

SEPTEMBER 18, 2023 - AGENDA ITEM 10.3

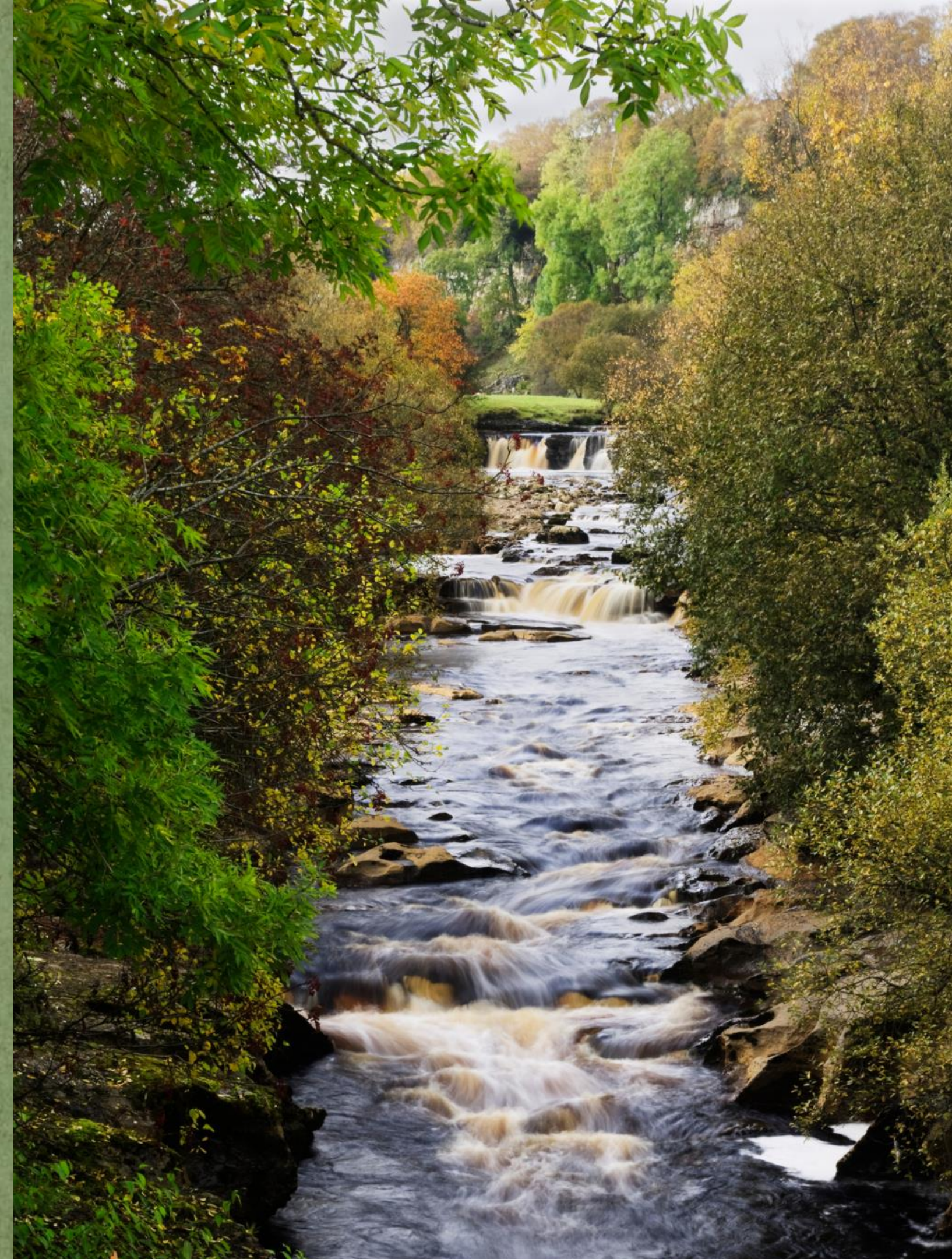
Rainwater Management Plan



New 'Green Infrastructure First' Policy a Good Start

The information we share demonstrates that GI

- Reduces the amount of runoff that enters the grey system and reduces the level of pollution in that water.
- Can lengthen the life span of grey infrastructure, thereby saving \$\$\$.
- Can be utilized in new development or retro-fit installations.
- Can improve water quality and maintain stream form & function.
- Deliver measurable results.



Information

- *It is projected Oakville will need \$639-Million over the next 30 years to protect current assets and incorporate enhancements.*
- *The town will need \$21.3-Million annually every year for 30 years, with a shortfall of at least \$12-Million each year.*
- *Property owners will be asked to cover the shortfall.*

From the Public Standpoint:

While information, measurement data and financial details may reside in various places such as budgets, asset management plans, studies and reports, for the most part, residents are unaware of it and don't know how it fits together.

- **What individual elements comprise the evaluation?**
- **How were cost projections made and what were they based on?**
- **Have recent legislative changes impacted projections?**
- **If inspections of assets and maintenance are underway regularly, shouldn't we have heard of the annual \$21-million shortfall earlier?**
- **What mitigation strategies are underway/being developed to reduce the current financial projections?**





We'd Like to See

Riverine, Creek and Shoreline studies also be included in those that are re-evaluated for additional GI solutions, as they are recipients of runoff upstream from other projects. For example, the Wyecroft Road project will increase runoff into 14 Mile Creek and current plans for Midtown are directing runoff to multiple creeks. With shorelines, armor stone in the lake is not a complete answer. We must lessen the amount of runoff we put into the lake, and we must use green practices to prevent erosion - plantings, trees, etc.

The image at left is a living wall created on Mississauga Road to protect the creek that runs near it. It stops erosion, cleans and filters the water and protects habitat.

Credit Valley Conservation offers local municipalities help with GI implementation, operations and maintenance. Can they assist us?

Greater Possibilities

An example in the staff report outlined that grey infrastructure is needed to carry runoff to a GI stormwater pond.

In fact, GI can play a greater role along route.

Vancouver's Woodland Drive Project

Objective: To accommodate increasing density that resulted in additional pressure on an already strained sewer and storm system.

Answer: A bioswale that helps to capture close to 3,000 sq. meters of rainwater runoff, keeping 3.8 million liters of rainwater runoff out of the sewer annually.



200m²
Bioretention planting area



3.0 thousand m²
impervious area managed



3.8 thousand m³
urban rainwater runoff diverted from sewer system annually



Subdivision: Retrofit Grey System



- 1 The existing Catch Basin was re-used as an outlet for any overflow during large rain events.
- 2 GI curb helps to protect the existing boulevard trees by reducing erosion and minimize changes to hydrolic conditions.
- 3 River rock helps to disperse energy of incoming rainwater runoff and in turn, helps to reduce water ruts and erosion.



Design components



Inlet directs water into the bioswale and removes sediment.



Weir wall helps to slow water flow and in turn, increases opportunity for ponding and infiltration.



Diverse planting helps to increase local biodiversity and create year-round interest.



The subdrain removes excess rainwater when soil is saturated.



49 m²
Bioretention planting area

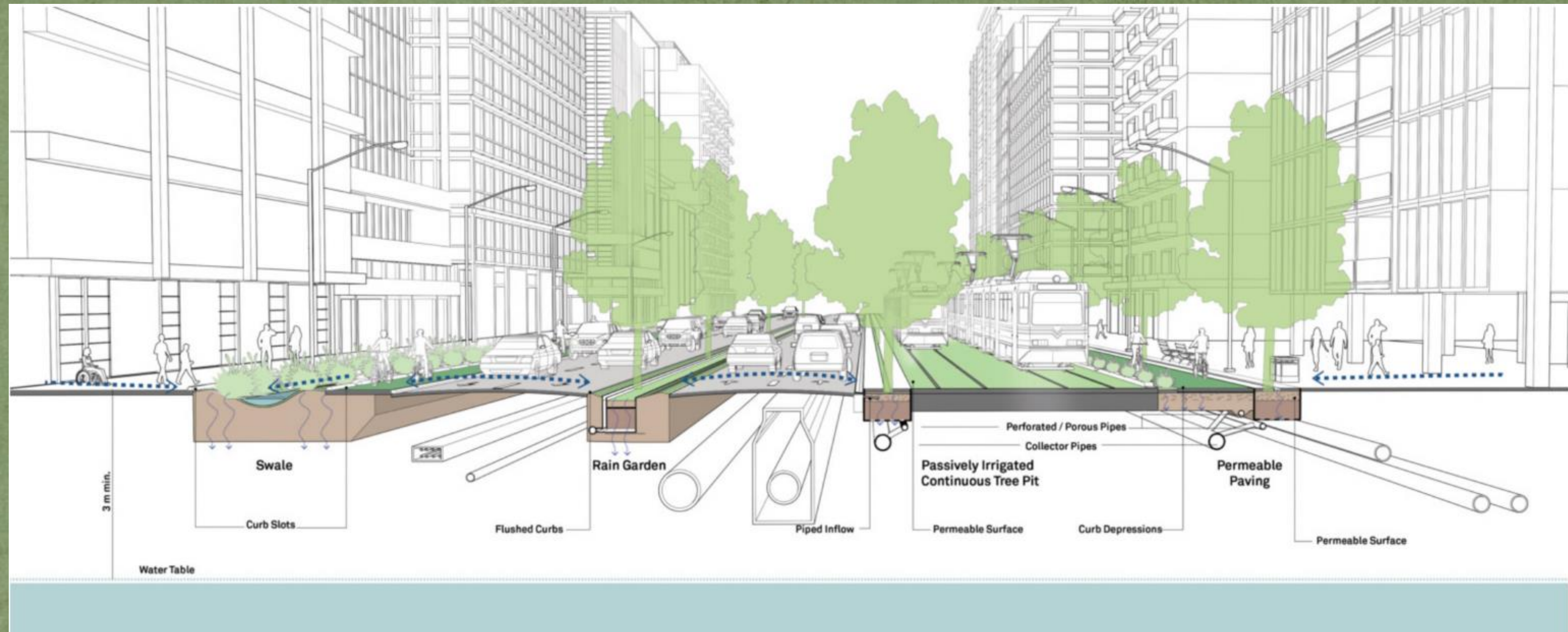


2.5 thousand m²
impervious area managed



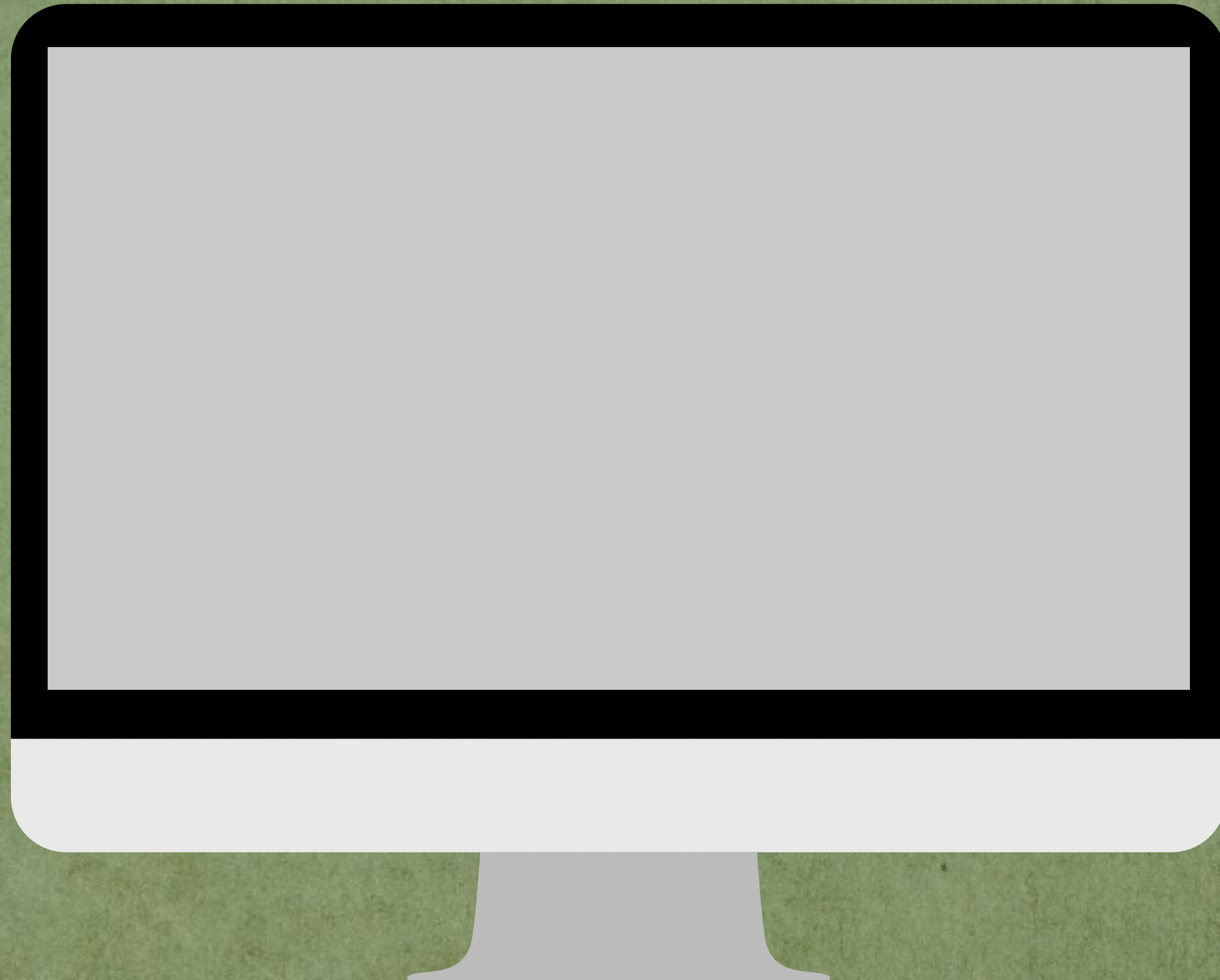
3.1 thousand m³
urban rainwater runoff treated onsite annually

High Density Urban Setting



Features include passive irrigation, tree trenches, swales, permeable surfaces and rain gardens.

A VANCOUVER COMPLETE STREET PROJECT



Thank You

