

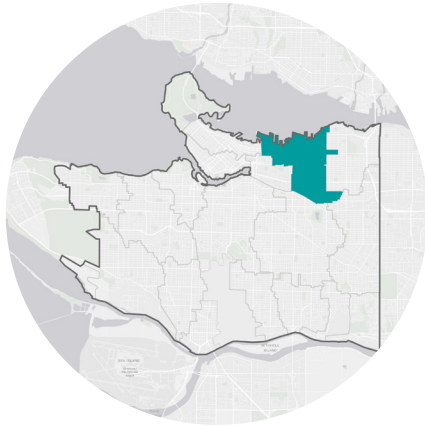
# Woodland & 2nd

## Rain City Strategy Green Infrastructure Implementation

Last Updated: 2022

### Woodland Dr & 2nd Ave E

#### Location



**Grandview Woodland Watershed**



**Location of bioswale**



#### Project overview

Within the Grandview Woodland Community Plan, increasing a range of affordable housing units is a key principle. Increasing density to allow for more affordable housing units will add pressure to an already strained sewer and storm system. This bioswale 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 and in doing so, free capacity for higher density development. In addition to adding capacity for increased density, this project also help to address other key objectives in the Grandview Woodland Community Plan such as adding a protected bike lane for increased sustainable transportation options, and enhancing the accessible green space within Alice Townley Park.

#### Project delivery

This project was designed and constructed by City of Vancouver designers, engineers, and construction crews. It pilots innovative inlet designs, construction material reuse, protection of all existing trees, and work around multiple utility conflicts. Working with internal City crews allowed for creative field fit solutions, re-use of existing City stock piled materials, and minimal change orders. Ongoing monitoring of inlet function, sustainable material performance, groundwater levels, and plant health is in place to evaluate design performance and inform future GRI design standards.

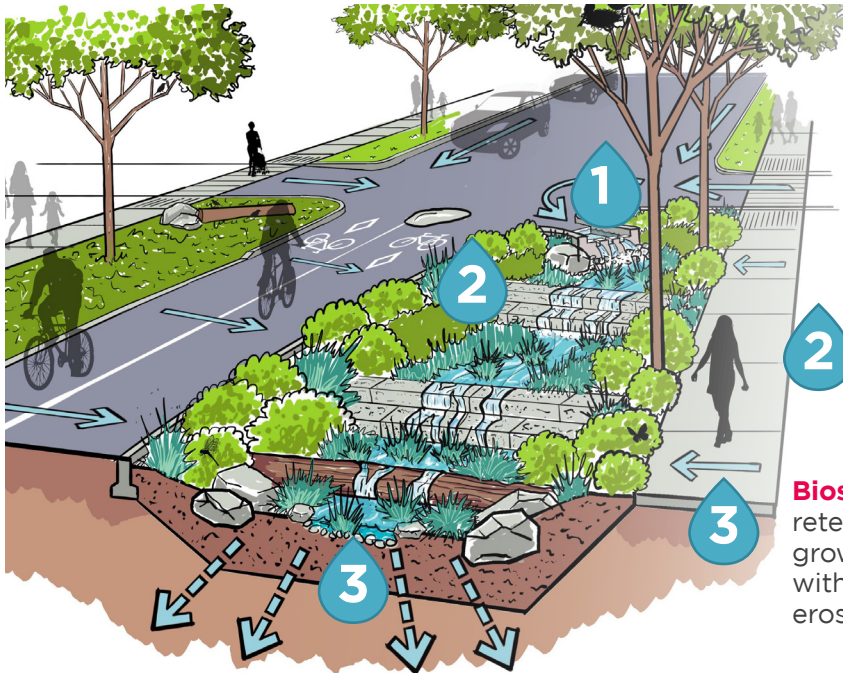
#### What is Green Rainwater Infrastructure (GRI)?

GRI is a cost-effective approach to rainwater management that protects, restores, and mimics the natural water cycle. It uses soils, plants, trees, and engineered structures to capture, store, and clean urban rainwater runoff before returning it to our waterways and atmosphere.

GRI delivers essential drainage services as well as additional co-benefit services such as reducing climate change risks, providing ecosystem services, and offering opportunities to stimulate the local economy.

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### Project design Project elements

1

**Inlet** captures rainwater runoff from Woodland Drive and helps to slow down the movement of water and capture sediment before entering the bioswale.

2

**Weir Walls** help to slow rainwater runoff collected from Woodland Drive and lane way and in turn, increases ponding area, infiltration, and reduces risk of erosion.

3

**Bioswale** allows for a large volume of water retention and infiltration within specialty growing medium. Plants throughout help with water uptake through their roots, erosion control, and pollinator habitat.

### Design Components



**Granite Blocks** were re-used from retired City curbs to form naturalized weir walls.



**Habitat Log** provides opportunity for decay and nutrients for fungi, insects and plants.



**Inlet Stamps** add interest and sense of place to an otherwise large concrete surface.



**GI Chamber** collects water from multiple catch basins and distributes throughout the bioswale.

### Design considerations



#### Existing Trees

Along the bioswale were protected during construction and included within the bioswale design.



#### Utilities

Multiple existing utilities and offset requirements played a significant role in design and layout.



#### Planting palette

Emphasizes the use of hardy, native species.



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**200m<sup>2</sup>**

Bioretention planting area



**3.0 thousand m<sup>2</sup>**  
impervious area managed



**3.8 thousand m<sup>3</sup>**  
urban rainwater runoff filtered  
and / or diverted from sewer

### Timeline & partners for GRI

The GRI components of the project were **internally designed and constructed, led by the Green Infrastructure Implementation Branch**. In the timeline below, key partners that supported the delivery of GRI are identified at each stage of the project.



**Planning**  
**2016**

Grandview Woodland  
Community Plan



**Conceptual design**  
**2019**

RainCity Strategy Approved  
by City Council - Site  
Selection



**Detailed design**  
**2021**

Internal Design



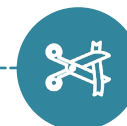
**Construction**  
**Spring 2022**

Internal Crews



**Planting**  
**Fall 2022**

External contractors



**Public opening**  
**Fall 2022**



**Operating, monitoring,  
maintaining**

**Fall 2022 onwards**  
External contractors