

City of Mississauga
Corporate Report



<p>Date: May 4, 2023</p> <p>To: Chair and Members of General Committee</p>	<p>Originator's files:</p>
<p>From: Geoff Wright, P.Eng, MBA, Commissioner of Transportation and Works</p>	<p>Meeting date: June 7, 2023</p>

Subject

“Build Beautiful” Stormwater Master Plan (City-wide)

Recommendation

That the “Build Beautiful, Stormwater Master Plan” (“Build Beautiful”) and its supporting vision and actions attached as Appendix 1 to the Corporate Report titled *“Build Beautiful’ Stormwater Master Plan (City-wide)”* dated May 4, 2023 from the Commissioner of Transportation and Works be endorsed.

Executive Summary

- Stormwater management practices have evolved considerably, particularly over the last two decades amidst concerns around a changing climate and extreme weather.
- The City continues to plan, develop, construct, maintain and renew its stormwater infrastructure to protect properties and the natural environment from flooding and erosion and improve water quality in our creeks and rivers.
- The City set out in 2018 to refresh its approach to managing stormwater and chart a course for the immediate to long-term.
- Build Beautiful is a visionary and aspirational plan focused on ensuring that the City is in compliance with legislation and aligned with industry practices, while leading through its own innovative approaches and methods.
- Build Beautiful has been vetted through consultation both internally and externally.
- The vision of Build Beautiful is *“Build value in water resources through collaboration, to protect and enhance the quality of our built and natural environment. Build Beautiful to connect to nature and our communities.”*
- The focal point of Build Beautiful is an action plan that lays out the implementation over the short (1-3 years), medium (3-10 years) and long-term (10-25 years).

Background

In Ontario, floodplain management and quantity control were the initial pillars of stormwater management practices. Thereafter, concerns arising around stormwater quality in the Great Lakes added an additional lens for municipal practitioners. It was in this context in 1995 that the City developed its original over-arching stormwater management framework, the “Mississauga Stormwater Quality Control Strategy”.

Stormwater management practices have evolved considerably, particularly over the last two decades amidst concerns around a changing climate and extreme weather. The latter point is brought to bear through the City’s Climate Change Action Plan Action 12-2 that stipulated the City should “Develop a comprehensive long-term stormwater management strategy to reduce surface runoff and enhance flood resilience.”

The City continues to plan, develop, construct, maintain and renew its stormwater infrastructure and protect property and the natural environment from flooding and erosion as well as improving water quality. However, in consideration of the ever changing climate, the City set out in 2018 to refresh its approach to managing stormwater and chart a course for the immediate to long-term. This process, somewhat lengthened due to the pandemic, involved a robust internal engagement process with staff from various divisions as well as externally with the Region of Peel, Credit Valley Conservation, Toronto and Region Conservation Authority, and Conservation Halton to ensure the plan is current and comprehensive. The resulting stormwater master plan is titled “Build Beautiful.”

Comments

Build Beautiful is a visionary and aspirational plan focused on ensuring that the City is in compliance with legislation and aligned with industry practices, while leading through its own innovative approaches and methods. This was accomplished by reinforcing and bolstering existing actions being undertaken by the City’s Stormwater team as well as by adding any necessary new actions. The consulting firm WSP (formerly Wood Environment & Infrastructure) was retained to support the development and lead the consultation for Build Beautiful.

Vision

“Build value in water resources through collaboration, to protect and enhance the quality of our built and natural environment. Build Beautiful to connect to nature and our communities.”

The vision for Build Beautiful has been developed through consultation with City staff, stakeholders and the public to define a shared vision for the City’s long-term stormwater service delivery. It is consistent with the principles and objectives outlined in the City’s Stormwater Charge program, the Strategic Plan and the Asset Management Plan, as well as the guidance from the legislative framework and precedent review. The vision addresses core stormwater elements including green infrastructure, climate change, sustainability and attractive built form,

while also intent on integrating the notion of wellbeing and regeneration to achieve the objectives of Build Beautiful.

By employing the word 'Build' the plan purports a proactive, rather than reactive approach. 'Beautiful' denotes the founding principle in how we may undertake our work, but further it serves as the aspiration for the form and function of our projects, wherever possible. By espousing 'Beautiful' we may connect to nature and our communities in a manner that is relatable.

The masthead (i.e. graphic) for Build Beautiful, the depiction of a lily, was developed on the premise of the purity of rainwater. From this source, three different tones are used to represent the different modes that water functions in its interaction with society: drinking water, wastewater and stormwater. At their core, these modes overlap to represent the 'One Water' principle, that is, all our water goes back to one source. Finally, the integration of these modes come together in the depiction of a lily, representative of purity.

Legislative & Precedent Review

Requirements for stormwater management are embedded in legislation and policies at all levels. These have been reviewed to guide the City's activities in delivering stormwater management services, including:

- Federal Guidance
- Provincial Guidance
 - Provincial Policy
 - Provincial Legislation
 - Provincial Agency Guidelines and Requirements
- Region of Peel Guidance
- Conservation Authority Guidance
- Municipal Policies, Plans and Strategies
 - Stormwater Guidelines
 - Regulations & By-laws

The legislative and policy review was further developed with the intent of addressing these requirements through the City's activities and programs, such that no gaps exist, and stakeholder needs are being met.

From the standpoint of industry best management practices, an in-depth review was undertaken of local, national and international communities to provide context for the development of Build Beautiful. The following community stormwater management approaches were reviewed:

- Local
 - Town of Oakville – Stormwater Master Plan
 - City of Kingston – Neighbourhood Level Drainage Assessments

- National
 - City of Vancouver – City-wide Rainwater Management Plan
 - City of Calgary – Stormwater Volume Control Target Update & Development Approvals Practices
- International
 - New York City Environmental Protection – Innovative & Integrated Stormwater Management
 - City of Portland – Stormwater Management Manual
 - City of Nashville – Stormwater Management Manual
 - Seattle Public Utilities – Drainage and Wastewater Art Master Plan

Action Plan / Theme Areas

The focal point of Build Beautiful is the action plan that lays out the implementation over the short (1-3 years), medium (3-10 years) and long-term (10-25 years). This builds upon, reinforces and augments existing actions that have been progressively addressing stormwater management over the years. The action plan is shown in the Build Beautiful summary report provided in Appendix 1.

The action plan framework is centred on four key theme areas. These theme areas translate the typical technical aspects of what is referred to as the Adaptive Management Cycle into relatable themes, as noted below:

- Understand Its Nature (Studies)
- Create Solutions (Design & Implementation)
- Celebrate Its Value (Engagement & Partnerships)
- Protect Quality (Monitoring & Maintenance)

The action plan consists of 22 actions with supporting activities under each action. While the detailed action plan is found in the appended summary document, a sample is provided below to highlight some of the anticipated work under the respective theme areas.

- Understand Its Nature (Studies) – 4 actions
 - Groundwater mapping
 - Review drainage in older neighbourhoods
- Create Solutions (Design & Implementation) – 5 actions
 - Flood control retrofits
 - Technologies to cool stormwater
- Celebrate Its Value (Engagement & Partnerships) – 3 actions
 - Artist-in-Residence program
 - Stormwater Outreach

- Protect Quality (Monitoring & Maintenance) – 10 actions
 - Asset Management
 - Outfall Monitoring

The City's Stormwater program has been progressive and innovative in managing stormwater over the years in every key area from erosion control to flood mitigation, including some recent notable efforts. This includes the construction of an Ontario Public Works Association award-winning underground stormwater management facility at Eastgate Park and an open facility at Saigon Park which was a finalist at the 2022 Urban Land Institute Americas Award for Excellence. The implementation of Build Beautiful intends to augment these efforts on flood mitigation, erosion control and water quality improvement.

Strategic Plan

Development of the Build Beautiful Stormwater Master Plan falls within the *Connect* Strategic Pillar under its strategic goal to *Build and Maintain Infrastructure*.

Engagement and Consultation

Build Beautiful has been vetted through both internal and external consultation, aspects of which were vital to inform and guide its development. To ensure comprehensive feedback, the following consultation was undertaken:

- A Stakeholder Advisory Group with staff from the Region of Peel and Conservation Authorities
- Municipal Technical Consultation with City and Regional staff
- Public consultation including a Virtual Open House, two online surveys and additional online materials (e.g., project website, project information, FAQ's)
- Indigenous Peoples & Nations Engagement
- Engagement with the City's Environmental Action Committee

Stakeholder Advisory Group

The Stakeholder Advisory Group (SAG) included staff from Credit Valley Conservation, Conservation Halton, Toronto and Region Conservation Authority and the Region of Peel. These regulatory bodies offered feedback on project materials, interacted on policy and program issues, and identified partnership opportunities for future stormwater management actions.

All stakeholder meetings were held virtually due to safety considerations associated with the COVID-19 global pandemic on the following dates:

- June 9, 2020: SAG Meeting #1
- April 6, 2021: SAG Meeting #2

Municipal Technical Consultation

A Core Project Team was established comprising of staff from the City and the Region of Peel. The purpose of this team was to provide strategic direction throughout the project, review study materials including information to be shared externally for consultation, and to discuss key City policies and initiatives. The Core Project Team met a total of three times as outlined below:

- February 5, 2020: Project Kick-off Meeting
- June 3, 2020: Background Information & Legislative Review
- March 25, 2021: Action Overview & Legislative Checklist

Semi-formal inter-departmental engagement was also carried out with City staff from various sections/division through 2022 as listed below. This internal engagement helped to clarify certain action plan specifics, while also vetting internal implementation partnerships.

- Environment and Parks & Forestry (Community Services Department)
- Planning Strategies and Building Division (Planning & Building Department)
- Capital Works, Environmental Services and Works, Operations & Maintenance (Transportation & Works Department)
- Facilities & Property Management (Corporate Services Department)

Public Consultation

Public consultation was a central component to ensure that the long-term visioning for Build Beautiful reflects public interest, and encourages them to participate as residents, businesses and stakeholders.

A project site was established on the City's public engagement webpage and provided an overview of the project, the project timeline and description of the project phases, identified current and future opportunities for public engagement, a project-specific email and the City Project Manager, along with a link to Frequently Asked Questions and responses related to stormwater.

The public engagement for Build Beautiful was undertaken at a time that presented both opportunities and challenges. The initial engagement was a Social Flare that signaled that this is not 'business as usual' and that the City is honouring and recognizing the significant rupture that the citizens of Mississauga have experienced. It initiated a bold, aspirational, research-based engagement to develop Build Beautiful.

Building on the information collected through the Social Flare, an online survey was conducted to receive feedback on program and action priorities, the vision and additional public concerns. Online Survey #1 garnered 111 responses and valuable insight on public opinion towards stormwater management.

A Virtual Public Information Centre (PIC) was held on April 13, 2021, comprised of two separate sessions, the first at 2:00pm and the second at 6:30pm. The Virtual PIC sessions were one hour in length and included a presentation, a chat box for public inquiries throughout the presentation, an open Q&A session at the end, and three poll questions throughout the presentation. A total of forty-one (41) participants attended the sessions.

Indigenous Peoples & Nations Engagement

Four Indigenous Peoples & Nations were engaged through the SWMP process:

- Haudenosaunee Confederacy Chiefs Council (HCCC) represented by Haudenosaunee Development Institute (HDI)
- Six Nations of the Grand River (SNGR)
- Mississaugas of the New Credit First Nation (MNCFN)
- Huron-Wendat First Nation (HWN)

Given that the City was concurrently undertaking the Port Credit Storm Drainage Master Plan, a companion technical study to Build Beautiful, a joint Project Summary and Letter describing both Build Beautiful and Port Credit work, was provided to the Indigenous Nations in May 2021 in order to highlight their interconnectedness and be respectful of Indigenous Nations' staff time.

Follow-up correspondence was undertaken in August 2022 through phone and e-mail for closure with no concerns noted. The lag in time from initial engagement to follow-up was due to the pandemic as well as the recognition of vital issues that was central to Indigenous Peoples and Nations.

Environmental Action Committee

Engaging the City's Environmental Action Committee (EAC) was a vital line of communication for the development of Build Beautiful and as a conduit to update Council. There were four EAC points of engagement:

- November 2019: Introduction of the aspirational, vision-based nature of the plan
- July 2020: EAC provided feedback on the background memorandum
- February 2021: Overview of the legislative framework and best practices review
- June 2021: Presentation on consultation, actions and partnership opportunities

Financial Impact

There are no financial impacts resulting from the recommendations in this report. Implementation and funding of Build Beautiful Actions will be subject to the annual budget process.

Conclusion

The City of Mississauga has long been committed to protecting private properties and the natural environment from flooding and erosion along with improving water quality through planning, developing, constructing, maintaining and renewing its stormwater system. Build Beautiful will refine the approach and activities for managing stormwater over the immediate and long-term in Mississauga. Through the recommended activities, the City will improve upon its course to protecting our businesses and residents, while preserving our natural environment by addressing issues facing Mississauga.

Attachments

Appendix 1: Build Beautiful Stormwater Master Plan Summary Report



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