



RESPONSIVENESS SUMMARY

East Bay Redevelopment Cleanup Site

April 17 - May 17, 2017 Public Comment Period

Remedial Investigation, Feasibility Study, draft Cleanup Action Plan, SEPA

Prepared by

Washington State Department of Ecology
Southwest Regional Office
Toxics Cleanup Program
300 Desmond Drive
Olympia, Washington 98504-7775

August 2017

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Site Manager: Steve Teel

Public Involvement contact: Stacy Galleher

Summary

We received 10 comments on the Remedial Investigation, Feasibility Study, draft Cleanup Action Plan, and SEPA during the comment period for the East Bay Redevelopment Cleanup site. The comments did not suggest substantive changes. The comment period ran from April 17 to May 17, 2017. The cleanup documents are available in the site file and online at <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=407>.

We received several comments that had similar themes or questions. Therefore, we have made a group response (see Summary A below) that cover the theme.

Ecology Summary A –

The following items are a summary of the group themes or questions:

- Information regarding the dredging that took place in East Bay after 1979 and 1980.
- A complete analysis of the dredge fill should be conducted.

Ecology Summary A Response

East Bay Dredging Information

As described in Section 2.1 of the Remedial Investigation/Feasibility Study (RI/FS) Report, fill material for the East Bay Redevelopment Site is divided into two categories:

- Pre-1982 fill. This fill primarily consists of material dredged from Budd Inlet in a series of fill events from 1888 through 1981. Figure 2-2 of the RI/FS Report shows the extent of all of these fill events on the East Bay Redevelopment Site. The most up to date information about the most recent fill event (1981) are available at this link: <https://fortress.wa.gov/ecy/gsp/CleanupSiteDocuments.aspx?csid=407>. According to the Port of Olympia dredge sediments from the 1981 dredge were also placed inside the East and West Dikes that are north of the East Bay Redevelopment Site.

Ecology has requested that the Port of Olympia provide further details about the 1981 dredge locations in Budd Inlet and the upland locations where dredge sediments were placed.

- 1982 Fill: This fill came from an off-site, upland rock quarry. This fill was used within the East Bay Redevelopment Site.

Additional analysis needed of the 1981 Dredge Fill

For the area covered by the 1981 dredge fill outside of the East Bay Redevelopment site, based on the currently available information, Ecology does not feel that it is necessary to conduct additional sampling. The dredge sediment is apparently located either below pavement and/or clean fill soil and therefore does not have a clear pathway for human exposure. However, Ecology has requested additional information from the Port of Olympia and will review it and make a decision on if further sampling is needed.

We have tested the 1982 upland fill that was placed in an area within the East Bay Redevelopment site boundaries. We tested for: total petroleum hydrocarbons (TPHs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), dioxins and furans, arsenic, lead, and total naphthalenes. We did not find any contamination above the cleanup levels in the 1982 upland fill area *within the East Bay Redevelopment site*.

Comment A – Helen Wheatley

-----Original Message-----

From: Helen Wheatley [<mailto:hwheatley22@comcast.net>]

Sent: Tuesday, April 18, 2017 1:24 PM

To: Galleher, Stacy (ECY) <sgal461@ECY.WA.GOV>

Subject: Fwd: toxic cleanup program

Hi again,

Sorry, I now see that the Pioneer Tech study is the one to look at and try to understand. Does Ecology have any guidelines about incorporating sea level rise into these analyses and recommended alternatives? For instance, won't that affect what part of the property might be defined as shoreline, or won't the water table be higher in the future? I am wondering about capping in a SLR flood zone. Are there any resources from Ecology or other relevant agencies to look at about incorporating climate change into the decision process, prior to making a comment?

Helen Wheatley

Ecology Response

As for resources from Ecology about sea level rise, here are some general resources: <http://www.ecy.wa.gov/climatechange/risingsealevel.htm>).

As for resources from Ecology about climate change, here are some general resources: <http://www.ecy.wa.gov/climatechange/> and <http://www.ecy.wa.gov/pubs/0801008c.pdf>.

There is also this page covering the State Environmental Policy Act (SEPA) <http://www.ecy.wa.gov/programs/sea/sepa/climatechange/index.htm>.

Regarding the East Bay Redevelopment Site in particular, the selected remedy for the Site (targeted soil removal, soil cover and/or capping, and institutional controls) will be protective even if/when sea levels do rise because the concentrations that will remain in the soil will be protective of groundwater. In other words, the concentrations in the soil after cleanup are below the concentration that would cause groundwater to become contaminated even if the sea level rises all the way to the land surface. Also, the cleanup plan requires the thickness of the cap to be maintained.

Comment B – Helen Wheatley

From: Helen Wheatley

Sent: Wednesday, April 19, 2017 9:38 AM

To: Galleher, Stacy (ECY) <sgal461@ECY.WA.GOV>

Subject: a possible source of arsenic in soil

Stacy, I wouldn't know who to send this to, but seeing that arsenic is an issue, someone involved in legacy toxins might want to know about this. There was a city dump in the area, and rats were a huge problem all around the waterfront but especially on the peninsula because of the dump. Back in the old days, people thought nothing of putting out arsenic rat poison. That is probably what was used in this 1930s project: three tons of arsenic-laced bait. Just something to consider. — Helen Wheatley

Olympia's Rats Meet Death in City Dump

Olympia's old city dump is the graveyard of 75,000 rats. With labor furnished by WPA, it is reported by Don G. Abel, state administrator of the Works Progress Administration, three tons of bait were placed, the dump leveled, and a generous layer of hogged fuel distributed on top.

The U. S. Biological Survey supervised the project under the sponsorship of the county, city and state health departments. A health menace has been removed.

Ecology Response

Thank you for your comment and for sharing this news article. This Site is on our list of confirmed and suspected cleanup sites (Franklin Street ROW, Facility/Site ID 22814, Cleanup Site ID 11768) and it is outside of the Eastbay Redevelopment Site boundary. We placed a copy of your comment and the article in the Franklin Street ROW Site file. The below figure from the Pacific Groundwater Group (PGG, 2005) *Proposed City of Olympia Artesian Well Background Information on Groundwater Flow and Quality in Downtown Olympia* report shows the extent of the dump. Further information on the Franklin Street ROW Dump (including a copy of the PGG 2005 report) can be found at: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=11768>.



© 2003 PGG

- Franklin St Dump 1951
- Franklin St Dump 1936
- Franklin St Dump 1924

Proposed Artesian Well Site



0 Feet 100

2003 Orthophotos

Figure 4
Historic Extent of
Franklin Street Dump

Florida of Arkansas
 PGG



Comment C – Lisa Riener and John Newman

Sent: Monday, April 24, 2017 9:21 AM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: Public Comment, Port of Olympia fill from dredging

Hello Dept of Ecology, Steve Teel;

This letter concerns the Port of Olympia property downtown, near Budd Inlet. According to several sources including the Daily Olympian, a million cubic yards of sediments dredged from in front Cascade Pole were used as fill around East Bay, a lot of it contaminated.

If it wasn't used as fill in the redevelopment area where was it used as fill?

The Port of Olympia is relying on information that certain areas are "clean fill". Many of us think that the fill should be sampled for creosote and PCP. These were the primary chemicals of concern in the Budd Inlet bay.

The Port of Olympia doesn't adequately account for the dredge spoil placement as fill. The Port of Olympia states the dredging was done in 1982, when their own literature states it was done in 1979. Why this confusion?

We think that for public health and safety, that the Port of Olympia should conduct a complete analysis for creosote and PCP, of the fill in question.

Thank you for your work;

Lisa Riener
John Newman
Burbank/Elliott Neighborhood Assoc.

Ecology Response

Several other people made a similar comment please see Summary A for our response.

Comment D – Patricia Holm

Note: Since this letter referred to several issues, we have labeled each comment in the original message and responded with corresponding labels.

Sent: Monday, April 24, 2017 3:20 PM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: East Bay Redevelopment Cleanup Site.

Comment 1 According to several sources including the Daily Olympian, a million cubic yards of sediments dredged from in front Cascade Pole were used as fill around East

Bay, a lot of it contaminated. If it wasn't used as fill in the redevelopment area where was it used as fill?

Comment 2 I am concerned particularly about dioxins in the area near the boats. There have been samples taken that show large amounts of contaminants. Ecology needs to insist on deeper samples to be taken and find out where the source is of the dioxins present.

Especially since this is being considered for family apartments, kids would want to wade in the water and mud...doesn't seem like a smart idea to me.

Comment 3 Also, we are looking at sea level rise in this area...this doesn't strike me as a good idea for a convention cement cap of the area...salt water would still get into the lower levels of soil and spread contamination.
Please consider that the Port has not been good at keeping records and is not seemingly responsible.

Thank you
Patricia Holm

Ecology Response

Thank you for the letter you submitted about the East Bay Redevelopment Cleanup site. Since it referred to several issues, we have labeled each comment in your letter and responded with corresponding labels.

Comment 1

Several other people made a similar comment please see Summary A for our response

Comment 2

The sediments and dioxin contamination in Budd Inlet is a separate cleanup site. For that site we are continuing to investigate the sources of contamination and will be reviewing possible cleanup options. As we continue with the cleanup process people will have an opportunity to comment. More information on this cleanup site can be found at:

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2245>

Comment 3-

As for resources from Ecology about sea level rise. We have more general resources: <http://www.ecy.wa.gov/climatechange/risingsealevel.htm>.

Regarding the East Bay Redevelopment Site in particular, the selected remedy for the Site (targeted soil removal, soil cover and/or capping, and institutional controls) will be protective even if/when sea levels do rise because the concentrations that will remain in the soil will be protective of groundwater. In other words, the concentrations in the soil after cleanup are below the level that would cause groundwater to become contaminated even if the sea level rises all the way to the land surface. Also, the cleanup plan requires the thickness of the cap to be maintained.

Comment E – JJ Lindsey

Note: Since this letter referred to several issues, we have labeled each comment in the original message and responded with corresponding labels.

Sent: Tuesday, April 25, 2017 8:17 AM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: Proposed EastBay 'cleanup'....comments

Hello Steve,

I submit these comments in regard to actions proposed on the Eastbay 'cleanup' situation. I will be absent from town during the meeting, otherwise I would surely attend and stand to raise questions and comments.

In lieu of that, please consider:

- Comment 1 ** According to several sources, including the Olympian, a million cubic yards of sediments dredged from Cascade Pole area were used as fill around East Bay, a lot of it contaminated. If it wasn't used as fill in the redevelopment area where was it used as fill? What happened to it?
- Comment 2 ** The planned method is to remove some near surface contamination and cap the rest. Sources of contamination entering East Bay from land would most likely be found deeper. Source identification and control is the standard we should be using to do 'cleanup'....otherwise it fails to be 'cleaned up'. Isn't this supposed to be the next step in cleaning up Budd Inlet?
- Comment 3 ** The Port is relying on information that certain areas are clean fill and don't have to be sampled for creosote and PCP, the primary chemicals of concern in the bay. Dioxin, as we all know, is stupendously poisonous and dangerous to all life. The Port doesn't adequately account for the dredge spoil placement as fill. The Port states the dredging was done in 1982 when their own literature states it was done in 1979. Why in the face of so many uncertainties is the Port unwilling to do a complete analysis for creosote and PCP?
Regardless of the reasons, when such toxic chemicals are in play, with such disastrous health consequences for human and aquatic life involved, there is no alternative to doing what it takes to actually perform 'cleanup'.
- Comment 4 ** There is much restoration potential here, this being a historic estuary. Has the Port or the City of Olympia considered restoring rather than developing the site? Has Olympia taken a look at the economic benefits of any of the many urban restorations around the country? Has Olympia investigated funding sources for restorations?
- ** The thinking appears to be about compliance rather than vision.....more a matter of what we can get away with than what would be the best outcome. Why are local jurisdictions opposed to thinking beyond mere compliance?

Comment 5 ** The City is maintaining West Bay Waterfront Park adjacent to the parcels, inviting the public to recreate, linger, walk and wade in contaminated sediments. This project is part of what Anchor QEA, the primary consultant on cleanup and redevelopment, has in mind for the area. Developing the park prior to any cleanup effort is part of a general pattern, displaying a lack of regard for the health of the public.

It is time we stop our practices of thinking as superficially as these sediments are being tested. Let's get the truth about what is out there, and do what we must to fix it.

Sincerely,
JJ Lindsey
Olympia, WA

Ecology Response

Thank you for the letter you submitted about the East Bay Redevelopment Cleanup site. Since it referred to several issues, we have labeled each comment in your letter and responded with corresponding labels.

Comment 1 and 3

Several other people made a similar comment please see Summary A for our response

Comment 2

The proposed cleanup will be effective in controlling and limiting access to the remaining contamination at the East Bay Redevelopment Site. For the Budd Inlet sediment cleanup you are correct, it is a separate site and we are in the process of investigating sources of contamination. However, based on the current data the East Bay Redevelopment Site is not a source of contamination for Budd Inlet. More information about the Budd Inlet cleanup can be found here: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2245>

Comment 4

Under Washington's Model Toxics Control Act (MTCA), Ecology does not have the authority to direct the future land use of a site after it is cleaned up. Ecology uses the site's historical, current, and projected future uses and local zoning designations to set the appropriate cleanup levels. We will pass along your comments about possible future use of the site to the Port and City.

Comment 5

We assume that you are referring to East Bay Waterfront Park, not the West Bay Park located off of West Bay Drive. Yes, you are correct that the city manages that park. The city contact is: Parks Department (360)753-8380 if you would like to discuss your concerns with them. Ecology is currently working on assessing and developing a cleanup plan for Budd Inlet. Based on our current knowledge, we do not believe that the current use of East Bay Waterfront Park poses a significant threat to the public. However, we will continue to assess this as development occurs in the area.

East Bay Redevelopment Cleanup Public Comment Form



This form is for commenting on the cleanup documents for East Bay Redevelopment Cleanup Site.
You can submit comments tonight or mail them to Steve Teel, Cleanup Project Manager at P.O. Box 47775, Olympia, WA 98504-7775 by **May 17, 2017**.
Send e-mail comments to Steve.Teel@ecy.wa.gov.

NAME: EJ Zita

If you would like to receive Ecology's formal response directly, please list your email or postal address:

ejz@portolympia.com

COMMENTS
(Please use back side of this form if you need more room)

When would you need development plans from Walker John (via Mike Reid @ Port) in order ^{for us} to remediate the site so it's completely shovel-ready, and need not be disturbed for future pre-development remediation?

— Thank you! Zita
GREAT JOB

Ecology Response

As stated in Section 2.1 of the Cleanup Action Plan (CAP), any future development at a parcel which may disturb the soil cover will require Ecology written approval prior to development. Ecology shall review the proposed development and make a fact-specific determination whether the proposal is considered to be a substantial change that requires an amendment to the CAP or if it is a minor change that can just be documented in writing. For example, a change from a soil cover to an asphalt cap would likely be a

minor change. However, the addition of a building may be considered a substantial change, particularly if it involves the excavation and removal of soil from the Site.

Comment G – Zena Hartung

Note: Since this letter referred to several issues, we have labeled each comment in the original message and responded with corresponding labels.

Sent: Wednesday, May 03, 2017 11:13 AM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: Comments: East Bay Redevelopment Cleanup

Dear Mr Teel,

My comments are as follows:

- Comment 1 The interim actions taken at the Hands On Children's Museum and nearby has capped the contaminants at the surface, but there is no certainty about what is going on below. The water table is high and the opportunity for shifting underground is great. Plus the predictions are for more water, inundation and flooding in the future, which will be even greater opportunity for deadly toxins to spread.
- Comment 2 *the dredging that took place in what is today East Bay, occurred after the industrial era approx 1979 and 1980. Please find and share the records from those dredges. That material was placed somewhere, as was all prior dredging, not trucked away, but collected nearby, and perhaps capped with clean soils.
- *regardless of where DOE thinks the spoils were placed, they should sample for creosote and PCP. these are the chemicals of concern in Budd Inlet due to the operation of Cascade Pole. Those pollutants don't stay in one place.
- Comment 3 *Across the lawn from the Hands On Children's Museum there have been samples taken that indicate dioxin in the range of 500 ppt. Very, very toxic. Nearby are equally alarming samples. Perhaps there is a nearby uncontrolled source? How can it be possible to do a "final cleanup" as the document states, when there are unidentified sources?

ut source control and make no effort to nail down this source prior to any more development?

*Instead of fretting over the dredging spoils and pestering the USACE, why don't they just resort to the best available science?

Zena Hartung

Ecology Response

Thank you for the letter you submitted about the East Bay Redevelopment Cleanup site. Since it referred to several issues, we have labeled each comment in your letter and responded with corresponding labels.

Comment 1

The remedial investigation identified all of the contamination sources and the location of contamination at East Bay Redevelopment Site. The cleanup (targeted soil removal, soil cover and/or capping, and institutional controls) will be effective in controlling and limiting access to the remaining contamination at the Site. The contamination that will remain in the soil will be protective of groundwater. In other words, the contamination left in the soil after the cleanup action is below the concentration that would cause groundwater to become contaminated even if the sea level rises all the way to the land surface. Also, if/when the sea level rises the cleanup plan requires the thickness and integrity of the cap to be maintained.

Comment 2

Several other people made a similar comment please see Summary A for our response

Comment 3

As described in Section 3.3.3 of the Remedial Investigation Report, we believe that the source of the dioxins contamination at the East Bay Redevelopment site comes from buried wood debris. The remaining dioxin contamination in soil at the site will not be a threat to the environment as long as the requirements of the cleanup action plan are followed. We feel that the best possible science has been used in the development of the cleanup plan for the East Bay Redevelopment site. If your comment is also asking about the sediment found in Budd Inlet, that is a separate cleanup site and we continue to investigate the sources of the contamination. However, based on the current data the East Bay Redevelopment Site is not a source of contamination for Budd Inlet sediment. Comment H – L. Riner

Note: Since this letter referred to several issues, we have labeled each comment in the original message and responded with corresponding labels.

Sent: Thursday, May 04, 2017 9:24 AM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: Public Comment; Clean up of East Bay, of Budd Inlet, Oly., WA

May 3, 2017; Public Comments; East Bay Clean up of Budd Inlet, Oly., WA
Dear Steve Teel, Dept. of Ecology;

This letter deals with the Wa Dept of Ecology (DOE) public comment for the Clean up of East Bay of Budd Inlet, Olympia, WA. In the past, the DOE has conducted some partial clean ups, known as "interim actions", in this area.

Comment 1 Then DOE removed some soil and put clean dirt on top, then built in the HOCM, East Bay Public Plaza and the roadways. DOE said, at the time, that this work is "acting as a cap to control and hold any remaining contaminated soil". But the very high water table in this East Bay area, contains contaminants around underground, under the cap of soil.

Many of us think that climate change will bring more water above and below the soil level. This will affect the contaminants below the cap of soil.

Comment 2 Also, the dredging that took place in what is today East Bay of Budd Inlet, occurred after 1979 and 1980. Please find and share the records from those dredges.

I look forward to your information.

Also, many of us think that the dredged spoils, or material, was placed somewhere, as was all prior dredging, and not trucked away to be disposed of in a landfill, but collected nearby, and perhaps capped with clean soils. Is this correct? Do you have a map of this dredged material?

The spoils should sample for creosote and PCP. These are the chemicals of concern in Budd Inlet due to the operation of Cascade Pole, long ago in Budd Inlet. Those pollutants don't stay in one place. They move around.

Comment 3 Across the lawn from the "Hands On Children's Museum" there have been soil samples taken that indicate dioxin in the range of 500 ppt. These levels are very toxic.

How can it be possible to do a "final cleanup" as the DOE document states, when there are unidentified sources?

The DOE has not identified the source control and make no effort to nail down this source prior to any more development? Please explain.

The DOE needs to sample the dredging spoils. The Doe needs to use the best available science. This is a public health issue in downtown Olympia. This needs to be addressed.

Thanks;
L. Riner

Ecology Response

Thank you for the letter you submitted about the East Bay Redevelopment Cleanup site. Since it referred to several issues, we have labeled each comment in your letter and responded with corresponding labels.

Comment 1

The remedial investigation identified all of the contamination sources and the location of contamination at East Bay Redevelopment Site. The cleanup (targeted soil removal, soil cover and/or capping, and institutional controls) will be effective in controlling and limiting access to the remaining contamination at the Site. The contamination that will remain in the soil will be protective of groundwater. In other words, the contamination left in the soil after cleanup is below the concentration that would cause groundwater to become contaminated even if the

sea level rises all the way to the land surface. Also, if/when the sea level rises the cleanup plan requires the thickness and integrity of the cap to be maintained.

Comment 2

Several other people made a similar comment please see Summary A for our response

Comment 3

As described in Section 3.3.3 of the Remedial Investigation Report, we believe that the source of the dioxins contamination at the East Bay Redevelopment site comes from buried wood debris. The remaining dioxins contamination in soil at the site will not be a threat to human health or the environment as long as the requirements of the cleanup action plan are followed. We feel that the best possible science has been used in the development of the cleanup plan for the East Bay Redevelopment site. If your comment is also asking about the sediment found in Budd Inlet, that is a separate cleanup site and we continue to investigate the sources of the contamination. However, based on the current data the East Bay Redevelopment Site is not a source of contamination for Budd Inlet sediment.

Comment I – Harry Branch

Note: Since this letter referred to several issues, we have labeled each comment in the original message and responded with corresponding labels.

Sent: Tuesday, May 16, 2017 8:30 AM
To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>
Subject: East Bay Redevelopment Cleanup Site

Comments on East Bay Redevelopment Site: Remedial Investigation and Feasibility Study report; Draft Cleanup Action Plan; Agreed Order; SEPA Determination of Non-Significance.

Comment 1 Surface sediments of Budd Inlet continue to be contaminated from some undetermined source. We should identify the source before allowing development anywhere in the East Bay nearshore. We should identify these sources based on the best available science. This has been sadly lacking in the most important areas of concern.

The Sediment Dioxin Source Study, Final Report, March of 2016, begins with the well founded statement:

"The Department of Ecology, after consultation with regional experts, disagrees with the Port of Olympia's chemometric analysis (written by Anchor QEA consultants) for the following reasons: The Port's interpretation cannot explain the presence of dioxin/furan contamination hot-spots. The primary sources/factors identified by the Port of Olympia's analysis were only diffuse sources. The Port of Olympia's source factor profiles are not supported by their own site investigation data and site history. The Port of Olympia does not address historical dioxin/furan contamination and the dispersion and mixing pattern of the sediments. As the Department of Ecology moves forward with the cleanup of Budd Inlet sediments we will base all future decisions on the results and interpretation found in the Ecology study (Budd Inlet Sediment Dioxin Source Study Olympia, WA (Newfields 2015))."

Comment 2 The Department of Ecology has decided, without explanation, to rescind the above Newfields analysis and accept Anchor QEA's interpretation of sources, dispersion and mixing patterns.

- Comment 3 At the SW corner of East Bay, adjacent to the redevelopment area, we find a subsurface sample of over 1000 ppt, a surface sample of over 150 ppt and a sample on shore, directly across the street from the Hands On Children's Museum, of 540 ppt. All samples are chemically consistent with creosote/PCP profiles from Cascade Pole. Combined, they should certainly be considered to be indicative of an ongoing source, perhaps a groundwater seep or seeps. Anchor and Ecology claim they are a phone pole and old piling, an assertion that's unlikely and unsupported.
- Comment 4 Anchor QEA claims repeatedly that the redevelopment area couldn't possibly be the source because it's entirely clean gravel brought in from off site. The study fails to mention that 1.1 million cubic yards of sediments were dredged from in front Cascade Pole and used as fill around East Bay. Cascade Pole and the remaining offshore sediments were later declared a superfund site. Upon being informed of this, Anchor and Ecology claim the dredging and filling occurred entirely in 1982 and the dredge spoils were all placed further north. According to the Port's website the dredge and fill operation occurred in 1979. The USACE has no record of the placement of fill in either time frame. What was placed where and when will only be determined through a science based inquiry.
- Comment 5 Creosote and PCPs are dense non aqueous phase liquids (DNAPLs). Being heavier than water they tend to sink to the first impervious layer which in the redevelopment area is about 25 feet below the current ground level. None of what little sampling that was done on Parcels 2&3 appears to have reached even half that depth. EPA literature on the nature of DNAPLs explains how they behave and how they should be assessed. Anchor and Ecology are adhering to some other methodology.
- Comment 6 The plan is to remove some near surface contamination and cap some in place. The impetus is to protect the public from exposure on the site. This does nothing to address sources of dioxin entering Puget Sound and is as such totally out of step with the sediment characterization and cleanup efforts. The sources of ongoing contamination in Budd Inlet surface sediments have not been determined. To allow development anywhere in nearshore areas prior to source identification is likely to make efforts to remediate the contamination difficult even when the remediation will only be nearby.
- Comment 7 Persistent bio-accumulative toxins already contained in our bodies, especially the halogen (the second column from column on a periodic table) based chemicals such as bromated flame retardants have been linked to cancers of the fatty tissue such as brain and breast, diabetes and a host of other diseases and deformities that are not on the decline but rather on the rise. The king of these is the chlorine based dioxin/furan family of chemicals, probably the most biologically damaging non-radioactive chemicals known. Children are especially susceptible to them. Exposure can be through dermal contact, inhalation and ingestion. We need to protect people from direct exposure and we need to prevent these chemicals from entering our sources of food.
- Comment 8 In addition to the issue of public health, there are the ecological and oceanographic issues, neither of which are given any consideration at all. There is no analysis of the interrelationship between physical, chemical and biological parameters, no investigation of how phytoplankton are impacting dissolved oxygen and nitrogen. Phytoplankton need sunlight. Everything happens best in shallow water. Tide flats are one of nature's perfect designs. There is no more valuable land ecologically. It can't be moved or remediated elsewhere. Nowhere is this question even mentioned. Moxlie Creek doesn't appear on the maps. It doesn't exist. We're not only turning away from it, we're fixing it so that future restoration will be difficult to impossible.
- Moxlie Creek historically formed and shaped one third of the Deschutes River estuary, much like Medicine Creek shapes the Nisqually River estuary and Hylebos Creek shaped the Puyallup River estuary. This is the historic estuary of a major stream, the all important

mixing zone where nutrients are incorporated into the food web. Unfortunately, oceanography is a taboo subject. Like Moxlie Creek, it doesn't exist.

Harry Branch

Ecology Response

Thank you for the letter you submitted about the East Bay Redevelopment Cleanup site. Since it referred to several issues, we have labeled each comment in your letter and responded with corresponding labels.

Comment 1

The results of the remedial investigation show that contamination at the East Bay Redevelopment Site is not affecting Budd Inlet. Therefore, there is no reason to delay the development and cleanup of the site. We have spoken a couple of times on this subject and recognize that we do not agree however we do agree that further study about the sources of contamination to Budd Inlet will need to be done before sediment cleanup can occur.

Comment 2

For Budd Inlet Sediment cleanup, Ecology has not changed our mind and we are using our source report (from Newfields) that states the primary sources are from historic sources and not primarily diffuse sources. We will be further analyzing the site to determine if there are continuing on going sources of sediment contamination. Please see the forward for the [Sediment Dioxin Source Study](#).

Comment 3

The cleanup will remove all dioxin contamination that is above the remediation level of 590 parts per trillion. As described in Section 3.3.3 of the Remedial Investigation Report, we believe that the source of the dioxins contamination at the East Bay Redevelopment site comes from buried wood debris. The remaining dioxins contamination in soil at the site will not be a threat to human health or the environment as long as the requirements of the cleanup action plan are followed.

For the sediment found in Budd Inlet, that is a separate cleanup site and we are still investigating sources of the contamination. However, based on the remedial investigation, the East Bay Redevelopment Site is not a source of contamination into Budd Inlet sediment.

Comment 4

Several other people made a similar comment please see Summary A for our response

Comment 5

Ecology is following the cleanup process and methodologies of the Model Toxics Control Act (MTCA). The East Bay Redevelopment Site is not a potential or likely site for dense non-aqueous phase liquids (DNAPLs) to be present for several reasons:

- A total of 89 borings and/or wells were installed at the Site at depths up to 17.5 feet below grade. No field evidence of dense non-aqueous phase liquids (DNAPL) presence (staining, sheen, or odor) were seen in any of the boring/wells. Three geotechnical borings were also installed to depths of 19, 19, and 81.5 feet. No presence of staining, sheen, or odor was noted on the geotechnical boring logs. If significant quantities of

creosote were present at the site we would have seen it in field observations during drilling and in laboratory results.

- The past industrial use of the site does not suggest that significant quantities of DNAPL could have been present or released due to past operations.
- Laboratory evidence: According to James Dragun (1998, p. 416) in: *The Soil Chemistry of Hazardous Materials* (2nd Edition), NAPL presence may be inferred where:
 - groundwater concentrations exceed 1% of the pure phase or effective solubility of a NAPL chemical
 - NAPL chemical concentrations in soil exceed 10,000 mg/kg (1%) concentration
 - NAPL concentrations in groundwater calculated from soil-water partitioning relations and soil sample analyses exceed their effective solubility
 - organic vapor concentrations detected in soil gas or sample headspace exceed 100 to 1000 ppm
 - observed chemical distribution patterns suggest NAPL presence

None of the above situations were found at the East Bay Redevelopment Site and soil concentrations at the site are one or more orders of magnitude below those of a typical wood-treater site.

- Dioxins/Furans Concentrations and Distribution: As shown on RI Tables 3-8 and Appendix M Table M-1, measured dioxin/furans concentrations at the Site ranged from 0.14 parts per trillion (ppt) or nanograms per kilogram (ng/kg) to 2,180 ppt (TP-2). When the TP-2 area was excavated during the Hands-On Children's Museum (HOCM) Interim Action, a significant amount of wood pilings, wood features, and wood debris were observed and there appeared to be a positive correlation between elevated dioxins/furans concentrations and the presence of wood debris. However, as illustrated on RI figure 2-9, dioxins/furans could have also accumulated from airborne deposition from on- or off-Site combustion sources (such as the on-Site power plant and area hog fuel boilers). Also, locations of dioxins/furans exceedances of the cleanup level (11 ppt) and/or remediation levels (590 ppt) did not seem to correlate with a particular aged particular fill event. This means that it does not appear that a particular fill event was the source of the dioxins/furans contamination at the Site. Not shown on the above RI tables are the stockpile samples analyzed for dioxins/furans during the 2009-10 infrastructure interim action (36 samples) and the 2010 HOCM interim action excavation of the TP-2 area (145 samples). The 181 total stockpile samples had a maximum concentration of 280 ppt.

Comment 6

The results of the remedial investigation show that contamination at the East Bay Redevelopment Site is not affecting Budd Inlet. Therefore, there is no reason to delay the development and cleanup of the site.

Comment 7

The remedial investigation report identified the extent of dioxins and furans contamination at the site. Based on this, the cleanup remedy was developed and presented in the Cleanup Action Plan. The selected remedy for the Site (targeted soil removal, soil cover and/or capping, and institutional controls) will prevent exposure to people, plants, or wildlife.

Comment 8

For the Budd Inlet Sediment Cleanup Site the ecological effects of contamination will be considered in determining the best cleanup option. We hear your wish that Moxlie Creek estuary habitat be restored. However, under Washington's Model Toxics Control Act (MTCA), Ecology does not have the authority to direct the future land use of a site after it is cleaned up. Ecology uses the site's historical, current, and projected future uses and local zoning designations to set the appropriate cleanup levels. We will pass along your comments about possible future use of the site to the Port and City.

Comment J – Dave Newsome

Sent: Tuesday, May 16, 2017 8:42 AM

To: Teel, Steve (ECY) <STEE461@ECY.WA.GOV>

Subject: Require Scientific Sampling Before Development at Budd Bay and East Bay

Dear Sir;

The existing samples on the Port of Olympia show disturbingly high levels of dangerous substances such as dioxin and pcb's. There should be a thorough sampling of the Port of Olympia areas to determine where the hazardous materials are present.

Children should not be allowed in some areas due to the danger of exposure. It is the public agency's duty to protect the public from dangerous chemicals. If there is a development proposed, then remediation can be done in the areas that need cleanup.

Thank you;

Dave Newsome

Olympia, WA

Ecology Response

Several other people made a similar comment please see Summary A for our response. Ecology agrees that children (and all people and animals) need to be protected from exposure to chemicals. The selected remedy for the East Bay Redevelopment Site (targeted soil removal, soil cover and/or capping, and institutional controls) will be prevent exposure to people, plants, and wildlife.