

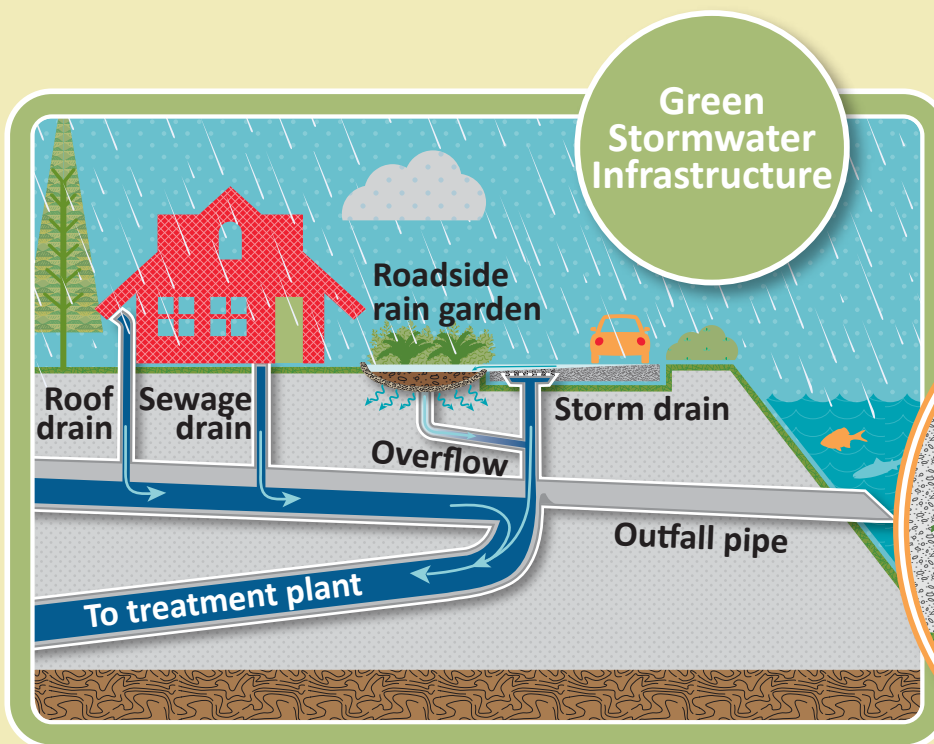
King County's University Green Stormwater Infrastructure (GSI) Project

In late 2017, King County began the University Green Stormwater Infrastructure Project in north Seattle.

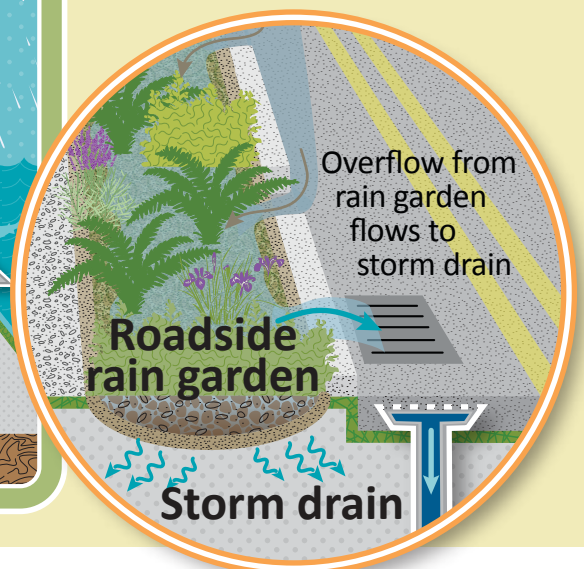
King County has identified a study area in north Seattle (map to right) as an optimal area to investigate installing natural drainage solutions (green stormwater infrastructure) to help control the University Basin Combined Sewer Overflow (CSO). (See Page Two.)

Green stormwater infrastructure will only be installed in a small portion of the study area shown to the right.

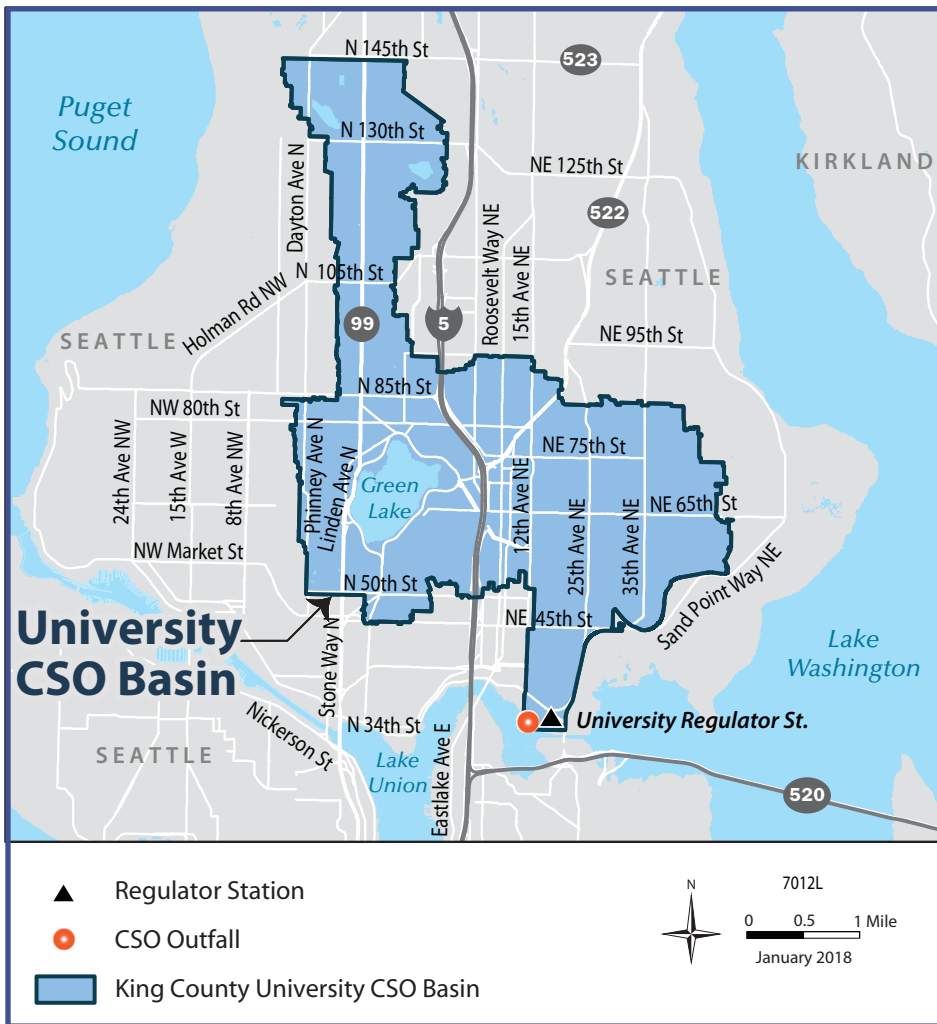
In 2018 the project is studying soil, groundwater, surface water flow and street conditions to identify the best locations within this study area for work to be done. The project is also evaluating what types of green stormwater infrastructure to build in this area. (See Page Three.)



Green stormwater infrastructure mimics nature by slowing or reducing polluted runoff close to its source. It treats polluted runoff from roads, roofs, and parking lots by capturing and cleaning it before it harms our waterways.



Controlling the University Basin Combined Sewer Overflow (CSO)



King County has controlled 90 percent of its CSO volumes. For every remaining CSO it is working to control, King County considers a combination of natural drainage, or GSI, with facilities like wet weather storage tanks, tunnels and wet weather treatment stations to manage flows. Installing GSI can help reduce the size of future facilities (like storage tanks or tunnels) by reducing the amount of stormwater entering those facilities.

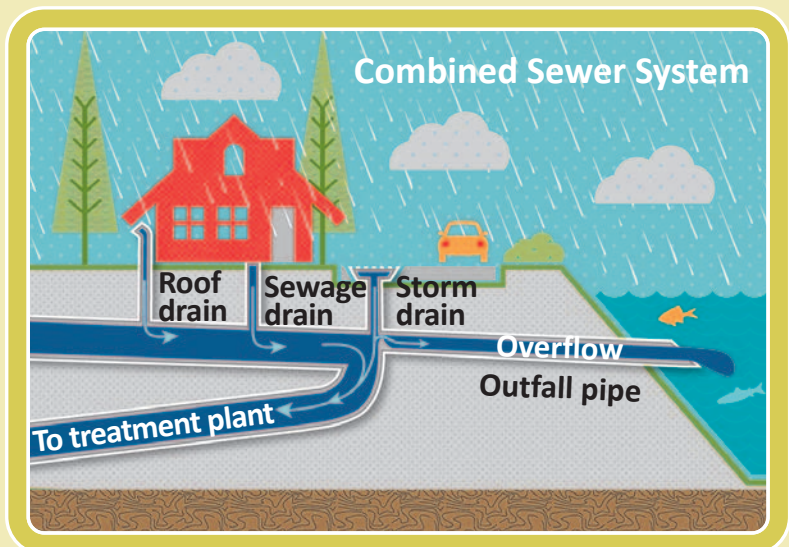
The County has built facilities like wet weather storage tanks and treatment stations to control CSOs in or near other Seattle neighborhoods such as Magnolia, North Beach, Rainier Valley, and Georgetown (underway). The County has installed GSI in West Seattle.

In the University CSO Basin, the County is planning to combine the CSO control solutions of green stormwater infrastructure with a future wet weather storage facility to the south near Portage Bay.

WHAT ARE COMBINED SEWER OVERFLOWS (CSOs)?

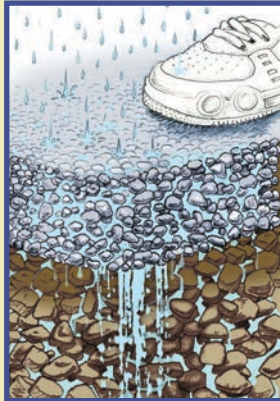
In Seattle, many of King County's underground pipes carry both sewage and rainwater to treatment plants to be cleaned. These combined pipes and the treatment plants help keep us healthy and make for cleaner rivers, lakes and Puget Sound.

However, during large storms, more rainwater enters the pipes than the combined sewer system can handle. To keep the sewer system working and to prevent sewer backups, the excess water and sewage (a combination of 90 percent stormwater and 10 percent sewage) is released into our local water bodies through CSOs. These are pipes that send the overflows into lakes, rivers and Puget Sound. While CSOs are safety valves for the sewer system and prevent sewer backups in our homes and streets, these overflows are harmful to the environment and public health.



What can green stormwater infrastructure look like?

In this first phase of the project the County will consider what types of green stormwater infrastructure it should build, and where within the study area they should be installed. The project is considering options including bioretention, (such as roadside rain gardens) permeable pavement and tree boxes as types of GSI that may be installed.



Permeable pavement

Permeable paving allows stormwater to seep into the ground while maintaining a durable surface for cars and people. A specially-engineered layer of soil under the permeable paving cleans the stormwater as it soaks in.

Photo "MKE-GreenAlley_Southlawn_11," © 2012 by Aaron Volkening through Flickr, made available under Attribution 2.0 Generic Creative Commons license.



Photo of King County's Barton roadside rain gardens, West Seattle.

Roadside rain gardens

A roadside rain garden contains specially-engineered and landscaped basins that capture and clean polluted runoff from roads, roofs, and parking lots – sending it deep into the ground. Roadside rain gardens are typically installed in public spaces or on commercial property to manage stormwater.



Tree boxes, like the Filterra Bioretention System

The Filterra BioRetention Systems use a small area to capture a high volume of runoff. Water enters the system from curbs to get filtered, cleaned, and dispensed into soils or, in some cases, held in tanks for later use.

Project Timeline



Early action projects schedule

While construction for this GSI project is planned for 2021-23 (see left), the County plans to install early action projects in 2020.

Learn more about other King County and the City of Seattle's related work:

- King County's University Green Stormwater Infrastructure Project: www.kingcounty.gov/NaturalDrainage
- King County's completed Barton roadside rain gardens. Search for "Barton CSO-GSI" or go to: www.kingcounty.gov/depts/dnrp/wtd/capital-projects/completed/barton-cso-gsi.aspx
- King County's and City of Seattle's Green Stormwater Infrastructure: www.700milliongallons.org
- RainWise Rebate Program: Are you eligible? www.700milliongallons.org/rainwise/
- Visit the King County/SPU CSO notification site to check if a CSO is occurring: www.kingcounty.gov/csostatus

We want you involved!

We want to make sure that while meeting our water quality needs we also meet the needs of the community. The County will share its findings and potential green stormwater infrastructure with the public and then ask for feedback. Learn more on our website and sign up for email updates at: www.kingcounty.gov/NaturalDrainage

Have questions?

If you are interested in learning more about the project or want to share your ideas, please contact: Dana West, King County Wastewater Treatment Division Community Services dana.west@kingcounty.gov, 206-477-5536 or TTY: 711.

Alternative formats available
206-477-5371 TTY relay: 711



King County

Protecting Our Waters

Doing our part on rainy days

www.kingcounty.gov/protectingourwaters