King County Green Grants Support Duwamish Area Projects

King County Green Grants provide funding to nonprofit organizations, local governments, schools and tribes for projects to improve and protect air and water quality in the Duwamish watershed. Two recent projects in Highland Park and South Park implemented GSI for stormwater control.

South Park Area Redevelopment Association: All four corners of the intersection of 12th Avenue South and South Southern Street now have rain gardens to remove polluted runoff

from streets along the Duwamish River. The beautiful gardens were designed by local residents, UW Landscape Architecture students, and Urban Systems Design.

Sustainable Seattle is working with the Highland Park Improvement Club to install rain gardens, rainwater cisterns, and other forms of GSI on the Club's property. The community is taking an active part in this project and learning what they can do to minimize stormwater pollution at the Club and at home.



South Park Area Redevelopment Association project.

Cutting the ribbon for the new rain gardens.

For More Information Contact

Kristine Cramer 206-263-3184 Kristine.cramer@kingcounty.gov

Project website: www.kingcounty.gov/cso

Alternative formats available 206-684-1280 TTY Relay: 711



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King County Source Control Projects in King County

Protecting Our River

Over the next few years, King County will start work on several combined sewer

Elliott Bay

Chelan Ave

overflow (CSO) projects to protect public health and water quality in the Lower Duwamish Waterway.

These new facilities will help lead to a healthier environment by controlling the overflows of untreated stormwater and sewage that currently discharge into the river during heavy rains.

Lander St -King St -

Kingdome Project

Alki CSO

Treatment Plant

Chelan Ave Project

modify an existing pipeline.

FUTURE PROJECT

UNDERWAY

115 Overflow Structure.

TO BE CONTROLLED

Construct a wet-weather treatment plant

between the King Street and Hanford Street Regulator Stations and modify an existing pipeline to divert flows to the new plant.

Construct an underground storage tank and

Put in up to 3 acres of Residential RainWise

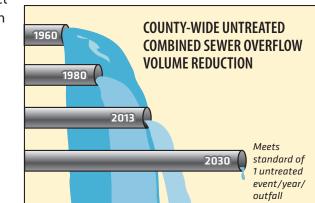
If necessary, construct a pipeline and an underground storage structure near the Termina

Program and 45 acres of green streets and alleys.

COMBINED SEWER OVERFLOWS

SEATTLE

FUTURE PROJECT



CSO CONTROL METHODS

CSO control methods vary based on a number of factors, including City of Seattle CSO control needs, CSO volume, location, land availability and uses, technical feasibility and reliability, potential construction and environmental impacts, and costs.



Storage. Building underground tanks, tunnels, or pipes to store flows during heavy storms until capacity becomes available.



CSO treatment. Build plants to treat flows that are too large to



Conveyance. Build new pipelines or increase the size of existing pipelines.



Green stormwater infrastructure (GSI). Build

rain gardens, green roofs, or other systems to reduce stormwater runoff into combined





Hanford #1 Project

UNDERWAY

Construct an underground storage tank and conveyance improvements to make use of available storage capacity in an existing tunn

Brandon St-S Michigan Project



UNDERWAY Construct a wet-weather treatment plant between the Brandon Street and South Michigan

Street Regulator Stations, associated conveyance and an outfall structure.

King County CSO Outfall

MG = million gallons MGD= million gallons/day

CSO = combined sewer overflow

Abbreviations

SEATTLE

Hanford #2





West Michigan-Terminal 115 Project Underway

South Park & Highland Park Green Projects

This project will explore the feasibility of controlling CSOs using Green Stormwater Infrastructure (GSI) or a combination of GSI and storage. GSI diverts stormwater from the sewer system and allows it to slowly soak into the ground using rain gardens, bioretention swales and permeable pavement. Two neighborhoods – South Park and Highland Park – have been identified for exploration based on their relatively flat streets, wide planter strips or roads, and soils data to determine where water soaks in.

This summer, crews will be in the neighborhood testing soils to better understand:

- · Underground soil layers
- How well water soaks into the ground
- · Location and depth of underground water table

If GSI is not feasible, a storage pipe option will be explored starting in 2019.

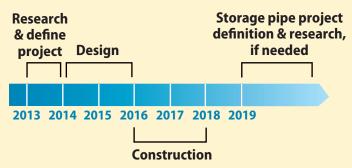


RainWise is available in Highland Park & South Park

The RainWise program provides rebates that cover a significant portion of the cost of installing cisterns and rain gardens on private property.

RainWise supports CSO control by reducing the amount of stormwater entering the sewer system from roofs and yards. To learn more or see if you are eligible, visit www.rainwise.seattle.gov.

WEST MICHIGAN-TERMINAL 115 PROJECT TIMELINE



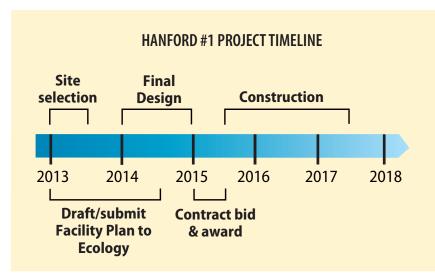


OUR DUWAMISH

Other Nearby Projects

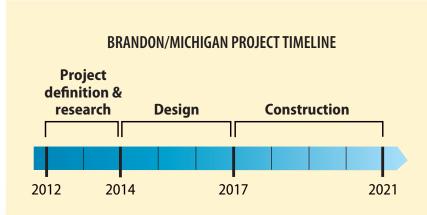
Hanford #1

Two new facilities will be built to control overflows into the Duwamish River coming from the northern end of the drainage basin in the Mount Baker neighborhood. A new pipe will be installed near the intersection of Rainier Avenue and South Bayview Street to divert flows to an existing pipe with extra capacity. Remaining flows from this area will be routed to a 340,000 gallon storage tank further south, and then returned to the County wastewater system to be treated and discharged at the County's wastewater treatment plant in Magnolia.



Brandon/Michigan

This project includes the construction of a wetweather treatment facility between the Brandon Street and South Michigan Street Regulator Stations, related conveyance and a new outfall structure. When constructed, the facility can treat up to 66 million gallons of flows a day that would otherwise have discharged directly to the Duwamish during storms.



What is a Combined Sewer Overflow (CSO)?

CSOs are untreated wastewater and stormwater that are relief points designed to protect people through releasing directly into water bodies during heavy rainstorms when sewers are full.

Since the 1970s, King County has successfully reduced volumes of untreated discharges and uncontrolled CSOs in area waterways by more than 90 percent. Planned projects will further reduce that to ensure an average of no more than one CSO event per year.

COMBINED SYSTEM Roof Drain Storm Drain Overflow Combined Sewer To treatment plant

How can I tell if a CSO is occurring near me?

For current information visit:

http://www.kingcounty.gov/environment/wastewater/CSOstatus/Overview.aspx