

# Agenda – Public Information Centre

1. Welcome & Housekeeping
2. Presentation
3. Q&A
4. Closing

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Stormwater Master Plan

*April 13, 2021*

# Background



# Stormwater 101

## What is Stormwater Runoff?

- Rainwater and melted snow that runs off lawns, streets and other land surfaces
- Hard surfaces such as pavement and roofs prevent rainfall from naturally soaking into the ground

## Why is it important to “manage” stormwater?

- Stormwater ends up in Lake Ontario, the City’s drinking water source
- Reduce flood risks to homes, roads and businesses
- Control creek erosion and stop harmful pollutants from entering waterways





# Stormwater 101

## What are some key issues associated with stormwater?

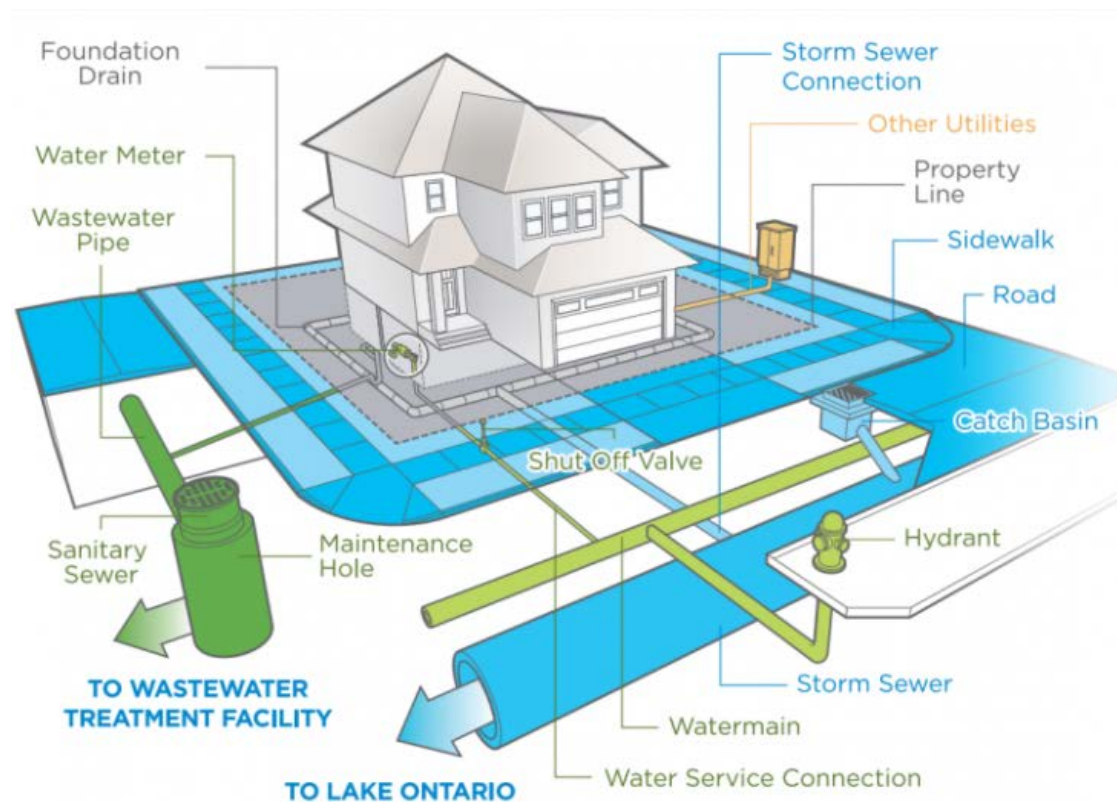
- Climate Change affects intensity and frequency of storm events
- Growing Communities and Aging Infrastructure
- Proactive Maintenance needs
- Flood Safety and Mitigation
- Regulatory Requirements
- Water Quality Protection



# Stormwater 101

## Who owns what?

- Grey: Homeowner
- Yellow: Utility Companies
- Blue: City
- Green: Peel Region



# Stormwater Program

## What is the Stormwater Program?

- The City manages stormwater by planning, designing, constructing, operating and maintaining stormwater assets (Core Service Lines)
- The Stormwater Program is comprised of the annual suite of projects and actions the City employs to manage stormwater (Actions)
- The Stormwater Program is informed by best practices and experienced staff, and is comprised of Core Service Lines and Actions

storm  
water  
program





# Stormwater Program

## What does the Stormwater Program include?

- Erosion and sediment control works
- Flood protection projects
- Maintenance and repairs to existing stormwater infrastructure
- Emergency response to flooding, spills and clean-up
- Street sweeping
- By-law enforcement



# Stormwater Master Plan

## What is the Stormwater Master Plan?

- Master Plan defines existing and future actions based on best practices
- The Stormwater Master Plan is a long-term plan that will be used to refine and optimize the Stormwater Program

## Four Theme Areas:

**A. Understand Its Nature  
(Studies)**

**C. Celebrate Its Value  
(Engagement & Partnerships)**

**B. Create Solutions  
(Design & Implementation)**

**D. Protect Quality  
(Monitoring & Maintenance)**



# Stormwater Master Plan

- Step 1: Review Background Material
- Step 2: Document Legislative Framework
- Step 3: Consult with Stakeholders
- Step 4: Develop Details on Stormwater Actions
- Step 5: Establish Planning & Implementation Requirements
- Step 6: Final Reporting



# Consultation To-date, Feedback & Vision

# Community & Stakeholder Consultation

## Consultation Completed To-Date

- Online Survey #1
- Environmental Action Committee
- Stakeholder Meetings with:
  - Peel Region
  - Credit Valley Conservation
  - Conservation Halton
  - Toronto Region Conservation Authority

## Timing

*November 2020*

*February 2021*

*June 2020*

*April 2021*





# Community & Stakeholder Consultation

## Ongoing Consultation

- Public Information Centre
- Online Survey #2
- Indigenous Peoples & Nations Engagement

## Timing

*April 2021*

*Ongoing*

## Upcoming Consultation

- Environmental Action Committee
  - Meeting #2
- Present to Council

*June 2021*

*Fall 2021*



# What We Heard – Results of Online Survey #1

## Public Interest and Need for Stormwater Management



89% think stormwater is either extremely or very important for the City to manage



90% are concerned about the environmental quality of the streams and rivers located within the City



Total Survey Participants: 111

## Where to Manage Stormwater in Creative Ways



Public Parks (22%)



City Facilities (20%)



Parking lots (20%)



On my street (15%)



Private businesses (13%)



On my property (8%)

Signage along creeks (28%)



Info on City's website (24%)



Communication through social media (23%)



Decorative manhole covers (20%)



MISSISSAUGA

# What We Heard – Results of Online Survey #1

Top areas for the City to focus on in its Stormwater Master Plan



Managing ditch drainage (14%)



Building more stormwater ponds (13%)



Homeowner property drainage education (downspouts, rain barrels) (13%)



Stricter Bylaws (13%)



Greener Infrastructure, Improving Water Quality, Stream & River Erosion (10%)

During Covid-19, people looked for beauty in...



Spending time outdoors or connecting to nature (26%)



Focusing on home projects (20%)



Connecting with others virtually (14%)



Doing hobbies (12%)



Learning a new skill (10%)



# Stormwater Master Plan Vision

## Vision Statement:

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.



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Stormwater Master Plan

## Poll Question #1

Does the Vision Statement capture your expectations for the City's Stormwater Master Plan?



# Stormwater Master Plan Framework

## Framework

- Four Theme Areas
- Reflect the Asset Management Cycle and Adaptive Management Cycle

**Protect Quality  
Monitoring &  
Maintenance**

**Understand Its  
Nature  
Studies**

**Celebrate Its  
Value  
Engagement &  
Partnerships**

**Create Solutions  
Design &  
Implementation**



# Mississauga Today



# Mississauga Today

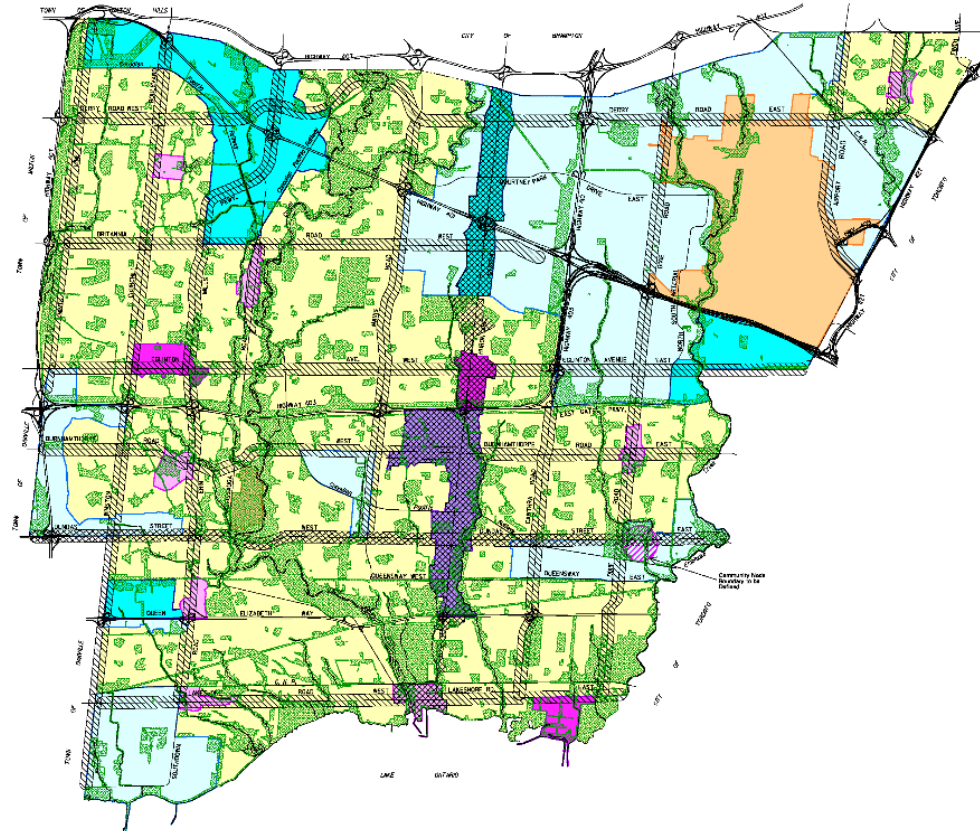
A complete understanding of the City's infrastructure and conditions is critical to determining the Stormwater Program priorities.

## Existing and Future Conditions

- Population
- Land Use
- Climate

## Built and Natural Infrastructure:

- Watersheds  
(Waterbodies, waterways)
- Storm Drainage Systems  
(Sewers, Stormwater Ponds, Ditches)



# Mississauga Today

## City's Draft Stormwater Asset Management Plan

Asset	Quantity
Stormwater Management Facilities	~80 SWMFs
Watercourses	~200km (All); ~150km (City)
Storm Sewers	~1,866km

## Land Use – City Official Plan

As of 2019, land use in the City was comprised of:

- Residential (29%)
- Transportation right-of-way (20%)
- Industrial (15%)
- Open space/greenlands (11%)

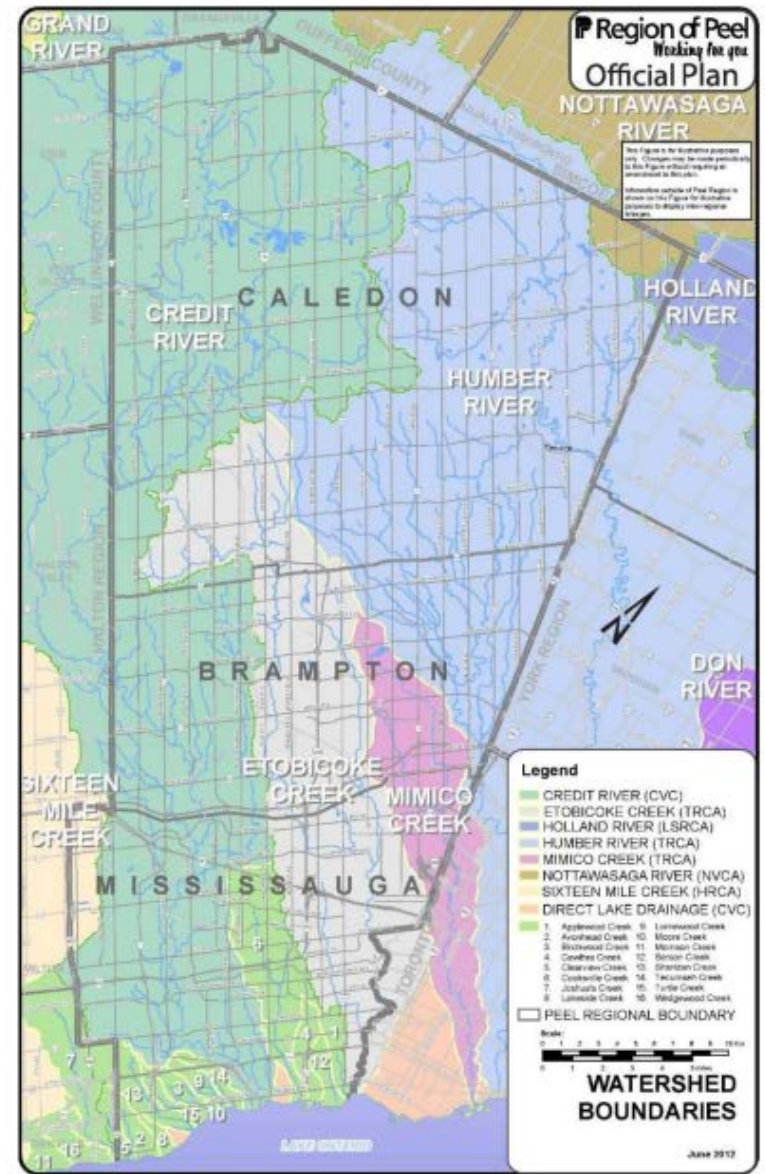




# Mississauga Today

## Peel Watershed Plans Synthesis Report

- Seven (7) watersheds within Peel Region
- Recommendations for each watershed/subwatershed plan





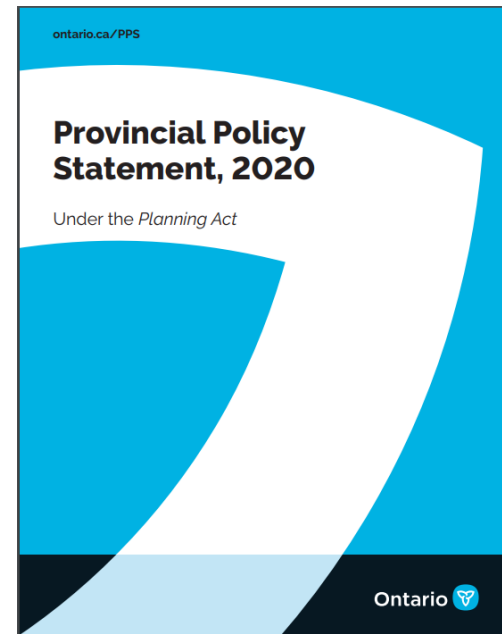
# Role of Legislation



# Role of Legislation

The City is required to meet Legislative Requirements from:

- 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



# Role of Legislation

## Legislation Types

- Legislation
- Plans
- Policies
- Acts
- Regulations
- By-Laws

## Legislation Sources

- Federal
- Provincial
- Region of Peel
- Conservation Authorities
- Municipal

## Consultation

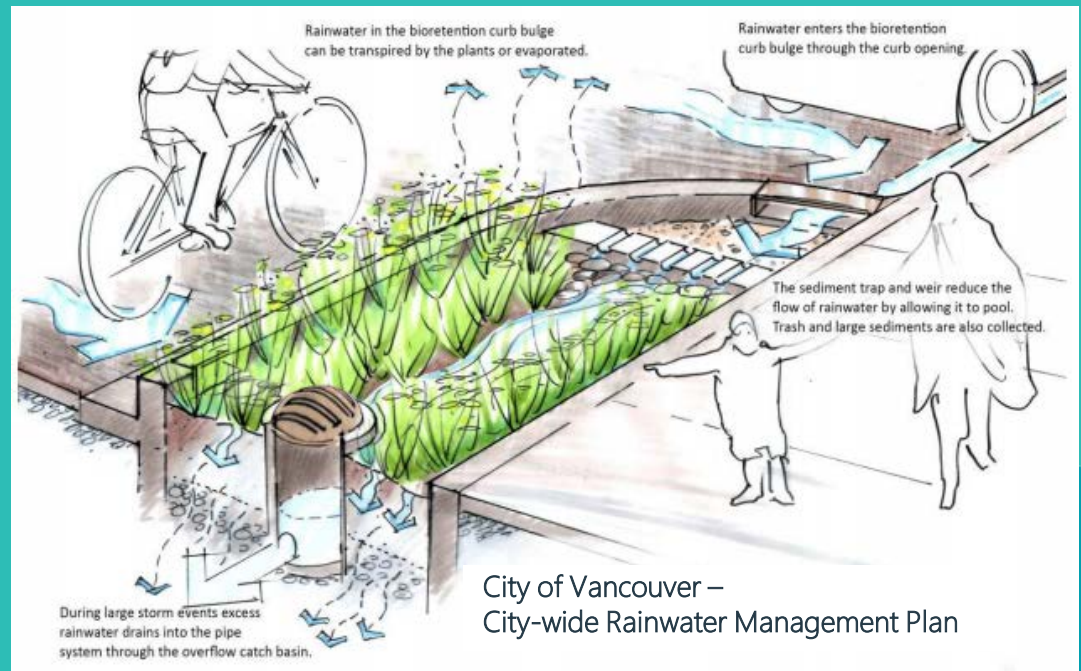
- Public
- Stakeholders
- Indigenous Nations & Peoples
- City Staff

## Stormwater Master Plan Actions

Existing Actions

Future Actions

## Emerging Guidance & Best Practices Review



# Cities and Stormwater



# Cities and Stormwater – Best Practices Review

A review was completed of Stormwater Best Practices in Local, National and International Cities to inform the City of Mississauga's Stormwater Program and Actions.

## 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 Targets & 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

# Stormwater Master Plan Framework & Actions



# Stormwater Master Plan Framework

Four Theme Areas:

**A. Understand Its  
Nature  
(Studies)**

**C. Celebrate Its Value  
(Engagement &  
Partnerships)**

**B. Create Solutions  
(Design &  
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**D. Protect Quality  
(Monitoring &  
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# Stormwater Master Plan Framework

## Action Type:

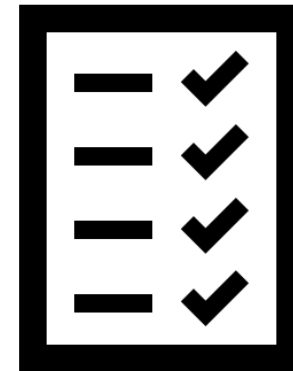
1. Existing Actions (Refine/Maintain)
2. Future Actions (New)

## Core Service Lines:

1. Policies, Guidelines, Regulations
2. Development Review
3. Capital Program
4. City Operating Procedures

## Service Delivery Form:

1. Plan
2. Program
3. Policy
4. Partnership
5. Procedure
6. Project



# Stormwater Master Plan Actions

## Process of Program Development:

- Interviews with City Staff
- Establish Understanding of Actions/Rationale
- Develop Recommendations based on:
  - *Best Practices*
  - *Legislative Requirements*
  - *City Staff Commentary*
  - *Emerging Requirements & Changes*
- Consultation (Stakeholders, Public, EAC, City)
- Finalize Existing and Future Actions

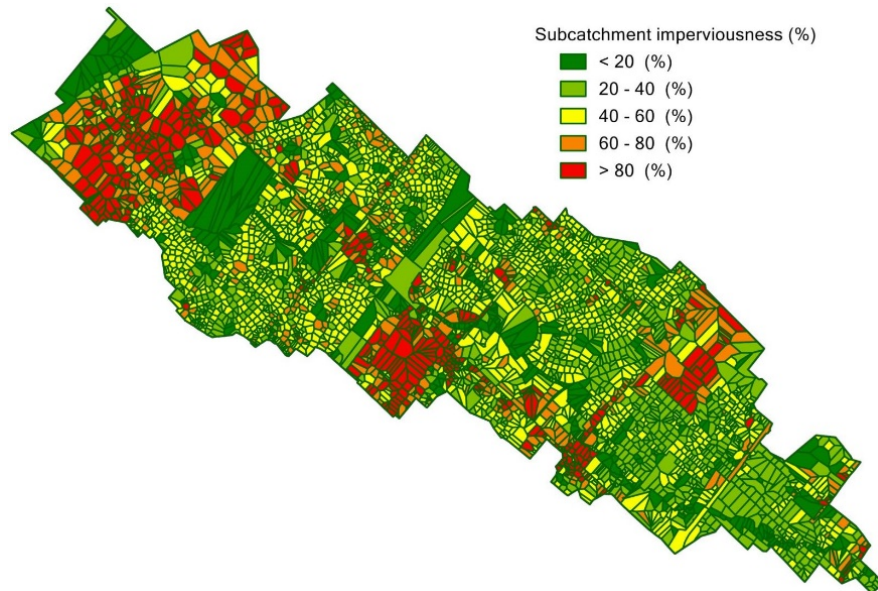




# A. Understand Its Nature (Studies)

## Prepare Dual Drainage Models in Older Neighborhoods

- Map flood risks for older residential neighbourhoods
- Identify priority areas for mitigation measures



## Map Groundwater (City-wide)

- Improve groundwater level data to inform land use decisions
- Work with municipal partners to share data



## B. Create Solutions (Design & Implementation)

### Low Impact Development (LID) for Roads Program

- Implement LID Best Management Practices (BMPs) as part of the road rehabilitation program
- Develop tool to evaluate LID BMP opportunities



### Cooling BMPs

- Complete pilot projects for thermal mitigation to improve stream health
- Develop thermal monitoring program

## Poll Question #2

How do you think you can best support stormwater management in the City?



## C. Celebrate Its Value (Engagement & Partnerships)

### Artist in Residence Program

- Raise awareness of stormwater management projects and processes
- Improve public realm by building beautiful spaces
- Provide opportunities to local artists



### Stormwater Outreach

- Digital Engagement (YouTube, Ask the Expert Events, City Webpage)
- Youth Education Programs
- Business Education (Workshops, Flyers)





# D. Protect Quality (Monitoring & Maintenance)

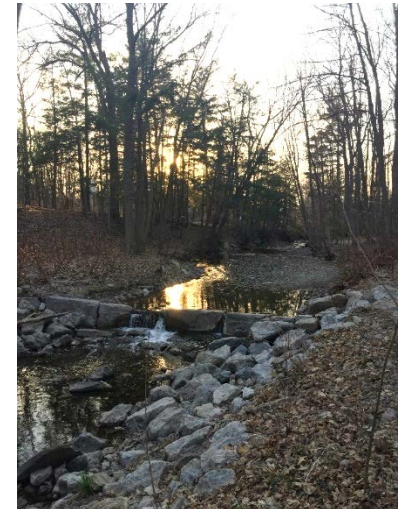
## Pollution Prevention (P2) Plans

- Require P2 Plans for businesses with recurring contaminant issues to minimize risks
- Develop checklist option to improve businesses and promote pollution prevention planning



## Asset Management: Watercourses

- Inspect watercourses regularly for erosion (every 1-5 years)
- Identify risk areas to be addressed through capital works (planned projects) or maintenance (restoration)





## Poll Question #3

Which of the four theme areas do you think is most important?



# Stormwater Master Plan Actions

## Partnership Opportunities:

- Over 60 partnership opportunities identified with the following agencies:
  - Federal
  - Provincial
  - Regional
  - Conservation Authority
  - Municipal
  - Other (e.g. Colleges)
- Partnership Roles include the City as either the Lead or Supporting role

## Core Service Line Enhancements:

- Over 20 Core Service Line Enhancements identified, including:
  - Policy Refinements
  - New Guidelines
  - City Operating Procedures



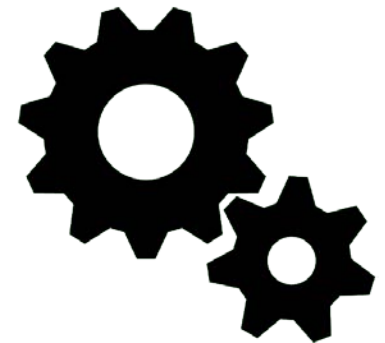
# Next Steps



# Next Steps

## Implementation:

1. Set Timelines for Actions:
  - *Short-term (1 to 3 years)*
  - *Medium-term (3 to 5 years)*
  - *Long-term (5 to 10 years)*
2. Establish Priorities for Actions
3. Determine Action Process & Lead
  - Partnership Opportunities
  - Implementation Details



# Next Steps

## Timelines:

1. Indigenous Engagement
2. Implementation Requirements
3. EAC Presentation
4. Draft Stormwater Master Plan Development
5. Final Stormwater Master Plan
  - Present to Council

*Ongoing*

*May-June 2021*

*June 2021*

*July – August 2021*

*Fall 2021*





# Next Steps

## How Can You Get Involved?

- Review information shared at this Public Information Centre
- Provide input by emailing [buildbeautiful@mississauga.ca](mailto:buildbeautiful@mississauga.ca)
- Join our Project Mailing list for timely, relevant updates by signing up on the City's Project webpage at <https://yoursay.mississauga.ca/stormwater-master-plan>



### STAY INFORMED

Subscribe for project updates

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# Q&A

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# Thank you!

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