

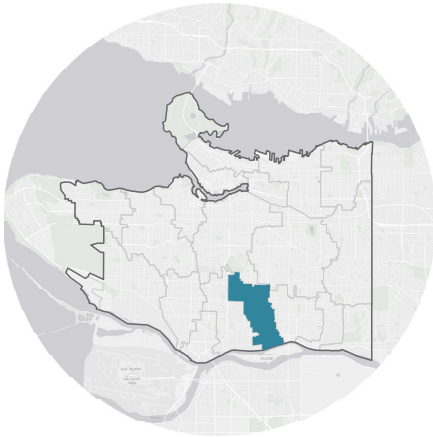
Sunset Park

Rain City Strategy Green Infrastructure Implementation

Last updated: 2022

About Sunset Park

Location



South Hill Watershed



Location of bioswale



Project overview

The permanent closure of Prince Edward Street is part of a series of renewal projects that connect the growing community to Sunset Park. The new All Ages and Abilities cycling path and pathway improvements along Prince Edward Street promote active transportation. Next to the cycling path, a bioswale was installed. The bioswale uses soil, plants, and trees to filter pollutants out of urban rainwater runoff. This helps to improve water quality in our receiving waterbodies, such as the Fraser River, protecting salmon and other river and ocean wildlife. The bioswale also holds water—reducing flooding and preserving the capacity of our drainage pipes to handle bigger storms brought by climate change, while providing important habitat for bees, butterflies, and birds.

Why was GRI implemented?

The area was experiencing localized flooding due to catch basins on the street being buried in sediment, causing drainage problems. The rainwater is now redirected into the newly installed GRI asset (bioswale) that captures, cleans, and infiltrates urban rainwater runoff from street surfaces. The cleaned rainwater soaks into the soil, moves through the ground, and eventually reaches the Fraser River.

The bioswale helps knit together the east and west portions of Sunset Park into a continuous green area. This contributes to the Sunset Park renewal focus on improved connections between park features while adding habitat, and enhancing biodiversity.

The street closure also provided an opportunity to install a bike lane to improve the cycling network, a Transportation 2040 goal.

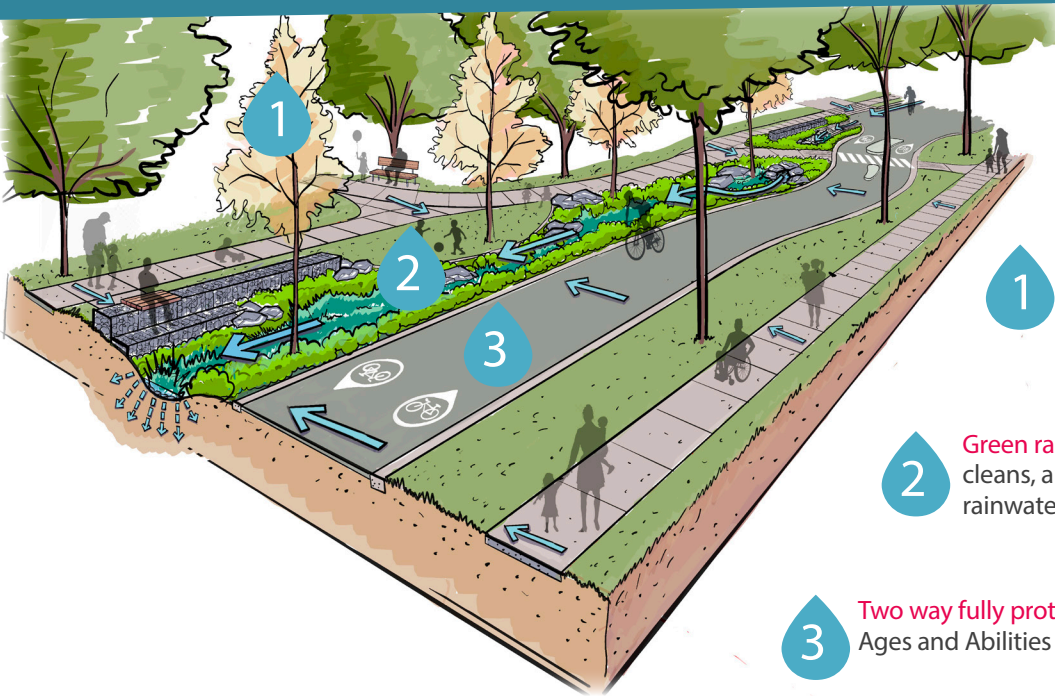
What is Green Rainwater Infrastructure (GRI)?

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

Trees create a shady canopy while also cleaning the air, improving habitat for birds, and improving our health and wellbeing.

2

Green rainwater infrastructure collects, cleans, and absorbs polluted urban rainwater runoff from streets and sidewalks.

3

Two way fully protected bike lanes provide an All Ages and Abilities active transportation route.

Design components



Inlet directs water into the bioswale and removes sediment.



Bioretention soil has a high capacity for rainwater infiltration, removes pollutants, and supports plant growth.



Juncus is the main functional plant for infiltration through its root systems and for pollutant removal.



The subdrain removes excess rainwater when soil is saturated.

Design considerations



Native soil consists of areas of high infiltration sand and areas of slower infiltration silt. The design allows for infiltration in some areas and filtration and detention in slower infiltration areas within the bioswale.



Clearances from underground utilities, including street lighting and a telecom duct which run under the street.



Planting palette developed in coordination with the Park Board.

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 **3**
new trees

 **2097 kg**
carbon sequestration over 50 years

 **4.5 thousand m²**
impervious area managed

 **4 million litres**
urban rainwater runoff treated onsite annually

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.

