



GTAA

**PARTNERS IN  
PROJECT GREEN**

A PEARSON ECO-BUSINESS ZONE

# *Green Economy Webinar Series:* **The Business Case for Natural Infrastructure**

- Audience microphones are muted
- Submit questions at any time via the tool bar (questions only visible to organizer)
- Recording, slides, and additional info will be shared after the webinar
- Join our networking session after the panel – computer audio only, Google Chrome browser recommended

[partnersinprojectgreen.com](http://partnersinprojectgreen.com)

*A program of:*



# Webinar Agenda

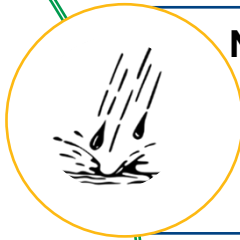
1. *Introduction* from Eric Meliton, Program Manager, PPG
2. *Building the Business Case for Natural Infrastructure Through Strategic Integration* from Victoria Kramkowski, Government and Community Relations Specialist, TRCA
3. Q&A
4. Wrap-up and transition to GoToMeeting networking rooms

A recording of the webinar will be made available to attendees

# Water Stewardship Programs

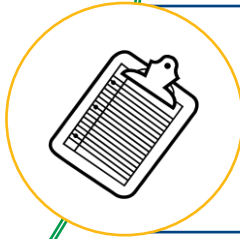


For more information, please visit:  
[www.partnersinprojectgreen.com/your-needs/water-stewardship](http://www.partnersinprojectgreen.com/your-needs/water-stewardship)



## Natural Infrastructure and Climate Resiliency

- Help businesses understand their climate risks, identify opportunities to mitigate those risks, and provide support to take action and become more resilient.



## Water Efficiency

- Partner with existing regional utility management programs to maximize implementation opportunities for innovative technologies and best practices

# Natural Infrastructure and Climate Resiliency

## What are the benefits to my organization?

- Resiliency for your business and your community through the utilization of natural infrastructure solutions on private and public lands
- Mitigate risks and potential costs from flooding and extreme weather events including physical damage, supply chain and operational interruptions, and threats to water quality



# Natural Infrastructure and Climate Resiliency

## Low-Impact Development Industry Vendor Network

- Access to a community of experts and vendors to assist with natural infrastructure implementation opportunities
- Vendor network is slated to be updated in 2020 to identify regional expertise that can assist with implementation of best management practices
- Please reach out to Partners in Project Green staff if you'd like to learn more on how to be included in this industry vendor network

**Permeable  
Pavement  
Vendors**

**Rainwater  
Harvesting  
Providers**

**Green Roof  
Specialists**

**Cells & Filters  
Providers**

**Consultants &  
Engineers**

# Natural Infrastructure and Climate Resiliency

## Business Case for Natural Infrastructure (2020)



### White Paper Publication

- As a liaison between the conservation community and the private sector, Partners in Project Green is uniquely positioned to provide information for businesses on flooding issues in the GTA, on the benefits of natural infrastructure, and on the business case for action
- Please download the white paper: <https://partnersinprojectgreen.com/natural-infrastructure-white-paper/>

# Natural Infrastructure and Climate Resiliency

## Community and Employee Engagement (Ongoing)



### PPG Corporate Tree Plantings

- Corporate sponsored tree plantings and watershed clean-ups to engage with staff / families / school boards
- Improve Environmental, Social and Governance (ESG), Sustainable Development Goals (SDG), and Corporate Social Responsibility (CSR) performance
- Continuing to support the stormwater management goals of Greater Toronto Area municipalities

# Natural Infrastructure and Climate Resiliency

## Green Infrastructure Implementation (2015)



### Calstone's "Ponds"

- 44,000 ft<sup>2</sup> of drainage area supported (rooftop, infiltration ponds)
- Infiltrates ~1.8 M litres of on-site stormwater runoff capacity per year
- Industry recognition: (4) trade publication articles, (2) case studies, multiple stakeholder awards (e.g. Clean50, Green Business Leader)
- **PPG Partners:** Calstone, XCG, Grounds Covered, Ministry of Environment



# Natural Infrastructure and Climate Resiliency

## Corporate Social Responsibility Implementation (2018)



### Raingarden / Pollinator Habitat / Engagement Pilot

- Neighbourhood Improvement Area
- 800 m<sup>2</sup> of on-site infiltration
- ~700k litres of on-site stormwater runoff capacity each year
- 2,000+ native plant species
- **PPG Partners:** Toronto District School Board (Tom Longboat Junior Public School), Calstone

# Natural Infrastructure and Climate Resiliency Tower Program Demonstration (2020-2021)



## Burnhamthorpe SNAP Collaboration

- Help older multi-unit residential buildings make improvements to their building and gain from savings
- Providing co-benefits to the community and help to improve aging affordable housing
- **PPG Partners:** TRCA SNAP, Starlight Investments, City of Mississauga, Eco-Source, Federation of Canadian Municipalities

# Natural Infrastructure and Climate Resiliency

## Green Infrastructure Leadership Lab (2021-2022)

### Greening Corporate Grounds Collaboration

- Minimize potential stormwater risks to property and the environment
- Increase uptake of the stormwater credit program by building leadership within the business community
- Improving the profile and awareness of green infrastructure and innovative stormwater management practices
- **PPG Partners:** Credit Valley Conservation, City of Mississauga, Mississauga Board of Trade





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# Building the Business Case for Natural Infrastructure Through Strategic Integration

Presented by:

Dr. Victoria Kramkowski,

Government and Community Relations Specialist,

Toronto and Region Conservation Authority

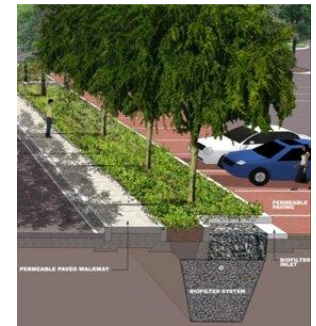
May 27, 2020

# What is Natural Infrastructure?

- Uses naturally-occurring or naturalized systems and is intentionally/strategically managed. Can be:
  - “natural” – trees, meadows, rivers, creeks, wetlands
  - semi-engineered – strategic plantings, use of natural processes and design (rain gardens, bioswales, filter strips)
  - highly engineered – green roofs, major erosion control works, use of under drainage

Natural

Engineered



# What Benefits Does Natural Infrastructure Provide?



# Brock Lands North and South

- 1.12 million people lived within 20 km (2016). Growth rate of 21.1% within 5 km
- Restoration objectives:
  - Restore and enhance altered hydrology and groundwater zones
  - Enhance landform and soil conditions
  - Restore natural cover and connectivity
  - Create and enhance optimal fish and wildlife habitat





# Brock Lands Natural Infrastructure Restoration

- 139 ha of improved terrestrial habitat
- 26 ha of created or enhanced wetland habitat
- 14 sub-catchments restored to capture flow of water from 1,035 ha of land
- 142 ha of improved stream edge habitat
- 14.7 km of improved headwater streams
- 143 ha of improved landform and soil conditions to protect groundwater, support natural site drainage and promote natural cover
- Installation of wildlife habitat structures

# Brock North Site 3: Before Restoration



# Brock North Site 3: After Restoration



# Brock North Site 2: Before Restoration



# Brock North Site 2: After Restoration



Type of Ecosystem Service	Total Value (\$/per year)
Gas regulation/air quality	44,055
Climate regulation (carbon stored)	227,935
Climate regulation (annual carbon uptake)	9,841
Flood control	518,040
Erosion control	10,194
Water regulation	178,156
Water filtration	56,730
Waste treatment (removal of excess N and P)	416,848
Pollination (agriculture)	307,741
Pollination (trees)	59,894
Biological control	9,535
Biodiversity/habitat	746,777
<b>Total EGS</b>	<b>2,585,747</b>

## Value of Ecosystem Services Provided

**Plus** estimated ESV recreation benefits of \$603,514 per year

Compare with total restoration cost of \$4.3 million + annual operating costs of \$88,000



Natural Infrastructure can also provide:

- Cooling and mitigation of heat island effects
- Windbreaks
- Improved soil structure and nutrients
- Mental and physical health benefits
- Erosion control

# How Can Businesses Benefit From Natural Infrastructure?



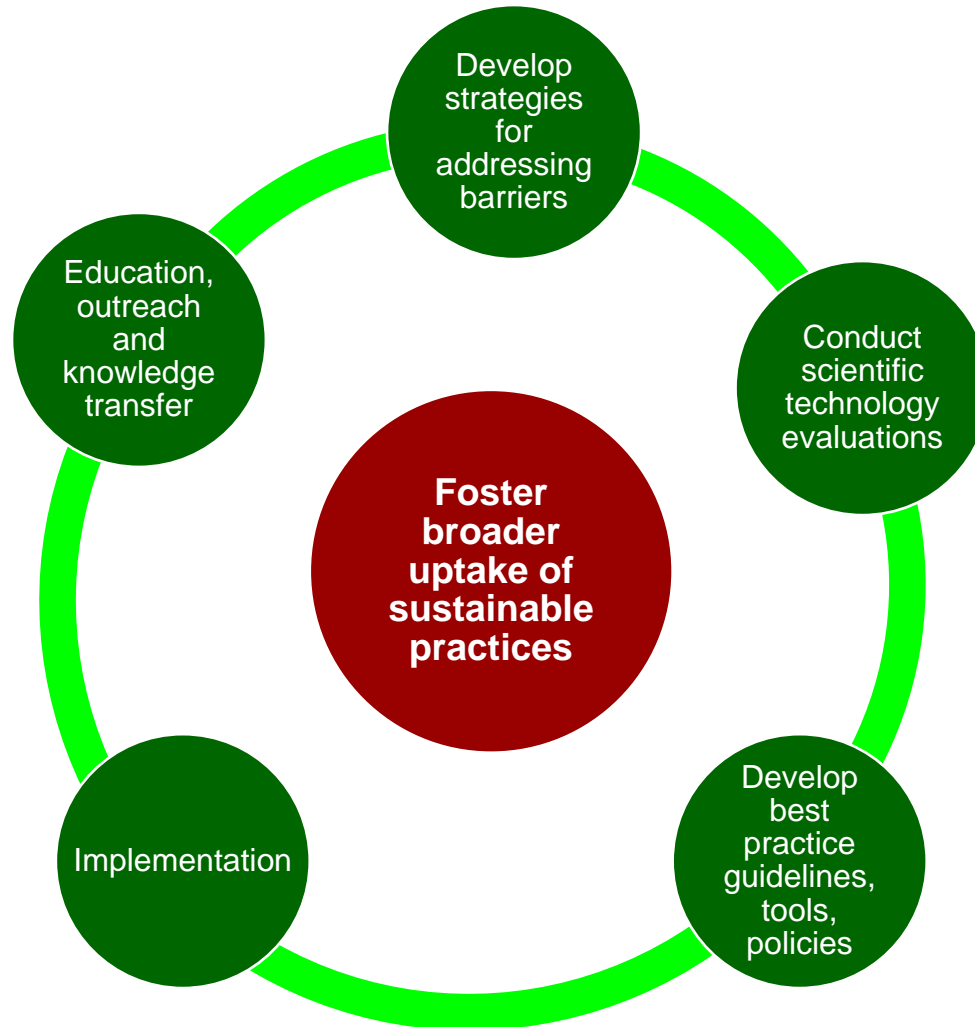


# Need for Integration

- Natural Infrastructure is not typically assigned a value
- Widespread recognition, protection and implementation requires an alignment between multiple layers of funding, policy, supports and/or benefits
- Integration needed:
  - Within an organization
  - Between services/programs and the broader policy context
  - Funding opportunities



# Integration Within An Organization



# Integration Between Programs and the Broader Policy Context

- To build a compelling business case, need to build linkages between government priorities, resources in place, programs being offered and businesses

**Can also result in layering of funding opportunities**



**Landowner Interests**

Region of Peel priorities and resources

Federal tree planting priorities and funding



Water Quality, Habitat, Soil Quality, Erosion Control, Aesthetic Benefits, Recreational Opportunities....



So how can businesses benefit from natural infrastructure?

# Mitigating Risk

- Flooding
- Water quality
- Heat
- Erosion
- Policy
- Reduce costs (utility rates, insurance)



# Create new value and opportunities

- Improve employee and customer experience
- Build positive corporate reputation
- Find new opportunities, efficiencies and linkages
- Improving neighbourhood, community and/or industry



# Tree Planting and Property Greening

- Property greening and related natural infrastructure works across a variety of contexts and properties
- Integration between business priorities, TRCA mandate, and municipal/regional/provincial/federal programs and funding
- TRCA acts as the nexus of these opportunities, with PPG being a conduit for members
- TRCA encompasses entire cycle: from guidance, employee and customer engagement, implementation, monitoring

Example: City of Toronto funding for tree planting on large properties. Fifty trees recently planted at Ontario Science Centre



# Tree Planting and Property Greening

- Other programs focus on agricultural properties, managed forests, community-based restoration
- Mitigate risks:
  - Stormwater management, reduce heat impacts, reduced utility and user fee rates
- Create new value:
  - Aesthetic and comfort benefits, corporate leadership, wildlife habitat, fulfill policy goals





# Erosion Risk Management

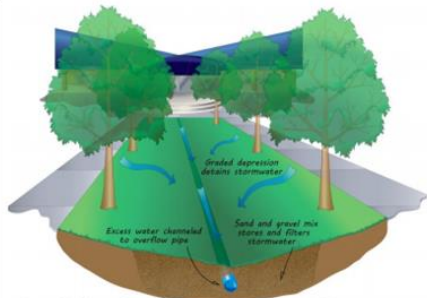
- Managing erosion risk and risk of bank failures
- Also opportunities to address erosion on agricultural properties
- Ranges from strategic plantings to engineered solutions
- Manages risk:
  - Property damage
- Creates new value:
  - Trails, water quality improvement, habitat, stormwater management, fulfills municipal priorities
- Opportunities to leverage funding for private property work in certain jurisdictions



# Implementation of Low Impact Development

- Sustainable Technologies Evaluation Program (STEP) is a partnership between TRCA, Credit Valley Conservation and Lake Simcoe Conservation
- Provides knowledge and guidance on LID options, design, implementation and maintenance
- Manage risk:
  - Flood risk and stormwater management, water quality, meet regulatory requirements
- Create new value:
  - Site improvements (aesthetics, enjoyment of property), corporate leadership, leveraging funding, developing new opportunities and linkages

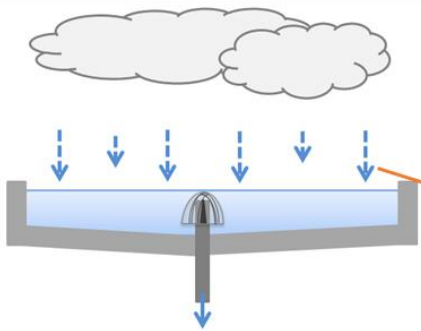
# Using the Drainage Act to Support Large-Scale LID Adoption



Increased soil volume and vegetation, including trees, maximizes potential for absorption, bioremediation, and phytoremediation

23

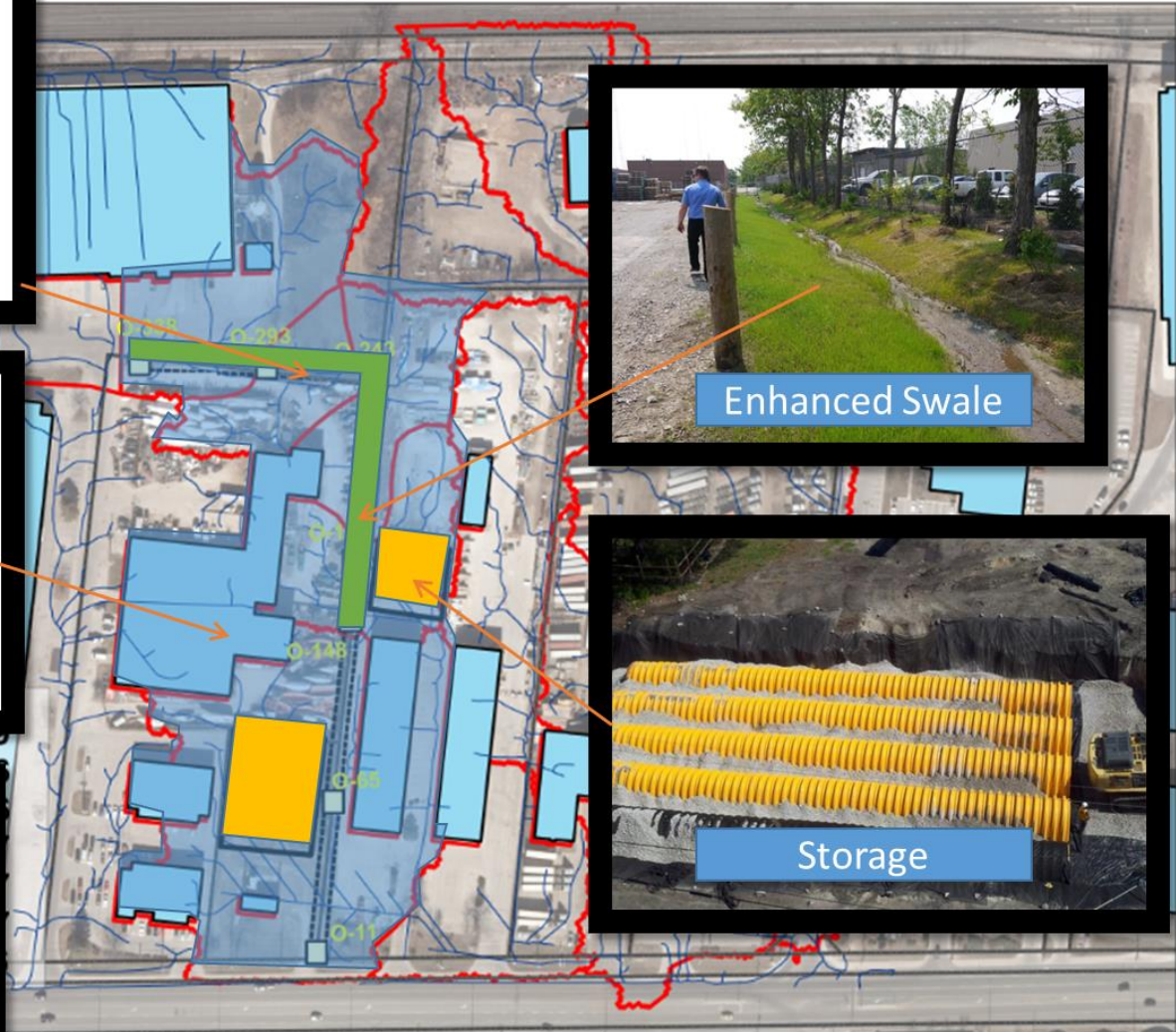
Tree Bioretention



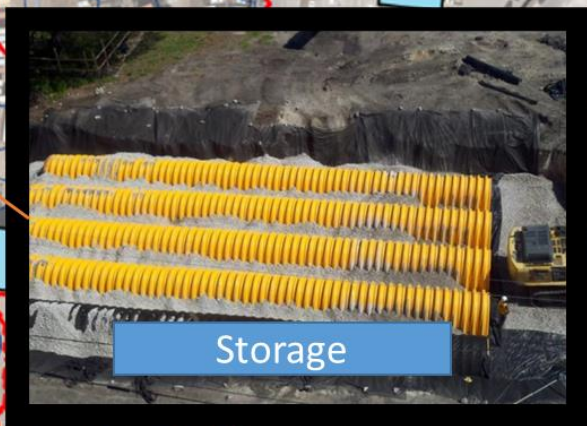
Smart Blue Roofs



Non-potable Uses



Enhanced Swale



Storage

# Agriculture and Food

- Both conventional agriculture, urban agriculture and other food/ag-related opportunities:
  - Environmental Farm Plans
  - Rural Water Quality Programs
  - Land, soil and infrastructure resources for urban farmers
  - Opportunities for innovative food or ag businesses
- Mitigate risks:
  - Fulfill policy/legislative requirements, protect/restore soil and water resources
- Create new value:
  - Strengthen/green supply chain, access financial support for projects, implement innovative food initiatives in close proximity to urban areas



# Closing Thoughts

- We are all benefitting from natural infrastructure
- Natural infrastructure can range from completely natural to highly engineered, with maintenance and monitoring needs also varying. Consider what is realistic for you
- Attention is turning to natural infrastructure at all levels of government, with resulting opportunities
- Can layer multiple benefits and resources to make the business case work for you

# Thank you

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# Q&A



# Networking Segment

## Join us in any of the following rooms:

- *Networking Room #1 – Business Engagement*  
Hosted by Eric Meliton
- *Networking Room #2 – Municipalities and Public Agencies:*  
Hosted by Victoria Kramkowski

## Tips for joining Go To Meeting networking rooms:

- Links are in the chat area or in the reminder email from “TRCA Host” sent at noon today
- Use computer audio; Google Chrome recommended