Wyckoff Generational Remedy
Community Meeting Summary
Wednesday, March 24, 2010
5:30 p.m. – 9:00 p.m.
IslandWood
4450 Blakely Avenue NE, Bainbridge Island, WA

Introduction

Pat Serie, EnviroIssues, welcomed participants to the meeting and thanked them for coming. Pat reviewed the evening's agenda and explained her role as facilitator and to help ensure that the public is involved in the process.

Tim Nord, Washington State Department of Ecology, thanked everyone for coming to the second Wyckoff Generational Remedy community meeting. Tim explained that Ecology is involved in the Wyckoff site at Eagle Harbor because of the federal – state relationship at the site between the EPA and Ecology. The EPA is responsible for the initial site cleanup and then will turn responsibility over to the State for the long term. Ecology has two concerns about the containment remedy that EPA has selected for the site: leaving a large amount of mobile contamination adjacent to Puget Sound, and accepting the financial burden for maintenance of the site over hundreds of years.

Due to Ecology's long-term concerns about the generational maintenance of the containment remedy, Ecology invested in the Generational Remedy Evaluation, a process that solicited input from the community and from national level experts to explore long-term, multi-generational remedy options for the site. Tim explained that a three-day expert panel workshop was held in January, where eight expert panelists, the local and tribal steering committee and the Ecology team brainstormed ideas and explored alternatives and technologies. A community meeting was held in conjunction with the workshop to share ideas and obtain input.

Tim said that there are several promising options, but this is still a work in progress. He said Ecology is here tonight to inform the community of the progress they have made since January and the next step in the process is to continue to evaluate the alternatives with the input they receive.

Pat Serie introduced the members of the Steering Committee, members of the Bainbridge Island community and Suquamish Tribe with extensive historical knowledge and interest in the Wyckoff site.

Tribal perspectives

Merle Hayes, Suquamish Tribe, told the audience that it was an honor to speak at the meeting and he shared their concerns with this site. Merle said that the Suquamish people think seven generations into the future and he asked the audience to think that far into the future about the legacy that we are leaving our great-grandchildren at this site. Merle elaborated that he believed everyone in the room had a piece of the Sound in them and would like to see the right thing done. He said it is going to take millions of dollars to fix this problem. "Is it worth it?" he asked and answering his own question declared, "Yes, it is."

City of Bainbridge Island role

Libby Hudson, City of Bainbridge Island and Steering Committee member, explained that the Wyckoff site is part of 50 acres that will become public open space (Pritchard Park). The City acquired the land in phases with the help of partners at the city, county, state and federal level.

Pritchard Park background

Perry Barrett, Bainbridge Island Parks Department and Steering Committee member, further elaborated on the City's plan to develop Pritchard Park. He said the community vision for this site is "recognition of human dignity" and noted the unique characteristics of the park include the Japanese American Exclusion Memorial Wall, views (of Mt. Rainier, Mt. Baker, the Olympics, downtown Seattle), shoreline and topography.

Presentation of alternative long-term remedies

Kate Snider, Floyd|Snider, explained that since January the alternatives from the expert panel workshop have been further developed, including a cost benefit evaluation. She said a Generational Remedy Evaluation document is underway and will be available late spring or early summer.

Kate began by explaining the current understanding of EPA's containment remedy based on recent EPA documents. The containment remedy includes: enhancing the containment wall to the mudline; a surface cap; upgrading the extraction well system; and pumping and treating groundwater. It could potentially also include an uphill barrier wall and wall extensions at the south end of the site.

Kate reiterated that Ecology's concern with this remedy is the long-term risks and costs. The design and construction of the remedy would take two to three years but the groundwater would need to be pumped and treated in perpetuity. The pump and treat system and the sheetpile wall would require routine maintenance and also would need to be replaced approximately every 30 to 50 years.

Kate said the goal of the Generational Remedy Evaluation is to explore cleanup alternatives that would remove or immobilize mobile creosote and eliminate the need for long-term groundwater pumping. The following three alternatives were developed:

1. Full in-situ thermal treatment
2. Full excavation with ex-situ thermal treatment
3. Excavate top 30 feet, with ex-situ thermal treatment

   Option A: In-situ thermal treatment below

   Option B: Stabilization with cement below

Alternative 1. Full in-situ thermal treatment

Alternative 1	
Description	Full in-situ thermal treatment of all soil down into the aquitard to remove all mobile creosote
Major elements	Thermal treatment area includes over 1,300 wells, low profile piping, and surface cap while treatment occurs Improved perimeter barrier wall for hydraulic and thermal control during treatment and permanent soil containment following treatment Perimeter barrier wall for hydraulic control on south end of site Steam generation plant Groundwater and vapor treatment plant and NAPL recovery system
Restoration elements	Thermal equipment removed following treatment Soil cap over treatment area with regrading Walls cut down to mudline to create natural beach profile
Timeline	7 to 20 years, power availability impacts timeline

Alternative 2. Full excavation with ex-situ thermal treatment

Alternative 2	
Description	Shoring and deep excavation of all soil down to the aquitard and ex-situ treatment on site and replacement
Major elements	Improved perimeter barrier wall for shoring and hydraulic control Perimeter barrier wall for hydraulic control on south end of site Sloped excavation sidewall on south end of site Sheetpile walls in between excavation cells Excavation, treatment and backfilling Two thermal desorption units to treat excavated soil Dewatering system Groundwater and vapor treatment plant and NAPL recovery system
Restoration elements	Topsoil placed following backfill and regrading Walls cut down to mudline to create natural beach profile
Timeline	4 to 7 years

Alternative 3, Option A. Excavate top 30', with ex-situ thermal treatment and in-situ thermal treatment below

Alternative 3, Option A	
Description	Excavate soil to 30 feet, thermally treat, and replace, below 30 feet in-situ thermal treatment of soil
Major elements	Improved perimeter barrier wall for shoring, hydraulic and thermal control during excavation and treatment and permanent soil containment of deeper soils following in-situ thermal treatment
	Perimeter barrier wall for hydraulic control on south end of site
	Sloped excavation sidewall on south end of site
	Sheetpile walls in between excavation cells
	Excavation, treatment, and backfilling down to 30 feet
	Two thermal desorption units to treat excavated soil
	Dewatering system
	Groundwater and vapor treatment plant and NAPL recovery system
	Low permeability cap installed at base of excavation in each cell prior to backfilling for thermal treatment
	In-situ thermal treatment follows excavation, treatment and backfilling
	In-situ treatment area includes over 1,000 wells and low profile piping at surface
	Steam generation plant
Restoration elements	Thermal equipment removed following treatment
	Topsoil placed following regrading and in-situ thermal treatment
	Walls cut down to mudline to create natural beach profile
Timeline	8 to 19 years, power availability impacts timeline

Alternative 3, Option B. Excavate top 30', with ex-situ thermal treatment and stabilization with cement below

Alternative 3, Option B	
Description	Excavate soil to 30 feet, thermally treat, and replace, below 30 feet stabilize creosote by mixing with cement
Major elements	Improved perimeter barrier wall for shoring and hydraulic control during excavation and treatment and permanent soil containment of deeper soils following stabilization
	Perimeter barrier wall for hydraulic control on south end of site
	Sloped excavation sidewall on south end of site
	Sheet pile walls in between excavation cells
	Excavation, treatment, and backfilling down to 30 feet
	Two thermal desorption units to treat excavated soil

Alternative 3, Option B	
	Dewatering System Groundwater and vapor treatment plant and NAPL recovery system Soil stabilization at depth occurs prior to backfilling each excavated cell, mixing cement and chemical stabilizers using large diameter augers
Restoration elements	Topsoil placed following backfill and regrading Sheetpile walls cut down to mudline to create natural beach profile
Timeline	4 to 6 years

Kate concluded that several viable methods appear to meet generational remedy objectives. She recognized that there are significant up-front costs for the identified remedies but stated that these alternatives would eliminate long-term operations, replacement and risks. She acknowledged that there would be a range of community impacts, including power usage, heavy construction, truck traffic, noise and emissions. She also recognized that the alternatives range in time to implement. Kate said that the next step in the process is to continue to evaluate the alternatives with the community input they receive at the meeting.

Community Feedback and Questions

Tim Nord and Kate Snider took questions and answers from the audience and participants were then invited to visit stations set up around the room, one station for each of the alternatives presented and another on site background. Participants were invited to ask questions directly of the Ecology team and Steering Committee and give them their thoughts and feedback. Details of comments and questions are included in Appendix A; the issues raised fell primarily into these categories:

- Duration and timing of cleanup
- Cost estimates and how they were done
- Energy source for cleanup, specifically thermal treatment
- Community impacts

Appendix A.

The following unedited notes reflect topics, comments and questions raised by participants during the meeting.

- Have you considered the effects global warming may have on the remedy you select? What does that do to your planning if the area is under water?
- Is timing of the essence for this project?
- For alternative 3, option B, in which you suggest mixing cement to stabilize the contamination, is there a risk that the creosote won't bind with the cement?
- Did the cost estimate for alternative 1 include the cost of power or propane?
- From a green perspective, a carbon cost evaluation should be done for each alternative.
- The goal of the Bainbridge Island Energy Challenge is for the Island to be energy free (neutral) by 2030. Have you considered building a renewable energy plant for the power generation you need for cleanup?
- I would like to "meet the dirt" – where can I see a sample of soil that has been treated with ex-situ treatment?
- When will an alternative be selected and when would construction start?
- How much water would be needed for de-watering and treatment for ex-situ thermal treatment? Was this considered in your cost estimate?
- Why did you choose propane as your fuel source?
- You mentioned there are other sites like this across the country – are we ahead of the curve or behind the curve? Can we learn from those sites?
- Currently you are looking at the technical details of cleanup, will you also look at the commercial aspects?
- I have been told my aquifer is underneath the creosote at the site. Would the thermal treatment affect my water?
- What is your confidence level of where the contamination is located?
- What new information do you (Ecology) have to present to EPA that would make them change their minds? I have been involved in this process for many years and EPA has struggled with these same issues.
- Can you talk about the risks of cleanup?
- How did one million gallons of creosote get on the site?