



# Stormwater Fee Information & Incentive Program Consultation

Agriculture and Rural Affairs Sub-Committee

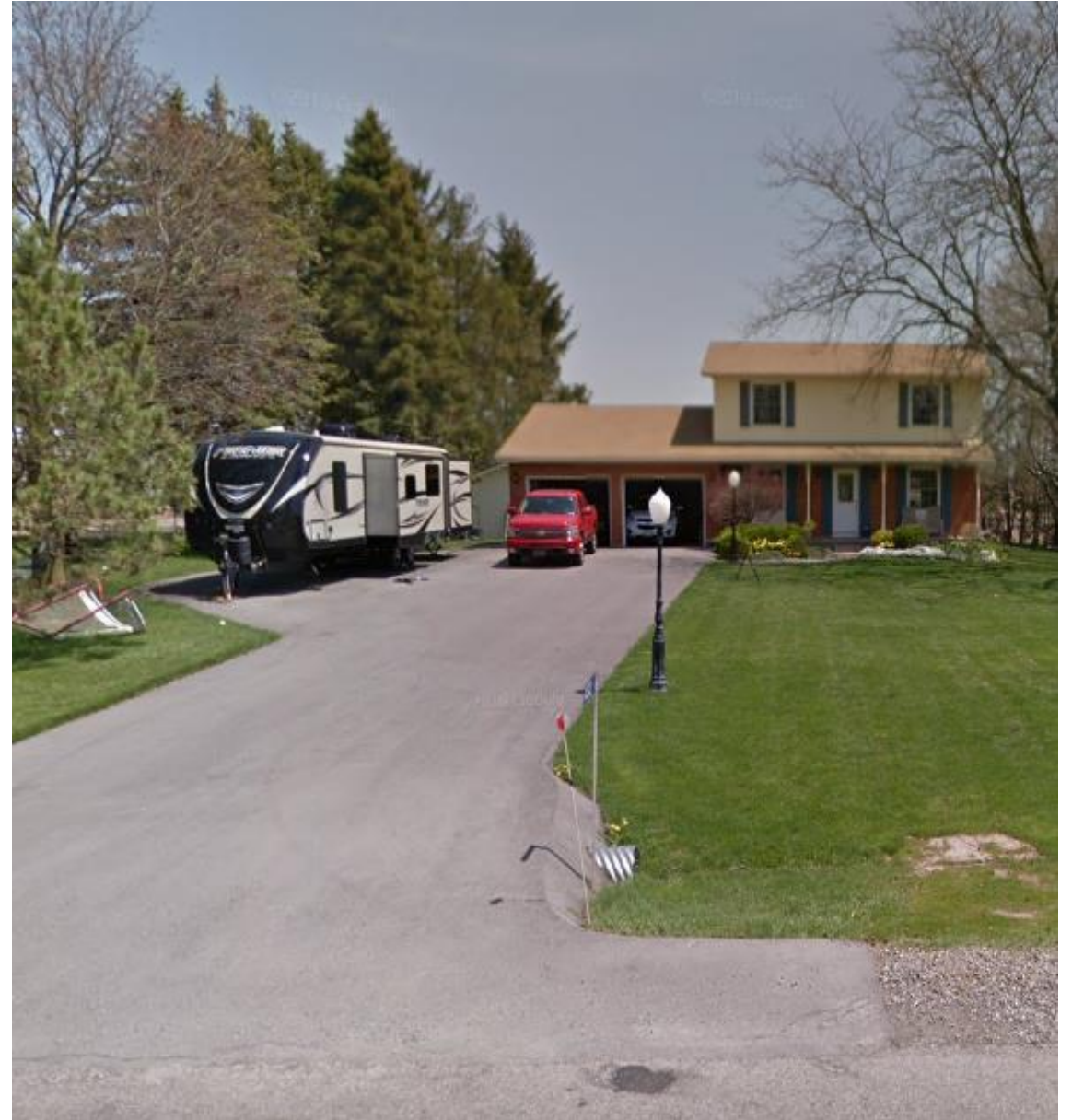
City of Hamilton

November 30, 2023

Presented by: Nancy Hill

# What is Stormwater?

Rain, melting snow, and ice that washes off driveways, parking lots, roads, yards, rooftops, and other surfaces.<sup>1</sup>

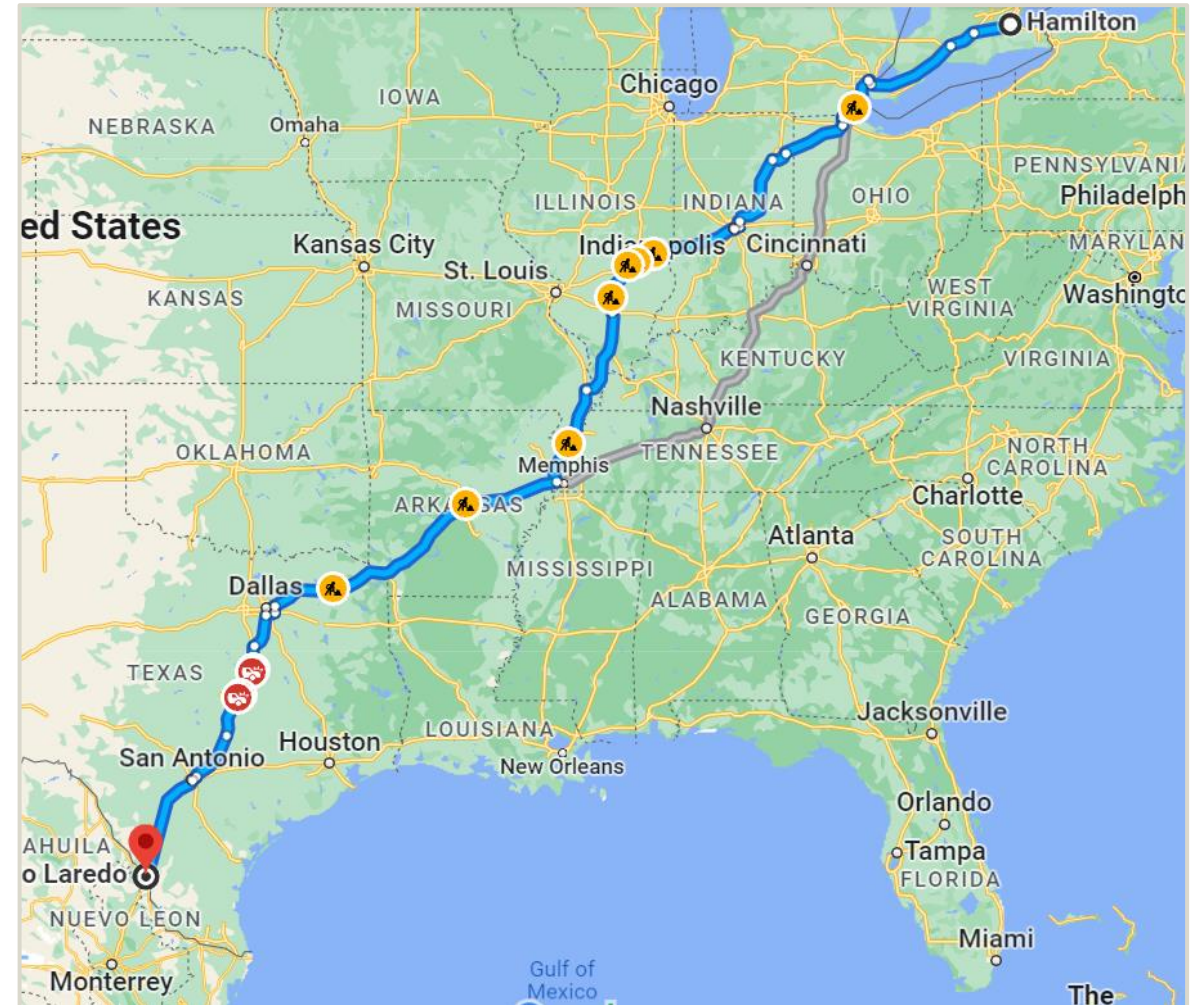


1. CSA W211:21-Management standard for stormwater systems

# Hamilton's Stormwater System

- 1,500 km ditches
- 1,200 km storm sewers
- 148 km watercourses
- 50,000 catch basins
- 3,500 culverts
- 4 infiltration facilities
- 126 ponds
- Value of **\$3.1 billion**

Hamilton  
to  
Mexico



# Rural & Urban Stormwater Systems = Watershed Management

## WHAT IS A WATERSHED?

An area that is drained by a river and its tributaries. Wherever you are right now, you are in a watershed.

## WATERSHEDS DELIVER IMPORTANT BENEFITS

**Human** – provide safe drinking water and food, and help to reduce flooding and erosion.

**Economic** – produce energy, and supply water for agriculture, industry and homes.

**Environment** – promote a healthy water cycle, and provide vital habitat for wildlife and plants.

## What is the Natural Heritage System?

Consists of natural features and areas, including wetlands, forests, meadows and valleylands, that are needed to maintain biodiversity and healthy ecosystems.

## How can agriculture impact a watershed?

Agricultural areas provide valuable greenspace and reduce stormwater, since precipitation can penetrate the soil. On the other hand, agricultural fields can release harmful contaminants into waterways as excess nutrients (e.g. phosphorous) and pesticides. Soil erosion from fields can increase the amount of sediment in waterways negatively affecting aquatic ecosystems.

## What is the Water Resource System?

Consists of groundwater and surface water features and areas, including streams, lakes, groundwater recharge areas and springs, needed to sustain healthy aquatic and terrestrial ecosystems, and human water supply.

## How can urbanization impact a watershed?

Since impervious surfaces (roads, buildings, parking lots) prevent water from penetrating into soil, stormwater runoff can carry contaminants into waterways and increase the likelihood of flooding. Infrastructure and land use development can degrade habitat, reducing the quality and quantity of natural systems and their connectivity.

## What causes flooding?

Rivers naturally flood with heavy rain or snowmelt, but flooding can become a problem when buildings and other structures are placed in floodplains. Climate change and urbanization can make flooding worse.

## Surface and Groundwater Interaction

Rain and melting snow penetrate the soil in permeable areas draining into an aquifer (i.e. groundwater recharge areas). That groundwater can then discharge at springs into streams, wetlands or other surface water features.

Groundwater discharge  
Groundwater recharge

## How can salt impact a watershed?

Chlorides can contaminate drinking water and negatively affect the health of aquatic species.

# What happens when stormwater and its infrastructure isn't managed?



Erosion



Debris in Creeks



Pollutants in creeks



Road Flooding



System Surcharge/ Basement Flooding



Infrastructure Failure

# How Does Hamilton Fund Stormwater?

2003  
\$15M



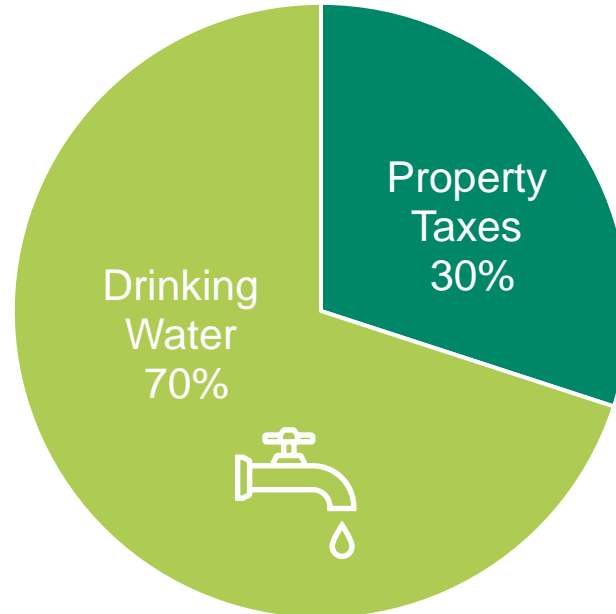
Current  
\$43M



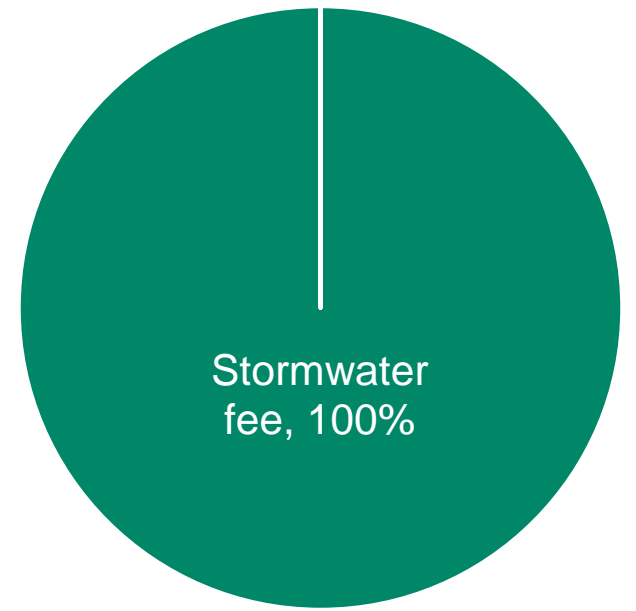
2025  
\$54M



Assessed Value



Water Consumption & Assessed Value

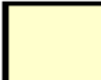




Impervious Area

# Stormwater Funding Breakdown

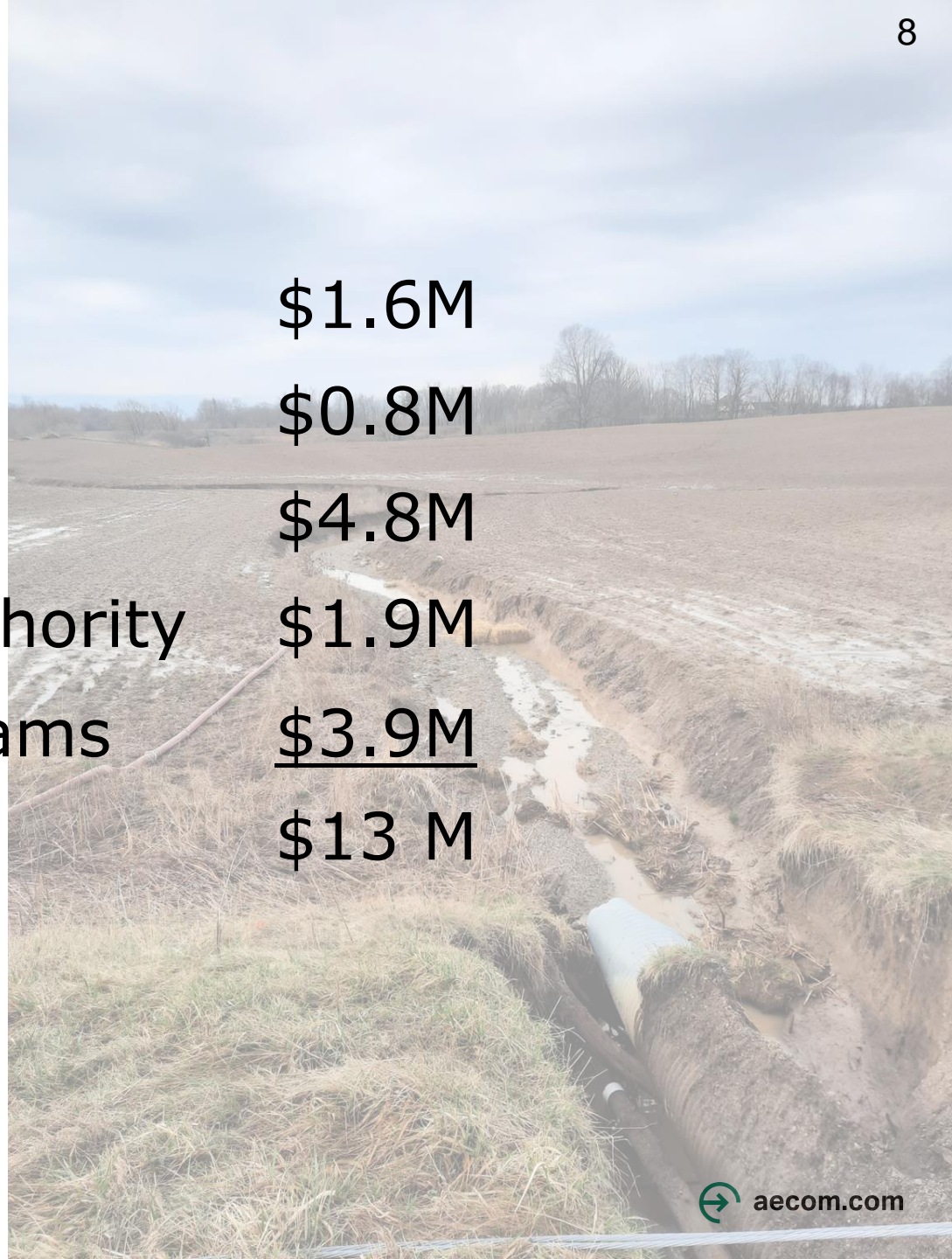
<b>Stormwater Program Budget</b>	<b>2003 (previous)</b>		<b>2023 (current)</b>		<b>2025 (future)</b>	
Conservation Authorities	\$4	27%	\$9.1	21%	\$9.5	18%
Road Drainage Maintenance	\$1	7%	\$3.9	9%	\$4.0	7%
Storm Operations/Capital	\$10	67%	\$30.0	70%	\$40.5	75%
<b>TOTAL</b>	<b>\$15 M/yr</b>		<b>\$43 M/yr</b>		<b>\$54 M/yr</b>	

## Funding Source

Tax Levy	
Water Rate	
Storm Fee	

## 2023 Tax Levy Funded Stormwater Funding

- Grand River Conservation Authority \$1.6M
- Conservation Halton \$0.8M
- Hamilton Conservation Authority \$4.8M
- Niagara Peninsula Conservation Authority \$1.9M
- Roads Maintenance Drainage Programs \$3.9M
- **\$13 M**





# Steps taken to address the inequity in Stormwater Funding

June 2022

● Council directed staff to perform a stormwater funding model review and report back by June 2024

Nov 2022

● Council approved Guiding Principles for stormwater model evaluation

January 2023

● Council directs staff to accelerate review and report back by June 2023

June 2023

● Council approved the new stormwater fee structure & directed staff to consult the public on a financial incentive program

October 2023

● Public consultation launched

## Guiding Principles

1. Fair & equitable
2. Climate resilient & environmentally sustainable
3. Affordable & financially sustainable
4. Justifiable
5. Simple

*A stormwater fee with an associated credit program is a fairer, more transparent and sustainable funding model than the current system.*

# What are more equitable stormwater funding models based on?

## Impervious area

- Roof
- Asphalt
- Concrete
- Compacted gravel
- Pavers (unless designed for infiltration)

Better estimate of stormwater impact than water consumption or assessed value.



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## What is the New Stormwater Funding Model Approved by Council?

- \$ based on property's impervious area
- Residential  $\leq 6$  units, averages
- Residential  $> 6$  units, ICI (including Ag), actual
- Remove \$ from water utility rates
- Develop & consult the public on a financial incentive program



# How Are the Stormwater Fees Calculated?

**Stormwater Fee** = # of billing units  $\times$  Rate for 1 billing unit

Rates determined annually by Council



= 1 billing unit = 291 m<sup>2</sup>\*

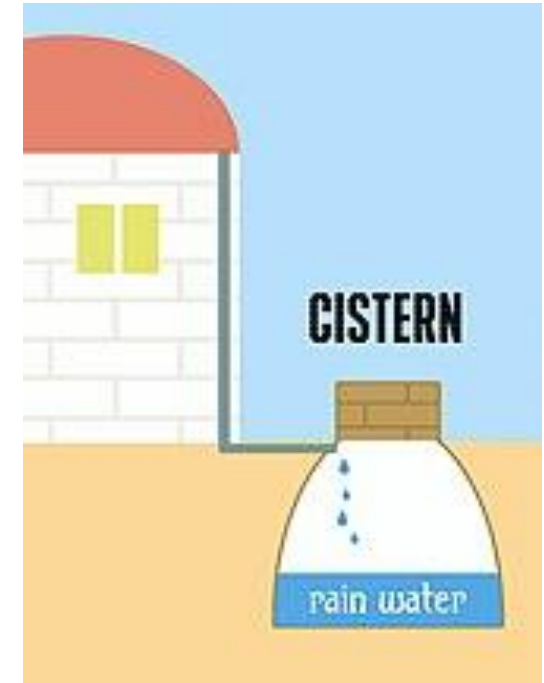
Property Type	# Billing Units
Detached homes (urban and rural)	1
Semi-detached homes, townhomes, duplexes	0.5 per dwelling unit
Triplex to sixplex	0.3 per dwelling unit
Buildings > 6 units	Impervious area/avg home
Institutional, commercial, industrial	Impervious area/avg home
Agricultural with secondary structures/outbuildings	Impervious area/avg home

\* Average impervious area for a single-family detached home was determined by measuring a statistically relevant number of homes from across the City using aerial imagery

\*\* Estimated 2025 rate for 1 billing unit is \$170

## Will an incentive program be available to reduce stormwater management fees?

- Yes – it is being considered!
- Common practice (Mississauga, Kitchener, and Guelph etc.)
- Proposed subsidized programs for residential properties
- Proposed credits for agricultural properties with more than just a residence (as well as industrial, commercial, institutional and large multi-residential property owners)



## Proposed Financial Incentives – Residential $\leq$ 6 units

### Grants/subsidies:

- Rain barrels
- Disconnect downspouts, backwater valves etc
- In-person 'how-to' advisory services
- Published 'how-to' information
- Rain gardens, permeable surfaces etc..

**Reduce the quantity and improve the quality of stormwater runoff from residential properties**



# Proposed Financial Incentives – Agricultural, ICI & Residential > 6 units

## Proposed Credit Program

Objective	Maximum Credit Amount		Description	Examples
Slow it down	40%	Total max. <b>50%</b>	Percent reduction of the 100-year storm post-development flow to pre-development conditions of the site.	Detention Ponds, cisterns
Clean it up	25%		Remove ammonia and phosphorous. Remove 60-70% sediment (based on receiving waters).	Oil-grit separators, treatment facilities
Soak it up	40%		Percent capture of first 28 mm of rainfall during a single rainfall event.	Infiltration facilities, re-use facilities
Prevent pollution	15%		Develop and implement a pollution prevention plan	Salt management plan, pesticide/manure management, sweeping, spill response plan, public education etc,

## Why not Provide Credits for Residential Properties $\leq 6$ units?



Low \$ payback for property owner (\$2-\$8 savings/month per unit)



Grants/subsidies provide upfront \$



Require effort and technical expertise to apply and renew credits



High admin cost for City (147,000 properties)



# Why is the stormwater fee applied to rural properties ?

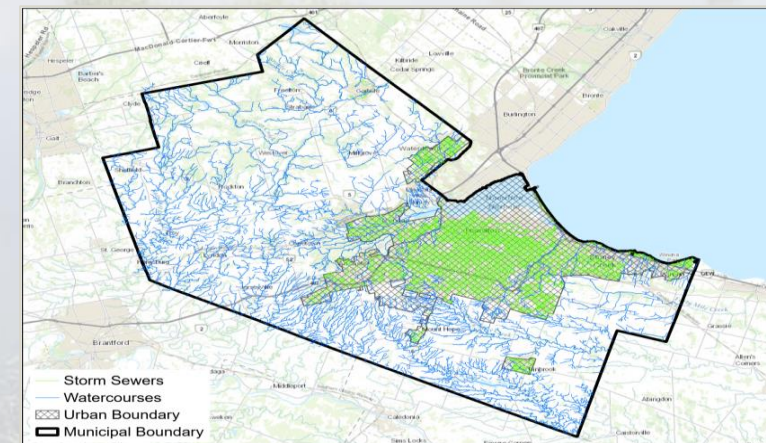
- City maintains rural stormwater system (ditches, culverts, watercourses etc.) that convey runoff from rural properties
- City spends > **\$2.6 million** on **rural drainage projects** + **\$11.7 million** on rural/urban initiatives
- Rural properties contribute ~ **\$1.5 million** towards stormwater (\$60 per home)
- Avg rural home impervious area = 2 x average urban home



*“the rural areas of Grindstone and Spencer Creeks contribute sediment and phosphorous loadings to Hamilton Harbour particularly during precipitation and snow melt events”*

# What Stormwater Work is Done in Rural Areas?

- Monitor & address phosphorous and sediment in Spencer & Grindstone Creeks
- Repair/prevent creek erosion
- Remove/prevent debris in creeks
- Inspect, repair & replace culverts
- Clean ditches
- Invasive species control



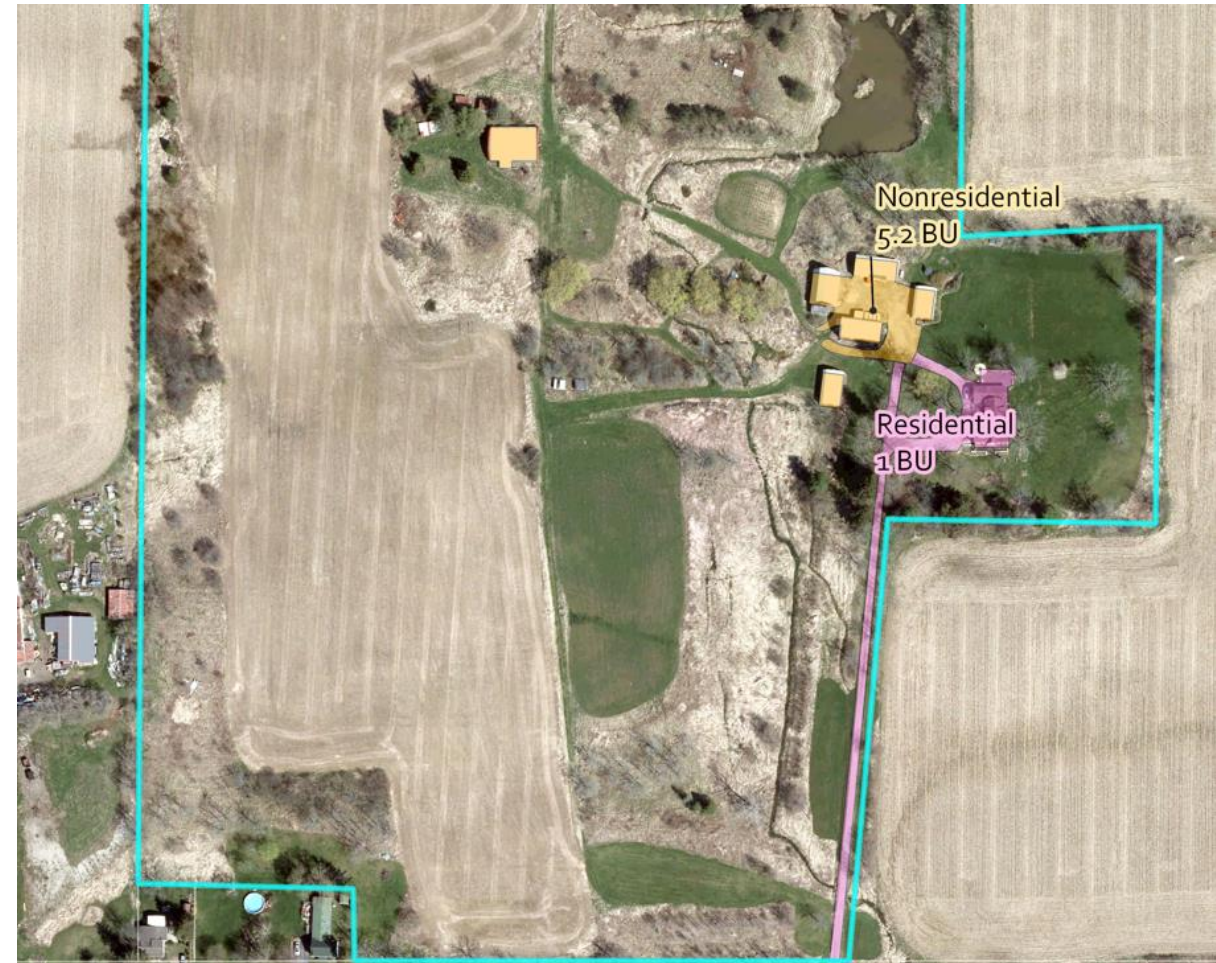
## Example Agricultural Property 1

### Property Info

- House plus outbuildings
- 104 ac
- Billing Units: 1 + 5.2
- Cistern and impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$1,054
- Potential credit: (\$527)
- Total \$527



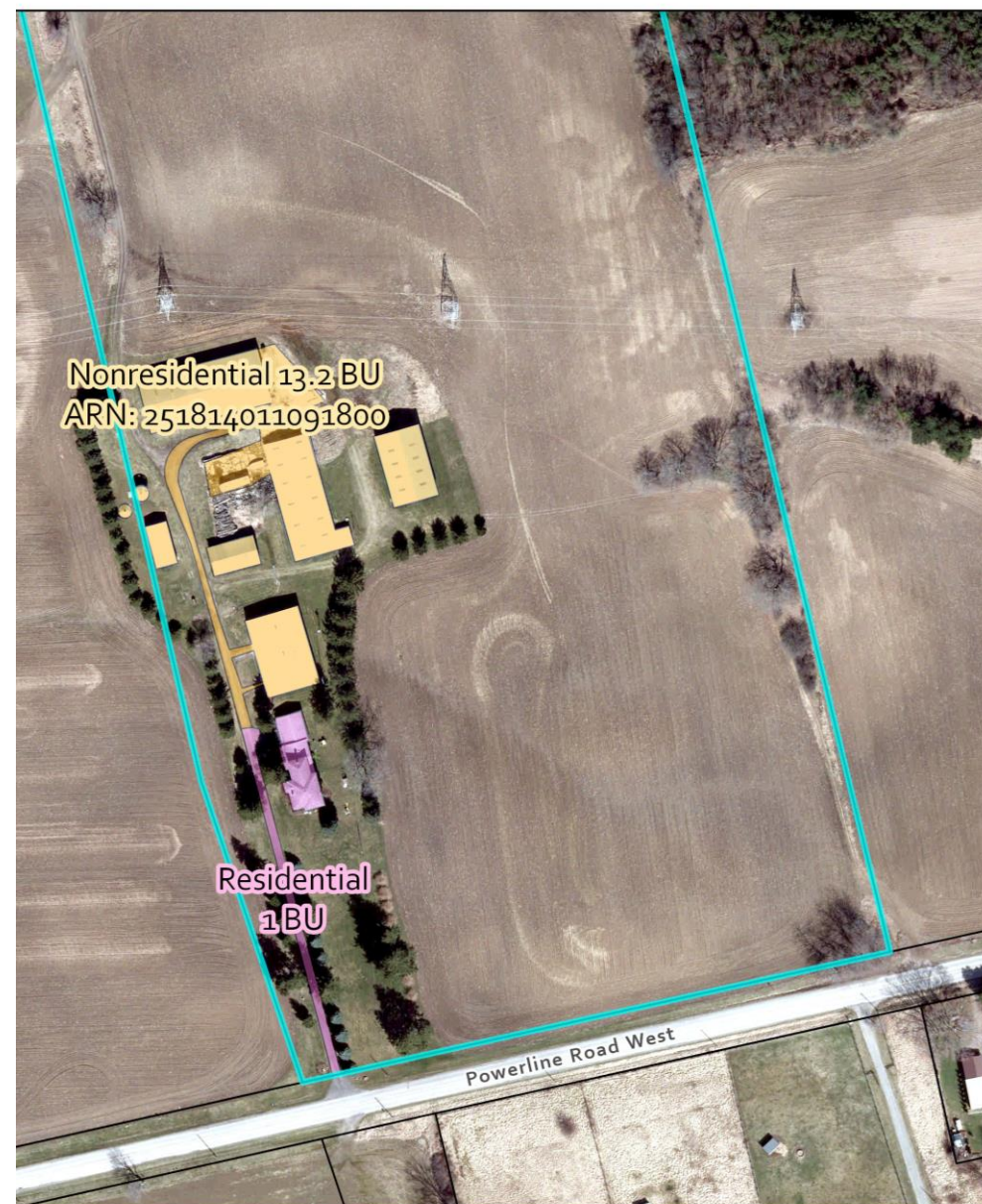
## Example Agricultural Property 2

### Property Info

- House plus outbuildings
- 48 ac
- Billing Units: 1 + 13.2
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$2,584
- Potential credit: (\$1,292)
- Total \$1,292



## Example Agricultural Property 3

### Property Info

- Houses plus outbuildings
- 135 ac
- Billing Units: 3x1 + 40.6+86.3
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$22,083
- Potential credit: (\$11,042)
- Total \$11,041



## Example Agricultural Property 4

### Property Info

- House plus outbuildings
- 49 ac
- Billing Units: 1 + 55.2
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$9,554
- Potential credit: (\$4,777)
- Total \$4,777



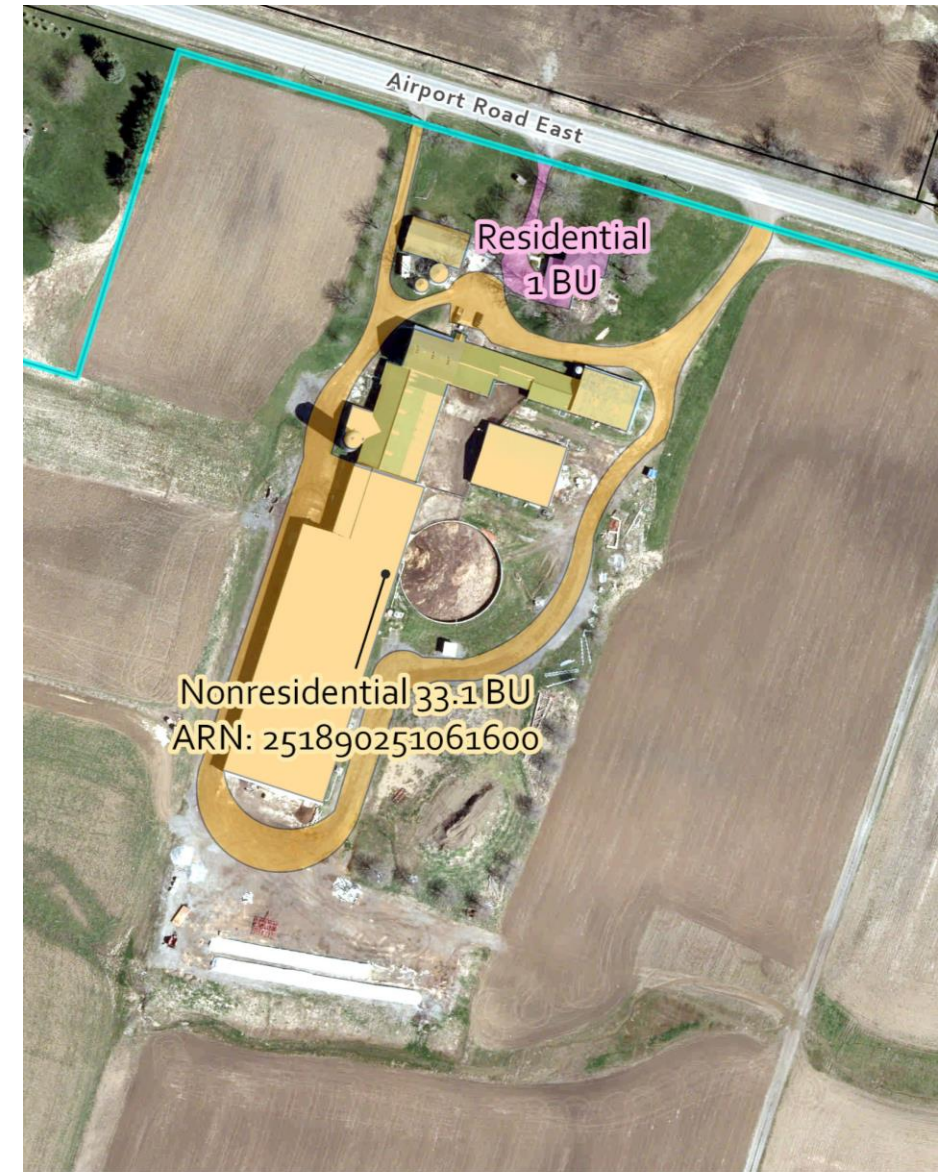
## Example Agricultural Property 5

### Property Info

- House plus outbuildings
- 145 ac
- Billing Units: 1 + 33.1
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$5,797
- Potential credit: (\$2,898)
- Total \$2,899



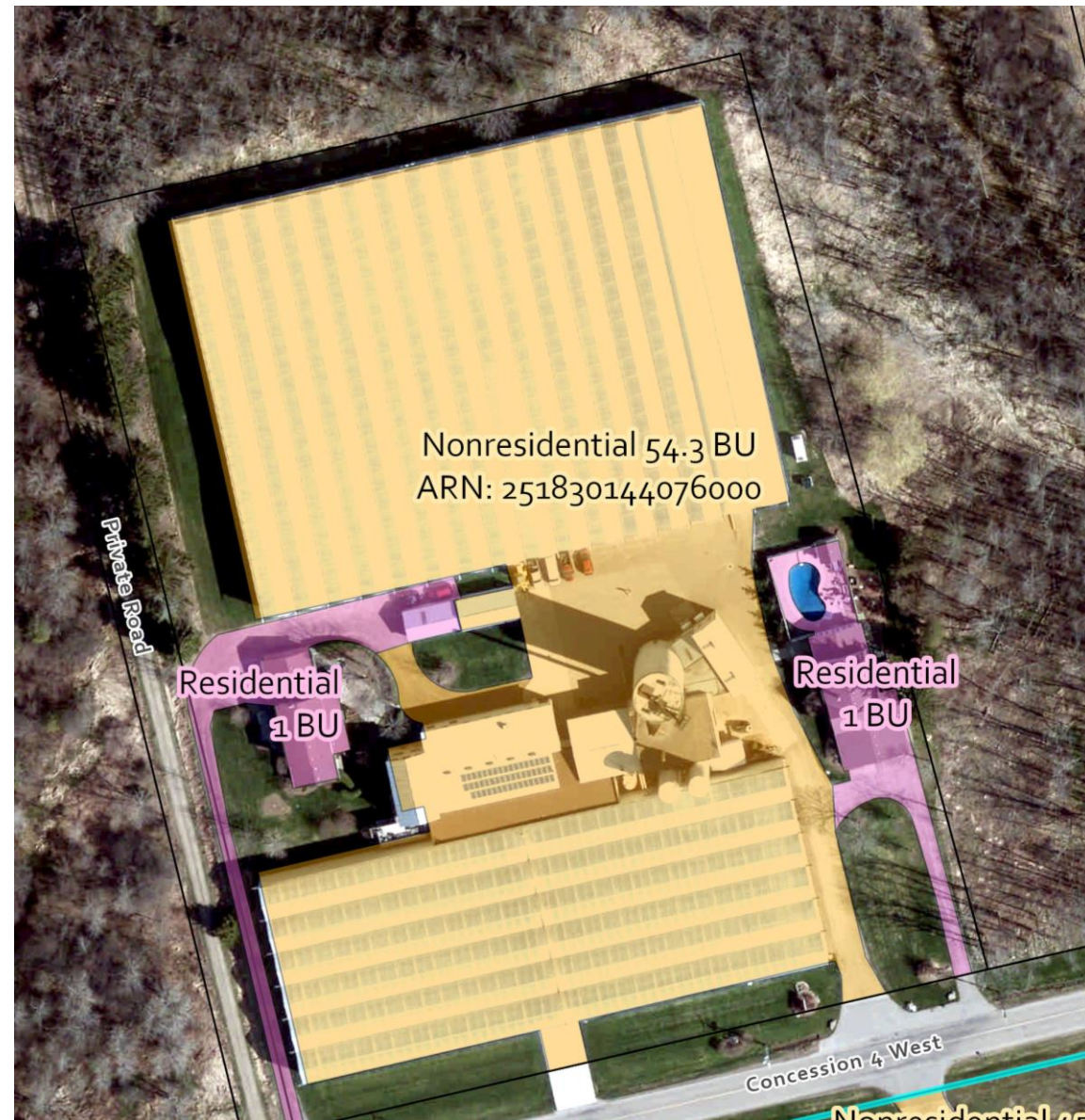
## Example Agricultural Property 6

### Property Info

- Houses plus outbuildings
- 6 ac
- Billing Units: 2x1 + 54.3
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$9,571
- Potential credit: (\$4,786)
- Total \$4,785





## Example Agricultural Property 7

### Property Info

- Outbuildings
- 158 ac
- Billing Units: 455.3
- Impervious areas discharged to green space

### Annual Stormwater Fee

- Estimated base charge: \$77,401
- Potential credit: (\$38,700)
- Total \$38,701



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# Proposed Credit Application Process

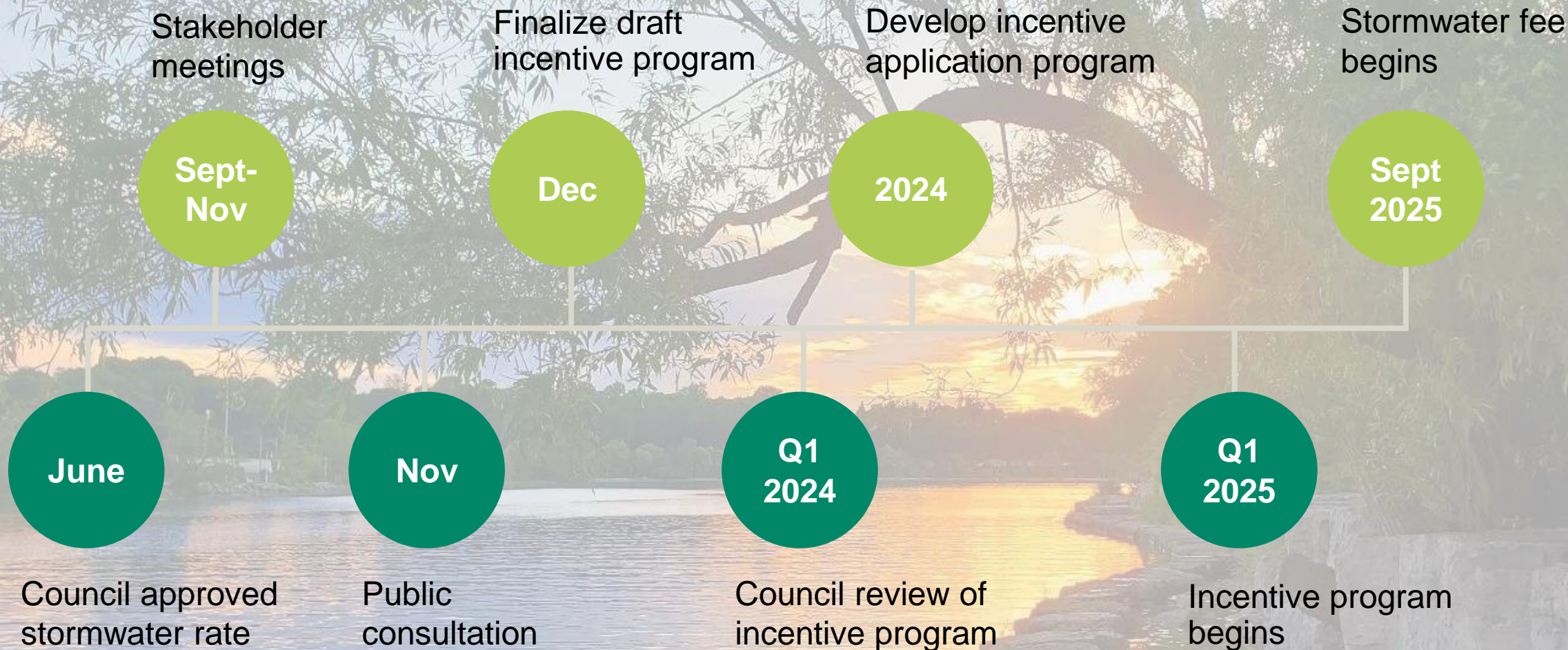
1. Demonstrate that on-site infrastructure is maintained and working
2. Application and appeal processes to be confirmed & developed in 2024
3. Applications to be reviewed by Hamilton staff
4. Applications to open in early 2025

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# Stormwater Billing

- For those that receive municipal water/wastewater bills – the stormwater fee will be added as a separate line item to the utility bill
- Water / wastewater rates will be restated, where applicable, when the stormwater fee is implemented
- For those that do not receive municipal water/wastewater bills – the property will likely receive a ‘stormwater only’ utility bill
- Where water / wastewater bills are being billed to a condominium and not to individual owners, likely, the stormwater utility bill will follow suit
- Approved credits would be applied on the monthly bills

# Timeline



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## What Have We Heard Thus Far?

- Would like a survey specific to Agricultural Properties
- Should consider good on-site stormwater practices on farms (cisterns, runoff to soils/grass etc.)
- Credit application process should be simple
- Max credits should be >50%
- Need to communicate the new stormwater fee more widely

## Complete the Survey:

Visit **[engage.hamilton.ca/stormwaterincentives](https://engage.hamilton.ca/stormwaterincentives)**  
by December 3, 2023.

## Contact Us

Visit:

- [hamilton.ca/stormwaterfunding](https://hamilton.ca/stormwaterfunding)
- [engage.hamilton.ca/stormwaterincentives](https://engage.hamilton.ca/stormwaterincentives)

Email:

- [stormwaterfundingreview@hamilton.ca](mailto:stormwaterfundingreview@hamilton.ca)

Questions?