

# ***Puget Sound Beach Combined Sewer Overflow (CSO) Control Projects***

## ***Barton Basin***

### **Technical Information Session**

#### **Summary of Discussion**

*August 5, 2010, 6:00-8:00 pm*

*The Hall at Fauntleroy, 9131 California Ave SW, Seattle, WA*



**King County**

Department of  
Natural Resources and Parks  
**Wastewater Treatment Division**

## **Overview**

On August 5, 2010, the King County Wastewater Treatment Division (WTD) hosted a public meeting to respond to citizens' request for technical information and information about Green Stormwater Infrastructure (GSI) to control combined sewer overflows. The meeting was also intended to hear and discuss input from the community for King County to consider and to explain next steps for the Barton Basin CSO Control project.

Forty members of the public attended the meeting. Attendees were invited via e-mail, mailings, press release and door to door fliers in the neighborhood under consideration.

## **Presentations**

Through presentations from the project team, meeting attendees learned about the nature of the CSO problem and the project decision-making process. There was an overview of the three alternatives being considered for CSO control in the Barton basin, with a detailed discussion of the GSI alternative. The GSI alternative focuses largely on constructing raingardens; a planted depression that allows rainwater [runoff](#) from [impervious](#) areas, like streets and driveways, the opportunity to be absorbed. Locations for such raingardens in the street are usually in planting strips between the road and the sidewalk and sometimes at "curb bulbs" at road intersections. The project team acknowledged input received from the community at previous public meetings and via e-mail, phone calls, mail and the internet.

## **Summary of Questions and Input**

Questions and input from the meeting attendees are summarized below. This includes nine comment forms that were turned in at the meeting,

### **GSI Alternative in upper basin**

Meeting attendees who expressed support for the GSI alternative, gave reasons including neighborhood aesthetics, water quality benefits, and a desire to shift away from “gray” infrastructure. Some attendees opposed the GSI alternative, with concerns about the potential for flooding and landslides, cost-effectiveness and aesthetics. A few attendees supported building both GSI and a storage facility.

### GSI Design

The project team emphasized that designing GSI for CSO control is different than designing for stormwater control or water quality objectives. There are more stringent capacity requirements to meet CSO control objectives.

WTD staff clarified that in subbasin 416, the area of upper Barton basin where GSI is being considered, there is only a combined sewer system. There is no separate stormwater sewer. In response to a question, the GSI consultant clarified that existing street curb drains leading to the combined sewer system would likely remain in place. Stormwater would flow to roadside raingardens. Water that exceeds the capacity of the raingardens (in large storms) would be directed to the curb drains and on to the combined sewer system, to avoid overflows from the swales.

It was suggested that making bike-friendly streets part of the GSI alternative would benefit the neighborhood and discussed how pedestrian crossings would be designed into the parking strip swales.

A meeting attendee asked how driveways between raingardens would be addressed. The GSI consultant said that it would depend on the location of inlets; curb cuts might be built on either side of the driveway to allow water to pass from one raingarden to the next via the street or the water might be piped under the driveway.

In response to a question, the GSI consultant explained that it would likely not be necessary to put raingardens in every planting strip in subbasin 416. Further analysis would identify the exact location of the roadside raingardens. A meeting attendee expressed concern that a checkerboard pattern of roadside raingardens throughout the neighborhood might not be aesthetically pleasing. This comment would be considered during design of the GSI alternative. The GSI consultant said the goal would be to create a pleasing visual rhythm for the neighborhood.

A community member suggested focusing the GSI work at two school sites in the area. WTD staff said that the school sites are being considered as part of the project, but the sites’ impervious area totals only about five acres out of a total of 26 needed to control CSOs in the basin.

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In response to a question, WTD staff said that a financial incentive to encourage property owners in subbasin 416 to participate in the City of Seattle RainWise program is being considered, but not currently underway. WTD staff said they would observe how successful the city's current program in the Ballard neighborhood is. This project focuses on placing raingardens in the existing street right of way to control stormwater that enters the combined sewer system from the street.

Existing drainage issues

Some meeting attendees expressed concern that existing problems such as landslides and water in basements would be worsened by the GSI alternative. A meeting attendee noted that some houses are downhill from the parking strip where roadside raingardens might be located.

WTD staff said that they work with the City of Seattle's surface water management staff to identify existing problems and avoid making them worse. Project team members said there are guidelines that govern the placement of raingardens to avoid creating problems. Factors such as soil type and the direction of water flow would be considered in the design. The project team would locate raingardens at least 300 feet away from steep slopes and 500 feet from known landslide areas. Geotechnical engineers have reviewed the area and made recommendations for areas not to place raingardens.

The GSI consultant noted that basement leaks in West Seattle are sometimes related to the groundwater level, and may be less directly related to surface water. Areas where homes have low basements have been eliminated from consideration for raingardens as part of the initial feasibility studies.

Meeting attendees expressed concern about the potential to exacerbate flooding along Longfellow Creek. Project team members explained that the GSI alternative would increase creek flows during dry periods but not affect the flow of stormwater to the creek during wet weather, since excess water would continue to be piped away from Longfellow Creek to the Barton pump station. GSI would improve creek conditions during low flow conditions, which is an issue for Longfellow Creek. There was also concern expressed about the potential for increased erosion along local creeks which is related to stormwater flows from areas outside the project area.

Raingarden maintenance

There was discussion about who would be responsible for maintaining roadside raingardens. Project team members explained that WTD would be responsible for maintenance to keep the raingardens functioning properly for CSO control. Some property owners may prefer to do more frequent maintenance themselves, depending on preferred aesthetics.

In response to the question the GSI consultant noted the maintenance is not highly skilled but more similar to normal yard maintenance.

In response to a question, WTD staff explained that the cost of maintaining the roadside raingardens would come from regional WTD rates, just like operation and maintenance of other WTD facilities. Local property owners would not pay extra for maintenance.

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Public process

Meeting attendees wondered how neighborhood concerns and individual property owners' concerns would be addressed if the GSI alternative moves forward. Project team members said that there would be additional public meetings during design and there would be a formal environmental review process. WTD staff said that they would meet one-on-one with anyone who was interested. Block level meetings with property owners were suggested and would also be used to define the location and design of GSI within each block.

A meeting attendee asked about recourse if any private property sustains damage as a result of raingardens. While the design team would be tasked with ensuring that the GSI alternative does not damage private property, King County has an established process for responding to property damage claims.

**Underground storage alternatives: Storage pipe under Upper Fauntleroy Way SW & Storage tank under parking lot at the former Fauntleroy School site.**

A meeting attendee asked if one of the storage alternatives has a construction or operational benefit over another. The project engineer explained that a storage tank provides some amount of operational flexibility compared to a storage pipe, but that the difference is relatively unimportant compared to the other factors being considered, such as community and environmental impact.

In response to a question, the project engineer said the project team had considered tunneling rather than excavating to construct the storage pipe alternative under Upper Fauntleroy Way SW. Tunneling is not considered feasible because of the need to dig sizeable pits to tunnel and concerns with soil suitability for tunneling.

There was some support expressed for building the storage tank at the former Fauntleroy School site. Any opposition to that alternative mainly came from those who support the GSI alternative instead.

**Cost**

There was discussion about the relative cost of the three alternatives and how the CSO control project would be funded. Construction of the GSI alternative would cost somewhat more than either storage alternative, but the GSI alternative retains more water and reduces flow to the combined sewer system and the difference in maintenance costs and lifecycle costs, while still being evaluated, make GSI more comparable and cost-effective.

WTD staff said that the cost of the Puget Sound Beach CSO Control projects is already funded in WTD's capital improvement program and will be paid for by regional wastewater rates.

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**Staff Attendance**

The following project team members attended the technical information session:

*King County Wastewater Treatment Division*

Linda Sullivan, Capital Projects Managing Supervisor; Shahrzad Namini, Project Manager; John Phillips, CSO Control Program; Erika Peterson, Community Relations; Martha Tuttle, Community Relations

*Seattle Public Utilities*

Susan Stoltzfus, CSO Program

*Carollo Engineers*

Brian Matson, consultant team project manager

*Tetra Tech*

Jeff Lykken, Barton Basin Lead; Kevin Dour, Barton project engineer

*SvR Design Company*

Peg Staeheli, landscape architect; Greg Giraldo, civil engineer

*Triangle Associates*

Bob Wheeler, facilitator; Ellen Blair, community relations support