

## **Seattle Public Utilities Genesee CSO Reduction Projects – Public Meeting Summary**

**Meeting location:** Lakewood/Seward Park Community Club

**Date:** November 9, 2010

**Time:** 6 – 8 p.m.

**Presenter:** Andrew Lee

**City Attendees:** Kathy Robertson, Patrick Murphy, Evelyn Jones, Nancy Ahern, Donald Harris (Parks)

**Other:** Bob Wheeler, Facilitator, Triangle

**Public Attendees:** approximately 26 people

### **Summary**

Andrew Lee of SPU presented (a) an overview of the CSO Program, (b) an update on changes made since the public meeting in October, and (c) an update on the decision process for site selection. The PowerPoint file from the presentation is posted on line at [www.seattle.gov/CSO](http://www.seattle.gov/CSO), click on Genesee.

Those who attended the meetings provided comments and asked question throughout and after the presentation. These questions, answers and comments are summarized below. At the end of the meeting, SPU agreed to the following:

1. SPU will post meeting summary notes online
2. SPU will post the PowerPoint presentation online.
3. SPU will send updates via email listserv.
4. SPU will notify those on the e-mail listserv of the date, time and location of public hearing (expected to occur in Feb. 2011).
5. SPU will investigate alternatives suggested at the Nov. 9 public meeting and get back to the community with the results.

### **Overview of Nov. 9 Public Meeting**

The meeting began with introductions of City (Seattle Public Utilities and Parks Department) staff. A PowerPoint presentation was then made that gave background on Combined Sewer Overflows (CSO), the City of Seattle's goals and focus for the CSO Program, and then presented information about CSO control needs for the Genesee Basin. Feasible alternatives for storing overflows in Genesee were explained, along with the alternatives currently being considered. The presentation also responded to community feedback that had been generated at earlier public meetings and from other correspondence. Finally, the presentation outlined the preliminary project schedule and next steps.

Meeting participants asked questions and provided comments throughout the presentation and after the presentation.

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**Summary of Questions and Comments**

*Please note that some answers were provided at the meeting and are included in the summary. In addition, SPU added more information where we were not able to provide a complete answer. (Kathy Robertson, Project Manager)*

**Regulations**

**What’s the regulatory standard that this project must meet? What are we hoping to achieve with this project?**

Currently the overflows in the Genesee Area happen about 10 times per year. Our regulators, both the Washington State Department of Ecology and the Environmental Protection Agency, require us to reduce overflows to a long-term average of no more than one per outfall per year to protect both public health and the environment. We are confident that we can design facilities to do that. But after we build these reduction projects, we will need to perform additional monitoring to make sure we meet state and federal water quality standards.

**What timeline for the project is required by the regulation?**

The State Department of Ecology has told us that we have to meet the following schedule:

December 31, 2010 - Complete and submit a draft Engineering Report.

January 31, 2013 - Complete and submit for approval a final Engineering Report.

October 31, 2014 - Complete and submit draft plans and specifications.

March 30, 2015 - Complete and submit for review and approval final plans and specifications.

May 31, 2015 - Begin construction.

**Funding**

**Who pays for the project?**

CSO reduction projects are paid for through Seattle Public Utilities’ drainage and wastewater rates approved by the City Council. Portions of the project cost may be paid for through bonds, typically over a 30-year period, but drainage and wastewater rates still provide the revenue to pay back the bonds. Seattle Public Utilities may also pursue federal and state loans and grants to help fund the project.

**What will these projects cost?**

Initial estimates for just construction are approximately \$6 million for the park site, \$8 million for the trench alternative to be installed in 54th Avenue, and approximately \$10 million for the trenchless installation in 54th Avenue.

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**What about funding for operations and maintenance (O&M)?**

OM funding will be included in the budgets for these projects.

**How will the cost of these projects impact my wastewater bill?**

Based on the current information and initial cost estimates, the cost impact on ratepayer’s for the entire CSO Reduction Program is estimated at about \$4 to \$5 per household per month. The costs of the CSO Reduction Program will impact all ratepayers, not just those in specific project areas.

**Combined Sewer Overflow Frequency and Storage Volume**

**How big is the problem?**

SPU has been monitoring overflow frequency for several years. The table below summarizes the annual CSO frequency for each CSO outfall in the Genesee Area. Only three basins do not meet the regulatory control target. These are Basins 40, 41 and 43. The other basins now meet the control target after maintenance or retrofit work, which was completed in 2009-2010. We continue to monitor the CSO outfalls to help verify the size of the storage volume.

Genesee Area CSO Summary													
Basin	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual Avg.
37		0	0	0	0	0	0	0	1	0	0	0	0.1
38	1	1	1	3	0	1	0	2	3	3	0	1	1.3
40	10	6	5	18	1	4	0	0	0	1	1	6	4.3
41		0	0	0	19	18	13	9	16	8	9	14	9.6
42	7	4	3	7	3	3	0	2	14	4	0	1	4.0
43		5	4	8	7	6	4	3	6	2	3	11	5.4
165	9	0	11	10	8	3	0	5	2	1	1	1	4.3

The nominal storage volumes are estimated at 430,000 gallons for Basins 40/41 and 190,000 gallons for Basin 43. The storage volume for Basin 43 may be larger, depending on the alternative selected. If the alternative in the S. Alaska park site is selected then the existing storage tank (50,000 gallons of capacity) would be replaced with a new tank. The new tank would be larger (an additional 50,000 gallons) than if located in the 54<sup>th</sup> Avenue S right-of-way alternative, where an existing tank does not exist.

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### **Use of Park Lands**

#### **Why is park land being considered for this project?**

We first look for property already owned by SPU, and then we consider whether we can construct in the city-owned right-of-way (typically in the street). If neither of those options work, then we look for other city-owned property, with parks property being the last to be considered. Consistent with city ordinances, we site facilities in parks only when there is no other reasonable alternative. For CSO reduction projects, we are working along the shoreline and much of the shoreline is park property, including Lake Washington Boulevard. Once construction is complete, any projects in parks will include restoration of the site. The restoration work is closely coordinated with Parks staff.

### **Decision Process**

#### **Who decides which alternative is selected?**

SPU first performs an initial technical analysis to determine which alternatives are feasible. Then, more detailed technical and an initial, simplified Triple Bottom Line (TBL) analyses are conducted to see which alternatives best meet the project goals at an affordable cost balanced with potential impacts to the community, area users, and our operations and maintenance needs. This step also qualitatively evaluates major risks associated with the different alternatives. TBL analysis quantifies three areas of benefits and costs: financial, social, and environmental. TBL analysis differs from typical financial analysis because it considers benefits and costs accruing to the community as a whole.

Next, SPU presents the final list of alternatives to the Mayor for review and approval. If the recommended alternative involves park lands, then City Council holds a public hearing and makes the final decision on which alternative will be implemented.

We have briefed the Parks Board of Commissioners and we work closely with Parks staff to consider all of the implications of siting projects in parks. If a project is sited within park land, then City Council determines how much mitigation is necessary.

#### **Will SPU notify the community when the public hearing will be where SPU presents these alternatives to Council?**

SPU will notify those on the e-mail listserv about the public hearing.

#### **Is it the community's responsibility to start lobbying the mayor and council on these alternatives?**

Contacting City Council and the Mayor's office are always options. In addition, those who wish to comment can fill out comment forms, send e-mails to the project mailbox, and leave voice mail messages. The comments the project receives are noted in an access database and will be summarized when presenting the alternatives to the Mayor's Office and City Council.

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**What reassurance can SPU provide that the comments and feedback are being captured, considered and used in discussions with Mayor and City Council?**

SPU will provide updates at meetings, on the website and using the listserv.

**General Facility Features**

**What is a swale?**

A depression that is longer than wide, similar to a ditch but planted, has a gentle slope so that water does not flow out quickly and has a chance to infiltrate, and used to improve water quality.

**How many gallons of overflow fill the tank per hour (when there is an overflow)?**

The tank could fill as quickly as approximately 200,000 gallons per hour.

**Are these tanks going to be large enough?**

No one can build a tank that is large enough no matter how hard one tries because inevitably storm events occur that are more intense than SPU can reasonably design for. In the 1980s, the City and its regulators studied the costs and benefits of different CSO control standards and settled on one overflow per outfall per year as the most cost-effective. Reducing CSOs to less than one per year, so they occur even less frequently, would be considerably more expensive and not considerably more beneficial. SPU determined the tank size to meet the standard by collecting flow data for two years and then running it through a complex hydrologic and hydraulic model that also considered system configurations (pipe sizes, connections, etc.) and historical rainfall data for the past 32 years. Factors of safety are added to help provide a buffer for storage volume.

**Are the access hatches grated or solid?**

The hatches are solid.

**How big are the hatches for access into the facility?**

These hatches are roughly 3 feet by 4 feet in plan area.

**Will the electrical panel be locked up so children cannot access?**

Yes, it will be secured.

**Is there only sewage in these tanks when there is an overflow event?**

The tanks will fill with sewage and stormwater combined.

**Minimizing the impacts of the projects on people should be more important than trying to preserve trees.**

No easy solution exists in an urbanized area like Genesee for installing storage facilities to solve a public health problem like reducing the CSOs into Lake Washington. Impacts to people and property have to be carefully considered and balanced. Advocates exist for each side of the

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argument. SPU works with Parks to avoid removing trees, impacting view corridors, etc. per Parks policies and requirements.

### **How will the facilities be designed so that it doesn't rupture during a seismic event (e.g., earthquake or fault movement)?**

All our facilities are built to code, including seismic events (e.g., design ground accelerations). Past experience shows that underground structures, like tanks and transportation tunnels, perform better than above ground structures in earthquakes. The geologic and geotechnical study completed for this phase of the project did not indicate fatal flaws related to seismic conditions at the possible sites being considered.

### **The potential sites probably have shallow groundwater; how will these facilities impact groundwater flow?**

Below-grade construction, such as for basements, tanks, pipes, and other structures, routinely encounters groundwater and routine methods exist to control groundwater in excavations and design for groundwater over the long-term. Thus, groundwater is a design detail.

## **Odor Control**

### **How will you control the odors from the storage tank?**

First, the tank would have a ventilation system to keep odors from accumulating, including carbon scrubbers and a ventilation stack. The tank would also have a cleaning system to wash down the inside and remove residue left after the tank drains into the combined sewers that convey flow to the treatment plant. The storage tank is only used during heavy rainstorms and generally empties within 24 to 48 hours. There isn't a lot of time for odors to build up.

### **Will the odor control system eliminate all odors?**

The odor control system will only control odors from the tank. The odor control system will not eliminate any existing odors from open drainage grates in streets and parking lots that are connected to the combined sewer main lines.

### **How clean is the air coming out of the ventilation stack?**

The carbon scrubbers provide a high level of filtering that is expected to make any venting cleaner than what occurs currently in wastewater system, which does not have any filtering system.

### **Can you give an example of another odor control facility in the City, and put the location online?**

The City does not have odor control facilities on storage tanks at this time. King County's North Creek facility does but it is a large tank (about 6 million gallons) and has an above-ground control building and odor control building. This is not really comparable.

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**Is methane an issue with the tanks?**

Normally the concern is more with compounds such as hydrogen sulfide, mercaptans, but not so much with methane.

**What are the maintenance requirements/plans if the odor control system breaks or malfunctions?**

Field Operations and Maintenance would be checking periodically to verify equipment is functioning correctly. In the event of a break, once notified, Field Operations and Maintenance would respond and repair.

**Noise**

**How much noise is expected from construction?**

Construction noise is regulated by city ordinance and we also build noise standards into our construction contracts. For example, a storage facility being planned for the Sand Point area is adjacent to a daycare facility and we are working closely with the manager of the daycare to make sure we are good neighbors during and after construction.

**What about noise during daily operation of facility?**

Equipment will be housed in structures buried below grade in thick concrete vaults providing natural sound attenuation. The air ducts will be fitted with duct silencers and vibration dampeners to reduce noise and the plenums that stick up above the ground provide additional noise attenuation. The odor control system exhaust stack will be fitted with a silencer and the duct sized to prevent noise generation from exhausting treated air. The facility is expected to produce minimal noise. SPU crews will be on site occasionally to make sure everything is operating well.

**Construction**

**How long will the construction duration be?**

Initial estimates are about 9 to 12 months of significant construction with possibly a few more months for landscape and other finishing details. The construction duration is a best estimate at this time. The construction duration will be refined as the design proceeds, and goes to construction. SPU may be able to include incentives to encourage the contractor for an early finish.

**Will the vibrations from construction impact our home?**

The trenchless installation of a pipe in 54th Ave will be within the street right-of-way and not under homes. The amount of vibration affecting a house is not expected to be significant.

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**Alternatives - General**

**Why not just remove the roof drains that are connected to the system?**

Removing roof drains from the sewer system can help to reduce CSOs. Starting in 2012, SPU will be offering the [RainWise](#) rebate program that provides incentives for homeowners to disconnect roof drains and channel the runoff into a rain garden or cistern. However, it is very important to consider the surrounding topography when disconnecting a roof drain. Improper roof drain disconnection can sometimes lead to flooding of one's own property or a neighbor's property. Disconnecting roof drains, while helpful at reducing CSOs, will not eliminate enough stormwater to reduce the CSOs down to regulatory targets. Enough stormwater still enters the combined sewer system through other sources (e.g., foundation drains).

**Why are the rules different for Triangle parking lot vs. Basin 43 park/54th avenue alternatives?**

The rules are not different but, when applied to sites, yield different results. In Basin 43, the two alternatives (street ROW on 54th and the park site along S. Alaska) allow for gravity flow in and out. This is the preferred system as it is easiest to maintain and least complicated. A gravity flow in and out system was not technically feasible in Basins 40 and 41 because the location to capture the CSO volume that needs to be controlled is at the lowest point in the system, i.e., at the Triangle Parking Lot. As a result, the proposed tank at this location has pumps to empty the tank when the system has enough capacity to receive it. Adding pumps to the facility increases the maintenance requirements, size of the facility in order to house the pumps, potentially adds some noise, and other impacts that adds cost above a gravity in and out system.

**Why is SPU not selecting and recommending a specific alternative for Basin 43?**

Both the 54th street in-line pipe storage and offline storage in the park along S. Alaska Street are viable alternatives.

**Alternatives – Basin 43**

**Why would we consider trenchless construction if it's more expensive than open-cut construction for the 54<sup>th</sup> Avenue S alternative?**

The trenchless alternative was developed as less impactful during construction than open cut. This method would likely still require closure of at least one lane on 54th, but not both, and a large jacking pit shaft in the park and near the S. Angeline and 54th intersection.

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**Why even consider the 54th avenue right-of way option as it really impacts the neighborhood over the long term, such as odor control air stacks and vent near residents' houses, and during construction with long duration road closures that restrict access to home businesses, for those who might own large RVs, etc.?**

Each alternative has advocates. The conceptual level costs of just construction are higher for the 54th street alternative (roughly \$8 million) compared to the park (roughly \$6 million), but not so high that there is a clear decision.

**Who makes the decision between Park alternative and 54th Avenue alternative?**

SPU will present the alternatives costs, pros and cons to the Mayor for a recommendation to City Council. City Council makes the decision for alternatives that involve parks property.

**Why can't SPU move storage and odor control north of park to the parking lot off 53rd Avenue S and on the lake side of Lake Washington Boulevard?**

SPU did not select this site to consider further than an initial look at available sites because the park site and the 54th ROW could be developed with a gravity in and out system. The parking lot near 53rd and along the lake side of Lake Washington Boulevard will be more costly to build and maintain because it is below the point to capture the control volume (which is at the control structure in S. Alaska Street near 54th). The storage tank at the 53rd Ave location would require a pump out system on the tank, conveyance piping from S. Alaska Street to the parking lot, a new control structure, and still impacts homes (i.e., the ones that border Lake Washington Boulevard across from the parking lot). SPU will, however, develop a conceptual level estimate and list of pros and cons for comparison of this alternative with the Park or 54th ROW alternatives.

**How wide are you estimating the pipe to be in 54th Avenue?**

The pipe is expected to be 10-foot diameter pipe, approximately 20 to 30 feet deep.

**What improvements to the park site layout have been made since the original concept?**

Based on input received at previous meetings the technical team worked to reorient the tank and move the air stacks and vent in the park site at a little more cost than the original layout. This effort will require relocating the existing storm drain in that part of S. Alaska. Most of the hatches can be in the sidewalk and ROW. The tank can't move farther in the ROW as the hatches end up in the street and will become noisy as cars drive over them plus a water main would have to be relocated.

**Can SPU bury the utilities if SPU were to do a 54th avenue ROW solution?**

This would have to be coordinated with City Light and is very expensive. SPU would not likely be able to pay the cost of the burial, however, interested residents can contact Seattle City Light for more information.

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**Can the odor control facility be moved to another location away from the neighborhood?**

The odor control will control the odors from the tank, but will not change the existing odors from the open combined sewer grate in S Alaska or in the Triangle parking lot. The odor control facility should not produce odors and is expected to produce minimal noise because of the silencers and it is in a below ground concrete vault. Moving the control facility away from the tank and down slope adds complexity and cost for not much benefit. Air emitted from the stacks is clean air. The wind is predominantly away from the neighborhood. Based on previous input, the technical team was able to move the air stacks and vent are moved to the edge of the trees and away from the street and adjacent house.

**Alternatives – Basin 40/41**

**After construction, can the parking lot be restored to green, open space?**

It is up to the Parks and Recreation Department to change the use of the site from parking lot to another use. Currently, SPU is planning to restore the site to a parking lot. If the community and parking lot users would like to make this open space, they should contact the Parks Department.