



# Seattle's Green Stormwater Infrastructure (GSI) Program

Informational Briefing

January 23, 2018 // Seattle City Council  
Civil Rights, Utilities, Economic Development & Arts Committee

*Venema Natural Drainage System*





## **BRIEFING OBJECTIVES:**

Contextualize Seattle's green infrastructure work

Provide check-in on two existing programs:  
RainWise & NDS Partnering

Provide overview + status of new Urban Village program

Receive observations & advice from Council

*N. Transfer Station Project*



# TOOLS ON PRIVATE LAND

## RESIDENTIAL SCALE

## COMMERCIAL SCALE

CISTERNS



RainWise cisterns



Greenfire, Ballard

GREEN ROOFS



Garage roof



Gates Foundation

PERVIOUS PAVING



Pervious Driveway



Pervious Parking Lot

RAIN GARDENS/  
BIORETENTION



RainWise raingarden



Portland School Yard

# TOOLS ON PUBLIC LAND

total drainage area  
129 ACRES

total drainage area:  
435 ACRES



Highpoint



Swale on Yale

**multi-benefit use of the right-of-way**

primary project purpose:  
FLOOD PREVENTION

primary project purpose:  
FLOOD PREVENTION



Madison Valley



Meadowbrook Pond

**multi-benefit use of parcels**



# Green Stormwater Infrastructure Program History

GSI work driven by

Examples

## Creek protection and salmon recovery

2000



SEA Street; 110<sup>th</sup> St. Cascade; Pinehurst and Broadview Green Grids; HighPoint Redevelopment

## Early CSO compliance and Stormwater Code

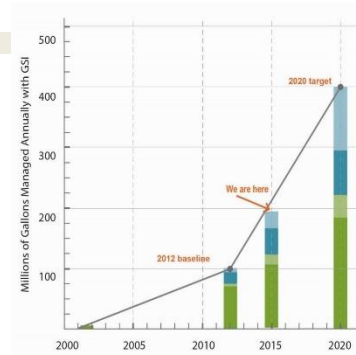
2008



RainWise program development  
GSI required in Stormwater Code

## Citywide policy & code updates and Integrated (CSO/SW) Plan

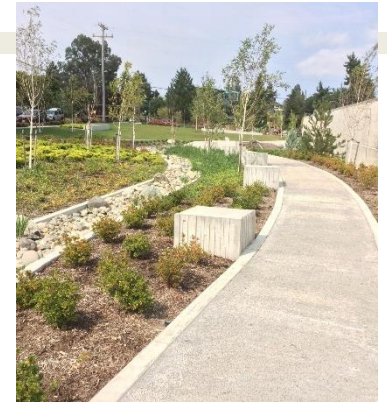
2013



Citywide commitment and target  
\$35M Natural Drainage System Partnering Program

## Investments integrated with open space, transportation, and development

2017



\$35M Urban Village Program  
North Transfer Station; Fremont Building





*Highland Park Community Center  
Depave & Raingarden Project*

## **Why we lead with green:**

- Best management practice & in some areas, the only cost effective approach
- Higher value per rate payer dollar
- People-centered



*Venema Natural Drainage System*





**NEARBY = HUMAN  
NATURE = HEALTH \***



\*Improvements to support a healthy environment for all can exacerbate displacement risk in communities of color and low income communities. This must be addressed with cohesive Citywide strategy.



# Stormwater Pollution Is a Regional Challenge

Seattle Helps Set the Pace for Green Solutions

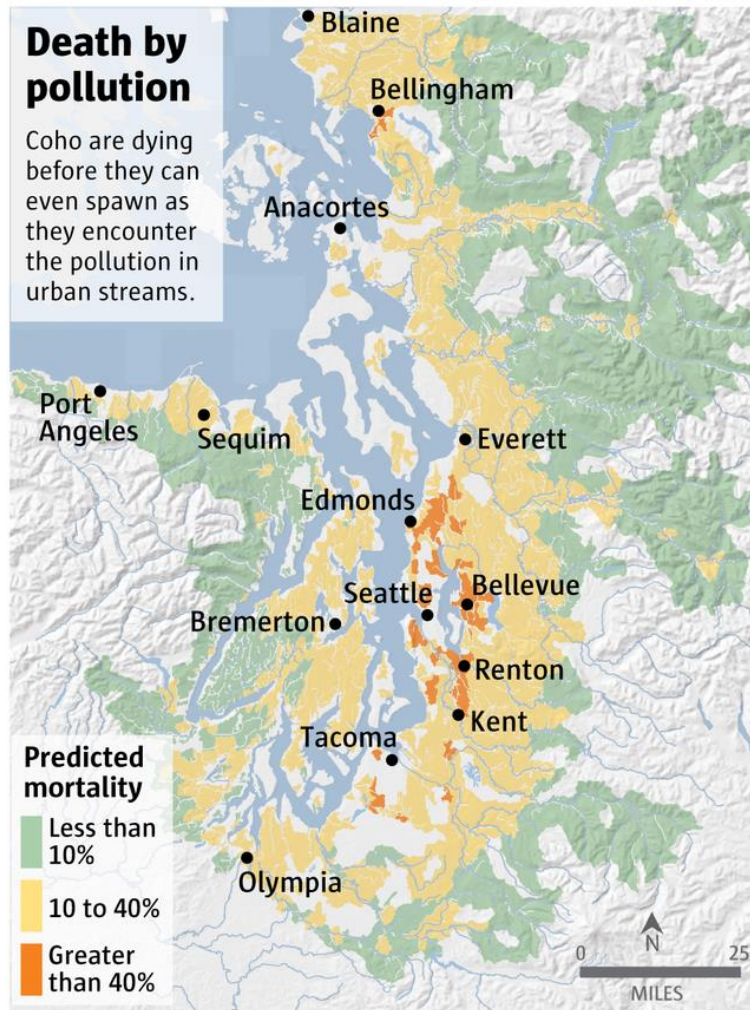
Environment | Local News | Northwest | Puget Sound

## Stormwater pollution in Puget Sound streams killing coho before they can spawn

Originally published October 18, 2017 at 7:00 am | Updated October 18, 2017 at 12:27 pm



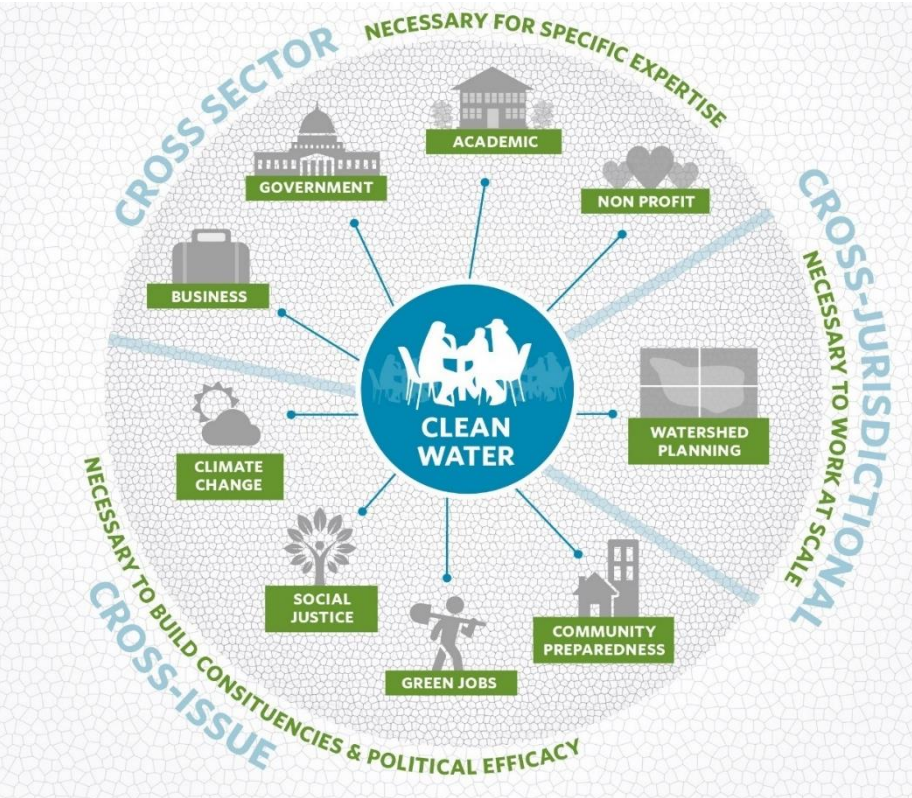
1 of 2 Coho salmon, including females full of eggs, are dying before they can spawn in Puget Sound streams polluted with stormwater runoff. (NOAA Fisheries)





# Stormwater Pollution Is a Regional Challenge

Seattle Helps Set the Pace for Green Solutions



Seattle began its retrofit rebate program – RainWise -- in 2010. There are now similar programs across the Puget Sound region.



**Seattle is a founding partner of:**  
 The Green Infrastructure Partnership (GRIP)  
 Puget Sound Green Infrastructure Summit  
 Regional RSJ Learning Cohort  
 City Habitats





# GSI Requirements

Stormwater Code

On-site

Flow Control

Water Quality





# RainWise

Property Owners = Part of the Solution



RainWise rebates \$4 for every square foot of roof area directed to a rain garden

Program has trained over 700 contractors to date



# RainWise

Property Owners = Part of the Solution



## Small Contracts, Big Opportunities

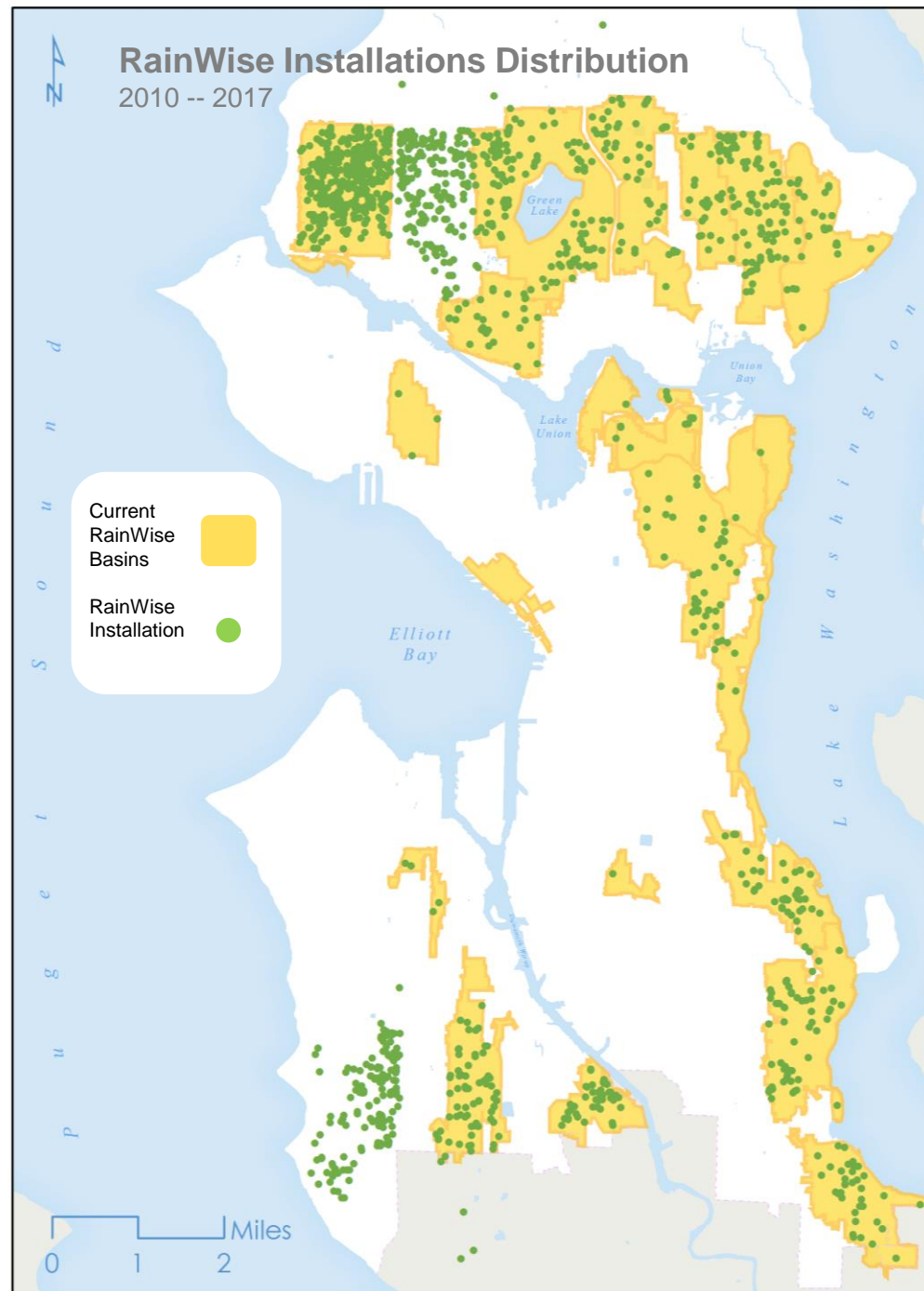
Average install cost: \$5K

Most participating contractors  
are sole proprietorships

First-generation immigrants:  
10%

Highest grossing contractor:  
\$200K

Key challenge:  
business development support





# Natural Drainage Systems Partnering

Partnerships with Sister Agencies Lower Costs



- 1** Build bioretention along approximately 66 blocks in Seattle's three major creek watersheds.
- 2** Deliver additional benefits such as street trees, traffic calming, and sidewalks by prioritizing partnerships



Watershed	Begin Design	Begin Construction
Thornton – 30 <sup>th</sup> NE (SDOT led)	2017	2018
Longfellow	2018	2019
Thornton – south	2018	2019
Thornton – North	2019	2021
Pipers	2020	2022

Highlighted streets are potentially technically feasible for a natural drainage system.

SPU is funded to build projects on about 4% of these blocks.



# Natural Drainage Systems Partnering

Partnerships with Sister Agencies Lower Costs



*SDOT Sidewalks and Safe Routes to School Programs*



*Localized Flooding*



*30<sup>th</sup> Ave. NE  
in Partnership  
with SDOT*

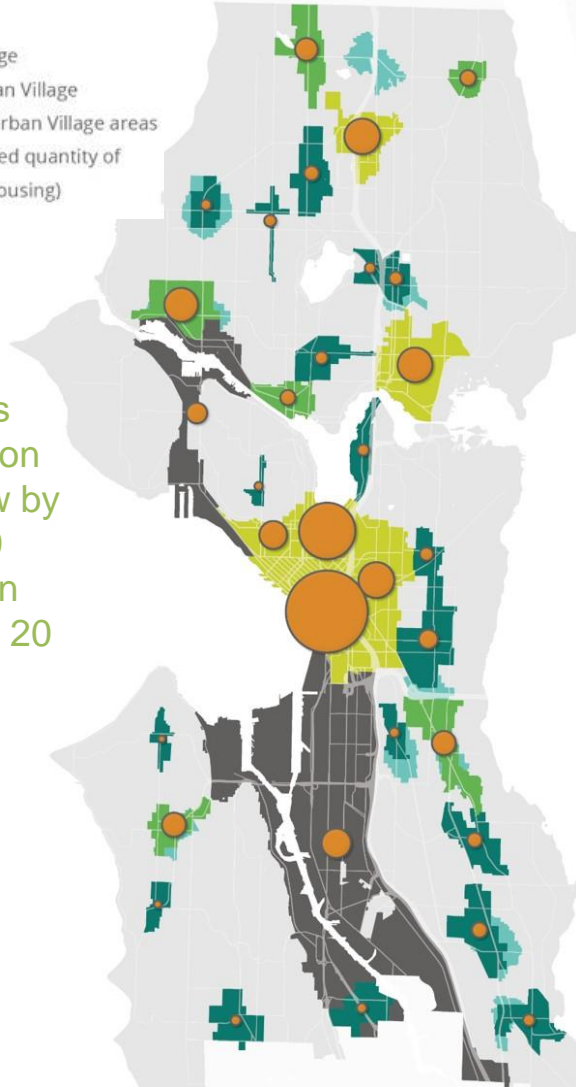


## Urban Village Program

Improve Drainage, Water Quality, and Livability  
In Most Rapidly Growing Areas of Seattle

### Projected Population Growth 2015-2035

- Urban Center
- Hub Urban Village
- Residential Urban Village
- Potential New Urban Village areas
- Growth (expected quantity of new jobs and housing)



Seattle's population will grow by 120,000 people in the next 20 years.

How will we leverage the moment of redevelopment – **the lowest cost moment to update our infrastructure systems** – to optimize public and private value, including:

- A climate-ready drainage & wastewater system
- Multi-functional/multi-seasonal open space
- Long-term stewardship of stormwater facilities
- Greater flexibility and creativity for developers
- Clear/explicit racial equity outcomes



Tanner Springs Park  
Pearl District, Portland

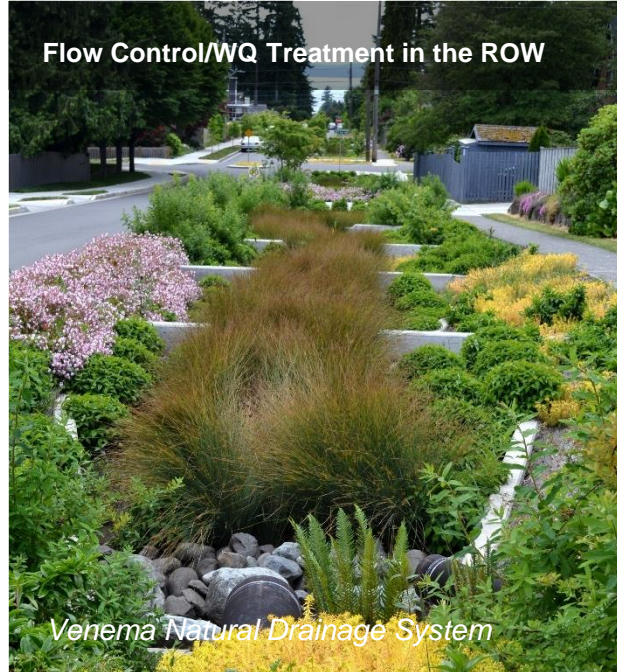


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## POTENTIAL TYPOLOGIES

Flow Control/WQ Treatment in the ROW



*Venema Natural Drainage System*

Purpose-built Stormwater Parks



*Madison Valley*

Retrofits of Existing Space



*Parcel-side Incentives Aggregation*

*Swale on Yale*



*Manchester, Kitsap County*



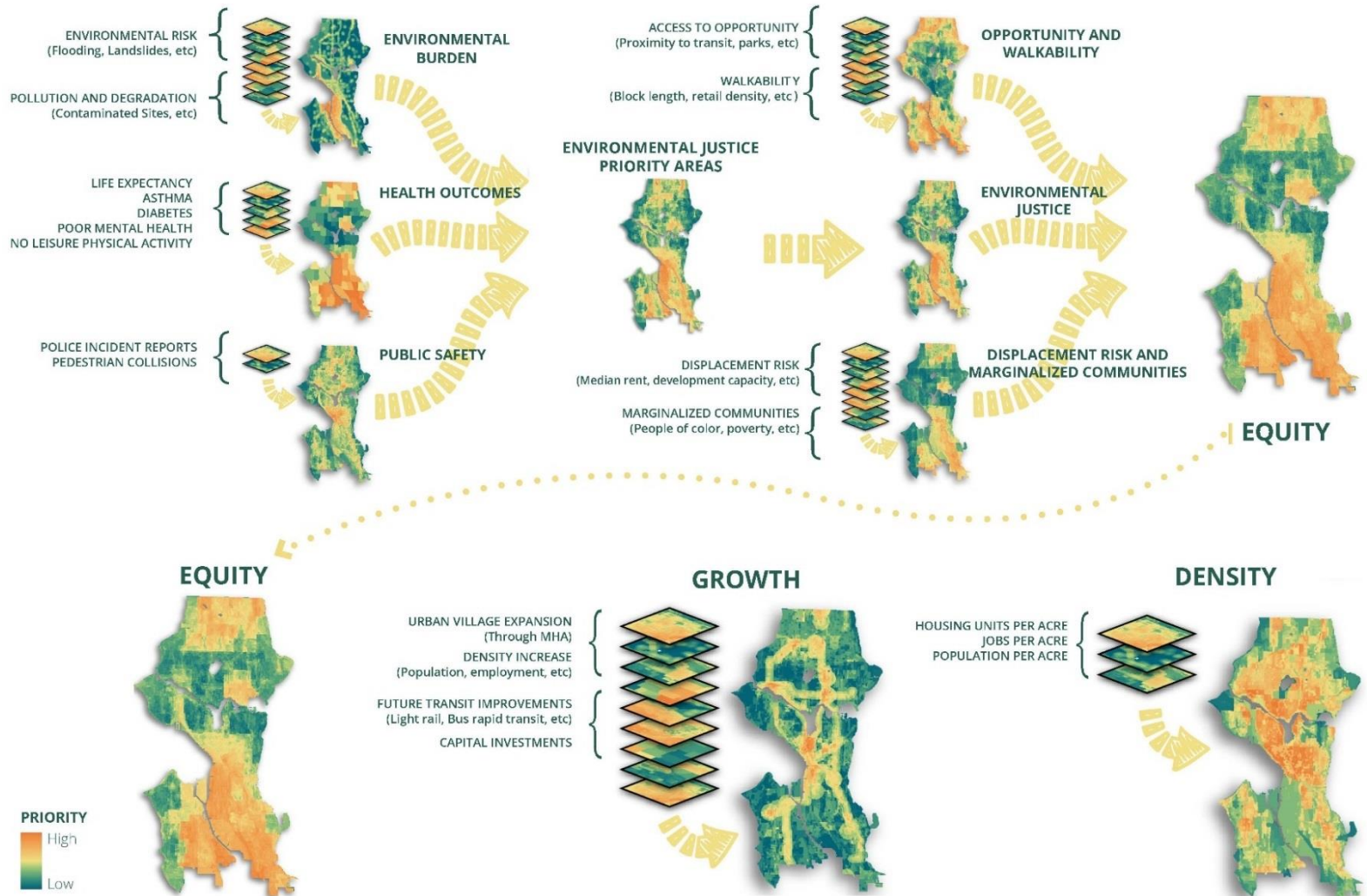


# Urban Village Program

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## Urban Village Prioritization Approach Is Considering:

- OPCD analyses (data below) for racial equity, density, and growth
- Best-available SPU data on infrastructure needs and ecological variables
- Best-available data on parks and open space gaps
- Technical feasibility
- Partnership potential





# In Summary

Expanding Partnership Capacity

## Go It Alone

SPU-Designed  
SPU-Led Outreach  
SPU-Built  
SPU-Maintained



## Go Further, Faster With Strategic Partnerships

Developer-Designed  
Developer-Led Outreach  
Developer-Built  
SPU-Facilitated  
Co-Maintained



Ballard Roadside Bioretention



RAIN GARDENS  
FILTER STORMWATER

Watershed Building, Fremont

CLEANED WATER  
TO LAKE UNION



Learn more at [700milliongallons.org](http://700milliongallons.org)



**700 Million Gallons**

RainWise REBATES

Home About ▾ Methods GSI Around You Take Action RainWise ▾ Search 🔍

## GSI Methods

From rain gardens to green roofs, there are many ways to add green stormwater infrastructure to your home or community. Learn how people are enhancing the beauty of their homes, businesses, and neighborhoods while keeping polluted runoff and sewage overflows out of our waterways.

[Learn More](#)

ww.700milliongallons.org/

The Northwest  
I'm RainWise!  
This property is proud to be a member of the RainWise program.

Share ideas: [rainwise@sattle.gov](mailto:rainwise@sattle.gov)