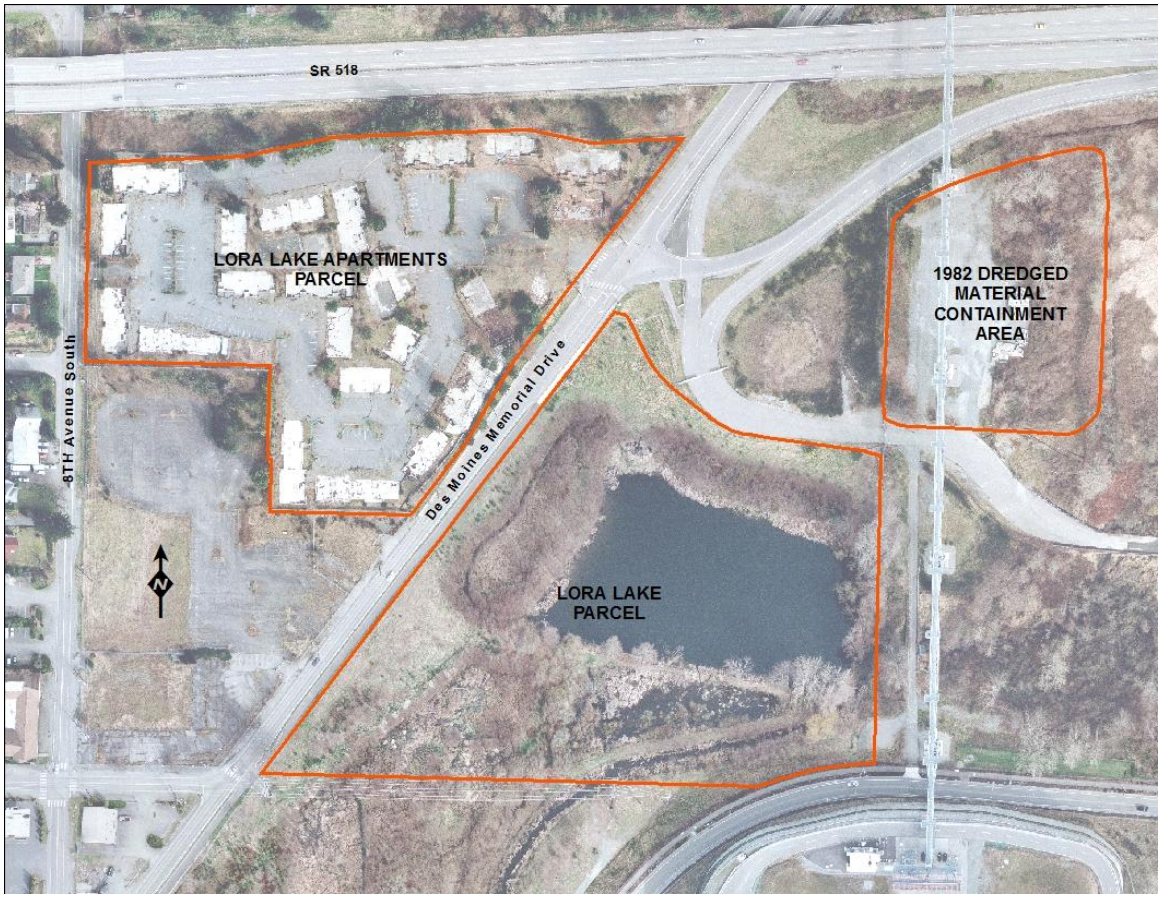
DEPARTMENT OF ECOLOGY
State of Washington

Responsiveness Summary
Lora Lake Apartments Site
Public Comment Period
October 25, 2013 – January 15, 2014



Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008

January, 2015

Table of Contents

Introduction 1
How Ecology Organized Comments 1
Dioxins/Furans Cleanup Levels Updated 2
Site Background 2
Response to Comments by Topic 3
- General Comments, All 3
- Liability, Responsible Person 4
- Liability, Funding Source 4
- Consent Decree, All 5
- Health Hazards, Infection 6
- Remedial Investigation/Feasibility Study, All 6
- Cleanup Levels, All 8
- Remedy Selection, Lora Lake Apartments Parcel 9
- Remedy Selection, Cost Considerations 11
- Remedy Selection, Lora Lake 12
- Remedy Selection, Lora Lake Shallow Soil 14
- Remedy Selection, Dredged Material Containment Area 15
- Construction, All 18
- Monitoring, Cleanup Action 20
- Monitoring, Miller Creek 21
- Stormwater, Post-Construction 21
- Coordination, Other Projects 22
- Plans, Operations and Maintenance, Monitoring 22
- Schedule, All 23
- Timing of Cleanup 23
- Review, Independent 24
- Public Participation, Process 25

Next Steps 26

List of Tables (Tables follow text)

Table 1 – Commenters
Table 2 – Comments by Topic

List of Figures (Figures follow tables)

Figure 1 – Site Map
Figure 2 – Lora Lake Parcel Shallow Soil Excavation Areas
Figure A.1 – Miller Creek 100-Year Flood Plain

Attachment (Attachment follows figures)

Attachment A – Original Comments

Acronyms

cm – centimeters
Ecology – Washington State Department of Ecology
EPA – U.S. Environmental Protection Agency
GPS – Global Positioning System
KCSWDM – King County Surface Water Design Manual
kg-day/mg – kilogram-day per milligram, units of the Oral Cancer Potency Factor
mg/kg – milligrams per kilogram, equivalent to parts per million
mg/L – milligrams per liter, equivalent to parts per million
µg/kg – micrograms per kilogram, equivalent to parts per billion
µg/L – micrograms per liter, equivalent to parts per billion
MTCA – Model Toxics Control Act
NERA – Northeast Redevelopment Area
NPDES – National Pollutant Discharge Elimination System
pg/g – picograms per gram, equivalent to parts per trillion
pg/L – picograms per liter, equivalent to parts per quadrillion
Port – Port of Seattle
POTW – Publically Owned Treatment Works
PLP – Potentially Liable Person
PQL – Practical Quantitation Limit
RCW – Revised Code of Washington
RI/FS – Remedial Investigation/Feasibility Study
SEPA – State Environmental Policy Act
Site – Lora Lake Apartments Site
TEE – Terrestrial Ecological Evaluation
TEQ – Toxicity Equivalent
WAC – Washington Administrative Code
WSDOT – Washington State Department of Transportation

Introduction

A public comment period was held from October 25, 2013, to January 15, 2014, on the Remedial Investigation/Feasibility Study and Consent Decree to remediate the Lora Lake Apartments Site (Site). A public meeting was held on November 7, 2013, at the Highline School District's Educational Resource and Administration Center, 15675 Ambaum Blvd. SW., Burien, Washington from 7 to 9 pm.

Details on the Site and Site documents are available at the Washington State Department of Ecology (Ecology) website:

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2008

Ecology received comments from 35 people in response to the public notice for the Site. Many commenters had several comments, and different commenters often made comments on the same topic. Some of the comments included accompanying explanatory text.

How Ecology Organized Comments

Ecology read all of the comments and identified 197 individual comments on various aspects of the cleanup actions selected for the Site.

Each commenter was assigned a number, and each comment provided by that the commenter was also numbered. For example, a commenter would be assigned a number of 001. If that commenter made three comments, they were numbered 001.001, 001.002, and 001.003.

These comments were grouped into 22 general topics and the individual comments summarized into "summary comment or comments" for each topic. Ecology developed a response for the summary comment or comments. Table 1 lists the commenters. Table 2 lists the 197 individual comments by topic. The topics are:

General Comments
Liability, Responsible Person
Liability, Funding Source
Consent Decree, All
Health Hazards, Infection
Remedial Investigation, All
Cleanup Levels, All
Remedy Selection, Apartments Parcel
Remedy Selection, Cost Considerations
Remedy Selection, Lora Lake
Remedy Selection, Lora Lake Shallow Soil
Remedy Selection, Dredged Material
Containment Area
Construction, All
Monitoring, Cleanup Action
Monitoring, Miller Creek
Stormwater, Post-Construction
Coordination, Other Projects
Plans, Operations and Maintenance, Monitoring
Schedule, All
Timing of Cleanup
Review, Independent
Public Participation, Process

The original comments, with Ecology's markups identifying the individual comments, are presented in Attachment A.

Dioxins/Furans Cleanup Levels Updated

In May 2014 the 2,3,7,8-tetrachlorodibenzo-p-dioxin Oral Cancer Potency Factor was updated in Ecology's Cleanup Levels and Risk Calculation database. This factor decreased from 1.5×10^{-5} kg-day/mg to 1.3×10^{-5} kg-day/mg. This decrease has resulted in an increase in soil and ground water cleanup levels for dioxins/furans as follows:

Medium	From	To
Groundwater	5.8 pg/L	6.7 pg/L
Soil (Natural Background)	5.2 pg/g	5.2 pg/g (No change)
Soil (Unrestricted Land Use, Direct Contact)	11 pg/g	13 pg/g
Soil (Industrial, Direct Contact)	1,500 pg/g	1,700 pg/g

These slight increases do not affect the selection of cleanup actions to be conducted at the Site. These revised cleanup levels will be used during compliance monitoring.

Site Background

The Site is located on the border between the City of Burien and the City of SeaTac, to the northwest of the SeaTac Airport third runway, just south of State Route 518, along Des Moines Memorial Drive. The Site consists of three areas, the Lora Lake Apartments Parcel, the Lora Lake Parcel, and the Dredged Material Containment Area. See Figure 1. The Port of Seattle (Port) owns the three areas. The Port will be conducting the cleanup of the Site under a Consent Decree between the Port and the Ecology.

The Site was primarily agricultural during the 1930s. From the mid-1940s until the early 1950s, the Novak Barrel Cleaning Company (Novak) operated on the Lora Lake Apartments Parcel. Novak cleaned out metal drums and other containers for reuse. An auto-wrecking yard then operated on the Lora Lake Apartments Parcel until the mid-1980s. The Lora Lake Apartments were built in 1986, occupied until 2007, and demolished in 2009.

Hazardous chemicals were released into the environment by the former activities at the Site. The chemicals of concern at the Site are polycyclic aromatic hydrocarbons, petroleum products, pentachlorophenol, dioxins/furans, lead, and arsenic. These chemicals of concern are found in Site soil, groundwater, and Lora Lake sediment.

The Port conducted a Remedial Investigation/Feasibility Study (RI/FS) at the Site. The purpose of the RI/FS was to determine the hazardous chemicals present at the Site and their extent, and evaluate the feasibility of alternative approaches to cleanup. The Port found that the primary contaminants of concern are dioxins/furans. Because the other contaminants of concern are co-located with the dioxins/furan contamination, the cleanup of dioxins/furans will also clean up the other contaminants. The highest concentrations of dioxins/furans occur on the Lora Lake Apartments Parcel in and around the area where barrel cleaning operations occurred. It is believed that the apartment construction spread out some of the contamination, particularly to the east and downslope of where barrel cleaning operations occurred. Over the remainder of the Lora Lake Apartments Parcel, particularly the western portion of the Parcel, dioxins/furans concentrations are low, but still slightly greater than the dioxins/furans residential cleanup level of 13 picograms per gram (pg/g) Toxicity Equivalent (TEQ).[1]

The remedial investigation also found elevated dioxins/furans concentrations on the Lora Lake Parcel, including in Lora Lake sediments and in a small area of shallow soil west of Lora Lake, where the dioxins/furans concentrations are slightly greater than the cleanup level for the protection of wildlife, 5.2 pg/g TEQ.

King County dredged sediment from Lora Lake in 1982. The dredged material was placed in a bermed area to the north of Lora Lake, called the Dredged Material Containment Area. The Dredged Material Containment Area is located within a secured industrial portion of the Seattle-Tacoma International Airport. Contaminants within the Dredged Material Containment Area are at concentrations less than applicable industrial cleanup levels, but dioxins/furans are above concentrations protective of wildlife.

Response to Comments by Topic

General Comments, All

Comment #s: 002.007, 003.001, 005.001, 005.004, 007.009, 010.004, 010.008, 011.002, 011.0031, 011.005, 015.001, 015.003, 015.007, 022.001, 023.001, 030.005

Summary Comment:
The Site should be cleaned up to the highest possible standards.

Response:
Ecology is committed to ensuring that the Port cleans up the Site to a level that protects human health and the environment in accordance with the Model Toxics Control Act (MTCA).

[1] Concentrations expressed as TEQ represent the sum of 17 dioxins/furans congener concentrations, each adjusted for the toxicity of the specific congener. This is called the toxicity equivalent concentration.

Liability, Responsible Person

Comment #s: 004.001

Summary Comment:
Who is responsible for conducting the cleanup? What will be the approximate cost of the cleanup? Where will the funds come from?

Response:
Owners, operators, generators, transporters and disposers are required by the Model Toxics Control Act to clean up hazardous substances they discharged to the environment. As the current property owner, the Port of Seattle is responsible for cleaning up the Site and paying the cleanup costs. For further information see the Revised Code of Washington (RCW) 70.105D.040.

The total estimated cost in the feasibility study for the selected cleanup actions is $12 million, divided between the Lora Lake Apartments Parcel ($7.1 million) and the Lora Lake Parcel ($4.3 million). The feasibility study compared several alternatives for addressing the contamination at the Site. These feasibility study cost estimates were prepared for relative cost rankings of the alternatives only, and do not include the Port's administrative costs for design and implementation. These cost estimates will be refined as design proceeds. The final cost of the selected cleanup actions may differ from the feasibility study cost estimates.

Liability, Funding Source

Comment #s: 004.002, 004.003

Summary Comment:
What is the source of funding for the cleanup? Will Ecology provide any funds for the cleanup? Are Ecology funds available to private parties for cleanup? What amount of funds are in Ecology's accounts?

Response:
Pursuant to MTCA, the Port of Seattle is financially responsible for the cleanup. Please contact the Port for additional details regarding its budget for the cleanup.

As a local government, the Port is eligible for a 50% matching Remedial Action Grant for the cleanup costs from Ecology. If the Port receives a grant, the funds paid by the State will come from the Local Toxics Control Account. Funds in this account come from a tax on hazardous substances, including petroleum products.

Ecology funds are not available to private parties.

The hazardous substance tax generates about $150 million per year. The receipts are split about 50/50 between the State Toxics Control Account and the Local Toxics Control Account

The amount in the Local Toxics Control Account varies. During the 2009-2011 biennium there was about $70 million in the account. This is included in the Toxic Control Account Expenditures Report, Publication No. 11-02-047.

Consent Decree, All

Comment #s: 017.016, 017.018, 017.019, 017.047

Summary Comment:
Comments were made on three specific items regarding the main text of the Consent Decree. They are:

1. Consistency between the Consent Decree and Exhibit B, Cleanup Action Plan

2. Environmental Covenant

3. Cleanup will follow all Federal laws and procedures

Response:
1. Consistency between the Consent Decree and Exhibit B, Cleanup Action Plan: One commenter noted a discrepancy between the work to be performed described in the main text of the Consent Decree and in Exhibit B, the Cleanup Action Plan. The main text of the Consent Decree at §VI.A.3 has been revised to read (bold added), "The cleanup action includes, but is not limited to, the following actions…Excavation of soil from the Lora Lake Apartments Parcel containing greater than 13 picograms per gram but less than 100 picograms per gram TEQ dioxins/furans, and consolidation of this excavated material **either within the Lora Lake Apartments Parcel or** beneath a constructed engineered surface at the Dredged Material Containment Area."

2. Environmental Covenants: Comment 017.018 indicated that when an environmental covenant is required, the consent decree should specify that it be placed on zoning maps with all local governments of jurisdiction. Environmental covenants are necessary to help ensure that land use controls needed in connection with the cleanup will be reliable and enforceable for as long as they are needed to protect people living and working on or near a site.

At the Site, the Consent Decree is an agreement between Ecology and the Port; the local governments that control zoning are not parties to the Consent Decree. Per the terms of the Consent Decree, the Port will be required to record an Ecology-approved Environmental Covenant with King County. The Port has committed to entering the required Environmental Covenant into its Environmental Information System. The Port uses this system to track mitigations, National Pollutant Discharge Elimination System (NPDES) Permit requirements, and other environmental tasks requiring long-term tracking and compliance assurance. Ecology maintains an Environmental Covenants Registry. The Registry lists cleanup sites with environmental covenants. (Go to the link and click the arrow on the right of the Select a Report box, then choose Environmental Covenants Registry from the drop-down menu)

3. Cleanup will follow all Federal Laws and procedures: One commenter questioned the provision in §XXIII.B of the Consent Decree, exempting the Port from the procedural requirements of certain laws, stating Ecology has no right or authority to provide a waiver of the procedural elements of federal law.

The language in the Consent Decree is discussing a MTCA provision exempting MTCA cleanup actions, such as this Site, from the procedural requirements associated with obtaining certain permits. The cleanup actions are still required to comply with all substantive requirements that would have been included in any

permits. (RCW 70.105D.090(1)) . MTCA goes on to state that permits are nonetheless required if "the department determines that the exemption would result in loss of approval from a federal agency necessary for the state to enforce any federal law, including … the federal clean water act." (RCW 70.105D.090(2)). As such, the exemption from procedural requirements does not apply to NPDES requirements or other permits required by federal law to conduct a MTCA cleanup. Applicable federal permits will be obtained.

Health Hazards, Infection

Comment #s: 013.001

Summary Comment:
Can I contract an upper respiratory infection from walking past the Site?

Response:
The contaminants at the Site are chemical in nature, not biological. Also, the contaminants are not volatile. Based on the information that has been collected from the Site to date, Ecology does not believe that there is any health risk to people walking past the Site. Dust control, wheel washing, sedimentation and erosion control, and other normal construction measures will be implemented during cleanup to protect the health of people near the Site.

Remedial Investigation/Feasibility Study, All

Comment #s: 012.001, 012.004, 012.006, 012.008, 012.009, 012.012, 017.014, 017.030, 017.032, 025.004, 029.005, 033.002, 033.005

Summary Comment:
There were several comments regarding the remedial investigation study. These comments centered on what contaminants were looked for, what their distribution is, what their mobility is, what their potential to impact the Highline Aquifer is, and how might they combine with other impacts to Miller Creek and salmon within the creek.

Response:
The remedial investigation included the analysis of Site samples for 52 chemicals, pH, preserved total solids, and particle grain size. Of the chemicals analyzed for, polycyclic aromatic hydrocarbons, petroleum products, pentachlorophenol, dioxins/furans, lead, and arsenic were identified as the chemicals that exceed the Site's cleanup levels.

The contaminant distribution at the Site is summarized on Figure 3.1 of the Public Review Draft Consent Decree. This document is available on Ecology's Lora Lake Apartment Site web site. Click on View Electronic Documents in the sidebar. Under Group: Legal choose Public Review Draft Consent Decree, 20130926.

The scope of the environmental investigations and distribution of the contaminants is also captured in the Chapter 4.0 figures in the RI/FS report. This report is also available on Ecology's Lora Lake Apartments Site web site. Click on View Electronic Documents in the sidebar and scroll down to Group: Technical Reports, Lora Lake Apartments - LLA - Draft RI/FS Main Text Figures.

These documents are also available for review at the Burien Public Library and at Ecology's Northwest Regional Office in Bellevue (call 425-649-7190 for an appointment).

Some specific comments regarding contaminant distribution are as follows:

- One commenter requested clarification of the Lora Lake Apartments excavation volumes with respect to the soil cleanup level of 13 pg/g TEQ dioxins/furans and the soil remediation level of 100 pg/g TEQ dioxins/furans. Figure 3.2 of the Cleanup Action Plan shows soil volumes versus concentration based on all dioxins/furans data collected. This figure includes data less than the cleanup level of 13 pg/g TEQ dioxins/furans. There are 30,000 cubic yards of soil with dioxins/furans concentrations between 13 and 100 pg/g TEQ, and 19,000 cubic yards of soil with dioxins/furans concentrations exceeding 100 pg/g TEQ. Figure 3.2 will be updated to make this clearer.
- One commenter was concerned about whether there was contamination north of Lora Lake, between it and the Dredged Material Containment Area, from the 1982 dredging, from trackout by trucks and equipment that had entered the Dredged Material Containment Area, and from heating oil tanks associated with the homes that previously surrounded the lake. Based on the historical activities at and surrounding the Site and the information gathered for the RI/FS, the sources discussed in this comment are unlikely to have led to contamination outside of the areas within the Site that have been identified as having the chemicals of concern at concentrations greater than cleanup levels. The 1982 dredging event did not involve open transport between the lake and the containment area. A gravel cap and vegetation at the Dredged Material Containment Area provides protection from track-out risks. The Port assessed the Lora Lake Parcel for evidence of potential releases during the decommissioning of home heating oil tanks between 1998 and 2002 and remediated soil impacted by hydrocarbons at the time of decommissioning.
- One commenter asked how sediment sampling locations in Miller Creek were chosen. The locations were selected based on field observation of areas with the greatest sediment accumulation within the creek and their proximity to the Lora Lake outlet in order to avoid dilution and effects not associated with Lora Lake. This was done because the farther downstream from the Lora Lake outlet the sediment samples were collected the more dilution and non-site effects would increase in the creek. The depth of collection, 10 centimeters (cm), is based on the Sediment Management Standards guidance for sampling the biologically active zone.

The chemical mobility of the contaminants also was considered. Dioxins/furans are the primary contaminants of concern at the Site. Dioxins/furans are a group of chemicals that bind strongly to organic carbon in the soil and are relatively immobile in water compared to other chemicals. This lack of mobility is well established scientifically. Groundwater data indicate dioxins/furans do not exceed the groundwater cleanup level for the Site, except in one well located in the most contaminated part of the Site. This area will be excavated to remove this source of groundwater contamination. Dioxins/furans in Lora Lake sediment will be immobilized by capping the sediment with material that has sufficient thickness and organic carbon content to immobilize them. This specification is contained in Section 6.2.2 of the Cleanup Action Plan.

The immobility of dioxins/furans also prevents dioxins/furans from migrating to the Highline Aquifer, a concern of one commenter. The Highline Aquifer occurs at much greater depth and in different geologic formations than the shallow groundwater at the Lora Lake Apartments Parcel. There are intervening low permeability units between the shallow groundwater and the Highline Aquifer, which limit groundwater movement vertically. The dioxins/furans contamination in the shallow groundwater is found near the soil

contamination. The dioxins/furans groundwater concentrations diminish rapidly to levels less than groundwater cleanup standards as one moves away from the highly contaminated soil area on the Lora Lake Apartments Parcel.

One commenter was concerned about pre-spawn mortality of salmon in Miller Creek, and indicated the present scientific opinion is that it is a combination of contaminants that is killing the fish. According to data collected, contaminants associated with the historical industrial operations at the Site do not reach Miller Creek in identifiable quantities under current conditions. Cleanup actions at the Site will remove the medium and highest concentration soil to an off-site disposal area, isolate the low concentration soil, and isolate and immobilize concentrations in sediment. These cleanup actions will reliably prevent contaminants associated with historical industrial operations at the Site from reaching Miller Creek in the future.

Pre-spawn salmon mortality is an issue in a number of creeks in the urbanized area of Western Washington. The exact cause is not known but water carrying contaminants from streets and highways, called non-point source pollution, is a possible cause.

Ecology is reducing non-point source pollution through three primary efforts: prevention, management, and cleanup. Information about Ecology's strategy to reduce toxic threats is available at http://www.ecy.wa.gov/toxics/index.htm. Ecology's Water Quality Program works to prevent and manage toxic threats from stormwater discharges such as soap suds and street runoff. For information about stormwater management activities and regulations, refer to Ecology's Water Quality Program website: http://www.ecy.wa.gov/programs/wq/wqhome.html.

Cleanup Levels, All

Comment #s: 001.001, 002.005, 005.005, 007.001, 010.001, 011.003, 012.007, 017.022, 017.029, 017.039

Summary Comment:
The cleanup should use the most stringent cleanup levels.

Response:
Cleanup of sites is performed to the most stringent applicable cleanup levels.

A cleanup level is the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions. MTCA identifies several exposure pathways by which human health or the environment may be affected by hazardous substances and provides cleanup levels applicable for each exposure pathway. When performing a remedial investigation, the relevant exposure pathways for a site are evaluated. The most stringent applicable cleanup level is then chosen for the site. Different cleanup actions may be taken to address the contamination depending upon the amount by which the cleanup level is exceeded.

Several additional points regarding cleanup of the Site should be noted in this response: One comment indicated the excavation and removal of dioxins/furans contamination to 100 pg/g TEQ was a "bare minimum." Removal of 19,000 cubic yards of soil with dioxins/furans concentrations exceeding 100 pg/g TEQ will remove 96 percent of the mass of dioxins/furans contamination on the Lora Lake Apartments Parcel. The remaining 4 percent of the mass of dioxins/furans is contained within a soil volume about 1½ times as

great (30,000 cubic yards), and this soil has the lowest concentrations. Protection of human health and the environment can be reliably achieved by managing this soil on the Site.

Additionally, the soil at concentrations less than 100 pg/g TEQ will be contained beneath a barrier to wildlife (that will also act as a barrier to humans) following the cleanup. There will not be an exposure pathway.

One commenter noted that Ecology "… routinely defaults to dioxins/furans limits which are not protective of human health and the environment, but rather represent other metrics, such as practical quantitation limits, or various types of claimed 'background' values, which are typically orders of magnitude higher than actual protective levels based on best available science."

The use of practical quantitation limits is a practical consideration when the chemical concentration protective of human health and the environment at the one-in-one million excess cancer risk level is lower than can be measured. Chemical concentrations cannot be regulated below concentrations that can be reliably measured.

MTCA regulates chemical concentrations only when they exceed the concentration naturally occurring in the environment – the natural background concentration. That is, MTCA regulates risks in excess of risks posed by the natural environment.

MTCA prohibits setting cleanup level below practical quantitation limits or natural background concentrations. See WAC 173-340-705(6).

Table 3.1 of the Cleanup Action Plan (Exhibit B of the Consent Decree) presents the cleanup levels for the various chemicals at the Site.

Remedy Selection, Lora Lake Apartments Parcel

Comment #s: 005.007, 014.001, 017.026, 017.032, 017.033, 017.035, 017.036, 017.042, 017.043, 017.046, 017.049, 017.052, 017.056, 019.001, 021.001, 034.003

Summary Comments:
Comments on the remedy selected for the Lora Lake Apartments Parcel fell into four areas: 1) Clarify how the dioxins/furans cleanup level and the dioxins/furans remediation level were set for the Lora Lake Apartments Parcel. 2) Why is soil with dioxins/furans concentrations less than the remediation level being consolidated on-site instead of being sent off-site to a commercial landfill? 3) Where will excavation occur and where will Environmental Covenants be placed? 4) How were the Seattle Urban Background data used in developing the Lora Lake Apartments Parcel remedy?

Response:
The Site dioxins/furans soil cleanup level of 13 pg/g TEQ was calculated using the formula presented in Equation 740-2 of the MTCA Cleanup Regulation and procedures specified at WAC 173-340-708(8)(d).

The choice of the Site dioxins/furans remediation level of 100 pg/g TEQ was made based on specific methodology contained in the MTCA Cleanup Regulation. The Feasibility Study evaluated several approaches to remediating contaminated soil on the Lora Lake Apartments Parcel. Alternatives that are disproportionately costly are not chosen. There is a specific test that evaluates whether costs are disproportionate to environmental benefits: "Costs are disproportionate to benefits if the incremental costs

of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative." [(WAC 173-340-360(3)(e)(i)].

When selecting among remedies, there is usually a "cost driver" – that is, one item that particularly impacts the costs. The cost driver for remediating contaminated soil is often the cost of commercial landfill disposal. This was the case for the Lora Lake Apartments Parcel contaminated soil. The Cleanup Action Plan presents a graph showing the relation between dioxins/furans TEQ concentrations in soil and the soil volume to be excavated, as well as a graph showing the cost of the various alternatives. (Exhibit B of the Consent Decree, Figures 3.2 and 5.1, respectively). In both cases, soil volumes, and therefore costs, climb very rapidly when the volume of soil with dioxins/furans concentrations less than the remediation level of 100 pg/g TEQ are sent to a commercial landfill versus consolidating the contaminated soil on-site, whether that is within the Lora Lake Apartments Parcel or at the Dredged Material Containment Area. This is because 96 percent of the mass of dioxins/furans at the Site is contained within the 19,000 cubic yards of soil that will be sent to a commercial landfill, while the remaining 4 percent of the mass of dioxins/furans is dispersed in 30,000 cubic yards of soil that will be consolidated on-site. This 4 percent represents the lowest concentrations at the Site – the concentrations of dioxins/furans less than or equal to 100 pg/g TEQ.

Cleanup Action Plan Figure 5.2 (See Exhibit B of the Consent Decree) shows the dioxins/furans soil concentrations measured on the Lora Lake Apartments Parcel. Most measured soil concentrations are below 40 pg/g. The current true mean of the soil data measured on this parcel is equal to or less than 27.4 pg/g at the 95% confidence level. This is about twice the soil cleanup level for the Site (13 pg/g). In human health risk terms, this means that if a child ingested 200 mg of soil per day (using the current mean soil concentration on the parcel) over a six year period of time, the basic exposure scenario, their lifetime cancer risk would increase from one-in-one million to about two-in-one-million. Of course following cleanup of this parcel, all soil above the site cleanup level will be consolidated and contained in a manner that makes it extremely unlikely that this child exposure scenario would actually occur.

Based on the cost analysis, it is neither practical nor cost effective to pay to send high volumes of slightly contaminated soil to a commercial landfill for disposal when protection of human health and the environment can be achieved by consolidating the high volume of slightly contaminated soil on-site. Environmental covenants to keep the land in commercial use (which requires periodic review by Ecology at least every five years), and maintenance of a barrier to wildlife, which will also serve as a barrier to human intrusion, are protective and are a more cost-effective way to prevent exposure to this low concentration soil.

Off-site disposal and on-site consolidation and containment are widely used cleanup action combinations. MTCA states that, "The department recognizes the need to use engineering controls, such as containment, for sites or portions of sites that contain large volumes of materials with relatively low levels of hazardous substance where treatment is impracticable." [(WAC 173-340-370(3)]. MTCA recognizes containment as a potentially suitable cleanup methodology even at residential areas and for schools and child care centers. [WAC 173-340-360(2)(d)] Future use of the Lora Lake Apartments Site will be commercial and/or industrial.

With regard to where excavation will occur and where the Environmental Covenants will be placed, the final extent of excavation will be determined during the design phase of the cleanup action after additional sampling is conducted. Figures 4.1 and 4.2 (revised based on public comment) of the Cleanup Action Plan (Exhibit B of the Consent Decree) shows the conceptual excavation areas, which are based on existing data. The excavation areas for the Site are located within the Lora Lake Apartments Parcel property boundary with the exceptions of a small excavation area extending onto the Former Seattle City Light property to the south

of the Lora Lake Apartments Parcel, an excavation area extending beyond the eastern Lora Lake Apartments Parcel property boundary to the City of Burien Des Moines Memorial Drive right-of-way, and two excavation areas within the Lora Lake Parcel shallow soil area near its western boundary and extending to the City of SeaTac Des Moines Memorial Drive right-of-way.

The Environmental Covenants must be placed on the Lora Lake Apartments Parcel property, and may be required for the area of the Former Seattle City Light property and the area of the City of Burien and City of SeaTac Des Moines Memorial Drive right-of-ways. Text has been added to CAP §6.1.4 and §6.2.1 to clarify this approach.

Finally, some comments pertained to how urban soil dioxins/furans data, which were reported in Department of Ecology Publication No. 11-09-049, *Urban Seattle Soil Dioxin and PAH Concentrations Initial Summary Report*, September 2011, were used in developing the remedy for the Site. Urban soil data were not used for developing either the dioxins/furans cleanup level or the remediation level for the Lora Lake Apartments Parcel. The urban soil data were referenced only to provide context for the soil concentrations found at the Site boundaries and soil concentrations that will be consolidated on-site. Ecology's experience is that future site users often want to have some context for the levels of contamination remaining on-site.

Remedy Selection, Cost Considerations

Comment #s: 006.002, 007.002, 008.001, 009.001, 010.002, 011.004, 012.002, 012.010, 014.003, 017.024, 017.051, 018.001, 018.005, 026.004, 029.004, 034.002

Summary Comment:
The Port should spend the extra $2 million to fully excavate contaminated soil to the 13 pg/g TEQ dioxins/furans cleanup level, rather than excavating to the 100 pg/g TEQ dioxins/furans remediation level and containing and consolidating the soil with dioxins/furans concentrations less than 100 pg/g TEQ. Commenters noted the cost is not disproportionate for a large government agency that has taxing authority.

Response:
MTCA establishes a clear test for determining whether an alternative is disproportionately costly. This test evaluates environmental benefits and costs of alternative cleanup actions.

The regulation specifies what costs are to be considered. These include the costs to implement the alternatives under consideration, including the costs of construction, the net present value of any long-term costs, and agency oversight costs that are cost recoverable. Affordability on the part of the responsible party is not to be considered when evaluating the costs to implement the alternatives under consideration.

Some comments asked how the Port option of consolidating low concentration soil in the Dredged Material Containment Area to improve marketability of the Lora Lake Apartments Parcel was factored into the disproportionate cost analysis. MTCA does not include the effect of cleanups on real estate transactions in a disproportionate cost analysis, and they are not a required factor of MTCA's Disproportionate Cost Analysis.

Remedy Selection, Lora Lake

Comment #s: 006.001, 007.003, 007.006, 010.006, 010.011, 014.002, 017.006, 017.011, 017.017, 017.028, 017.040, 017.058, 025.005, 027.001, 027.002, 027.003, 029.006, 030.003, 030.006, 031.001, 032.003, 033.004

Summary Comment:
Comments concerned the water quality in Miller Creek. In addition, there were several comments about how the Port would implement the remedy selected to restore Lora Lake to a wetland.

Response:
One of Ecology's key concerns in selecting the Site remedy was to enhance the water quality of Miller Creek to the degree possible within the context of the cleanup. The sediment cleanup is designed to isolate and immobilize the contamination in Lora Lake so that it will not impact Miller Creek, and to restore Lora Lake as a wetland. Restoring Lora Lake to wetland conditions does the most to improve water quality to Miller Creek by removing Lora Lake as a source of high temperature, low oxygen water to Miller Creek. None of the other proposed alternatives would achieve this.

Some comments advocated dredging the sediment in the lake. Dredging would mobilize the sediments throughout the lake water, presenting short-term risks to Miller Creek. The dredge material would have to be stored on adjacent nearby land while it was dewatered and then trucked to a landfill. Dredging of soft, fluffy sediments, like those found in Lora Lake, has a high risk of re-suspension and resettling, which would mean that after dredging, contaminated sediments would still be present in Lora Lake and would settle back onto the dredged surface. The lake would still be present to act as a source of high temperature, low oxygen water to Miller Creek. These considerations led to selection of restoring the lake to a wetland instead of dredging.

With regard to some specific comments regarding Miller Creek and implementation of the remedy:

- One comment concerned Endangered Species Analysis. Miller Creek is not critical habitat for any of the fish listed by the Fish and Wildlife Service or the National Marine Fisheries Service for Washington State.

- Many commenters suggested consideration of the U.S. Environmental Protection Agency (EPA) document, *Use of Amendments for In Situ Remediation at Superfund Sediment Sites*, April 2013, as part of design. The techniques summarized in this document are standard and well-known to the staff that will be designing the remedy. The Cleanup Action Plan (Exhibit B of the Consent Decree) specifies in §6.2.2 that a sand cap of sufficient thickness and organic carbon content to immobilize the dioxins/furans within the Lora Lake sediments will be used. The EPA document notes on Page 6 that, "Organic carbon is generally thought to be the primary sorptive phase for hydrophobic organic contaminants in soil and sediment". Dioxins/furans are hydrophobic organic contaminants. Table 1 of the EPA document notes that activated carbon and other carbon sources are examples of amendments for dioxins/furans.

  Ecology does not specify exact products to be used for cleanup because it limits the ability of designers to consider the most appropriate product during the design phase. Therefore, the Cleanup Action Plan simply specifies that material used for fill contain organic carbon, as

the EPA document recommends, and specifies that it must be sufficient to immobilize the dioxins/furans in the Lora Lake sediment. It may or may not be necessary to amend the fill material, depending upon the amount of organic carbon the fill material already contains. Section 6.2.2 of the Cleanup Action Plan (Exhibit B of the Consent Decree) has been edited to specify that the Engineering Design Report will include acceptance criteria for the fill material to ensure it contains adequate organic carbon. This sort of material acceptance criterion is a standard feature of Engineering Design Reports.

- Commenters expressed concern about the potential for plants and animals to cause migration of contaminated sediment. This is known as bioturbation, and it is a standard consideration in sediment remediation. Section 6.2.2 of the Cleanup Action Plan (Exhibit B of the Consent Decree) has been edited to require that the wetland design consider, and mitigate if necessary, the potential for contaminant migration by bioturbation.

- Commenters expressed concern about the potential for gas ebullition (that is, gas that builds up in the sediments from decaying organic matter, then rises from the sediment as bubbles) to cause migration of contaminated sediment. Gas ebullition is a standard consideration in sediment remediation. Section 6.2.2 of the Cleanup Action Plan (Exhibit B of the Consent Decree) has been edited to require that the wetland design consider, and mitigate if necessary, the potential for contaminant migration by gas ebullition.

  Gas ebullition is much more of a concern when mats containing amendment material are placed or when cap permeability is low. It is anticipated that gas ebullition will not be a significant issue for the permeable, thick sand cap that will be used to reconstruct the wetland. However, the potential for gas ebullition will be considered as part of the design process.

  Also, gas ebullition has not been observed at Lora Lake under existing conditions. Dioxins/furans are not readily transported by gas ebullition due to their low water solubility in water and high affinity to attach to organic carbon in sediment. This makes dioxins/furans extremely immobile compounds.

- Commenters expressed concern about how the sand cap will be placed in the lake. As described in §18.2.2.1 of the RI/FS, it is anticipated that thin lifts of sand will be placed using a conveyor belt to cast the sand on the lake surface. The sand will settle through the water and gradually fill the lake. Placement will be slow at first, to minimize disturbance of the soft sediments. Time will be allowed between layers of material placement to allow settlement of the underlying lake sediments. This placement method is the most appropriate one for minimizing resuspension of dioxins/furans impacted surface sediments as the sand is placed.

  As the sand cap thickens, some sand and its organic carbon content will settle into the soft sediment. This penetration into the soft sediment is similar to the direct amendment of surficial sediments with sorbents discussed on Page 4 of the EPA document *Use of Amendments for In Situ Remediation at Superfund Sediment Sites*, referred to above.

Figure 1, also on Page 4 of the EPA document, also shows several placement methods. Each of these methods has a higher potential for disturbing the soft sediments of Lora Lake than the use of a conveyor belt.

- Concern was expressed that the wetland would create acidic conditions that could enhance the ability of dioxins/furans to mobilize from the sediment to the pore water. This is a common issue with most metals. Unlike most metals, dioxins/furans do not occur in the environment in different oxidation states that directly influence mobility. Hence, even if the pore water becomes somewhat acidic, the acidic conditions will not mobilize the dioxins/furans.

- There was concern regarding the stability of Miller Creek and the potential for erosion after the wetland has been constructed. Section 6.2.2 of the Cleanup Action Plan (Exhibit B of the Consent Decree) has been edited to require that the design maintain Miller Creek channel stability and minimize erosion potential.

Remedy Selection, Lora Lake Shallow Soil

Comment #s: 005.002, 005.006, 017.005, 017.013, 017.025, 017.037, 017.044, 017.048, 017.050, 017.057, 017.059, 017.060, 017.062

Summary Comment:
The Lora Lake Shallow Soil Area with low concentrations of dioxins/furans should be removed as they constitute a much more severe environmental hazard than would result from removal of natural plants and replanting.

Response:
The draft Cleanup Action Plan (Exhibit B of the Consent Decree) proposed leaving slightly contaminated soil west of Lora Lake, located within the habitat mitigation area designated by the Natural Resource Mitigation Plan. Figure 2 shows the Lora Lake Parcel Shallow Soil Area and the soil dioxins/furans TEQ concentrations.

The proposed remedial action would leave soil with dioxins/furans concentrations slightly greater than the dioxins/furans cleanup level applicable to terrestrial wildlife exposure of 5.2 pg/g TEQ in this part of the habitat mitigation area and a small strip of land to the west between the current fence and the sidewalk. This area currently has a mean[2] dioxins/furans TEQ soil concentration of 6.8 pg/g TEQ. The 95 percent upper confidence limit on this mean, the relevant measure of the dioxins/furans concentration to which wildlife might be exposed[3], is 10.9 pg/g TEQ (calculated with EPA Statistics Program ProUCL). These exceedances are driven by elevated dioxins/furans TEQ concentrations detected at sampling locations LL-SB6, LL-SB5, LL-SB5B, and LL-SB2. These isolated elevated concentrations are consistent with the patchy nature of contamination outside the main area of contamination on the Lora Lake Apartments Parcel. The Lora Lake Shallow Soil Area is immediately east of, and downhill from, the Lora Lake Apartments Parcel. The link between these elevated dioxins/furans concentrations within the Lora Lake Shallow Soil Area and the

[2] In statistics, the term "mean" is used for what is more commonly referred to as an average.
[3] Shrews, voles, and robins are used as the surrogate receptors for mammalian carnivores, mammalian herbivores, and avian carnivores, respectively. See WAC 173-340-900, Table 749-4 for the Wildlife Exposure Model.

dioxins/furans contamination on the Lora Lake Apartments Parcel has not been proved, but the proximity of these two areas means that possibility of contamination coming over from the Lora Lake Apartments Parcel cannot be ruled out.

Ecology chose this remedy because this mitigation would prevent adverse environmental impacts by minimizing impacts to the sensitive habitat mitigation area. This is consistent with the expectation in MTCA that cleanup actions conducted under this chapter will not result in a significantly greater overall threat to human health and the environment than other alternatives. [WAC 173-340-370(8)]

However, it became clear from the comments received that the public preferred having the slightly contaminated soil in this area excavated and having the area re-planted. Ecology reviewed the environmental checklist and accompanying documentation and determined that excavation of the areas with elevated dioxins/furans could be completed and the damage mitigated by replanting. Accordingly, Ecology has revised §5.2, §6.2.1, and Figure 4.2 of the Cleanup Action Plan (Exhibit B of the Consent Decree) to require areas surrounding LL-SB6, LL-SB5, LL-SB5B, and LL-SB2 to be excavated, backfilled, and replanted. The State Environmental Policy Act (SEPA) Checklist (Appendix A of the Cleanup Action Plan) has been updated to require the Port to minimize disturbance of areas not being excavated, and to require replanting of the excavated areas in accordance with the Natural Resource Mitigation Plan. The areas to be excavated are shown on Figure 2. Excavation of these areas will bring the mean dioxins/furans TEQ concentration to levels less than the required standard of 5.2 pg/g TEQ. The mean concentration is the value that is compared to the required standard.

Remedy Selection, Dredged Material Containment Area

Comment #s: 007.005, 010.007, 010.009, 012.011, 015.004, 017.003, 017.0061, 017.010, 017.015, 017.023, 017.027, 017.034, 017.045, 017.061, 017.068, 024.003, 025.003, 026.003, 028.001, 029.003, 032.002, 033.001, 033.003, 034.001,

Summary Comment:
Provide a more detailed discussion of the impacts of consolidating and containing Lora Lake Apartments Parcel soil with dioxins/furans concentrations between 13 and 100 pg/g TEQ in the Dredged Material Containment Area.

Response:
First, Ecology has corrected an error in the SEPA Checklist map showing the location of the 100-year flood plain (Consent Decree Exhibit B, Cleanup Action Plan, SEPA Checklist Figure A.1). This 1995 flood plain map used in the Checklist does not correctly show the location of the current flood plain in the area of the Dredged Material Containment Area.

Figure A.1 of the SEPA Checklist (also included in this document) now accurately shows the location of the Dredged Material Containment Area, the extent of the current 100-year flood plain, the wetland extent, and the Miller Creek Buffer. About 1,000 square feet (0.7 percent) of the Dredged Material Containment Area, at its southernmost extent, is within the current flood plain. Ecology apologizes for this error.

The Dredged Material Containment Area is approximately 180 feet away from Miller Creek at the closest point to the creek, and outside both the 50-ft. buffer zone for Miller Creek and the adjacent delineated wetland.

Relocated material from the Lora Lake Apartments Parcel will not be placed within the 100-year floodplain. The boundary of the 100-year flood plain will be verified by survey during engineering design. The Cleanup Action Plan has been revised to include this requirement (See CAP §5.3).

The consolidation area will be designed considering potential erosion from flood events, and constructed accordingly. Construction requirements will include Temporary Erosion and Sedimentation Control Best Management Practices, as is standard practice at construction sites.

Should the Port elect to consolidate material at the Dredged Material Containment Area, the elevation of the consolidation area will rise by approximately 6 to 8 feet. Design of the Dredged Material Containment Area consolidation area and engineered surface will be constructed in a manner that does not allow for contaminant migration at any time – including during flood events. Fill will not be placed in the 100-year flood plain, and filled areas will be constructed and protected from erosion with slope stabilization construction techniques.

The method for erosion protection of the containment barrier will be determined in design, and may consist of a geotextile or similar reinforcement layers, crushed rock, riprap, or other durable materials. The Dredged Material Containment Area will be inspected regularly to assess its integrity, and any necessary repairs made. The inspection schedule will be specified in the Operations and Maintenance Plan and/or the Compliance Monitoring Plan. The specific schedule will be determined when the design of the engineered surface has been completed.

Many comments noted that 1.5 acres of vegetation would be removed. The vegetated area of the Dredged Material Containment Area is currently covered by a few trees and a mix of grasses and invasive and pioneering plant species, including scotch broom, alder saplings, Himalayan blackberry, and butterfly bush. The required vegetation clearing at the Dredged Material Containment Area for soil consolidation and placement of an engineered surface will occur outside the Port's mitigation areas (which are located to the east and south of the Dredged Material Containment Area) and outside existing regulatory buffers on Miller Creek and the nearby wetlands. Planned construction of the engineered surface to improve the Dredged Material Containment Area for Port uses will provide a barrier to terrestrial growth and ecological exposure, as well as to worker direct contact and will not have an impact on regulated or mitigation-related vegetation. See Figure A.1.

Vegetation in the wetland mitigation area and vegetation providing shade for Miller Creek will not be impacted.

Stormwater management required for consolidation of material at the Dredged Material Containment Area will be determined and evaluated in the design process, including an evaluation of the potential for an increase in temperature of groundwater, and flows into Miller Creek. Construction at the Dredged Material Containment Area will comply with applicable stormwater management regulations, including Ecology's Stormwater Management Manual for Western Washington (2012), and the airport's individual NPDES permit. Additionally, the Port is currently collecting hydrogeologic data from the Lora Lake Parcel, Dredged Material Containment Area groundwater wells, and Miller Creek to evaluate hydrogeologic conditions and determine the design controls required to ensure no negative impact to Miller Creek from implementation of the Lora Lake and Dredged Material Containment Area remedies.

§B.3.a and §B.3.c of the SEPA checklist and §5.3 of the Cleanup Action Plan (Exhibit B of the Consent Decree) have been updated to clarify conditions and plans for the Dredged Material Containment Area.

Some comments noted the Direct Contact Worker Protection soil dioxins/furans cleanup level of 1,700 pg/g TEQ applies to the Dredged Material Containment Area and questioned whether this was appropriate. It is appropriate, because this is in an industrial area that is secured, with no public access. It simply means that if subsurface work is needed, the workers do not need to take any special precautions. Note, however, that the actual dioxins/furans concentrations of soil to be consolidated in the Dredged Material Containment Area are less than 100 pg/g TEQ, and the mean dioxins/furans concentration – the relevant measure of the exposure point concentration – is 19 pg/g TEQ. The mean dioxins/furans concentration of the dredged sediment currently within the Dredged Material Containment Area is 48 pg/g TEQ.[4]

Almost half of the Dredged Material Containment Area is currently covered by compacted gravel, which is fairly impervious. The planned engineered surface has not yet been designed, and may be pervious or impervious. The surface will be clean material and surface runoff will not contact the contaminated soil.

Finally, Ecology acknowledges the City of Burien's strong preference for, and the significance of, using the Dredged Material Containment Area for consolidation of the Lora Lake Apartments Parcel soil less than 100 pg/g TEQ dioxins/furans. The City noted,

> "First and foremost, we see this as a preferable location from both an environmental perspective and a safety perspective. We are fortunate that an area exists in the immediate vicinity that can offer the kind of protection from public access that this area does and will do for decades to come. This area is protected by a security fence, is frequently patrolled by Port Police, and is well within the Federal Aviation Administration runway protection area. This means that there will be no other use of the property unless the runway ceases to exist, which is highly unlikely in the foreseeable future. Also, this area is very close to the source locations, thereby eliminating the need for haul of the contaminated material over many miles of roadway. The result is less risk of spreading contaminants to other locations and more limited environmental impact from the truck haul itself. The material will be placed outside of the 100-year flood plain of Miller Creek and over 200 feet away from the Creek. However, we do recommend that the actual floodplain boundary be surveyed to ensure that the material is not placed in that vicinity. The planned engineered surface will provide a barrier between the contaminants and plant growth or other ecological exposures. The Port also has fulltime professional environmental staff on site to ensure that the Environmental Covenants are maintained. All of these factors give us confidence this is an appropriate site to protect the public and the environment from these contaminants well into the future."

Ecology agrees with the City of Burien's assessment, which is why the option for the Port to consolidate the Lora Lake Apartments Parcel soil less than 100 pg/g TEQ dioxins/furans at the Dredged Material Containment Area is included in the Cleanup Action Plan (Exhibit B of the Consent Decree).

---

[4] This value is the 95% upper confidence limit on the mean concentration, calculated from the sample data using the Environmental Protection Agency's statistical program, ProUCL. In statistics, the term "mean" is used for what is more commonly referred to as an average.

Construction, All

Comment #s: 007.004, 017.002, 017.008, 017.009, 017.012, 017.053, 017.067, 020.001, 030.002

Summary Comment:
There were several comments regarding construction details.

Response:
The Cleanup Action Plan is a conceptual document, and most construction details are developed during engineering design. Some construction details are left to the contractor who bids the work to determine, although the requirements they must meet are included in the bid documents. The current status of knowledge on these comments is given below.

Where will Burien's storm drain flow be diverted during construction of the remedy? What impacts could there be and how will the impacts be mitigated? The City of Burien is in the process of planning a stormwater infrastructure improvement that will redirect stormwater flow to an infiltration facility south of the Site. If this City improvement is completed it will likely occur before remedy construction and Burien's stormwater flow will not be addressed as part of the remedy. If the City improvement is not completed before construction of the remedy, Burien's stormwater flow well be re-routed to bypass the area of excavation and managed to comply with all applicable laws, regulations, and permit conditions.

Handling of stormwater both during and after construction must comply with all applicable laws, regulations, and permit conditions. Potential impacts will be identified when the final route is known, and measures to mitigate those impacts will be included in the final design. See also the response at Stormwater, Post Construction.

When will stormwater, erosion, and dust control measures be implemented? Construction projects must follow federal water pollution laws, state water quality regulations, and local city stormwater management regulations. Construction site operators are required to be covered by a National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit from Ecology if they are engaged in clearing, grading, and excavating activities that disturb one or more acres and discharge stormwater to surface waters of the state. Smaller sites may also require coverage if they are part of a larger common plan of development that will ultimately disturb one acre or more. See Chapter 90.48 RCW, WAC 173-226. At the Site, the Port will be required to obtain coverage under the Construction Stormwater General Permit or an individual permit, whichever Ecology determines is appropriate for the Site.

As part of compliance with this permit, projects are required to develop a site-specific Stormwater Pollution Prevention Plan that includes a Temporary Erosion and Sediment Control Plan. With either permit, sediment, erosion, and pollution prevention control measures must be implemented at the start of construction and must be updated as necessary throughout the construction to mitigate impacts from all phases of the project. Dust will be controlled with a water mist or other best management practices, as appropriate.

Should construction stormwater and dewatering water discharge be covered by an individual National Pollution Elimination Discharge System (NPDES) permit, as done at the Port of Olympia East Bay site, rather than a Construction Stormwater General Permit?

Permit requirements are site-specific and must be determined based on the site location and the laws and regulations in place at the time of application. At the East Bay site, the then current (2009) Construction Stormwater General Permit did not cover construction at contaminated sites. Revisions to the Construction Stormwater General Permit became effective January 1, 2011 and now include provisions for coverage of construction at contaminated sites.

If for any reason a Construction Stormwater General Permit is not appropriate for this work, Ecology's Water Quality Program will apprise the Port, or its contractor, of the appropriate permit when application is made.

As described in the SEPA Checklist for the Site, dewatered groundwater will be contained within portable storage tanks, treated as needed to remove solids and chemical contaminants to comply with discharge requirements, and likely discharged to the sanitary sewer under a pretreatment permit approval from the local sanitary sewer operator. If treatment cannot achieve standards for discharge to the sanitary sewer, the water will be trucked to an off-site licensed facility for further treatment and disposal.

What stormwater treatment train technologies are being considered? The type of treatment and method of handling contaminated dewatering water and stormwater is dependent on the rate, duration, and total volume of water collected, the selected method for dewatering, and the determination of the disposal facility accepting the contaminated water. The treatment train will be determined during engineering design or by the contractor responsible for implementing construction and complying with Construction Stormwater General Permit and/or local city codes.

Permanent post-construction stormwater treatment requirements are dependent upon the type of redevelopment that occurs on the Site. Refer to Ecology's Stormwater Management Manual for Western Washington (2012) for relevant guidance regarding stormwater controls for new and redevelopment projects. http://www.ecy.wa.gov/programs/wq/stormwater/manual.html.

Where will sufficient clean fill be found? Imported fill material must be sourced from a location on which an environmental site assessment has been conducted to confirm that there are no impacts to fill material based on historical operations. The contractor selected to complete the work must be required to provide confirmation that backfill meets requirements contained in the Engineering Design Report and Project Plans and Specifications. This will include sourcing the fill from an area with no industrial history and testing the material to ensure the material meets the requirements of the project specifications. §6.1.1 has been updated to include these requirements.

How will the potential for recontamination be prevented during transport of contaminated soil? Transport of contaminated soil will be conducted using standard practices to prevent the spread of contaminated soil. These standard practices include covering loads and a wheel wash or equivalent method of cleaning material from trucks prior to exit from the worksite. Best Management Practices such as restricting truck traffic on unpaved areas, frequent sweeping, and vacuum sweeping of driveways and roadways around the Site, stormwater erosion controls such as silt fences, straw bales and berms may also be implemented to prevent transport of contaminated soil. Federal regulations require identifying hazards presented by materials being hauled by truck and specifying appropriate measures to mitigate the hazards. State and federal laws and regulations specify transportation requirements to mitigate the hazards. Any transporter hauling material from the Site must be properly licensed to transport contaminated material.

Monitoring, Cleanup Action

Comment #s: 007.008, 012.003, 017.021, 017.031, 035.001

Summary Comment:
Ongoing monitoring should be done to assure the effectiveness of the solutions.

Response:
Compliance monitoring must be performed as part of cleanup to assess whether the cleanup actions are achieving their intended goals. See WAC 173-340-360(2)(a)

For soil, additional soil samples must be collected at the Site prior to remedy construction to define the volume of soil with dioxins/furans concentrations exceeding 100 pg/g TEQ, to be excavated with better accuracy, and to define the area of soil with dioxins/furans concentrations between 13-100 pg/g to be contained on-site, or consolidated and contained at the Dredged Material Containment Area. The excavation boundary will be defined by soil samples with dioxins/furans concentrations less than the excavation remediation level of 100 pg/g TEQ. Because there is a long turn-around time for data to be returned from the laboratory, these samples will be collected in advance of excavation. The horizontal and vertical location of the passing soil samples will be recorded. Excavation will then be done to the limits defined by these samples. The excavation limits will be controlled using a Geographic Global Positioning System (GPS) device, or a licensed surveyor.

One commenter asked for confirmation that actual excavation will be based on site confirmation sampling, assuring the cleanup levels have been met, rather than "average" concentrations for general areas being met. As described above, the soil volume with dioxins/furans concentrations greater than the remediation level of 100 pg/g TEQ will be defined by a sampling program that requires each individual sample used to define the limit of the excavation to be equal to or less than the remediation level of 100 pg/g TEQ dioxins/furans.

It should be pointed out, however that the average concentration of a hazardous substance is the relevant statistical parameter for assessing whether cleanup levels have been met for chronic or carcinogenic threats. (The term "average" is the same as the statistical term "mean".)

There is one well in which contaminant concentrations in groundwater exceed cleanup levels. This well is located within the most contaminated soil at the Site. This soil will be excavated, and the well will be excavated along with it. After excavation and backfilling, a new well will be installed in this area. Groundwater samples will be collected and analyzed to assess groundwater quality after completion of soil removal. Additional groundwater wells must also be sampled to assess whether any unexpected changes to groundwater quality have occurred after construction.

There will also be regular inspections of the wildlife barrier that must be placed on the Lora Lake Apartments Parcel and the engineered surface to be constructed at the Dredged Material Containment Area. The frequency of the inspections will depend upon the design of the wildlife barrier and engineered surface. In addition, Ecology will perform Periodic Reviews of site conditions at least every five years so long as Environmental Covenants remain on the property deeds restricting site uses. A new §6.4 has been added to the Cleanup Action Plan (Exhibit B of the Consent Decree) to describe long-term monitoring, inspections, and compliance monitoring to be conducted at the Site. Additional detail will be developed in the Compliance Monitoring Plan.

Monitoring, Miller Creek

Comment #s: 002.002, 002.003, 018.004

Summary Comment:
Baseline contamination levels should have been developed in Miller Creek. There should be ongoing monitoring of pollution levels in Miller Creek.

Response:
The purpose of the investigations conducted at the Site was to collect, develop, and evaluate sufficient information to enable Ecology to determine the nature and extent of contamination resulting from past industrial activities at the Site and to select a cleanup action for the soil, groundwater, and sediment at the Lora Lake Apartments Site.

Ecology did not sample surface water in Lora Lake or Miller Creek because this information was not necessary for Ecology to determine the nature and extent of contamination at the Site, or to select cleanup actions for the Lora Lake Apartments Site. First, stormwater sampling indicated industrial contamination from the Lora Lake Apartments Parcel was not affecting stormwater and therefore would not affect the surface water into which the stormwater flowed. Second, groundwater contamination at the Lora Lake Apartments Parcel does not extend off of the Lora Lake Apartments property, so groundwater is not affecting surface water in Lora Lake. Third, calculations indicated sediment in Lora Lake had the potential to leach contaminants into surface water in excess of the National Recommended Water Quality Criterion for human health protection (ingestion of water and organisms). For these reasons, the sediment in Lora Lake needed to have cleanup actions taken. There was no need for additional data to reach this decision. Long-term monitoring of soil, sediment, and groundwater will be conducted to make sure that conditions at the Site are stable, and are not resulting in releases of contamination to Miller Creek. Sampling of the creek is not necessary to meet this monitoring requirement.

Sediment samples were collected from Miller Creek. Concentrations observed in the Miller Creek samples showed that concentrations of the chemicals of concern were less than their applicable cleanup levels. As a result, the Lora Lake Cleanup Site does not include Miller Creek.

Finally, because there are a number of off-site inputs to the creek that are potential avenues of contamination, sampling of the creek is unlikely to provide useful information to assess the effectiveness of cleanup of contamination resulting from past industrial operations at the Site.

Stormwater, Post-Construction

Comment #s: 002.001, 002.004, 007.007, 009.002, 010.005, 010.010, 017.004, 017.007, 017.020, 017.054, 017.055, 018.002, 018.003, 021.002, 024.002, 025.002, 026.002, 029.002, 030.001, 030.004

Summary Comment:
How will stormwater be handled when Lora Lake is filled? How will recontamination be prevented?

Response:
A City of Burien storm drain currently traverses the Lora Lake Apartments Parcel and conveys stormwater from upstream across the property to Lora Lake (the Main Line). The City of Burien is considering a

stormwater project that would entail constructing a new stormwater pipe that would redirect the upstream stormwater down the 8th Avenue South storm drain to a new stormwater facility that is already planned for construction, but would need to be modified to accept this additional water. The stormwater facility would be located south of the Lora Lake Apartments Parcel and would provide infiltration treatment of the water quality design storm volume for the current land use consistent with Ecology's Stormwater Management Manual for Western Washington. Some upstream stormwater may be redirected to stormwater facilities north of SR 509 that will also provide infiltration treatment. Storm water originating on the Lora Lake Apartments Parcel will also be directed to the new stormwater facility once constructed. This is the preferred option. Its execution depends upon receipt of grant funding from Ecology.

If the City does not redirect the upstream water down 8th Avenue then a new storm drain line will be constructed as far north as possible on the Lora Lake Apartments Parcel as part of the Cleanup Action Plan construction. This line would convey upstream stormwater to the rehabilitated wetland on the Lora Lake Parcel. Stormwater originating on the Lora Lake Apartments Parcel would still be conveyed to the new stormwater facility south of the Lora Lake Parcel, per the current plans.

In both cases, rerouting of the stormwater is anticipated to occur prior to excavation in the area of the Main Line. The Main Line and existing side lines will be removed as necessary for excavation. In areas that do not require pipe removal to complete the excavation, the Main Line and side lines will either be removed, or abandoned in place.

See also the response at Construction, All.

Coordination, Other Projects

Comment #s: 016.001

Summary Comment:
The Washington State Department of Transportation (WSDOT) indicated that components of the cleanup may affect WSDOT projects in the future and noted several areas in which WSDOT, Ecology, and the Port will need to coordinate to allow the projects to move forward.

Response:
Ecology and the Port will be coordinating closely and directly with WSDOT to coordinate cleanup activities and requirements as the cleanup moves forward. The specific points raised in WSDOT's letter will be addressed in the design phase of the project.

Plans, Operations and Maintenance, Monitoring

Comment #s: 017.064, 017.065, 035.001

Summary Comment:
Several commenters requested more detail regarding what would be in the Operations and Maintenance and Compliance Monitoring Plans.

Response:
These plans are developed after the Cleanup Action Plan is finalized. Specifics often require information from the Engineering Design Report and Plans and Specifications. Ecology does not include specifics in the

Cleanup Action Plan, because the specifics depend upon information not yet developed. These are public documents that Ecology will post on the Lora Lake Apartments Site web site and place in the document repository at Burien Public Library when available. Paper copies may be obtained by filing a records request with Ecology's Public Records Officer. Please contact (360) 407-6989 for more information on how to request a public record from Ecology.

The cleanup action plan has been updated to provide additional detail on the compliance monitoring approach.

Schedule, All

Comment #s: 017.066

Summary Comment:
The scope and schedule should include at least approximate dates for applications of relevant permits.

Response:
The schedule presented in Exhibit C of the Consent Decree includes only high-level deliverables for key milestones in the cleanup process. This provides the Port and its contractors flexibility in conducting the work, so long as the key milestones are met. In addition, the approximate dates for applications for relevant permits are not known at this time. Some permits may be applied for by the contractor selected to perform the work by the Port's bid process. All permit requirements must be in place before starting the work the requirements cover.

Timing of Cleanup

Comment #s: 015.002, 015.005, 015.006

Summary Comment:
The City of Burien is interested in the cleanup going forward in a timely manner because the City of Burien has future development plans that involve the Lora Lake Apartments Parcel.

One commenter said that before public monies are spent to recover this site, the entire pollution issue should be addressed, including off-site sources of pollution entering the Site. (See Table 2, Comment 002.006 under Review, Independent)

Response:
Ecology understands that timely cleanup of contaminated properties is important for future growth and development in the City of Burien.

Ecology is committed to reducing toxic threats. Addressing the range of pollution issues within a watershed is often a complicated, long-term undertaking. The general approaches Ecology is taking are:

(1) Prevent toxic chemicals from being used in the first place. Averting toxic exposures and avoiding future costs is the smartest, cheapest, and healthiest approach.

(2) Assist businesses to reduce or manage the amount of toxic chemicals that enter the environment.

(3) Clean up after toxics have polluted air, land, or water. These are needed but costly solutions to avoidable contamination.

Please visit Ecology's Reducing Toxic Threats website to learn more at http://www.ecy.wa.gov/toxics/index.htm.

The first two items on the list focus on prevention. This is the best and most cost effective means of improving water quality.

Cleanup of the Lora Lake Apartments Site is part of the third item on the list. The time to clean up the Lora Lake Apartments Site and remove it as a toxic threat is now.

Ecology's Toxics Cleanup Program is responsible for the cleanup of the Lora Lake Apartments Site, as well as other toxic sites that fall under Item 3 above. Other Ecology Programs are addressing Items 1 and 2.

For example, Ecology recently provided $235,000 in funding under a Watershed Protection and Restoration Grant to King County's Miller-Walker Creek Basin Steward. The funds will be used for stormwater retrofit planning and project design. This funding originated from the EPA's National Estuary Program. The Miller-Walker Creek Basin web site is at: http://www.kingcounty.gov/environment/watersheds/central-puget-sound/miller-walker-creeks/basin-plan.aspx.

In addition, the City of Burien is upgrading stormwater facilities in the City's Northeast Redevelopment Area (NERA). The upgrades will control and treat runoff to address water quality concerns (fecal coliform, pH, copper, zinc, lead, and dissolved oxygen) and to improve the habitat of Miller Creek. Currently, the City of Burien is constructing a 4-acre regional stormwater wetland and infiltration facility to treat runoff from 55 acres in the basin. All areas contributing to the facility will be required to incorporate low-impact development techniques[5] on-site as they redevelop. The total project cost is $2,850,000. Ecology is providing $1,000,000 in funds for the project. This project is one element of the Northeast Redevelopment Area master plan to retrofit the entire 162-acre basin stormwater management and stream corridor restoration to enhance the overall health of Miller Creek while meeting Ecology standards for future development.

In summary, cleanup of the Lora Lake Apartments Site is only one of a number of activities being performed to address pollution in the Miller-Walker Creek Basin. The cleanup is being conducted by the Port and overseen by Ecology under the authority of MTCA. The cleanup addresses industrial contamination from past uses on the Lora Lake Apartments Site. Off-site sources of pollution are being addressed by use of the other approaches outlined above.

Review, Independent

Comment #s: 002.006

---

[5] Low-impact development is a stormwater and land use management strategy that emphasizes conservation and use of existing natural site features integrated with distributed, small-scale stormwater controls that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design. (Stormwater Management Manual for Western Washington, Ecology, 2012)

Summary Comment:
There should be an overall project review by independent scientists/subject-matter experts to assure the public of three things. First, that the best science available is used to address the Lora Lake dioxins/furans pollution problem. Second, that before public monies are spent to recover this site, that the entire pollution issue be addressed including off site sources of pollution entering the Site. Third, ongoing monitoring is started to assure the effectiveness of the solutions applied.

Response:
The Washington State Department of Ecology's Toxics Cleanup Program is overseeing cleanup of the Lora Lake Apartments Site. Ecology is the state regulatory agency with the responsibility and authority for overseeing the cleanup. The Site is being cleaned up according to the standards and processes prescribed in MTCA, Chapter 173-340 of the Washington Administrative Code (WAC).

MTCA was developed to ensure that stringent standards and clear processes are used to clean up sites to achieve cost-effective solutions that protect human health and the environment. Ecology staff are experienced in applying the cleanup regulation.

For the second and third concerns expressed above, please see refer to Ecology's responses found above in Monitoring, Cleanup Action and Timing of Cleanup.

Public Participation, Process

Comment #s: 005.003, 010.003, 011.001, 012.005, 017.001, 017.038, 017.041, 017.0531, 017.063, 017.069, 024.001, 025.001, 026.001, 029.001, 032.001

Summary Comment:
Many comments concerned whether the information was adequately detailed and the length of time available for review of the information was sufficient. There were also several specific comments related to this topic; these are responded to individually.

Response:
The purpose of the Remedial Investigation/Feasibility Study is to assemble sufficient information for Ecology to select a cleanup remedy. The information contained in the Remedial Investigation/Feasibility Study was sufficient for Ecology to select a remedy.

The Cleanup Action Plan evaluates various alternatives to clean up contamination. It is a conceptual document that documents Ecology's remedy selection. Much of the additional detail will be included in follow-on plans – the Engineering Design Report, the Plans and Specifications, the Operations and Maintenance Plan, and the Compliance Monitoring Plan. Refer to §6.5 of the Cleanup Action Plan (Exhibit B of the Consent Decree).

The original October 25, 2013 to November 25, 2013 comment period was extended to January 15, 2014 to give additional time for the public to review the documents.

One comment regarded using different units for different chemicals, and mixing the use of picogram per gram (pg/g) and parts per trillion. With respect to the first, units for different chemicals vary to avoid excess leading or following zeros. Soil and sediment concentrations for chemicals are reported in milligrams per kilogram (mg/kg), which is equivalent to parts per million; in micrograms per kilogram (µg/kg), which is

equivalent to parts per billion; and picograms per gram (pg/g), which is equivalent to parts per trillion. Water concentrations are reported in milligrams per liter (mg/L), which is equivalent to parts per million; micrograms per liter (µg/L), which is equivalent to parts per billion; and picograms per liter (pg/L), which is equivalent to parts per quadrillion.

The reports strive to use the same units when referring to concentration values for the same chemical. Ecology apologizes for any editorial inconsistencies.

Finally, one commenter made requests "continuing in nature" for documents to be submitted in the future. The Public Records Act does not provide for standing records requests nor does it require an agency to monitor whether newly created documents fall within a request to which it has already responded. As described previously, Ecology will post future reports prepared by the Port on the Lora Lake Apartments Site web site and place them in the document repository at Burien Public Library. Paper copies will be available by filing a records request with Ecology's Public Records Officer. Please call (360) 407-6989 for more information on how to request a public record from Ecology.

Note that some permits required for the cleanup may require public notice and provide for public comment periods. For example, applicants for coverage under the Construction Stormwater General Permit must place two public notices in a local newspaper announcing that permit coverage is being sought and comments associated with obtaining permit coverage may be submitted to Ecology.

Next Steps

The Remedial Investigation/Feasibility Study and the Public Participation Plan have been finalized.

Text has been added to the draft Cleanup Action Plan to address many of the comments received. The SEPA Checklist and Mitigated Determination of Nonsignificance have been updated. A second public comment period on the Consent Decree, draft Cleanup Action Plan, SEPA Checklist, and Mitigated Determination of Nonsignificance will be held. It is anticipated this comment period will be held in the first quarter of 2015.

Documents will be posted on Ecology's Lora Lake Apartments Site web site.

Table 1: Commenters

Name	*Affiliation*	*Commenter ID*
Akramoff, Glenn	City Manager, City of Normandy Park	030
Batcho, Andy	Waste Action Project	018
Boehm, Leah	Citizen	020
Brady, Mark	Citizen, Federal Way	021
Branch, Harry	Citizen, Olympia	022
Brant, Pete	Resident of Normandy Park	001
Brant, William	Council Member/Mayor, City of Normandy Park	010
Canan, Mike	Vice Commodore of Duwamish Yacht Club	004
Cassarino, Anthony	President, Normandy Park Community Club	002
Cassarino, Elaine	Citizen of Normandy Park	008
Coontz, Sharron	Citizen, Olympia	023
Dunstan, Marilyn	Citizen	013
Edgar, Bob	Citizen of Burien	009
Edgar, Chestine	Citizen of Burien	007
Guddat, Jeff	Citizen	024
Honour, Richard	The Precautionary Group LLC	025
Hoover, Monica	Citizen, Olympia	026
Huling, Don	Citizen, Auburn	027
Jenner, Stuart	Citizen, Normandy Park	012
Knutson, Craig D.	Interim City Manager, City of Burien	015
McKinney, Bernie	Middle Green River Coalition	028
Mooney, Elizabeth	Citizen, Kenmore	029
Pazooki, Ramin	WSDOT, Local Agency and Development Services Manager	016
Peterson, Merry Ann	Citizen of Normandy Park	003
Poitras, John	Citizen	019
Poon, Derek	Consultant Natural Resource Scientist	031
Pressentin, Patrick	Citizen of Normandy Park	006
Rankin, John L.	Citizen, City of Normandy Park	011
Stahl, Patrisa	Citizen	032
Stahl, Stanley	Citizen, Olympia	033
Sullivan, Brenda	Citizen, Burien	014
Wagner, Debi	Citizen or Burien	005
Wingard, Greg	Citizen	017
Witt, Jan	Citizen, Olympia	034
Worden, Linda	Citizen	035

Table 2: Comments by Topic

Topic	*Com#*	*Name*	*Comment*
Consent Decree, All	017.016	Wingard, Greg	At the public workshop, and SEPA check list for the LLA site Cleanup Action Plan, Ecology and the Port presented the excavation and consolidation of ~30,000 cubic yards of dioxin contaminated waste as either being done at the LLA Parcel itself, or potentially at the DCMA to provide the Port certain economic benefits. The Consent Decree (CD), a legally binding instrument only stipulates creation of a new disposal site at the DCMA for this waste. No other option is allowed.
	017.018	Wingard, Greg	This section of the CD only stipulates placing a restrictive covenant with the King County Auditor. This section should also specify that the restriction(s) will be placed on the zoning maps with all local governments of jurisdiction, including the City of Burien, Port of Seattle, and the City of SeaTac.
	017.019	Wingard, Greg	This section as written implies that Ecology has the right to waive procedural requirements of federal law, unless the agency determines that such waiver will potentially result in loss of federal delegated authority. Ecology has no right or authority to provide waiver of the procedural elements of federal law, unless the federal law specifically grants the right to provide such waiver to the State. This section should be changed to accurately state the limits of the right, or authority of Ecology to grant waivers to procedural requirements of federal laws, federal delegated programs, or permits.
	017.047	Wingard, Greg	In addition, while Ecology says that the Port can implement either alternative, the Consent Decree specifically orders the Port to implement the DMCA alternative and does not include the capping within the LLA Parcel option.
Construction, All	007.004	Edgar, Chestine	I am also concerned about where you expect to find clean fill. The POS couldn't find it for the Third Runway.
	017.002	Wingard, Greg	The discharge should be covered by an individual permit, specific to the LLA Parcel.
	017.008	Wingard, Greg	What criteria will apply to imported soil to assure any imported soil into the NR
	017.009	Wingard, Greg	Where will this flow be diverted to, what are the impacts, and how are they mitigated?
	017.012	Wingard, Greg	Any dewatering/groundwater collection and disposal of dioxin contaminated water should be done under authority of a site specific, individual NPDES permit, as done at the Port of Olympia, East Bay development site.

Topic	Com#	Name	Comment
Construction, All	017.053	Wingard, Greg	The text makes it appear as if stormwater and erosion control measures, as well as dust control measures, will only be implemented and maintained after excavation and backfilling. The text should be clarified to indicate these requirements apply to both phases of site work. Given the concentration of dioxin in some subsurface areas of the site, and the depth to groundwater across the site, substantial contaminated soil excavation will take place in saturated soils, or lower that the shallow groundwater table. As a result collected water will contain very high levels of dioxin. There should be at least some description of the technologies, and treatment train options that are being considered. If it is currently unknown what specific technologies and treatment train is going to be employed, some at least basic information on options could still be provided. For example, there should be some method of removal of solids and disposal of that material with the rest of the excavated dioxin contaminated soil, rather than transporting high concentration dioxin wastewater off-site.
	017.067	Wingard, Greg	There should be an individual industrial permit for discharge of dioxin-contaminated water from the LLA Parcel dewatering/groundwater collection and discharge. This permit should be crafted along the same lines as the Port of Olympia East Bay development permit, issued out of Ecology's SWRO. The circumstances for the two sites are virtually identical, including the focus of the activity being construction of a commercial area on Port property, though the LLA Parcel has dioxin concentrations orders of magnitude higher than the Port of Olympia site, and there is confirmed dioxin in groundwater at the LLA Parcel, which there was not at the Port of Olympia site. Like the selected remedy for the LLA site, the Port of Olympia site was not direct discharge to a receiving water, but discharge to the receiving water via a POTW, where the discharge received final treatment.
	020.001	Boehm, Leah	Now I hear there is a proposal that will allow add discharge of contaminated runoff into Miller Creek from Port of Seattle construction. I oppose ANY proposal that routes polluted runoff into Miller Creek. I hope you will draw the line, and allow nothing more enter it.
	030.002	Akramoff, Glenn	Movement of contaminated soils: The City is concerned that extensive movement of the dioxin contaminated soils create the largest potential for recontamination and support approaches that take this into consideration.

Topic	Com#	Name	Comment
Coordination, Other Projects	016.001	Pazooki, Ramin	The Washington State Department of Transportation (WSDOT) appreciates the opportunity to review this cleanup plan. Components within this cleanup may affect WSDOT projects in the future. WSDOT looks forward in working with Ecology and other appropriate stakeholders in allowing construction projects to move forward and to adequately protect the environment. WSDOT may see flexibility and adaptability in its future projects depending upon how and which cleanup alternative is chosen. Comments: (1) WSDOT realizes the area is limited and that capping may affect recharge. WSDOT will evaluate the options as appropriate but may need to seek relief for detention options outside of this threshold discharge area. (2) WSDOT is concenred that future WDOT project components may temporarily affect the cap. WSDOT will work with Ecology on appropriate mitigation measures to minimize the spread of contamination prior to construction. WSDOT prefers the excavation, consolidation, and capping option. (3) The consent decree/cleanup plan calls for installation of a new drainage system on the north side of the parcel, [Page 4, Section 11] which could be adjacent to SR518. This may require reconnection of WSDOT's drainage line into the conveyance system. Without the location of this proposed new enclosed drainage system it is difficult to assess the potential impact to the future work of contstruction ramps as proposed by the City of Burien at this location. (4) Des Moines Memorial Drive as part of its corridor has historic trees along its length and along SR 518. These include large growth trees that could be impacted reducing the interception of rainfall, thus increasing the flows to the downstream reaches. The plan does not acknowledge this [Page 17, Section 13 of Environmental Checklist], but drainage does show on the exhibits impacted areas which could require replacement of drainage along Des Moines Memorial Drive and under SR-518 withing limited access. (5) Please show the placement of the new drainage system on the north side of the parcel as called out in the plan.
Cleanup Levels, All	001.001	Brant, Pete	From what I understand after review the Port is not being held to the residential or wetland standard that it is clearly affecting. Allowing the bare minimum of contamination removal to the 100 parts per trillion of dioxins/furans with a cap of the remaining contaminants is the standard only for industrial areas and is irresponsible for our state.
	002.005	Cassarino, Anthony	Why is it proposed to mitigate the area to industrial dioxin standards (100 ppt) instead of the more restrictive residential standard (11 ppt)?

Topic	Com#	Name	Comment
Cleanup Levels, All	005.005	Wagner, Debi	I object to the clean up proposal that leaves contaminated material on-site. All dioxin contaminated material should be removed and the standard for removal should be the highest leaving 5.2 ppt or less. There is a large basin of water ways and natural underground pathways where dioxin can migrate over time. Eventually all these pathways lead to the Puget Sound. Local water districts draw from deep wells not far from this area. The nature of the interconnectedness of all underground water in the area is unknown. The Highline Aquifer has several layers and surveys have confirmed they are not impermeable indicating pollutants may or will infiltrate. Furthermore, the human and natural environment in the area are at risk from a capped pollution source and an on-site disposal pollution source as over time, these will be disturbed. I object to a clean up proposal that allows a higher level than what is the safest level of contaminated material to remain and be capped or disposed on site. I prefer that all contaminated material be removed and as is standard practice, incinerated.
	007.001	Edgar, Chestine	The cleanup of the Lora Lake site needs to be at residential standard (11) or wildlife standard (5.2) because Miller Creek flows downstream into residential areas in Normandy Park and Miller Creek is a salmon bearing creek.
	010.001	Brant, William	The residential standard 11 ppt should be applied to the excavations.
	011.003	Rankin, John L.	For a community, this means that no informed person will want to either conceive a child or raise young children in an area where there is a risk of significant exposure to dioxins, either in the local soil, air, or water.
	012.007	Jenner, Stuart	Please clean to the highest possible standard. My understanding is this is the residential standard.

Topic	Com#	Name	Comment
Cleanup Levels, All	017.022	Wingard, Greg	The text states, "Biological toxicity testing demonstrated that the surface sediments will not cause adverse impacts to ecological receptors." This is somewhat misleading as the testing used were relatively short-term tests, which alone underestimate the potential risk from persistent organic pollutants such as dioxin which bio-accumulate, and bio-magnify moving up the food web. While the Port and Ecology are required to do such analysis as part of overall site investigation, it should be made clear to the public that the danger with dioxin is not that it will be immediately toxic to the organisms used for biological testing. It is in fact well known specific to dioxin that this is not the case. Rather the danger is that even relatively low levels of environmental contamination with dioxin will result in bio-accumulation and bio-magnification in low trophic organisms, and will pass this contamination on up the food web, concentrating as it goes. That is why regulatory limits for dioxin are set so low, and Ecology routinely defaults to dioxin limits which are not protective of human health and the environment, but rather represent other metrics, such as potential quantitation limits, or various types of claimed "background" values, which are typically orders of magnitude higher than actual protective levels based on best available science.
	017.029	Wingard, Greg	Ecology's current standards are based on scientifically invalid fish consumption rate calculations, which are known to not be protective of human health.
	017.039	Wingard, Greg	Use of industrial soil cleanup levels for the DMCA is not protective. A significant amount of the DMCA is within the 100-year flood plain. The current proposal according to information presented at the recent public workshop is to place compacted gravel cover over the DMCA, to cover the additional dioxin waste at higher concentrations is there from the historic dredge disposal. As the site is in the 100-year floodplain, adjacent to Miller Creek, and adjacent to a protected habitat area the odds of something going wrong and dioxin being exposed from this site are much higher than the majority of industrial sites, with a greater than usual risk to the most sensitive identified endpoints, wildlife and fishes, including salmon.
General Comments, All	002.007	Cassarino, Anthony	A permanent solution should be implemented and not one, as in the past, that amounts to "kicking the pollution can" down the road again.
	003.001	Peterson, Merry Ann	We have worked so hard on lower Miller Creek through Stewards of the Cove and Normandy Park Community Club to bring the salmon back. We have made the creek more friendly to salmon and planted native plants. We are removing invasive plants. But if the creek is poisoned upstream it will not be helpful. I also count salmon every fall along with other teams that go out daily during the migration up the creek. What is so heartbreaking is when salmon die BEFORE they can even spawn. What a waste. We really need your help on this, to keep the toxins low enough the salmon can survive as well as people can survive.

Topic	Com#	Name	Comment
General Comments, All	005.001	Wagner, Debi	Contamination of any kind, and expecially dioxin contamination that has such serious health and environmental impacts, has no business residing in this watershed, whether capped, clean capped, or on-site disposed. I object to the clean up proposal that leaves contaminated material on-site. All dioxin contaminated material should be removed and the standard for removal should be the higherst leaving 5.2 ppt or less. There is a large basin of water ways and natural underground pathways where dioxin can migrate over time. Eventually all these pathways lead to the puget Sound. Local water districts draw from deep wells not far from this area. The nature of the interconnectedness of all underground water in the area is unknown. The Highline Aquifer has several layers and surveys have confirmed they are not impermeable indicating pollutants may or will migrate downward. Furthermore, the human and natural environment in the area are at risk from a capped pollution source and an on-site disposal pollution source as over time, these will be disturbed. I object to a cleanup proposal that allows a higher level than what is the saferst level of contaminated material to remain and be capped or disposed on site. I prefer that all contaminated material be removed and incinerated.
	005.004	Wagner, Debi	It is my opinion that development of a worst-case scenario would demand a far greater effort, caution and finality than what I am seeing in this proposal.
	007.009	Edgar, Chestine	At the least, Best Available Science should be used on this clean up plan and the follow up measurements for effectiveness of the clean up.
	010.004	Brant, William	The source of our concern is the future health of Miller Creek. We would like the Department to think as if this creek flows through your and your neighbors backyard. There is a known site upstream that is highly contaminated from past practices including a commercial barrel washing facility and auto breaking yard that operated in a different climate with little though about the environment. The largest Port in the State of Washington was required to purchase this land as part of a major expansion. This same Port operates the largest international airport in the Pacific NW. The contaminated site is just uphill from Miller Creek. Nobody really knows how much of the contaminants have been transported across our backyards into an estuary and then into Puget Sound. But, the Department of Ecology is "on the case" and we would expect this site to be cleaned up once and for all this time, ending this particular concern for this salmon bearing creek.

Topic	Com#	Name	Comment
General Comments, All	010.008	Brant, William	Various steward groups have spent thousands of hours over numerous years to improve salmon habitat on Miller Creek. The county has spent many thousands of hours with a basin steward and volunteers to improve the habitat, remove invasive plants to improve the basin creeks and counting salmon pre-spawn mortality of the Coho and Chum returns. The Department of Ecology, Storm Water, has just granted funds to this basin to begin work to identify projects that will reduce runoff and pollution. After seeing part of the anticipated cleanup order we now have more questions htan answers. What kind of accommodation would we want is difficult to say considering all the documents and newly discovered plans, be we coule be assured that Ecology is "on the case" if the contaminants were removed once and for all to an appropriate off site location and not spread around the adjacent wetlands. In the meantime, we continue to request additional time to comment.
	011.002	Rankin, John L.	It makes me ponder that exactly the Washington State Department of Ecology's real interest might be. Ostensibly it would seem obvious that Ecology's mission is to protect and preserve the ecology of the state, but I don't think you could convince anyone that it has anything to do that. Quite the opposite, in fact. Perhaps we need yet another agency based out of Olympia that actually has an interest in protecting the ecology of our region. The one we currently have certainly isn't doing it.
	011.0031	Rankin, John L.	As a personal aside, ... , it is extremely distressing to me to witness the Washington State Department of Ecology actively working against the significant health interests of our local community, and the communities surrounding Puget Sound by downplaying the significance of dioxins conrtamination in the environment, when the agency required to perform clean-up is another government agency, the Port of Seattle. This kind of collusion, where obvious and discoverable contamination is purposefully ignored, with commensurate respondibilities shuttled asisde, is conduct that would never be tolerated from private corporations, and in fact, may justifiably be assessed as criminal actis if discovered. Yet the Port and Ecology continue to collude, in the presence of overpowering evidence of additional and more extensive contamination, to minimize the impact to the Port on the basis of financial considerations, while tacitly dismissing the long-term environmental impacts of dioxins in the environment to the Pubet Sound region. I find these actions, particularly by those in Ecology whose charge it is to protect the population from just this sort of hazard, repugnant, and conduct more in line of what we have been told to expect from large faceless and morally bereft corporations like Union Carbide. Dioxins in the environment have demonstrable, long-term, disastrous effect for decades, even centuries, into the future. These dioxins are making their way directly into Puget Sound. We can do a complete cleanup now, for the benefit of untold generations, or we can yet again literally bury the problem, making the inevitable required cleanup just that much more difficult and expensive.

Topic	Com#	Name	Comment
General Comments, All	011.005	Rankin, John L.	Ordinary citizens are therefore obliged to trust in the education and expertise of those persons employed in the Public Service, such as the individuals who authored, drafted, vetted, and then released the Lora Lake document, in which the word 'dioxin' in used repeatedly in the singular (i.e., showing the regulator's simple-minded ignorance of the existence of the fully expected congeners and isomers, hence the proper term being the plural 'dioxins'), as well as the use of the singular 'xylene' (when there are in fact three xylene isomers, hence the proper term being the plural of 'xylenes' among informed and properly-qualified persons).
	015.001	Knutson, Craig D.	The City of Burien (City) is writing to express its support of the Department of Ecology's (Ecology) proposed Consent Decree and associated Cleanup Action Plan for the Port of Seattle's removal and containment of dioxin contaminated soil at the former Lora Lake parcels in Burien and SeaTac, Washington.
	015.003	Knutson, Craig D.	The City of Burien (City) is writing to provide additional comments in support of the Department of Ecology's (Ecology) proposed Consent Decree and associated Cleanup Action Plan for the Port of Seattle's removal and containment of dioxin contaminated soil at the former Lora Lake parcels in Burien and SeaTac, Washington.
	015.007	Knutson, Craig D.	In conclusion, the City of Burien feels that Ecology's proposed Consent Decree and Cleanup Action Plan will benefit both the City and the region as a whole, and the City is supportive of this course of action.
	022.001	Branch, Harry	I don't believe the State is adequately considering the long term and broader effects of development in contaminated areas. This project probably takes the cake in this regard. If the State is bent on destroying Puget Sound, let's at least call a spade a spade, stop all the fuss, and just admit we are doing so.
	023.001	Coontz, Sharron	I'm a concerned citizen who has been following the Lora Lake issue. I've read the comments submitted by Stanley Stahl and, in the interest of brevity, will not reiterate or paraphrase his comments. I will just state that he raises serious problems with the proposal and his comments need to be addressed. The Port's plan is not satisfactory and must be rejected.
	030.005	Akramoff, Glenn	No action: The City believes that no action because regulation, financial and political factors can have a large negative impact on the stream as well. The City supports the idea that incremental cleanup is more valuable than none at all provided the ultimate plan will be effective.
Health Hazards, Infection	013.001	Dunstan, Marilyn	I got a URI the day after walking by this area on November 24th and reported it to UW Medicine today (regarding my office visit yesterday). Not sure if there is a tie-in as there are other medical factors involved. Understand there are statistical issues in assigning causation but thought I'd add this to your list.
Liability, Responsible Person	004.001	Canan, Mike	What will be the approximate cost to clean this place up and who is paying the costs?

Topic	Com#	Name	Comment
Liability, Funding Source	004.002	Canan, Mike	[What is the source of the funding?] Do you know how much money is in the [Local Toxics Control Account] or how much is added to it annually?
	004.003	Canan, Mike	Is there any way that a private organization can apply for grant money especially when some of the pollution comes off of state lands and onto private property?
Monitoring, Miller Creek	002.002	Cassarino, Anthony	Why have base-line contamination levels not been obtained in Miller Creek?
	002.003	Cassarino, Anthony	Why is there no mention of ongoing monitoring of pollution levels in Miller Creek?
	018.004	Batcho, Andy	I am concerned about the apparent lack of baseline measurement of contamination levels in Miller Creek and any plans for an ongoing measurement process to assure that the proposed restoration efforts are indeed effective.
Monitoring, Cleanup Action	007.008	Edgar, Chestine	The apparent lack of baseline measurement of contamination levels in Miller Creek and any plans for an ongoing measurement process to assure that the proposed restoration efforts are indeed effective was missing from the open house presentation and from any materials I have seen on this clean up plan.
	012.003	Jenner, Stuart	My thought was, "well, who's buying the insurance policy? Who's taking the risks?" And then more ominously, "If this area turns into a big development full of car dealers and then it turns out there's a problem with contaminants leaching into the creeks and also with contaminants leachingint into the Highline water district aquifer, is it really going to be feasible to fix it?
	017.021	Wingard, Greg	Given some level of uncertainty about the intermittent nature of silt lenses and other aquitard layers in the shallow regime, along with the fairly long period of time and type of operations, which resulted in contaminating the LLA Parcel, particular care will need to be taken in verifying the bottom of excavated areas meet the designated excavation/cleanup criteria.
	017.031	Wingard, Greg	Can Ecology confirm that actual excavation will be based on site confirmation sampling assuring the cleanup levels have been met, rather than "average" concentrations for general areas being met?
Public Participation, Process	005.003	Wagner, Debi	The public information process used by Ecology and the Port and even local jurisdictions might not have been properly worded or sent to enough people.
	010.003	Brant, William	The City of Normandy Park is requesting a 30-day extension of the comment period for all commenters.

Topic	Com#	Name	Comment
Public Participation, Process	011.001	Rankin, John L.	Inclusion of previously undisclosed (and consequently not available for review by the public) plans for the handling and disposal of large quantities of highly toxic dioxin-laden soil in the headwaters of, and immediately adjacent to a waterway that discharges directly into Puget Sound doesn't violate the public's right to comment because of the added expense of republishing premature, incomplete and inaccurate notices.
	012.005	Jenner, Stuart	The notice of the workshop says "Des Moines Creek". This is incorrect. The creek is acutally Miller, which drains into the Miller-Walker Basin.
	017.001	Wingard, Greg	The SEPA Checklist and determination for this site are inadequate, lack information and analysis necessary to determine the range of impact, overstress relatively small impacts, is entirely silent on much larger impacts, and fails to accurately consider where remedy impacts offset, or negate claimed remedy benefits.
	017.038	Wingard, Greg	Uniform reporting of dioxin concentration as ppt-TEQ should be used throughout the reports issued by the Port and Ecology. Failure to do so only increases potential for confusion and increases difficulty of review for the public.
	017.041	Wingard, Greg	Within a single paragraph contaminants are reported in picograms/gram, micrograms/kilogram and parts per million. See earlier comments on use of uniform reporting metrics for contaminant concentrations.
	017.0531	Wingard, Greg	I also request to be notified when Ecology receives application for discharge to sewer, and/or stormwater permit coverage for this site.
	017.063	Wingard, Greg	The records referred to here, including any back up, or itemization for “proof of financial assurance…to cover all costs associated with the operation and maintenance of the cleanup action, including institutional controls, compliance monitoring, and corrective measures.”, are requested. Should these records not currently exist, this request in continuing in nature through the time the records are submitted to Ecology.
	017.069	Wingard, Greg	Due to the defects in the SEPA Checklist and MDNS, the public was not granted adequate notice, or adequate time to comment on the proposed actions approved by the MDNS.
	024.001	Guddat, Jeff	The SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide mitigation for impacts foreseeable from the selected, or preferred actions.

Topic	Com#	Name	Comment
Public Participation, Process	025.001	Honour, Richard	We have reviewed certain of the available documents and other materials related to the Lora Lake Apartments MTCA site, and find that the SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide migitation for impacts foreseeable from the selected, or preferred actions.
	026.001	Hoover, Monica	Regarding the Lora Lake Apartments proposed clean up: The SEPA checklist and Mitigated Determination of Non-Significance (MNDS) are not sufficient. They do not adequately evaluate the impacts of the selection action and do not mitigate likely impacts from the selected actions.
	029.001	Mooney, Elizabeth	The SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide mitigation for impacts foreseeable from the selected, or preferred actions.
	032.001	Stahl, Patrisa	Both the Mitigated Determination of Non-Significance and the SEPA Check List are insufficient. Essentially, they fail to consider the future consequences of their preferred actions or to recognize the necessity of establishing a plan and budget for mitigation of these inevitable consequences.
Plans, O&M, Monitoring	017.064	Wingard, Greg	The section describing the Operations and Maintenance Plan does not appear to comport to the description of institutional controls and wildlife barriers (cap/cover) provided in the sections of the CAP above. The language describing the monitoring and maintenance of the cover or wildlife barrier varies in description, but this section appears to indicate that the elements of the O&M plan apply to all covers, or wildlife barriers. Which of these descriptions are accurate? The O&M plan should require, at a minimum annual inspections of any impervious surface that is also subject, but not limited to any commercial, or industrial activities which would stress, degrade, or damage the surface, such as storage, vehicle or equipment access or transit.
	017.065	Wingard, Greg	Water quality monitoring of Miller Creek adjoining and downstream of the DCMA (if the 30,000 cubic yard disposal option is selected), and adjoining and downstream of Lora Lake, and the to be constructed peat bog/wetland replacement need to be added to this plan to adequately measure and determine the impacts related to these selected remedies to assure their proper function, and any necessary changes as monitoring may determine are needed.

Topic	*Com#*	*Name*	*Comment*
Plans, O&M, Monitoring	035.001	Worden, Linda	My concern is the lack of foresight in dealing with the cleanup and disposal of toxic materials at Lara Lake. Understanding that there is a definite problem to be dealt with, I feel that contamination mitigation needs to be more affirmatively addressed. At the very minimum, continual monitoring needs to be put in place for years to come along with contingent plans to address further environmental issues. The Miller/Walker Creek basin needs to be protected from contamination for the safety of residents downstream, along with the wildlife that depends on clean water for survival. Please do not make any hasty decisions that will further decimate the environment for generations to come.
Remedial Investigation/Feasibility Study, All	012.001	Jenner, Stuart	What are the measurements of the other pollutants outside of the drainiage pipe? It is miknd boggling to assume that there are no pollutants as all outside of the drainage pipe.
	012.004	Jenner, Stuart	At the workshop, I asked a question about migration and transport of chemicals. The answer I think I heard was something along the lines of "well that won't happen. This stuff is too heavy." I do not have the technical espertise to evaluate this claim. However, there have been many times when we think we know something with scientific certainty, but then it turns out the situation is quite different. When the difference is only $2 million, wouldn't it better to just do it right the first time?
	012.006	Jenner, Stuart	This document [the Fact Sheet} has several good points, but it repeatedly talks about "west". It does not mention "east" or "south". Yet that's where the water from the lake drains out of the drainage.
	012.008	Jenner, Stuart	Please communicate much more clearly what all the contaminants are east and south of Lora Lake itself.
	012.009	Jenner, Stuart	Please don't use just one number from one contaminant to justify a decision and assertion about transport of cleaning chemicals and other pollutants.
	012.012	Jenner, Stuart	Finally, please outline the long-term impacts of this decision on the health of the Highline aquifers. This report and process seems exclusively focused on the creeks that drain into Puget Sound. We know that some contaminants are going to be left in place no matter what the standards are. At what point do we have a problem with those contaminants descending into the aquifer? How do we fix it if that problem occurs?
	017.014	Wingard, Greg	As of yet, the full DMCA area has not been tested for contaminants.

Topic	Com#	Name	Comment
Remedial Investigation/Feasibility Study, All	017.030	Wingard, Greg	As a result, it appears that sample locations chosen to represent the potential for dioxin discharge from Lora Lake to Miller Creek were those most likely to not contain dioxin from Lora Lake. The RI/FS assumes that, and sampling criteria for Miller Creek was based on an assumption that 10 centimeters is the biologically active zone for Miller Creek. Due to the lack of a fluvial transport model, there is no empirical data to demonstrate the depth to which sediments are transporting down the creek bed, and being mixed during times of scouring, or high flow conditions at specific reaches of the creek. In such dynamic conditions the report assumptions are not conservative, as the depth of sediment disturbance and distribution downstream will be dependent on periodic conditions unknown and not considered by the Port.
	017.032	Wingard, Greg	It is unclear from the text, figures and excavation volume descriptions in the provided reports whether the volume(s) proposed for excavation, 19,000 cubic yard of dioxin bearing soil greater than100 ppt-TEQ, and the 30,000 cubic yards of dioxin bearing soil greater than11 ppt-TEQ, (49,000 cubic yards total), is equal to the total volume of LLA Parcel dioxin bearing soil contaminated over 11 ppt-TEQ. From the text and the figure cited, it appears the actual volume of dioxin bearing soil greater than 11 ppt-TEQ, may be greater than 50,000, rather than less than. How much total dioxin bearing soil contaminated at greater than 11 ppt-TEQ is contained at the LLA Parcel?
	025.004	Honour, Richard	Lora Lake sediment was dredged in the early 1980's, and the sediment was disposed of on airport property. Recent sampling confirmed dioxin contamination in this material. Given the type of dredging used, the lack of a liner or a cover for the site, and the repeated disturbance by construction and industrial activities, sampling between Lora Lake and the Dredged Material Containment site, including on and along the historic and present vehicle and use routes was inadequate. Additional sampling in this area of historical and present use, where there was a high potential of tracking dioxin contamination is needed, and should be required by Ecology. There is also a lack of dioxin monitoring in the historic areas it would move likely be present as a result of King County dredging activity, and later site vehicle access, and multiple construction activities, not the least ofwhich was the third runway approach lighting, which wen right through the middle of the disposal area. Historically there was also an access road for a number of homes in the area, and the Department of Transportation constructed an off-ramp and staged materials in the area. The lack of sampling in this critical area leavea an open question about the protectiveness of the remedy(ies) as the remedy will only address detected contamination in areas that were sampled.

Topic	*Com#*	*Name*	*Comment*
Remedial Investigation/Feasibility Study, All	029.005	Mooney, Elizabeth	Lora Lake sediment was dredged in the early 1980's, and the sediment was disposed of on airport property. Recent sampling confirmed dioxin contamination in this material. Given the type of dredging used, the lack of a liner or a cover for the site, and repeated disturbance by construction and industrial activities, sampling between Lora Lake, and the Dredged Material Containment site, including on and along the historic and present vehicle access and use routes was inadequate. Additional sampling in this area of historical and present use, where there was a high potential of tracking dioxin contamination is needed, and should be required by Ecology.
	033.002	Stahl, Stanley	Not enough characterization of the present site has been done to clearly delineate the entire contaminated area needing remediation.
	033.005	Stahl, Stanley	Collection and treatment of the ground water entering the site has not been adequately assessed and no planning has been done to treat all future stormwater carrying dioxin to the the Lora Lake wetland site.
Remedy Selection, Dredged Material Containment Area	007.005	Edgar, Chestine	The storage of the known contaminated materials that have been dredged out back onto the site rather than removing them to a safe site somewhere else.
	010.007	Brant, William	At the recent open house we learn that the LLA site contaminants between 11 ppt - 100 ppt will be removed and placed even closer to the creek in a previously contaminated site which would become even more contaminated from the generally higher levels at the LLA site. It will receive a gravel cap that will require continual maintenance and institutional control which may be a weak link. It also contemplates removing all the existing vegetation in this wetland site which lies partially in the 100 year flood plain. We have not found discussion about the effects of this yet or SEPA impact. It seems we receive 100 year floods every other year in the recent past.

Topic	*Com#*	*Name*	*Comment*
Remedy Selection, Dredged Material Containment Area	010.009	Brant, William	The proposed Cleanup Action Plan appears to have the worst of the contaminants/dioxins removed entirely from the site to an appropriate site. However, the plan also contemplates removing the dioxins from 100 ppt to 11 ppt fro mthe site and inexplicably moved closer to Miller Creek where even some wouled be in a one hundred year flood plain. This wouls increase the contaminant loading already existing in the former wetland along the creek and would require continual monitoring and maintenance of any cap and barrier system in perpetuity. The likelihood of disturbance my natural forces or construction activity creates an unacceptable future threat of recontamination within the creek. The 11 ppt is the current residential standard and why the much lower wetland standard does not apply to prevent actually moving contaminants into creek wetlands needs to be addressed. Even these standards appear to be under review due to human consumption of fish in these basins. The best answer would be to remove contaminants off site to an appropriate place that accepts such material. Any extra cost should be compared to the long term cost of maintaining a barrier/cap in perpetuity along with the threat of hundred year floods occurring much more often and future construction. The Port is also accepting grant funds which should help to complete a final "once and for all cleanup".
	012.011	Jenner, Stuart	I have a hard time following this, but there was something about gravel would be used for cover of some contaminants. Is this prudent? What are some of the alternative covers?

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	015.004	Knutson, Craig D.	We previously provided comments about our support for the plan, in general, with regard to cleanup levels and environmental improvements. With this letter, we would like to more specifically emphasize our strong preference for, and the significance of, using the dredge material containment area (DMCA) for consolidation of soils having 11-100 pptr dioxin levels. First and foremost, we see this as a preferable location from both an environmental perspective and a safety perspective. We are fortunate that an area exists in the immediate vicinity that can offer the kind of protection from public access that this area does and will do for decades to come. This area is protected by a security fence, is frequently patrolled by Port Police, and is well within the FAA runway protection area. This means that there will be no other use of the property unless the runway ceases to exist, which is highly unlikely in the foreseeable future. Also, this area is very close to the source locations, thereby eliminating the need for haul of the contaminated material over many miles of roadway. The result is less risk of spreading contaminants to other locations and more limited environmental impact from the truck haul itself. The material will be placed outside of the 100-year flood plain of Miller Creek and over 200 feet away from the Creek. However, we do recommend that the actual floodplain boundary be surveyed to ensure that the material is not placed in that vicinity. The planned engineered surface will provide a barrier between the contaminants and plant growth or other ecological exposures. The Port also has fulltime professional environmental staff on site to ensure that the environmental covenants are maintained. All of these factors give us confidence this is an appropriate site to protect the public and the environment from these contaminants well into the future.
	017.003	Wingard, Greg	The SEPA document does not adequately consider the increase in risk in moving 30,000 cubic yards of dioxin contaminated soil from the LLA Parcel to the DCMA parcel proposed disposal site. Further, there is no identified environmental benefit from this proposed, “remedy”, only increased risks and impacts.
	017.0061	Wingard, Greg	The SEPA Checklist and MDNS fail to consider regulations, impacts, or necessary mitigation for elimination of 1.5 acres of well established vegetation, including grasses, shrubs and trees, replacement of the vegetation with impervious surface, proximity of this action to Miller Creek, and impact of this activity on the 100-year floodplain.
	017.010	Wingard, Greg	If parts of the DCMA are subject to potential flooding, why is the Port even suggesting creating a dioxin disposal site there, and why would Ecology even consider approving such impacts to the 100-year floodplain and Miller Creek buffer area?
	017.015	Wingard, Greg	As a result these changes should have been considered under the Port’s NPDES permit to assure that AKART has been applied, and appropriate Best Management Practices are in place.

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	017.023	Wingard, Greg	In these conditions, relying on a shallow layer cover, and institutional controls to be protective of ecological receptors at the Ecology determined limit of 5.2 ppt-TEQ dioxin, does not provide an adequate level of protection. ... The additional new waste to be added to the DCMA area includes contamination at higher levels than what is currently present at the site.
	017.027	Wingard, Greg	Ecology and the Port do not appear to have given enough consideration to the need to protect the 100-year floodplain for Miller Creek. The apparent preferred option and sole identified disposal option for 30,000 cubic yards of dioxin waste from the LLA Parcel (according to the Consent Decree), is within the DMCA. In addition this proposal will remove the majority of remaining vegetation in the area, and replace it with compacted gravel or pavement, both of which are impervious surfaces. This will remove the vast majority of the remaining vegetative buffer between the existing DMCA disposal area and Miller Creek. In addition the proposal would place dioxin waste closer to Miller Creek in higher average concentrations than presently within the DMCA . These conditions and circumstances would make it prudent to not allow dioxin contamination up to the current industrial standard, especially as the current standard is based on outdated, and scientifically invalid fish consumption rate calculations. The 30,000 cubic yards of dioxin contaminated waste from the LLA Parcel should be disposed of at an off-site licensed disposal facility, not at the DMCA, in or adjacent to the 100-year floodplain and Miller Creek.
	017.034	Wingard, Greg	While the text states that the samples don't exceed the cleanup level, the proximity of the DMCA to Miller Creek and the fact a portion of it is within the 100-year floodplain make the selection of the industrial cleanup level for this site inappropriate.
	017.045	Wingard, Greg	The section provides a justification for the selection of an industrial cleanup level and exclusion from a TEE for the DMCA. As per previous comment, the selection of this cleanup level is not reasonable or protective due to site specific considerations, including the proximity to a salmon bearing stream, failure of the SEPA determination to consider and mitigate project specific impacts such as the more than doubling in impervious surface, and the inclusion of a substantial area of the DMCA in the 100-year floodplain to name a few. Exclusion from a TEE for an area within the 100-year floodplain is a very ill thought out policy.
	017.050	Wingard, Greg	In order to facilitate this disposal, and keep the site in industrial use, the Port is proposing to eliminate a large area of vegetation, which includes (according to the aerial photograph in RI/FS figure 4.9), well established trees and shrubs. This appears to include at least some vegetation, which provides shade to the adjacent section of Miller Creek (also see figure A.1, Miller Creek 100-Year Floodplain).

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	017.061	Wingard, Greg	While the institutional controls for the barrier in the LLA Parcel at least implies that it will include monitoring and maintenance requirements, this section doesn't include any such provision. Rather there is just a requirement that the site remain in industrial use. Language related to institutional controls, including monitoring and maintenance should be consistent throughout the provided reports.
	017.068	Wingard, Greg	At the DMCA, the Port selected remedy (and only remedy contained in the Draft Consent Decree), is to eliminate the remaining vegetation buffer on the DMCA between the existing industrial use area on the site, use the area for disposal of dioxin waste, and cover it with a compacted gravel impervious surface. In addition to elimination of 1.5 acres of well established grasses, shrubs and trees, this will more than double the industrial use area, and push the industrial use area (apparently as well as the dioxin disposal area), into, or further into the 100-year flood plain. In spite of these circumstances it does not appear there is a stormwater system in place, or any plan to put a stormwater system in place, in spite of the obvious present, and intended future industrial use of the site, not the least of which is to vastly increase both the volume and concentration of dioxin in this disposal area. As the proposed remedy in the DMCA will remove ~1.5 acres of vegetation adjacent to Miller Creek, and replace it with impervious surface, this remedy would likely significantly increase the temperature of either stormwater discharged directly to Miller Creek, or if infiltrated increase the temperature of the shallow groundwater discharge to the immediately adjacent Miller Creek. The proposed remedy does not address, and the provided records provide no information for the public to evaluate these potential impacts.
	024.003	Guddat, Jeff	The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed. This option would permanently destroy ~1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater as well.

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	025.003	Honour, Richard	The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt) TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed. This option would permanently destroy about 1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater as well. The SEPA-MDNS goes to some length to stress disturbing or destroying vegetation has to be minimized, including using this as an excuse to abandon shallow soil dioxin contamination near Lora Lake. In spite of these, there is no consideration of the impacts, or mitigation provided for completely destroying about 1.5 acres of vegetation adjacent to Miller Creek and permanently replacing it with impervious surface. This vegetation currently provides buffering between the existing airport industrial activity and its current impervious surface and Miller Creek. A significan part of this vegetation also appears to be in thee 100-year floodplain. Some portion of it is also likely providing stormwater infiltration, shading and contributing to coller water temperatures. High temperature discharges to Miller Creek have been determined to ba a critical issue fo the section of Miller Creek near this area by federal, state, and local agencies. Part of the proposed disposal site is in the 100-year floodplain for Miller Creek. Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed. There is no current system in place to treat stormwater from the existing impervious surface in the Dredged Materal Containment Area. In addition non is proposed for this action even though this dioxin dispal action would more than double the existing impervious surface.
	026.003	Hoover, Monica	The disposal of 30,000 cubic yards of dioxin contaminated soil on the Port's property under the third runway approach lighting and covering it with compacted gravel should not be allowed. This action would permanently destroy about 1.5 acres of vegetation adjacent to Miller Creek and permanently replace it with impervious surface. A significant part of this area appears to be in the 100-year floodplain of Miller Creek. Moving dioxin-contaminate material from an upland area well away from surface water and placing it on a site bordering Miller Creek and at least partially in a floodplain should not be allowed.

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	028.001	McKinney, Bernie	The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed. Please consider making these deposits go to a qualified facility. Dumping these sediments near the lake and creek is criminal.
	029.003	Mooney, Elizabeth	The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed. This option would permanently destroy ~1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater as well. The SEPA-MDNS goes to some length to stress disturbing or destroying vegetation has to be minimized, including using this as an excuse to abandon shallow soil dioxin contamination near Lora Lake. In spite of this, there is no consideration of the impacts, or mitigation provided for completely destroying ~1.5 acres of vegetation adjacent to Miller Creek and permanently replacing it with impervious surface. This vegetation currently provides buffering between the existing airport industrial activity and its current impervious surface and Miller Creek. A significant part of this vegetation also appears to be in the 100-year floodplain. Some portion of it is also likely providing stormwater infiltration, shading, and contributing to cooler water temperatures. High temperature discharges to Miller Creek have been determined to be a critical issue for the section of Miller Creek near this area by federal, state, and local agencies. Part of the proposed disposal site is in the 100-year floodplain for Miller Creek. Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed. There is no current system in place to treat stormwater from the existing impervious surface in the Dredged Material Containment Area. In addition none is proposed for this action even though this dioxin disposal action would more than double the existing impervious surface.

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	032.002	Stahl, Patrisa	Transporting 30,000 cubic yards of contaminated soil (sampling at from 11 parts per trillion (ppt)-TEQ up to 100ppt-TEQ)) to the third runway property approach lighting and covering it with compacted gravel is an unconscionable mitigation. And yet, that is the option of disposal chosen by the Port of Seattle. This option must be eliminated from consideration as it would cause the permanent destruction of vegetation in that area replacing it with an impervious surface that automatically decreases both shallow groundwater and surface stormwater runoff and contradicts both the MDNS and the SEPA each of which go to great lengths to stress that vegetation destruction must be avoided. And yet, the Port of Seattle thinks nothing of permanently destroying all of the vegetation by Miller Creek and replacing it with an impervious surface that will undoubtedly increase the temperature of the the water discharged into Miller Creek - a critical issue already on the radar of federal, state and local agencies. At least a portion of the disposal site is within the 100-year floodplain for Miller Creek. I agree with Consultant Greg Wingard's assessment: "Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed." Even though the Port of Seattle's chosen option for the disposal of the dioxin would more than double the present impervious surface there is no stormwater treatment plan in place in the Dredged Material Containment Area. After talking with several experts, consultants and accounts and verifying Mr. Wingard's analysis of costs, I concur whole-heartedly with his statement: "The reason given for not sending the ~30,000 cubic yards of dioxin contaminated soil to licensed and permitted off-site disposal is the cost. According to Ecology it would cost over $2,000,000 more than consolidating and capping the contamination in place. This is a false and defective comparison though as the Port's preferred option is to excavate and remove this contamination to another property, not to consolidate it in place. The difference between the Port preferred option and permitted off-site disposal is at least $600,000 more costly than the option Ecology selected for comparison. In addition the Port and Ecology failed to consider the cost benefits from selecting the off-site permitted disposal option, and thus the evaluation is defective. At the least the evaluation should have included the benefit of not having a restriction on the title of the property in-perpetuity, and elimination of the need to inspect and maintain the cap for the contaminated soil. It seems the one time expense related to off-site permitted disposal would be more than offset by permanent elimination of a defect on title and otherwise required long-term inspection and maintenance requirements, including five-year reviews and public

Topic	Com#	Name	Comment
			notice requirements. Ecology should require off-site permitted disposal for this contaminated soil.””
			In 1980 when Lora Lake was dredged, the dredged material was dumped at the airport site. Just recently, dioxin was found at this site. The Department of Ecology must take into account several factors including continuing construction and industrial activities that disturb and further contribute to contamination and the lack of either a cover or a liner at the site. It should be obvious to DOE that further sampling is required; and, further mitigation may be necessary.
	033.001	Stahl, Stanley	I feel the option chosen to excavate about 30,000 cu. yds. of contaminated material from the bog site, which is showing dioxin contamination of between 11ppt and 100ppt for those areas tested, and moving it to an adjoining port property at the end of a runway is grossly inadequate, poorly thought out and in fact violates the protocol for disposal of contaminated material under the Model Toxics Control Act regulations. The previous disposal of about 16,000 cu. yds has an average toxicity of approximately 5 ppt, so the proposal to dump an additional 30,000 cu. yes of material going up to 100 ppt is unacceptable and illegal.
	033.003	Stahl, Stanley	Compacting clean gravel over the proposed disposed 30,000 cu. yds and compacting same does not consider collecting and treating stormwater runoff directed towards Miller Creek. This is a simplistic and ineffective cover-up, essentially sweeping the problem under the carpet rather than an effective remediation. Worse, it destroys 1.5 acres of plant life presently rooted and safely holding the bank in place on the proposed disposal site, thus taking a LESS contaminated stable condition, and making it into an unstable case for stormwater alligatoring and leaching of the MORE contaminated material to find it's way into Miller Creek. It is also likely that the dioxin at the bottom of Lora Lake has been immobilized binding to the peat and muck, rather than the higher probability that it would be washed untreated into Miller Creek if moved to the proposed disposal site.

Topic	Com#	Name	Comment
Remedy Selection, Dredged Material Containment Area	034.001	Witt, Jan	The SEPA Checklist and MDNS are insufficient and flawed. The remedy proposed by the Port will create future problems. The SEPA checklist does not identify those significant problems likely to occur if contamination is moved to the identified disposal site adjacent to Miller Creek. Furthermore, the documents fail to identify measures to mitigate problems that would occur. Effects on Miller Creek of removal of vegetation adjacent to the creek, then placement of dioxin contaminated material capped with compacted gravel were not acknowledged. I am particularly concerned that there is no mention in the documents regarding how dioxin contaminated stormwater moving from the proposed disposal site towards Miller Creek will be treated prior to entering Miller Creek.
Remedy Selection, Lora Lake	006.001	Pressentin, Patrick	The cleanup of the Lora Lake sediments is one more effort that will further degrade the stream by effectively siting a brownfield in the watershed as a permanent monument. The cleanup levels of the area as proposed are not adequate for the stream vitiality; the failure to remove contaminated soils and do nothing because a few trees need replanting or to cap contaminated soils without assuring leaching into the watershed is not a settlement that is compatible with the mandates of the Model Toxic Control Act or the federal Clean Water Act. These salmonid bearing streams need restoration, not further degradation over time. Statis is death. This project needs to improve the watershed not leave legacy problems untouched. As we tackle stormwater as a primary cause of pollution of Puget Sound, the Port cannot continue contamination by an ineffective cleanup [of] that watershed's pollutants. They need to be removed to residential levels.
	007.003	Edgar, Chestine	I spoke with the project engineer specialist (woman) about the plan to fill Lora Lake as a means of containing the 200 ppt sediments at the bottom of the lake. I don't believe that this makes complete sense in that soils tend to cycle up rather than just remaining static.
	007.006	Edgar, Chestine	The contaminated materials at the bottom of Lora Lake (to take that lake bottom's contamination level down to11ppt) should be dredged out and removed to another area for safe storage.
	010.006	Brant, William	Speaking of filtering, we understant that Lora Lake, a man made peat bog excavation, has acted as such for the contaminated Lora Lake Apartment site but now has high levels of contaminants in its bottom sediments. It was once dredged and the contaminated sediments spread into a wetland bordering the creek. The potential order anticipates capping the lake sediments with sand and then filling it to create more wetland. Does this capping with sand consider the recent Environmental Protection Agency study released in April concerning gas ebullition? Where is the discussion about detention and filtering ponds for the water flow that will continue to flowfrom the LLA site or is it expected to flow across a new wetland that may become recontaminated?

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake	010.011	Brant, William	The proposed filling of Lora Lake itself may actually create additional problems. It is a known sink and filter for much of the dioxin that came off the Lora Lake site. Trying to recreate a wetland from the lake may require additional detention ponds ot handle the flow from the apartment site and land to the east across Des Moines Way for any residual contaminants working their way toward Miller Creek.
	014.002	Sullivan, Brenda	I have been taking part in the Miller-Walker Creek Community Salmon Inventory, and it is startling and distressing to see how many of these fish die before they have a chance to spawn. The present scientific opinion seems to be be that no one contaminant is wholly to blame for this pre-spawn mortality, but it's the combination that is killing our salmon. Therefore, completely removing the stress caused by contamination from runoff from the Lora Lake site on the salmon in our local streams would seem to be the only effective way to go.
	017.006	Wingard, Greg	It is unclear how a contaminated sediment cover of 2 feet, at the margins of the current Lora Lake will be protective from intrusion from plant roots, and burrowing wildlife (particularly in the dry season).
	017.011	Wingard, Greg	What are the metrics for determining the gradual strengthening of the soft lake sediments? How will the proposal assure that dioxin is not mixed in with higher layers of sand? Ecology and the Port have failed to consider a significant pathway for release, or migration of dioxin related to Lora Lake, gas ebullition.
	017.017	Wingard, Greg	Leaving sediments in place contaminated with ~200 ppt-TEQ dioxin within a 100-year flood plain, and immediately next to Miller Creek is an unreasonable risk. These contaminated sediments should be removed. The current bed of Miller Creek was only recently established as a result of the third runway construction. No information has been provided, or considered relative to the stability of the current location of the creek bed, or the potential for erosion or movement of this newly established creek course.
	017.028	Wingard, Greg	It appears the assumptions in this section, including the application of drinking water standards for dioxin, may not be conservative, and lack consideration of the proposed future condition of the site, specific to groundwater.

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake	017.040	Wingard, Greg	As per previous comments, it does not appear that modeling used to justify this section on the site remedy was based on acidic groundwater such as is common in peat bog/wetland based shallow groundwater systems. As the selected remedy is described as returning the site to its previous, pre-mined condition, it is reasonable to assume that there will also be changes in the shallow groundwater from one typical of a freshwater lake system, to that of a wetland, or peat bog system. In addition, it is also reasonable to assume that there will be sustained gas production from decaying organic matter in these sediments, which means the potential of gas ebullition, should had at least been identified and modeled. These either existing or potential future changes in site conditions appear to make the chosen remedy less protective than claimed. The dioxin contaminated Lora Lake sediments should either be removed during the time of year when the lake is low, or if the sediments are going to be left in place a remedial option in line with those identified for addressing hydrophobic contaminants in sediments (as in the attached EPA report, Use of Amendments for In Situ Remediation at Superfund Sediment Sites) should be selected to further immobilize the sediment contaminants, be protective of the proposed sand cover, and further decrease the potential for contaminants to migrate in either acidic, or gas production conditions.
	017.058	Wingard, Greg	In selecting the appropriate remedy for Lora Lake sediment Ecology and the Port should review up to date in-situ remediation technologies for sediments, such as those presented in the attached EPA report.
	025.005	Honour, Richard	The preferred option for the current Lora Lake dioxin contaminated sediments is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin-like contaminates in easily disturbed, light and very fine sediments, as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand. Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for In Situ Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects.

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake	027.001	Huling, Don	The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste.
	027.002	Huling, Don	Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, "Use of Amendments for In Situ Remediation at Superfund Sediment Sites", OSWER Directive 9200.2-128FS, April 2013.
	027.003	Huling, Don	The preferred option for the current Lora Lake dioxin contaminated sediments is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand. This is not an acceptable remedy.
	029.006	Mooney, Elizabeth	The preferred option for the current Lora Lake dioxin contaminated sediments (generally between 100-200 ppt-TEQ) is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand. The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste. Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for In Situ Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects.
	030.003	Akramoff, Glenn	Impact on the creek by reconstructed wetland: The City has not found any reference to the impact of this process, through its review nor at the meeting, on the creek. The main concern would be the impact of the wetland discharge into the creek. As we have no information on this we cannot determine if an issue exists or not.

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake	030.006	Akramoff, Glenn	Cutting edge of the dioxin treatment issue: The City has a concern that our region can be negatively impacted by "being the example" in the area of how treatment will be enforced in the future. The level of treatment is a much debated issue and the city requests that these levels be based on best available science.
	031.001	Poon, Derek	Given my technical goal, my reading of Ms. Mooney's input was that the SEPA analysis was not adequate, which is consistent with my own analysis of the SR 520 project SEPA analysis specific to ESA at Kenmore. Let there be no doubt, any ESA analysis is not easy. However, the law is quite clear that ESA effects are defined as any level above zero, and that minimization and mitigation are solutions, even with difficult issues such as dioxin and other pollutants. Minimization and mitigation are so necessary when urbanized areas such as Puget Sound is trying to effect ESA recovery and delisting for iconic species such as Chinook, Steelhead, Orca whales, and Bull Trout. Nothing short of extraordinary efforts are required to achieve recovery and delisting, including what might be done for the Lora Lake project. So, while commending Ecology and State agencies for your Herculean efforts to protect our environment, I also urge you to carefully consider Ms. Mooney's comments and do what you can to further environmental protection. I say that without the naivete about the need for incentives of money, regulatory flexibility, and recognition to supplement regulations, and you certainly have my best wishes to conduct this project using the judgement of Solomon.
	032.003	Stahl, Patrisa	I agree with Consultant Wingard'a suggestion, "The preferred option for the current Lora Lake dioxin contaminated sediments (generally between 100-200 ppt-TEQ) is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand. The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste. "Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for In Situ Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects."

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake	033.004	Stahl, Stanley	A proposed layer of sand and carbon on the floor of the Lora Lake excavated "lake" to stabilize the peat, silt and other muck before excavating is a poor method of handling a dangerous contaminant such as dioxin - this will be at the least dangerous for the workers doing the work, with further potential downside to spillage and exposure to the general public as the material is transported across the street to the proposed disposal site. A proposed layer of material on the floor of the excavated area is a poor remediation of the problem on the site trying to seal further mobilization of toxins from below, which has been left behind after the major load of contaminated material has been removed. Not considered is that natural gaseous bubbling, and insect and animal burrowing will undoubtedly lead to migration of the dioxin again re-contaminating the proposed wetland.
Remedy Selection, Lora Lake Shallow Soil	005.006	Wagner, Debi	I object to the plan to avoid removal of natural plants over areas that must be excavated to remove contamination. These must be excavated and can and should be replanted. The pollution problems underneath constitute a much more severe environmental hazard than what will occur with removal of natural plants and replanting. If all pollution isn't removed during this present plan it will probably never happen. That is why I believe the best practice remediation for this entire site is to remove all dioxin laden material to a safe neighborhood level (leaving the lowest possible at 5.2 or below) and incinerate the contaminated waste at an off-site BACT equipped facility. I also object to the plan to fill Lora Lake with sand as I understand there is dioxin contamination also at the bottom of Lora Lake that will be disturbed during this process that will also migrate into Miller Creek.
	017.005	Wingard, Greg	The failure to remove elevated levels of dioxin from the shallow soils adjacent to Des Moines Memorial Drive, is actually claimed to be mitigation, and presented as the sole identified reason for issuance of an MDNS. The failure to sample the eastern margin of the road area, and to consider these impacts under SEPA is significant as this area is outside the controlled portion of the NRMP, thus the proposed institutional controls will not be effective, or provide any protection to the public, wildlife, or environment for contaminants in this area.
	017.013	Wingard, Greg	The Port, and Ecology have vastly overstated the ecological impact of destruction of a very small area of vegetation necessary to remove shallow upland dioxin contamination.

Topic	*Com#*	*Name*	*Comment*
Remedy Selection, Lora Lake Shallow Soil	017.025	Wingard, Greg	All dioxin contaminated soils, outside the fenced secured area of the site, which are publicly accessible, with dioxin levels in excess of 11 ppt-TEQ need to be excavated and disposed of (Draft RI/FS, Figure 4.9, see samples LL-SB6, LL-SB5 and LL-SB2, which imply a similar pattern of contamination to Cleanup Area B). ... In addition shallow soil testing along the publically accessible roadside areas is not sufficient to determine risk, or the degree to which the proposed remedy is protective. Additional sampling is needed on the eastern margin of Des Moines Memorial Drive to determine the extent of contamination at the road margin contiguous to the existing sample locations at the western margin of the LL Parcel.
	017.037	Wingard, Greg	The sampling used to set the LL Parcel shallow soil boundary was insufficient. No sampling was done on the north side of the lake, including in the area between the lake and the DMCA. Given site uses over the last several decades prior to, during and after the dredging of the lake in 1982, it is at least probable that dioxin contamination may exist along the northern margins of the lake, particularly where site storage, stockpiling, equipment and vehicle access took place. In addition, after the lake was hydraulically dredged, the dredged material was dewatered. Apparently dewatering was accomplished by allowing the water to drain off overland. As demonstrated from dioxin data reported from the LLA Parcel in stormwater, it is at least probable dewatering flows would have contained some level of dioxin.
	017.044	Wingard, Greg	The Port should be ordered to do soil sampling in the area north of Lora Lake in the LL Parcel to determine if site COC's are present in this area.

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake Shallow Soil	017.048	Wingard, Greg	There is a disconnect in the selection of alternative 1, for the LL Parcel. Part of the contamination found in the parcel is adjacent to Des Moines Way, and based on data collected from the west side of the road can assumed to be located outside the designated, and fenced NRMP. Thus "maintaining the impacted soil area as a habitat mitigation area under the management requirements of the..." provides substantially less protection for soils outside the NRMP fence line. For these soils, there is less excuse for not selecting excavation and off-site disposal than the shallow contaminated soils within the fenced NRMP. At the very least Ecology needs to order the Port to accurately determine the extent of dioxin contamination along the roadside area west of the fence line for the NRMP. The explanation given for not removing soils within the NRMP is damage to the plant community would be a greater environmental impact than leaving the contamination in place and using institutional controls. Outside the NRMP, the plant community primarily consists of grasses and various, mostly non-native species. As such disturbance of the plant community does not deserve much if any consideration. Even within the NRMP, the area of shallow area soil that could be excavated and removed would result in disturbing and replanting a minute fraction of the plant community the Port plans on destroying and replanting to provide access for carrying out the Lora Lake sand capping option.
	017.057	Wingard, Greg	As described above, limiting the remedial action for the LL parcel-impacted soil is not protective, and the reasons given for not excavating these elevated dioxin concentrations are overstated, misleading, or inaccurate.
	017.059	Wingard, Greg	Environmental covenants for the LL Parcel shallow soils are substantially less protective for the soils outside of the fenced area of the NRMP. Also the highest levels of contamination appear to be in areas adjacent to Des Moines Memorial Drive, which appears to the least established and lowest value plantings. There is no sample data available from the shallow soils north of Lora Lake. Historic uses of this portion of the site include potential petroleum and dioxin contamination from residential use, and from dredging activities related to removal and transport of dioxin contaminated sediment from Lora Lake to the DCMA disposal area.

Topic	Com#	Name	Comment
Remedy Selection, Lora Lake Shallow Soil	017.060	Wingard, Greg	The environmental covenants are not sufficient, as significant information on the nature and extent of contamination does not currently exist. Without this information Ecology does not know what institutional controls, or active cleanup options should be done in what locations particularly in the shallow soils north of Lora Lake, between the Lake and the historic and present site access routes into and out of the area, including the DMCA. ... The selected remedy of institutional controls only is not protective.
	017.062	Wingard, Greg	It is somewhat incomprehensible that one of the smallest potential environmental impacts (as compared to any of the issues above) is singled-out as the sole reason mitigation for this SEPA determination is necessary. The sole areas of shallow soils that would require excavation in the shallow LL Parcel soils is a small area that may require excavation just east of the southern -boundary for the LLA Parcel at the western margin of the LL parcel, and a somewhat larger, though still limited area on the western margin of the LL Parcel northwest of Lora Lake. In both cases these soils (and related plants), are at the extreme margin of the planted area, where plant and soil removal would have no, or no measurable negative impacts on the functions and values of the habitat and vegetated buffer between Des Moines Memorial Drive and the lake.
Remedy Selection, Apartments Parcel	005.007	Wagner, Debi	It is my opinion that development of a worst-case scenario and application of the best available practices for clean-up would demand a far greater effort, caution and finality than what I am seeing in this proposal.
	014.001	Sullivan, Brenda	I would like to comment on the plan to partially clean up the Lora Lake Apartments site in Burien. As I understand it, part of the contaminating substances are to be removed and a cap is to be used to cover the rest. I would strongly recommend that the entire amount of contaminants be removed - if we're going to do the job, let's do it properly.
	017.026	Wingard, Greg	The section claims it is appropriate to not consider protection of wildlife receptors due to the future proposed land use. This would appear to underestimate the potential for contaminated material to leave the site, or for ecological uptake and contaminant translocation via burrowing rodents in particular, which are common in commercial, and industrial areas in the region.
	017.033	Wingard, Greg	The remediation level was derived from faulty analysis, is substantively defective, and needs to be redone based on a more accurate assessment, which includes the economic benefits the Port has identified for the additional level of excavation beyond the identified excavation level to the cleanup level.

Topic	Com#	Name	Comment
Remedy Selection, Apartments Parcel	017.035	Wingard, Greg	From the site schedule it appears Ecology is allowing a delay of four-years for the placement of a wildlife barrier. This delay does not appear to be reasonable or protective. If such a long delay is needed for viable economic development of the LLA Parcel, there needs to be an interim wildlife barrier, or comparable temporary controls in place.
	017.036	Wingard, Greg	The language used here should not be permissive, or subjective, but definitively state where institutional controls will be required, including the wildlife barrier.
	017.042	Wingard, Greg	The Lora Lake Apartments Site extent in the Consent Decree Exhibit A, and the Cleanup Area B, in the RI/FS do not appear to be consistent. The extent of the site as defined in the Consent Decree appears to exclude part of the area of highest contamination outside of the LLA Parcel fence line. Consent Decree Exhibit needs to be corrected to comport with the depiction of Cleanup Area B, and Cleanup Area B need to extent the full distance to the impervious prism of Des Moines Memorial Drive.
	017.043	Wingard, Greg	The reports already establish that the natural background concentration for dioxin is, which is 5.2 ppt-TEQ. When looking at the majority of the data from outside the contaminated areas of the site this makes sense on a site-specific basis. Even in the DMCA, where the Port found contaminated Lora Lake dredge spoils, the majority of the soil samples, and samples, which were identified as in the underlying soil, were typically less than 7.5 pg/g. This is another line of evidence that the actual background concentration of dioxin, which would be considered to be ubiquitous, rather than related to a specific site or facility release, would be very low, and certainly less than 11 ppt-TEQ, let alone 19 ppt-TEQ. The decision to set the site boundary at the property line of the site (with the exception of a small area of the former City Light substation property), should be stricken, and the Port ordered to cleanup all areas adjacent to the property line contaminated above 11 ppt-TEQ. If the Port, and/or Ecology are going to persist in claiming that "urban background" in the vicinity of the site is greater than 11 ppt-TEQ, then the Port must be ordered to do the necessary sampling to establish the area background by sampling nearby areas not influenced by the site activities, or other known dioxin related sites or sources.
	017.046	Wingard, Greg	The justification provided for cutting off excavation, and requiring capping on site for soils contaminated from 11 ppt-TEQ, and 100 ppt, is that this range is within the range found within urban areas of Seattle.
	017.049	Wingard, Greg	As a result all reference to the Seattle "urban background" soil dioxin concentrations, or any higher concentrations should be removed from the reports, and should not be allowed to be used to justify abandonment of any dioxin concentrations over the highest selected cleanup level for the LLA site of 11 ppt-TEQ, or lowest selected excavation limit for dioxin of 100 ppt-TEQ.

Topic	Com#	Name	Comment
Remedy Selection, Apartments Parcel	017.052	Wingard, Greg	Ecology is also allowing the Port an additional 4 years, after completion and backfilling of the site to identify the commercial use of the site and integrate the approved wildlife barrier. This is an unreasonably long period, which increases the risk of remaining subsurface contamination being disturbed by burrowing rodents. This could result in translocation of dioxin assumed covered with clean soil, and environmental uptake.
	017.056	Wingard, Greg	The description of the first covenant is somewhat unclear. From the construction of the sentence it appears that it is the long-term institutional controls for the wildlife barrier that require maintenance, rather than the barrier itself. Was this Ecology's intent, or is the covenant meant to assure monitoring and maintenance of the cover/cap/barrier itself? The language should be clarified. The section indicates that a "separate environmental covenant may be needed for the former Seattle City Light Property"' How, and when will this be determined? What components are similar, or what would be different from the rest of the LLA Parcel?
	019.001	Poitras, John	Review of comments in a letter from a Normandy Park council member produced a lot of unanswered questions we in Burien felt needed to be looked at.
	021.001	Brady, Mark	Please insure that your cleanup plan removes all contaminated soil ...
	034.003	Witt, Jan	The dioxin contaminated material should be required to be moved to a permitted and licensed off-site disposal area. Such a requirement would assure that the contamination does not create environmental hazards at and downstream from Miller Creek in years to come.
Remedy Selection, Cost Considerations	005.002	Wagner, Debi	I object to the plan to avoid removal of natural plants over areas that must be excavated to remove contamination. These must be excavated and can and should be replanted. The pollution problems underneath constitute a much more severe environmental hazard than what will occur with removal of natural plants and replanting. If all pollution isn't removed during this present plan it will probably never happen.
	006.002	Pressentin, Patrick	This is not a case of a homeowner with a buried oil tank where economics indicates lower level contaminants is sufficient. This is the upper reaches of a stream, waters of the state of Washington protected critical area ordinance and ultimately the Shoreline Management Act. The Port can do better and the DOE should insist upon it without endorsing this plan to obtain No Further Action order for an inadequate solution.

Topic	Com#	Name	Comment
Remedy Selection, Cost Considerations	007.002	Edgar, Chestine	It is my understanding that to clean this site to residential standards will only cost $2 million dollars over what is now the proposed cost to clean it to commercial standards. This is a reasonable amount of money to remedy this situation. Additionally the Port of Seattle has the resources to do this cleanup correctly once and for all.
	008.001	Cassarino, Elaine	Spend the $2 million to get the 11 ppm!! The Port is rich & certainly had the $ 'for the 3rd Rundway over-spending'.
	009.001	Edgar, Bob	Since the Dept. of Ecology is requiring the clean up of this Lora Lake site, they should require that the Port of Seattle spend the funds to clean the site to residential standards. The need to maintain high water quality standard is also necessary for the preservation of Miller Creek as a salmon bearing stream.
	010.002	Brant, William	The difference in cost [between the selected cleanup action for the Lora Lake Apartments Parcel and the full excavation cleanup action] is approximately $2 million above the approximately $7 million cost of stopping at 100 ppt. This is not a disproportionate cost considering that the site would be cleaned up once and forever; it abuts a wetland [that] flows to a salmon bearing stream through residential areas to an estuary on the shores of Puget Sound. An extra $2 million excavation cost is not disproportionate for a government agency (POS) that has taxing authority. And would be a success in helping reach goals of Puget Sound Partnership and the Dept. of Ecology. Aim for success not a short budgeted future problem.
	011.004	Rankin, John L.	The money used to fund all of the remediation efforts, both proposed and requested, is the peoples' money – not that of some private, profit-centered corporation. To what better use could it possibly be put?
	012.002	Jenner, Stuart	To most of us, two million dollars is a lot of money. However, to the Port of Seattle, and compared to the total spent on the third runway and on airport expansion, it is a drop in the bucket. It is a rounding error. It is a microdot superimposed on a period.
	012.010	Jenner, Stuart	When writing the cost-benefit analysis, please outline what the benefit is to the Port of having the highest level of standards. It seems much more likely our community could attract a major development with much longer-lived buildings and much more up front investment than if there is uncertainty about what would happen to the buildings if the contaminants turn out to still be a problem.
	014.003	Sullivan, Brenda	This would cost a little more than the present plan, but in terms of the Port of Seattle's whole budget, it would seem to be a drop in the bucket, and an unjustified case of short-sighted "savings" causing long-term costs to our environment.

Topic	Com#	Name	Comment
Remedy Selection, Cost Considerations	017.024	Wingard, Greg	As stated in the SEPA Checklist comments, the reason for moving this large volume of dioxin contaminated waste into the DCMA, closer to Miller Creek and destroying the vegetated buffer in and adjacent to the 100-year flood plain, is to relieve the Port of the need to place and maintain a cover on the LLA Parcel, and to eliminate the need for institutional controls. These economic benefits to the Port are not a good enough reason for the increase in risk presented by the proposal. ... The failure of the economic analysis to consider and quantify such a significant economic benefit, and instead claim that the difference between the consolidation and capping on parcel, versus off-site disposal is greater than $2 million, is thus significantly in error, and misleading to the public reviewing the provided reports.
	017.051	Wingard, Greg	At the recent open house meeting held by the Port and Ecology, the public was informed that the reason off-site permitted disposal was not an option for the 30,000 cubic yards of dioxin contaminated soil (contaminated at 11 ppt-TEQ dioxin to 100 ppt-TEQ), due to an increased cost of over $2,000,000. That information was misleading, as the actual cost difference comparison should be between the Port's preferred option of disposal of the 30,000 cubic yards of waste at the DMCA (alternative 4), and off-site permitted disposal (alternative 5), which appears to only be in the range of $1,000,000 dollars (the Port in selecting alternative 4 has apparently assigned it at least a $0.6 million dollar benefit over alternative 3).
	018.001	Batcho, Andy	I am concerned about storing the 100 ppt to 11 ppt contaminated soils from the Lora Lake site on Port property near Miller Creek; in particular the long term costs and risks of preventing this contamination from ultimately entereing Miller Creek vs the costs to simply remove it from the site to a safe storage area.

Topic	Com#	Name	Comment
Remedy Selection, Cost Considerations	018.005	Batcho, Andy	Webster's Dictionary defines "ecology" as; "a branch of science concerned with the interrelationship of organisms and their environment". Therefore one would suspect that the taxpayers of the State of Washington would fund a "Department of Ecology" to provide the citizens with professionals to assure that the citizen's interest are protected when it comes to activities that may effect the relationship between organisms and their environment. I may be wrong, but that seems to me to be the basic reasons for the existence of the Department of Ecology. And the Washington Department of Ecology Mission Statement seems to agree with my assessment. The DOE mission statement says: "The Mission of the Department of Ecology is to protect, preserve and promote Washington's environment and promote the wise management of our air, land and water for the benefit of current and future generations." The stated goal of the DOE is: "Prevent pollution, clean up pollution, support sustainable communities and national resources." Why would the citizens of a State even need a Department of Ecology? It's seems a rather expensive organization of professionals for taxpayers to fund year after year, there must be a reason the tax payers agree to spend the money? In my opinion, the average tax payer doesn't understand the nuances and implications of modern development and its impact on the environment and organisms. Since a Department of Ecology exists, then apparently there are opposing forces that either for economic reasons or lack of knowledge are willing to impact the environment and its organisms? Therefore the citizens hire subject-matter experts to protect them and their future generations from unscrupulous activities that may threaten them and their children. I understand that project like the Lora Lake Cleanup have a budget. In my experience, lack of funds is not a reason for lack of creativity in solutions. Americans spend $61.4 Billion dollars on their Pets annually, another $96 Billion dollars on Beer, $4 Billion on peanuts, $5.7 Billion on Toilet Paper and $1/2 Billon dollars on paintballs. The Federal Government spends <1% of the Federal Budget, $37 Billion dollars on Foreigh Aide annually, but only $700 Million dollars on Superfund Cleanup Sites annually. One would suspect that if citizens really understood the impacts of chemicals in their environment and their likely impacts to the health of their progeny that they would be willling to spend at least as much to clean it up as they spend on peanuts? The lack of citizen understanding is obvious when you compare

Topic	Com#	Name	Comment
			our spending for beer vs. environmental cleanup. My point … It's not about the money! Future generations will soon forget the costs, but will never forgive the current generation for not doing the right thing to protect their environment and children. I suspect if there were a survey, the public would expect the Department of Ecology, acting in their behalf, to spend, or cause to be spent appropriate amounts of money to protect them from hazards they don't see or understand. Looking at the Port of Seattle's $1.9 Billion dollar 5-year capital budget there seems to be room for fiscal creativity in solving pollution issues, let along the opportunity for cleanup grants, which to my knowledge aren't being pursued by the Port in this case. Given the mandate of the Department of Ecology Mission Statement & Goals and the apparent reason the taxpayers created and pay for such an organization, it's clear to me tha the efforts at Lora Lake need to be enhanced to meet the organizational and tax paying publics expections. I would appreciate anything you can do to prevent further pollution of Miller Creek and it's organisms, including humans.
	026.004	Hoover, Monica	Your cost and benefit evaluation is flawed. It appears you are not fully evaluating the options and are missing benefits of off-site disposal. Ecology should require permitted off-site disposal of this contaminated material.
	029.004	Mooney, Elizabeth	The reason given for not sending the ~30,000 cubic yards of dioxin contaminated soil to licensed and permitted off-site disposal is the cost. According to Ecology it would cost over $2,000,000 more than consolidating and capping the contamination in place. This is a false and defective comparison though as the Port's preferred option is to excavate and remove this contamination to another property, not to consolidate it in place. The difference between the Port preferred option and permitted off-site disposal is at least $600,000 more costly than the option Ecology selected for comparison. In addition the Port and Ecology failed to consider the cost benefits from selecting the off-site permitted disposal option, and thus the evaluation is defective. At the least the evaluation should have included the benefit of not having a restriction on the title of the property in-perpetuity, and elimination of the need to inspect and maintain the cap for the contaminated soil. It seems the one time expense related to off-site permitted disposal would be more than offset by permanent elimination of a defect on title and otherwise required long-term inspection and maintenance requirements, including five-year reviews and public notice requirements. Ecology should require off-site permitted disposal for this contaminated soil.

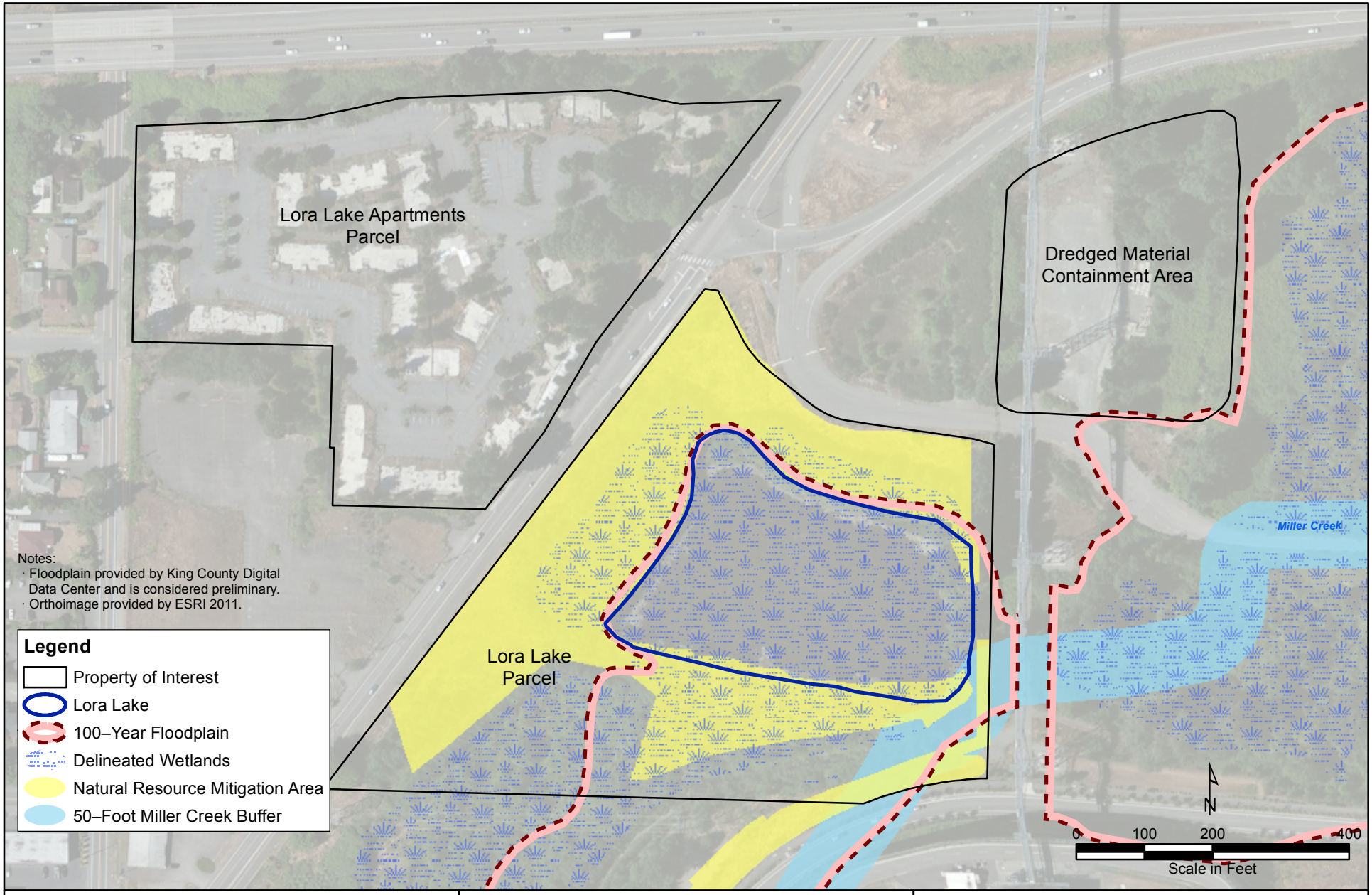
Topic	Com#	Name	Comment
Remedy Selection, Cost Considerations	034.002	Witt, Jan	The financial rationale for support of the Port's preferred option is flawed: The assertion that it would cost 2 million dollars more to dispose of the dioxin contaminated soil in a licensed and permitted off-site disposal is misleading because the comparison that led to that 2 million dollar figure was based on a comparison between 1) the option to consolidate and cap the contamination in place and 2) removal to a licensed and permitted off-site disposal. The cost analysis should have compared the Port's preferred option (which will be far more expensive than consolidation and capping in place) with removal to a licensed and permitted off-site disposal area. Additionally, the financial rationale given for support of the Port's preferred option did not consider future costs associated with long term inspections and maintenance requirements of the Port's preferred option.
Review, Independent	002.006	Cassarino, Anthony	Commentor recommends that there be an overall project review by independent scientists/subject-matter experts to assure the public of three things. First, that the best science available is used to address the Lora Lake dioxin pollution problem. Second, that before public monies are spent to recover this site, that the entire pollution issue be addressed including off site sources of pollution entering the site. Third, ongoing monitoring is started to assure the effectiveness of the solutions applies. ALSO SEE TMG-01 AND MON-02.
Schedule, All	017.066	Wingard, Greg	The scope and schedule should include at least approximate dates for applications of relevant permits.
Stormwater, Post-Construction	002.001	Cassarino, Anthony	How will polluted storm waters will be handled once Lora Lake is filled.
	002.004	Cassarino, Anthony	How will the issue of dioxin coming into the site and re-polluting the restored area as has happened in the past be considered?
	007.007	Edgar, Chestine	The lack of details, clarity and science concerning the relocation and treatment of know contaminated surface waters from a City of Burien/Port of Seattle parcel directly into Miller Creek is problematic.
	009.002	Edgar, Bob	The current $250K grant from King County to clean the Miller Creek-Walker Creek system should not be negated by the Port of Seattle refusal to make Miller Creek as clean as possible.
	010.005	Brant, William	But then we learn that the potential cleanup order anticipates directly connecting the Burien storm water system that went through this site to the creek with no discussion that has been found in the thousands of pages of documents as to the SEPA impact or mitigation of this new connection. We have been told repeatedly that this storm water is also contaminated above residential limits. We wonder where the description of the detention pond to slow flash flows is found or the pond of adequate size that would filter the contaminants and meet NPDES requirements.

Topic	Com#	Name	Comment
Stormwater, Post-Construction	010.010	Brant, William	There has been a long standing inference that contaminants are also flowing across the site from the storm water system of a neighboring city. Most of this system was constructed when there was no thought as to flash flow and settling ponds for cleaning the flow. The Cleanup Action Plan appears to have this flow diverted around the Apartment site and connected directly to Miller Creek. This must not happen. It may violate federal and state requirements for handling storm water. The inference that this water is also contaminated with dioxins must be studied to determin the actual facts and necessary cleanup before any connection to Miller Creek is contamplated. If this storm water system is reconstructed through the LLA site, it still needs investigation concerning dioxin being carried in its sediments and appropriate remedies applied. Some adequately sized detention and settling pond east of Des Moines Way may be required before it is allowed to flow across current or recreated wetlands as it would likely create channelization to Miller Creek withoug detention of flash flows. Such flows would be capable of transporting contaminated sediments.
	017.004	Wingard, Greg	The SEPA Check List and MDNS is defective as it failed to notify the public of the intended reroute of dioxin contaminated stormwater directly to Miller Creek, failed to identify the reroute impacts, and failed to mitigate any of these impacts as compared to the existing condition, where any dioxin in stormwater discharged to Lora Lake, according to the provided reports, binds to the peat, organic muck, and fine sediment within Lora Lake, and thus is prevented from migrating to, and impacting Miller Creek.
	017.007	Wingard, Greg	While this section provides a detailed description of the existing condition of stormwater runoff and discharge to Lora Lake, the SEPA Checklist and MDNS fails to provide an adequate description of the changes and impacts related to the proposed action, or remedy as compared to the existing condition. In particular impacts related to redirecting Port and Ecology identified dioxin discharge from Lora Lake, where the Port and Ecology claim the dioxin is sequestered, to a direct discharge to Miller Creek.
	017.020	Wingard, Greg	The Ecology and Port proposed action is decreasing the treatment of stormwater discharged from Burien, and increasing the discharge of pollutants directly to Miller Creek with no consideration, or mitigation of these impacts. These increase in impacts were not identified or presented to the public in the provided reports for this comment period. As such the comment period, and related process is defective as significant impacts were not identified or evaluated for the public to comment on.
	017.054	Wingard, Greg	This section lacks detail, and provides little if any useful information to determine the impacts of the selected site remedy for stormwater as compared to the existing condition. The section needs to be rewritten to provide at least enough information that the reader can determine what is actually being proposed, and determine based on the rest of the available reports what the likely impacts of the selected remedy will be.

Topic	Com#	Name	Comment
Stormwater, Post-Construction	017.055	Wingard, Greg	If the stormwater currently discharging through the LLA Parcel stormwater system from Burien does contain dioxin as the Port and Ecology assert, then rerouting the discharge from a location that reduces, or (as the Port and Ecology claim) eliminates dioxin discharge to Miller Creek, to one that discharges the dioxin directly to Miller Creek is an ecological impact that must be divulged, evaluated and mitigated.
	018.002	Batcho, Andy	I am concerned about the lack of science, measurements and certainty that the filling of Lora Lake and converting it to a wetland will provide a better contamination filter for the waters reaching Miller Creek.
	018.003	Batcho, Andy	I am concerned about the lack of details, clarity and science concerning the relocation of known contaminated surface waters from a City of Burien parcel directly into Miller Creek.
	021.002	Brady, Mark	Please insure that your cleanup plan ... Does not reduce the quality of storm water runoff into Miller creek.
	024.002	Guddat, Jeff	The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge.
	025.002	Honour, Richard	The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge.
	026.002	Hoover, Monica	The Port is proposing to redirect dioxin-contaminated stormwater directly to Miller Creek. This new discharge of contaminated stormwater was not adequately evaluated and the stormwater must be adequately treated prior to discharge into Miller Creek.
	029.002	Mooney, Elizabeth	The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge.

Topic	Com#	Name	Comment
Stormwater, Post-Construction	030.001	Akramoff, Glenn	Storm systems retrofits: The City understands that the City of Burien storm water system that runs through the Lora Lake site will be replaced and be discharged to Lora Lake. We also understand the lake will be returned to its original wetland condition. We can see that this could be a positive step in protecting the stream. The City wants to make sure the design of these facilities' limits the movement of sediment. The City also wants to make sure that any development, both public and private, has storm water treatment systems that limit sediment movement.
	030.004	Akramoff, Glenn	Flash discharge control: Miller Creek continues to have flash flows during heavy rain events. This impacts the creek health and directly impacts all downstream functions as well as the health of Puget Sound. The City wants to make sure the hydraulic loading is taken under consideration in any future projects.
Timing, City of Burien Projects	015.002	Knutson, Craig D.	The City of Burien has a vested interest in the completion of this remediation process. The planned future development of the Lora Lake Apartments parcel is part of a larger redevelopment area that Burien is helping to bring to fruition. Burien is currently working on projects to install regional stormwater facilities in the area northwest of the SeaTac airport and to construct an adjacent SR 518 interchange. These projects will facilitate the creation of a 35-45 acre auto center, a significant linear park, and airpot cargo facilities, on property that has been vacant and underutilized for more than a decade. Our expectation is that these projects will eventually produce jobs, environmental benefits, and recreation opportunities. Accordingly, we would like to see the cleanup proceed without unnecessary delays, so that the development and improvement of this area will be able to proceed in a timely manner.
	015.005	Knutson, Craig D.	Additionally, we are concerned that no moving forward at this time with this planned location will have significant cost impacts on the taxpayers. These costs can be measured in both the direct costs of hauling this material to a landfill (millions of dollars in additional cost) and in the lost economic development opportunity to the community should the site remain vacant of underdeveloped. In our view, the additional cost burden does not imrpove the environment conditions locally or regionally and will likely make the planned development of the parcels economically infeasible.

Topic	Com#	Name	Comment
Timing, City of Burien Projects	015.006	Knutson, Craig D.	As we stated in our earlier comment letter, the City of Burien has a vested interest in the completion of this remediation process. The planned future development of the Lora Lake Apartments parcel is part of a larger redevelopment area that Burien is helping to bring to fruition. Burien is currently working on projects to install regional stormwater facilities in the area northwest of the SeaTac airport and to construct an adjacent SR 518 interchange. These projects will facilitate the creation of a 35-45 acre auto center, a significant linear park, and airport cargo facilities, on property that has been vacant and underutilized for more than a decade. Our expectation is that these projects will eventually produce jobs, environmental benefits, and recreation opportunities. Accordingly, we would like to see the cleanup proceed without unnecessary delays, so that the development and improvement of this area will be able to proceed in a timely manner.

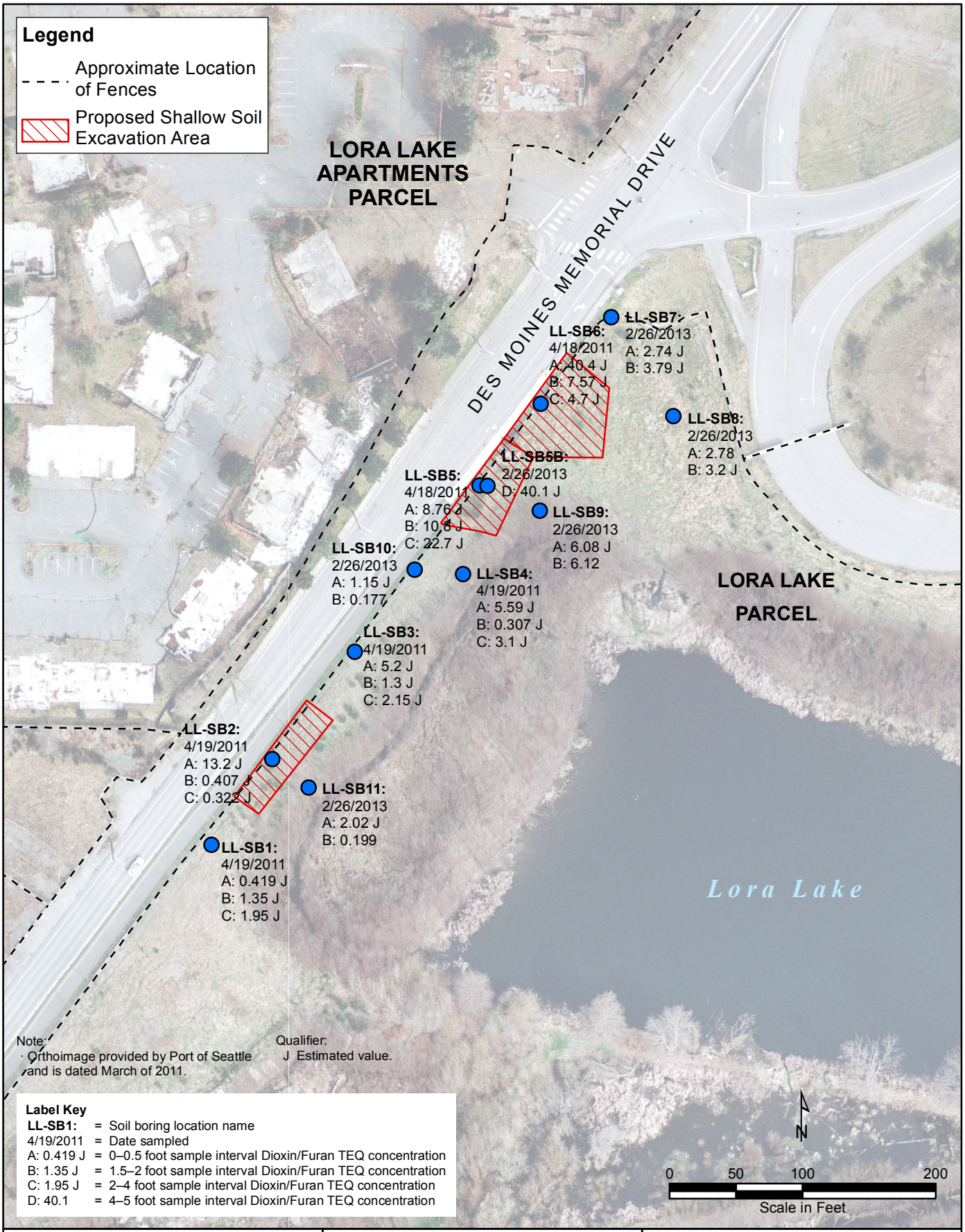


DEPARTMENT OF ECOLOGY
State of Washington

Port of Seattle
Lora Lake Apartments Site
Burien, Washington

Figure 1
Site Map

I:\GIS\Projects\POS_LLA\MXD\Task6110\Figure 1 (Site Map).mxd
12/16/2014



DEPARTMENT OF ECOLOGY
State of Washington

Port of Seattle
Lora Lake Apartments Site
Burien, Washington

Figure 2
Lora Lake Parcel Shallow Soil Excavation Areas

I:\GIS\Projects\POS_LLA\MXD\Task6110\Figure 2 (Excavation Areas).mxd
3/24/2014

DEPARTMENT OF ECOLOGY
State of Washington

Port of Seattle
Lora Lake Apartments Site
Burien, Washington

Figure A.1
Miller Creek 100–Year Floodplain

I:\GIS\Projects\POS_LLA\MXD\Task6110\Figure A.1 (Floodplain).mxd
3/3/2014

Attachment A

Original Comments

001

South, David (ECY)

From: Pete Brant [petobrant@gmail.com]
Sent: Friday, November 01, 2013 1:39 PM
To: South, David (ECY)
Subject: Lora Lake/ Port of Seattle Site Clean Up Plan

David-

Reaching out as a concerned citizen literally down stream (Lora Lake- Miller Creek) from the Lora Lake/ Port of Seattle site that is currently being evaluated for Clean up. From what I understand after review the Port is not being held to the residential or wetland standard that it is clearly affecting. Allowing the the bear minimum of contamination removal to the 100PPT of dioxins/ furans with a cap over the remaining contaminates is the standard only for industrial areas and is irresponsible for our state. Up till now the Port has done a good job on its holding pond system and maintained acceptable standards, let's not let all that be for not in the eleventh hour. Thanks in advance for your support.

001.100

Best regards,
Pete Brant
Resident of Normandy Park
206-660-3875

002

Date: 11/5/2013

To: David South, Site Manager, Washington State Department of Ecology

From: Normandy Park Community Club Board of Trustees

Cc: Sea-Tac Airport, Mayors of Normandy Park, Burien, Sea-Tac

Subject: Dioxin at the Lora Lake Apartment Complex

It has come to the attention of the Board of Trustees of the Normandy Park Community Club (NPCC) that the Department of Ecology, Port of Seattle/Sea-Tac Airport and the cities of Burien and Sea-Tac are in process of making decisions about the dioxin pollution problem at the Lora Lake site that will have a direct impact on Miller Creek.

Miller Creek flows through the City of Normandy Park and in particular though NPCC property (the Cove) before entering Puget Sound. For the past 20+ years, members of the NPCC community have spent countless hours working to improve the salmon habitat of Miller Creek at the Cove. We have seen success with salmon returning to Miller Creek to spawn (550 coho and chum in 2012). The Cove is also used by many schools in the Highline School District to teach children (over 1,000 in 2012) about salmon, habitat restoration and caring for the environment. Beyond that, the children of Normandy Park regularly play in the waters of Miller Creek, as children have been inclined to do since the invention of creeks and kids.

Our understanding of the issues involved at the Lora Lake site includes the following: 1.) allowable levels of dioxin (industrial standard levels vs. residential levels) that will remain on the site after clean-up/restoration, 2.) removal vs. capping the contaminated soil, 3.) prevention of future migration of dioxin into Miller Creek, 4.) the migration of dioxin back into the Lora Lake site from contaminated off-site storm waters, 5.) elimination of Lora Lake itself as a "sink" to prevent future dioxin migration into Miller Creek and 6.) establishing base-line dioxin contamination levels in Miller Creek to assure that the solutions implemented are actually working.

We believe that we represent the feelings of the Cove's 1800 property owners and most people living downstream of the Lora Lake site. We have concerns about the decisions being made involving the proposed plan for cleanup/restoration. Our concerns include, 1.) minimal explanation of how polluted storm waters will be handled once Lora Lake is filled, 2.) the reluctance to obtaining base-line contamination levels of Miller Creek, 3.) no mention of ongoing monitoring of pollution levels in Miller Creek, 4.) silence on the issue of dioxin

002.001
002.002
002.003
002.004

coming into the site and re-polluting the restored area as has happened in the past and 5.) the proposal to mitigate the area to industrial dioxin standards (100 PPT) instead of the more restrictive residential standard (11 PPT).

002.005

To gain our support for this project, we recommend that there be an overall project review by independent scientists/subject-matter experts to assure the public of three things. First, that the best science available is used to address the Lora Lake dioxin pollution problem. Second, before public monies are spent to recover this site, that the entire pollution issue be addressed including off site sources of pollution entering the site. Third, ongoing monitoring is started to assure the effectiveness of the solutions applied.

002.006

Since the Department of Ecology is aware of the dioxin pollution problem at this site, we think it is imperative that the DOE act in the best interests of the public that lives down stream. It is in the interest of the state, the involved cities and the residents of those cities, including the NPCC, that a permanent solution be implemented and not one, as in the past, that amounts to "kicking the pollution can" down the road again.

002.007

Sincerely,

NPCC Board of Trustees / Tony Cassarino, President

003

South, David (ECY)

From: MerryAnn [merryann7@comcast.net]
Sent: Thursday, October 31, 2013 5:08 PM
To: South, David (ECY)
Subject: Miller Creek cleanup

We have worked so hard on lower Miller Creek through Stewards of the Cove and Normandy Park Community Club to bring the salmon back. We have make the creek more friendly to salmon and planted native plants. We are removing invasive plants. But if the creek is poisoned upstream it will not be helpful. I also count salmon every fall along with other teams that go out daily during the migration up the creek. What is so heartbreaking is when salmon die BEFORE they can even spawn. What a waste. We really need your help on this, to keep the toxins low enough the salmon can survive as well as people can survive. 003.001

Thank you,

Merry Ann Peterson
206-824-4271

004

South, David (ECY)

From: Mike [mcanans@q.com]
Sent: Thursday, October 31, 2013 5:27 PM
To: South, David (ECY)
Subject: Lora Lake

Importance: High

Hello David,

I just came across a document on the Lora Lake property with you as a contact..

What will be the approximate cost to clean this place up and who is covering the costs? 004.001

Thanks

Mike Canan

004

South, David (ECY)

From: Mike [mcanans@q.com]
Sent: Monday, November 04, 2013 6:59 AM
To: South, David (ECY)
Subject: RE: lora laske 2ns request.

Hello David,

Thanks for your reply..

You statement:
As a local government, the Port is eligible for a 50% matching grant for the cleanup costs from Ecology. I anticipate the Port will receive these matching funds. In this case, half of the cost will be paid by the State from the Local Toxics Control Account. Funds in this account come from a tax on hazardous substances.

Do you know how much money is in this state account or how much is added to it annually? 004.002

Is there any way that a private organization can apply for grant money especially when some of the pollution comes off of state lands and onto private property? 004.003

Thanks

Mike Canan

From: South, David (ECY) [mailto:DSOU461@ECY.WA.GOV]
Sent: Monday, November 04, 2013 6:43 AM
To: Mike
Subject: RE: lora laske 2ns request.

Mr. Canan:

The approximate cost estimated in the feasibility study for the selected cleanup actions is $12 million. That is divided between the Lora Lake Apartments Parcel ($7.7 million) and the Lora Lake Parcel ($4.3 million). The feasibility study compared several alternatives for addressing the contamination at the Site. The cost estimates were for relative cost rankings only.

The Port of Seattle is responsible for cleaning up the site and paying the costs. I believe the Port has significant overhead expenses that are not included in the above cost estimate. I am checking with them on this aspect of the costs. However, since the overhead expenses would be a proportion of the cost for each alternative considered they would not change the cost rankings of the alternatives considered.

As a local government, the Port is eligible for a 50% matching grant for the cleanup costs from Ecology. I anticipate the Port will receive these matching funds. In this case, half of the cost will be paid by the State from the Local Toxics Control Account. Funds in this account come from a tax on hazardous substances.

I will update you on the Port's overhead costs when I hear back from them.

Note that we usually wait until the end of a comment period to respond to comments and questions. Your comment will be included in the Responsiveness Summary along with the rest. You will receive a copy of the Responsiveness Summary.

005

South, David (ECY)

From: D Wagner [dwagner007@msn.com]
Sent: Sunday, November 03, 2013 8:22 AM
To: South, David (ECY)
Subject: Lora Lake

Dear David South:
These are my comments regarding the current proposal for the Lora Lake clean up. I would like to reserve the opportunity to make further comments once I have had more time to review the background materials.

I have attended two of the meetings between Ecology and the public regarding this clean up process. I further participated in the environmental processes during the time the Port and Ecology were working with on-airport site contamination issues in an "Agreed Order" to discover fate and transport of pollutants in 1998 that never seemed to finalize. I am aware of a long history of localized contamination of ground, groundwater and open waters due to a number of industrial processes from the past and the ongoing contamination inherent to airport operations. I am also aware that State Certification by Governor Locke in 1997 guaranteed water quality standards would not be violated and retention (constructed aquifer) for the proposed 3rd runway embankment and areas to be affected by the project which included the Lora Lake area would be constructed and/or mitigated. I am also aware that a large volume of water has been added to down-gradient properties since construction of the third runway. This is an area that is home to large aquifer systems, lakes, rivers, streams which feed drinking water supplies, salmon habitat and eventually enter the Puget Sound.

Contamination of any kind, and especially dioxin contamination that has such serious health and environmental impacts, has no business residing in this watershed, whether capped, clean capped, or on-site disposed.

I object to the clean up proposal that leaves contaminated material on-site. All dioxin contaminated material should be removed and the standard for removal should be the highest leaving 5.2 ppt or less. There is a large basin of water ways and natural underground pathways where dioxin can migrate over time. Eventually all these pathways lead to the Puget Sound. Local water districts draw from deep wells not far from this area. The nature of the interconnectedness of all underground water in the area is unknown. The Highline Aquifer has several layers and surveys have confirmed they are not impermeable indicating pollutants may or will migrate downward. Furthermore, the human and natural environment in the area are at risk from a capped pollution source and an on-site disposal pollution source as over time, these will be disturbed.

I object to a clean up proposal that allows a higher level than what is the safest level of contaminated material to remain and be capped or disposed on site. I prefer that all contaminated material be removed and incinerated.

005.001

I object to the plan to avoid removal of natural plants over areas that must be excavated to remove contamination. These must be excavated and can and should be replanted. The pollution problems underneath constitute a much more severe environmental hazard than what will occur with removal of natural plants and replanting. If all pollution isn't removed during this present plan it will probably never happen.

005.002

I would also like to add that I would have attended more meetings and be more involved but I work at night and need several weeks advance notice for participation. I did not have enough time to arrange my schedule to be at the upcoming meeting but want Ecology to be aware that people in my area are very concerned about

this level and type of contamination. People I have talked to are very concerned about the long-term effects of this contamination on the environment and health. And more importantly, many people are unaware of the danger and do not understand the harmful effects this contamination will have on the environment or their health in the long term. The public information process used by Ecology and the Port and even local jurisdictions might not have been properly worded or sent to enough people. It is my opinion that development of a worst-case scenario would demand a far greater effort, caution and finality than what I am seeing in this proposal.

005.003

005.004

Thank you,
Debi Wagner

005

South, David (ECY)

From: D Wagner [dwagner007@msn.com]
Sent: Saturday, January 11, 2014 5:59 PM
To: South, David (ECY)
Subject: Lora Lake Clean Up Proposal

Dear David South:

These are my comments as a citizen, resident of Burien, WA regarding the current proposal for the Lora Lake clean up. I would like to reserve the opportunity to make further comments once I have had more time to review any additional documents.

I have attended two of the meetings between Ecology and the public regarding this clean up process. I further participated in the environmental processes during the time the Port and Ecology were working with on-airport site contamination issues in an "Agreed Order" to discover fate and transport of pollutants in 1998 that never seemed to finalize. I am aware of a long history of localized contamination of ground, groundwater and open waters due to a number of industrial processes from the past and the ongoing contamination inherent to airport operations. I am also aware that State Certification by Governor Locke in 1997 guaranteed water quality standards would not be violated and retention (constructed aquifer) for the proposed 3rd runway embankment and areas to be affected by the project which included the Lora Lake area would be constructed and/or mitigated. I am also aware that a large volume of water has been added to down gradient properties since construction of the third runway. This is an area that is home to large aquifer systems, lakes, rivers, streams which feed drinking water supplies, salmon habitat and eventually enter the Puget Sound. Contamination of any kind, and especially dioxin contamination that has such serious health and environmental impacts, has no business residing in this watershed, whether capped, clean capped, or on-site disposed.

005
005.003

I object to the clean up proposal that leaves contaminated material on-site. All dioxin contaminated material should be removed and the standard for removal should be the highest leaving 5.2 ppt or less. There is a large basin of water ways and natural underground pathways where dioxin can migrate over time. Eventually all these pathways lead to the Puget Sound. Local water districts draw from deep wells not far from this area. The nature of the interconnectedness of all underground water in the area is unknown. The Highline Aquifer has several layers and surveys have confirmed they are not impermeable indicating pollutants may or will infiltrate. Furthermore, the human and natural environment in the area are at risk from a capped pollution source and an on-site disposal pollution source as over time, these will be disturbed.

I object to a clean up proposal that allows a higher level than what is the safest level of contaminated material to remain and be capped or disposed on site. I prefer that all contaminated material be removed and as is standard practice, incinerated.

I object to the plan to avoid removal of natural plants over areas that must be excavated to remove contamination. These must be excavated and can and should be replanted.

006
005.004

The pollution problems underneath constitute a much more severe environmental hazard than what will occur with removal of natural plants and replanting. If all pollution isn't removed during this present plan it will probably never happen. That is why I believe the best practice remediation for this entire site is to remove all dioxin laden material to a safe neighborhood level (leaving the lowest possible at 5.2 or below) and incinerate the contaminated waste at an off-site BACT equipped facility.

005

I also object to the plan to fill Lora Lake with sand as I understand there is dioxin contamination also at the bottom of Lora Lake that will be disturbed during this process that will also migrate into Miller Creek.

I would also like to add that I would have attended more meetings and be more involved but I work at night and need several weeks advance notice for participation. I did not have enough time to arrange my schedule to be at the last meeting but want Ecology to be aware that people in my area are very concerned about this level and type of contamination. People I have talked to are very concerned about the long-term effects of this contamination on the environment and health. And more importantly, many people are unaware of the danger and do not understand the harmful effects this contamination will have on the environment or their health in the long term meaning Ecology and the Port have to be the best stewards to remove this threat so that people don't unknowingly and/or inadvertently at some time, disturb, build or dig into any on-site disposals.

007
005.~~005~~

It is my opinion that development of a worst-case scenario and application of the best available practices for clean-up would demand a far greater effort, caution and finality than what I am seeing in this proposal.

Thank you,
Debi Wagner

006

South, David (ECY)

From: pressentin@aol.com
Sent: Thursday, November 07, 2013 5:19 PM
To: South, David (ECY)
Subject: LORA LAKE Cleanup

Dear Mr. South:

I have lived in Normandy Park, a couple miles south and west of the Lora Lake Apartments for over 40 years. During that time I have been involved in restoration of the areas surrounding Miller and Walker Creek whose headwaters occupy parts of the watershed that includes the drainage of Lora Lake site and the proposed wetland. I testified and commented on the original 404 hearing on the third runway and listened to the descriptions of the improvements of the ecosystem that the relocation of Miller Creek and the holding ponds of that project promised. However, since then Miller Creek has seen several instances of failed water retention that poured sediment into the lower parts of the stream by flows from the flooding begun at the Port facilities where control was promised. These were blamed on contractor miscues or design inadequacy. Miller Creek suffered. Recently prespawn mortality of the salmon in the stream has been tested at 90%. This is all history. The cleanup of the Lora Lake sediments is one more effort that will further degrade the stream by effectively siting a brownfield in the watershed as a permanent monument. The cleanup levels of the area as proposed are not adequate for the stream vitality; the failure to remove contaminated soils and do nothing because a few trees need replanting or to cap contaminated soils without assuring leeching into the watershed is not a settlement that is compatible with the mandates of the Model Toxic Control Act or the federal Clean Water Act. These salmonid bearing streams need restoration, not further degradation over time. Statis is death. This project needs ot improve the watershed not leave legacy problems untouched. As we tackle stormwater as a primary cause of pollution of Puget Sound, the Port cannot continue contamination by an ineffective cleanup that waterhead's polluntants. They need to be REMOVED to residential levels.

006.001

As you are probably aware, recent IBIB testing of these creeks has indicated that the creeks are greatly compromised in diversity of invertebrates, due in part to the historical contaminates from the Port areas as it becomes stormwater runoff. TMDL testing and listing reinforces those conclusions. The Port has no reason to compromise the cleanup and continue the pollution of the Sound. This is not a case of a homeowner with a buried oil tank where economics indicates lower level contaminates is sufficient. This is the upper reaches of a stream, waters of the state of Washington protected critical area ordinances and ultimately the Shoreline Management Act. The Port can do better and the DOE should insist upon it without endorsing this plan to obtain No Further Action order for an inadequate solution.

006.002

006

I write as a citizen with some background in wetlands management (Graduate of Wetlands Certificate Course, University of Washington, June 2000, mentor Si Simenstad) and environmental law as an attorney.
What this is, however, is common sense reinforced by knowledge of the history of this area and projects allowed which continue to degrade the stream despite assurances beforehand. The cleanup should do an effective job before it merits a No Further Action Order, consistent with the means of the owner and the value of Puget Sound and the streams that run into it.

Patrick E. Pressentin
443 SW 183rd
Normandy Park, WA 98166
206 587 0066

DEPARTMENT OF ECOLOGY
State of Washington

007

Lora Lake Apartments Cleanup Site
Comment Period: October 25 – November 25, 2013

Thank you for participating in today's meeting Ecology would like to hear from you regarding any concerns or issues you have about Lora Lake Apartments Cleanup Site, You may mail this form to: Department of Ecology, attention David South, Site Manager, 3190 160th Ave SE, Bellevue, WA 98008 or email your comments to david.south@ecy.wa.gov Please indicate Lora Lake Apartments Site in your subject line.

Please print clearly

Name: Chestine Edgar

Organization/Neighborhood:

Mailing Address: 1811 S.W. 152nd St.

City: Burien State: Wa Zip: 98166

Email:

Phone Number:

Comments (if you need more space, please use the backside.):

007.001 This clean up of the Lora Lake site needs to be at residential (III) standard or wildlife standard (5th) because Miller Creek flows downstream into residential areas in Normandy Park and Miller Creek is a salmon bearing creek. It is my understanding that to clean this site to residential standards will only cost $2 million dollars over what is now the proposed cost to clean it to commercial standards. 007.002 This is a reasonable amount of money to remedy this situation. Additionally the Port of Seattle

007.002 continued has the resources to do this clean-up correctly once and for all.

Frankly, I am tired of the POS trying to nickel and dime jobs that involve the health of the citizens in South King County - like this one - while it spends more money annually on badly managed contracts and land deals.

The POS wasted approx. $90 million dollars on mismanaged contracts for the 3rd runway and now they want to quibble about $2 million dollars that will ultimately protect the residential citizens impacted down-stream for this site.

The citizens of South King County deserve better than what they have gotten or been offered by the POS. The Salmon Recovery process deserves better than what they have gotten from the POS.

007.004 I am also concerned about where you expect to find clean fill. The POS paid for it for the Third Runway.

PS. I spoke with the project engineer specialist (woman) about the plan to fill Lora Lake as a means of containing the
07.003 200 ppt sediments at the bottom of the lake. I don't believe [illegible] sense in that soils tend to cycle up rather than [illegible] remaining static.

007

South, David (ECY)

From: Chestine Edgar [c_edgar2@yahoo.com]
Sent: Sunday, January 12, 2014 8:17 AM
To: South, David (ECY)
Subject: Extended Public Comment Period, Lora Lake Dioxin Cleanup Plans, Sea-Tac Airport.

- David South (DOE-Sea-Tac)
- Duffner, Bob
- director@ecy.wa.gov

To: David South, Washington Department of Ecology. (DOE-Sea-Tac)
(david.south@ecy.wa.gov)
Subject: Extended Public Comment Period, Lora Lake Dioxin Cleanup Plans, Sea-Tac Airport.

To David South,

Thank you for providing the additional comment period.

I submitted comments on the Lora Lakes clean up plan during the last comment period and I am now submitting some additional comments on this plan. I did attend the open house on the plan and listened to the planners at different stations around the room about the clean up plan. The issues that concerned me the most about what I heard and saw are as follows;

1. The storage of the known contaminated materials that have been dredged out back onto the site rather than removing them to a safe site somewhere else. Because these contaminated materials will remains on the site, there always remains the chance that in the long term they can be disturbed and can enter back into the Miller Creek system. This is an area that is affected by seismic activity as well as human ignorance. Humans have a tendency to forget history and redisturb areas with construction activities that were supposed to be left alone. Keeping the contaminated materials on the site allows for that danger to be always present. Humans are not in control of acts of nature or God such as earthquakes. The airport lands were significantly affected in the last major quake. **These contaminated materials should be removed to another area for safe storage rather than being left on site and capped.** 005 007.004

2. The bottom of Lora Lake is filled with contaminated materials at 100 ppt or perhaps greater. The presumption that just filling this lake and turning it into a wetland without scientific measurement, without documented, previous case studies of other like lakes and filling projects like this one, without supporting longitudinal studies that demonstrate that this methodology has resolved problems like this in other areas and the lack of supporting wetland mechanism research is troubling. The Port of Seattle allowed $90+million dollars in cost overruns for the construction of the Third Runway due to employee/contractor graft on the project. It appears that no one was ever charged or forced to pay any of this money back in this case. Ultimately, King County citizens just had to pay the bill for this known graft. Now the explanation for why Lora Lake cannot be dredged of the contaminated materials and those materials taken to a safe site for storage is that it would cost the Port another $1million dollars to do that. I believe that that citizens of King County would much more rather pay and would certainly benefit more from clean water at 11ppt or 5ppt in Miller Creek than what was paid for in graft in the Third Runway project. And just how much did the Port just pay to remodel just the commercial sellers area of the terminal recently? **The contaminated materials at the bottom of Lora Lake (to take that lake bottom's contamination level down to11ppt) should be dredged out and removed to another area for safe storage.** 007.002 006 007.003 007

3. The lack of details, clarity and science concerning the relocation and treatment of know contaminated surface waters from a City of Burien/Port of Seattle parcel directly into Miller Creek is problematic. It is not clear why a section of the water is being split off the rest of the surface water (only part going into Lora Lake) and there was not real explanation offered at the open house why this was being done. Then there is the portion of the surface water from the contaminated site that will be going into the still contaminated Lora Lake wetland and dumping into Miller Creek. To the average citizen this appears to be a politically motivated dance rather than a sound scientific decision to later play some finger pointing game about which agency really made the water contaminated. **The real purpose of this clean up plan should be to get the job done correctly once and for all rather than planning for who (which agency) to blame the next time around when the contamination continues to be a problem at the Lora Lake/Miller Creek sites.**

007 008 007.004

4. The apparent lack of baseline measurement of contamination levels in Miller Creek and any plans for an ongoing measurement process to assure that the proposed restoration efforts are indeed effective was missing from the open house presentation and from any materials I have seen on this clean up plan. At the least, Best Available Science should be used on this clean up plan and the follow up measurements for effectiveness of the clean up. 007.005 009

"*Those who fail to learn from history* are doomed to repeat it"- Santayana
The clean up of this area was attempted at least once before and it was ineffective. It would be a health and safety improvement and service to the the planet, the environment and the living things that use this area and water supply to do this clean up correctly this time and take the contamination levels down to 11ppt -5ppt.

Respectfully,
C. Edgar

DEPARTMENT OF ECOLOGY
State of Washington

008

Lora Lake Apartments Cleanup Site
Comment Period: October 25 – November 25, 2013

Thank you for participating in today's meeting Ecology would like to hear from you regarding any concerns or issues you have about Lora Lake Apartments Cleanup Site. You may mail this form to: Department of Ecology, attention David South, Site Manager, 3190 160th Ave SE, Bellevue, WA 98008 or email your comments to david.south@ecy.wa.gov Please indicate Lora Lake Apartments Site in your subject line.

Please print clearly

Name: Elaine Cassarino

Organization/Neighborhood: Normandy Park

Mailing Address: 1335 SW 175th

City: NP State: WA Zip: 98166

Email:

Phone Number: 206-246-9941

Comments (if you need more space, please use the backside.):

Spend the $2 million to get the 11 ppm / /

008.001

o o

The Port is rich & certainly had the $ for the 3rd runway cooked over spending!

009

DEPARTMENT OF
ECOLOGY
State of Washington

Lora Lake Apartments Cleanup Site
Comment Period: October 25 – November 25, 2013

Thank you for participating in today's meeting Ecology would like to hear from you regarding any concerns or issues you have about Lora Lake Apartments Cleanup Site. You may mail this form to: Department of Ecology, attention David South, Site Manager, 3190 160th Ave SE, Bellevue, WA 98008 or email your comments to david.south@ecy.wa.gov Please indicate Lora Lake Apartments Site in your subject line.

Please print clearly

Name: Bob Edgar

Organization/Neighborhood:

Mailing Address: 12674 Shorewood Dr SW

City: Burien State: Wa Zip: 98146

Email:

Phone Number:

Comments (if you need more space, please use the backside.):

Since the Dept of Ecology is requiring the clean up of this Lora Lake site, they should require that the Port of Seattle spend the funds to clean the site to residential standards. The need to maintain high water quality standard is also necessary for the preservation of Miller Creek as a salmon bearing stream. The current $350k grant from King County to clean the → This is being submitted by me as a private citizen R. Edgar

009.001

009.002

009.002 Miller Creek - Walker Creek system should not be neglected by the Port of Seattle refusal to make Miller Creek as clean as possible.

010

DEPARTMENT OF ECOLOGY
State of Washington

Lora Lake Apartments Cleanup Site
Comment Period: October 25 – November 25, 2013

Thank you for participating in today's meeting Ecology would like to hear from you regarding any concerns or issues you have about Lora Lake Apartments Cleanup Site. You may mail this form to: Department of Ecology, attention David South, Site Manager, 3190 160th Ave SE, Bellevue, WA 98008 or email your comments to david.south@ecy.wa.gov Please indicate Lora Lake Apartments Site in your subject line.

Please print clearly

Name: Clarke BRANT

Organization/Neighborhood: Council Member / Mayor city of N.P.

Mailing Address: 19242 Edgecliff Dr SW

City: Normandy Park State: WA Zip: 98166

Email: clarkebrant@msn.com

Phone Number: 206 824-2108

Comments (if ~~you need more space, please~~ use the backside.):

The residential standard 11PPT 010.001
should be applied to the
Excavations of The Difference in
Cost is ≈ 2 Million Dollars above 010.002
The approximately 7 million cost
of stopping AT 100 PPT. This is NOT
A disproportionate cost considering
that The site would be cleaned up
ONCE AND forever; it abuts a wetland
flows to a Salmon bearing STREAM
Through residential areas to an.

(over)

Estuary on the Shores of Puget Sound. | 010.002 Continued

The goals of the Governors "Puget Sound Partnership focus on:
(1) restoring and Protecting Salmon habitate.
(2) Recovering shellfish beds,
(3) Preventing Pollution from Urban stormwater run off.

AN Extra 2 million excavation cost is NOT disproportionate for a government agency (POS) that has Taxing authority. AND, would be a success in helping reach goals of Puget Sound Partnership and the Dept of Ecology. Aim for Success NOT A short budgeted future problem

010.002 Cont.

010

South, David (ECY)

From: William Brant [clarkebrant@msn.com]
Sent: Monday, November 25, 2013 8:12 PM
To: South, David (ECY)
Cc: Council Members; Greg Wingard; Glenn Akramoff
Subject: Lora Lake Apartments Site Public Comment Period

Mr. David South,
Senior Engineer
Department of Ecology
Toxic Cleanup Program, NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: Lora Lake Apartments Site Public Comment Period

Dear Mr. South:

The comment period for the Lora Lake Apartments Site (LLA) is scheduled to terminate soon. We understand that you granted a brief extension to our consultant to submit his comments this coming Friday. That is appreciated.

The City of Normandy Park is requesting a 30-day extension of the comment period for all commenters. 010.003

This is due to the mass of records on which comments are due, as well as the variety of subject matter in the records.

Usually in the MTCA process there would be a 30-day comment period for the Remedial Investigation/Feasibility Study (RI/FS). The public would have the opportunity to review the data collected on the site in one document, along with the Feasibility Study, which contains an explanation and detail of cleanup options being considered for the site.

After Ecology considers those comments, and responds, a Cleanup Action Plan is developed, which then has an additional 30-day comment period.

In the case of the LLA site, the RI/FS, SEPA checklist, Consent Decree, Cleanup Action Plan, and revised Public Participation Plan, have all been released for a single 30-day public comment period.

This places an undue burden of the public to review and understand the data and information collected, the remedial options selected, the impacts that the Port and Ecology believe will occur, and other matters covered.

There are issues that have only recently become clear, and are changed from information previously made available to the public. For example the proposal to excavate ~30,000 cubic yards of dioxin contaminated waste and dispose of it on the Port's Property at the Dredged Material Containment Area (DMCA). This apparently includes elimination of the remaining vegetation on more than half of the DCMA, and replacing it with impervious surface, adjacent to Miller Creek. Also there is a proposal to take dioxin-contaminated storm water, which currently discharges to Lora Lake, where the dioxin

accumulates, and (according to Ecology) is bound in the peat and sediments there, and divert that storm water to the south, where it will discharge directly to Miller Creek, even closer to the City of Normandy Park. It is important the public has ample time to consider these decisions and implications to the local community.

In sum there are numerous consequential matters to be considered, which we request a more reasonable, and adequate amount of time to comment on.

Even at relatively uncomplicated MTCA sites it is routine to have a 30-day comment period for the investigation and remedy selection phase, as well as an additional 30-day comment period for review of the selected, more detailed remedy. This also usually included the opportunity of the public to consider Ecology's response to the first round of public comment, prior to having to prepare the second round of comment for the Cleanup Action Plan.

We believe given the serious issues, and shear magnitude of information to be considered at the LLA site that 60 days for the public to review and submit comments is reasonable and needed.

Thank you for your consideration.

Sincerely,

Clarke Brant
Council Member/Mayor
City of Normandy Park

010

South, David (ECY)

From: William Brant [clarkebrant@msn.com]
Sent: Wednesday, December 04, 2013 5:39 PM
To: South, David (ECY)
Cc: Council Members; Greg Wingard; Glenn Akramoff
Subject: Re: Lora Lake Apartments Site Public Comment Period

Dear Mr. South,

Thank you for your email about the December 6th meeting with other members of the Department of Ecology and I hope you had a pleasant Thanksgiving holiday. You asked about the source of our concerns and whether there was some other way to accommodate them.

The source of our concern is the future health of Miller Creek. We would like the Department to think as if this creek flows through your and your neighbors backyard. There is a known site upstream that is highly contaminated from past practices including a commercial barrel washing facility and auto breaking yard that operated in a different climate with little thought about the environment. The largest Port in the State of Washington was required to purchase this land as part of a major expansion. This same Port operates the largest international airport in the Pacific NW. The contaminated site is just uphill from Miller Creek. Nobody really knows how much of the contaminants have been transported across our backyards into an estuary and then into Puget Sound. But, the Department of Ecology is "on the case" and we would expect this site to be cleaned up once and for all this time, ending this particular concern for this salmon bearing creek. 010.004

But then we learn that the potential clean up order anticipates directly connecting the Burien storm water system that went through this site to the creek with no discussion that has been found in the thousands of pages of documents as to the SEPA impact or mitigation of this new connection. We have been told repeatedly that this storm water is also contaminated above residential limits. We wonder where the description of the detention pond to slow flash flows is found or the pond of adequate size that would filter the contaminants and meet NPDES requirements. 010.005

Speaking of filtering, we understand that Lora Lake, a man made peat bog excavation, has acted as such for the contaminated Lora Lake Apartment site but now has high levels of contaminants in its bottom sediments. It was once dredged and the contaminated sediments spread into a wetland bordering the creek. The potential order anticipates capping the lake sediments with sand and then filling it to create more wetland. Does this capping with sand consider the recent Environmental Protection Agency study released in April concerning gas ebullition? Where is the discussion about detention and filtering ponds for the water flow that will continue to flow from the LLA site or is it expected to flow across a new wetland that may become recontaminated? 010.006

At the recent open house we learn that the LLA site contaminants between 11ppt- 100 ppt will be removed and placed even closer to the creek in a previously contaminated site which would become even more contaminated from the generally higher levels at the LLA site. It will receive a gravel cap but that will require continual maintenance and institutional controls which may be a weak link. It also contemplates removing all the existing vegetation in this wetland site which lies partially in the 100 year flood plain. We have not found the discussion about the effects of this yet or SEPA impact. It seems we receive 100 year like floods every other year in the recent past. 010.007

010

Various steward groups have spent thousands of hours over numerous years to improve salmon habitat on Miller Creek. The county has spent many thousands of hours with a basin steward and volunteers to improve the habitat, remove invasive plants to improve the basin creeks and counting salmon pre-spawn mortality of the Coho and Chum returns. The Department of Ecology, Storm Water, has just granted funds to this basin to begin work to identify projects that will reduce runoff and pollution. After seeing part of the anticipated clean up order we now have more questions than answers. What kind of accommodation would we want is difficult to say considering all the documents and newly discovered plans, but we could be assured that Ecology is "on the case" if the contaminants were removed once and for all to an appropriate off site location and not spread around the adjacent wetlands. In the meantime we continue to request additional time to comment.

010.
008

Clarke Brant
Council Member/Mayor
City of Normandy Park

From: David South
Sent: Tuesday, December 3, 2013 3:08 PM
To: W. Clarke Brant
Cc: Council Members, Greg Wingard, Glenn Akramoff

Mayor Brant,

I have only just returned from leave visiting out-of-state relatives over the Thanksgiving holiday. I have an appointment Friday, December 6th, with my Section Manager, Mr. Bob Warren, and my Unit Supervisor, Mr. Ching-Pi Wang, to discuss your request for an extension of the Lora Lake Apartments public comment period. This was the earliest time we could get together. I will get back to you shortly after that meeting regarding your request for extension.

David L. South
Senior Engineer
Washington State Dept. of Ecology
Toxics Cleanup Program, NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452
425-649-7200

From: William Brant [mailto:clarkebrant@msn.com]
Sent: Monday, November 25, 2013 8:12 PM
To: South, David (ECY)
Cc: Council Members; Greg Wingard; Glenn Akramoff
Subject: Lora Lake Apartments Site Public Comment Period

Mr. David South,
Senior Engineer
Department of Ecology
Toxic Cleanup Program, NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: Lora Lake Apartments Site Public Comment Period

Dear Mr. South:

The comment period for the Lora Lake Apartments Site (LLA) is scheduled to terminate soon. We understand that you granted a brief extension to our consultant to submit his comments this coming Friday. That is appreciated.

The City of Normandy Park is requesting a 30-day extension of the comment period for all commenters.

This is due to the mass of records on which comments are due, as well as the variety of subject matter in the records.

Usually in the MTCA process there would be a 30-day comment period for the Remedial Investigation/Feasibility Study (RI/FS). The public would have the opportunity to review the data collected on the site in one document, along with the Feasibility Study, which contains an explanation and detail of cleanup options being considered for the site.

After Ecology considers those comments, and responds, a Cleanup Action Plan is developed, which then has an additional 30-day comment period.

In the case of the LLA site, the RI/FS, SEPA checklist, Consent Decree, Cleanup Action Plan, and revised Public Participation Plan, have all been released for a single 30-day public comment period.

This places an undue burden of the public to review and understand the data and information collected, the remedial options selected, the impacts that the Port and Ecology believe will occur, and other matters covered.

There are issues that have only recently become clear, and are changed from information previously made available to the public. For example the proposal to excavate ~30,000 cubic yards of dioxin contaminated waste and dispose of it on the Port's Property at the Dredged Material Containment Area (DMCA). This apparently includes elimination of the remaining vegetation on more than half of the DCMA, and replacing it with impervious surface, adjacent to Miller Creek. Also there is a proposal to take dioxin-contaminated storm water, which currently discharges to Lora Lake, where the dioxin accumulates, and (according to Ecology) is bound in the peat and sediments there, and divert that storm water to the south, where it will discharge directly to Miller Creek, even closer to the City of Normandy Park. It is important the public has ample time to consider these decisions and implications to the local community.

In sum there are numerous consequential matters to be considered, which we request a more reasonable, and adequate amount of time to comment on.

Even at relatively uncomplicated MTCA sites it is routine to have a 30-day comment period for the investigation and remedy selection phase, as well as an additional 30-day comment period for review of the selected, more detailed remedy. This also usually included the opportunity of the public to consider Ecology's response to the first round of public comment, prior to having to prepare the second round of comment for the Cleanup Action Plan.

We believe given the serious issues, and shear magnitude of information to be considered at the LLA site that 60 days for the public to review and submit comments is reasonable and needed.

Thank you for your consideration.

Sincerely,

Clarke Brant
Council Member/Mayor
City of Normandy Park

010

South, David (ECY)

From: William Brant [clarkebrant@msn.com]
Sent: Monday, December 30, 2013 12:26 PM
To: South, David (ECY)
Cc: Glenn Akramoff; Council Members
Subject: Comments Re Lora Lake Apartments Site

December, 30, 2013

Dear David South,

Thank you for your help in getting the comment period for the Lora Lake Apartments Site extended until January 15th, 2014. This will help in understanding the multitude of documents that have become available. During the long period that this cleanup has been studied, we have all become aware of the much greater collective need to improve the water resources that support our historic salmon runs that are becoming imperiled. There are multitude sources of contaminates, habitat destruction and many unknowns that have created this unacceptable situation. Many stewards, volunteers and state and local agencies are increasing their efforts and funding resources being spent on the preservation and return of acceptable salmon runs throughout the entire Puget Sound region as well as the rest of the state.

Miller Creek is just one small part of this entire problem, but it is recognized as a salmon bearing creek with struggling Coho and Chum salmon runs that are but a fraction of the runs my older neighbors describe as "being able to walk across the creek on the returning fish". Other species of fish including Bull Trout are described as having been or still are in the creek. Walker Creek which flows into Miller Creek near the estuary also has struggling salmon runs that have less stress from pre spawn mortality, perhaps due to more working wetlands and a less contaminated drainage area. Miller Creek has the potential to become a great example of a successful rehabilitation and return of healthy runs. Already the lower portion of the creek has had the habitat returned to woody debris, deep pools, tree shading and other projects by thousands of hours of steward work. What appears to be missing is control of the chemicals, contaminants and road runoff from the drainage basin. Recently with the help of a county basin steward, Burien was able to stop a commercial car washing facility that drained soaps directly to the creek. Progress is possible.

What we have at the Lora Lake Apartments Site are known and persistent contaminants from former commercial activity (barrel washing and wrecking yard) that occurred at a time when environmental concerns were less than healthy. The Port of Seattle was required by the FAA to purchase this property as part of the third runway development. While I am sure that the Port was not happy to have to purchase a known contaminated site, the fact is they did. This fact is actually a happy coincidence for the downstream communities as the Port, as the largest operator of a huge domestic and international airport, has the engineering staff and wherewithal to actually perform a complete cleanup. This site has had cleanups in the past, but now is an opportunity to remove the contaminants once and for all to keep them out of Miller Creek. There will never be a better time; and it nicely aligns with the mission of the Department of Ecology and stated goals of the State of Washington!

From some of the data recently released, I have several specific concerns:

010.009

1. The proposed Cleanup Action Plan appears to have the worst of the contaminants/dioxins removed entirely from the site to an appropriate site. However the plan also contemplates removing the dioxins from 100 ppt to 11ppt from the site and inexplicably moved closer to Miller Creek where even some would be in a one hundred year flood plain. This would increase the contaminant loading already existing in the former wetland along the creek and would require continual monitoring and

010.009

maintenance of any cap and barrier system in perpetuity. The likelihood of disturbance by natural forces or construction activity creates an unacceptable future threat of recontamination within the creek. The 11ppt is the current residential standard and why the much lower wetland standard does not apply to prevent actually moving contaminants into creek wetlands needs to be addressed. Even these standards appear to be under review due to human consumption of fish in these basins. The best answer would be to remove contaminants off site to an appropriate place that accepts such material. Any extra cost should be compared to the long term cost of maintaining a barrier/cap in perpetuity along with the threat of hundred year floods occurring much more often and future construction. The Port is also accepting grant funds which should help to complete a final "once and for all cleanup".

010.010

2. There has been a long standing inference that contaminants are also flowing across the site from the storm water system of a neighboring city. Most of this system was constructed when there was no thought as to flash flow and settling ponds for cleaning the flow. The Cleanup Action Plan appears to have this flow diverted around the Apartment site and connected directly to Miller Creek. This must not happen. It may violate federal and state requirements for handling storm water. The inference that this water is also contaminated with dioxins must be studied to determine the actual facts and necessary cleanup before any connection to Miller Creek is contemplated. If this storm water system is reconstructed thru the LLA site, it still needs investigation concerning dioxin being carried in its sediments and appropriate remedies applied. Some adequately sized detention and settling pond east of Des Moines Way may be required before it is allowed to flow across current or recreated wetlands as it would likely create channelization to Miller Creek without detention of flash flows. Such flows would be capable of transporting contaminated sediments.

010.011

3. The proposed filling of Lora Lake itself may actually create additional problems. It is a known sink and filter for much of the dioxin that came off the Lora Lake site. Trying to recreate a wetland from the lake may require additional detention ponds to handle the flow from the apartment site and land to the east across Des Moines Way for any residual contaminants working their way toward Miller Creek.

I am submitting these comments on behalf of myself, and the city likely will be submitting its own additional comments in early January 2014. Thank you for extending the comment period. I truly believe that Miller Creek has the opportunity to become a statewide example of how salmon runs can be rehabilitated and returned; but that will not happen unless Ecology actually enforces its mandate and cleans up these known contaminates once and for all. I also know that the Port is capable of doing a complete cleanup as evidenced by the success of their detention ponds built since the construction of the third runway. Removal of the contaminated soil down to at least the residential standard to an appropriate off site location that accepts such soil may in fact be the most economical solution when all factors over long periods of time are considered. This would permanently remove one known source of dioxin contaminants as a threat to the viability of Miller Creek. This is not the Love Canal or lower Duwamish. With a bit more effort, this mess can be totally and permanently cleaned up. We have a creek with continuing salmon runs that needs our attention and can be rehabilitated, if we properly address known contaminants. Thank you.

Clarke Brant

Council Member

City of Normandy Park

011

South, David (ECY)

From: jlrankinco@comcast.net
Sent: Wednesday, November 27, 2013 8:15 AM
To: South, David (ECY)
Cc: Council Members; Greg Wingard; Glenn Akramoff; William Brant
Subject: Re: Lora Lake Apartments Site Public Comment Period

Mr. South;

Although I am a councilmember in Normandy Park, these are my own thoughts, and not endorsed by, or representing the city of Normandy Park.

However, from a strictly logical perspective, and considering Mayor Brant's concise and detailed request, what I have gotten from your response is the following:

011.001

Inclusion of previously undisclosed (and consequently not available for review by the public) plans for the handling and disposal of large quantities of highly toxic dioxin-laden soil in the headwaters of, and immediately adjacent to a waterway that discharges directly into Puget Sound doesn't violate the public's right to comment because of the added expense of republishing premature, incomplete and inaccurate notices.

011.002

It makes me ponder what exactly the Washington State Department of Ecology's real interest might be. Ostensibly, it would seem obvious that Ecology's mission is to protect and preserve the ecology of the state, but I don't think you could convince anyone that it has anything to do that. Quite the opposite, in fact. Perhaps we need yet another agency based out of Olympia that ***actually*** has an interest in protecting the ecology of our region. The one we currently have certainly isn't doing it.

Respectfully,
John L. Rankin

From: "David South (ECY)" <DSOU461@ECY.WA.GOV>
To: "William Brant" <clarkebrant@msn.com>
Cc: "Council Members" <council.members@CI.NORMANDY-PARK.WA.US>, "Greg Wingard" <gwingard@earthlink.net>, "Glenn Akramoff" <glenna@ci.normandy-park.wa.us>
Sent: Wednesday, November 27, 2013 7:24:42 AM
Subject: RE: Lora Lake Apartments Site Public Comment Period

Mayor Brant,

I have discussed your request for extension of the Lora Lake public comment period with my Section Manager, Mr. Bob Warren. There is considerable effort and expense in extending a public comment period due to public notice requirements. We would like to discuss the source of your concerns and whether there is some other way to accommodate them.

I am out of the office on leave the rest of this week and most of next week, but will be back in the office on Friday, December 6th. I will be checking email once a day (maybe not on Thanksgiving). If you could email me with your concerns, I would appreciate it. I will discuss them with Mr. Warren and we will be in touch.

DLS

Park. It is important the public has ample time to consider these decisions and implications to the local community.

In sum there are numerous consequential matters to be considered, which we request a more reasonable, and adequate amount of time to comment on.

Even at relatively uncomplicated MTCA sites it is routine to have a 30-day comment period for the investigation and remedy selection phase, as well as an additional 30-day comment period for review of the selected, more detailed remedy. This also usually included the opportunity of the public to consider Ecology's response to the first round of public comment, prior to having to prepare the second round of comment for the Cleanup Action Plan.

We believe given the serious issues, and shear magnitude of information to be considered at the LLA site that 60 days for the public to review and submit comments is reasonable and needed.

Thank you for your consideration.

Sincerely,

Clarke Brant
Council Member/Mayor
City of Normandy Park

011

Comments of John L. Rankin, prepared for inclusion in the Public Comments regarding the proposed Lora Lake Remediation agreement entered into by the Port of Seattle and the Washington State Department of Ecology:

Attached please find materials prepared by Simon Nicholas Platts regarding the essential nature and dangers of dioxins in the environment as relates to the current discussions over the level and type of clean-up required at the Lora Lake site on the Port of Seattle property.

As much of the discussion over the agreement between the port and Ecology has centered around clean-up standards and differential analysis of potential effectiveness of different methods jointly proposed by the Washington State Department of Ecology and the Port of Seattle, my thought is that it would be most informative to back away from this area of contention to examine instead the precise nature of the contamination, and what significance it has for living organisms.

Pursuant to that, I have requested a short analysis I refer to as "Dioxins for Dummies" from Simon Nicholas ('Nick') Platts, B.Sc. (Hons)., M.Sc., Dip. Ed., Ph. D., author of 'Contributions to Chemical Questions in the Origins of Life'. Aside from being internationally known as the chemical scientist widely regarded to have discovered the nature of the origins of life on our planet (it is, of course, impossible to overstate the magnitude of this discovery), Dr. Platts is currently employed as the Environment Chemist and Scientific Advisor for Nelson Environmental Remediation USA Ltd., an international soil remediation contracting firm serendipitously based in Normandy Park, Wa., where Dr. Platts also currently resides.

In requesting this analysis from Dr. Platts, I asked him to reduce this very complex and complicated subject to a basic form which is hopefully understood by nearly everyone. Certainly, it is clear enough when he concludes that:

"For a community, this means that no informed person will want to either conceive a child or raise young children in an area where there is a risk of significant exposure to dioxins, either in the local soil, air, or water."

003
011.004

Secondarily, as Dr. Platts is engaged with environmental regulators and remediation on an international scale on a daily basis, and is regularly sought as a keynote speaker on conferences regarding such, he has some on-point observations about the actual business of crafting remediation policy, and related pitfalls, which I have also included. His observations about the 'inside game' played by those responsible for funding a potentially staggeringly expensive clean-up, and how they manipulate the process sounds eerily familiar to the concerns raised by critics of the agreement between the Port of Seattle and the Washington State Department of Ecology.

011.0031

As a personal aside, unrelated to the above introduction of Dr. Platts comments, it is extremely distressing to me to witness the Washington State Department of Ecology actively working against the significant health interests of our local community, and the communities surrounding Puget Sound by downplaying the significance of dioxins contamination in the environment, when the agency required to perform clean-up is another government agency, the Port of Seattle.

This kind of collusion, where obvious and discoverable contamination is purposefully ignored, with commensurate responsibilities shuttled aside, is conduct that would never be tolerated from private corporations, and in fact, may justifiably be assessed as criminal acts if discovered. Yet the port and Ecology continue to collude, in the presence of overpowering evidence of additional and more extensive contamination, to minimize the impact to the port on the basis of financial considerations, while tacitly dismissing the long-term environmental impacts of dioxins in the environment to the Puget Sound region.

I find these actions, particulary by those in Ecology whose charge it is to protect the population from just this sort of hazard, repugnant, and conduct more in line of what we have been told to expect from large faceless and morally bereft corporations like Union Carbide. Dioxins in the environment have demonstrable, long-term, disastrous effect for decades, even centuries, into the future. These dioxins are making their way directly into Puget Sound. We can do a complete cleanup now, for the benefit of untold generations, or we can yet again literally

011

bury the problem, making the inevitable required cleanup just that much more difficult and expensive. 011.0031

The money used to fund all of the remediation efforts, both proposed and requested, is the peoples' money – not that of some private, profit-centered corporation. To what better use could it possibly be put? 004 011.~~002~~

John Rankin

700 SW Normandy Road

Normandy Park, WA 98166

Attachment 1: ***Comments from Simon Nicholas ('Nick') Platts, B.Sc. (Hons)., M.Sc., Dip. Ed., Ph. D., regarding the dangers of dioxins in the environment:***

Attachment 2: ***Comments from Simon Nicholas ('Nick') Platts, B.Sc. (Hons)., M.Sc., Dip. Ed., Ph. D., regarding the 'business' of remediation and regulation policy:***

Attachment 1

Comments from Simon Nicholas ('Nick') Platts, B.Sc. (Hons)., M.Sc., Dip. Ed., Ph. D., regarding the dangers of dioxins in the environment:

A brief outline (intended for the general reader) about why '*dioxins*' (and the related '*furans*') are of such serious concern environmentally.
(Prepared *gratis* by *NER USA Ltd.* for Mr. John L. Rankin, and offered for the consideration of the people of the *City of Normandy Park*, respecting the *Public Comment* record regarding the proposed remediation by the *Port of Seattle* of the contaminations at the *Lora Lake* site, near Seattle Airport.)

As a starting point, everyone knows that some *elements* dissolved in water (such as *Mercury* or *Chromium*) are much more poisonous/toxic to living things than others (*e.g., Calcium* or *Iron*). So, if your local/domestic water-supply analyzed as being high in *Calcium* or *Iron* for example, it isn't a disaster and could be treated-for relatively easily by the homeowner investing in a suitable water purification system (*e.g.,* one based on 'ion-exchange' resins/technology). But if an analysis showed that your water was high in *Mercury* or *Chromium* for example, you can bet that the local/governing water authority would have some serious explaining to do, both to local residents at a 'town-hall' style meeting and to state/federal watchdogs, and also some urgent remedial and probably legal actions to take as well (*i.e.,* against the identified polluter/s or recognized liability-holder/s).

The same 'degree-of-seriousness' distinctions are also true for *chemicals* dissolved in water: some types of molecules (such as among the family of chemical compounds collectively known as '*dioxins*') are simply much more poisonous/toxic to living things than other kinds of compounds (*e.g., 'carboxylic acids'* such as *acetic acid*, or '*hydroxy acids*' such as *citric acid*, being two familiar and everyday examples of "*organics*"). So basically, just as one's used to thinking about certain dissolved *metals* such as *Mercury* and *Chromium* as being among the nastiest "*inorganics*" that one could possibly discover dissolved in one's water supply, so too among "*organics*" one rightly regards dissolved molecules of particular classes of organic chemicals such as '*dioxins*' and '*PCBs*' as being among the nastiest molecules that one could possibly discover to be contained dissolved in one's water supply.

Anyhow, just as mankind's Industry has re-mobilized heavy metals on the Earth such as *Mercury* and *Chromium* (which the planet's own natural geological processes had mostly '*put to bed*' in ore-bodies millions of years ago, before Paleontology says humans ever existed), so the existence of *dioxins* and *PCBs* in the environment is almost entirely a modern industrial consequence, their occurrence being essentially

rooted in Industry's production and use of elemental Chlorine (as well as, but to a far lesser extent, in the combustion of any chloride-containing fuel, such as wood). '*Dioxins*' (properly: *PolyChlorinated DibenzoDioxins*, *PCDDs*) are long-lived (*i.e.,* tough, resilient, long-lasting) molecules in the environment simply because their molecular '*skeleton*' just happens to be a very stable grouping of atoms (the *dibenzodioxin* '*skeleton*' being made up of 12 Carbon atoms plus two Oxygen atoms), with this flat '*skeleton*' being variously '*decorated*' around its edges by different arrangements of Hydrogen atoms and Chlorine atoms (in the case of *dioxins*, the number of Hydrogen atoms plus the number of Chlorine atoms always sums to eight).

The high chemical stability of *dioxins* is responsible for them being classed among the recognized environmental '*persistent organic pollutants*' (*POPs*); *POPs* are compounds that are just plain difficult to break-down out in the environment, either chemically (*e.g.,* chiefly by aerial oxidation), photochemically (*i.e.,* chiefly by UV degradation), or biochemically/microbially (*i.e.,* chiefly enzymatically).

And because living things can't readily 'deal with' or metabolize *dioxins* that enter the organism, the only options available to the organism are to either find a way to excrete the *dioxins* or to simply store them somewhere '*out-of-the-way*' (such as in a fatty deposit/tissue). This means that *dioxins* can bio-accumulate in the tissues/materials of exposed organisms, and that these accumulations can then head on upwards in the food-chain, thus amplifying their concentrations in higher organisms, such as fish, cetaceans (*e.g.,* Orcas in Puget Sound), and humans.

Basically, as far as the biological organisms on the Earth are concerned, any small amounts of *dioxins* (or *furans* or *PCBs*) that might be produced naturally on the Earth (*e.g.,* through naturally-occurring events such as forest/grass fires) are generally so infrequent and minuscule in both amount and concentration (especially on natural aerial or aqueous dilution) as to constitute an essentially insignificant '*background*' exposure. But an ongoing and persistent exposure (*e.g.,* through *dioxins*-contaminated runoff from an old industrial site), is certainly a non-natural situation for any organism to find itself in, both for its own receptor-exposure effects, as well as for accelerating the rate of bio-accumulation on up the food-chain (*i.e.,* leading to rapidly climbing *dioxins* exposures of higher organisms).

The various specific mechanisms by which *dioxins* can adversely affect organisms are still being studied and determined (*e.g.,* unfortunate/undesirable receptor-binding interactions with certain proteins that can lead to tumor-growth promotion), but the major thing for a community to be aware of (especially one that's faced with a *dioxins*-in-soil/sludge liability '*on-the-books*' of a local industrial/business concern, with *dioxins*-contaminated waters either running-off surficially, or percolating away from such a site through groundwaters) is that it is actually the community's unborn fetuses and the developing young who are regarded as being the most highly vulnerable to adverse health effects on exposure to *dioxins*.

For a community, this means that no informed person will want to either conceive a child or raise young children in an area where there is a risk of significant exposure to *dioxins*, either in the local soil, air, or water.

--

Nick Platts, Ph.D.
Environmental chemist & Scientific advisor.
Nelson Environmental Remediation USA Ltd.
642 SW Normandy Road, #2,
Normandy Park, WA 98166-3914.
www.nerglobal.com
(206) 922-2129 (Tel.).
(780) 962-6885 (Fax).

Attachment 2

Comments from Simon Nicholas ('Nick') Platts, B.Sc. (Hons)., M.Sc., Dip. Ed., Ph. D., regarding the 'business' of remediation and regulation policy:

As the environmental clean-up costs for *dioxins*-in-soils/sludges can be quite financially disconcerting to those who might find themselves '*on-the-hook*' (*e.g.,* CEOs, CFOs, shareholders, and the insurers of potentially-liable businesses/companies), these interested parties will sometimes seek a way out of their trouble by engaging an unscrupulous '*environmental consultant*' who (as it's quietly undertood from the outset, but never in writing or otherwise traceably of course) will simply conveniently omit to request (*i.e.,* on the order-sheet that's sent-in with the environmental soil/sludge samples being submitted) that the laboratory (*i.e.,* the specific lab which is being commissioned to analyze the samples collected from the site) look for any *dioxins* (or for any *furans*, or any *PCBs*, *etc.*) at all.

And an ordinary citizen should be under no illusion here: a commercial analytical lab certainly isn't going to waste its own time and resources looking for things in any given sample (be it a sample of air, of water, of soil, of sludge, or of a biological tissue/material) that it won't definitely be being paid to look for. A commercial analytical lab's a business, and a successful business doesn't '*rock-the-boat*' or '*bite-the-hand-that-feeds*'. And if one were ever to put their '*feet-to-the-fire*' regarding the ethical standpoint, they'd simply say that it's really up to the governmental regulator(s) (who ultimately sign-off on things/permits/cleanups/reclamations) to double-check on things and to hold polluters accountable, and that it's not for lab personnel to go detective-style on a deliberate 'fishing expedition' for things to 'stick' on the property-owner or the business-owner.

So, as is well-known among those actually working in the field of environmental remediation, the biggest legal '*loop-hole*' for a company to try to get itself 'off-the-hook' in a potential environmental liability situation is to retain the services of a supposedly professional '*environmental consultant*' (of which there are now thousands of such variously-backgrounded persons all across the country), one who'll conveniently '*play ball*' (and, of course, be duly and well paid for doing so). From an ordinary citizen's viewpoint, this is currently the unfortunate '*dark corner*' of the 'environmental' field in all countries, including the United States.

Ordinary citizens are therefore obliged to trust in the education and expertises of those persons employed in the Public Service, such as the individuals who authored, drafted, vetted, and then released the *Lora Lake* document, in which the word '*dioxin*' in used repeatedly in the singular (*i.e.,* showing the regulator's simple-minded ignorance of the

existence of the fully expected congeners and isomers, hence the proper term being the plural '*dioxins*'), as well as the use of the singular '*xylene*' (when there are in fact three xylene isomers, hence the proper term being the plural of '*xylenes*' among informed and properly-qualified persons).

011.005

Nick Platts, Ph.D.
Environmental chemist & Scientific advisor.
Nelson Environmental Remediation USA Ltd.
642 SW Normandy Road, #2,
Normandy Park, WA 98166-3914.
www.nerglobal.com
(206) 922-2129 (Tel.).
(780) 962-6885 (Fax).

012

South, David (ECY)

From: stuartjenner@comcast.net
Sent: Monday, November 25, 2013 5:07 PM
To: South, David (ECY)
Cc: clarke.brant@ci.normandy-park.wa.us
Subject: comments on Lora Lake cleanup proposal

Hello,

I attended the public workshop. There was a lot of information to absorb. However, two numbers really stand out in my mind.

1. The number "4"
2. Two million

The number 4 stands out because it was by itself. It represented a number of a certain type of pollutant outside of the Lora Lake drainage pipe. Yet, there were plenty of other numbers inside the Lora Lake area, and across the street at the apartment site. What went through my mind was "what are the measurements of the other pollutants outside of the drainage pipe?" It is mind boggling to assume that there are no pollutants at all outside of the drainage pipe. 012.001

I am particularly sensitive to numbers for pollutants because as a member of the Sierra Club I was very involved in the fight against what we called the "Dirty Fill Bill." Do you remember this? There were big disagreements about how much arsenic was appropriate to have in fill going into the third runway retaining wall. Using one test, the test the Port wanted, there was "no problem" because the test was not accurate enough to tell that there was an unusually high amount. The analogy one of my fellow Sierra Club members came up with was "let's say the car is speeding 495 miles per hour. The test can't report anything less than 500 mph. So if the speed limit is 70 mph, the car is going 495, and the test says anything below 500 mph is 'ok', then the car can be way over the speed limit but it won't show up as a problem on the test."

Two million. 012.002

To most of us, two million dollars is a lot of money. However, to the Port of Seattle, and compared to the total spent on the third runway and on airport expansion, it is a drop in the bucket. It is a rounding error. It is a microdot superimposed on a period.

As I listened to the bland comments at the workshops of "we did some cost benefit analysis and decided $7 MM was the right amount, but $9MM was too much to pay", my thought was "well, who's buying the insurance policy? Who's taking the risks?" And then more ominously, "If this area turns into a big development full of car dealers and then it turns out there's a problem with contaminants leaching into the creeks and also with contaminants leaching into the Highline water district aquifer, is it really going to be feasible to fix it? 012.003

012

I reside at 200 SW 178th street in Normandy Park, very close to a former dry cleaner's dump site. The cleaning chemicals have leached into the ground and are slowly being transported west, towards Puget Sound. Cleaning up the contaminants would be impossible now unless an area several blocks long and at least 50, maybe even 100 feet, was excavated.

012.004

At the workshop, I asked a question about migration and transport of chemicals. The answer I think I heard was something along the lines of "well that won't happen. This stuff is too heavy." I do not have the technical expertise to evaluate this claim. However, there have been many times when we think we know something with scientific certainty, but then it turns out the situation is quite different. When the difference is only $2 million, wouldn't it be better to just do it right the first time?

A few other comments.

012.005

1. The notice of the workshop says "Des Moines Creek". This is incorrect. The creek is actually Miller, which drains into the Miller-Walker basin.

http://www.ecy.wa.gov/news/2013/267.html

Lora Lake: Fill a man-made lake left from a former peat mine with clean soil to contain contaminated sediment, while re-establishing a former wetland that will protect water quality in Des Moines Creek

012.006

1. This document has several good points, but it repeatedly talks about "west". It does not mention "east" or "south". Yet that's where the water from the lake drains out of the drainage pipe.

https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=22703.

Closing requests

012.007

1. Please clean to the highest possible standard. My understanding is this is the residential standard.
2. Please communicate much more clearly what all the contaminants are east and south of Lora Lake itself. 012.008
3. Please don't use just one number from one contaminant to justify a decision and assertion about transport of cleaning chemicals and other pollutants. 012.009
4. When writing the cost-benefit analysis, please outline what the benefit is to the Port of having the highest level of standards. It seems much more likely our community could attract a major development with much longer-lived buildings and much more up front investment than if there is uncertainty about what would happen to the buildings if the contaminants turn out to still be a problem. 012.010

012

5. I have a hard time following this, but there was something about gravel would be used for cover of some contaminants. Is this prudent? What are some alternative covers? 012.011

6. Finally, please outline the long-term impacts of this decision on the health of the Highline aquifers. This report and process seems exclusively focused on the creeks that drain into Puget Sound. We know that some contaminants are going to be left in place no matter what the standards are. At what point do we have a problem with those contaminants descending into the aquifer? How do we fix it if that problem occurs? 012.012

Sincerely,

Stuart Jenner

200 SW 178th Street
Normandy Park, WA 98166

206-241-7070

013

South, David (ECY)

From: Marilyn Dunstan [mjdunstan@gmail.com]
Sent: Wednesday, November 27, 2013 2:35 PM
To: South, David (ECY)
Subject: URI

013.001

I got a URI the day after walking by this area on November 24th and reported it to UW Medicine today (regarding my office visit yesterday). Not sure if there is a tie-in as there are other medical factors involved. Understand there are statistical issues in assigning causation but thought I'd add this to your list.

Worked 5 years at Puget Sound Air Pollution Agency as Statistical Analyst.

Thanks,

Marilyn Dunstan
206.465.2890

014

South, David (ECY)

From: Brenda Sullivan [sullivan.brenda99@gmail.com]
Sent: Monday, November 18, 2013 9:12 AM
To: South, David (ECY)
Subject: Lora Lake

To:
David South,
Ecology site manager

014.001

I would like to comment on the plan to partially clean up the Lora Lake Apartments site in Burien. As I understand it, part of the contaminating substances are to be removed and a cap is to be used to cover the rest. I would strongly recommend that the entire amount of contaminants be removed - if we're going to do the job, let's do it properly.

014.002

I have been taking part in the Miller-Walker Creek Community Salmon Inventory, and it is startling and distressing to see how many of these fish die before they have a chance to spawn. The present scientific opinion seems to be that no one contaminant is wholly to blame for this pre-spawn mortality, but it's the combination that is killing our salmon. Therefore completely removing the stress caused by contamination from runoff from the Lora Lake site on the salmon in our local streams would seem to be the only effective way to go.

014.003

This would cost a little more than the present plan, but in terms of the Port of Seattle's whole budget, it would seem to be a drop in the bucket, and an unjustified case of short-sighted "savings" causing long-term costs to our environment.

Sincerely,

Brenda Sullivan
1654 SW 168th St
Burien
WA 98166

015

Burien

Washington, USA

City of Burien
400 SW 152nd St., Suite 300, Burien, WA 98166-1911
Phone: (206) 241-4647 • Fax: (206) 248-5539
www.burienwa.gov

November 22, 2013

David L. South
Department of Ecology
Ecology Site Manager
3190 160th Avenue SE
Bellevue, WA 98008

Re: Comment Letter – Lora Lake Contamination Site Cleanup Project

Dear David:

015.001

The City of Burien (City) is writing to express its support of the Department of Ecology's (Ecology) proposed Consent Decree and associated Cleanup Action Plan for the Port of Seattle's removal and containment of dioxin contaminated soil at the former Lora Lake parcels in Burien and SeaTac, Washington.

As with other concerned parties, the City wants and expects the proposed cleanup to be conducted to stringent environmental standards and, to the extent possible, to be a permanent solution to this historical problem. It appears to us that Ecology's proposed cleanup solution for this site provides just that. According to Ecology's fact sheet, the cleanup levels and proposed actions will not only provide adequate remediation for the environmental and health concerns attributed to these contaminants but will also provide a direct ecological benefit by restoring Lora Lake to a wetland condition, which it was prior to the peat mining operation in the 1940's. This in turn should provide water quality and hydrological benefits to Miller Creek, which is a highly sensitive urban stream.

Ecology states that urban background levels in Seattle range up to 100 parts per trillion (ppt) and that, after the proposed cleanup, average concentrations of dioxin in both the Lora Lake Apartments parcel and the Lora Lake parcel will be lower than the average background levels found in Seattle urban soils. These anticipated results reinforce Ecology's chosen levels of soil removal and containment. Additionally, through the proposed plan, all soils with dioxin concentrations between 11 ppt and 100 ppt will be contained with a clean barrier, preventing contact by humans and wildlife, and soils containing dioxin levels above 100 ppt will be excavated and removed for disposal. After the proposed remediation is complete, Ecology projects that the site will no longer contain any exposed, uncontained soils with dioxin concentrations above 11 ppt, which is below the average that Ecology found in Seattle urban

015

soils. As a result, it appears that the proposed cleanup will be a significant improvement to the sustained ecological health of the site and the surrounding area.

The City of Burien has a vested interest in the completion of this remediation process. The planned future development of the Lora Lake Apartments parcel is part of a larger redevelopment area that Burien is helping to bring to fruition. Burien is currently working on projects to install regional stormwater facilities in the area northwest of the SeaTac airport and to construct an adjacent SR 518 interchange. These projects will facilitate the creation of a 35-45 acre auto center, a significant linear park, and airport cargo facilities, on property that has been vacant and underutilized for more than a decade. Our expectation is that these projects will eventually produce jobs, environmental benefits, and recreation opportunities. Accordingly, we would like to see the cleanup proceed without unnecessary delays, so that the development and improvement of this area will be able to proceed in a timely manner.

015.002

In conclusion, the City of Burien feels that Ecology's proposed Consent Decree and Cleanup Action Plan will benefit both the City and the region as a whole, and the City is supportive of this course of action. Please contact me at (206) 248-5503, or Public Works Director Maiya Andrews at (206) 248-5514, if you have questions about the comments in this letter.

Sincerely,

Craig D. Knutson
Interim City Manager
City of Burien

Cc: Burien City Council
Maiya Andrews, Public Works Director

MA:ca

015

Burien
Washington, USA

City of Burien
400 SW 152nd St., Suite 300, Burien, WA 98166-1911
Phone: (206) 241-4647 • Fax: (206) 248-5539
www.burienwa.gov

January 9, 2014

Bob Warren
Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008

Re: Comment Letter – Lora Lake Contamination Site Cleanup Project

Dear Bob:

The City of Burien (City) is writing to provide additional comments in support of the Department of Ecology's (Ecology) proposed Consent Decree and associated Cleanup Action Plan for the Port of Seattle's removal and containment of dioxin contaminated soil at the former Lora Lake parcels in Burien and SeaTac, Washington.

015.003 ~~001~~

We previously provided comments about our support for the plan, in general, with regard to the cleanup levels and environmental improvements. With this letter, we would like to more specifically emphasize our strong preference for, and the significance of, using the dredge material containment area (DMCA) for consolidation of soils having 11-100 pptr dioxin levels.

015.002 004

First and foremost, we see this as a preferable location from both an environmental perspective and a safety perspective. We are fortunate that an area exists in the immediate vicinity that can offer the kind of protection from public access that this area does and will do for decades to come. This area is protected by a security fence, is frequently patrolled by Port Police, and is well within the FAA runway protection area. This means that there will be no other use of the property unless the runway ceases to exist, which is highly unlikely in the foreseeable future. Also, this area is very close to the source locations, thereby eliminating the need for haul of the contaminated material over many miles of roadway. The result is less risk of spreading contaminants to other locations and more limited environmental impact from the truck haul itself. The material will be placed outside of the 100-year flood plain of Miller Creek and over 200 feet away from the Creek. However, we do recommend that the actual floodplain boundary be surveyed to ensure that the material is not placed in that vicinity. The planned engineered surface will provide a barrier between the contaminants and plant growth or other ecological exposures. The Port also has fulltime professional environmental staff on site to ensure that environmental covenants are maintained. All of these factors give us confidence

that this is an appropriate site to protect the public and the environment from these contaminants well into the future.

004
015. ~~002~~ continued

Additionally, we are concerned that not moving forward at this time with this planned location will have significant cost impacts on the taxpayers. These costs can be measured in both the direct costs of hauling the material to a landfill (millions of dollars in additional cost) and in the lost economic development opportunity to the community should the site remain vacant or underdeveloped. In our view, the additional cost burden does not improve the environmental conditions locally or regionally and will likely make the planned development of the parcels economically infeasible.

005
015. ~~003~~

As we stated in our earlier comment letter, the City of Burien has a vested interest in the completion of this remediation process. The planned future development of the Lora Lake Apartments parcel is part of a larger redevelopment area that Burien is helping to bring to fruition. Burien is currently working on projects to install regional stormwater facilities in the area northwest of the SeaTac airport and to construct an adjacent SR 518 interchange. These projects will facilitate the creation of a 35-45 acre auto center, a significant linear park, and airport cargo facilities, on property that has been vacant and underutilized for more than a decade. Our expectation is that these projects will eventually produce jobs, environmental benefits, and recreation opportunities. Accordingly, we would like to see the cleanup proceed without unnecessary delays, so that the development and improvement of this area will be able to proceed in a timely manner.

006
015. ~~004~~

In conclusion, the City of Burien feels that Ecology's proposed Consent Decree and Cleanup Action Plan will benefit both the City and the region as a whole, and the City is supportive of this course of action. Please contact me at (206) 248-5503, or Public Works Director, Maiya Andrews, at (206) 248-5514, if you have questions about the comments in this letter.

007
015. ~~005~~

Sincerely,

Craig D. Knutson

Craig D. Knutson
Interim City Manager
City of Burien

Cc: Burien City Council
Maiya Andrews, Public Works Director

MA:ca

016

Washington State
Department of Transportation
Lynn Peterson
Secretary of Transportation

Northwest Region
Sno-King Local Agency and Development Services
15700 Dayton Avenue North
P.O. Box 330310
Seattle, WA 98133

206-440-4000 TTY: 1-800-833-6388
www.wsdot.wa.gov

November 25, 2013

David L. South, Ecology Site Manager
Washington State Department of Ecology
NW Regional Office – Toxics Cleanup Program
3190 – 160th Avenue SE
Bellevue, WA 98008

Subject: Lora Lake Apartments Consent Decree and Cleanup Plan

016.001

Dear Mr. South:

Thc Washington State Departmnet of Transportation (WSDOT) appreciates the opportunity to review this cleanup plan. Components within this cleanup may affect WSDOT projects in the future. WSDOT looks forward in working with Ecology and other appropriate stakeholders in allowing construction projects to move forward and to adequately protect the environment. WSDOT may seek flexibility and adaptability in its future projects depending upon how and which cleanup alternative is chosen.

Background
WSDOT appreciates that dioxins/furans over 100 pg/g will be excavated off-site (approximately 19,000 cubic yards). Ecology is proposing to excavate and consolidate or cap the remaining areas where dioxins/furans are between cleanup standard of 10 and 100 pg/g. Ecology estimates this amount to be 30,000 cubic yards.

Comments

- WSDOT realizes the area is limited and that capping may affect recharge. WSDOT will evaluate the options as appropriate but may need to seek relief for detention options outside of this threshold discharge area.

- WSDOT is concerned that future WSDOT project components may temporarily affect the cap. WSDOT will work with Ecology on appropriate mitigation measures to minimize the spread of the contamination prior to construction. WSDOT prefers the excavation, consolidation, and capping option.

- The consent decree/clean-up plan calls for installation of a new drainage system on the north side of the parcel, [Page 4, Section 11] which could be adjacent to SR 518.

016.001 continued

This may require reconnection of WSDOT's drainage into the conveyance system. Without the location of this proposed new enclosed drainage system it is difficult to assess the potential impact to the future work of construction ramps as proposed by the City of Burien at this location.

- Des Moines Memorial Drive as part of its corridor has historic trees along its length and along SR 518. These include large growth trees that could be impacted reducing the interception of rainfall, thus increasing the flows to the downstream reaches. The plan does not acknowledge this [Page 17, Section 13 of Environmental Checklist], but does show on the exhibits impacted areas which could require replacement of drainage along Des Moines Memorial Drive and under SR 518 within limited access.

- Please show the placement of the new drainage system on the north side of the parcel as called out in the plan.

If you have any questions, or require additional information please contact Felix Palisoc of our Local Agency and Developer Services section by phone at 206-440-4713, or via e-mail at palisof@wsdot.wa.gov.

Sincerely,
Washington State Department of Transportation

Ramin Pazooki
Local Agency and Development Services Manager

RP:fsp

cc: C. George (Engr. Manager)
P. Svoboda (Environmental)
K. Hall (Hydraulics)

David South, 017
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

RE: Comments on the Lora Lake Apartment Site RI/FS, SEPA Checklist and MDNS, Consent Decree, and Cleanup Action Plan

Mr. South:

My comments are included below. Also attached to the email transmitting these comments you will find a copy of an EPA technical memo, which is meant to be included in my comments.

Let me know if you have any questions.

SEPA Check List

There are specific comments submitted below on the SEPA Checklist, and MDNS. Due to the nature and volume of records presented for comment, all comments submitted are intended as comments on the SEPA Checklist and MDNS and are intended for inclusion in the record for that action.

Likewise the comments related to the SEPA documents are intended to apply to the rest of the reports and records provided to the public for comment as part of this comment period.

[017.001] The SEPA Checklist and determination for this site are inadequate, lack information and analysis necessary to determine the range of impact, overstress relatively small impacts, is entirely silent on much larger impacts, and fails to accurately consider where remedy impacts offset, or negate claimed remedy benefits.

Pg 4 #10 King County Industrial Discharge Authorization required. ACOE 404 permit for LL Parcel. CSGP required…

Like the Port of Olympia East Bay project, general permit coverage for treatment and discharge of dioxin-contaminated dewatering/groundwater is not appropriate. **[017.002] The discharge should be covered by an individual permit, specific to the LLA Parcel.** The circumstances are almost identical to the East Bay Project, though the dioxin levels in soil is orders of magnitude higher, and there is confirmed dioxin in groundwater at the LLA Parcel, where there was not at the East Bay site.

In both cases the final point of discharge was a POTW, rather than a direct discharge to waters of the state.

#11, project description. Remedy excavation and off-site landfill disposal of 19,000 cubic yards of dioxin contaminated waste over 100 ppt-TEQ. ~ 30,000 cubic yards of additional contaminated soil either capped at the LLA parcel, or excavated and consolidated at the DMCA to minimized need for capping and institutional controls on the LLA parcel. Groundwater encountered during excavation, and removed for dewatering will be collected and treated as needed prior to disposal either at off-site facility, or to the sanitary sewer.

[017.003] The SEPA document does not adequately consider the increase in risk in moving 30,000 cubic yards of dioxin contaminated soil from the LLA Parcel to the DCMA parcel proposed disposal site. The proposed action would move the dioxin contaminated soil from an upland site, well out of the 100-year floodplain, a substantial distance from Miller Creek, to a proposed disposal site adjacent to Miller Creek, at least part of which is in and adjacent to the 100-year floodplain of Miller Creek. It is entirely inappropriate for Ecology and the Port to use a MTCA MDNS to create a new disposal site in, and immediately adjacent the 100-year floodplain, especially where the waste is being removed from a site well above the floodplain.

In addition to on its face not being appropriate, the MDNS fails to identify any mitigation for the increase in risk due to the change in location. While the document does specify there will be a "cover", likely consisting of compacted gravel, this proposed cover, and the identified past, present and future of the site is demonstrably less secure than either the community preferred option of off-site permitted disposal, or consolidation and capping at the LLA Parcel.

[017.003] Further, there is no identified environmental benefit from this proposed, "remedy", only increased risks and impacts. The only identified benefit to the proposal is to eliminate the need for capping and institutional controls, to make the LLA Parcel more attractive for commercial or light industrial use. It is not appropriate for a SEPA document to give any weight to providing the project proponent an economic benefit, in the face of increasing environmental risks.

Further, none of these financial benefits were considered in the cost analysis of alternative. As the Port is proposing the DMCA disposal option due to distinct benefits to the Port from excavation and removal of 30,000 cubic yards of dioxin waste from the LLA Parcel this benefits must be identified and considered as part of the remedy cost analysis. The Port and Ecology have failed to do so.

The additional impacts of the DMCA disposal proposed remedy including permanent elimination of ~1.5 acres of well established vegetation currently buffering Miller Creek from the existing industrial uses on the DMCA, replacement of that vegetation

including grasses, shrubs and trees, with an impervious surface which increases hydraulic loading, contributes to hydraulic peaks in Miller Creek, and substantially increases temperature through removal of shading, as well as heat absorption and heat transfer to the surface, surface water, and groundwater as compared to existing conditions all need to be adequately identified, evaluated and mitigated. The SEPA MDNS fails to do any of this and is thus deffient.

The existing stormwater system will be abandoned and relocated in coordination with remedial actions at the LLA Parcel. According to the Port at the recent public open house the alterations of the existing stormwater system will include termination of the existing Burien stormwater system at the LLA Parcel boundary, and rerouting to the south, with direct discharge to Miller Creek. Both the Port and Ecology have claimed the stormwater upstream of the LLA Parcel in Burien is contaminated with dioxin, and has contributed to, or even is the primary cause of dioxin contamination in Lora Lake. **[017.004] The SEPA Check List and MDNS is defective as it failed to notify the public of the intended reroute of dioxin contaminated stormwater directly to Miller Creek, failed to identify the reroute impacts, and failed to mitigate any of these impacts as compared to the existing condition, where any dioxin in stormwater discharged to Lora Lake, according to the provided reports, binds to the peat, organic muck, and fine sediment within Lora Lake, and thus is prevented from migrating to, and impacting Miller Creek.**

At the LL Parcel no shallow soil excavation will be conducted. **[017.005] The failure to remove elevated levels of dioxin from the shallow soils adjacent to Des Moines Memorial Drive, is actually claimed to be mitigation, and presented as the sole identified reason for issuance of an MDNS**. This turns the concept of mitigation on its head. In particular the SEPA assertions and reasoning here are entirely inconsistent in the larger project context. The project will also eliminate ~1.5 acres of well established vegetation, which is the current buffer between industrial activity in the DMCA and Miller Creek, is within and adjacent to the 100-year floodplain, and planned to be replaced with impervious surface. These impacts are not evaluated what so ever, and no mitigation is provided. The result is to inappropriately elevate a minor potential impact related to temporary impacts to vegetation at the western road adjacent margin of a buffer area, while completely ignoring permanent destruction of an existing 1.5 acres of Miller Creek buffer in the DMCA, and its replacement with impervious surface, which directly impacts the 100-year floodplain. This is a major defect in the SEPA MDNS, and calls into question the entire analysis of impacts presented.

In addition, though no samples were collected, given the data from the western side of Des Moines Memorial Drive, there is no reasonable basis for concluding a similar pattern of contamination to the western margin of the impervious area of the road does not exist on the eastern side of the road. Elevated levels of dioxin and detection of pentachlorophenol (PCP), found in the western most samples taken in the LL Parcel indicate the dioxin is related to the LLA Parcel industrial activities, and

that it is probable the contamination extends to the edge of the impervious road prism, as data from the western side of the road has shown as reflected in figure 10.1, Cleanup Area B.

[017.005] The failure to sample the eastern margin of the road area, and to consider these impacts under SEPA is significant as this area is outside the controlled portion of the NRMP, thus the proposed institutional controls will not be effective, or provide any protection to the public, wildlife, or environment for contaminants in this area.

Lora Lake sediments will be isolated through open water filling to rehabilitate the wetland.. The design will require filling the lake area to depths of 2 to 13 feet, based on current bathymetry. **[017.006] It is unclear how a contaminated sediment cover of 2 feet, at the margins of the current Lora Lake will be protective from intrusion from plant roots, and burrowing wildlife (particularly in the dry season).** Based on depths of plant and wildlife translocation of contaminants, such as at Hanford in sandy soils, it does not appear that a 2 foot sand cap is an adequate barrier. It does not appear that the provided reports considered the potential for root zone, or burrowing wildlife to translocate contamination from a marginal 2 - foot layer of cover.

The DCMA future land uses will be airport-compatible uses compliant with the FFA RPZ's. Landuse improvements to allow for future use will consist of surface improvements (placement of a compacted gravel or engineered surface).

[017.0061] The SEPA Checklist and MDNS fail to consider regulations, impacts, or necessary mitigation for elimination of 1.5 acres of well established vegetation, including grasses, shrubs and trees, replacement of the vegetation with impervious surface, proximity of this action to Miller Creek, and impact of this activity on the 100-year floodplain.

Pg 8, 3, Water, a, Surface #1.

[017.007] While this section provides a detailed description of the existing condition of stormwater runoff and discharge to Lora Lake, the SEPA Checklist and MDNS fails to provide an adequate description of the changes and impacts related to the proposed action, or remedy as compared to the existing condition. In particular impacts related to redirecting Port and Ecology identified dioxin discharge from Lora Lake, where the Port and Ecology claim the dioxin is sequestered, to a direct discharge to Miller Creek.

As such, the selected remedy is not protective of waters of the state, or beneficial uses of the receiving water. This is a significant and project specific impact, as absent the selected remedy, the stormwater discharge from this sub-basin in Burien would not be redirected from Lora Lake to Miller Creek. Thus under SEPA this is an

impact which must be considered, and mitigated through the MDNS, or an EIS must be done to consider and address these impacts.

Pg 9 #3. Filling of Lora Lake will require ~39,000 cubic yards of fill, whose source is unknown at this time.

During the consideration of the third runway construction, a major identified public concern was the potential for the importation of contaminated fill. The same concern equally exists at this time, in particular since the Port is advocating and Ecology has approved importation and disposal of dioxin contaminated soil from outside the identified industrial area of the airport, into that area immediately adjacent to Miller Creek, and at least partially within the 100-year floodplain.

[017.008] What criteria will apply to imported soil to assure any imported soil into the NR

#4. Stormwater that enters Lora Lake in the NW corner of the lake may need to be diverted during filling activities. Stormwater management will be included in the remedial design.

This section makes only mention in passing of diverting the flow of identified dioxin contaminated stormwater, which the Port has claimed to be a major source of contamination of sediment in Lora Lake. **[017.009] Where will this flow be diverted to, what are the impacts, and how are they mitigated?**

#5. The Lora Lake open water area is to be filled and turned into a wetland, and portions of the DMCA are located within the Miller Creek 100-year floodplain.

[017.010] If parts of the DCMA are subject to potential flooding, why is the Port even suggesting creating a dioxin disposal site there, and why would Ecology even consider approving such impacts to the 100-year floodplain and Miller Creek buffer area?

#6. Placement of fill in the lake will be done carefully at first to "gradually strengthen" the soft lake sediments, then a more efficient and cost effective method will be used for the remainder of the file.

[017.011] What are the metrics for determining the gradual strengthening of the soft lake sediments?

How will the proposal assure that dioxin is not mixed in with higher layers of sand?

The proposed approach to go slow at the start is not in keeping with the latest available technology in-situ treatment and stabilization of contaminated sediments,

which are intended to remain in place rather than being excavated and hauled off site for disposal. See the attached document from EPA.

[017.011] Ecology and the Port have failed to consider a significant pathway for release, or migration of dioxin related to Lora Lake, gas ebullition. The proposed sand cap does not address this pathway at all. This is of particular concern at Lora Lake as the sediments being covered by sand are high in peat and organic muck, which when buried and compressed will generate and release a mix of gasses over time. There are a number of technologies used to address this specific concern, and to limit the mixing of persistent organic, and inorganic contaminants from the contaminated sediment layer, into what should be a clean sand cover layer. Some of the common amendments include activated carbon, Organoclay^{tm}, and apatite. According to EPA these amendments can be " …placed into or onto the sediment surface layer, into a sand cap, or within a geotextile mat. They can be used as a single remedial approach or in combination with other remedies." Ecology and the Port need to reconsider the proposed sand cover for Lora Lake contaminated sediments and either use one or a combination of up to date technologies as referred to above, or excavate, remove and dispose of the dioxin contaminated sediments.

Pg 10 #3, Water, b, Ground #1. Groundwater remediation will occur through soil source removal. Excavation and consolidation of deep soil contamination will result in removal of soil beneath the groundwater table, requiring dewatering. Dewatering, likely taking less than a month, will be contained in baker tanks, treated as needed to remove solids and chemical contaminants to comply with discharge requirements, and likely discharged to sanitary sewer.

[017.012] Any dewatering/groundwater collection and disposal of dioxin contaminated water should be done under authority of a site specific, individual NPDES permit, as done at the Port of Olympia, East Bay development site.

c, Water runoff #1. During construction, sotrmwater runoff will be collected in ponds, and other temporary collection facilities, and either treated onsite and discharged to the sanitary sewer, or hauled offsite for disposal.

See comments above.

#4 Plants, b. Soil removal in the aquatic habitat mitigation area would destroy established plant communities and would cause more ecological harm, than the threat posed by existing contamination. If monitoring shows a risk to human health or the environment, additional actions may be required. It is estimated that approximately 10,000 square feet of vegetation will be removed for access to Lora Lake during filling activities. This will be replanted at the completion of construction.

This section makes no sense. The areas of shallow surface contamination as currently known, are limited to relatively small areas of the site.

The entire known contaminated soils area are a miniscule fraction of the 10,000 square feet of vegetation the Port will destroy in any case for site access. Ecology is issuing a MDNS to destroy 10,000 square feet of vegetation and then replant it, for a project that is going to disturb significantly contaminated dioxin bearing sediments. In this context to claim that disturbing vegetation on something likely well less than 100 square feet, to remove shallow surface soil contamination flies in the face of reason. Either an MDNS for destruction and replanting of 10,000 square feet of existing aquatic habitat mitigation area is not appropriate and an EIS should be done, or **[017.013] the Port, and Ecology have vastly overstated the ecological impact of destruction of a very small area of vegetation necessary to remove shallow upland dioxin contamination.** In addition, the Port will have already mobilized to do excavation, and will have to replant 10,000 square feet of destroyed vegetation. This is in addition to planting the ~120,000 square feet of filled lake surface. As such the costs of the additional replanting related to shallow soil dioxin removal is de-minimus, as are any related ecological impacts.

The full DMCA area will be cleared of vegetation as part of this action, which includes the permanent destruction of 1.5 acres of well established vegetation that functions as a buffer between the current industrial activities in the DMCA and Miller Creek.

[017.014] As of yet, the full DMCA area has not been tested for contaminants. In particular the area between the known dredge disposal site and Lora Lake has not been sampled. Prior to removing vegetation, which will disturb shallow soils, sampling is needed to determine contaminants are not be mobilized by this selected remedy. This is of particular concern as a substantial part of the vegetated area of the DCMA as identified in Figure 1, of the LLA site Consent Decree is in close proximity to Miller Creek. In addition, it does not appear that this additional impervious surface area, and the industrial uses historically done there and planned in the future are served by a stormwater system. The sum of proposed changes to the DMCA includes eliminating a large area of remaining vegetation, and replacing it with compacted gravel, disposal of 30,000 cubic yards of dioxin contaminated waste, and increased airport related industrial activities. **[017.015] As a result these changes should have been considered under the Port's NPDES permit to assure that AKART has been applied, and appropriate Best Management Practices are in place.** These are federal requirements of the Clean Water Act, which Ecology does not have authority to waive even the procedural elements of.

LLA Site Consent Decree

Pg 8, VI. Work to be Performed, A. #3

[017.016] At the public workshop, and SEPA check list for the LLA site Cleanup Action Plan, Ecology and the Port presented the excavation and consolidation of ~30,000 cubic yards of dioxin contaminated waste as either being done at the LLA Parcel itself, or potentially at the DCMA to provide the Port certain economic benefits. The Consent Decree (CD), a legally binding instrument only stipulates creation of a new disposal site at the DCMA for this waste. No other option is allowed.

This section of the CD should be changed to stipulate that the ~30,000 cubic yards of dioxin waste be disposed of in the same manner as the dioxin waste with greater than 100 ppt-TEQ dioxin, that being off-site disposal at an approved waste site.

#4 Filling of Lora Lake…

[017.017] Leaving sediments in place contaminated with ~200 ppt-TEQ dioxin within a 100-year flood plain, and immediately next to Miller Creek is an unreasonable risk. These contaminated sediments should be removed. The current bed of Miller Creek was only recently established as a result of the third runway construction. No information has been provided, or considered relative to the stability of the current location of the creek bed, or the potential for erosion or movement of this newly established creek course. It should be noted that there were problems with moving the creek bed during the third runway construction, where consultant error resulted in there being significantly less drop in elevation across the newly constructed creek bed resulting in not meeting specifications for flow across that section. This would also lead to additional ponding, and potential increase in the floodplain in and upstream of the impacted section of Miller Creek, which is in the immediate vicinity of Lora Lake. Due to a complete lack of any fluvial geomorphology analysis being done of the stability of the current creek course, and the transport of sediments in the reach of Miller Creek along Lora Lake the selection of filling of Lora Lake as the defined option is flawed, has not been, and can not be properly evaluated.

Pg 21, XX, Land Use Restrictions

[017.018] This section of the CD only stipulates placing a restrictive covenant with the King County Auditor. This section should also specify that the restriction(s) will be placed on the zoning maps with all local governments of jurisdiction, including the City of Burien, Port of Seattle, and the City of SeaTac.

Pg 22, XXIII, Compliance with Applicable Laws, C.

This section states that "…in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply

and Defendant shall comply with both the procedural and substantive requirement of the laws referenced…"

[017.019] This section as written implies that Ecology has the right to waive procedural requirements of federal law, unless the agency determines that such waiver will potentially result in loss of federal delegated authority.

Ecology has no right or authority to provide waiver of the procedural elements of federal law, unless the federal law specifically grants the right to provide such waiver to the State. This section should be changed to accurately state the limits of the right, or authority of Ecology to grant waivers to procedural requirements of federal laws, federal delegated programs, or permits.

Draft Cleanup Action Plan

Pg 2-2, 2.1.1 Lora Lake Apartments Parcel

The CAP indicates that the existing storm drain system will be removed as part of the cleanup action(s), and a new storm drain will be installed at a different location.

According to the Port, at the recent open house for the LLA site, the current plan is to terminate the current City of Burien stormwater system where it enters the LLA Parcel, and reroute the discharge further south directly to Miller Creek. This is of concern as both Ecology and the Port have repeatedly claimed dioxin detected in stormwater discharging from the LLA Parcel stormwater system is actually from an undetermined source upstream in the City of Burien, outside the designated LLA site. As no action has been taken to date to identify, or remediate the claimed upstream source the Port and Ecology's proposed action would result in removing the current level of treatment that this stormwater receives.

According to the Port dioxin contained in the stormwater discharge partitions to the peat and high organic content sediments in Lora Lake, which in binding them prevents their discharge to Miller Creek. To the extent these assumptions are true, this means the proposed action would result in taking a known dioxin contaminated point source, removing it from the current discharge location, which acts as a contaminant sink, and instead discharge that dioxin contamination directly to Miller Creek. This is an unacceptable impact to Miller Creek in particular as it is a higher value receiving water than Lora Lake. So the remedy would reroute a dioxin contaminated point source from a lower value receiving water to a higher value receiving water with no consideration of, or mitigation of the impacts.

According to the Port and Ecology, Miller Creek sediments adjacent to and just downstream of Lora Lake only have very low levels of dioxin contamination. Ecology's SEPA MDNS did not consider this additional dioxin impact, which would be imposed on Miller Creek, by moving the stormwater discharge directly to the

creek. Further though Lora Lake is on Port Property, and considered to be waters of the state, the lake has been used as a regional stormwater facility for decades.

This is evidenced by King County actions at the site, where they dredged the site in 1982, then installed a pre-treatment basin with a rock wall just downstream of the Lora Lake stormwater outfall (Draft RI/FS, pg 2-6, also see historic photographs showing the sediment basin in the 1985, and 1992 photographs at Tab A of Appendix B). As a result, **[017.020] the Ecology and Port proposed action is decreasing the treatment of stormwater discharged from Burien, and increasing the discharge of pollutants directly to Miller Creek with no consideration, or mitigation of these impacts. These increase in impacts were not identified or presented to the public in the provided reports for this comment period. As such the comment period, and related process is defective as significant impacts were not identified or evaluated for the public to comment on.**

Pg 2-4, 2.3 Regional and Site Geology, and Pg 2-5, 2.4 Regional and Site Groundwater

[017.021] Given some level of uncertainty about the intermittent nature of silt lenses and other aquitard layers in the shallow regime, along with the fairly long period of time and type of operations, which resulted in contaminating the LLA Parcel, particular care will need to be taken in verifying the bottom of excavated areas meet the designated excavation/cleanup criteria.

Pg 3-1, 3.1 Contaminants of Concern

[017.022] The text states, "Biological toxicity testing demonstrated that the surface sediments will not cause adverse impacts to ecological receptors." This is somewhat misleading as the testing used were relatively short-term tests, which alone underestimate the potential risk from persistent organic pollutants such as dioxin which bio-accumulate, and bio-magnify moving up the food web. While the Port and Ecology are required to do such analysis as part of overall site investigation, it should be made clear to the public that the danger with dioxin is not that it will be immediately toxic to the organisms used for biological testing. It is in fact well known specific to dioxin that this is not the case. Rather the danger is that even relatively low levels of environmental contamination with dioxin will result in bio-accumulation and bio-magnification in low trophic organisms, and will pass this contamination on up the food web, concentrating as it goes. That is why regulatory limits for dioxin are set so low, and Ecology routinely defaults to dioxin limits which are not protective of human health and the environment, but rather represent other metrics, such as potential quantitation limits, or various types of claimed "background" values, which are typically orders of magnitude higher than actual protective levels based on best available science.

Rather than removal of contamination at the DMCA, the Port and Ecology are proposing to "improve" the DMCA by doubling the amount of dioxin contamination disposed of there, greatly increasing the concentration of dioxin, eliminating exsting well established vegetation, and replacing it with impervious surface, most likely compacted gravel.

This area has been used, and is planned for continued use for staging materials, construction related activities and other Port related needs. This type of use results in the degrading of gravel and even paved surfaces, requiring continual monitoring and maintenance. In addition, the eastern portion of the DCMA is very close to Miller Creek, and appears to be within the 100-year flood plain as depicted by the Port. Flooding frequently has catastrophic effects on the proposed type of impervious cover, and potentially could breach the disposal area releasing the underlying dioxin contamination.

[017.023 In these conditions, relying on a shallow layer cover, and institutional controls to be protective of ecological receptors at the Ecology determined limit of 5.2 ppt-TEQ dioxin, does not provide an adequate level of protection.

The current proposal of bringing an additional ~30,000 cubic yards of dioxin contaminated waste from the LLA parcel to create a new waste disposal site in this area of legacy contamination only increases the risks and consequences.

[017.023] The additional new waste to be added to the DCMA area includes contamination at higher levels than what is currently present at the site. It is in fact nearly double the legacy waste volume than the current contaminated volume at the DCMA (CAP pg 2-3, 2.1.3). According to the Port (RI/FS pg 4-42, 4.4.1.6), only three sample locations within the DMCA were found to have concentrations of dioxin higher than 7.5 pg/g, with the remainder of the concentrations less than 7.5 pg/g, and with the highest detected concentration at 71.9 pg/g. By comparison, in the proposed import of dioxin waste, the lowest level of contamination will be 11 ppt-TEQ dioxin, up to a concentration of 100 ppt-TEQ dioxin (the reporting of dioxin results in differing units is an artifact of the source reports, it is uncertain why the Port wasn't required to report dioxin results in the same standard units throughout the reports).

[017.024] As stated in the SEPA Checklist comments, the reason for moving this large volume of dioxin contaminated waste into the DCMA, closer to Miller Creek and destroying the vegetated buffer in and adjacent to the 100-year flood plain, is to relieve the Port of the need to place and maintain a cover on the LLA Parcel, and to eliminate the need for institutional controls. These economic benefits to the Port are not a good enough reason for the increase in risk presented by the proposal. Further the Port and Ecology did not include these economic benefits in their economic analysis of remedy options. The inclusion of these economic benefits would substantially reduce or eliminate the margin of

cost between alternative 3, the Ecology selected remedy for LLA Parcel excavation and disposal, and alternative 5, the community preferred option of off site disposal of all excavated dioxin bearing waste at and above 11 ppt-TEQ. The Port and Ecology need to provide the public with accurate information of the cost comparisons between the provided alternatives that includes the economic benefits of excavation and off-site disposal of the ~30,000 cubic yards of waste proposed for disposal in the DMCA. Given the Port's preference for alterative 4, or DMCA disposal, it can be assumed that the economic benefit of off-site disposal of this additional waste as compared to the consolidation option in alternative 3, is greater than $0.6 million. **[017.024] The failure of the economic analysis to consider and quantify such a significant economic benefit, and instead claim that the difference between the consolidation and capping on parcel, versus off-site disposal is greater than $2 million, is thus significantly in error, and misleading to the public reviewing the provided reports.**

This 30,000 cubic yards of waste needs to be transported to an appropriate, licensed disposal facility.

Pg 3-3, 3.2 Cleanup Standards

The text states a small portion of the LL Parcel, adjacent to Des Moines Memorial Drive, is outside the secured area of the site. From review of the SEPA checklist and determination, the Consent Decree and the CAP, it appears Ecology and the Port have failed to consider or address that the protective measures applied inside the controlled Port property are substantially greater than those outside. Inside the fenced area exclusion of humans and pets is reasonable assured, outside that area it is not. Inside the area disturbance of the vegetative cover can be controlled, outside is more problematic. In short, institutional controls as applied within the LL Parcel, where within the fenced area of the NRMP, have a far greater potential for effectiveness than outside the fenced area. As stated elsewhere in these comments, the available data from the east side of Des Moines Memorial Drive, and the data from the west side strongly suggest dioxin contamination is present in the most contaminated areas up to the impervious prism of the road. While the SEPA MDNS presents an overly hyped analysis to justify the failure to excavate and appropriately dispose of elevated levels of dioxin contamination within the NRMP, none of the provided rationales apply to the areas outside that area to the western limit of the impervious road prism. The RI/FS sampling of this area is inadequate. The assumption of risk versus benefit and environmental impact are not appropriately considered for this area. In addition to the comments of the defects of the remedy as it relates to dioxin contamination within the NRMP, the proposed remedy is not protective for the area from Des Moines Memorial Drive, east, to the fenced area of the NRMP.

[017.025] All dioxin contaminated soils, outside the fenced secured area of the site, which are publicly accessible, with dioxin levels in excess of 11 ppt-TEQ need to be excavated and disposed of (Draft RI/FS, Figure 4.9, see

samples LL-SB6, LL-SB5 and LL-SB2, which imply a similar pattern of contamination to Cleanup Area B).

These roadside areas are public access and commonly used by people walking down the road. Further, these areas are not under the ownership or control of the Port, and are in areas frequently subject to disturbance whether for roadside ditches, vegetation management, road maintenance, or just people in the area whose actions are not always predictable or logical. As these areas are relatively limited both in area and depth, it is not unreasonable to just have these areas excavated and replaced with clean fill. This will eliminate the need to place institutional controls on the area, which will be of limited effectiveness and nearly impossible to maintain and enforce. In addition this will provide a cleanup that is based on a coherent and reasonable basis on both sides of Des Moines Memorial Drive.

[017.025] In addition shallow soil testing along the publically accessible roadside areas is not sufficient to determine risk, or the degree to which the proposed remedy is protective. Additional sampling is needed on the eastern margin of Des Moines Memorial Drive to determine the extent of contamination at the road margin contiguous to the existing sample locations at the western margin of the LL Parcel.

Pg 3-4, 3.3.1 Lora Lake Apartment Parcel

[017.026] The section claims it is appropriate to not consider protection of wildlife receptors due to the future proposed land use. This would appear to underestimate the potential for contaminated material to leave the site, or for ecological uptake and contaminant translocation via burrowing rodents in particular, which are common in commercial, and industrial areas in the region.

Pg 3-5, 3.3.3 1982 Dredged Material Containment Area

[017.027] Ecology and the Port do not appear to have given enough consideration to the need to protect the 100-year floodplain for Miller Creek. The apparent preferred option and sole identified disposal option for 30,000 cubic yards of dioxin waste from the LLA Parcel (according to the Consent Decree), is within the DMCA. In addition this proposal will remove the majority of remaining vegetation in the area, and replace it with compacted gravel or pavement, both of which are impervious surfaces. This will remove the vast majority of the remaining vegetative buffer between the existing DMCA disposal area and Miller Creek. In addition the proposal would place dioxin waste closer to Miller Creek in higher average concentrations than presently within the DMCA.

These conditions and circumstances would make it prudent to not allow dioxin contamination up to the current industrial standard, especially as the

current standard is based on outdated, and scientifically invalid fish consumption rate calculations.

The 30,000 cubic yards of dioxin contaminated waste from the LLA Parcel should be disposed of at an off-site licensed disposal facility, not at the DMCA, in or adjacent to the 100-year floodplain and Miller Creek.

Pg 3-5, 3.4 Groundwater Cleanup Levels

The RI/FS stresses high attenuation of dioxin to soil particles and limited solubility in groundwater, but fails to consider the acidic nature of groundwater in peat bearing sediments, or the generation of corrosive gasses such as hydrogen sulfide.

The Port's plan for these sediments, covering with a sand layer, and creating a wetland on top of this sand layer will further reduce the level of oxygen currently present in the top layer of the dioxin bearing sediment. This will likely further encourage anaerobic digestion, or decay of the peat, and organic muck bearing contaminated sediments. This will increase the acidification of the groundwater, and generation of aneorbic gasses.

The comparison of LLA Parcel groundwater results, to the conditions related to present and particularly future conditions in the contaminated Lora Lake sediments does not make sense. The physical and chemical conditions, and processes are very different in these two locations.

In addition, the existing conditions will be significantly altered, by replacing the current open water lake, with a large wetland. The groundwater conditions in a peat bog/wetland system are different than an open water lake. The Port's assumptions fail to take this into account.

The physical and chemical processes resulting from the implementation of the Port and Ecology's selected alternatives will encourage the production of acidic conditions in the groundwater, and the production of hydrogen sulfide, methane and other gasses, which are not assessed in the provided reports.

Due to this **[017.028] it appears the assumptions in this section, including the application of drinking water standards for dioxin, may not be conservative, and lack consideration of the proposed future condition of the site, specific to groundwater.**

Pg 3-6, 3.5 Sediment Cleanup Levels

[017.029] Ecology's current standards are based on scientifically invalid fish consumption rate calculations, which are known to not be protective of human health.

The assumption that a site cap will prevent migration of contaminants does not appear to have considered the potential for gas ebullition as a pathway through the sand cap. This mechanism may be a concern at this site due to the large amount of peat and organic muck in the dioxin contaminated sediments, which will decay over time releasing hydrogen sulfide, and methane, among other gasses.

The Port cites to the RI/FS, as authority for this sections conclusions, but the relevant section of the RI/FS includes conclusions that are not reasonable or conservative.

For example:

The RI/FS states that "Dioxins/furans have very low toxicity to aquatic organisms…", but then goes on to state that "Under the SMS, results of biological toxicity testing are definitive and "trump" comparison of chemical concentrations to chemical criteria." The consideration and use of biological toxicity testing in these circumstances, where the primary site driver for risk is dioxin is not conservative. The text should include a disclaimer that while dioxin is relatively non-toxic to aquatic organisms, this is not indicative of the risk of exposure of aquatic organsims to dioxin. The risk of concern is not that the dioxin will be immediately, or even over the short term covered by longer period biological testing, toxic. Instead the concern is the potential for bio-concentration, and bio-magnification of dioxin in the food web. This renders bio-assay, or biological toxicity interpretive criteria of very limited use, and not relevant to the primary concerns related to the site specific contaminants.

As most members of the public are likely not aware of the distinction of the limited value of bio-assays in determining risk related to dioxin, the text is misleading as it attempts to indicate that the risk of Lora Lake sediments is significantly less that what best available science indicates. Particular care by agencies needs to be taken in providing an accurate assessment of the value and loading of any particular testing methods or risk assessments information that is presented.

The cited section of the RI/FS (5.2.3.2), is not conservative in that it only considers fish that may spend some time in Lora Lake, and then may end up in Miller Creek.

In other words the only pathway considered is bio-accumulation as a result of exposure for the limited period of time the fish are in Lora Lake. This is not conservative. Based on local citizen reports, and my own observations water and sediment are periodically exchanged between Miller Creek and Lora Lake during periods of high flows, where Lora Lake water levels discharge out the Lora Lake outfall to Miller Creek, and/or overtop the berm between the two water bodies, or when the level of Miller Creek rises enough to inundate Lora Lake. Given that the time of potential dioxin distribution and accumulation can conservatively be estimated at 60 years, there will have been a large number of occasions of exchange of water and sediment over that period, which will provide for aquatic organism,

including fishes, contact and uptake of dioxin outside of Lora Lake. The provided information is not conservative or reasonable in its assessment of these conditions.

This is a primary weakness in the studies provided for review. There is a lack of any type of fluvial transport model, which specifically describes the accumulation, transport and exchange of sediment through the Miller Creek system. Including that of sediment transport through and between Lora Lake and Miller Creek. As such numerous assumptions by the Port and Ecology are entirely unsupported.

In addition, sampling in a very narrow reach of Miller Creek was assumed to prove that contamination from Lora Lake sediment had not migrated to Miller Creek due to "upstream/downstream" analysis of sediments in the vicinity of the Lora Lake outfall to Miller Creek.

Due to the lack of fluvial transport analysis though there is no valid basis for the selection of the sampling locations assumed to be representative of the potential transport of dioxin sediments. Among the considerations that should have been assessed, and were not:

A significant section of Miller Creek was recently relocated as a result of the third runway construction. As a result third runway construction rerouted Miller Creek and also disturbed a substantial area of soil and sediment in the vicinity of Lora Lake, with unknown consequences.

The rate of downstream transport of sediment at the assumed discharge location, the outfall pipe is unknown. This is significant as the sediment technically located "downstream" of the outfall pipe, may well have come to be located there sometime after the last discharge of water/sediment from Lora Lake to Miller Creek. As such sediment some distance downstream of the Lora Lake outfall will only represent upstream sediment quality, not the quality of sediment discharged from the outfall.

Due to the periodic nature of the surface water/sediment interaction between Lora Lake and Miller Creek, dioxin contamination would tend to travel in pockets of contamination in the creek sediments. The Port's sampling layout and analysis appears to be based on an assumption of uniform distribution of dioxin contamination from the assumed point of discharge, the outfall pipe, and downstream from there.

Such an assumption is obviously defective based on the currently known facts, even absent a fluvial transport model.

Due to the nature of small, "flashy" creeks, like Miller Creek there are areas where sediment scour and rapidly move downstream, and areas where they tend to accumulate. In Miller Creek most of the areas where sediments would tend to accumulate for some period of time, rather than moving fairly rapidly would be downstream of the sample locations chosen by the Port. In addition, due to changes

made to Miller Creek it is likely that upstream sediment would tend to deposit along the reach of the Lora Lake outfall. This would substantially bias the dioxin results in the immediate vicinity of the Lora Lake outfall to Miller Creek.

[017.030] As a result, it appears that sample locations chosen to represent the potential for dioxin discharge from Lora Lake to Miller Creek were those most likely to not contain dioxin from Lora Lake.

Due to this the provided studies likely underestimate, even seriously underestimate the potential impacts and risks related to dioxin discharges from Lora Lake to Miller Creek.

[017.030] The RI/FS assumes that, and sampling criteria for Miller Creek was based on an assumption that 10 centimeters is the biologically active zone for Miller Creek. Due to the lack of a fluvial transport model, there is no empirical data to demonstrate the depth to which sediments are transporting down the creek bed, and being mixed during times of scouring, or high flow conditions at specific reaches of the creek. In such dynamic conditions the report assumptions are not conservative, as the depth of sediment disturbance and distribution downstream will be dependent on periodic conditions unknown and not considered by the Port.

Pg 3-7, 3.6 Contaminant Distribution

See comments above.

Pg 3-7, 3.6.1.1 Lora Lake Apartments Parcel Contaminant Distribution

The records describing the proposed alternative for the site, (for example see SEPA Checklist, pg 4, #11), call for the excavation and off-site disposal of 19,000 cubic yards of soil contaminated with greater than 100 ppt-TEQ of dioxin, and 30,000 cubic yards of soil contaminated with greater than 11 ppt-TEQ dioxin up to 100 ppt-TEQ dioxin. In this section, a description is provided for contaminated soil volumes for the LLA Parcel. The text then refers to figure 3.2, for additional information on the relationship between dioxin concentrations and soil volumes. The volumes for excavation are calculated on averaged concentrations for various areas of the site.

[017.031] Can Ecology confirm that actual excavation will be based on site confirmation sampling assuring the cleanup levels have been met, rather than "average" concentrations for general areas being met?

[017.032] It is unclear from the text, figures and excavation volume descriptions in the provided reports whether the volume(s) proposed for excavation, 19,000 cubic yard of dioxin bearing soil greater than100 ppt-TEQ, and the 30,000 cubic yards of dioxin bearing soil greater than11 ppt-TEQ, (49,000 cubic yards total), is equal to the total volume of LLA Parcel dioxin

bearing soil contaminated over 11 ppt-TEQ. From the text and the figure cited, it appears the actual volume of dioxin bearing soil greater than 11 ppt-TEQ, may be greater than 50,000, rather than less than. How much total dioxin bearing soil contaminated at greater than 11 ppt-TEQ is contained at the LLA Parcel?

Pg 3-8, 3.6.1.2 Dioxins/Furans Remediation Level

This section is confusing and appears to be inaccurate. According to the text, the decision on the remediation level was reached by determining the relationship between total volume of excavation and disproportionate cost. This resulted in setting the remediation level at 100 ppt-TEQ dioxin.

The problem is that in terms of excavation and cost calculations this appears to be factually inaccurate, invalidating the selected remediation level. According to the provided documents, excavation is not being limited to 100 ppt-TEQ dioxin, but rather excavation is being done to 11 ppt-TEQ dioxin. According to the Consent Decree, the only option being considered for this additionally excavated material is trucking it from the LLA Parcel, to the DMCA area, creating a new dioxin site. While this could be characterized as part of the "same site", such a distinction is at least somewhat misleading as there are no connections between the LLA Parcel, and the DMCA other than they both happen to be owned by the Port. In addition there was no consideration of the cost benefits of the excavation and removal of the 30,000 cubic yards of dioxin waste for off-site disposal. As a result the Port and Ecology economic analysis and conclusions as to the disparity between consolidation and capping this waste volume within the LLA Parcel, as compared to excavation and disposal at an off-site permitted facility are neither conservative, nor accurate.

It is troubling there are two separate and incompatible narratives as to disproportionate cost. In the first narrative, the costs to excavate soils from 11 ppt-TEQ dioxin, to 100 ppt, is defined as disproportionate at the LLA Parcel.

In the second (and incompatible) narrative, excavation of the soil from 11 ppt-TEQ dioxin to 100 ppt is determined to be economically desired and beneficial as it removes the obligation from the Port of placing and maintaining a cover on the LLA Parcel, and also eliminates the need to have institutional controls in place at the LLA Parcel. The second narrative clearly demonstrates that there are economic benefits to excavation and removal of contaminated soil, down to 11 ppt-TEQ dioxin, from the LLA site. The provided cost information, though not called out, in terns of comparing alternative 3, and alternative 5, can be assumed to be something more than $0.6 million dollars.

The fact that the second narrative has now come to dominate the chosen remedy, and indeed is the only remedy option written into the Consent Decree seems to indicate that the first narrative and disproportionate cost analysis only considered the costs of excavation and removal. The available reports clearly indicate the Port

and Ecology failed to account for the economic benefits that offset costs, which are identified in the second narrative.

This leads to the following conclusions.

[017.033] The remediation level was derived from faulty analysis, is substantively defective, and needs to be redone based on a more accurate assessment, which includes the economic benefits the Port has identified for the additional level of excavation beyond the identified excavation level to the cleanup level.

As the Port has now determined that it is actually economically beneficial to excavate and remove contaminated soil from 11 ppt-TEQ dioxin, to 100 ppt from the LLA Parcel, the question to be considered is whether a new disposal site on the DMCA should be allowed to contain this material, or whether it should be sent to approved off-site disposal.

The decision of which of these options is selected should be based on considerations not evaluated in the provided reports, most disturbingly the SEPA Checklist.

The records provided failed to consider and mitigate the impacts of creating a greatly enlarged and more contaminated disposal area at the DMCA. This includes more than doubling the impervious surface in the DMCA, placing a higher concentration of dioxin bearing waste closer to Miller Creek, removing the remaining vegetation currently in the DCMA between the current disposal area and Miller Creek, and placing dioxin bearing waste closer to, if not within the 100-year floodplain.

This not only renders the SEPA Checklist and related determination defective, but in addition makes the case for off-site licensed disposal for this ~ 30,000 cubic yards of dioxin waste.

The public has been denied an accurate assessment of the proportionate costs among the provide alternatives based on an accurate assessment of the economic benefits of more excavation that what is included in the preferred alternative. As a result, the provided information is inappropriately skewed in favor of desired alternatives, instead of providing the public with an unbiased and accurate assessment of actual costs, benefits and risks between the provided alternatives.

It is requested that Ecology determine contaminated soil excavated from the LLA Parcel, which has from 11 ppt-TEQ dioxin, up to 100 ppt, be disposed of in an off-site licensed disposal facility.

Pg 3-9, 3.6.3.3 1982 Dredged Material Containment Area

The Port derived term for this area is not accurate, as it is a disposal area. The site was not lined, or covered. Though the site had at least a partial berm, no effort to "contain" the dredged lake sediments was made.

In addition, what historical information is available indicates that hydraulic dredging was used, which results in a large volume of water being removed with the dredged solids. The dredged material was evidently dewatered by overland drainage. The Port has not done any sampling of the potential drainage areas, which is a defect in sampling for both the LL Parcel and the DMCA.

[017.034] While the text states that the samples don't exceed the cleanup level, the proximity of the DMCA to Miller Creek and the fact a portion of it is within the 100-year floodplain make the selection of the industrial cleanup level for this site inappropriate.

This is particularly the case as the Port is using the elevated industrial cleanup level as an excuse to greatly enlarge this disposal site, by placing around, or more than twice the historical volume of waste, with much higher dioxin concentrations there.

This should not be allowed.

Pg 3-10, 3.7.1.1 Lora Lake Apartments Parcel

[017.035] From the site schedule it appears Ecology is allowing a delay of four-years for the placement of a wildlife barrier. This delay does not appear to be reasonable or protective. If such a long delay is needed for viable economic development of the LLA Parcel, there needs to be an interim wildlife barrier, or comparable temporary controls in place. Alternatively the Port can take advantage of the economic benefits it has already identified in excavation an disposal of the ~30,000 cubic yards of additional dioxin waste from the site, and the need for a wildlife barrier at the LLA Parcel will be eliminated.

Pg 11, ibid, Protection of TEE

This section, which describes the institutional controls and barrier to wildlife is even weaker than the description above, as it says "We anticipate that the institutional control will apply to the LL Apartments Parcel property boundary."

[017.036] The language used here should not be permissive, or subjective, but definitively state where institutional controls will be required, including the wildlife barrier. This zone needs to extend to the impervious surface of Des Moines Memorial Way, unless sampling proves the soils in that zone do not exceed 11 ppt-TEQ dioxin. It is not entirely clear if Cleanup Area B, as depicted in figure 10.1, of the RI/FS includes all soils up to the impervious road prism.

Also, as the defined concentration that is protective of wildlife was established at 5.2 ppt-TEQ dioxin, it is unclear how leaving soils contaminated from 5.2 ppt-TEQ to 11 ppt, is protective of wildlife, if the wildlife barrier doesn't extend to the impervious road surface in Cleanup Area B?

Pg 3-11, 3.7.1.2 Lora Lake Parcel

The text refers to Figure 3.3, for a visual depiction of the boundary of the area where the TEE cleanup level of 5.2 pg/g of dioxin is exceeded.

[017.037] The sampling used to set the LL Parcel shallow soil boundary was insufficient. No sampling was done on the north side of the lake, including in the area between the lake and the DMCA. Given site uses over the last several decades prior to, during and after the dredging of the lake in 1982, it is at least probable that dioxin contamination may exist along the northern margins of the lake, particularly where site storage, stockpiling, equipment and vehicle access took place.

In addition, after the lake was hydraulically dredged, the dredged material was dewatered. Apparently dewatering was accomplished by allowing the water to drain off overland. As demonstrated from dioxin data reported from the LLA Parcel in stormwater, it is at least probable dewatering flows would have contained some level of dioxin.

[017.038] Uniform reporting of dioxin concentration as ppt-TEQ should be used throughout the reports issued by the Port and Ecology. Failure to do so only increases potential for confusion and increases difficulty of review for the public.

Ibid, 3.7.1.3 1982 Dredged Material Containment Area

[017.039] Use of industrial soil cleanup levels for the DMCA is not protective. A significant amount of the DMCA is within the 100-year flood plain. The current proposal according to information presented at the recent public workshop is to place compacted gravel cover over the DMCA, to cover the additional dioxin waste at higher concentrations is there from the historic dredge disposal. As the site is in the 100-year floodplain, adjacent to Miller Creek, and adjacent to a protected habitat area the odds of something going wrong and dioxin being exposed from this site are much higher than the majority of industrial sites, with a greater than usual risk to the most sensitive identified endpoints, wildlife and fishes, including salmon.

That being the case the cleanup level for the DMCA should be substantially lower, importation of dioxin bearing waste should not be allowed, and vegetation within the DMCA between the existing impervious surface portion, and disposal area of the site and Miller Creek should remain in place.

Ibid, 3.7.3 Lora Lake Sediment Point of Compliance

[017.040] As per previous comments, it does not appear that modeling used to justify this section on the site remedy was based on acidic groundwater such as is common in peat bog/wetland based shallow groundwater systems.

As the selected remedy is described as returning the site to its previous, pre-mined condition, it is reasonable to assume that there will also be changes in the shallow groundwater from one typical of a freshwater lake system, to that of a wetland, or peat bog system.

In addition, it is also reasonable to assume that there will be sustained gas production from decaying organic matter in these sediments, which means the potential of gas ebullition, should had at least been identified and modeled.

These either existing or potential future changes in site conditions appear to make the chosen remedy less protective than claimed. The dioxin contaminated Lora Lake sediments should either be removed during the time of year when the lake is low, or if the sediments are going to be left in place a remedial option in line with those identified for addressing hydrophobic contaminants in sediments (as in the attached EPA report, Use of Amendments for In Situ Remediation at Superfund Sediment Sites) should be selected to further immobilize the sediment contaminants, be protective of the proposed sand cover, and further decrease the potential for contaminants to migrate in either acidic, or gas production conditions.

Pg 4-1, 4.1.1 Cleanup Area A

[017.041] Within a single paragraph contaminants are reported in picograms/gram, micrograms/kilogram and parts per million. See earlier comments on use of uniform reporting metrics for contaminant concentrations.

Ibid, 4.1.2 Cleanup Area B

[017.042] The Lora Lake Apartments Site extent in the Consent Decree Exhibit A, and the Cleanup Area B, in the RI/FS do not appear to be consistent. The extent of the site as defined in the Consent Decree appears to exclude part of the area of highest contamination outside of the LLA Parcel fence line. Consent Decree Exhibit needs to be corrected to comport with the depiction of Cleanup Area B, and Cleanup Area B need to extent the full distance to the impervious prism of Des Moines Memorial Drive.

Pg 4-2, 4.1.3 Cleanup Area C

[017.043] The reports already establish that the natural background concentration for dioxin is, which is 5.2 ppt-TEQ. When looking at the majority of the data from outside the contaminated areas of the site this makes sense on a site-specific basis. Even in the DMCA, where the Port found contaminated Lora Lake dredge spoils, the majority of the soil samples, and samples, which were identified as in the underlying soil, were typically less than 7.5 pg/g. This is another line of evidence that the actual background concentration of dioxin, which would be considered to be ubiquitous, rather than related to a specific site or facility release, would be very low, and certainly less than 11 ppt-TEQ, let alone 19 ppt-TEQ.

The decision to set the site boundary at the property line of the site (with the exception of a small area of the former City Light substation property), should be stricken, and the Port ordered to cleanup all areas adjacent to the property line contaminated above 11 ppt-TEQ. If the Port, and/or Ecology are going to persist in claiming that "urban background" in the vicinity of the site is greater than 11 ppt-TEQ, then the Port must be ordered to do the necessary sampling to establish the area background by sampling nearby areas not influenced by the site activities, or other known dioxin related sites or sources.

Pg 4-3, 4.2.1 Lora Lake Parcel Cleanup Areas

The report states that shallow surface soil contamination exists and is limited to the western property boundary. This is based on inadequate sampling that did not test soils along the northern boundary of the lake and site, where historic activities including dredge spoil handling, dewatering, traffic ingress and egress with vehicles and equipment, which may have trans-located dioxin contamination.

There were also home demolition, and fuel storage removal activities by the Port in this area. **[017.044] The Port should be ordered to do soil sampling in the area north of Lora Lake in the LL Parcel to determine if site COC's are present in this area.**

It appears at least some portion of this area is also going to be used by the Port for mobilization and staging for the filling and replanting of Lora Lake. This will include removing existing vegetation, and disturbing the shallow soils. Allowing such soil disturbance with no sampling should not be allowed. At least some minimal sampling of the area north of Lora Lake is needed prior to on-site mobilization and remedial activities.

Pg 5-1, 5.0 Selected Remedy

[017.045] The section provides a justification for the selection of an industrial cleanup level and exclusion from a TEE for the DMCA. As per previous comment, the selection of this cleanup level is not reasonable or protective due to site specific considerations, including the proximity to a salmon

bearing stream, failure of the SEPA determination to consider and mitigate project specific impacts such as the more than doubling in impervious surface, and the inclusion of a substantial area of the DMCA in the 100-year floodplain to name a few. Exclusion from a TEE for an area within the 100-year floodplain is a very ill thought out policy.

Ecology should not be encouraging, or allowing expansion of industrial activities, especially related to MTCA sites, in 100-year floodplains. Allowing this without detailed site-specific consideration, including informed public input, and mitigation is hard to comprehend.

As a practical matter, Ecology simply should not allow such proposals in 100-year floodplains, especially when salmon and wildlife are among the most critical identified receptors for the contaminant of consideration, in this case dioxin.

Ibid, 5.1 Lora Lake Apartments Parcel

The text describes the difference between alternative 3 and 4, where the primary difference is either consolidating excavated soil contaminated with dioxin from 11ppt-TEQ within the LLA Parcel, and constructing a site cover at that location, or disposing of this waste at the DMCA. In the section cost balancing by Ecology between remedies is described where Ecology is required to select the least costly alternative when benefits are equal. It does not appear from the SEPA documentation or other provided records that Ecology adequately considered the environmental impacts of the propose DMCA remedy, or the benefits of alternative 4 as compared to alternative 5.

[017.047] In addition, while Ecology says that the Port can implement either alternative, the Consent Decree specifically orders the Port to implement the DMCA alternative and does not include the capping within the LLA Parcel option.

[017.046] The justification provided for cutting off excavation, and requiring capping on site for soils contaminated from 11 ppt-TEQ, and 100 ppt, is that this range is within the range found within urban areas of Seattle.

The urban range of dioxin contamination in Seattle is immaterial and misleading in considering what the "urban background" concentration for dioxin in soil for the Burien area.

Seattle is one of the highest population cities in the State of Washington. It also has among the oldest, largest and most concentrated areas of industrial use. These conditions are not typical, and in fact in no way describe the area around Burien. This in particular is pointed out by the historic information provided in the RI/FS, which indicates that until around 1940, the region around the LLA site was in farms and residential use.

Outside of the SeaTac International Airport, industrial uses in Burien are relatively limited as compared to Seattle, not only in current uses, but also in consideration of the time the industrial uses have existed.

Both the Port and Ecology have made reference to justifying elevated concentrations of dioxin in the area, but even looking at the limited sampling done as part of the RI/FS, data collected from this site specific area does not support assumptions of ubiquitous high urban concentrations of dioxin.

Indeed the majority of samples from outside the directly contaminated areas of the site, or that the site has been known to directly discharge to, dioxin contamination concentrations are very low, well under 11 ppt. As mentioned above, this pattern even holds true for the existing DMCA, where the Port has stressed the number of soil samples taken, which were under 7.5 ppt-TEQ dioxin.

If the Port or Ecology is going to use assumed "background", or more accurately ubiquitous levels of urban dioxin concentrations, then it should be based on site-specific consideration of the locality where the determination is being made.

Otherwise the result is a policy that allows and encourages contamination of all communities up to the level of the worst urban contaminated high population centers in the state, where there has been the longest standing industrial. Burien is simply not such a urban location.

Such a policy is neither reasonable, nor protective, and should not be employed at the LLA site.

Pg 5-3, 5.2 Lora Lake Parcel

Previous comments on requested changes to the Lora Lake sediment selected remedy are incorporated here as well.

[017.048] There is a disconnect in the selection of alternative 1, for the LL Parcel. Part of the contamination found in the parcel is adjacent to Des Moines Way, and based on data collected from the west side of the road can assumed to be located outside the designated, and fenced NRMP. Thus "maintaining the impacted soil area as a habitat mitigation area under the management requirements of the..." provides substantially less protection for soils outside the NRMP fence line. For these soils, there is less excuse for not selecting excavation and off-site disposal than the shallow contaminated soils within the fenced NRMP. At the very least Ecology needs to order the Port to accurately determine the extent of dioxin contamination along the roadside area west of the fence line for the NRMP.

The explanation given for not removing soils within the NRMP is damage to the plant community would be a greater environmental impact than leaving the contamination in place and using institutional controls. Outside the NRMP, the plant community primarily consists of grasses and various, mostly non-native species. As such disturbance of the plant community does not deserve much if any consideration.

Even within the NRMP, the area of shallow area soil that could be excavated and removed would result in disturbing and replanting a minute fraction of the plant community the Port plans on destroying and replanting to provide access for carrying out the Lora Lake sand capping option.

It is also a small fraction of the somewhat comparable plant community that the Port plans on destroying in the DMCA, with no replanting or mitigation proposed what so ever.

The comparison between alternative 3 and 4, seem to be based on a less than complete assessment of potential pathways and risks associated with leaving the dioxin contaminated sediment in place in perpetuity. It does not appear that the potential acidification of the groundwater from returning the site to its former wetland/peat bog condition was considered in terms of potential mobilization of contaminants. It does not appear that gas ebullition was considered, and it doesn't appear that recent advancement in sand cap augmentation, as described in the attached EPA report was considered. As such it appears alternative 3 may be less protective than the provided reports represent, and that the long term permanence and protection offered by alternative 4 are therefore underestimated.

Alternative 1, as described is not protective of the areas outside the fenced, and established institutional controlled area on the NRMP. All areas of shallow soil dioxin contamination outside the NRMP, in the LL parcel western area above the 5.2 ppt-TEQ wildlife protective cleanup level, need to be excavated and removed to off-site disposal. If instead the 11 ppt-TEQ cleanup level is going to be used, that needs to be justified. Given the relatively small area involved the removal and replacement with clean soil would be a very small incremental cost given the equipment mobilization, and volume of soil and plants already required for the selected option(s), for this and the DMCA areas.

The text offers a substantive description of the work done to achieve the current native plant community within the NRMP. It then goes on, however, to offer a number of questionable assumptions or conclusions.

It is stated that excavation of the shallow soil will destroy established high-value mitigation plantings. In a vacuum this sounds reasonable. In context though, the Port is already planning to destroy similar native planting over a much larger area in order to do site mobilization and staging for the proposed work described in alternative 3 for Lora Lake sediments.

This will require the large scale replanting of that disturbed area. In addition, the Port is proposing filling in the lake, re-grading it with topsoil and doing large scale planting to establish a wetland in the former lake. The cumulative result of these activities will be the large-scale disturbance and destruction of existing "high-value" native plantings in the NRMP.

The Port plans to do a massive native plant community planting in the immediate area anyhow, meaning there is almost a zero impact in removing and replanting a small additional area to excavate contaminated shallow soils. As a result this statement, and the weight given to it as an assumption for alternative preference is misleading and provides a false picture of actual impacts and mitigation costs, which will occur throughout the same area.

In addition, the Port is also proposing removing a large area of lessor-value vegetation in the DMCA (~1.5 acres), and replacing it with impervious surface, with no replanting or mitigation of any kind.

This is in spite of the fact that according to the provided reports, some portion of the area to be de-vegetated and replaced with impervious surface are within the 100-year floodplain, which is clearly at odds with environmental regulatory objectives for floodplains.

In this context using destruction of a miniscule area of vegetation to try and excuse leaving contamination in place lacks any reasonable basis, as the Port has already selected an alternative that will do the exact same thing on a much more massive scale within the NRMP. In addition Ecology is allowing ~1.5 acres of vegetation outside the NRMP to be destroyed and replaced with impervious surface, impacting the 100-year floodplain with no mitigation or even consideration of the scope of those impacts at all.

The claim is made that the soil dioxins/furans TEQ concentrations in that area are within the range of urban background soils. A more accurate term would be within the range of urban contaminated soils. These data are not even based on the urban ubiquitous concentration of dioxin, but rather and averaging of sample data, which may include source contamination from facilities and other point sources of dioxin.

In addition this entire premise is highly objectionable as it assumes that liable parties have the right to pollute property up to the urban concentrations found in the states highest population center, and one of its most long standing and densest concentrations of industrial facilities. This policy will actually increase large-scale dioxin exposure of humans, wildlife and fishes.

In addition, it is reprehensible to impose a higher level of Seattle urban dioxin concentrations on communities and areas with a much lower "background" concentration of dioxin in their soils.

The reader is referred to figure 5.2, which provides comparison of mean dioxin concentrations. It should be noted that the mean soil contamination for both the LLA Parcel, and the LL Parcel are lower than the Seattle "background" concentration of 19 pg/g TEQ, with the LL Parcel at less than half of that concentration, and under the 11 ppt-TEQ dioxin residential cleanup standard. While the data isn't shown, it is likely that the mean for dioxin sample data for the DMCA would be even lower yet. In the RI/FS Figure 4.9, maximum concentrations of dioxin are shown for soil sampling locations. Even considering the maximum concentrations in each boring, 3 of 6 locations have concentrations of ~ 7 pg/g TEQ dioxin, with one sampling location having a maximum dioxin concentration of .887 pg/g. A similar pattern of very low "background" concentrations holds in the limited sampling conducted outside the designated boundary of the LLA site as well.

The available dioxin data set seems to strongly imply that aside from contamination related to the LLA Parcel and Lora Lake sediments, that area background, or the ubiquitous concentration of dioxin specific to this areas urban soils are substantially lower than Ecology's calculated level for Seattle.

If Ecology wants to allow the Port to claim that some elevated level about 11 ppt-TEQ dioxin is "urban background" specific to this site, then site specific data needs to be collected to justify such a conclusion.

This should be no different than when an industry claims that they should be allowed to discharge a higher level of pollution to water due to "background" water quality in a receiving water being higher than the associated water quality criteria, or that there are other water segment specific factors that justify setting a specific criteria for a waterway rather than using the standard numeric water quality criteria.

The facility must prove that such conditions exist, and quantify what they are. The same area specific approach should be used at this site, or any others related to dioxin, to establish what the actual background concentration in soils are. Otherwise using some pulled out of the hat number, such as relatively high urban soil numbers from Seattle, or Tacoma, will simply provide polluters a license to pollute all communities up to the level of those locations, irrespective of whether such assumption have scientific merit or not.

Given recent work on fish consumption rates, and established drinking water criteria, and wildlife criteria for dioxin, a blanket non-area specific setting of "urban background" concentrations in soil as is suggested here is not protective of human health and the environment, and will locally and state wide lead to increase bioaccumulation of dioxin in the food web, including in humans.

In addition, Ecology did not consider under SEPA the impacts of implementing such a policy at this site, or identify and provide mitigation for doing so. Further there

has been no assessment on implementation of such a policy on a statewide, or even regional basis. Absent such a regional assessment and as is obvious in this case, absent any site specific assessment, imposing Seattle "urban background" as any kind of justification or acceptable policy for determining any endpoints at the LLA site is arbitrary and capricious.

[017.049] As a result all reference to the Seattle "urban background" soil dioxin concentrations, or any higher concentrations should be removed from the reports, and should not be allowed to be used to justify abandonment of any dioxin concentrations over the highest selected cleanup level for the LLA site of 11 ppt-TEQ, or lowest selected excavation limit for dioxin of 100 ppt-TEQ.

Pg 5-5, 5.3 1982 Dredged Material Containment Area

This section mischaracterizes the impacts related to the selected remedy, or fails to consider remedy specific impacts. The DMCA, or more accurately Lora Lake dredge disposal site had ~16,000 cubic yards of contaminated lake sediment deposited in 1982.

The current proposal is to dispose of close to double that volume of dioxin contaminated soil, ~30,000 cubic yards within the same location as the historical disposal site.

[017.050] In order to facilitate this disposal, and keep the site in industrial use, the Port is proposing to eliminate a large area of vegetation, which includes (according to the aerial photograph in RI/FS figure 4.9), well established trees and shrubs. This appears to include at least some vegetation, which provides shade to the adjacent section of Miller Creek (also see figure A.1, Miller Creek 100-Year Floodplain).

The plan is to place the ~30,000 cubic yards of dioxin contaminated soil, and then cover it with a compacted gravel cover, which is what is replacing the existing vegetation in the DMCA.

This action is not consistent with the Miller/Walker Creek Basin Plan. It is also inconsistent with Ecology's duty to protect the water quality of Miller Creek.

Part of the rationale for replacing Lora Lake with a wetland is that the existing lake pollutes Miller Creek with water that is too warm. The Port's selected DMCA remedy appears to remove shade from at least a portion of Miller Creek adjacent to the DMCA. The replacement of the existing vegetation will also create a discharge of warmer surface water discharge to Miller Creek as compared to the existing condition, and further has the potential to cause the shallow groundwater to be warmer as well, through absorption of heat from the sun, and related shallow soil warming.

If stormwater from the site is directly discharged it will be warmed by the impervious surface. If stormwater is infiltrated, it will suffer from the same conditions that the Port claims the shallow groundwater from Lora Lake discharging to Miller Creek suffers from. That being stormwater discharged, or infiltrated from the remedy proposed impervious surface will discharge warmer water to Miller Creek than the current condition.

It is somewhat ironic that the draft CAP stresses the value and need not to disturb even a small portion of the vegetation buffer between Des Moines Memorial Way and Lora Lake, while at the same time planning on removing an even larger area of more mature vegetation, including shrubs and trees, which buffer a much higher habitat function and value waterway, Miller Creek.

These competing rationales are completely at odds with one another. Miniscule areas of habitat at the margin of a roadway are elevated in value and priority to achieve a desired outcome, where a much larger area, which serves critical habitat and waterway protection functions is assigned a zero value not based on merit or science, but to serve a different desired outcome.

In one case, a very small area of plants can't be disturbed to remove contamination, while in the other a very large area of plants (~1.5 acres, a significant portion of which appears to be in the 100-year floodplain, and adjacent to Miller Creek), are to be destroyed without even mitigation to facilitate disposal of dioxin waste, increase industrial use area, and place additional impervious surface without mitigation.

As a result this remedy will counter act the claimed benefits of the LL Parcel remedy by replacing the current claimed source of hot water from Lora Lake, with an additional source of hot water upstream of Lora Lake. Ecology failed to detail, or consider these defects, inconsistencies, and impacts with watershed policy, Ecology's duty to protect water quality in general, and these and related impacts in its SEPA determination for the LLA site Cleanup Action Plan selected remedies.

It appears that the DMCA selected remedy does not require the dioxin disposal area cover to be monitored and maintained. The site is planned to remain in continual industrial use, similar to past and existing use. This has consisted of equipment and supply mobilization, construction support, vehicle and equipment access and other uses that would put wear and stress on the dioxin disposal area cover. The general MTCA five-year periodic review for such heavy use is not protective, and increases the potential of additional release of dioxin bearing waste to the environment.

Pg 6-1, 6.1 Lora Lake Apartments Parcel, 6.1.1 Soil

[017.051] At the recent open house meeting held by the Port and Ecology, the public was informed that the reason off-site permitted disposal was not an option for the 30,000 cubic yards of dioxin contaminated soil (contaminated

at 11 ppt-TEQ dioxin to 100 ppt-TEQ), due to an increased cost of over $2,000,000.

That information was misleading, as the actual cost difference comparison should be between the Port's preferred option of disposal of the 30,000 cubic yards of waste at the DMCA (alternative 4), and off-site permitted disposal (alternative 5), which appears to only be in the range of $1,000,000 dollars (the Port in selecting alternative 4 has apparently assigned it at least a $0.6 million dollar benefit over alternative 3).

Thus the Port and Ecology have overstated the actual cost difference between the community-preferred option, and the Port preferred option by around 100%.

The Port identified, though did not quantify substantial benefits that would accrue through off-site permitted disposal, including no need to monitor and maintain the required cover as compared to the waste remaining in the LLA Parcel, and no need for institutional controls, which would increase the value of the property through not having a notice of contamination on title, and increased attractiveness to commercial, light industrial customers.

While the increased attractiveness of the property to potential developers, or tenants may be hard to quantify, it is not that difficult to calculate the savings accrued in not needing to construct a cover at the LLA Parcel, not having to monitor and maintain the cover, and not having required institutional controls in place on the property, depressing its value. The Port and Ecology did not calculate any of these considerable benefits, artificially inflating the cost difference between the community-preferred option of off-site permitted disposal (alternative 5) and LLA Parcel consolidation and capping (alternative 3).

[017.052] Ecology is also allowing the Port an additional 4 years, after completion and backfilling of the site to identify the commercial use of the site and integrate the approved wildlife barrier. This is an unreasonably long period, which increases the risk of remaining subsurface contamination being disturbed by burrowing rodents. This could result in translocation of dioxin assumed covered with clean soil, and environmental uptake.

These risks are completely avoidable by selecting the community-preferred option of off-site disposal. This would also allow the Port to simply stabilize the site, and take as long as needed to work out details of development, with virtually eliminated risk to the environment. Thus there are both decreased risks, and cost benefits to alternative 5, which were not considered in selecting the remedy described in this section.

[017.053] The text makes it appear as if stormwater and erosion control measures, as well as dust control measures, will only be implemented and

maintained after excavation and backfilling. The text should be clarified to indicate these requirements apply to both phases of site work.

The description of remedy excavation dewatering/groundwater removal is sparse.

[017.053] Given the concentration of dioxin in some subsurface areas of the site, and the depth to groundwater across the site, substantial contaminated soil excavation will take place in saturated soils, or lower that the shallow groundwater table. As a result collected water will contain very high levels of dioxin. There should be at least some description of the technologies, and treatment train options that are being considered. If it is currently unknown what specific technologies and treatment train is going to be employed, some at least basic information on options could still be provided. For example, there should be some method of removal of solids and disposal of that material with the rest of the excavated dioxin contaminated soil, rather than transporting high concentration dioxin wastewater off-site.

[017.0531] I also request to be notified when Ecology receives application for discharge to sewer, and/or stormwater permit coverage for this site.

In addition, like the Port of Olympia East Bay construction site, any discharges from this site should be covered under an individual NPDES permit, not general permit coverage. This issue is even of more importance at this site, than it was at the Port of Olympia site as the dioxin levels here are orders of magnitude higher, and there is confirmed dioxin in groundwater already at this site, even prior to the subsurface soils being disturbed through excavation.

Pg. 6-2, 6.1.3 Stormwater Conveyance System Improvements

[017.054] This section lacks detail, and provides little if any useful information to determine the impacts of the selected site remedy for stormwater as compared to the existing condition. The section needs to be rewritten to provide at least enough information that the reader can determine what is actually being proposed, and determine based on the rest of the available reports what the likely impacts of the selected remedy will be.

While it is understood that there will be a future engineering report developed that will contain specific details, that does not excuse such a lack of information at the Cleanup Action Plan stage, which hinders public understanding of what is being proposed and inhibits the ability to provide specific comment on whether the selected remedy is appropriate or not.

By the time the engineering report is issued this train will have left the station, and the public will have been permanently deprived of the right of informed comment on remedial measures selected by the Port and Ecology.

The text states the "existing stormwater conveyance system will be relocated to the northern part of the LL Apartments Parcel." This does not adequately or accurately describe the intended action. The language used implies that some portion of the existing stormwater system will remain, but as it also states the storm drain "will be above the water table…", it appears that some portion will be abandoned as well. The section needs to provide at least enough detail the reader can discern what is intended by the action.

Any section of the stormwater system that is being abandoned or relocated should include removal of the existing stormwater system and related (if any) bedding material to eliminate preferential flow pathways for groundwater, or infiltrating meteoric water through the shallow soils on site. It is assumed that this would happen for at least the portion of the existing stormwater system that is co-located with dioxin or other contaminants elevated above the excavation limits, or the cleanup level that would require the soil to be consolidated, or removed from the site. No portion of the existing stormwater system, which will no longer remain in use, should be abandoned in place, on site.

The text states, "The storm drain trench will be lined with a geofabric and backfilled with clean backfill." Does this mean the new storm drain system will consist of a single trench?

The current system has two parts, a southern collection system and outfall, which covers the majority of the site and also conveys a portion, or sub-basin of City of Burien stormwater to a storm drain on Des Moines Memorial Way, where it then discharges to Lora Lake. The second portion of the system is a smaller area in the northern part of the site, which discharges to the same road-side storm drain as the southern section, though the discharge point is upstream to the north, then discharges to the same Lora Lake outfall. The text is entirely opaque as to how the chosen remedy will change this system.

At the recent open house, the Port indicated their intent to cut off the current City of Burien stormwater discharge into the LLA Parcel, which would instead be re-routed to the south to directly discharge into Miller Creek. While such source separation may be prudent, and in the interest of cleanup objectives, this intent is not to be found in the provided records, and in particular is not identified, or considered in the SEPA Checklist, and MDNS.

Both the Port and Ecology have long stated that the dioxin found in stormwater leaving the LLA Parcel through the LLA Parcel storm drain (in particular the southern discharge), originates from off-site in Burien, not from the LLA Parcel. This position is contested as no samples of stormwater from outside the LLA Parcel boundary have been collected, and at least one soil sample outside the boundary in the vicinity of the on-site sampled storm drain has an elevated concentration of dioxin (see sample location SSB-02).

In any case since an off-site source is the position of Ecology and the Port, and the data collected shows dioxin contamination in the stormwater, it has to be assumed that the stormwater re-routed to Miller Creek, instead of discharging to Lora Lake, will discharge dioxin directly to Miller Creek.

In the existing system, this dioxin would discharge to Lora Lake, tend to bind to the peat, organic muck, and fine sediments in the lake, and would only periodically have the opportunity to discharge to Miller Creek. This would tend to occur during high flow conditions in the creek, or elevated water levels in the lake that would allow for exchange of water and sediment via the eastern Lora Lake outfall to Miller Creek, or overtopping of the berm between the lake and the creek.

In the proposed system this dioxin will discharge directly to the creek without first settling out in the lake, or with the opportunity to bind to organic dominated lake sediments that would tend to hold the dioxin in place, and out of Miller Creek for the majority of the year.

The SEPA Checklist and Ecology determination are defective as this impact was neither identified as part of the selected remedy, nor evaluated to consider the impacts to Miller Creek.

While Ecology may attempt under MTCA to say that stormwater discharges from Burien are not a MTCA site issue at the LLA site, this does not hold up under SEPA. The selected remedy will create a substantial impact in redirecting a known (according to Ecology and the Port) dioxin source from a lake system that has functioned as part of the regional stormwater system and removed dioxin from LLA Parcel stormwater system for decades.

Available chemical data shows the lake has effectively acted as a dioxin sink for some decades, based on dioxin concentration found in dredge spoils in the DCMA, that predate 1982, and on existing data that shows dioxin accumulated in the lake sediments post-dating 1982.

This is something the Port and Ecology simply can't have both ways.

[017.055] If the stormwater currently discharging through the LLA Parcel stormwater system from Burien does contain dioxin as the Port and Ecology assert, then rerouting the discharge from a location that reduces, or (as the Port and Ecology claim) eliminates dioxin discharge to Miller Creek, to one that discharges the dioxin directly to Miller Creek is an ecological impact that must be divulged, evaluated and mitigated.

With the cumulative impacts from the selected remedy(ies) for the site as a whole, which have been underestimated, or ignored are considered the appearance is that impacts have been understated to avoid doing an Environmental Impact Statement.

Ibid, 6.1.4 Environmental Covenants

[017.056] The description of the first covenant is somewhat unclear. From the construction of the sentence it appears that it is the long-term institutional controls for the wildlife barrier that require maintenance, rather than the barrier itself. Was this Ecology's intent, or is the covenant meant to assure monitoring and maintenance of the cover/cap/barrier itself?

The language should be clarified.

The section indicates that a "separate environmental covenant may be needed for the former Seattle City Light Property." How, and when will this be determined?

What components are similar, or what would be different from the rest of the LLA Parcel?

Pg. 6-3, 6.2.1 Soil

[017.057] As described above, limiting the remedial action for the LL parcel-impacted soil is not protective, and the reasons given for not excavating these elevated dioxin concentrations are overstated, misleading, or inaccurate.

Ibid, 6.2.2

[017.058] In selecting the appropriate remedy for Lora Lake sediment Ecology and the Port should review up to date in-situ remediation technologies for sediments, such as those presented in the attached EPA report.

It does not appear Ecology or the Port considered increased acidification of the groundwater resulting from recreating the pre-lake conditions of the former peat bog and wetland complex. Also, it does not appear the Port and Ecology considered gas ebullition as a potential mechanism for transport, though EPA specifically mentions this mechanism as a potential concern specific to hydrophobic contaminants, such as dioxin, in sediment. Also peat bog/wetland complexes tend to generate more corrosive gas such as hydrogen sulfide, then most sediment sites would generate.

It is not clear if the ~ 2 to 13 feet of cover is that of the sand cover, or a combination of the sand and topsoil that will be graded for vegetation. Two feet of cover in the margin areas of the current lake would be shallow enough to allow for root intrusion by a wide variety of plants, and especially in the dryer part of the year could allow for intrusion and translocation of contaminants by burrowing wildlife.

The text states that the rehabilitated wetland will preserve or improve flow-through characteristics and flood desynchronization functions of the current system. It should be noted the Port plans on permanently destroying ~1.5 acres of vegetation immediately north of Lora Lake, and replacing it with impervious surface. This will increase flows and temperature compared to pre-existing conditions. As a result if the Lora Lake only preserves the current flow and flood desynchronization of the current lake system, the selected preferred remedies will actually result in net losses in benefits, or net increases in impacts to the same reach of Miller Creek that Lora Lake discharges to. In addition, a significant portion of the vegetation to be destroyed, and impervious surface to be placed in the DMCA appear to be in the 100-year flood-plain, which again will offset or negate any perceived benefits from the Lora Lake selected remedy.

The Port and Ecology have failed to divulge or evaluate these impacts, and as a result have overstated benefits from the selected remedy, while ignoring adverse impacts.

Ibid, 6.2.3, Environmental Covenants

[017.059] Environmental covenants for the LL Parcel shallow soils are substantially less protective for the soils outside of the fenced area of the NRMP. Also the highest levels of contamination appear to be in areas adjacent to Des Moines Memorial Drive, which appears to the least established and lowest value plantings.

From the available data, it also appears that some locations dioxin increases with depth, and the point at which this trend terminates has not been determined (see figures 4.9 – 4.11). It is not appropriate to abandon dioxin contamination in place without knowing at what depth levels of dioxin above the cleanup level terminate, and what the maximum concentration of dioxin contained in the contaminated zone are. The present data set does not resolve either of these issues.

[017.059] There is no sample data available from the shallow soils north of Lora Lake. Historic uses of this portion of the site include potential petroleum and dioxin contamination from residential use, and from dredging activities related to removal and transport of dioxin contaminated sediment from Lora Lake to the DCMA disposal area.

Apparently the hydraulically dredged sediment was dewatered by surface drainage of the water off the then impounded solids. The Port and Ecology have not provided any information of where this drained liquid from the dredge spoils was directed, which would have either been overland to the lake, or overland to Miller Creek.

In addition site ingress and egress through the DMCA, construction activities related to third runway construction, and adjacent Department of Transportation construction almost certainly disturbed and tracked dioxin contamination from and

through this area. This is particularly the case as no precautions to prevent the spread and trackout of this dioxin source were taken, and vehicle and equipment tires are particularly effective at picking up and translocating dioxin-contaminated soils.

In any case, these historical uses and circumstances present more than enough basis to require sampling to determine the nature and extent of contamination, particularly where trackout and reposition from rain events could redeposit DMCA dioxin contamination into the LL Parcel, which has a much lower selected cleanup level than the DMCA.

Ibid, 6.2.3 Environmental Covenants

[017.060] The environmental covenants are not sufficient, as significant information on the nature and extent of contamination does not currently exist. Without this information Ecology does not know what institutional controls, or active cleanup options should be done in what locations particularly in the shallow soils north of Lora Lake, between the Lake and the historic and present site access routes into and out of the area, including the DMCA.

There does not appear to be any basis for the assumption that dioxin contamination to the west of Lora Lake in shallow soils is limited to the area within the active, fenced NRMP area. In fact the available data appears to show the samples closest to the road margins have the highest levels of dioxin and PCP (see figure 4.9, samples PSB-19, PSB-16, PSB-20, and LL-SB5, LL-SB6).

[017.060] The selected remedy of institutional controls only is not protective.

The environmental covenant cannot describe the nature and extent of contamination until sampling is completed north of Lora Lake in shallow soils.

Pg. 6-4, 6.3 1982 Dredged Material Containment Area

[017.061] While the institutional controls for the barrier in the LLA Parcel at least implies that it will include monitoring and maintenance requirements, this section doesn't include any such provision. Rather there is just a requirement that the site remain in industrial use. Language related to institutional controls, including monitoring and maintenance should be consistent throughout the provided reports.

The storage, movement and type of vehicle traffic, which have and will occur in the DMCA are far more intensive and damaging to impervious surfaces such as compacted gravel, or pavement. I have inspected site paving as part of Clean Water Act enforcement activities since 1994. I have had the opportunity to observe current practices in maintaining both gravel and paved surfaces at a wide array of

facilities including a wide range of commercial, light industrial and heavy industrial uses. This includes a wide range of uses on Port properties, including the Port of Seattle. Monitoring and maintenance of impervious surfaces for uses such as those historically done, and proposed for the DMCA are particularly problematic. Specific monitoring and maintenance metrics need to be included in any environmental covenant for the area.

It does not appear the area is currently served by a stormwater system. Given the industrial uses of the area, the proposal to dispose of a much larger quantity and concentration of dioxin waste there than was historically disposed of, any institutional controls need to include the collection and control of stormwater for this site.

Additional impacts related to a more than doubled amount of impervious area being proposed, the closer proximity of the proposed disposal and active industrial area to Miller Creek, and inclusion of active industrial use area and impervious surface in the 100-year flood zone all strongly argue for not allowing this remedy at all. That aside the failure of the Port and Ecology to identify and evaluate these impacts, also point to critical defects in the proposed institutional controls and environmental covenant for this area.

Ibid, 6.4 Environmental Analysis of Remedy Implementation

The SEPA Checklist and determination for this site are inadequate, lack information and analysis necessary to determine the range of impact, overstress relatively small impacts, is entirely silent on much larger impacts, and fails to accurately consider where remedy impacts offset, or negate claimed remedy benefits.

This section states, "Ecology review of the SEPA checklist and information presented in the RI/FS and in this Cleanup Action Plan indicates a Mitigated Determination of Nonsignificance is warranted for this site. The mitigation required is to minimize disturbance of plants on the Lora Lake Parcel to the degree possible."

[017.062] It is somewhat incomprehensible that one of the smallest potential environmental impacts (as compared to any of the issues above) is singled-out as the sole reason mitigation for this SEPA determination is necessary.

The sole areas of shallow soils that would require excavation in the shallow LL Parcel soils is a small area that may require excavation just east of the southern -boundary for the LLA Parcel at the western margin of the LL parcel, and a somewhat larger, though still limited area on the western margin of the LL Parcel northwest of Lora Lake. In both cases these soils (and related plants), are at the extreme margin of the planted area, where plant and soil removal would have no, or no measurable negative impacts on the functions and values of the habitat and vegetated buffer between Des Moines Memorial Drive and the lake.

It is also somewhat hard to comprehend that Ecology is using an argument that the average soil concentration of dioxin in soil at 8.2 pg/g, is only slightly elevated over the natural background concentration. Elsewhere the Port and Ecology are arguing that the Seattle "urban background" of 19 pg/g, is somehow determinative.

Which way is it?

Average (or mean) dioxin concentrations in the LLA Parcel, the LL Parcel, and the DMCA are below the Seattle mean "urban background" concentration of 19 pg/g. Two of the areas, (LL Parcel, DMCA) average soil concentrations are in single digits below the residential cleanup standard.

It is reasonable to expect that if a well designed sampling program was implemented to make a site specific determination of the localized urban background, that the average, or mean soil concentrations of dioxin would be even lower than these areas of the LLA site, which are known to be contaminated with dioxin on a site specific, non-ubiquitous urban background basis.

This appears to be a repeating diachotomy, where the impacts selected to stress, (such as temporary removal of a small area of plants, as compared to the permanent destruction of 1.5 acres of plants and replacement with impervious surface in and adjacent to the 100-year floodplain), are completely overshadowed by the impacts ignored or discounted (such as trying to use Seattle urban dioxin soil mean concentrations, where even the contaminated site average concentrations do not support the use of such a high "background").

Pg. 6-5, 6.5.1 Financial Assurances

[017.063] The records referred to here, including any back up, or itemization for "proof of financial assurance…to cover all costs associated with the operation and maintenance of the cleanup action, including institutional controls, compliance monitoring, and corrective measures.", are requested. Should these records not currently exist, this request in continuing in nature through the time the records are submitted to Ecology.

Ibid, 6.5.2 Plans Describing the Cleanup Action.

[017.064] The section describing the Operations and Maintenance Plan does not appear to comport to the description of institutional controls and wildlife barriers (cap/cover) provided in the sections of the CAP above. The language describing the monitoring and maintenance of the cover or wildlife barrier varies in description, but this section appears to indicate that the elements of the O&M plan apply to all covers, or wildlife barriers. Which of these descriptions are accurate?

The O&M plan should require, at a minimum annual inspections of any impervious surface that is also subject, but not limited to any commercial, or industrial activities which would stress, degrade, or damage the surface, such as storage, vehicle or equipment access or transit.

[017.065] Water quality monitoring of Miller Creek adjoining and downstream of the DCMA (if the 30,000 cubic yard disposal option is selected), and adjoining and downstream of Lora Lake, and the to be constructed peat bog/wetland replacement need to be added to this plan to adequately measure and determine the impacts related to these selected remedies to assure their proper function, and any necessary changes as monitoring may determine are needed.

Pg. 1 of 1, Exhibit C: Scope of Work and Schedule

[017.066] The scope and schedule should include at least approximate dates for applications of relevant permits.

Pg. 1 of 1, Exhibit D: Applicable or Relevant and Appropriate Requirements

[017.067] There should be an individual industrial permit for discharge of dioxin-contaminated water from the LLA Parcel dewatering/groundwater collection and discharge. This permit should be crafted along the same lines as the Port of Olympia East Bay development permit, issued out of Ecology's SWRO. The circumstances for the two sites are virtually identical, including the focus of the activity being construction of a commercial area on Port property, though the LLA Parcel has dioxin concentrations orders of magnitude higher than the Port of Olympia site, and there is confirmed dioxin in groundwater at the LLA Parcel, which there was not at the Port of Olympia site. Like the selected remedy for the LLA site, the Port of Olympia site was not direct discharge to a receiving water, but discharge to the receiving water via a POTW, where the discharge received final treatment.

[017.068] At the DMCA, the Port selected remedy (and only remedy contained in the Draft Consent Decree), is to eliminate the remaining vegetation buffer on the DMCA between the existing industrial use area on the site, use the area for disposal of dioxin waste, and cover it with a compacted gravel impervious surface. In addition to elimination of 1.5 acres of well established grasses, shrubs and trees, this will more than double the industrial use area, and push the industrial use area (apparently as well as the dioxin disposal area), into, or further into the 100-year flood plain. In spite of these circumstances it does not appear there is a stormwater system in place, or any plan to put a stormwater system in place, in spite of the obvious present, and intended future industrial use of the site, not the least of which is to vastly increase both the volume and concentration of dioxin in this disposal area.

As the proposed remedy in the DMCA will remove ~1.5 acres of vegetation adjacent to Miller Creek, and replace it with impervious surface, this remedy would likely significantly increase the temperature of either stormwater discharged directly to Miller Creek, or if infiltrated increase the temperature of the shallow groundwater discharge to the immediately adjacent Miller Creek. The proposed remedy does not address, and the provided records provide no information for the public to evaluate these potential impacts.

[017.069] Due to the defects in the SEPA Checklist and MDNS, the public was not granted adequate notice, or adequate time to comment on the proposed actions approved by the MDNS

018

South, David (ECY)

From: Georgia & Andy Batcho [earthday1@mindspring.com]
Sent: Tuesday, December 31, 2013 8:40 AM
To: South, David (ECY)
Cc: Duffner, Bob; director@ecy.wa.gov
Subject: Extended Public Comment Period, Lora Lake Dioxin Cleanup

To: David South, Washington Department of Ecology. (DOE-Sea-Tac) (david.south@ecy.wa.gov)
Subject: Extended Public Comment Period, Lora Lake Dioxin Cleanup Plans, Sea-Tac Airport.

Dear Mr. South,
Thank you for providing an additional public comment period on the Lora Lake site cleanup activities based on the new information made available about the details of the proposed cleanup plan.

I have four concerns with the proposed plan. 018.001

1. Storing the 100ppt to 11ppt contaminated soils from the Lora Lake site on Port property near Miller Creek; in particular the long term costs and risks of preventing this contamination from ultimately entering Miller Creek vs the costs to simply remove it from the site to a safe storage area.
2. The lack of science, measurements and certainty that the filling of Lora Lake and converting it to a wetland will provide a better contamination filter for the waters reaching Miller Creek. 018.002
3. The lack of details, clarity and science concerning the relocation and treatment of know contaminated surface waters from a City of Burien parcel directly into Miller Creek. 018.003
4. The apparent lack of baseline measurement of contamination levels in Miller Creek and any plans for an ongoing measurement process to assure that the proposed restoration efforts are indeed effective. 018.004

018.005

Webster's Dictionary defines "ecology" as; "a branch of science concerned with the interrelationship of organisms and their environment". Therefore one would suspect that the taxpayers of the State of Washington would fund a "Department of Ecology" to provide the citizens with professionals to assure that the citizens interests are protected when it comes to activities that may effect the relationship between organisms and their environment. I may be wrong, but that seems to me to be the basic reason for the existence of the Department of Ecology. And the Washington Department of Ecology Mission Statement seems to agree with my assessment.
The DOE mission statement says; "The Mission of the Department of Ecology is to protect, preserve and promote Washington's environment and promote the wise management of our air, land and water for the benefit of current and future generations." The stated goal of the DOE is: "Prevent pollution, clean up pollution, support sustainable communities and national resources."

Why would the citizens of a State even need a Department of Ecology? It's seems a rather expensive organization of professionals for taxpayers to fund year after year, there must be a reason the tax payers agree to spend the money?

In my opinion, the average tax payer doesn't understand the nuances and implications of modern development and its impact on the environment and organisms. Since a Department of Ecology exists, then apparently there are opposing forces that either for economic reasons or lack of knowledge are willing to impact the environment and its organisms? Therefore the citizens hire subject-matter-experts to protect them and their future generations from unscrupulous activities that may threaten them and their children.

018.005

I understand that project like the Lora Lake cleanup have a budget. In my experience, lack of funds is not a reason for lack of creativity in solutions.
Americans spend $61.4 Billion dollars on their Pets annually, another $96 Billion on Beer, $4 Billion on peanuts, $5.7 Billion on Toilet Paper and a $1/2 Billion dollars on paintballs.
The Federal Government spends <1% of the Federal Budget, $37 Billion dollars on Foreign Aide annually, but only $700 Million dollars on Superfund Cleanup Sites annually.
One would suspect that if citizens really understood the impacts of chemicals in their environment and their likely impacts to the health of their progeny that they would be willing to spend at least as much to clean it up as they spend on peanuts? The lack of citizen understanding is obvious when you compare our spending for beer vs. environmental cleanup. My point.....it's not about the money! Future generations will soon forget the costs, but will never forgive the current generation for not doing the right thing to protect their environment and children.

I suspect if there were a survey, the public would expect the Department of Ecology, acting in their behalf, to spend, or cause to be spent appropriate amounts of money to protect them from hazards they don't see or understand. Looking at the Port of Seattle's $1.9 Billion dollar 5-year capital budget there seems to be room for fiscal creativity in solving pollution issues, let alone the opportunity for cleanup grants, which to my knowledge, aren't being pursued by the Port in this case.

Given the mandate of the Department of Ecology Mission Statement & Goals and the apparent reason the taxpayers created and pay for such an organization, it's clear to me that the efforts at Lora Lake need to be enhanced to meet the organizational and tax paying publics expectations.

I would appreciate anything you can do to prevent further pollution of Miller Creek and it's organisms, including humans.

Thank you for your consideration,
Andy Batcho
Normandy Park, WA.

"In areas where we go in and measure progress is where we make the most progress." -- Bill Gates

On Taxes. "One thing retailers do, that government doesn't, in the regard of extracting money from the public is; retailers advertise the benefits of their product and let the public decide if it's worth buying."

019

South, David (ECY)

From: john poitras [poitrasjohn@comcast.net]
Sent: Friday, January 03, 2014 3:59 PM
To: South, David (ECY)
Subject: Additional question

David.. I am including a copy of a letter from one of the council members from Normandy Park our sister city which was forwarded to me by one of our group.

Needless to say this letter produced a lot of unanswered questions we in Burien felt needed to be looked at. 019.001

Dear David South,

Thank you for your help in getting the comment period for the Lora Lake Apartments Site extended until January 15th, 2014. This will help in understanding the multitude of documents that have become available. During the long period that this cleanup has been studied, we have all become aware of the much greater collective need to improve the water resources that support our historic salmon runs that are becoming imperiled. There are multitude sources of contaminates, habitat destruction and many unknowns that have created this unacceptable situation. Many stewards, volunteers and state and local agencies are increasing their efforts and funding resources being spent on the preservation and return of acceptable salmon runs throughout the entire Puget Sound region as well as the rest of the state.

Miller Creek is just one small part of this entire problem, but it is recognized as a salmon bearing creek with struggling Coho and Chum salmon runs that are but a fraction of the runs my older neighbors describe as "being able to walk across the creek on the returning fish". Other species of fish including Bull Trout are described as having been or still are in the creek. Walker Creek which flows into Miller Creek near the estuary also has struggling salmon runs that have less stress from pre spawn mortality, perhaps due to more working wetlands and a less contaminated drainage area. Miller Creek has the potential to become a great example of a successful rehabilitation and return of healthy runs. Already the lower portion of the creek has had the habitat returned to woody debris, deep pools, tree shading and other projects by thousands of hours of steward work. What appears to be missing is control of the chemicals, contaminants and road runoff from the drainage basin. Recently with the help of a county basin steward, Burien was able to stop a commercial car washing facility that drained soaps directly to the creek. Progress is possible.

What we have at the Lora Lake Apartments Site are known and persistent contaminants from former commercial activity (barrel washing and wrecking yard) that occurred at a time when environmental concerns were less than healthy. The Port of Seattle was required by the FAA to purchase this property as part of the third runway development. While I am sure that the Port was not happy to have to purchase a known contaminated site, the fact is they did. This fact is actually a happy coincidence for the downstream communities as the Port, as the largest operator of a huge domestic and international airport, has the engineering staff and wherewithal to actually perform a complete cleanup. This site has had cleanups in the past, but now is an opportunity to remove the contaminants once and for all to keep them out of Miller Creek. There will never be a better time; and it nicely aligns with the mission of the Department of Ecology and stated goals of the State of Washington!

From some of the data recently released, I have several specific concerns:

1. The proposed Cleanup Action Plan appears to have the worst of the contaminants/dioxins removed entirely from the site to an appropriate site. However the plan also contemplates removing the dioxins from 100 ppt to 11ppt from the site and inexplicably moved closer to Miller Creek where even some would be in a one hundred year flood plain. This would increase the contaminant loading already existing in the former wetland along the creek and would require continual monitoring and maintenance of any cap and barrier system in perpetuity. The likelihood of disturbance by natural forces or construction activity creates an unacceptable future threat of recontamination within the creek. The 11ppt is the current residential standard and why the much lower wetland standard does not apply to prevent actually moving contaminants into creek wetlands needs to be addressed. Even these standards appear to be under review due to human consumption of fish in these basins. The best answer would be to remove contaminants off site to an appropriate place that accepts such material. Any extra cost should be compared to the long term cost of maintaining a barrier/cap in perpetuity along with the threat of hundred year floods occurring much more often and future construction. The Port is also accepting grant funds which should help to complete a final "once and for all cleanup".
2. There has been a long standing inference that contaminants are also flowing across the site from the storm water system of a neighboring city. Most of this system was constructed when there was no thought as to flash flow and settling ponds for cleaning the flow. The Cleanup Action Plan appears to have this flow diverted around the Apartment site and connected directly to Miller Creek. This must not happen. It may violate federal and state requirements for handling storm water. The inference that this water is also contaminated with dioxins must be studied to determine the actual facts and necessary cleanup before any connection to Miller Creek is contemplated. If this storm water system is reconstructed thru the LLA site, it still needs investigation concerning dioxin being carried in its sediments and appropriate remedies applied. Some adequately sized detention and settling pond east of Des Moines Way may be required before it is allowed to flow across current or recreated wetlands as it would likely create channelization to Miller Creek without detention of flash flows. Such flows would be capable of transporting contaminated sediments.
3. The proposed filling of Lora Lake itself may actually create additional problems. It is a known sink and filter for much of the dioxin that came off the Lora Lake site. Trying to recreate a wetland from the lake may require additional detention ponds to handle the flow from the apartment site and land to the east across Des Moines Way for any residual contaminants working their way toward Miller Creek.

I am submitting these comments on behalf of myself, and the city likely will be submitting its own additional comments in early January 2014. Thank you for extending the comment period. I truly believe that Miller Creek has the opportunity to become a statewide example of how salmon runs can be rehabilitated and returned; but that will not happen unless Ecology actually enforces its mandate and cleans up these known contaminates once and for all. I also know that the Port is capable of doing a complete cleanup as evidenced by the success of their detention ponds built since the construction of the third runway. Removal of the contaminated soil down to at least the residential

standard to an appropriate off site location that accepts such soil may in fact be the most economical solution when all factors over long periods of time are considered. This would permanently remove one known source of dioxin contaminants as a threat to the viability of Miller Creek. This is not the Love Canal or lower Duwamish. With a bit more effort, this mess can be totally and permanently cleaned up. We have a creek with continuing salmon runs that needs our attention and can be rehabilitated, if we properly address known contaminants. Thank you.

Clarke Brant
Council Member
City of Normandy Park

Best Regards,

John Poitras

From: "David South (ECY)" <DSOU461@ECY.WA.GOV>
To: "Douglas Howie (ECY)" <doho461@ECY.WA.GOV>, "john poitras" <poitrasjohn@comcast.net>
Cc: "Rachel McCrea (ECY)" <rmcc461@ECY.WA.GOV>, "Don Robbins (Port of Seattle)" <Robbins.D@portseattle.org>, "Clay Keown (ECY)" <ckeo461@ECY.WA.GOV>, "Becky Powell (ECY)" <BPOW461@ECY.WA.GOV>, "Dave Garland (ECY)" <DGAR461@ECY.WA.GOV>, maiyaa@burienwa.gov
Sent: Friday, January 3, 2014 1:20:56 PM
Subject: RE: Lora Lakes Apts cleanup site

This looks like a lot more than the 4.9 acres that is to be disturbed. This looks like the entire Phase I area. What am I missing?

DLS

From: Howie, Douglas (ECY)
Sent: Friday, January 03, 2014 11:43 AM
To: john poitras; South, David (ECY)
Cc: McCrea, Rachel (ECY); Don Robbins (Port of Seattle); Keown, Clay (ECY); Powell, Becky (ECY); Garland, Dave (ECY); maiyaa@burienwa.gov
Subject: RE: Lora Lakes Apts cleanup site

Mr. Poitras:

The attached .PDF file shows the location of the City of Burien Northeast Redevelopment Area Project. The drawing is the cover drawing from the construction plans. The project area is the darker shaded area west of Des Moines Memorial Drive, north of S 144th St, and south of S 140th St. This entire project is north of SR 518.

The area of the project is at the top of the aerial photo that David South sent you earlier today.

If you have any questions, please let me know.

Douglas C. Howie, P.E.
Stormwater Engineer
Department of Ecology, Water Quality Section
300 Desmond Dr. SE; PO Box 47600
Olympia, WA 98504-7600
(360) 407-6444 (voice)
douglas.howie@ecy.wa.gov

019

From: john poitras [mailto:poitrasjohn@comcast.net]
Sent: Friday, January 03, 2014 11:02 AM
To: South, David (ECY)
Cc: McCrea, Rachel (ECY); Don Robbins (Port of Seattle); Howie, Douglas (ECY); Keown, Clay (ECY); Powell, Becky (ECY); Garland, Dave (ECY); maiyaa@burienwa.gov
Subject: Re: Lora Lakes Apts cleanup site

Thanks David

This map will be of great help.

Best Regards,

John Poitras

From: "David South (ECY)" <DSOU461@ECY.WA.GOV>
To: "john poitras" <poitrasjohn@comcast.net>
Cc: "Rachel McCrea (ECY)" <rmcc461@ECY.WA.GOV>, "Don Robbins (Port of Seattle)" <Robbins.D@portseattle.org>, "Douglas Howie (ECY)" <doho461@ECY.WA.GOV>, "Clay Keown (ECY)" <ckeo461@ECY.WA.GOV>, "Becky Powell (ECY)" <BPOW461@ECY.WA.GOV>, "Dave Garland (ECY)" <DGAR461@ECY.WA.GOV>, maiyaa@burienwa.gov
Sent: Friday, January 3, 2014 10:58:12 AM
Subject: RE: Lora Lakes Apts cleanup site

Mr. Poitras,

I enjoyed discussing the Burien stormwater project in the vicinity of 144th Street and 144th Way and the Lora Lake Apartments cleanup site with you. I have prepared a map showing the relationship between the two. I am not sure of the exact location of Burien's stormwater project in the vicinity of S. 144th Way and S. 144th Street.

If you have any more questions, please do not hesitate to contact me.

David L. South
Senior Engineer
Washington State Dept. of Ecology
Toxics Cleanup Program, NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452
425-649-7200

From: john poitras [mailto:poitrasjohn@comcast.net]
Sent: Friday, January 03, 2014 10:51 AM
To: South, David (ECY)
Subject: Lora Lakes Apts cleanup site

Hi David

019

Thanks for the information you shared with me over the phone today re Lora Lakes site cleanup in Burien.

You mentioned you might be able to screen shot me a map showing the relative locations of the Lora Lakes site and the NERA storm water construction site.

Best Regards,

John Poitras
(206)2463405
1248 SW 149th St
Burien 98166

020

South, David (ECY)

From: leah boehm [leahboehm@hotmail.com]
Sent: Thursday, January 09, 2014 9:01 PM
To: South, David (ECY); Greg Wingard
Subject: Comments about Miller Creek

Hello,

I grew up in Burien. I played and fished in Miller Creek. Salmon ran up Miller Creek.

I watched it change as the Airport grew, as first the Second Runway and now the Third Runway sent more and more polluted water down the little creek.

020.001

Now I hear there is a proposal that will allow add discharge of contaminated runoff into Miller Creek from Port of Seattle construction.

I oppose ANY proposal that routes polluted runoff into Miller Creek. *I hope you will draw the line, and allow nothing more enter it.*

Thank you.
Sincerely,
Leah Boehm

021

South, David (ECY)

From: mark brady [bradymarka@yahoo.com]
Sent: Sunday, January 12, 2014 4:13 PM
To: South, David (ECY)
Subject: Lora Lake Dioxin "cleanup" and Miller Creek

Dept of Ecology, Port of Seattle,

021.001 021.002

Please insure that your cleanup plan removes all contaminated soil and does not reduce the quality of storm water runoff into Miller creek. Having the potential and over the long term certainty that dioxin will be flowing down through residential areas into the sound through Miller Creek is not a satisfactory long term permanent solution. Being a Vietnam Veteran I know firsthand the effects of dioxin and do not want this irresponsible legacy of underestimating or ignoring the effects to continue. Get rid of the soil, restore and preserve natural areas and filtering of the water and do not decrease the quality of the storm water runoff. I understand it is expensive but it is more expensive to those that come after if you don't finally do it right.

Thanks for listening,

Mark Brady
Federal Way, Washington

022

South, David (ECY)

From: hwbranch@aol.com
Sent: Tuesday, January 14, 2014 7:37 AM
To: South, David (ECY)
Subject: Lora Lake MTCA Site

David South,
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE

Re: Lora Lake Apartments MTCA Work

Dear Department of Ecology:

I have been closely following efforts to contain and remove dioxin in Budd Inlet and other areas around Puget Sound for a number of years. I have been repeatedly appalled by the lack of logical, consistent planning. Identifying problems and solutions is a process that has been negatively impacted by the urge to develop land.

In Puget Sound, the most highly contaminated previously industrial areas are improving while previously less impacted areas are growing worse. Persistent bioaccumulative toxins are spreading from the most impacted areas to the least impacted areas. It seems logical that at least some of this spread is the result of poorly conceived cleanups, which actually don't clean anything up and result in the spread of contamination that was relatively stable prior to our intervention.

022.001

I don't believe the State is adequately considering the long term and broader effects of development in contaminated areas. This project probably takes the cake in this regard. If the State is bent on destroying Puget Sound, let's at least call a spade a spade, stop all the fuss, and just admit we are doing so.

Harry Branch
239 Cushing St NW
Olympia WA 98502
360-943-8508

023

South, David (ECY)

From: Sharron Coontz [sharron.coontz@gmail.com]
Sent: Wednesday, January 15, 2014 2:54 PM
To: South, David (ECY)
Subject: Lora Lake MTCA Comment

Dear Mr. South, 023.001

I'm a concerned citizen who has been following the Lora Lake issue. I've read the comments submitted by Stanley Stahl and, in the interest of brevity, will not reiterate or paraphrase his comments. I will just state that he raises serious problems with the proposal and his comments need to be addressed. The Port's plan is not satisfactory and must be rejected.

Thank you for this opportunity to comment.
Sharron Coontz
3716 85th NW
Olympia, 98502
360-866-7596

024

South, David (ECY)

From: Jeff Guddat [jeffguddat@yahoo.com]
Sent: Sunday, January 12, 2014 12:16 PM
To: South, David (ECY)
Subject: Lora Lake Apartments MTCA site

024.001

The SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide mitigation for impacts foreseeable from the selected, or preferred actions.

024.002

The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge.

024.003

The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another
airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed.

This option would permanently destroy ~1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater as well.

I urge you to consider other options. This is taking a bad situation and making it worse by polluting and forever changing the ecology of the area as well as Miller Creek.

Thank you.

Jeff Guddat
jeffguddat@yahoo.com

025

The Precautionary Group LLC

Protecting Human and Environmental Health

January 10, 2014

David South, Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452
DSOU461@ECY.WA.GOV

Re: Comments regarding the Lora Lake Apartments MTCA site

Dear Mr. South:

We have reviewed certain of the available documents and other materials related to the Lora Lake Apartments MTCA site, and find that the SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide mitigation for impacts foreseeable from the selected, or preferred actions. 025.001

The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge. 025.002

The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt) TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed. This option would permanently destroy about 1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater, as well.

The SEPA-MDNS goes to some length to stress disturbing or destroying vegetation has to be minimized, including using this as an excuse to abandon shallow soil dioxin contamination near Lora Lake. In spite of this, there is no consideration of the impacts, or mitigation provided for completely destroying about 1.5 acres of vegetation adjacent to Miller Creek and permanently replacing it with impervious surface. This vegetation currently provides buffering between the existing airport industrial activity and its current impervious surface and Miller Creek. A significant part of this vegetation also appears to be in the 100-year floodplain. Some portion of it is also likely providing stormwater infiltration, shading and contributing to cooler water temperatures. 025.003

High temperature discharges to Miller Creek have been determined to be a critical issue for the section of Miller Creek near this area by federal, state, and local agencies. Part of the proposed disposal site is in the 100-year floodplain for Miller Creek. Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed.

There is no current system in place to treat stormwater from the existing impervious surface in the Dredged Material Containment Area. In addition none is proposed for this action even though this dioxin disposal action would more than double the existing impervious surface.

Lora Lake sediment was dredged in the early 1980's, and the sediment was disposed of on airport property. Recent sampling confirmed dioxin contamination in this material. Given the type of dredging used, the lack of a liner or a cover for the site, and repeated disturbance by construction and industrial activities, sampling between Lora Lake, and the Dredged Material Containment site, including on and along the historic and present 025.004

The Precautionary Group LLC
Protecting Human and Environmental Health

025.004

vehicle access and use routes was inadequate. Additional sampling in this area of historical and present use, where there was a high potential of tracking dioxin contamination is needed, and should be required by Ecology.

The preferred option for the current Lora Lake dioxin contaminated sediments is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin-like contaminates in easily disturbed, light and very fine sediments, as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand.

025.005

Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for *In Situ* Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects.

There is also a lack of dioxin monitoring in the historic areas it would most likely be present as a result of the King County dredging activity, and later site vehicle access, and multiple construction activities, not the least of which was the third runway approach lighting, which went right through the middle of the disposal area.

025.004 continued

Historically there was also an access road for a number of homes in this area, and the Department of Transportation constructed an off-ramp and staged materials in the area. The lack of sampling in this critical area leaves an open question about the protectiveness of the remedy(ies) as the remedy will only address detected contamination in areas that were sampled.

Thank you for your attention to this critical matter.

Sincerely,

Richard C. Honour

Richard C. Honour, PhD
Executive Director

026

South, David (ECY)

From: Monica Hoover [mmhoove@gmail.com]
Sent: Wednesday, January 15, 2014 5:20 PM
To: South, David (ECY)
Subject: Lora Lake apartments proposed clean up comments

026.001

Dear Mr. David South,

Regarding the Lora Lake Apartments proposed clean up: The SEPA checklist and Mitigated Determination of Non-Significance (MNDS) are not sufficient. They do not adequately evaluate the impacts of the selection action and do not mitigate likely impacts from the selected actions.

The Port is proposing to redirect dioxin-contaminated stormwater directly to Miller Creek. This new discharge of contaminated stormwater was not adequately evaluated and the stormwater must be adequately treated prior to discharge into Miller Creek. 026.002

The disposal of 30,000 cubic yards of dioxin contaminated soil on the Port's property under the third runway approach lighting and covering it with compacted gravel should not be allowed. This action would permanently destroy about 1.5 acres of vegetation adjacent to Miller Creek and permanently replace it with impervious surface. A significant part of this area appears to be in the 100-year floodplain of Miller Creek. Moving dioxin-contaminate material from an upland area well away from surface water and placing it on a site bordering Miller Creek and at least partially in a floodplain should not be allowed. 026-003

026-004

Your cost and benefit evaluation is flawed. It appears you are not fully evaluating the options and are missing benefits of off-site disposal. Ecology should require permitted off-site disposal of this contaminated material.

Sincerely,
Monica Hoover
Olympia, WA.

027

South, David (ECY)

From: Don Huling [dwhuling@comcast.net]
Sent: Sunday, January 12, 2014 3:59 PM
To: South, David (ECY)
Subject: Lora Lake contamination remediation

David South,
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Having read the considerable documentation concerning the Lora Lake contamination cleanup, I find the Port of Seattle and Dept. of Ecology's recommendation extremely lacking.

The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste. 027.001

Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, **"Use of Amendments for In Situ Remediation at Superfund Sediment Sites", OSWER Directive 9200.2-128FS, April 2013.** 027.002

The preferred option for the current Lora Lake dioxin contaminated sediments is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand. This is not an acceptable remedy. 027.003

Don Huling
17117 SE 329th St.
Auburn, WA 98092

028

South, David (ECY)

From: Bernie McKinney [b.mckinney@comcast.net]
Sent: Thursday, January 09, 2014 9:33 PM
To: South, David (ECY)
Subject: Lara Lake

028.001

To whom it may concern,

The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed.

Please consider making these deposits go to a qualified facility. Dumping these sediments near the lake and creek is criminal.

Regards,

Bernie McKinney
b.mckinney@comcast.net
360.825.1000 mobile
360.825.7728 office
mgrc.org
Protect - Empower - Advocate - Enhance

029

South, David (ECY)

From: elizabeth.mooney@comcast.net
Sent: Wednesday, January 15, 2014 1:42 PM
To: South, David (ECY)
Cc: Elizabeth Mooney; Ann Hurst; Janet and Bob Hays; David Kleweno-PERK; jari kristensen; Diane Brennon; Richard Honour; Orlay Johnson; Jim Myers; Eric Adman SKWC Eric SKWC; Derek Poon; Jeff Burnside; Amy Radil; Derek Poon
Subject: Lora Lake Apartments MTCA site comment

Jan 15, 2014

David South,
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Dear Mr. South,

I am a resident of Kenmore, Washington. I have a BS from Pomona College, an MS from the University of Washington School of Fisheries, am a mom of 4 and am president of a nonprofit called PERK, People for an Environmentally Responsible Kenmore, a 501(c)(3). I ran, but lost, for council in Kenmore because I wanted to make our environment healthier and we are bombarded by dioxins in Lake Washington and asphalt fumes. I was hoping to help change that direction in Kenmore. I am writing to you to try to help another neighborhood because we need to keep the greater Washington State healthier than it is becoming. As we try to save Puget Sound, we are hurting that cause, and wasting our time, unless we band together and support all neighborhoods and communities who want a healthy environment where our waters are clean and our species can thrive. I have heard recently of a MTCA site at Lora Lake Apartments. I deeply respect the work that my environmental friends do in many areas and hope I am not too late in commenting on this site and encouraging you to go further to do the right thing. We need clean air, clean water and full disclosure so that children do not accidentally get exposed to toxins. People who live in industrial areas are at greater risk of disease, as I understand it, but if we protect the environment, we can protect these people from being unjustly exposed to toxins. You have the knowledge. Excercise the good decisions to protect those who may not have as much money to live in the more pristine areas of our land. Do what will protect the people from accidental exposure to dioxins. Airports are important, but we need to build them in the right manner and that includes protecting people from future harm. I do not know all the details of the project and am learning more even today, but please do what is best for all and listen to the comments that follow. I learned of the situation from very trustworthy folks.

Regarding the Lora Lake Apartments MTCA site, please do what is most environmentally responsible. We are living in an urban setting where I fear innocent people, their pets and wildlife are routinely exposed to toxins without their knowledge. It is just plain sad. Dioxins are such horrid contaminants and cause so much sadness in families who are faced with cancers. Please do your best and protect the people. This is the role we expect from our state agency. You are our protectors. We depend on your wise decisions to pave the way for our future. It is unfortunate that we are always fighting the good fight to protect our health, but we are doing that now and hoping that via the public comment opportunity, you will know that a lot of people care and support the most protective means of caring for our environment and keeping it clear of toxins.

029

On a more legal note:

The SEPA Check List and Mitigated Determination of Non-Significance (MDNS) are not sufficient. They fail to take the required hard look at the impacts of selected actions, and or fail to provide mitigation for impacts foreseeable from the selected, or preferred actions. 029.001

The Port is proposing to take what they determined to be dioxin-contaminated stormwater rerouting it from its current discharge site Lora Lake, where the dioxin binds to the lake sediments, south to discharge directly to Miller Creek. A new direct discharge of dioxin-contaminated stormwater through this action was not adequately evaluated. There is also no proposal to mitigate this impact by treating the stormwater to remove the dioxin prior to discharge to Miller Creek. Any rerouted discharge of dioxin-contaminated stormwater to Miller Creek must be treated prior to discharge. 029.002

The Port of Seattle's preferred option for disposal of 30,000 cubic yards soil contaminated with dioxin from 11 parts per trillion (ppt)-TEQ, is to transport it to another airport property under the third runway approach lighting, and cover it with compacted gravel. This should not be allowed.

This option would permanently destroy ~1.5 acres of vegetation, and replace it with impervious surface, causing decreased stormwater quality compared to the existing condition, including increasing the heat of surface stormwater and potentially shallow groundwater as well.

The SEPA-MDNS goes to some length to stress disturbing or destroying vegetation has to be minimized, including using this as an excuse to abandon shallow soil dioxin contamination near Lora Lake. In spite of this, there is no consideration of the impacts, or mitigation provided for completely destroying ~1.5 acres of vegetation adjacent to Miller Creek and permanently replacing it with impervious surface. This vegetation currently provides buffering between the existing airport industrial activity and its current impervious surface and Miller Creek. A significant part of this vegetation also appears to be in the 100-year floodplain. Some portion of it is also likely providing stormwater infiltration, shading, and contributing to cooler water temperatures. High temperature discharges to Miller Creek have been determined to be a critical issue for the section of Miller Creek near this area by federal, state, and local agencies.

Part of the proposed disposal site is in the 100-year floodplain for Miller Creek. Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed.

There is no current system in place to treat stormwater from the existing impervious surface in the Dredged Material Containment Area. In addition none is proposed for this action even though this dioxin disposal action would more than double the existing impervious surface. 029.003

The reason given for not sending the ~30,000 cubic yards of dioxin contaminated soil to licensed and permitted off-site disposal is the cost. According to Ecology it would cost over $2,000,000 more than consolidating and capping the contamination in place. This is a false and defective comparison though as the Port's preferred option is to excavate and remove this contamination to another property, not to consolidate it in place. The difference between the Port preferred option and permitted off-site disposal is at least $600,000 more costly than the option Ecology selected for comparison. 029.004

In addition the Port and Ecology failed to consider the cost benefits from selecting the off-site permitted disposal option, and thus the evaluation is defective. At the least the evaluation should have included the benefit of not having a restriction on the title of the property in-perpetuity, and elimination of the need to inspect and maintain the cap for the contaminated soil. It seems the one time expense related to off-site

029

permitted disposal would be more than offset by permanent elimination of a defect on title and otherwise required long-term inspection and maintenance requirements, including five-year reviews and public notice requirements. Ecology should require off-site permitted disposal for this contaminated soil. 029.004 / cont

Lora Lake sediment was dredged in the early 1980's, and the sediment was disposed of on airport property. Recent sampling confirmed dioxin contamination in this material. Given the type of dredging used, the lack of a liner or a cover for the site, and repeated disturbance by construction and industrial activities, sampling between Lora Lake, and the Dredged Material Containment site, including on and along the historic and present vehicle access and use routes was inadequate. Additional sampling in this area of historical and present use, where there was a high potential of tracking dioxin contamination is needed, and should be required by Ecology. 029.005

The preferred option for the current Lora Lake dioxin contaminated sediments (generally between 100-200 ppt-TEQ) is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand.

The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste.

029.006

Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for In Situ Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects.

Thank you,

Elizabeth Mooney
5934 NE 201st St.
Kenmore, Wa 98028
206-979-3999
-->

030

CITY OF
NORMANDY PARK
WASHINGTON

January 13, 2014

David L. South, Lora Lake Site Manager
WA Department of Ecology
3190 160th Ave SE
Bellevue, WA 98008

Re: Publication #13-09-196

Dear Mr. South:

Thank you for extending the comment period. This has allowed concerned parties to more thoroughly review the extensive and rather technical documents on the Lora Lake Apartment Site cleanup consent decree. This also provided an opportunity for Normandy Park staff to meet with staff from the Port of Seattle and the City of Burien on this matter. This meeting was a positive step in the process. The Normandy Park staff was able to get better clarity on the proposal that may not have occurred in a public meeting setting. Normandy Park appreciates being included in the process and commits to participating as a partner in the future moving forward. Some issues of concern that have been discussed include:

1. Use of the Dredged Contamination Material Area (DCMA)
2. DCMA vegetation removal and replacement
3. DCMA location relative to the 100 year flood plain
4. Location of proposed consolidation of contaminated soils within the DCMA

The City will continue to monitor these issues and review all documents and processes that pertain to them as the project moves forward.

Normandy Park does not wish to be a roadblock in this process. Our general concerns, being downstream of the site are for the protection and health of Miller Creek. As you may know the city is an active member of the Miller – Walker Creek Basin stewardship group. The city has continued to support this effort with staff, financial and volunteer resources. Normandy Park's remaining concerns about the Lora Lake Cleanup include: 030.001

- Storm systems retrofits – The City understands that the City of Burien storm water system that runs through the Lora Lake site will be replaced and be discharged to Lora Lake. We also understand the lake will be returned to its original wetland condition. We can see that this could be a positive step in protecting the stream. The City wants to make sure the design of these facilities' limits the movement of sediment. The City also wants to make sure that any development, both public and private, has storm water treatment systems that limit sediment movement.

801 S.W. 174TH STREET | NORMANDY PARK WA 98166-3679 | PHONE: 206-248-7603 | FAX: 206-439-8674 |
WWW.NORMANDYPARKWA.GOV

030

- Movement of contaminated soils – The City is concerned that extensive movement of the dioxin contaminated soils create the largest potential for recontamination and support approaches that take this into consideration. 030.002

- Impact on the creek by reconstructed wetland – The City has not found any reference to the impact of this process, through its review nor at the meeting, on the creek. The main concern would be the impact of the wetland discharge into the creek. As we have no information on this we cannot determine if an issue exists or not. 030.003

- Flash discharge control – Miller Creek continues to have flash flows during heavy rain events. This impacts the creek health and directly impacts all downstream functions as well as the health of Puget Sound. The City wants to make sure the hydraulic loading is taken under consideration in any future projects. 030.004

- No action – The City believes that no action because regulation, financial and political factors can have a large negative impact on the stream as well. The City supports the idea that incremental cleanup is more valuable than none at all provided the ultimate plan will be effective. 030.005

- Cutting edge of the dioxin treatment issue – The City has a concern that our region can be negatively impacted by "being the example" in the area of how treatment will be enforced in the future. The level of treatment is a much debated issue and the city requests that these levels be based on best available science. 030.006

The City of Normandy Park appreciates the fact that a great many public resources have gone into this process to date. It also is very aware of the fact that the economic goals of the Port of Seattle and the City of Burien could be at risk. Normandy Park encourages a balanced approach to completing this project with the downstream impacts being a major consideration in any future project review process. Please accept these comments from the City of Normandy Park into the record. Please do not hesitate to contact me with questions.

Thank you for your consideration.

Sincerely,

Glenn Akramoff
City Manager

031

South, David (ECY)

From:	Derek Poon [derekcpoon@gmail.com]
Sent:	Wednesday, January 15, 2014 4:52 PM
To:	South, David (ECY)
Cc:	Ann Hurst; Janet and Bob Hays; David Kleweno-PERK; jari kristensen; Diane Brennon; Richard Honour; Orlay Johnson; Jim Myers; Eric Adman SKWC Eric SKWC; Jeff Burnside; Amy Radil; Elizabeth Mooney; O'Brien, Maura (ECY); Bellon, Maia (ECY); Grady, Michael
Subject:	Complements to E. Mooney comments re Lora Lake Apartments MTCA site
Attachments:	Derek Poon one-page resume, October 2013.doc

January 15, 2014

David South
Senior Engineer
Department of Ecology
TSP-NWRO
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Dear Mr. South,

After reading the attached input from Elizabeth Mooney on the Lora Lake Apartment MTCA site, I am providing these complementary comments to Ecology on the Endangered Species Act (ESA) and the Clean Water Act (CWA).

First, let me commend Ecology on your Sisyphean task to address water pollution management in Washington State given a convoluted mix of local, state and federal regulations. This is a challenge of the biggest magnitude. Thank you for services of you and your agency.

I am a volunteer science advisor (my one-page resume is attached FYI) to Kenmore citizens interested in environmental health, and was a part of the effort to solicit and subsequently get a reopening of the ESA Section 7 Consultation to address Kenmore water issues after the SR 520 bridge restoration project proceeded without adequate ESA considerations. The case for ESA Section 7 is clear from the project's "federal nexus." This occurred when the Washington Department of Transportation and the Federation Highway Administration, with Ecology and WA Department of Health knowledge, strongly complained that ESA Section 7 reinitiation is unnecessary because adequate analyses have already been conducted, including a SEPA analysis.

I discussed this issue with Maura O'Brien and Director Maia Bellon of Ecology. After many months of discussions, including an Intent to Sue under the ESA filed by PERK and the Lake Forest Park Stewardship Foundation (LFPSF), the Section 7 Reinitiation was agreed to by the federal Services contrary to State recommendations. That reinitiation was completed by USFWS with new ESA regulations for the Kenmore area, and a completed reinitiation is expected from NOAA soon. Pollution impacts on ESA species were discussed, and I expect more will be addressed by NOAA.

All through this reinitiation vetting, I continually asserted that my personal goal was not to vet the technical issues as a non-toxicologist, but as someone well versed with ESA and CWA, including the fishable swimmable CWA Water Quality Standards, which defined ESA species and citizen health, safety, and cultural (including Tribal) concerns as CWA "use" protection. It was not my job to define what the science concludes about pollutants such as dioxin, but the federal "reinitiation" should address that issue by knowledgeable scientists. I personally experienced this dependence when I worked for EPA and NOAA.

031

Given my technical goal, my reading of Ms. Mooney's input was that the SEPA analysis was not adequate, which is consistent with my own analysis of the SR 520 project SEPA analysis specific to ESA at Kenmore. Let there be no doubt, any ESA analysis is not easy. However, the law is quite clear that ESA effects are defined as any level above zero, and that minimization and mitigation are solutions, even with difficult issues such as dioxin and other pollutants. Minimization and mitigation are so necessary when urbanized areas such as Puget Sound is trying to effect ESA recovery and delisting for iconic species such as Chinook, Steelhead, Orca whales, and Bull Trout. Nothing short of extraordinary efforts are required to achieve recovery and delisting, including what might be done for the Lora Lake project. 031.001

So, while commending Ecology and State agencies for your Herculean efforts to protect our environment, I also urge you to carefully consider Ms. Mooney's comments and do what you can to further environmental protection. I say that without the naivete about the need for incentives of money, regulatory flexibility, and recognition to supplement regulations, and you certainly have my best wishes to conduct this project using the judgement of Solomon.

I look forward to assist and my best on this difficult task.

Sincerely,

Derek Poon
Consultant Natural Resource Scientist
400 Boylston Ave E, #2
Seattle, WA 98102
derekcpoon@gmail.com
206-729-9378

On Wed, Jan 15, 2014 at 1:42 PM, <elizabeth.mooney@comcast.net> wrote:

Jan 15, 2014

David South,

Senior Engineer

See Commenter 029

Department of Ecology

TCP-NWRO

3190 160th Avenue SE

Bellevue, WA 98008-5452

Dear Mr. South,

032

South, David (ECY)

From: Patrisa Stahl [patrisa@me.com]
Sent: Wednesday, January 15, 2014 5:35 PM
To: South, David (ECY)
Subject: Port of Seattle Proposal - 100 Year Flood Plan - Miller Creek

DSOU461@ECY.WA.GOV

Name and mailing address of Ecology point of contact:

David South,
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

032.001

Mr. Smith:

Both the Mitigated Determination of Non-Significance and the SEPA Check List are insufficient. Essentially, they fail to consider the future consequences of their preferred actions or to recognize the necessity of establishing a plan and budget for mitigation of these inevitable consequences.

Transporting 30,000 cubic yards of contaminated soil (sampling at from 11 parts per trillion (ppt)-TEQ up to 100ppt-TEQ)) to the third runway property approach lighting and covering it with compacted gravel is an unconscionable mitigation. And yet, that is the option of disposal chosen by the Port of Seattle. This option must be eliminated from consideration as it would cause the permanent destruction of vegetation in that area replacing it with an impervious surface that automatically decreases both shallow groundwater and surface stormwater runoff and contradicts both the MDNS and the SEPA each of which go to great lengths to stress that vegetation destruction must be avoided. And yet, the Port of Seattle thinks nothing of permanently destroying all of the vegetation by Miller Creek and replacing it with an impervious surface that will undoubtedly increase the temperature of the the water discharged into Miller Creek - a critical issue already on the radar of federal, state and local agencies.

032.002

At least a portion of the disposal site is within the 100-year floodplain for Miller Creek. I agree with Consultant Greg Wingard's assessment: "Placement of dioxin waste from an upland area well away from surface water to a site that borders Miller Creek and is at least partially in the floodplain should not be allowed."

Even though the Port of Seattle's chosen option for the disposal of the dioxin would more than double the present impervious surface there is no stormwater treatment plan in place in the Dredged Material Containment Area.

After talking with several experts, consultants and accounts and verifying Mr. Wingard's analysis of costs, I concur whole-heartedly with his statement:

"The reason given for not sending the ~30,000 cubic yards of dioxin contaminated soil to licensed and permitted off-site disposal is the cost. According to Ecology it would cost over $2,000,000 more than consolidating and capping the contamination in place. This is a false and defective comparison though as the Port's preferred option is to excavate and remove this contamination to another property, not to consolidate it in place. The difference between the Port preferred option and permitted off-site disposal is at least $600,000 more costly than the option Ecology selected for comparison.

"In addition the Port and Ecology failed to consider the cost benefits from selecting the off-site permitted disposal option, and thus the evaluation is defective. At the least the evaluation should have included the benefit of not having a restriction on the title of the property in-perpetuity, and elimination of the need to inspect and maintain the cap for the contaminated soil. It seems the one time expense related to off-site permitted disposal would be more than offset by permanent elimination of a defect on title and otherwise required long-term inspection and maintenance requirements, including five-year reviews and public notice requirements. Ecology should require off-site permitted disposal for this contaminated soil.'"

In 1980 when Lora Lake was dredged, the dredged material was dumped at the airport site. Just recently, dioxin was found at this site. The Department of Ecology must take into account several factors including continuing construction and industrial activities that disturb and further contribute to contamination and the lack of either a cover or a liner at the site. It should be obvious to DOE that further sampling is required; and, further mitigation may be necessary.

032.003

I agree with Consultant Wingard'a suggestion, "The preferred option for the current Lora Lake dioxin contaminated sediments (generally between 100-200 ppt-TEQ) is to abandon the sediments in place, and fill in the lake with sand. The Port and Ecology failed to adequately consider available technologies for stabilizing and fixing dioxin and dioxin like contaminates in easily disturbed, light and very fine sediments as are found in Lora Lake. The current selected remedy has a high potential of disturbing the dioxin contamination and distributing it into the overlying areas of sand.

"The Port and Ecology did not give adequate consideration to the preferred alternative changed condition from a fresh water lake, to the previous peat bog type wetland, and potential mechanisms for dioxin being mobilized by acid groundwater conditions, or through gas migrating through the waste.

"Ecology should require the port to use better methods of treatment and fixing of the dioxin contaminated sediments, as outlined in EPA's recent paper, Use of Amendments for In Situ Remediation at Superfund Sediment Sites, OSWER Directive 9200.2-128FS, April 2013. This evaluation should also include the potential for disturbance of dioxin contamination through root intrusion, and burrowing wildlife or insects.""

As a tax paying citizen of the State of Washington and the USA, I expect the Department of Ecology to protect and preserve our environment for future generations. The Port of Seattle's SEPA and MDNS do neither of these mandates. It is up to you to see that The Port of Seattle acts responsibly to protect our land, air and water.

Sincerely,

Patrisa Stahl

033

South, David (ECY)

From: Stanley Stahl [sstahl3@me.com]
Sent: Wednesday, January 15, 2014 2:01 PM
To: South, David (ECY)
Cc: Stahl Stanley
Subject: Opposition to the proposed mitigation plan by the Port for the Lora Lake contaminated site

Attention: David South, Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Ave SE
Bellevue, WA 98008-5452

Mr. South, I am a concerned citizen who wishes to make comment on the mitigation plan proposed by the Port for the Port owned property located at Lora Lake.

033.001

I feel the option chosen to excavate about 30,000 cu. yds. of contaminated material from the bog site, which is showing dioxin contamination of between 11ppt and 100ppt for those areas tested, and moving it to an adjoining port property at the end of a runway is grossly inadequate, poorly thought out and in fact violates the protocol for disposal of contaminated material under the Model Toxics Control Act regulations.

The previous disposal of about 16,000 cu. yds has an average toxicity of approximately 5 ppt, so the proposal to dump an additional 30,000 cu. yes of material going up to 100 ppt is unacceptable and illegal.

There are other major flaws in this plan proposed by the Port -

033.002

- not enough characterization of the present site has been done to clearly delineate the entire contaminated area needing remediation.

033.003

- compacting clean gravel over the proposed disposed 30,000 cu. yds and compacting same does not consider collecting and treating stormwater runoff directed towards Miller Creek. This is a simplistic and ineffective cover-up, essentially sweeping the problem under the carpet rather than an effective remediation. Worse, it destroys 1.5 acres of plant life presently rooted and safely holding the bank in place on the proposed disposal site, thus taking a LESS contaminated stable condition, and making it into an unstable case for stormwater alligatoring and leaching of the MORE contaminated material to find it's way into Miller Creek. It is also likely that the dioxin at the bottom of Lora Lake has been immobilized binding to the peat and muck, rather than the higher probability that it would be washed untreated into Miller Creek if moved to the proposed disposal site.

033.004

- a proposed layer of sand and carbon on the floor of the Lora Lake excavated "lake" to stabilize the peat, silt and other muck before excavating is a poor method of handling a dangerous contaminant such as dioxin - this will be at the least dangerous for the workers doing the work, with further potential downside

to spillage and exposure to the general public as the material is transported across the street to the proposed disposal site.

033.004 Continued

- a proposed layer of material on the floor of the excavated area is a poor remediation of the problem on the site trying to seal further mobilization of toxins from below, which has been left behind after the major load of contaminated material has been removed. Not considered is that natural gaseous bubbling, and insect and animal burrowing will undoubtedly lead to migration of the dioxin again re-contaminating the proposed wetland.

033.005

- collection and treatment of the ground water entering the site has not been adequately assessed and no planning has been done to treat all future stormwater carrying dioxin to the the Lora Lake wetland site.

In conclusion, I feel this is a very poor plan to mitigate the dioxin contamination in Lora Lake and should be rejected for the above stated reasons, most importantly that it violates the MTCA regulations for disposal of toxic materials.

>>>>>>> Stanley Stahl, PMB 232, 120 State Ave NE, Olympia, WA 98501

034

South, David (ECY)

From: ljwitt312@aol.com
Sent: Wednesday, January 15, 2014 1:35 PM
To: South, David (ECY)
Cc: ljwitt312@aol.com
Subject: Lora Lake Apartment MTCA comment

Dear Mr. South,

Following are my comments pertaining to the SEPA Checklist and MDNS regarding the Lora Lake Apartment MTCA site / dioxin contamination issue.

The SEPA Checklist and MDNS are insufficient and flawed. 034.001

The remedy proposed by the Port will create future problems. The SEPA checklist does not identify those significant problems likely to occur if contamination is moved to the identified disposal site adjacent to Miller Creek. Furthermore, the documents fail to identify measures to mitigate problems that would occur.

Effects on Miller Creek of removal of vegetation adjacent to the creek, then placement of dioxin contaminated material capped with compacted gravel were not acknowledged. I am particularly concerned that there is no mention in the documents regarding how dioxin contaminated stormwater moving from the proposed disposal site towards Miller Creek will be treated prior to entering Miller Creek.

Part of the disposal site which the Port proposes is in the Miller Creek 100-year flood plain. The proposal to move contaminated material from an upland area to a 100-year floodplain near Miller Creek should not be approved.

The financial rationale for support of the Port's preferred option is flawed: The assertion that it would cost 2 million dollars more to dispose of the dioxin contaminated soil in a licensed and permitted off-site disposal is misleading because the comparison that led to that 2 million dollar figure was based on a comparison between 1) the option to consolidate and cap the contamination in place and 2) removal to a licensed and permitted off-site disposal. The cost analysis should have compared the Port's preferred option (which will be far more expensive than consolidation and capping in place) with removal to a licensed and permitted off-site disposal area. Additionally, the financial rationale given for support of the Port's preferred option did not consider future costs associated with long term inspections and maintenance requirements of the Port's preferred option. 034.002

The dioxin contaminated material should be required to be moved to a permitted and licensed off-site disposal area. Such a requirement would assure that the contamination does not create environmental hazards at and downstream from Miller Creek in years to come. 034.003

Thank you for your attention to my comments.

Sincerely,

Jan Witt
3012 Fir Street S.E.
Olympia, WA 98501

035

South, David (ECY)

From: Linda Worden [llworden@yahoo.com]
Sent: Saturday, January 11, 2014 5:17 PM
To: South, David (ECY)
Cc: SCAR Greg Wingard
Subject: Lara Lake

Name and mailing address of Ecology point of contact:
David South,
Senior Engineer
Department of Ecology
TCP-NWRO
3190 160th Avenue SE
Bellevue, WA 98008-5452

Mr.South,
I am writing to comment on the plans for dioxin cleanup at Lara Lake.
Although now living in Auburn, I am originally from the Burien, Normandy Park area and still have family, relatives and friends residing there.

035.001

My concern is the lack of foresight in dealing with the cleanup and disposal of toxic materials at Lara Lake. Understanding that there is a definite problem to be dealt with, I feel that contamination mitigation needs to be more affirmatively addressed. At the very minimum, continual monitoring needs to be put in place for years to come along with contingent plans to address further environmental issues. The Miller/Walker Creek basin needs to be protected from contamination for the safety of residents downstream, along with the wildlife that depends on clean water for survival.
Please do not make any hasty decisions that will further decimate the environment for generations to come.

035.001

Respectfully
Linda Worden