

CDWAC/WSAC Conference Call: Green Stormwater Infrastructure (GSI) Update

July 15, 2015

2 sessions: 12-1pm and 5:30 – 6:30pm

Participants:

12-1pm

Kendra Aguilar, CDWAC

Noel Miller, CDWAC

Rodney Schauf, Prospective WSAC member

Kyle Stetler, WSAC

5:30 – 6:30pm

Marilyn Baylor, CDWAC

Chris Clark, Prospective CDWAC member

C'Ardiss Gardner Gleser, CDWAC

Schylar Hect, CDWAC

Seth McKinney, CDWAC

Devin O'Reilly, CDWAC

Pam Emerson, Green Stormwater Infrastructure Policy Advisor with SPU and Office of Sustainability and Environment (OSE), gave an overview of green stormwater infrastructure (GSI) in Seattle -- including problem definition, policy context, and approaches used -- and discussed the DRAFT *Green Stormwater Infrastructure in Seattle, Implementation Strategy 2015-2020*. An extended executive summary of this draft document was distributed to Committee Members in advance of the call. Pam referred to the document throughout her briefing. Some questions and comments from the briefing are listed below.

- ❖ Committee Member Question: Table 4 mentions bioretention and biofiltration as GSI tools. What is the difference between these two methods?
  - Answer: Bioretention's primary goal is to remove stormwater volume from the regular drainage system and then either infiltrate it into native soil or return it slowly to prevent system overflows. Bioretention also cleans the water. Biofiltration's primary goal is to remove pollutants from the stormwater by filtering it through dense plants and the top soil layer. The pollutants adhere to the plants' thick stems and the water is cleaner. Biofiltration also accomplishes some volume removal.
  
- ❖ CAC Program Manager Question: Table 4 also mentions infiltration trenches. Does this include injection wells?
  - Answer: "Infiltration trench" does not refer to injection wells. These are different facilities. Projects that use injection wells require geotechnical evaluation as part of project development and design.
  
- ❖ Committee Member Question: With regard to Page 11 and the statement that GSI infiltration is not feasible in areas with contaminated soil, what data were used to classify a parcel as contaminated?

- Answer: Pam will see if that information is listed in the metadata for the GIS layer used to create the map and report back to the Committees.

**8/3/15 Update, sent to Committee Members by separate email:**

The City's contaminated soils layer is one of the layers used to compile the map showing areas of the city not likely to be technically feasible for infiltrating GSI techniques. Other data integrated into this map are: underlying bedrock, steep slopes, setbacks from steep slopes and known high groundwater or known historic/underground creeks. The contaminated soil data are State level data.

- There are 4 layers: Confirmed and Suspected Contaminated Sites, Leaking Underground Storage Tanks, No Further Action Clean-up Sites, and Regulated Underground Storage Tanks.
- This is the metadata and the links to where the data is from.

Abstract: Contains the Washington Department of Ecology sites for confirmed and suspected contaminated sites, and leaking underground storage tanks, regulated underground storage tanks, and no further action sites in King and Snohomish counties. For more information on Confirmed and Suspected Contaminated Sites, please

see: [http://www.ecy.wa.gov/programs/tcp/sites\\_brochure/SiteLists.htm](http://www.ecy.wa.gov/programs/tcp/sites_brochure/SiteLists.htm) or <http://www.ecy.wa.gov/cleanup.html>.

For further information on Leaking Underground Storage Tanks, please

visit: <http://www.ecy.wa.gov/programs/tcp/ust-lust/tanks.html>

Purpose: To display current and former environmentally hazardous sites. The currently contaminated sites may have leaking underground storage tanks or pollutants such as halogenated organic compounds, pcbs, pesticides, petroleum products, phenolic compounds, non-halogenated solvents, dioxin, pah, reactive wastes, corrosive wastes, radioactive wastes, asbestos, arsenic, mtbe, other metals, or unexploded ordinances.

The regulated underground storage tanks may have alcohol blend gasoline, antifreeze, aviation fuel, biodiesel blend, bunker C, diesel, hazardous substance, heating fuel, kerosene, leaded gasoline, motor oil, other petroleum substance, unleaded gasoline, used oil/waste oil.

<https://fortress.wa.gov/ecy/tcpwebreporting/Report.aspx>

- The landfill data is from DPD, and includes abandoned landfill sites and a surrounding 1000 foot buffer around methane-producing landfills. These sites were identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project. See code section number 25.09.020 of the Seattle Municipal Code for a more complete definition of environmentally critical areas.

- ❖ Committee Member Question: With regard to Table 15 on page 38, will the Rainwise program be expanded to include areas in creek basins?

- Answer: Right now the Rainwise Program only offers rebates in uncontrolled combined sewer basins (to encourage the use of GSI technologies to reduce combined sewer overflows, which are a threat to human and environmental health). We will be evaluating whether to expand the program to offer rebates in areas where the GSI technologies would help protect creek basins from pollution. The Rainwise program will continue to be used to incentive GSI to manage/prevent runoff from parcels.

- ❖ Committee Member Question: What kind of measurement is the City using to determine GSI's effectiveness?
- Answer: Because it's useful to have a single metric, we are tracking the volume of stormwater managed with GSI – this is the unit we are normalizing all project types to. Most GSI projects also deliver additional benefits, including, for example, habitat improvement, tree canopy recovery, and improved streetscape safety for pedestrians, bicycle riders, and drivers. We are not tracking these as part of the reporting scheme, however, many are captured via other plans and programs. Volume removal was chosen as the common tracking unit because it is a more comprehensive standard than, for example, water quality treatment alone.
  
- ❖ Committee Member Comment: A major challenge of GSI is the required long term maintenance. SPU needs to partner with communities because there's not enough staff to manage it.
- Response: Table 11 shows the budget for our GSI Implementation Plan, and there's a healthy increase for operations and maintenance. We have \$5 million for five years. GSI assets are capitalized and included in the Utilities' asset tracking processes just as pipes and pump stations are. SPU contracts with Seattle Conservation Corps to do the maintenance. This is a fee-for-service (revenue-neutral) project of Seattle Parks and Recreation that provides homeless adults with opportunities to train and work in a structured program that gives them job skills while doing projects that benefit Seattle's citizens and environment. It is possible that as more GSI is built in Seattle, we may outgrow Seattle Conservation Corps' capacity and need to evaluate other approaches for operations and maintenance of built GSI in the public realm.
  
- ❖ Committee Member Comment: GSI placement can have a traffic calming effect, but can also be a view obstruction if it's not well managed in medians.
- Response: We don't put GSI in traffic medians (the narrow strip of land that sometimes exists between two roads) precisely because it is costly to maintain. Traffic lanes must be closed to provide workers with a margin of safety, etc. We use the planting strip for GSI, which is the space between the street curb (or edge of pavement) and the parcel line or sidewalk (if present). Planting heights and density follow CPTED guidelines (Crime Prevention Through Environmental Design) and also follow SDOT safety and sightline rules, particularly near intersections. The few landscaped medians that do exist in the city are not GSI facilities (are not managing stormwater).
  
- ❖ Committee Member Comment: I'm also wondering whether there's GSI planned for the downtown Seattle core.
- Response: There is no utility partnership funding available for GSI in the downtown core through the end of this current 6-year CIP cycle and Strategic Business Plan cycle. We've had developers and architects ask about this.
  
- ❖ Committee Member Question: How does Table 12 relate to the map alongside of it?
- Answer: Table 12 shows how we've prioritized our GSI implementation goals into two categories.

Tier 1 goals are the most pressing stormwater needs and the first priority. They include: 1) reducing direct discharges of stormwater pollution into our most fragile waterbodies -- Longfellow, Pipers, and Thornton Creeks; 2) reducing combine sewer overflows and increasing local pipe capacity in uncontrolled combined sewer basins; 3) reduce flooding and backups in areas with limited pipe capacity. Tier 2 goals are also worthy goals but currently not funded by the Utilities. They include: 1) reducing direct discharges of stormwater pollution in Lake Washington, Lake Union, and Puget Sound; 2) preserving pipe capacity in the entire drainage system; 3) restoring natural water flow. The map alongside of Table 12 is color coded to show the areas for potential Tier 1 projects. The color coding does not show any potential Tier 2 projects because there is no capital funding available for work in these areas by the Utilities.

NOTE: There is also programmatic and other infrastructure work planned specifically to protect the Duwamish River. Projects planned by SPU include increased investments in street sweeping and the construction of a wet weather stormwater treatment facility in South Park (but these are not GSI approaches, so they are not represented on the map.)

- ❖ Committee Member Comment: Make it clearer that no potential Tier 2 projects are noted on the map.
- Response: Great feedback. Thank you!
  
- ❖ Committee Member Comment: With regard to referring to King County Wastewater Treatment Division: “WTD” is confusing. To make it clearer that this is associated with King County, refer to it as “KCWTD”.
- Response: Also noted, thank you. Will be corrected in the final.
  
- ❖ Committee Member Question: Is there a City Council briefing on the GSI Implementation Plan scheduled?
- Answer: Not yet. We will likely brief two Council Committees at the same time: the Seattle Public Utilities and Neighborhoods Committee (SPUN) and the Planning, Land Use, and Sustainability Committee. These are the two committees that guided the development of the initial policy in 2013.
  
- ❖ Committee Member Comment: Let us know when the briefing will be.
- Response: I will let Sheryl know and rely on her to pass the information along.
  
- ❖ Committee Member Comment: The GSI Implementation Plan should highlight the relationship of GSI to SPU’s National Pollutant Discharge Elimination System (NPDES) Permit. It’s good for the public to know that the goals of GSI are mandated, not just voluntary.  
(Polluted stormwater runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), from which it is often discharged untreated into local waterbodies. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a National Pollutant Discharge Elimination System (NPDES) Permit and develop a stormwater management program).
- Response: Yes, thank you. There is an ‘implementation drivers’ section in the longer document that makes the connection to regulatory requirements.

- ❖ Committee Member Question: Who is the audience for this document?
  - Answer: The same audience from our listening sessions, including architects, developers, planners, designers, community-based organizations, environmental nonprofits, interested residents, as well as elected officials and potential funding partners. Essentially, any potential partners and stakeholders.
  
- ❖ Committee Member Question: Can you tell us more about the purpose of the map on page 26?
  - Answer: We included this map to show where SPU is able to spend money on GSI capital improvement projects. There's been some confusion about this in the past, so we want to be clear about funding and prioritization constraints. We are also hoping that explaining these restrictions might help us attract creative partnerships with other public and private agencies to get more done.
  
- ❖ Committee Member Comment: With regard to the map on page 26, the colors might be confusing.
  - Response: Noted. Thank you. Will work on clarifying colors in final document.