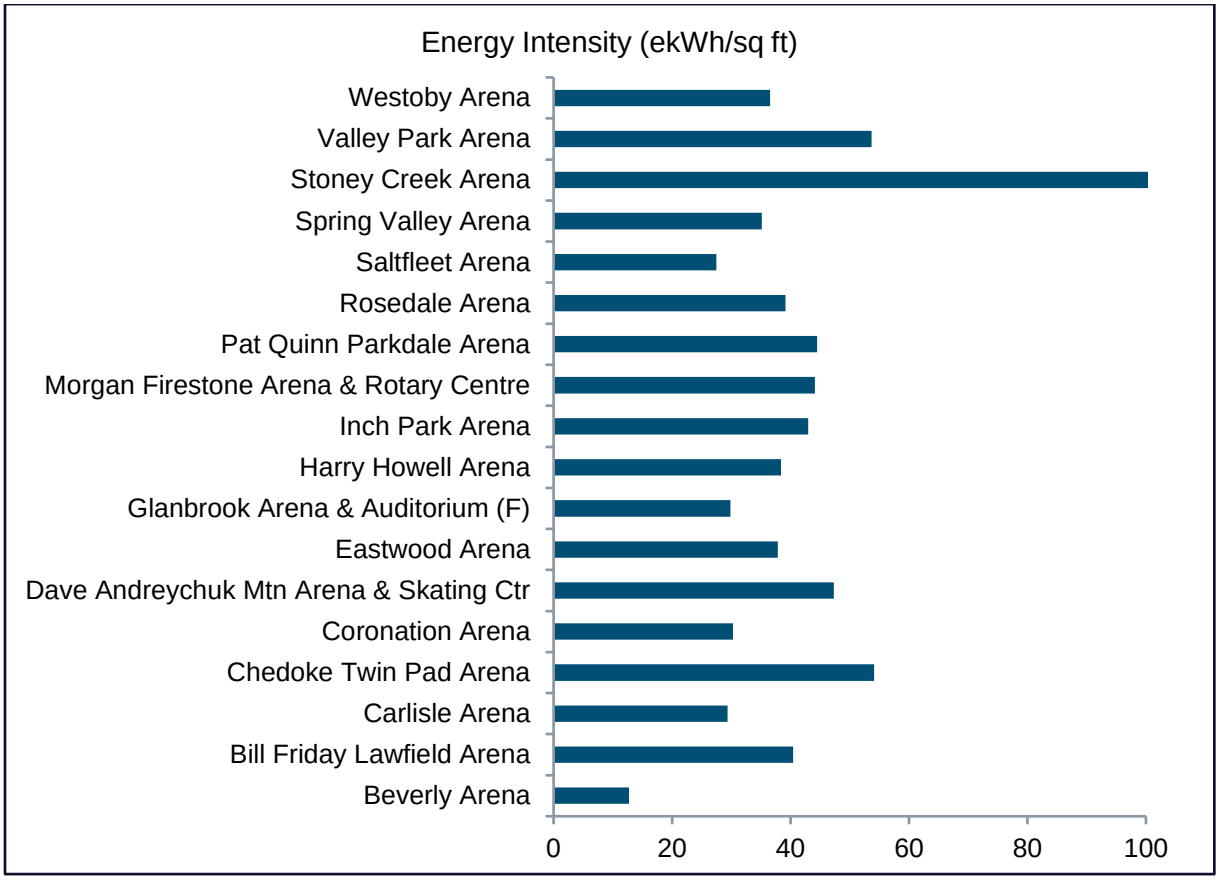
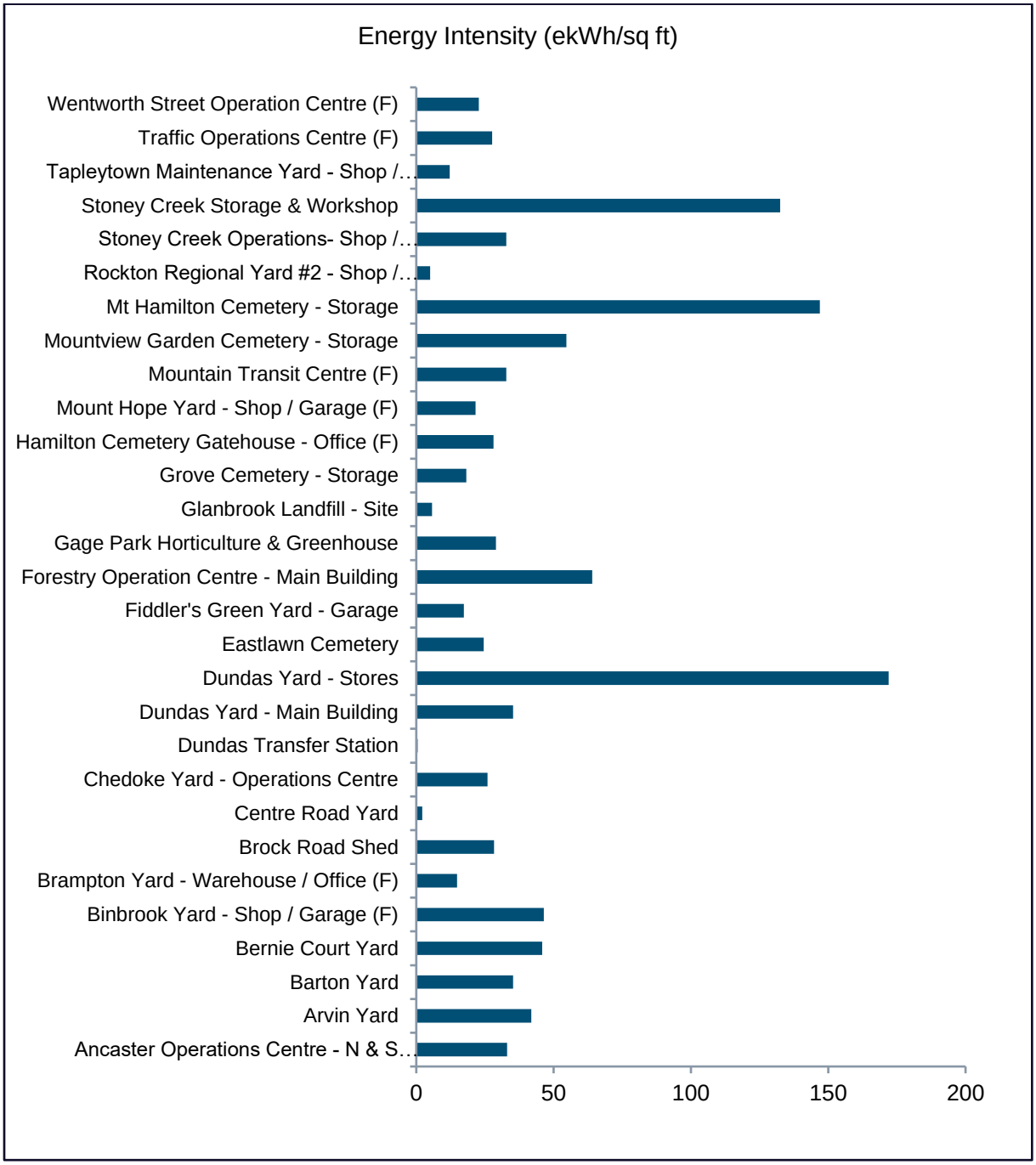


Figure A-11: Yards Energy Intensity



(F) City Fueling Station

Figure A-12: Community Centres Energy Intensity

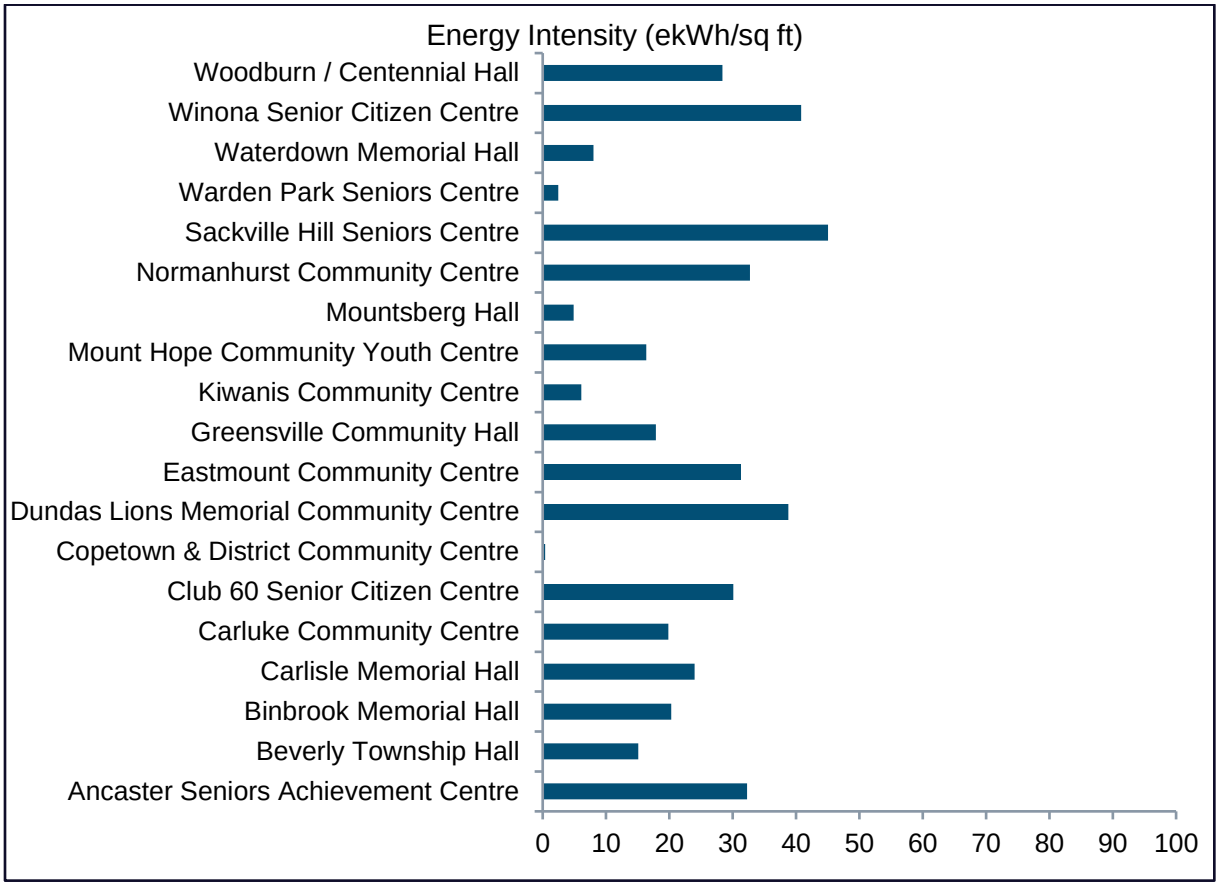


Figure A-13: Lodges Energy Intensity

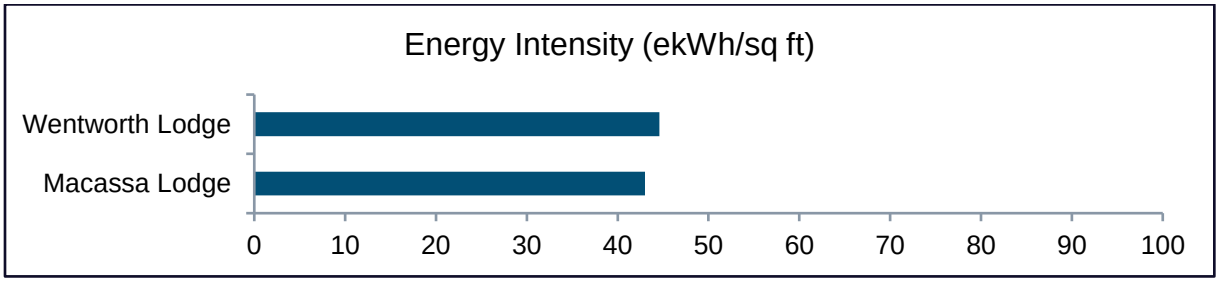
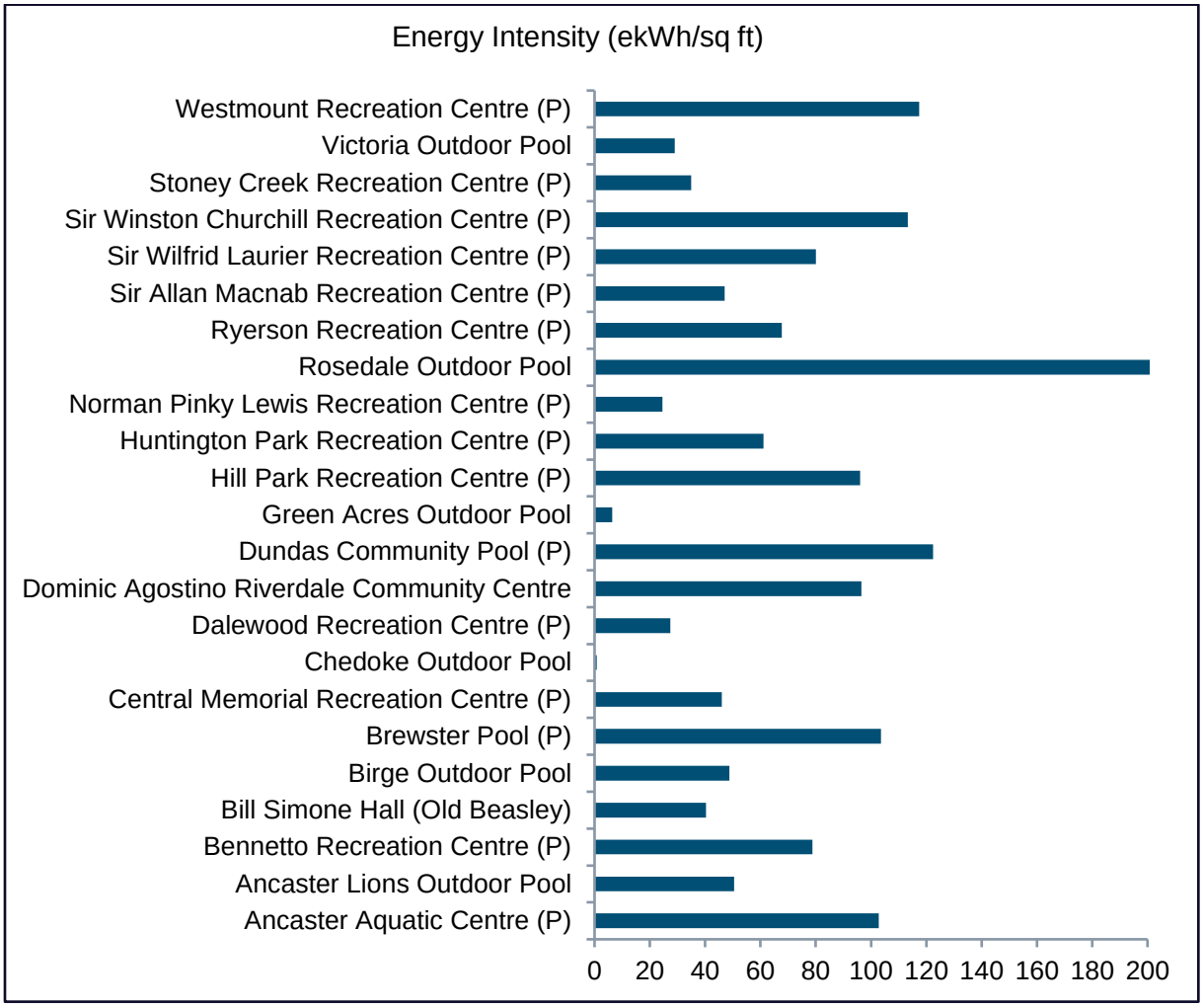


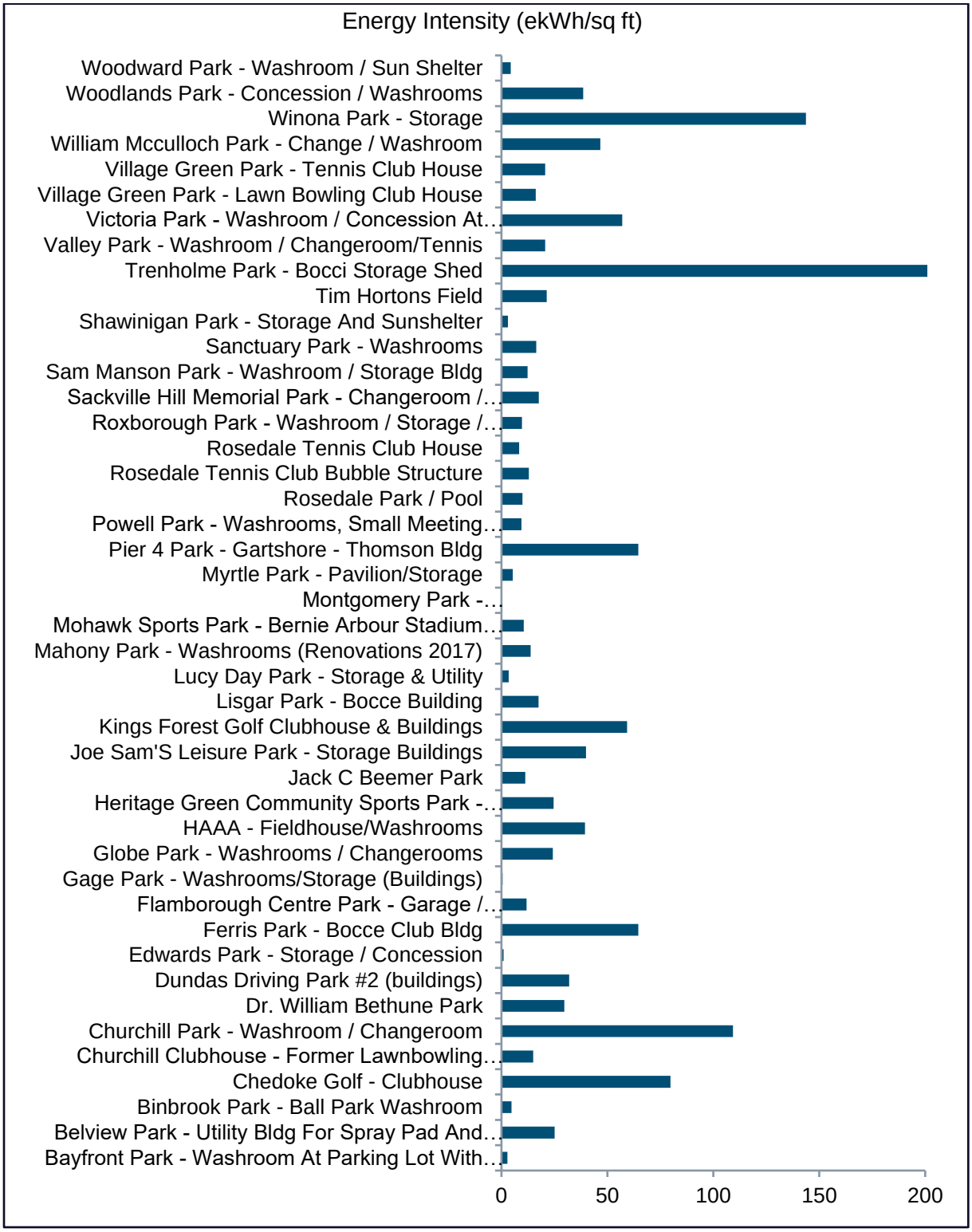
Figure A-14: Recreation Centres and Pools Energy Intensity



(P) Pool

Rosedale Outdoor Pool has an energy intensity of 246

Figure A-15 Stadiums, Recreation Park Buildings & Golf Energy Intensity



Trenholme Park has an energy intensity of 547

Figure A-16: Libraries Energy Intensity

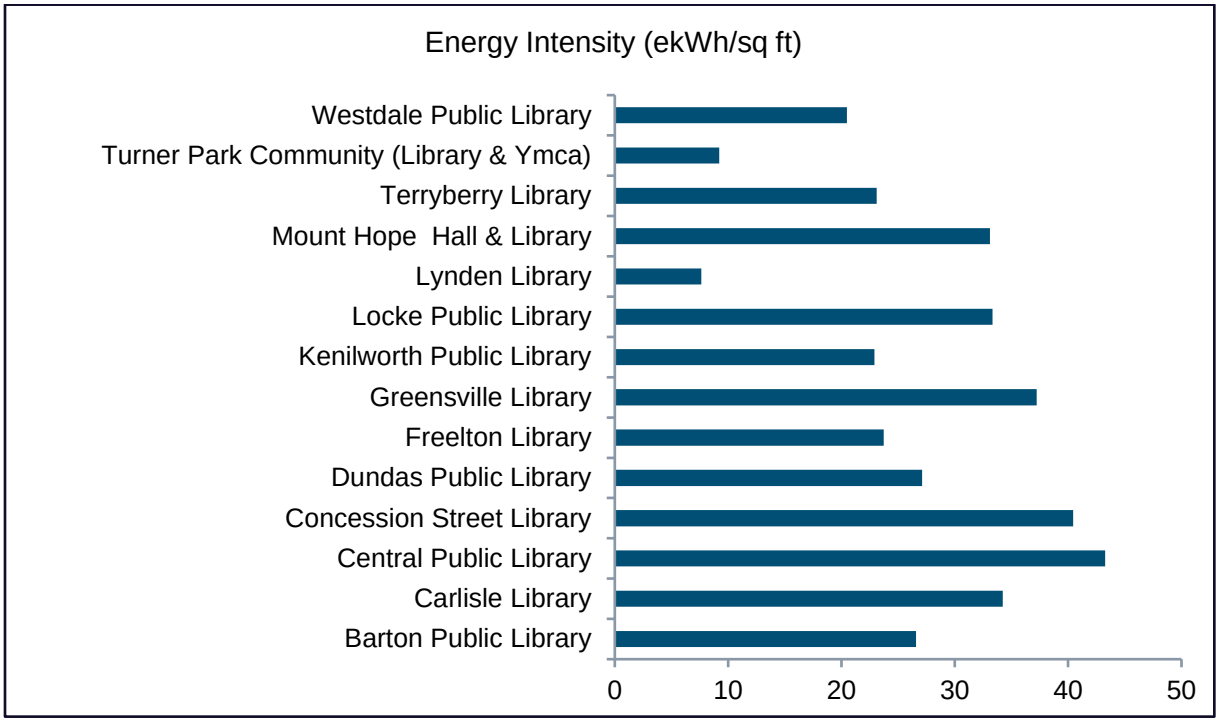


Figure A-17: Culture and Museum Energy Intensity

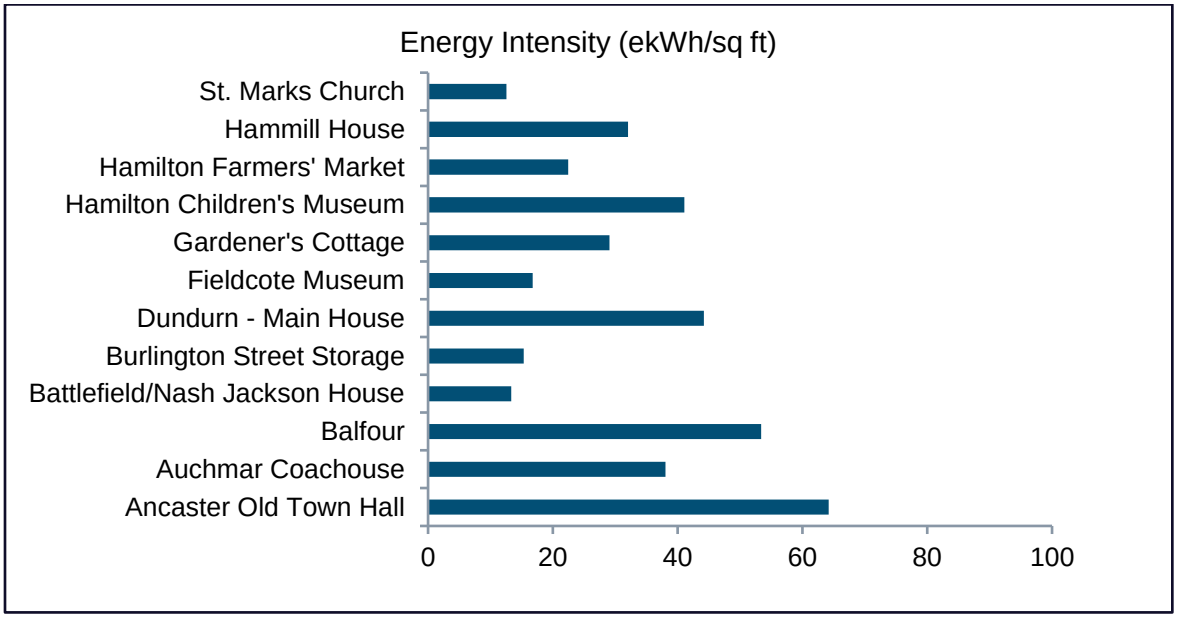


Figure A-18: EMS and Fire Energy Intensity

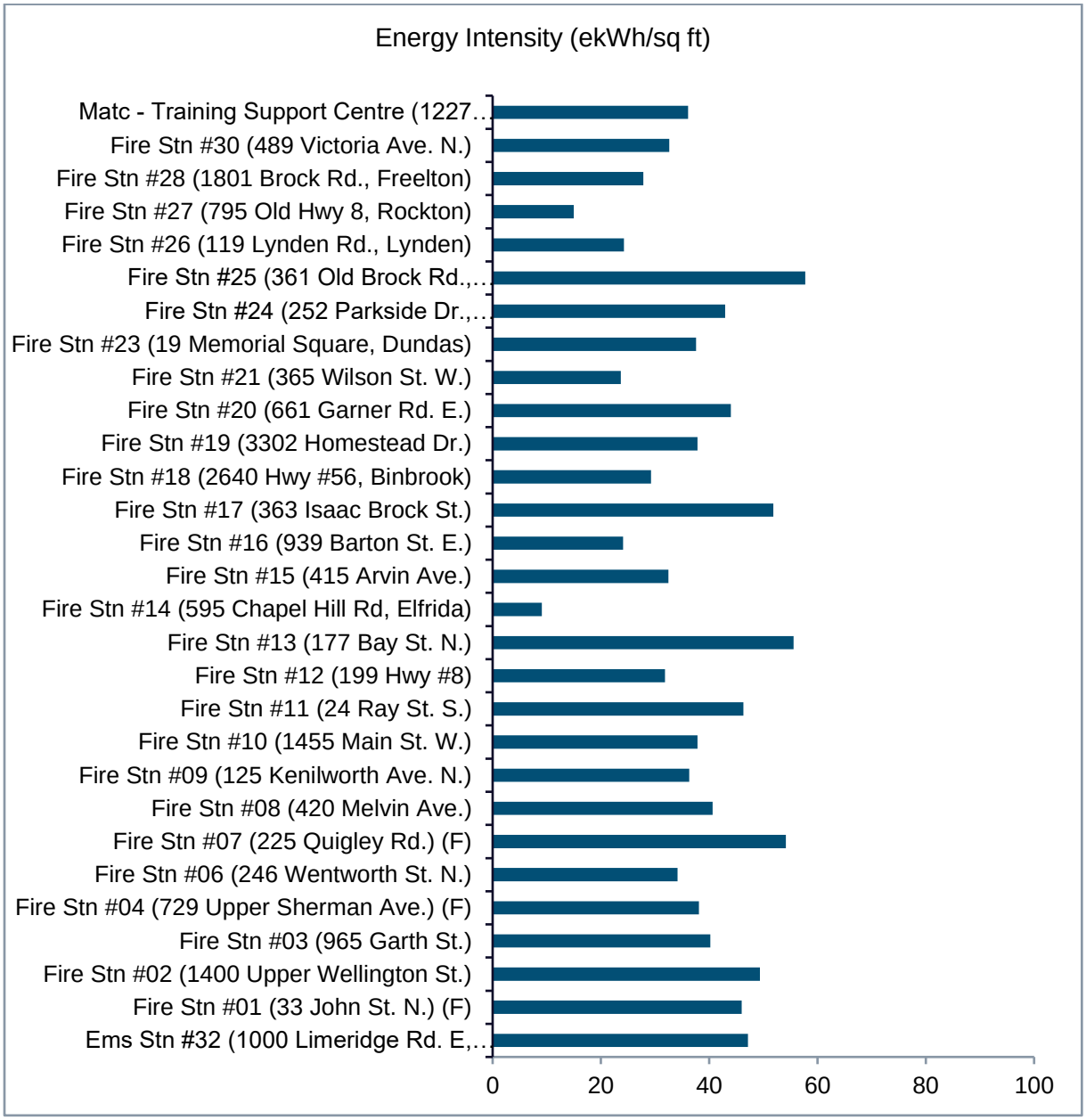


Figure A-19: Entertainment Energy Intensity

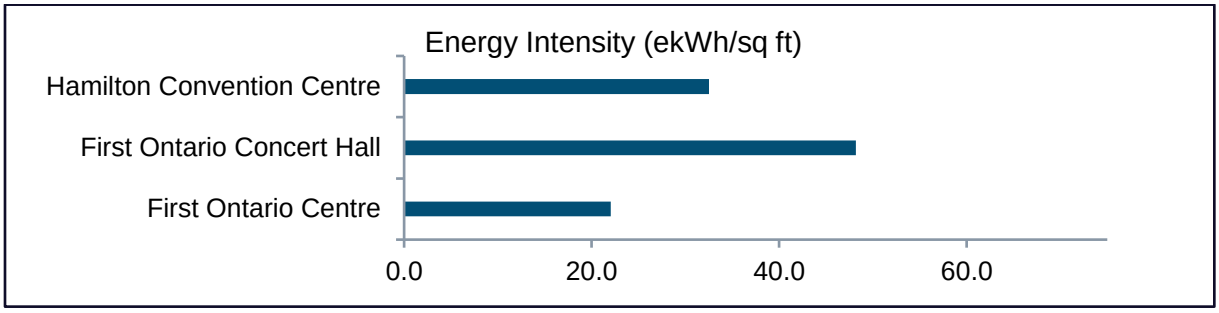
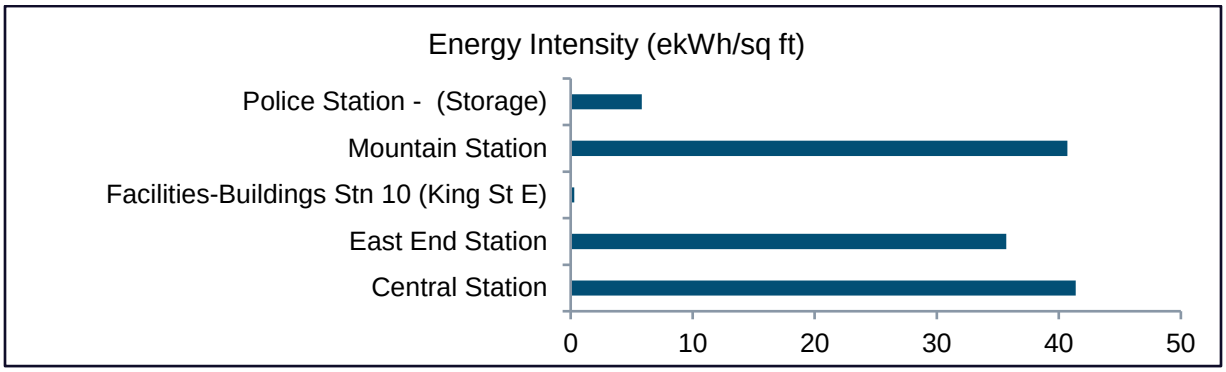


Figure A-20: Police Energy Intensity



Weather Data

Weather and temperature can impact consumption of electricity, natural gas and fuel. Referencing cooling degree days (CDD) and heating degree days (HDD) can help identify one reason why consumption could be higher or lower year over year. CDD is a measure of how much (in degrees) and for how long, the outside air temperature was higher than a specific base temperature. HDD is a measure of how much and for how long the outside temperature was lower than a specific base temperature. The base temperature for this reporting is 18 degrees Celsius. The City tracks degree day data from Environment Canada.

Figure A-21: 2018 Weather Data from Environment Canada for Hamilton

Month	Mean Temp (◦C)	HDD	CDD	2018 vs 2017 HDD	2018 vs 2017 CDD
Jan-18	-6.4	755.2		21%	
Feb-18	-2.3	569		13%	
Mar-18	-0.9	585.6		1%	
Apr-18	2.9	453.8		61%	
May-18	15.9	88.9	26.7	-56%	299%
Jun-18	18.3	34	43.2	3%	-15%
Jul-18	22	0.3	123.5	-57%	61%
Aug-18	21.7	4.5	120.5	-80%	184%
Sep-18	17.9	64.9	61.5	-4%	30%
Oct-18	8.9	291.3	7.5	70%	39%
Nov-18	0.9	512.6	0	21%	
Dec-18	-0.5	574	0	-17%	
2018 Annual Total		3934.1	382.9	9%	67%

* HDD = Heating Degree Days/ CDD = Cooling Degree Days
** Weather Station YHM

Figure A-22: Heating Degree Days (2014-2018)

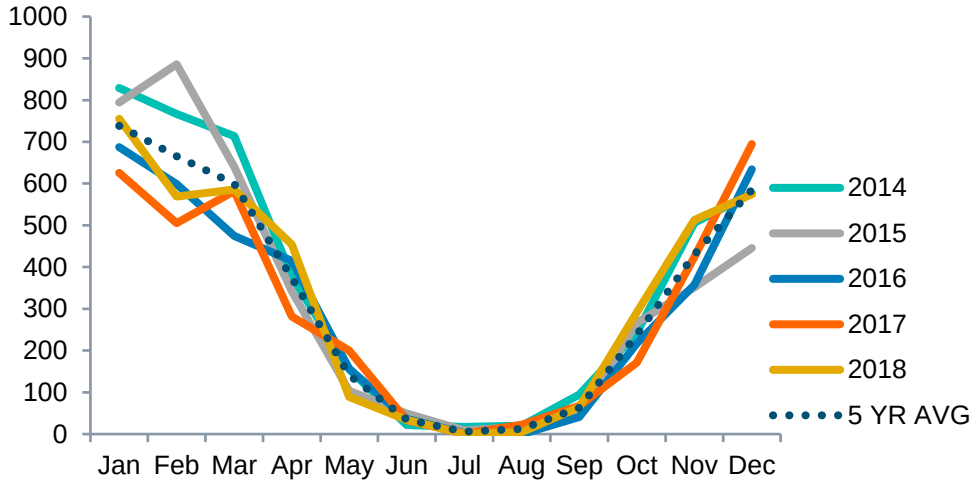
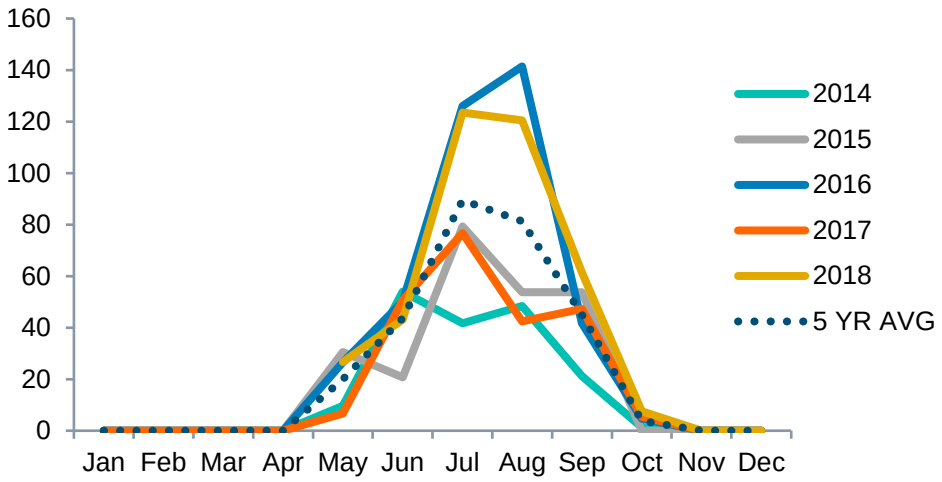


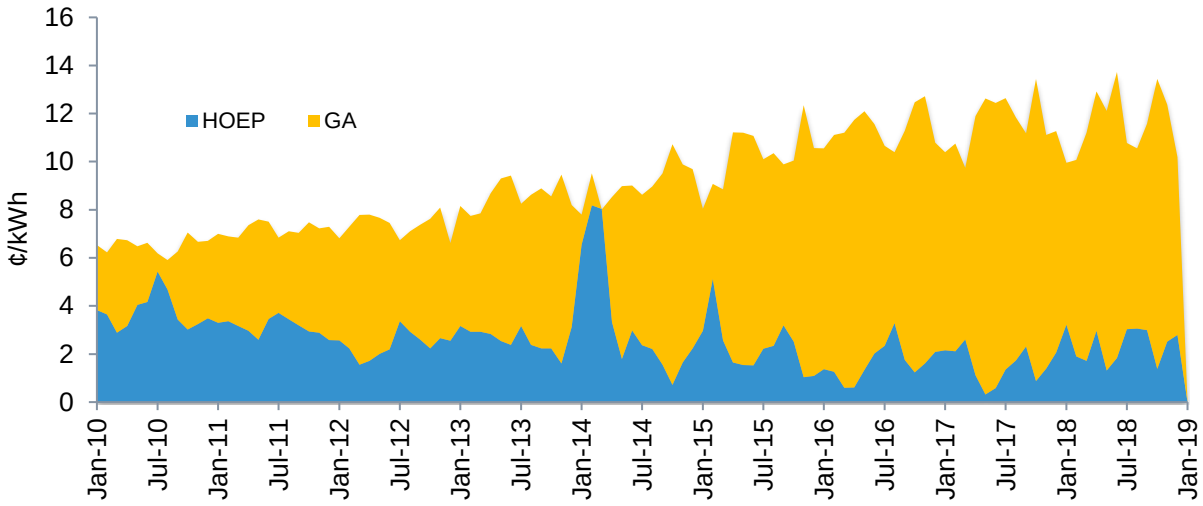
Figure A-23: Cooling Degree Days (2014-2018)



Global Adjustment

Electricity commodity is made up of two components; the Hourly Ontario Energy Price (HOEP) and the Global Adjustment (GA).

Figure A-24: Electricity Monthly Prices (HOEP and GA) 2010-2018



In regard to GA, the majority of commercial consumers are Class B rate. Class B consumers pay a regulated GA rate set monthly. Eligible, high electrical demand customers can opt for a Class A rate. Class A rate customers pay GA based on a percentage contribution to the total monthly GA costs, calculated during a peak setting

period. Class A customers can impact their GA costs by reducing demand during peak periods. Class A sites within the City include 900 Woodward Ave; 850 Greenhill Ave; 1579 Burlington St; FirstOntario Centre; CUP Operations; and Tim Hortons Field.

Figure A-25: 2018 Class A Global Adjustment Results

2018	Standard Global Adjustment Charge	Actual Global Adjustment Charge	Cost Benefit
Jan	$ 636,572	$ 273,050	$ 363,522
Feb	$ 743,238	$ 276,332	$ 466,905
Mar	$ 954,901	$ 334,112	$ 620,789
Apr	$ 981,648	$ 326,381	$ 655,267
May	$ 1,065,546	$ 347,408	$ 718,138
Jun	$ 1,222,274	$ 388,542	$ 833,732
Jul	$ 777,634	$ 337,208	$ 440,426
Aug	$ 729,672	$ 324,110	$ 405,562
Sep	$ 802,267	$ 313,317	$ 488,950
Oct	$ 999,773	$ 430,714	$ 569,059
Nov	$ 825,871	$ 346,264	$ 479,607
Dec	$ 678,127	$ 315,514	$ 362,613
Total	$ 10,417,523	$ 4,012,950	$ 6,404,572

*values shown rounded, full values used in calculations

Figure A-26: Class A Global Adjustment Results 2011-2018

Year	Standard Global Adjustment Charge	Actual Global Adjustment Charge	Cost Benefit
2011	$ 2,703,065	$ 1,640,102	$ 1,062,963
2012	$ 3,852,903	$ 2,354,335	$ 1,498,568
2013	$ 5,720,669	$ 3,220,565	$ 2,500,104
2014	$ 5,574,562	$ 3,127,867	$ 2,446,695
2015	$ 7,931,504	$ 4,020,207	$ 3,911,297
2016	$ 9,132,962	$ 4,450,757	$ 4,682,206
2017	$ 10,218,507	$ 4,242,405	$ 5,976,103
2018	$ 10,417,523	$ 4,012,950	$ 6,404,572
TOTAL	$ 55,551,695	$ 27,069,187	$ 28,482,508

*values shown rounded, full values used in calculations

Peak Days

The GA charges for Class A are calculated based on a percentage of demand during the peak setting period. The peak setting period runs from May to April annually, and the top 5 demand hours are used to calculate each Class A site's demand factor, which is used to calculate the GA charges each month. Public Works personnel work collaboratively to manage peak events and reduce demand during these periods. The Office of Energy Initiatives (OEI) use tools to predict peaks and notify key frontline staff. Staff, such as operators in Hamilton Water and Corporate Facilities may shift processes to off peak times and/or minimize usage during a potential peak event.

Figure A-27: Top 10 Ontario Demand Peaks (May 1, 2018 – April 30, 2019)*

Rank	Date	Hour Ending	Adjusted AQEW (MW)
1	September 5, 2018	18	22,399
2	July 5, 2018	16	22,377
3	July 4, 2018	19	22,017
4	August 28, 2018	17	21,644
5	September 4, 2018	17	21,379
6	July 3, 2018	19	21,291
7	July 16, 2018	12	20,954
8	July 15, 2018	18	20,924
9	July 24, 2018	17	20,943
10	July 9, 2018	18	20,808

AQEW = Adjusted Allocated Quantity of Energy Withdrawn. Source: IESO/Settlements/Global Adjustment Class A (as of April 10, 2019)

Fuels

Figure A-28: 2018 Fuel Usage by User Group

Group	Diesel Litres	Unleaded Litres	CNG DLE	Total (DLE)
Energy, Fleet & Facilities	40,120	119,211	-	159,331
Engineering Services	-	42,511	-	42,511
Environmental Services	1,069,975	392,993	-	1,462,968
Hamilton Water	176,880	187,510	-	364,391
Operations	1,303,828	370,547	-	1,674,376
Transportation	84,945	46,876	-	131,821
Other	362,535	1,001,706	-	1,364,242
Transit	6,134,378	87,005	5,104,215	11,325,598
Totals	9,172,662	2,248,360	5,104,215	16,525,237

Notes for Clarification on the above fuel usage data:

1) Transit includes Transit Operations, Route Planning and Transit Yard Support.
2) Operations includes Waste Management, Landfill, Roads and Support Services.
3) “Other” includes Public Health, Recreation, Tourism and Culture, Library, Bi-Law Services, Mayor’s Office, City Clerk’s Office and Information Services.

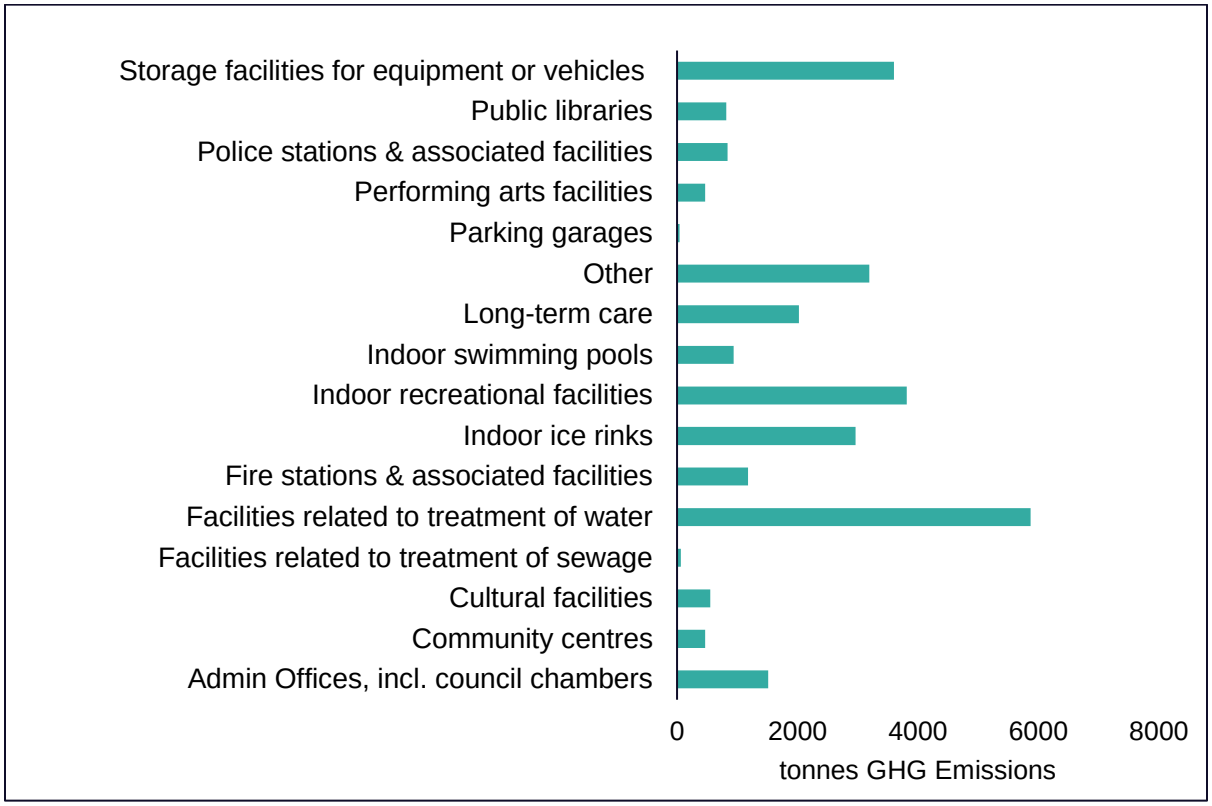
Green Energy Act (GEA) Reporting

The City was required to report to the provincial government on its energy use as part of the adherence to the now-repealed Green Energy Act (GEA). The most recent data set submission was for the 2016 Calendar year. According to the GEA’s reporting formula, the City-owned corporate facilities are responsible for emitting 28,347 tonnes of carbon dioxide equivalent (CO_2e). The GEA facility type reporting categories are pre-set and do vary from the City’s internal reporting categories. However, they do continue to represent corporately owned assets only.

Although the GEA was repealed, the City continues to be required to report on its energy use and GHG emissions to the provincial government under the Broader Public-Sector Energy and Reporting Conservation and Demand Management Plan (OReg. 507/18). Figure A-29 below shows the total 2016 GHG Emission tonnes as it was reported in July 2018.

The next reporting period, for 2017 calendar year will be submitted to the provincial government in July 2019.

Figure A-29: 2016 GEA Total GHG Emission tonnes



Proposed GHG Reduction- Focused Projects

As the City moves toward a focus on GHG reduction to tackle climate change, an effort has been made to look at how energy efficiency and emerging technologies in the energy sector can help achieve long-range targets. Figure A-30 is a snapshot of various proposed projects that will be explored further with business cases, costing and life-cycle analysis for implementation feasibility in the City.

Figure A-30: Project Proposals with GHG Reductions

Project Name	Project Lead	Location	Department/ Division	Project Type	Estimated Project Cost	Estimated GHG Reductions (Tonnes)
Wentworth Ops Boiler Retrofit	OEI	Wentworth St. Operations Centre	PW/EFFM	Mechanical Upgrade	$137,500	116.62
Wentworth Ops Solar Wall	OEI	Wentworth St. Operations Centre	PW/EFFM	Passive Solar	$507,529	279.96
MTC Solar Wall	OEI	Mountain Transit Centre	PW/EFFM	Passive Solar	$1,771,550	484.30
First Ontario Centre Lighting Retrofit	OEI	First Ontario Centre	PW/EFFM	General Lighting	$216,000	31.48
Central Public Library Mechanical Retrofit	OEI	Central Public Library	Library Board	Mechanical Upgrade	$330,000	28.49
Battery Electric Buses	HSR	Transit	PW/Transit	Transit	$10,000,000	700.00
Westdale & Terryberry Library Rooftop Unit Replacement	SPCC	Westdale & Terryberry Libraries	PW/EFFM	Mechanical Upgrade	$108,000	6.88
Library Branches Lighting Retrofit - Excluding Central Public Library	OEI	Library Branches	Library Board	General Lighting	$189,000	11.65
Central Public Library Lighting Retrofit	OEI	Central Public Library	Library Board	General Lighting	$161,843	8.34
Stoney Creek City Hall Lighting Retrofit	OEI	Stoney Creek City Hall	PW/EFFM	General Lighting	$196,107	8.63
Yards Lighting Retrofit	OEI	Various Yards Across the City	PW/EFFM	General Lighting	$550,000	24.08
Hamilton City Hall Lighting Upgrade	OEI	Hamilton City Hall	PW/EFFM	General Lighting	$270,000	11.03
Various Community Centres Lighting Retrofits	OEI	Community Centres/Outdoor Pools/Seniors	PW/EFFM	General Lighting	$432,000	17.20
Solar PV / Net Metering	OEI	Morgan Firestone & Harry Howell Arena	PW/EFFM	Renewables	$900,000	20.64
Parkdale Arena Refrigeration Plant Retrofit	SPCC	Parkdale Arena	PW/EFFM	Mechanical Upgrade	$795,000	6.77
Eastwood Arena Refrigeration Plant Retrofit	SPCC	Eastwood Arena	PW/EFFM	Mechanical Upgrade	$795,000	0.87
Pool Water Solar & Heat Recovery Project	OEI	Facilities and Rec to confirm ideal location	PW/EFFM	Passive Solar	$302,100	50.00

For additional information on the City of Hamilton energy policies and previous annual reports, please see: www.Hamilton.ca/energy

Glossary

Common Acronyms used throughout the report

CAFE = Corporate Average Fuel Economy

CDD = Cooling Degree Days

CEP = Corporate Energy Policy

CNG = Compressed Natural Gas

CO_2 = Carbon Dioxide

CO_2e = Carbon Dioxide equivalent

DLE = Diesel Litre Equivalent

ekWh = equivalent kilowatt hours

GA = Global Adjustment

GEA = Green Energy Act

GHG = Greenhouse Gas

GJ = Gigajoule

HDD = Heating Degree Days

HOEP = Hourly Ontario Electricity Price

HRPI = Hamilton Renewable Power Inc.

IESO = Independent Electricity System Operator

KPI = Key Performance Indicator

kW = kilowatt

kWh = kilowatt-hour

LED = Light Emitting Diode

M^3 = Cubic Metres

OEB = Ontario Energy Board

tCO_2e = tonnes Carbon Dioxide equivalent

Definitions: Common concepts used throughout the report

Energy Performance is the collection of performance measurements including consumption, cost and energy intensity as compared against baseline and year over year.

Energy Intensity is the measurement of energy used per square foot of facility space.

Avoided Cost/Cost Avoidance refers to the costs not incurred as a result of some action taken which is outside of status quo.

Utility Rates refers to the rate classes identified by utility providers.

Rate Optimization refers to ensuring that utility accounts are assigned to the appropriate rate class to result in best cost benefit.

Cost Recovery is the value collected by identifying billing errors, billing anomalies or rates corrections that result in a financial adjustment to costs.

Incentives are monies received from a recognized program including from utility providers, the IESO, Federal or Provincial grant programs where incentives are tied to energy conservation measures.

Energy Conservation is the collection of energy efficient measures, equipment or processes that lead to lower consumption.

Commodity Hedging is the process of fixing prices for specific terms for natural gas, fuels or electricity (commodities).

Unit Cost is the total price of variable and fixed costs per unit. In this report it refers to unit costs of electricity, natural gas and fuels.

PW19043
Item 9.1

Hamilton

2018 Annual Energy Report

June 3, 2019

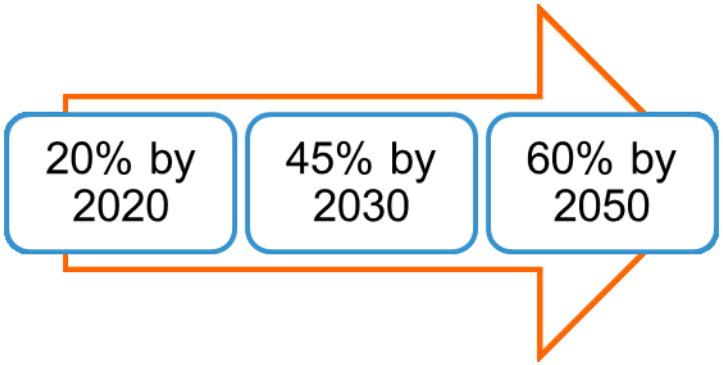
Introduction

- The Annual Energy Report for 2018 is intended as a detailed review of the past 12 months of activities as they relate to energy usage, costs, energy performance, procurement efforts and conservation initiatives for corporate assets.
- The greenhouse gas emissions reductions and inventory report for the 2017 calendar year is also included.

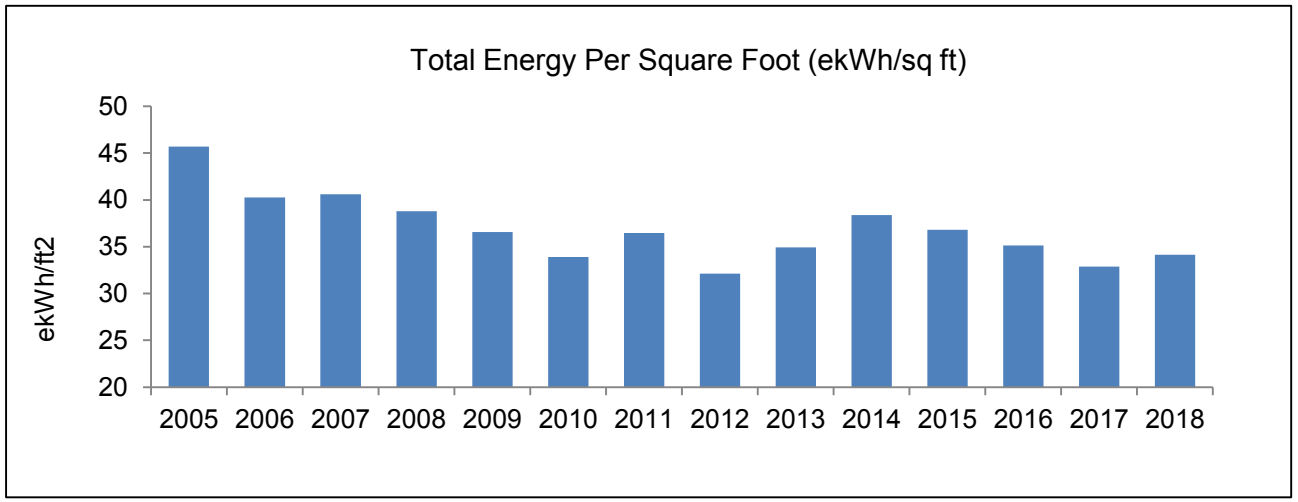
Corporate Energy Policy

- The policy is designed to:
  - act as a guideline for making energy-related decisions as it pertains to corporate assets;
  - facilitate the achievement of city-wide energy intensity and emissions reduction targets;
  - define policies for capital investment, energy procurement, renewables;
  - address legislative requirements.

Energy Intensity Reduction Targets



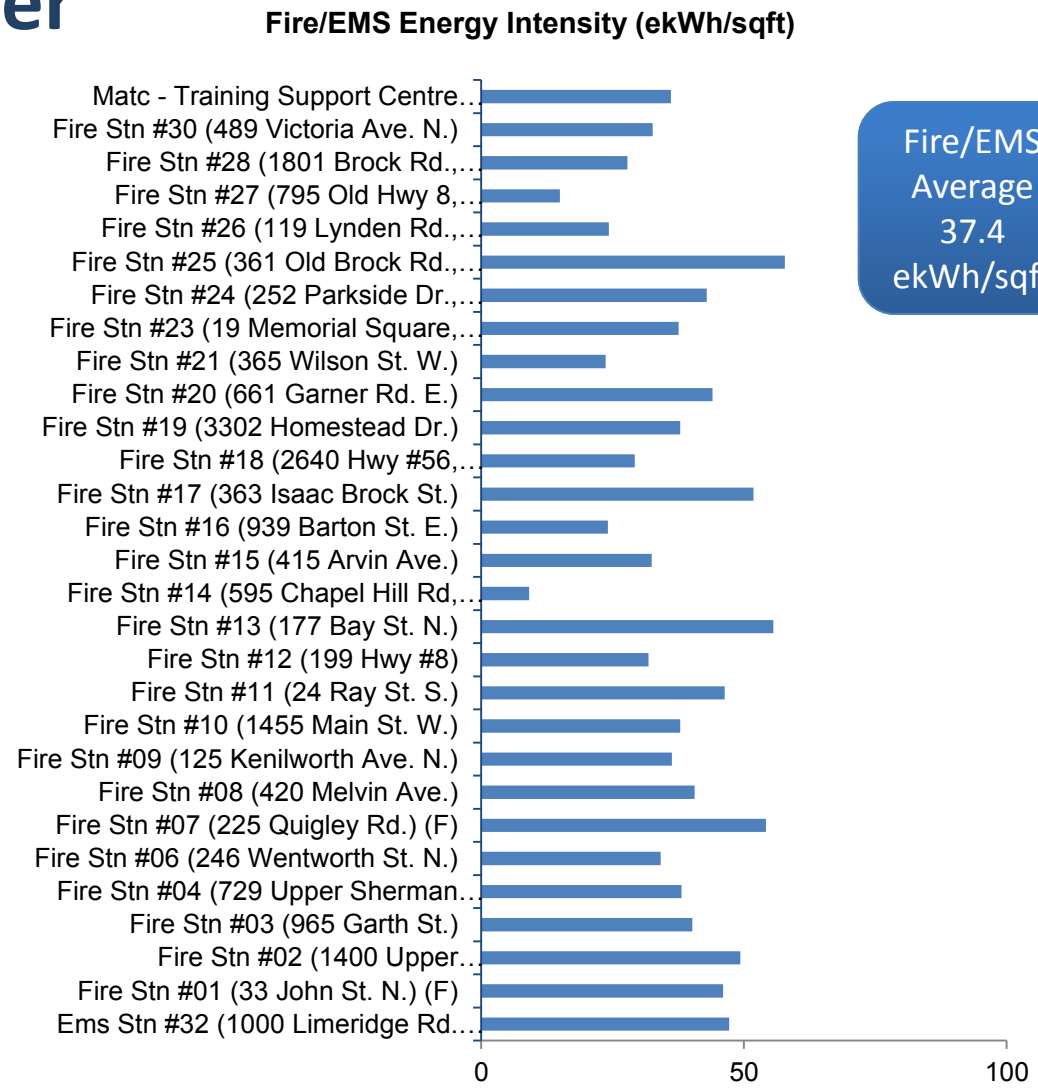
2018 - Energy intensity reduction of 25%



Energy Intensity Per Portfolio

Sample of Energy Intensity by property for EMS & Fire

City Wide Energy Intensity Average of **34.13** ekWh/sqft

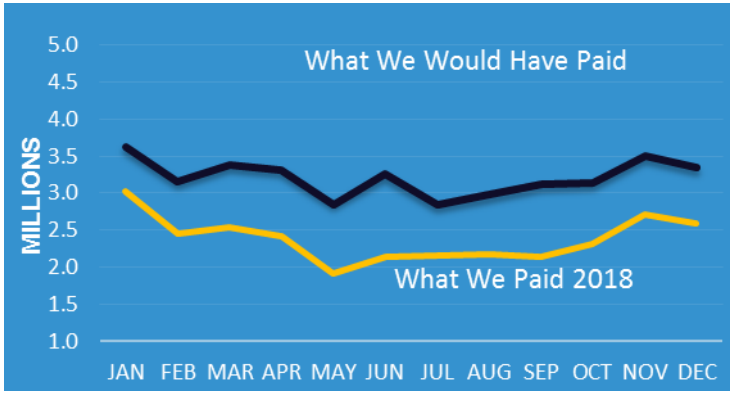


Fire/EMS Average 37.4 ekWh/sqft

* Details Found in Appendix

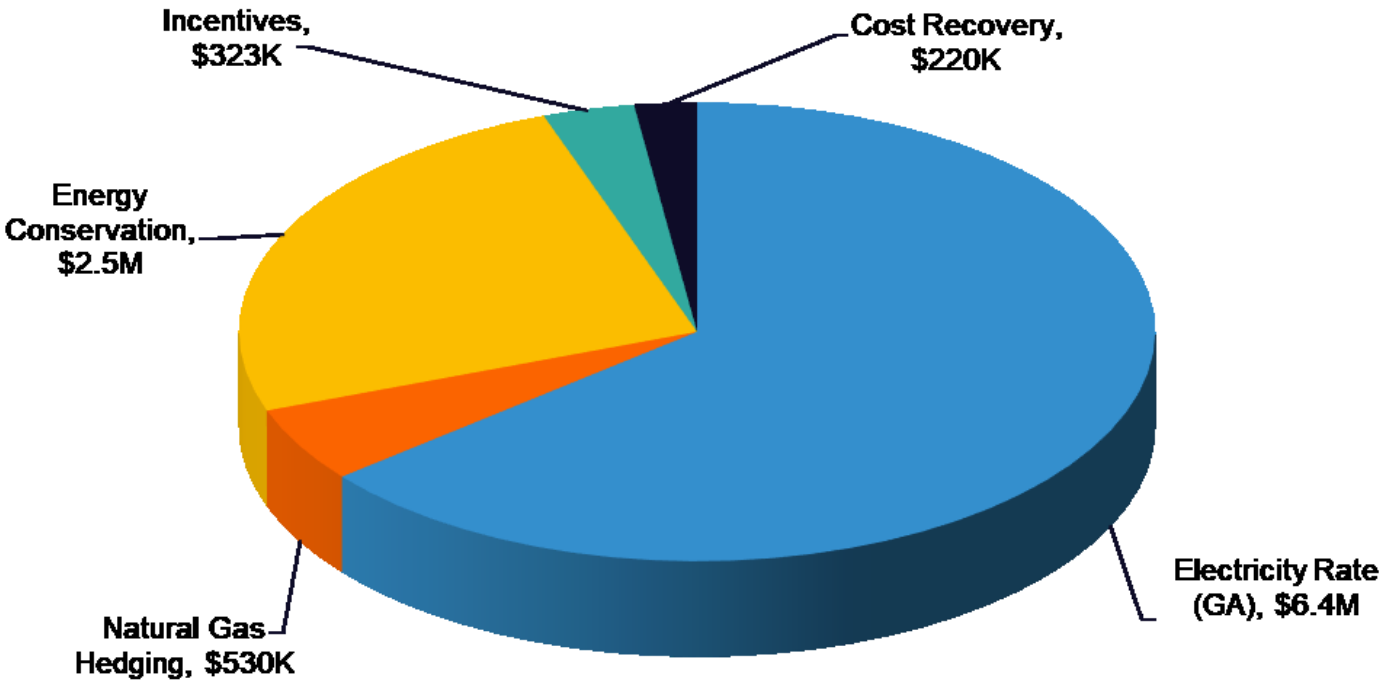
Energy Strategies and Programs

Energy Strategies & Programs resulted in $9.9M savings and avoided costs for 2018.



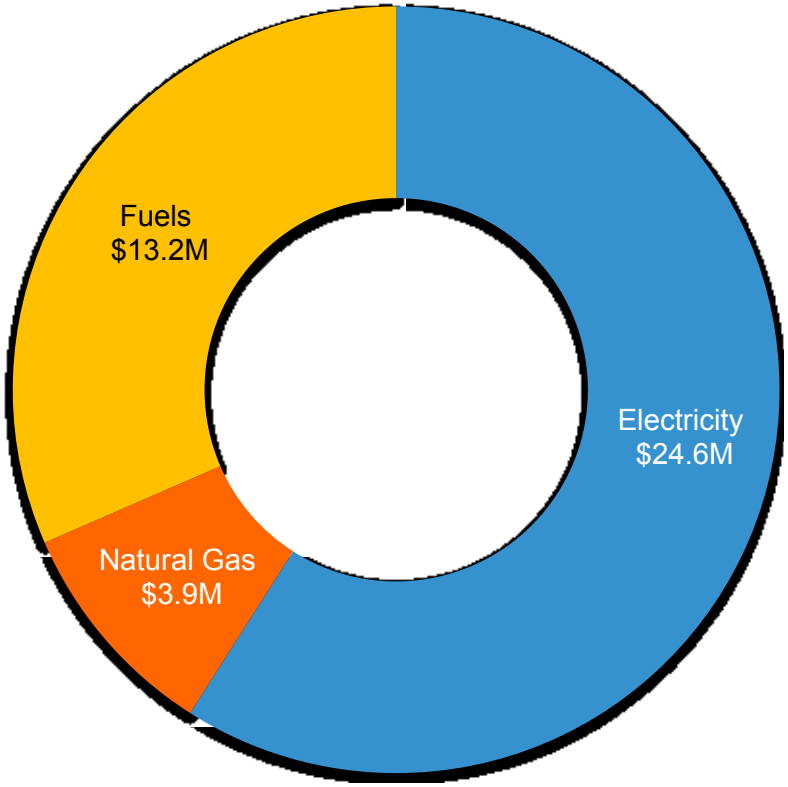
- Utility Rates & Commodity Strategies
  - Global Adjustment
  - Hedging
- Cost Recovery
  - Billing/rate errors and corrections
  - Tax recovery programs
- Energy Conservation & Incentives Programs
  - Savings achieved from energy efficiency projects
  - Incentives received

Breakdown of Energy Strategies and Programs - 2018



Overall Costs: Electricity, Natural Gas & Fuels - 2018

- Facilities costs incurred by City-owned buildings/sites and exclude City Housing Hamilton. Sites linked to the district energy system with utility costs provided from HCE are included in electricity and natural gas respectively.
- Fuels include diesel, unleaded gasoline and CNG for all Transit and Fleet operations but does not include Hamilton Police Services or Darts.
- Sites with partial data may be excluded.



Facilities

- Overall Combined Electricity and Natural Gas consumption was 2% over 2017.
- Overall Combined Electricity and Natural Gas cost was 5.6% than 2017.

Combined Consumption and Cost Comparison

Total Energy Overview	2005	2017	2018	Comparisons 2018 vs 2005	2018 vs 2017.
Total Energy (ekWh)	400,722,256	343,345,087	350,049,621	-13%	2.0%
Total Energy Cost ($)	$27,177,303	$30,277,305	$28,580,942	5%	-5.6%
Total Energy ($/ekWh)	$0.068	$0.088	$0.082	20%	-7.4%

Vehicle Fuels

- Corporate Average Fuel Economy (CAFE)

CAFE 2018 to base Year Comparison

Diesel Litre Equivalent (DLE) per 100 KM	BASE (2012)	2018
Unleaded Gasoline	20.7	19.4
Diesel	54.5	54.1
CNG	66.2	70.7
Total	46.2	44.8
Overall % Changed in DLE/100 KM		-3%

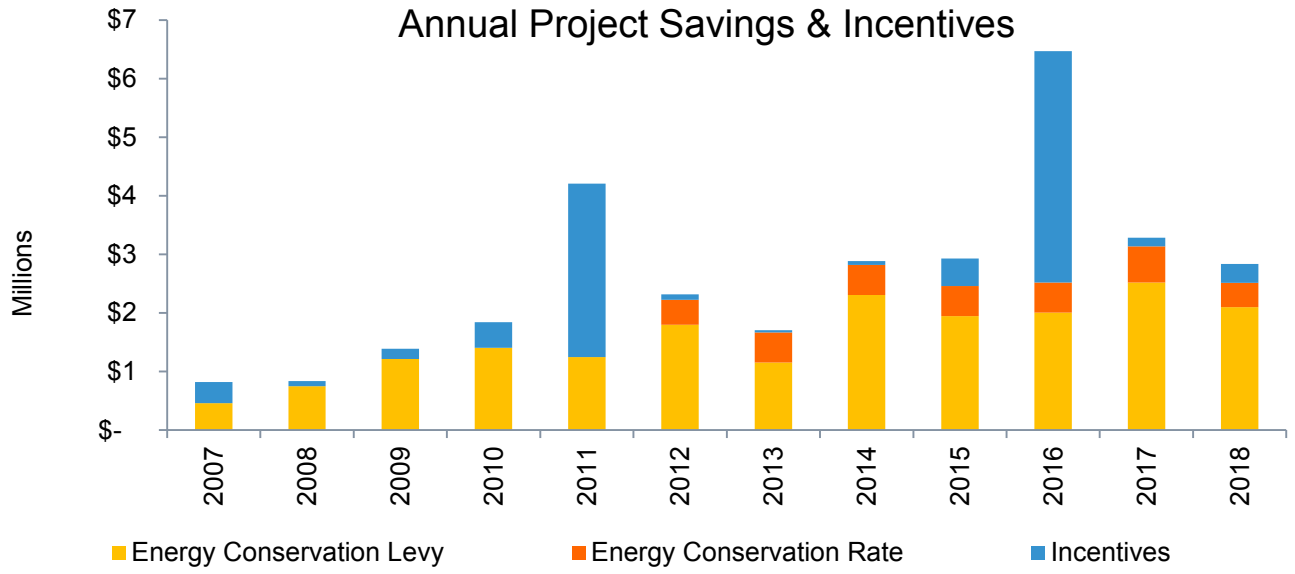
- Fuel Costs and Consumption
  - Consumption overall 5% ↑ than 2017
  - Cost overall 15% ↑ than 2017

2018 Cost and Consumption of Fuels

Fuel Type	Consumption Litres	Cost	Average $/L
Diesel	9,172,662	$ 9,752,970	$ 1.06
Unleaded Gasoline	2,248,360	$ 2,372,824	$ 1.06
CNG (DLE)	5,104,215	$ 1,032,545	$ 0.20
Total	**16,525,237**	**$13,158,339**	

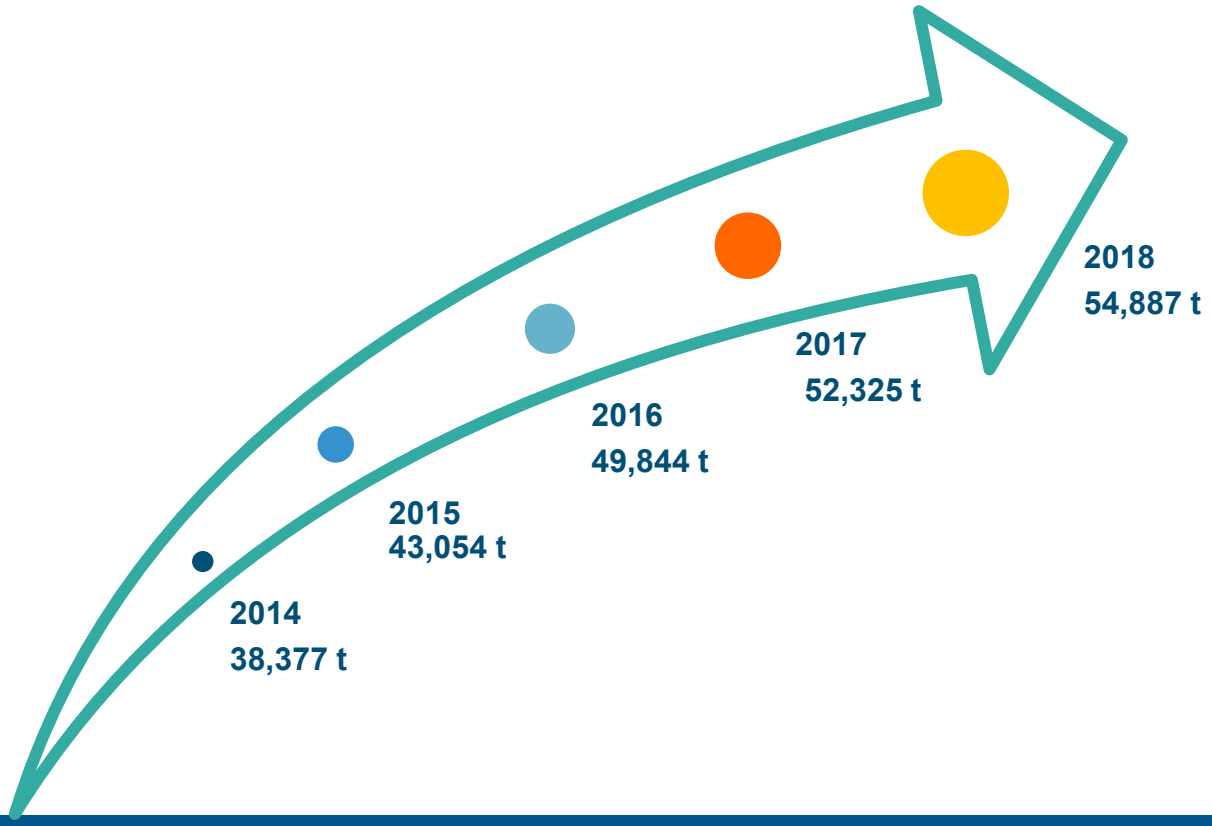
Energy Conservation

- Energy Efficiency Projects
- Incentives



- Energy efficiency project work often has the added benefit of GHG Emissions reductions

Cumulative GHG Reductions from Energy Conservation Projects in tCO_2e

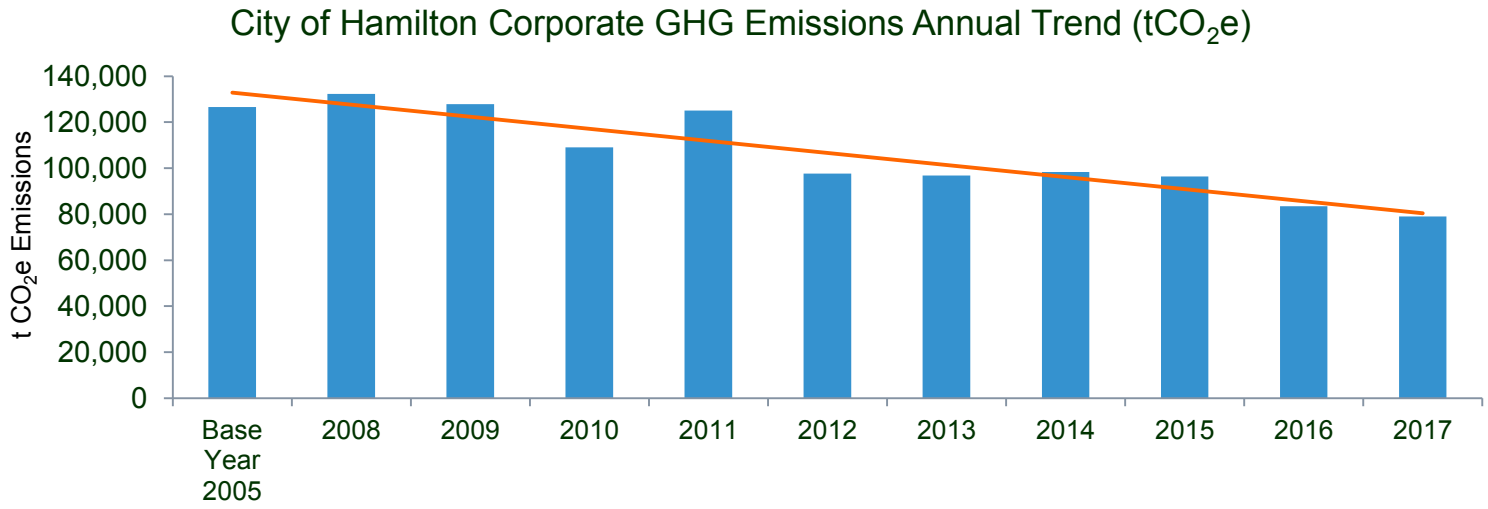


GHG Emissions 2017 Report

Targets outlined in the CEP

Year	Emission Reduction & Offset Target
2020	20%
2030	50%
2050	80%

2017 Inventory of 79,028 tonnes CO_2e = **38%** Decrease from 2005



Final Thoughts

- Several factors impact success of initiatives:
  - Regulatory changes;
  - Funding & budget constraints;
  - Market factors; and
  - Behavior and attitude.

Key is to keep targets in sight and focus efforts to reduce usage and carbon footprint of corporate facilities.

What's New?

- Mayor's declaration on Climate Change; and
- Revision of the Corporate Energy Policy document.

CITY OF HAMILTON
PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT
Transportation Planning and Parking Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Feasibility of Joining a Sidewalk from the Mount Hope Urban Boundary to the John C. Munro International Airport Lands (PED19040) (Ward 11) **(Outstanding Business List Item)**
WARD(S) AFFECTED:	Ward 11
PREPARED BY:	Steve Molloy (905) 546-2424 Ext. 2975
SUBMITTED BY: **SIGNATURE:**	Brian Hollingworth Director, Transportation Planning and Parking Planning and Economic Development Department

RECOMMENDATIONS

(a) That Report PED19040 outlining "Feasibility of Joining a Sidewalk from the Mount Hope Urban Boundary to the John C. Munro International Airport Lands" be received;

(b) That staff be directed to review opportunities to advance to within the ten-year Capital Plan, Project 4033480493 Airport Road Improvements between Upper James and Glancaster Road currently scheduled for implementation in 2034; and that any opportunities identified be considered during the 2020 Capital Budget process;

(c) That the matter respecting the feasibility of joining a sidewalk from the Mount Hope Urban Boundary to the John C. Munro International Airport Lands be removed from the Public Works Committee Outstanding Business List.

EXECUTIVE SUMMARY

This report is in response to the approved motion to direct staff to report back to Public Works Committee regarding the feasibility of joining a sidewalk from the Mount Hope Urban Boundary to the John C. Munro Hamilton International Airport Lands (HIA).

The investigation concludes that a continuous sidewalk connection is feasible and would provide pedestrian mobility benefits to the existing community, new development, transit users, school children, and activities that comprise or are associated with the HIA. However, there is currently no capital budget to implement this as a stand-alone project at this time. There is an Airport Road (Upper James to Glancaster) project identified. However, it is not within the ten-year Capital Budget forecast.

Alternatives for Consideration – See Page 5

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: There is currently no capital budget associated with this project. Any cost associated with the installation of a sidewalk would therefore be 100% levy funded. There is a future capital budget associated with the reconstruction and full urbanization of Airport Road West between Upper James Street and Glancaster Road (4033480493), currently programmed for 2034.

A high-level cost estimate indicates that the installation of a sidewalk on Airport Road West (one side only) would cost approximately $200 K. A breakdown of costs is provided below.

- Sidewalk (1.5 m clear width, one side only): $85 x 550 m = $46,750;
- Transit Stop with Shelter (relocation): $15,000 x 2 = $30 K;
- Street Lighting: Total $50 K (Corridor upgrades = $25 K plus intersection upgrades $25 K);
- Design and engineering (including grading) contract administration/ surveying/ inspections / contingency: $50 K; and,
- Land Acquisition: $25 K.

Staffing: There are no staffing impacts.

Legal: Subject to further review in association with detail design for defining the sidewalk location should land acquisition be required.

HISTORICAL BACKGROUND

There is an existing sidewalk located along the south side of Airport Road West between Homestead Drive and Mount Hope Elementary School. Sidewalk network gaps exist between Mount Hope Elementary School and the HIA, as well as between Homestead Drive and Upper James Street. The length of the existing sidewalk is approximately 480 m. The distance to connect the existing sidewalk terminus along Airport Road West to the existing transit stops near the Canadian Heritage Warplane Museum (Museum) is approximately 550 m. Additionally, it is approximately 115 m from the Museum transit stops to HIA (approximately 665 m in total from the existing sidewalk terminus).

Airport Road is partially urbanized from Upper James Street to approximately 120 m west of Homestead Drive. The remaining section of Airport Road is a rural cross-section with no accommodation for pedestrians. The area is within both the Mount Hope Secondary Plan and the Airport Employment Growth District (AEGD) Secondary and Transportation Master Plan (TMP). Through increased development and activity at HIA, development of employment lands along Airport Road east of the HIA and Museum, pedestrian demand has increased with desire lines connecting to local businesses in Mount Hope. A disconnected sidewalk network presents challenges to providing defined pedestrian routes.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

If approved, any future pedestrian cross walks, intersection control and relocation of bus stops would require traffic by-law changes.

RELEVANT CONSULTATION

Internal stakeholders were engaged to provide input into the sidewalk feasibility. The input provided by internal staff is included within the analysis. Representatives included:

- Public Works Department: Transit Division (Infrastructure Planning Section), Transportation Operations and Systems Division (Traffic Safety, Street Lighting), Engineering Services Division (Asset Management); and,
- Planning and Economic Development Department: Growth Management Division (Development Engineering), Transportation Planning and Parking Division (Transportation Planning).

In addition, a telephone conversation and follow-up email correspondence with representatives from the Museum was undertaken. The Museum representatives were

supportive of a sidewalk, however, should there be any cost impact to the Museum, it may impact their position.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

The Urban Hamilton Official Plan (UHOP) classifies Airport Road East as a minor arterial road with a future right-of-way (ROW) width of 36.576 m. Through previous ROW dedications and acquisitions, the existing ROW width varies between approximately 20.1 m and 30.2 m along Airport Road East within the section of roadway between the existing sidewalk terminus and HIA. Additional ROW will be acquired as part of 9255 Airport Road West, "Lancaster Heights" Subdivision (PED18017) to facilitate construction of a sidewalk. Coordination between this development and linking the existing sidewalk to the east will affect the timing of delivery of a sidewalk.

Immediately adjacent and east of the Lancaster Heights subdivision, there are potential ROW constraints, which may require some property acquisition. If land acquisition is required, the cost will vary depending on whether a small portion of land is obtained to accommodate a sidewalk design or the ultimate ROW as identified in the UHOP. The timing of delivery of a sidewalk will be impacted if land acquisition is required. An estimate of $25 K is identified in association with land acquisition.

The presence of a sidewalk improves pedestrian safety, supports "first-and last-mile" transit trips, and provides healthier travel choices for all ages, abilities and income. The vision for the Airport Road West design would follow the Complete-Liveable-Better Streets approach and would include consideration for the A-Line (Route 20) higher-order transit corridor and bicycle lanes, as identified within the City-wide TMP, within the scope of the future road improvements. The City's Pedestrian Mobility Plan identifies context zones and varying sidewalk clear (free of obstruction) widths, which would increase in width if in close proximity to pedestrian generators such as schools or along higher-order transit corridors. This would be implemented through routine accommodation (e.g. within the scope of proposed capital works).

Airport Road West between Upper James Street and East Cargo Road has been identified to be reconstructed (urbanized) in the AEGD TMP, which would include sidewalks on both sides of the road. This project is not in the current ten-year capital plan. Also, within the AEGD TMP, Airport Road between East Cargo Road and the Terminal Access Road has been identified to have an urban four-lane cross section. There is an existing capital project identified outside of the ten-year capital forecast for Airport Road between Upper James Street and Glancaster Road (Project 4033480493).

As a result of the transportation impact study in support of the Lancaster Heights subdivision on the south side of Airport Road West (opposite East Cargo Road), the

intersection of East Cargo Road and future collector road will be signalized. Through this development, ROW acquisition and securities to facilitate the construction of a sidewalk and installation of traffic signals in accordance with the City's Financial Policies and will be determined at the time of development. Once traffic signals are installed, the existing transit stops should be related from their existing location at the Museum entrance to the intersection. This will facilitate a controlled crossing location for pedestrians. The estimated cost to relocate the two existing bus stops (including shelters) is approximately $30 K.

Street lighting along Airport Road West is intermittent and is insufficient to accommodate a sidewalk. The future traffic signal at East Cargo Road also has insufficient lighting to support a signal. Therefore, upgraded lighting would be required in both instances. However, the existing pole line on the south side of the road could likely be utilized to install new street lights and present a cost-saving opportunity. New street lighting infrastructure at the intersection would be required. The estimated cost for lighting improvements is approximately $50 K.

A stand-alone sidewalk, on one-side only, for approximately 550 m, is estimated to cost $46,750. In addition, costs associated with engineering and design, surveying, contract administration, inspections, and contingency for all works associated with a stand-alone project are estimated at $50 K.

The total cost of sidewalk extension as identified above is estimated at $200 K (rounded).

ALTERNATIVES FOR CONSIDERATION

Council could choose to direct staff to complete the sidewalk connections as a stand-alone project in the short term, prior to the planned urbanization of Airport Road (currently not in the ten-year capital plan). If Council chooses this alternative, funding of the $200 K cost will need to be identified. This is not recommended as this alternative will result in "throw-away" costs as the sidewalk would be reconstructed at the time of full urbanization.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Healthy and Safe Communities

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

N/A

SM:cr

CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Hamilton Water Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Woodward Upgrade Project - Services During Construction (PW17092(a)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	John Helka (905) 546-2424 Ext. 2826
SUBMITTED BY: **SIGNATURE:**	Cari Vanderperk Acting Director, Hamilton Water Public Works Department

RECOMMENDATION(S)

That Purchase Order #49555 be expanded in the amount of $4.5 million pursuant to Procurement Policy #11 - Non-competitive Procurements, to CH2M Hill Canada Limited, for contract C11-28-09, Engineering Services for the Woodward Avenue Wastewater Treatment Plant Expansion from account 5160866801 Woodward Wastewater Treatment Plant - Clean Harbour, and that the General Manager, Public Works Department be authorized to negotiate and amend the existing Contract with CH2M Hill Canada Limited including any ancillary documents required to give effect thereto, in a form satisfactory to the City Solicitor.

EXECUTIVE SUMMARY

The Woodward Upgrade Project (WUP) is large capital investment at the Woodward Wastewater Treatment Plant (WWTP) focused on improving effluent quality and supporting the Hamilton Harbor Remedial Action Plan. The approximately $315M program is being delivered through three construction projects:

- Contract 1 – Main Pumping Station Project;
- Contract 2 – Electrical and Chlorination Project;
- Contract 3 – Tertiary Treatment Project.

On November 17, 2017 Information Report (PW17092) was discussed at General Issues Committee. The report identified a need to extend consulting engineering fees for services during construction but suggested waiting until all three contracts were awarded. In April 2019, the WUP reached a significant milestone in that the third and final contract (Tertiary Treatment Project) was awarded providing the necessary information to validate actual construction duration and finalize the services during construction (SDC) requirements with the consulting engineering firm CH2M Hill Canada Limited.

Throughout 2018, the City monitored the efforts required for SDC. Contracts 1 and 2 have reached the half way point of construction and a number risks have been retired resulting in a $500K reduction from the 2017 anticipated SDC requirements. Leveraging these program efficiencies, a $4.5M expansion of Purchase Order #49555 is required to support SDC. Sufficient funds are available within the WUP capital account (5160866801) to support the recommendations in this report.

Alternatives for Consideration - See Page 4

FINANCIAL - STAFFING - LEGAL IMPLICATIONS

Financial: The Project remains on budget and scheduled to be completed on time. The Purchase Order expansion of $4.5M through Procurement Policy #11 - Non-Competitive Procurements is required for SDC. Sufficient funds exist in the Council approved project account 5160866801 Woodward WWTP - Clean Harbour to support this recommendation.

Staffing: There are no staffing implications associated with the proposed recommendations.

Legal: There are no legal implications associated with the proposed recommendations.

HISTORICAL BACKGROUND

The Project was defined through a Water and Wastewater Master Plan and subsequent Environmental Study Report as approved by Council on November 14, 2007 (PW06121a). The City of Hamilton (City) received a $200 million funding commitment for the Project from both the Federal and Provincial governments under the Green Infrastructure Fund (GIF) Program. Direction was provided by Council through Report PW08131/FCS08107 to proceed with retaining engineering consulting services using the Request for Proposals (RFP) process. As such, RFP C11-28-09 was tendered and awarded to CH2M HILL Canada Limited (CH2M) in 2009 for a total purchase order value of $43,570,793 for engineering services related mainly to project management, design, tendering and SDC in support of the Woodward Upgrade Project (WUP).

Considering the unknowns associated at the time of developing the engineering consulting services RFP relating to items such as, contract durations, number of contracts and level of effort for each, a stipulated hours approach was applied within the form of proposal for the associated SDC. This approach is standard practice for RFPs of this type as it provides a consistent and fair basis when comparing proposal bids. At the time of the proposal, the City had stipulated hours that were based an assumed 30 month construction period.

As the program moved through detailed design, independent constructability reviews, construction phasing plans, and construction scheduling, the total construction duration was defined at 54 months. Therefore, adjusting the relevant costs of the SDC fees to compensate for increased construction duration of 24 months, results in a total increase of $6.3M.

As a result of the above, and based on some existing unused project contingency, an adjustment of $4.5M to CH2M's purchase order through Procurement Policy #11 - Non-competitive Procurements is required.

It should noted that as part of the 2018 and 2019 Water, Wastewater and Storm Rate Budget process, surplus funds from the favourable tenders totalling $8.4M have been used to offset capital requests.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The recommendations of this report comply with Procurement Policy #11 - Non-competitive Procurements.

RELEVANT CONSULTATION

In developing this Report, the following internal consultation was undertaken:

- Procurement Section, Financial Services Division, Corporate Services Department;
- Capital Budgets Section, Financial Planning and Policy Division, Corporate Services Department.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

In developing the proposed recommendations, staff analysed the impact of increasing the construction period from 30 months to 54 months. This increase in project duration was identified as a result of several key activities including, detailed constructability reviews through design and independent constructability workshops with industry experts which defined the actual required construction period.

When comparing the engineering services requirements for the WUP against industry benchmarks, the total value of engineering services equates to 14.6% of the construction value. This value is consistent with Industry guidelines as published by Ontario Society of Professional Engineering Fee Guideline (2015) of 14% and is consistent with other projects delivered by the City.

In addition to being in-line with industry standards, it represents good value to the City when considering the complex nature of the specific work. Once complete the Woodard Wastewater Treatment Plant tertiary treatment disk filter facility will be the largest in North America. Furthermore, construction activities are widely dispersed across the entire site, and the requirement to work around and ensure the continued operation of the existing wastewater treatment plant is paramount to our continued operational compliance.

ALTERNATIVES FOR CONSIDERATION

An alternative for consideration would be to reduce the level of effort for services during construction. However, this approach is not recommended as it would significantly increase risk in construction oversight exposing the City to potentially significantly larger risk. Risk elements include but are not limited to:

- Delay in responding to required site direction and coordination of the general contractor causing schedule delay and associated claims;
- Works being completed by the Contractor without adequate oversight from the Engineer resulting in potential re-work and risk of cost being transferred to the City;
- Increased risk in schedule delay, jeopardizing GIF funding;
- Delay in processing payment certificates. At peak, it is estimated that monthly payment certificates will be in the range of $10 million and any payment delay brings risks that could be transferred to the City;
- Lack of proper site records and accuracy of Record Drawings being recorded and provided to the City;
- Lack of support to adequately manage contract changes and review and manage claims; and
- Reduced effort for reviewing and then monitoring and controlling contractor schedule can lead to delays to the overall contract and/or contract overlap in time and space requiring the City to take on the role of Constructor.

This alternative is not recommended as the risk in reducing the level of services far exceeds any perceived savings.

ALIGNMENT TO THE 2016 - 2025 STRATEGIC PLAN

Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

Not Applicable

CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Environmental Services Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Proposals for Waste Management - Referral of Delegation Requests (PW19040) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Ryan Kent (905) 546-2424 Extension 7686
SUBMITTED BY: **SIGNATURE:**	Craig Murdoch Director, Environmental Services Public Works Department

RECOMMENDATIONS

(a) That Requests for Delegation received by the City of Hamilton Clerks Office relating to Waste Management technology, waste policy or waste process improvements be referred to the Waste Management Advisory Committee;

(b) That if a waste technology, waste policy or waste process improvement presented to the Waste Management Advisory Committee has real potential to benefit the residents of the City and meets the goals and mission of Council, that the Waste Management Advisory Committee will direct staff to prepare a report that will be brought to the Public Works Committee;

(c) That all other presentations be received, documented and recorded in the minutes of the Waste Management Advisory Committee which proceed to the Public Works Committee as Consent Items; and,

(d) That the Outstanding Business List item, Proposals for Waste Management be identified as completed and removed from the list.

EXECUTIVE SUMMARY

A Motion was brought to Council as Item 7.2 on February 27, 2019 which is attached as Appendix "A" to Report PW19040, and stated the following:

THEREFORE, BE IT RESOLVED: That all proposals for waste management including diversion, conventional treatment, thermal treatments or alternative technologies from companies or individuals interested in doing business with the City of Hamilton or modifying or creating waste management policy be referred to the Waste Management Advisory Committee for consideration.

Council did not approve the Motion but referred it to staff for a report back to the Public Works Committee.

Alternatives for Consideration – See Page 4

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: There are no financial implications associated with the recommendations in this report.

Staffing: There are no staffing implications associated with the recommendations in this report.

Legal: There are no legal implications associated with the recommendations in this report.

HISTORICAL BACKGROUND

The intent of the Motion was that all delegations related to waste management technologies or requests for policy changes be first presented to the Waste Management Advisory Committee (WMAC) which is an advisory committee of Council made up of Councillors and citizen members as well as staff who are subject matter experts. Following the presentation to WMAC, information related to the delegation presentation and results from WMAC will be reported back to Public Works Committee (PWC) through the minutes of the WMAC meeting. At the direction of WMAC, staff can prepare a report for PWC.

At this time, committees of Council, such as the Public Works Committee (PWC) approves and hears delegations related to a waste technology, waste policy or waste process improvement. Companies and individuals invested in waste processing technologies have the ability to approach the City with opportunities to test and/or implement their technologies. Proponents have taken different avenues to present their policy requests

or technologies to the City including speaking with senior staff that are subject matter experts or speaking with Councillors either as individuals or through PWC as delegations.

It is currently permitted that proposals are presented directly to the PWC as a delegation without any prior formal review by staff or the Waste Management Advisory Committee (WMAC). However, this approach presents its challenges including staff not having adequate information to assess the proposal, such as all advantages and disadvantages, and provide well-informed answers to concerns raised by the PWC members. The current process leaves Council members to assess technologies based solely on information provided by proponents which may not be complete. If the existing process continues, these challenges will persist.

If the recommendations included in this report are approved, this would create a formal process for how proposals for a change to a waste technology, waste policy or waste process improvement are presented to City Council moving forward. This procedure would require individuals and/or companies that wish to have their proposal considered by the City, to first delegate their presentation to WMAC. This would allow the WMAC to hear the proposal, discuss the merits of the proposal and request further information if required. Once all information has been received, the WMAC will report back to Public Works Committee (PWC) through the minutes of WMAC providing details about the delegation. As applicable, any proposal for a waste technology, waste policy or waste process improvement that is deemed by WMAC to have potential benefit to the residents and/or the City, staff will be directed to prepare a report to PWC. This process will allow staff to generate a well-informed report and in turn, the PWC to make well-informed decisions.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

There are no policy implications or legislated requirements associated with the recommendations in this report.

RELEVANT CONSULTATION

Waste Planning staff confirmed with the City Clerks office in the Corporate Services Department that residents can request to delegate at a Committee of Council such as PWC or at a volunteer/advisory committee such as WMAC. When a request comes in to delegate at PWC, the Clerks office can refer the delegation to WMAC.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

The rationale for these recommendations is that it allows for the vetting of proposals prior to them being presented to the PWC. This vetting would allow staff and members of the WMAC to question proposals and request further information from proponents prior to information being presented to the PWC. If the recommendations are approved, WMAC

will not solely determine whether proposals are accepted or implemented. Rather, proposals with potential benefit will be referred to staff to report to the PWC which may, if beneficial, include the delegate presenting their proposal to PWC. The outcome of the proposal will be ultimately decided by Council through PWC.

ALTERNATIVES FOR CONSIDERATION

There are no alternatives for consideration.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Built Environment and Infrastructure

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” – Council Follow-Up Notice re: Proposals for Waste Management

City Clerk's Division
COUNCIL FOLLOW-UP NOTICE

TO: Dan McKinnon
General Manager, Public Works

Nancy Wunderlich
Administrative Coordinator, Public Works

DATE: March 7, 2019

CC: Brian McMullen, Acting General Manager, Finance & Corporate Services
Jason Thorne, General Manager, Planning & Economic Development
Brian Hollingworth, Director, Transportation Planning & Parking
Joe Spiler, Manager, Capital Budgets & Development
Tom Hewitson, Manager, Current Budgets & Fiscal Planning
Ashley Bono, Manager, Finance & Administration
Clementina D'Onofrio, Administrative Coordinator, Planning & Economic Development
Charlene Rizzi, Administrative Assistant, Planning & Economic Development

FROM: Alicia Davenport
Legislative Coordinator, Office of the City Clerk

RE: **Proposals for Waste Management**

Please be advised that, at its meeting of February 27, 2019, Council did **not** approve Item 7.2, but referred it to staff for a report back to the Public Works Committee. Item 7.2 reads as follows:

7.2 Proposals for Waste Management

WHEREAS, the mandate of the Waste Management Advisory Committee shall be to: give overall guidance and direction during the preparation of the City's long-term Solid Waste Management Master Plan and advise Council through the Public Works Committee of the study progress and to receive feedback, advice and direction as appropriate.

THEREFORE, BE IT RESOLVED:

(a) That all proposals for waste management including diversion, conventional treatment, thermal treatments or alternative technologies from companies or individuals interested in doing business with the City of Hamilton or modifying or creating waste management policy be referred to the Waste Management Advisory Committee for consideration; and

(b) That the Waste Management Advisory Committee prepare a report for the Public Works Committee on all proposals for waste management.

CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Engineering Services Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Southcote Road Municipal Class Environmental Assessment (PW19041) (Ward 12)
WARD(S) AFFECTED:	Ward 12
PREPARED BY:	Erika Waite (905) 546-2424 Ext. 6397
SUBMITTED BY: **SIGNATURE:**	Gord McGuire Director, Engineering Services Public Works Department

RECOMMENDATION(S)

(a) That the General Manager, Public Works, be authorized and directed to file the Southcote Road (Garner Road to Golf Links Road) Schedule C Municipal Class Environmental Assessment Environmental Study Report (ESR) with the Municipal Clerk for a minimum thirty (30) day public review period; and

(b) That upon completion of the minimum thirty (30) day public review period, the General Manager, Public Works, be authorized and directed to proceed with the implementation of the preferred alternative within the Schedule C Municipal Class Environmental Assessment Environmental Study Report (ESR).

EXECUTIVE SUMMARY

The City of Hamilton has undertaken an Environmental Assessment Study (EA) for Southcote Road between Garner Road East and Golf Links Road as outlined in report PW19041 as Appendix “A”. Southcote Road is a two-lane minor arterial road with a rural cross-section, consisting of unpaved shoulders in most areas. The Ancaster Transportation Master Plan recommended the Southcote corridor be expanded from two lanes to three lanes, including a centre two-way left turn lane, and identified the requirement for a Schedule C EA to be completed.

The City of Hamilton has completed a study following the Municipal Class Environmental Assessment (MCEA) process for Schedule C projects, to address improvements needed for Southcote Road from Garner Road East to Golf Links Road. The purpose of this study is to recommend a preferred design that will address transportation issues along Southcote Road. The Environmental Study Report is complete and ready to be filed on the public record for the minimum thirty (30) day public review period. Upon Council approval of this Class EA and subject to comments received during the review, staff will proceed with the detailed design and implementation of the preferred alternative. Although the EA study area is from Garner Road East to Golf Links Road, the implementation of the preferred alternative has only been scheduled for the area between Garner Road East and Calder Street. The remaining area covered by the EA, Calder Street to Golf Links Road, will be assessed for implementation at a later point.

Alternatives for Consideration – See Page 9

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Project funding in the amount of $6,055,000 was approved in the 2017 and 2019 Capital Budget (Project ID 4031711015) and includes a budget of $135,000 for environmental assessments. Any project budget adjustments required to accommodate the recommendations outside of the preferred alternative will be captured through the 2020 Capital Budget Process.

Staffing: N/A

Legal: Municipal Class Environmental Assessment Process

This study has been conducted in accordance with the Municipal Class EA process with the intent to determine the preferred design option to accommodate for changes in regional transportation demands. As a result, the study has fulfilled the Class EA requirements for Phases 3 and 4 to determine the preferred planning solution and design concepts and to document the results in the final report. This study will therefore fulfil all legal requirements of the planning process pertaining to Schedule C.

The City will be providing the Environmental Study Report to the public for a minimum thirty (30) day review in order for the public to provide any final comments that they may have with respect to this planning process. This will also be the opportunity for a Part II Order (appeal) for the public and agencies.

HISTORICAL BACKGROUND

The City of Hamilton has undertaken an Environmental Assessment Study (EA) for Southcote Road between Garner Road and Golf Links Road. Under the City of Hamilton Official Plan, Southcote Road is designated as a Minor Arterial on Schedule C, Functional Road Classification. Currently, Southcote Road is two-lanes with a rural cross-section, consisting of unpaved shoulders in most areas. As per the Official Plan, minor arterial roads should include accommodations for cyclists and sidewalks should be provided on both sides of the street for pedestrians.

Approved by Council in 2010 and approved with revisions by the Ontario Municipal Board in 2015, the Airport Employment Growth District (AEGD) Secondary Plan presents a transportation strategy to guide the transportation infrastructure and strategic policies of the Hamilton International Airport area up to the 2031 planning horizon year. The Secondary Plan boundaries extend between Garner Road and Twenty Road in the north, Upper James Street in the east, and Highway 6 at the southern and western boundaries of some areas. In light of increasing development and employment opportunities south of the Southcote Road corridor, the AEGD has implications for transportation infrastructure within the study area, including vehicular traffic, transit, and active transportation requirements.

Furthermore, undertaken in 2011, the Ancaster Transportation Master Plan (ATMP) outlines Ancaster's current and future transportation needs and demands, particularly addressing issues of traffic volumes in the urban areas, congestion and traffic infiltration, The Master Plan was undertaken to prepare a transportation strategy to address these transportation needs. The Master Plan recommends the Southcote Road corridor be expanded from two to three lanes, including a centre two-way left turn lane. Anticipated timing of this project was provided as between 2017 and 2021 with a projected cost of $3.4 million. Various recommendations came from this study including:

- Cycling infrastructure: The Southcote Road corridor is identified as a "Cautionary Un-signed Bike Route"
- Transit infrastructure: There are currently no transit routes along Southcote Road
- Traffic: Collisions were not found to be sufficiently high as to require mitigation. However, as part of the solution to improve transportation safety, the addition of a two-way left turn lane is recommended. It is recommended the corridor be monitored for potential traffic operations issues as development occurs. Reduction of the speed limit to 50 km/h was recommended as part of the 2006 Base EMME/2 Network Modifications to better represent the existing network condition and has been implemented. Roundabouts were determined to be

operationally viable and recommended as an alternative to signalized intersections at Golf Links Road and Southcote Road.

- Pedestrian safety: As a result of resident feedback, the Master Plan recommends that opportunities be sought to implement crosswalks, Intersection Pedestrian Signals (where warranted), and other roadway treatments to increase safety for pedestrians in the study area. Sidewalks are recommended along both sides of Southcote Road (Calder Street to Garner Street).

The recently completed City in Motion Transportation Master Plan (December 2018) includes the recommendations from the Ancaster Transportation Master Plan.

The Municipal Engineers Association Class Environmental Assessment (EA) document (October 2000, as amended 2007, 2011 and 2015) applies to reconstruction where the reconstructed road will not be for the same purpose, use, capacity or at the same location as the facility being reconstructed. As per the recommendations of the Ancaster Transportation Master Plan, the addition of a two-way left turn lane requires the project to follow the Schedule C project process.

The City of Hamilton has completed a study using the Municipal Class Environmental Assessment (EA) process to address Schedule C projects, to concentrate on improvements needed for Southcote Road. The purpose of this study is to recommend preferred alternatives to improve the road infrastructure to accommodate for the transportation demands. The Environmental Study Report (ESR) is complete and ready to be filed on the public record for the minimum thirty (30) day review period. Upon Council approval of this Class EA and subject to comments received during the review, staff will proceed with the detailed design and implementation of the preferred alternative.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

These recommendations are consistent with the Urban Hamilton Official Plan, Hamilton Transportation Master Plan and all other corporate policies. This recommendation will not bind the Corporation or alter or contravene any established City Policy.

RELEVANT CONSULTATION

- Members of Council

The study area is located within Ward 12. Project details have been discussed with Ward Councillor Ferguson through various communications and participation at the Public Information Centres.

- Public

The Municipal Class EA process requires public consultation, according to the requirements of a Schedule C project. Consultation plans were developed and followed. Public Consultation was carried out in the form of a Notice of Study Commencement and a Public Information Centre, which was issued on May 10, 2018 and May 17, 2018 in the Ancaster News for the first Public Consultation Centre (PIC). A mail out was completed to pertinent agencies, City staff and 149 landowners within the study area. The first PIC was held on Thursday, May 24, 2018, from 6:00 p.m. to 8:00 p.m. at the Old Town Hall, 310 Wilson St E, Ancaster. The PIC followed a drop-in format which allowed attendees to review the display information, present their comments and discuss them directly with City of Hamilton and their consultants. A total of twenty-eight (28) individuals signed in at the PIC over the course of the evening.

Notification for PIC #2 was issued November 29, 2018 and December 6, 2018 in the Ancaster News. The second PIC was held on Monday, December 10, 2018, from 6:00 p.m. to 8:00 p.m. at the Old Town Hall, 310 Wilson St E, Ancaster. The PIC followed a drop-in format which allowed attendees to review the display information, present their comments and discuss them directly with City of Hamilton and their consultants. A total of thirty-two (32) individuals signed in at the PIC over the course of the evening.

The pertinent project information was made available throughout the study on the project website:

- https://www.hamilton.ca/city-planning/master-plans-class-eas/southcote-road-garner-road-golf-links-road

Throughout the public consultation process, feedback from the public has been generally supportive of the recommendations.

It was identified that there is public interest in having the hydro lines along Southcote Road buried. The City has contacted Hydro One to receive a cost estimate which will assist in determining the feasibility of burying the lines. Hydro One is still in the process of preparing a cost estimate which is expected to be finalized in the upcoming weeks. As this estimate will be received following the EA process, it will be addressed during detailed design. The preferred design option from the EA accommodates both above ground and below ground utility infrastructure.

➢ Agency/ Stakeholder Consultation

Responses and comments were received from individuals and agencies. All comments have been addressed and contained in the Environmental Study Report, including the City's initiated contact with Hamilton Conservation Authority, Ontario Ministry of Transportation, and Hydro One. Comments from concerned land owners have been addressed and are contained within the Environmental Study Report.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

➢ Municipal Class Environmental Assessment Process

The Class Environmental Assessment (EA) study follows the planning and design process of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment, October 2000, as amended in 2007, 2011, and 2015. The City is completing this study in accordance with the planning process applicable to Schedule C projects under the Municipal Class EA. These projects are approved under the Environmental Assessment Act (EA Act), as long as they are planned, designed and constructed according to the requirements of the Class EA document.

The specific requirements for the above Class EA process depend on the type of project, its complexity and the significance of environmental impacts. Four categories of projects are identified in the Municipal Class EA document, including Schedule A, A+, B and C projects. The road improvements identified in previous studies classified this work as Schedule C projects.

The Ancaster Transportation Master Plan identified the need to widen Southcote Road to three (3) lanes, including a two-way left turn lane, between Garner Road East and Calder Street. The Airport Employment Growth District Secondary Plan also identified regional transportation changes which, in turn, impact areas such as Southcote Road.

The Southcote Road (Garner Road to Golf Links Road) Municipal Class Environmental Assessment is following the Municipal Class EA process as noted:

- An approved process under the Ontario Environmental Assessment Act
- It provides the preliminary planning and engineering direction to enable urban development of the neighbourhood into the existing urban structure
- As Schedule C projects
- Includes consultation with stakeholders and the public during the process
- The Environmental Study Report (ESR) would be available for a minimum thirty (30) day review period and the Part II Order request (appeal) process would be available

Schedule C Projects generally involve the construction of new facilities and the major expansion of existing facilities and have the potential for significant environmental effects. The proposed works confirm that Schedule C is the appropriate EA Schedule.

➢ Screening of Alternative Solutions

The Southcote Road (Garner Road East to Golf Links Road) Municipal Class Environmental Assessment Study has followed the Municipal Engineers Association

Municipal Class Environmental Assessment (EA) process for Schedule C projects. The Class EA process recognizes that there are many ways of solving a particular problem and requires various alternative solutions to be considered.

➢ Rationale for Selection of Alternative Solutions

The Ancaster Transportation Master Plan established a need to widen Southcote Road to three lanes, including a two-way left turn lane, and to provide improved active transportation facilities. Alternative solutions were developed to address the problem, identified through the ATMP, with a focus on improving the transportation issues along Southcote Road.

The "Do Nothing" alternative would not adequately address the factors considered in the evaluation of alternatives, and there is no reason to reconsider the "do nothing" alternative in this study for the same reasons.

➢ Identification and Description of Alternative Solutions

Five alternatives (Option 1, 2, 3, 4 and 5) were identified and evaluated as part of this study and further details for the options as outlined in report PW19041 as Appendix "B" and Section 6.2 in the Environmental Study Report. All options include two (2) three-point three metre (3.3 m) though lanes, one (1) three-point five metre (3.5 m) two-way left turn lane and the addition of curb and gutter. The main differences can be found in the active transportation facilities and the proposed layout of right of way components.

Alternative 1

- Two (2) – one point five metre (1.5 m) sidewalks, one on each side
- Two (2) – one point five metre (1.5 m) on-road bike lanes
- The boulevard, including tree area, on the west is located between the property line and the sidewalk
- The boulevard, including tree area, on the east is located between the curb and the sidewalk

Alternative 2

- Two (2) – one point five metre (1.5 m) sidewalks
- Two (2) – one point five metre (1.5 m) separated bike lanes (curb between driving lanes and bike lanes)
- The boulevard, including tree area, on the west is located between the property line and the sidewalk
- The boulevard, including tree area, on the east is located between the separated bike lane and the sidewalk

Alternative 3

- One (1) – one point five metre (1.5 m) sidewalk on the west side

- One (1) – three-point five metre (3.5 m) multi-use pathway on the east side
- The boulevard, including tree area, on the west is located between the property line and the sidewalk
- The boulevard, including tree area, on the east is located between the multi-use pathway and the property line

Alternative 4

- Two (2) – three-point five metre (3.5 m) multi-use pathways, one on each side
- The boulevard, including tree area, on the west is located between the property line and the multi-use pathway
- The boulevard, including tree area, on the east is located between the multi-use pathway and the property line

Alternative 5

- One (1) – one point five metre (1.5 m) sidewalk on the west side
- Two (2) – one point five metre (1.5 m) bike lanes
- One (1) – three-point five metre (3.5 m) multi-use pathway on the east side
- The boulevard, including tree area, on the west is located between the property line and the sidewalk
- The boulevard, including tree area, on the east is located between the curb and the multi-use pathway

➢ Preferred Option

The alternatives were assessed against the evaluation criteria as appropriate. The following evaluation criteria were considered:

- traffic operations and safety;
- engineering/ technical;
- land use;
- recreational user experience;
- natural environment;
- supportive of public input;
- cultural heritage;
- and economic/ financial

The selection of the recommended alternative involved identifying and making trade-offs among the advantages and disadvantages of the alternatives. The alternative that had the best overall balance of advantages and disadvantages was recommended as the preferred alternative.

➢ Recommended Design Option

Option 3 - sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road - has been identified as the technically

preferred design concept. This option provides the best balance of improving active transportation facilities along Southcote Road and minimizing impacts to mature trees.

ALTERNATIVES FOR CONSIDERATION

The recommended design option was identified using an evaluation and screening process that fulfils the requirements for the Municipal Engineers Association (MEA) Municipal Class EA document for Schedule C projects. These projects are approved under the Environmental Assessment Act (EA Act) once the required four (4) phase process is complete and subject to a public review period.

The MEA Municipal Class EA document was approved under the Environmental Assessment Act. If the City does not follow the process outlined in the Municipal Class EA document, the City would be in violation of the document and as a result would have contravened the EA Act. The Minister of the Environment could revisit the approval of a project or take away the City's right to use the Municipal Class EA document.

It is recommended design option 3 be carried forward as the preferred option. There are two alternatives for Council to consider with respect to the recommendations of this report:

a) To file the Southcote Road Municipal Class EA, Schedule C project with the City Clerk for a minimum thirty (30) day public review period in order to complete the phases 3 and 4 of the process. This will offer the public and agencies the opportunity for placement of a Part II Order (appeal) with the Minister of Environment and fulfil the City's legal obligations under the EA Act.

b) To Not file the Southcote Road Municipal Class EA, Schedule C project with the City Clerk for a minimum of thirty (30) day public review period and, as a consequence, to not proceed with implementation.

Should Council not wish to approve the filing of the Southcote Road Municipal Class EA, Schedule C project, the Municipal Class EA process would be considered by the provincial government as incomplete and he City will not have the approval under provincial environmental legislation to implement the recommended alternative, required to address the transportation needs. The outcome would be equivalent to the do nothing alternative, which would result in the inability to effectively address both the short-term and the long-term infrastructure needs for the study area. Eventually the City would have to repeat the Class EA process, which would likely result in the same recommendations.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation
Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

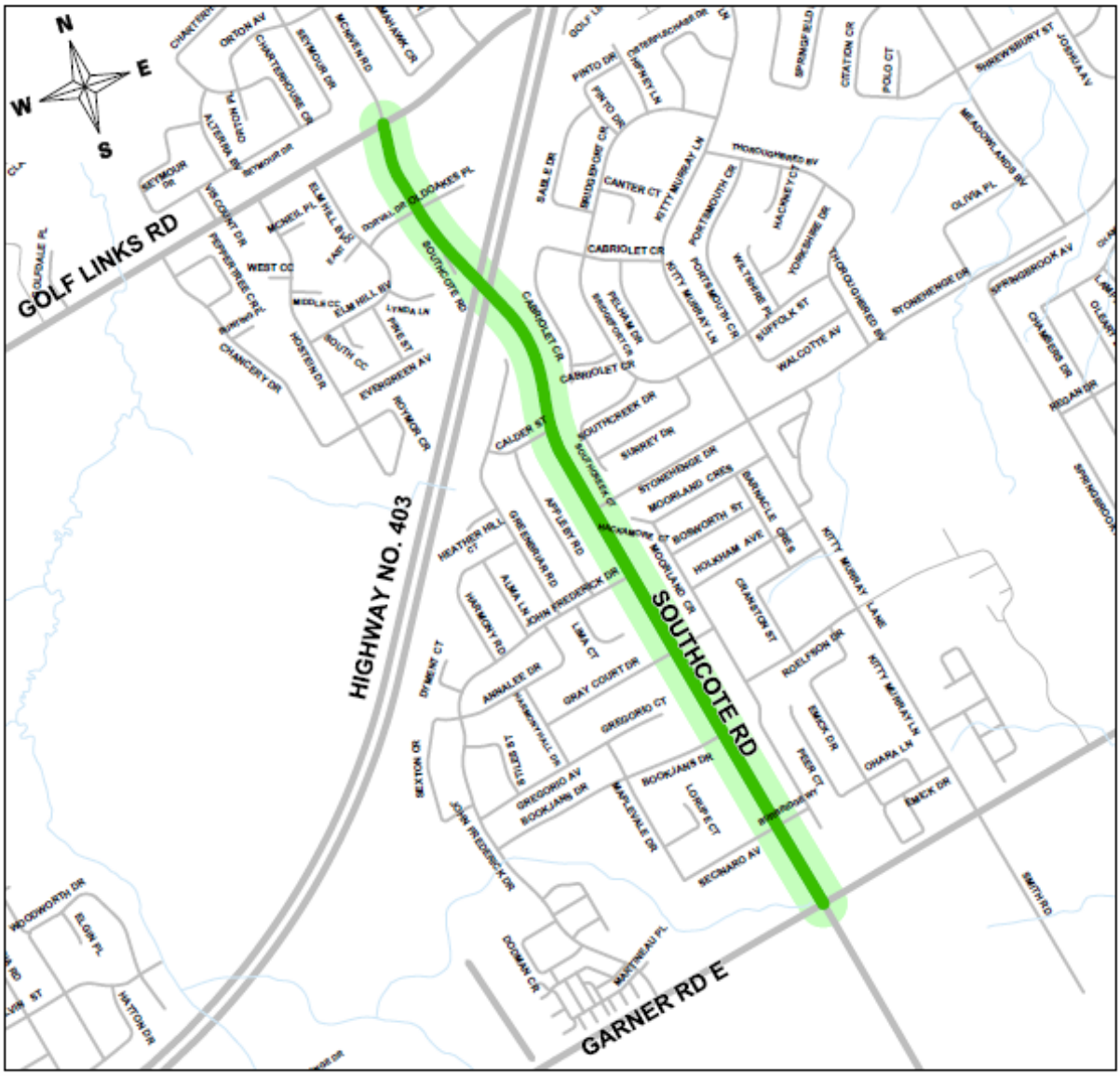
Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance
Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix A: Study Area Map
Appendix B: Evaluation of Alternative Solutions



Hamilton
Public Works

SOUTHCOTE RD - GARNER RD E TO GOLF LINKS RD

Legend

SUBJECT LOCATION

Location Map

Apr 2019

0.00 0.25 0.50
Kilometers

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Traffic Operations	Improves existing traffic operations	Impact on traffic operations would be roughly equal across all the options On-street bike lanes will result in a wider roadway width, which potentially encourages drivers to travel above the speed limit	Impact on traffic operations would be roughly equal across all the options	Impact on traffic operations would be roughly equal across all the options	Impact on traffic operations would be roughly equal across all the options	Impact on traffic operations would be roughly equal across all the options

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Technical/ Engineering	Impacts on municipal services/ utilities	All options will require at least a portion of existing overhead utilities be relocated There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater	All options will require at least a portion of existing overhead utilities be relocated There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater	All options will require at least a portion of existing overhead utilities be relocated There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater	All options will require at least a portion of existing overhead utilities be relocated There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater	Option has the widest cross-section All options will require at least a portion of existing overhead utilities be relocated There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Land Use	Is the alternative consistent with City policy documents? Impacts on adjacent lands	Option is consistent with Cycling Master Plan	Option is different than Cycling Master Plan, however is a similar approach in that pedestrians and cyclists are separated Option has a wider cross-section compared to Options 1, 3 and 4, however can be accommodated within the existing right-of way	Option is different than the Cycling Master Plan, and provides cycling facilities on one side of the roadway only (however does provide for two directions of travel) Option has narrowest cross-section, allowing some flexibility in siting sidewalk and pathway between existing trees to minimize impacts Multi-use pathway crossing multiple driveway entrances introduces conflict points	Option is different than Cycling Master Plan, however does provide cycling facilities on both sides of the roadway Multi-use pathway crossing multiple driveway entrances introduces conflict points. Option has more conflict points than Option 3 since pathway is on both side of the roadway	Option is consistent with the Cycling Master Plan Option has the widest cross-section, having the greatest impact on adjacent properties

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Recreational user experience	Provides a positive user experience for area residents, promoting an active lifestyle Provides facilities for users and various levels of ability	Least preferred option as it does not provide a space for cyclists who are not comfortable using on-road cycling lanes	Less preferred option compared to Options 3, 4 and 5 for cyclists who are not comfortable with cycling close to traffic	Accommodates leisure and family cycling however does not provide designated facilities for utilitarian cyclists	Accommodates leisure and family cycling however does not provide designated facilities for utilitarian cyclists	Provides the greatest variety for user experiences as it accommodates utilitarian and confident cyclists by providing uninterrupted bike lanes along the entire length of the Road; leisure and family cycling by providing a multi-use pathway; and pedestrians by providing sidewalks and a multi-use pathway

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Natural Environment	Impacts on existing mature trees	Options 1, 2 and 5 have wide cross-sections and would require removal of a number of mature trees	Options 1, 2 and 5 have wide cross-sections and would require removal of a number of mature trees	Option has the greatest flexibility in siting sidewalk and pathway between existing trees to minimize impacts. Sidewalk on the west side can be designed to minimize impacts to mature trees as much as possible	Option has the potential to impact more mature trees than Option 3 as multi-use pathway is wider than sidewalk	Options 1, 2 and 5 have wide cross-sections and would require removal of a number of mature trees
Supportive of Public Input	Alternative is supportive of the public input received to date	Option is not supportive of public input – public preference for off-road cycling lanes	Options 2, 3, 4 and 5 are supportive of public input	Options 2, 3, 4 and 5 are supportive of public input	Options 2, 3, 4 and 5 are supportive of public input	Options 2, 3, 4 and 5 are supportive of public input

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Cultural Heritage	What is the impact to archaeological resources? What is the impact to heritage resources?	No discernable difference between Options. Options with wider footprint have some potential to impact cemetery at Garner Road East	No discernable difference between Options. Options with wider footprint have some potential to impact cemetery at Garner Road East	No discernable difference between Options. Options with wider footprint have some potential to impact cemetery at Garner Road East	No discernable difference between Options. Options with wider footprint have some potential to impact cemetery at Garner Road East	No discernable difference between Options. Options with wider footprint have some potential to impact cemetery at Garner Road East

Evaluation Factors	Evaluation Criteria	Option 1 – Sidewalks, on-road bike lanes	Option 2 – Sidewalks, protected bike lanes on both sides of the road	Option 3 – Sidewalk on one side of the road and multi-use pathway (accommodating two directions of travel) on the other side of the road	Option 4 – Multi-use pathways on both sides of the road	Option 5 – Sidewalk on one side of the road, multi-use pathway on the other side of the road and on-road bike lanes on both sides of the road
Economic/ Financial	Relative cost (order of magnitude) Costs for utility relocations	Options 1 to 4 would have similar costs as amount of new infrastructure is similar There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater. The cost is similar for all of the alternatives	Options 1 to 4 would have similar costs as amount of new infrastructure is similar There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater. The cost is similar for all of the alternatives	Options 1 to 4 would have similar costs as amount of new infrastructure is similar There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater. The cost is similar for all of the alternatives	Options 1 to 4 would have similar costs as amount of new infrastructure is similar There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater. The cost is similar for all of the alternatives	Highest relative cost due to the greatest amount of new infrastructure in the corridor There is an option to bury overhead hydro as part of the relocation. Burying overhead hydro vs. relocating poles is approximately five times greater. The cost is similar for all of the alternatives
Preferred Option				**Preferred Option**		

CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Environmental Services Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	Replacement of the Supervisory Control and Data Acquisition System at the Central Composting Facility (PW19042) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Catherine McCausland (905) 546-2424 Extension 4203
SUBMITTED BY: **SIGNATURE:**	Craig Murdoch Director, Environmental Services Public Works Department

RECOMMENDATIONS

(a) That the single source procurement, pursuant to Procurement Policy #11 – Non-competitive Procurement to Maple Reinders Constructors Limited for the replacement of the Supervisory Control and Data Acquisition System at the Central Composting Facility as outlined in this Report be approved;

(b) That the General Manager of the Public Works Department be authorized to negotiate enter into and execute any amendments to Contract dated December 21, 2005 with Maple Reinders Constructors Limited (C11-105-03) respecting the operations and maintenance of the Central Composting Facility to reflect recommendation (a), in a form satisfactory to the City Solicitor.

EXECUTIVE SUMMARY

The Central Composting Facility (CCF) has been operating since 2006 and still utilizes its original Supervisory Control and Data Acquisition (SCADA) system to monitor and control the process. This system is critical to ensuring the CCF operates in compliance with the City's existing Environmental Compliance Approvals (ECA) issued by the Ministry of Environment, Conservation and Parks (MECP). As the current SCADA system is now approximately 14 years old, it is no longer supported by the supplier

which has resulted in it becoming unreliable and potentially exposing the City to an increased risk of operating out of compliance.

Like all technology, the SCADA system is software driven and operates much like a computer. Technology changes over time and it gets to a point where it is no longer supported for updates or upgrades and parts become harder to find.

Staff contacted other cities who operate similar composting facilities to Hamilton, including Ottawa Valley, City of London, City of Calgary and City of Guelph. All of the facilities use SCADA systems to monitor and control plant processes and all of those systems have been programmed by companies from Europe. Staff also learned the success of those systems relied heavily on the programmer's knowledge of composting processes when developing the framework. Maple Reinders Construction Limited (MRCL) has the experience, expertise and proven track record of successfully completing these projects. Hiring MRCL will ensure the work is completed successfully and will allow the City to continue to build trust with the community and the MECP with regards to the CCF.

Alternatives for Consideration – See Page 5

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Upgrade will be funded from the 2019 approved capital budget Project ID #5121949003 (CCF Lifecycle Replacement) at an amount of approximately $500,000.

Staffing: The recommendations contained in this report will have no impact on City staffing levels.

Legal: Legal Services has been consulted during the preparation of this report. Pending approval from Council, an amending agreement to the contract dated December 21, 2005 with Maple Reinders Constructors Limited (C11-105-03) will be prepared for execution.

HISTORICAL BACKGROUND

The SCADA system is critical to ensuring that the CCF operates in compliance with the City's existing ECAs issued by the MECP and has not been replaced since the CCF began operations. Given that the system is 14 years old, it has exceeded end of life and needs to be replaced.

As part of the voluntary shutdown of the CCF in June 2018 and the subsequent restart of operations in February 2019, City staff has been in discussions with the MECP about

amendments to the ECA. Going forward, the MECP would like data captured that exceed the capabilities of the existing SCADA system used to control and monitor the operations of the CCF. As a result of those discussions, staff determined that in order to satisfy the MECP requirements for the pending ECA amendment application, this replacement of the SCADA system would be a good opportunity to also meet the requirements of the MECP. The SCADA system has reached end of life and cannot be modified. When the system is replaced, the programming and replacement can be done in such a way as to capture the data that the MECP has requested as a condition of an amended ECA.

The contract between the City and MRCL places the operational responsibility on the operator. Any process risks rest with them. If the City were to hire a company not familiar with the CCF processes, operational risks could transfer to the City.

Staff recommends the SCADA replacement be sole sourced for the following reasons;

- Companies that have experience developing SCADA systems do not have the required experience with composting facilities
- There is little room for error on this project as the City continues to rebuild the trust of the community and the MECP
- As MRCL is the current contract operator of the facility until December 31, 2020, it reduces the risk that this project will not be completed to the required specifications
- Having completed SCADA work in other commercial, in-vessel composting facilities such as Guelph and Calgary MRCL will be able to perform this work more cost effectively as they will not be starting the process from scratch
- The facilities such as Guelph and Calgary are operated successfully demonstrating the quality of MRCL's work

It is the expectation of the MECP that the CCF is operated in compliance and in a manner that does not create adverse effects on the surrounding areas. With the recent closure and re-start of the CCF it is especially important to demonstrate the City's due diligence. By upgrading to a modern SCADA system, it will maintain the operational viability of the CCF, improve operational efficiency and allow for the introduction of additional infrastructure upgrades if required. It will also allow the City to continue to build trust with the surrounding community and the MECP.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The City is currently in the process of an amendment to the CCF's existing waste and air ECAs for the CCF. The current SCADA system does not have the capabilities to perform the monitoring and process oversight requested by the MECP to operate in

accordance with the proposed amended ECA. These new requirements can be incorporated into the new SCADA system.

By-law 17-064 Procurement Policy, Section 4.11, Policy #11 Non-competitive Procurements requires that Council approve a single source negotiation requests that are valued at $250,000 or greater.

RELEVANT CONSULTATION

City staff consulted with the following:

- Corporate Services Department, Legal Services Division,
- Corporate Services Department, Finance and Administration Division
- Corporate Services Department, Procurement Section has been consulted with respect to adherence to the City's Procurement Policy and have provided comment on this report
- Public Works Department, Hamilton Water Division, Plant Maintenance & Technical Services Section

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

The reliability and risks of continuing with the current SCADA system outlined as follows;

- The current SCADA system operates using Windows XP which is no longer supported by Microsoft
- The system cannot be updated as no further versions of Windows XP are available
- The labview, which is the current SCADA software is also obsolete and no longer supported
- Increased risk of cybersecurity attacks due to continued deterioration
- Requires frequent reboots resulting in data loss, lack of reliability and potentially putting the CCF out of compliance with the ECAs
- Persistent system bugs that are occurring cannot be fixed or eliminated.
- SCADA system cannot be revised to reflect any operational or data requirement changes.
- Risk of complete system loss could affect the CCF's ability to maintain building pressure, monitor pasteurization, control biofilter health and manage process water

Monitoring the CCF operational parameters is a requirement of the existing ECA. The current SCADA system has become unreliable, resulting in data gaps and putting the City at risk of operating the facility out of compliance. The current ECA amendment application will also result in additional parameters that the MECP has indicated that they wish the City to track. By upgrading this system now, it places the City in a

position to be able to respond to those required changes in a responsive and timely manner with a stable and reliable system.

ALTERNATIVES FOR CONSIDERATION

If Council chooses not to approve the recommendations in this report then City staff would conduct an open competitive procurement process (either a Policy #5.3 Request for tender process or Policy #5.4 Request for Proposals process). The concerns associated with this alternative relate to potential interference with on-going operations, potential lack of experience and knowledge with the facility and composting processes and project completion timelines associated with the Request for Tender process. This could also result in delays meeting the MECPs monitoring requirements for the current ECA amendment application as well as increased data gaps resulting from frequent reboots.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Economic Prosperity and Growth
Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance
Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Not applicable.

CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Hamilton Water Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	June 3, 2019
SUBJECT/REPORT NO:	New Septage Waste Haulage Receiving Station Schedule 'B' Municipal Class Environmental Assessment (PW19047) (Ward 11)
WARD(S) AFFECTED:	Ward 11
PREPARED BY:	Sharon MacPherson-Németh (905) 546-2424 Ext. 2087
SUBMITTED BY: **SIGNATURE:**	Mark Bainbridge Director, Water and Wastewater Planning and Capital Public Works Department

RECOMMENDATION(S)

(a) That the General Manager, Public Works, be authorized and directed to file the Notice of Completion and issue the New Septage Waste Haulage Receiving Station Schedule ‘B’ Municipal Class Environmental Assessment for the mandatory 30-day review period;

(b) That upon completion of the 30-day agency and public review period, the General Manager, Public Works, be authorized and directed to proceed with the implementation of the preferred alternative within the New Septage Waste Haulage Receiving Station Schedule ‘B’ Municipal Class Environmental Assessment.

EXECUTIVE SUMMARY

The Hamilton Water Division invoked the Municipal Class Environmental Assessment (EA) process to determine the preferred location for a new septage waste haulage receiving station. The study was carried out as a Schedule ‘B’ project to identify and evaluate a range of alternative solutions and recommend a preferred strategy.

The preferred site for the new septage waste haulage receiving station is located on Dartnall Road between Rymal Road East and Twenty Road East. This location meets the following required criteria:

- Primarily Industrial Land Use;
- Vacant Industrial Land within Area;
- Near Designated Truck Routes;
- Close Proximity to a Trunk Sewer; and
- Centrally located to Service Rural Areas.

Upon completion of the mandatory 30-day review period of the Class EA, a conceptual design of the preferred alternative will be initiated, land will be purchased, with construction commencing in 2021 at the earliest.

Alternatives for Consideration – See Page 11

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Project funding in the amount of $7,190,000 was approved in the 2016 and 2019 Capital Budget (Project ID 4031711015) and includes a budget of $200,000 for environmental assessments. Any project budget adjustments required to accommodate the recommendations outside of the preferred alternative will be captured through the 2020 Capital Budget Process.

Staffing: The implementation of the preferred alternative will be carried out by existing staff and as such there are no staffing implications. Once the new station is operational, we predict that there will not be any additional operations staff required to operate the facility.

Legal: There are no know legal implications associated with this recommendation. However, Ministry of Environment, Conservation and Parks (MECP) approval of municipal undertakings such as road improvements and water and wastewater projects are subject to *Ontario's Environmental Assessment Act*. The Act allows for the approval of Class Environmental Assessments and the municipality has the option of following the planning process set out in the Municipal Engineers Association Class Environmental Assessment (amended 2007, 2011 & 2015) document. The Municipal Class EA Section A.1.2.2 allows for Schedule B projects to be carried out for projects which have the potential for some adverse environmental effects. The City is required to file the report on the public record for a minimum 30-day review period for the EA to have been satisfied.

The City's *Sewer Use By-Law (No. 14-090)* regulates, monitors and enforces hauled septage waste by providing:

- Clearly Defined Common Pollutant Limits;
- A Prohibited Substance Listing;
- Discharge Limits for Permitted Carriers; and
- Monitoring Standards to Control Discharges and Reduce Impacts of Spills.

A new septage waste haulage receiving station was recommended in order to better enforce the hauled septage waste aspects of the City's *Sewer Use By-law (No. 14-090)*.

HISTORICAL BACKGROUND

The City currently operates two septage waste haulage receiving stations, one at the Woodward Avenue Wastewater Treatment Plant and the second on Upper Ottawa Street at the Mountain Transfer Station.

A 2010 study confirmed the two current stations cannot be upgraded to meet the requirements of the City's Hauled Waste Management Program.

The Woodward Avenue Wastewater Treatment Plant currently experiences significant truck traffic linked to plant operations as well as septage waste haulage receiving station operations. The Plant is presently undergoing significant expansion and upgrades. In an effort to reduce truck traffic at the site as well as free-up building space, the City has identified the need to close this septage waste haulage site and construct a new facility to better meet the needs of the City. At present, a septage waste haulage receiving station is being constructed at the Eastport Sewage Pumping Station, located at the corner of Eastport Drive and Pier 25 Gateway South. Once this station is operational, the Woodward facility will be decommissioned.

The Upper Ottawa Street Septage Waste Haulage Receiving Station currently operates to receive a discharge of hauled liquid waste directly into the sanitary sewer via an open manhole. Due to a number of operational challenges, site constraints, and ongoing odour issues, the City has identified the need to close this station and construct a new waste haulage receiving station. The new station would be designed to support operational needs, be constructed with odour control equipment, and it would service the southern portion of the City.

A Project Team, including Public Works staff and Consulting Engineers, was developed to undertake this Class EA study. Other key staff and sub-consultants including

Environmental Scientists, Heritage Planners and Archaeologists were engaged, as required, to provide support for various components of the study.

The Class EA study was completed as a Schedule 'B' of the Municipal Class Environmental Assessment process. The Class EA for this project included public and review agency consultation, evaluation of alternatives, assessment of the impacts of the proposed works, and identification of measures to mitigate any adverse impacts. Upon completion of the study, a Project File Report documenting the planning and decision-making process and preferred site alternative was prepared and is ready for public review. Pending approval of this recommendation, a separate advertisement will be issued to advise the public and stakeholders of the Notice of Completion of the Class EA.
Early in the project, a long list of target areas had been identified and evaluated for potentially locating the new septage waste haulage receiving station. The evaluation criteria considered included the following:

- Non-residential location (industrial area preferred);
- Near or along designated truck routes;
- Not located within the City's combined sewer system, or immediate areas with a history of sewer surcharging/basement flooding;
- Close proximity to existing sanitary trunk sewers (600mm DIA or above) or major sanitary pumping stations;
- In combination with the Eastport Pumping Station Septage Waste Haulage Receiving Station, provide central locations for majority of waste haulers;
- Not be located on prime agricultural lands;
- Suitable land uses available within target area, such as vacant industrial land or transportation/utility.

The long list of target areas included the following:

- Clappison's Corners
- Ancaster (Ancaster Industrial Park)
- Airport
- Upper James Street /Twenty Road West
- Rymal Road East/Hannon North
- Hannon South
- Heritage Green (Upper Centennial Parkway/Mud Street)
- Rymal Road East/Regional Road 56

Based on a comparison of key features for each target area, the following areas were selected to proceed to the short list phase. Please refer to Appendix "A" to Report PW19047 for a map of the short listed alternative sites:

- Airport (Option 1 and Option 2)
- Upper James/Twenty Road
- Hannon South (Option 1 and Option 2)

Each of the short-listed sites were further evaluated considering technical, natural, cultural, social and economic factors. Hannon South was the only site that met all of the required criteria including the following:

- Vacant Industrial Land in Target Area
- Nearby Truck Routes: Lincoln Alexander Parkway / Dartnall Road / Rymal Road East
- In Close Proximity to Red Hill Sanitary Trunk Sewer
- Centrally Located to Flamborough, Dundas, Ancaster, Glanbrook and Stoney Creek

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

These recommendations are consistent with the Urban Official Plan.
Other policies affecting or impacting this Report include:

- *Ontario Environmental Assessment Act*
- *Ontario Environmental Protection Act*

RELEVANT CONSULTATION

Public and Review Agency consultation is an integral and legislated component of any Municipal Class Environmental Assessment study. Stakeholders are initially notified of the study with a formal Notice of Commencement advertised in the local newspaper. Review Agencies are notified directly by mail or e-mail.

Project Stakeholder and Review Agency lists are developed at the onset of the study and maintained throughout, thus ensuring all interested parties are kept informed. All Stakeholders are invited and encouraged to comment on the project at any time during the study.

Categorically, the Agency and Stakeholder Contact Lists include the following groups:

- Provincial Ministries and Agencies
- Federal Agencies
- Aboriginal Groups
- Property owners/businesses within the study area
- Others (e.g. Municipal, Utilities, School Boards, etc.)

Two Public Information Centres were held at the Canadian Warplane Heritage Museum and the Turner Park Library on November 9, 2017 and September 19, 2018 respectively. Feedback from attendees focused on potential impacts with having the new facility in close proximity to residences and businesses. These concerns were focused on potential odours, increased truck traffic, and road erosion.

Based on feedback received from the Ward 6 and Ward 11 Councillors, additional stakeholder engagement was undertaken for three area businesses located in close proximity to the preferred site for the new septage waste haulage station. Feedback from two of these stakeholders indicated 'no concern' for the construction of this new facility. The third stakeholder expressed concerns related to potential odours, increased traffic and noise, as well as impacts to bus routes and existing sanitary infrastructure.

The recommendations of this staff report are in itself the final stage of consultation which is an inherent part of the Class EA process. The project team will receive and attempt to mitigate any Stakeholder concerns or Requests for a Part II Order that is initiated within the mandatory 30-day review period.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

By applying the Municipal Class EA process, the project followed the legislated multi-phased analysis rationale. In brief, the phases may be summarized as follows (as a minimum Schedule 'B' projects address Phases 1 and 2):

- Phase 1 - Identify the problem (deficiency) or opportunity;
- Phase 2 - Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution taking into account public and review agency input. At this point, determine the appropriate Schedule for the undertaking and document decisions in a Project File for Schedule B projects, or proceed through the following Phases for Schedule C projects;
- Phase 3 - Examine alternative methods of implementing the preferred solution, based upon the existing environment, public and review agency input, anticipated environmental effects and methods of minimizing negative effects and maximizing positive effects;

- Phase 4 - Document, in an Environmental Study Report a summary of the rationale, and the planning, design, and consultation process of the project as established through the above Phases, and make such documentation available for scrutiny by review agencies and the public;
- Phase 5 - Complete contract drawings and documents and proceed to construction and operation; monitor construction for adherence to environmental provisions and commitments. Where special conditions dictate, also monitor the operation of the completed facilities.

The main elements of the Class EA planning process are incorporated in the following five phases:

	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5
	Problem or Opportunity	→	Alternative Solutions	→	Alternative Design Concepts for Preferred Solution	→	Environmental Study Report	→	Implementation
Consultation Requirements	Optional		Mandatory		Mandatory		Mandatory		Optional

The planning and design process was undertaken in such a way as to allow a reviewer to trace each step of the process. In particular, the documentation explained the reasons for the criteria used to identity and assess the alternatives, the proponent's weighing of these criteria, and the decision-making process followed.

To ensure that the planning and design process is easily traceable, the study ensured that:

- the analysis is understandable to the reasonable lay observer;
- all conclusions drawn from the analysis follow logically from the information gathered and presented; and
- a reasonable lay observer is able to replicate the conclusions based on the information presented.

Specifically, the narrative of this study is summarized as follows with detailed documentation in the Project File Report under separate cover.

The Class EA Problem/Opportunity Statement was established at the onset of the study as follows:

- The city currently operates two septage waste haulage receiving stations - one at the Woodward Avenue Wastewater Treatment Plant and one on Upper Ottawa Street at the Mountain Transfer Station;
- The Woodward Avenue Wastewater Treatment Plant Septage Waste Haulage Receiving Station is scheduled to be replaced with a new Septage Waste Haulage Receiving Station at the Eastport Drive Sewage Pumping Station;
- Due to a number of operational challenges and site constraints at the Upper Ottawa Street Septage Waste Haulage Receiving Station, the City is in need of a new Septage Waste Haulage Receiving Station to service the southern portion of the City;
- The new station should support the objectives of the City's Septage Waste Haulage Program and the Sewer Use By-Law, while minimizing impacts to the social, cultural and natural environments.

All reasonable alternatives that meet the requirements of the Problem/Opportunity Statement were identified. The following is a list of the six alternatives considered in the study:

Alternatives	Description
1. Do Nothing	• Status Quo
2. Airport Option 1	• Lands Located in the Airport Employment Growth District Secondary Plan • Designated as Airport Prestige Business Land Use • Southwest Area of Upper James Street and Dickenson Road West
3. Airport Option 2	• Lands Located in the Airport Employment Growth District Secondary Plan • Designated as Airport Prestige Business Land Use • Southeast Area of Upper James Street and Dickenson Road East
4. Upper James/Twenty Road Option	• Northwest Area of Upper Street and Twenty Road West
5. Hannon Option 1	• Lands Located in Prestige Business Park Land Use • Between Rymal Road East and Twenty Road East
6. Hannon Option 2	• Lands Located in Prestige Business Park Land Use • Southwest Corner of Glover Road and Twenty Road East

Evaluation Criteria reflect the Triple Bottom Line evaluation methodology. The evaluation criteria established by the Project Team are summarized below. A detailed breakdown of each category is included in the Project File Report:

- Socio-Economic and Cultural Environment
- Natural Environment
- Engineering and Technical Considerations
- Economic

For the alternatives where the evaluation criterion is the best, the highest rank will be assigned. If the alternative has a disadvantage for that evaluation criterion, then it will be assigned a lower rank. The intent of this method of evaluation is to identify, for each evaluation criterion, which alternative or alternatives have an advantage or are preferred. Once this evaluation process is completed for all criteria, it can then be determined which alternative has the overall highest rank and preference.

Environmental Component	Airport 1	Airport 2	Upper James/ Twenty Road	Hannon 1	Hannon 2
Socio-Economic/ Cultural	Land acquisition required Limited truck routes Potential odour impact	Similar to Airport 1 Located within future commercial area	Potential odour and noise impact Proximity to residential area	Preferred due to proximity to truck routes Within industrial area Limited impact to surroundings	Located within prominent area of existing industrial business park
Category Score	16.9/25	13.1/25	16.9/25	23.8/25	20/25
Natural	Minimal environmental impact	Minimal environmental impact	Stream regulated by the Niagara Peninsula Conservation Authority Provincially Significant Wetland	Stream regulated by the Hamilton Conservation Authority Located on the site Mitigation measures can be identified	Stream regulated by the Hamilton Conservation Authority Located on the site Mitigation measures can be identified

Category Score	20.7/25	20.7/25	17.9/25	16.4/25	17.9
Technical	Limited downstream sewer capacity Pumping required	Limited downstream sewer capacity Pumping required	Limited downstream sewer capacity Pumping required	Gravity fed to WWTP Sufficient downstream sewer capacity	Gravity fed to WWTP Sufficient downstream sewer capacity
Category Score	17.9/25	16.4/25	17.9/25	20.7/25	19.3/25
Economic	$4.5-5M capital cost	$4.5-5M capital cost	$5.5-6M capital cost	$4.5-5M capital cost	$4.5-5M capital cost
Category Score	15/25	15/25	10/25	15/25	15/25
Overall Score	70.5/100	65.2/100	62.7/100	75.9/100	72.2/100
Overall Ranking	3rd	4th	5th	1st	2nd

Each alternative was screened against the evaluation criteria. The highest rank alternative was deemed to be the preferred alternative. The preferred site for the new septage waste haulage receiving station is the Hannon Option 1 site, located on Dartnall Road between Rymal Road East and Twenty Road East.

Mitigation measures of any negative environmental impact (such as odour control, noise control and dust control, as examples) of the preferred alternative have been identified and become conditions of the Implementation Phase of the Class EA. Detailed mitigation measures are included in the Project File Report under separate cover.

Public and Stakeholder consultation is an integral part of the Class EA process. See the Relevant Consultation section of this Report and the Project File for more details. The final step in the analysis rationale before proceeding to implementation of the preferred alternative is to undertake the mandatory 30-day review. A Notice of Completion of the Class EA as recommended herein will be issued in the second quarter of 2019. Notices will be issued via newspaper advertising and direct mail out to all members of the Stakeholder and Agency Contact lists. The Project File will be placed on public record along with contact information to receive concerns. All attempts will be made to mitigate all expressed concerns. Should resolution of a concern be unattainable the conflict may be escalated by the opponent to the Minister of the Environment, Conservation and Parks for a decision.

The above analysis rationale is a prescribed process under that Municipal Class Environmental Assessment. The project was completed under full compliance.

ALTERNATIVES FOR CONSIDERATION

The recommended alternative solution has been identified using an evaluation and screening process that fulfils the requirements under the Municipal Engineers Association (MEA) Municipal Class EA document for Schedule 'B' projects.

The preferred site for the new septage waste haulage receiving station is Hannon Option 1 site, located on Dartnall Road between Rymal Road East and Twenty Road East. There are two alternatives for Council to consider with respect to the recommendations of this report:

1. To file the New Septage Waste Haulage Receiving Station Schedule 'B' Municipal Class Environmental Assessment with the City Clerk for a minimum 30-day period for public and review agency review in order to complete the first two phases of the Municipal Class EA process. This will offer the public and agencies the opportunity for placement of a Part II Order (appeal) with the Minister of Environment, Conservation and Parks and fulfil the City's legal obligations under the EA Act.
2. To not file the New Septage Waste Haulage Receiving Station Schedule 'B' Municipal Class Environmental Assessment with the City Clerk for a minimum 30-day public and agency review period and, as a consequence, to not proceed with implementation.

Should Council not wish to approve the filing of the New Septage Waste Haulage Receiving Station Schedule 'B' Municipal Class Environmental Assessment Project File Report, the Municipal Class EA process would be considered incomplete by the provincial government and the City will not have approval under provincial environmental legislation to implement the preferred alternative. The outcome would be equivalent to the "Do Nothing" alternative, which would result in the inability to effectively address the requirements of City's Hauled Waste Management Program.

The alternative to not approve the filing of the New Septage Waste Haulage Receiving Station Schedule 'B' Municipal Class Environmental Assessment Project File Report is not recommended.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Economic Prosperity and Growth
Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

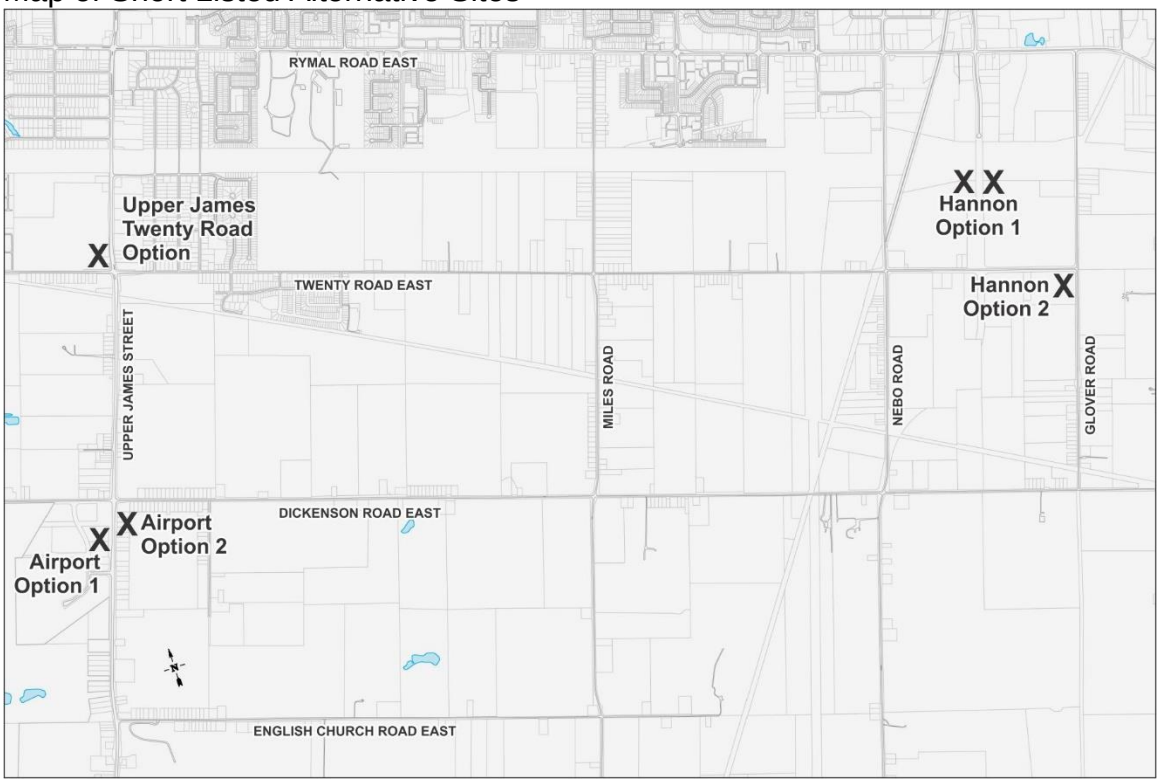
Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance
Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” - Map of Short Listed Alternative Sites

Map of Short Listed Alternative Sites



11.1

CITY OF HAMILTON

M O T I O N

Public Works Committee: June 3, 2019

MOVED BY COUNCILLOR C. COLLINS……..……..……....

SECONDED BY COUNCILLOR ……...…..……

Resurfacing of Galbraith Drive and Second Street North, Hamilton (Ward 5)

(a) That Public Works staff be directed to schedule the resurfacing of Galbraith Drive, Hamilton in the amount of $245,000 and Second Street North, Hamilton, in the amount of $330,000; and,

(b) That the Councillor Priority Minor Maintenance – Ward 5 project no. 4031611605 be utilized as the funding source.

11.2

CITY OF HAMILTON

M O T I O N

Public Works Committee: June 3, 2019

MOVED BY COUNCILLOR E. PAULS.....

SECONDED BY COUNCILLOR .....

Extension of Contract C15-23-18 (P) Relating to Churchill Park, Hamilton (Ward 1)

WHEREAS, Churchill Park is undergoing a redevelopment to include rain gardens to alleviate localized flooding in the adjacent residential area, leading to the excavation and removal of soil from the property;

WHEREAS, residents on Parkside Drive have expressed concern that the storm water berm is affecting their sightlines into the park;

WHEREAS, to address sightlines to the satisfaction of the residents, additional soil needs to be removed from the property;

WHEREAS, contract C15-23-18 (P) was competitively procured through a request for tender and awarded to the low bidder, Metric Contracting Services Corporation; and,

WHEREAS, the removal of soil to address sightline concerns is considered additional work to the contract and this additional work has been quoted by the contractor as per the unit prices in the contract;

THEREFORE, BE IT RESOLVED:

(a) That $45,000 be allocated from the Ward 1 Area Rating Reserve Account #108051 to the Churchill Park project Id 4401056127 for the purposes of extending contract C15-23-18 (P) to complete the soil removal works; and,

(b) That Council approve the single source procurement, pursuant to Procurement Policy #11 – non-competitive procurements, for the additional scope to complete the soil removal works, at the upset limit of $45,000 and that the General Manager of the Public Works Department be authorized to negotiate, and amend the Contract C15-23-18 (P) and any ancillary documents required to give effect thereto with Metric Contracting Services Corporation, in a form satisfactory to the City Solicitor.

12.1

CITY OF HAMILTON

N O T I C E OF M O T I O N

Public Works Committee: June 3, 2019

MOVED BY COUNCILLOR N. NANN……..…..……..…….....

Appointment to the Waste Management Advisory Committee

That Councillor N. Nann be appointed to the Waste Management Advisory Committee for the balance of the 2018-2022 Term of Council.