

City of Windsor

Stormwater - Financing our Future Needs

Frequently Asked Questions

What is stormwater?

Stormwater is the water that flows into our sewers, creeks and lakes after it rains or from melting snow. In natural areas, stormwater can soak into the ground where it lands or be absorbed by vegetation. In urban areas, stormwater runs off hard surfaces (such as rooftops, parking areas, backyard patios, and roads), carrying pollution (such as debris, chemicals) into streams and rivers. Stormwater runoff from urban areas is greater in amount (since water cannot get into the natural ground that is covered with houses, roads, parking lots etc.), and flows off the land much more rapidly, increasing the potential to cause flooding and erosion along the way. Pollutants carried in stormwater enters the natural environment and has negative effects on water quality and the natural environment. Stormwater must be managed to reduce the risk of flooding and erosion, and to minimize harm to the environment.

What does it mean to me?

Individuals often do not think much about stormwater until they are directly affected either through disruptions caused by a severe storm event or due to property damage from flooding. But stormwater runoff can impact the community in several ways:

- Flooding from storm events can damage public as well as personal property, impact business operations and even hinder our day-to-day activities.
- Runoff can pick up and transport harmful pollutants such as oil, grease, trash and fertilizers to our water ways.
- Rapid drainage from developed land can cause severe erosion of stream banks and scouring of creeks, further degrading water quality and impacting valuable habitats.

The City's Engineering, Public Works and Pollution Control departments look after the stormwater management system that collects, transports, controls and in some cases treats stormwater runoff.

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What is the City's role in managing stormwater?

The City of Windsor is responsible for managing stormwater within the municipality. This includes planning, designing, constructing, operating and maintaining stormwater assets within municipal roadways, public easements and other City lands. The stormwater management program is crucial in protecting public safety and health and works to reduce flood risk, control erosion and maintain water quality in local natural waterways.

Stormwater, both quality and quantity, are managed by the City's stormwater program. This includes operating and maintaining storm sewers, ditches, inlets, stormwater management facilities (ponds), bridges, culverts, infiltration facilities, oil grit separators, engineered and natural channels, and storm sewer outfalls to streams and watercourses.

The City's stormwater assets include:

- More than 1025 km of pipes
- Approximately 15,300 manholes
- More than 22,615 catch basins
- 29 stormwater ponds (wet and dry)
- 39 pump stations
- Approximately 124 km of municipal drains
- Approximately 254 km of roadside ditches

The estimated replacement cost value of the existing stormwater system is approximately \$1.93 Billion in 2020 dollars.

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The City has a responsibility to effectively manage this infrastructure and protect the environment. To meet this responsibility, the City:

- Undertakes flood protection projects
- Maintains, repairs and restores existing infrastructure
- Provides emergency response to flooding, spills and clean-up
- Carries out street sweeping
- Enforces by-laws to protect the environment and prevent interference with the operation of the stormwater management system

The City has been adapting its policies and practices in order to meet provincial and federal regulatory requirements. The relevant stormwater rules and regulations include Provincially the Ontario Water Resources Act, Drainage Act, Environmental Protection Act, Emergency Management Act, Water Opportunities Act, Sustainable Water and Sewage Systems Act, Provincial Water Quality Objectives, and Federally the Canadian Environmental Protection Act and Fisheries Act.

What are the current costs to local property owners? How does the City fund its stormwater program, including studies?

Generally, the annual stormwater operating budget and capital improvement budget are funded through sewer surcharge. The sewer surcharge is a user rate that reflects the costs of water entering the sewer system from a property, based on the user's water consumption. The City's 2020 sewer surcharge budget, which funds operating and capital costs for both sanitary and stormwater systems, is approximately \$76.8 million. The City is currently working on separating the stormwater related costs from the sanitary related cost. To date, the City has not tracked these costs independently.

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What are the benefits to local property owners?

The benefits of an effective stormwater management program include a reduction in flood risk, improved water quality and environment, and reduced stream and creek erosion.

What can I do to help?

The biggest influencing factor in the amount of stormwater runoff in the community is the presence of surfaces that do not absorb water, including roofs, driveways, concrete patios, roads and parking lots. By minimizing the paving of land areas and properly maintaining the runoff from these surfaces, you can help manage stormwater.

Maintenance at home can include keeping storm sewer inlets clear as well as the cleaning and maintenance of downspouts, weeping tiles, sump pumps, back water valves and sewer lines from your residence to the municipal lines. You can also use rain barrels and plant vegetation to minimize flows draining from your property. Disconnecting your downspout (eavestrough) is another way to minimize flows draining from your property. Since rainwater falling onto your roof is generally cleaner, it is also ideal for use in gardens, car washing and for lawn care. Due to recent flooding, the City is considering implementing a mandatory downspout disconnection policy.

For more information about what you can do check out:

<https://www.citywindsor.ca/residents/maintenanceandfieldservices/sewers-/pages/downspout-disconnection.aspx>

OR

<https://www.citywindsor.ca/residents/environment/climate-change-adaptation/climate-resilient-home/Pages/default.aspx>

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The majority of the City's storm drains do not connect to treatment facilities, but rather drain untreated stormwater into local waterways. Therefore, it is important to not put anything into the drains or roadside ditches that can pollute local streams or creeks.

- Maintain your property – pick up wastes, such as pet and yard wastes, and dispose of them properly.
- Consider using a local car wash that collect and treat the dirty water before it is released to the environment.
- Understand the fertilizer and other chemicals you are using – read and follow the instructions.
- Always dispose of hazardous materials such as paint and motor oil at your local hazardous waste collection centre.

What are potential stormwater challenges facing Windsor?

Typical municipal stormwater problems include:

- Climate change is affecting the intensity and frequency of storm events that stormwater management programs must respond to.
- Urban growth and development alter the amount of runoff and pollution.
- Infrastructure such as pipes, culverts and outfalls have limited life expectancy.
- Stormwater facilities must be actively maintained throughout their expected life, including watercourses, storm sewers, catch basins, stormwater ponds, pump stations, culverts and outfalls.
- Appropriate resources, assets and improvement projects must be proactively planned to address needs and problems.
- Design standards have changed, and designs developed under old standards may be inadequate to meet regulatory requirements.
- Development plans must be thoroughly reviewed, and sites adequately inspected during construction to ensure the adequacy of design and construction.

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Are there any issues currently within the City?

The majority of the stormwater-related issues the City faces are localized flooding during heavy rain events, ageing pipes and other stormwater infrastructure, and a significant number of stormwater ponds that require maintenance due to more heavy rainfall events.

What are the community's priorities for managing stormwater needs?

Current priorities include:

- Reducing the risk of flooding
- Improving drainage
- Protecting community health and safety
- Reducing environmental pollution

How does green infrastructure benefit stormwater management?

From a stormwater management perspective, green infrastructure is a broadly-used term for infrastructure and practices that re-use or redirect stormwater. Examples include, grassed / vegetated areas that help rainfall soak into the ground as opposed to running off the land and into the stormwater system and rain barrels that store rainwater for re-use as irrigation water.

All forms of green infrastructure reduce the stormwater that runs off properties. As a result, the amount of water that needs to be directed (or conveyed) to a receiving watercourse, whether by ditches, gutters, storm sewers, or overland flow routes is reduced. This may benefit the stormwater system through reducing the size of conveyance infrastructure. Green infrastructure may also provide local water quality treatment, which may improve the water quality downstream, and reduce the load on stormwater management facilities. This reduction may provide better water quality treatment and may require less frequent maintenance.

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What are other Municipalities doing?

Across Southern Ontario, Municipalities are undertaking similar stormwater financing studies in order to reevaluate their stormwater management systems, define their future needs, and determine how they will be financed. Some examples of Municipalities who have implemented designated stormwater rates include London, Middlesex Centre, Kitchener, Hamilton and Mississauga. The Study will compare potential stormwater rates for the City of Windsor against other Municipalities in order to determine the preferred financing alternative.

When will the recommendations/findings be implemented?

In January 2021, City Council endorsed the recommendations of the Stormwater Financing Study Report, including a dedicated stormwater program and funding mechanism. Administration is currently preparing a detailed Implementation Plan for Council consideration and approval. This Plan will address timelines and resource requirements for establishing and administering the new funding mechanism. This Plan is expected to go before Council in late 2021.

Under the model that the City is considering, how might the stormwater charge change year over year? What will the estimated rate be after 5 years?

Through the stormwater financing study, it was estimated that the City should increase the funding of stormwater services by approximately 44%. In addition, the City will need to budget for billing administrative charges, program support from other departments, and any additional infrastructure costs that result from new developments. It is being proposed that this increase in funding be phased in over a five-year period, which may result in year-over-year increases of 10-15% in the first five years. Once a sustainable level of funding is achieved, year-over-year increases would be lower and reflect inflation.

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Will the City consider offering incentives to property owners that reduce stormwater runoff?

A credit program is one of several financial incentives that the City may consider. A credit or incentive program may include incentives for increasing natural land cover, controlling runoff and promoting of infiltration and/or reuse of runoff on private lands. Two municipalities that offer credit programs are Kitchener and Mississauga; their programs include potential partial credits for on-site runoff control of peak flows and volumes. Currently, the charges estimated in the Study do not take into account potential credits or incentives.

How will the City calculate impervious area and what are the estimated rates for the impervious area of properties?

An impervious area would be calculated based on a review of information maintained through the City's geographic information system (GIS). Estimated rates are currently being developed, however, the actual measurement of impervious areas has not yet been undertaken. As such, the preliminary estimated rates will need to be further refined once the impervious areas are measured.