



September 29, 2017

Kerry Graber
P.O. Box 47775
Olympia, WA 98504-7775
Kerry.graber@ecy.wa.gov

Re: The Port of Longview's Comments on the Draft Remedial Investigation and Feasibility Study Report
Facility Site ID# 1080
Cleanup Site ID# 3685
10 International Way, Longview

Dear Ms. Graber:

The Port of Longview submits the following comments regarding the Draft Remedial Investigation and Feasibility Study Report (Draft RI/FS) as prepared by AECOM, and submitted by International Paper Company (IP).

At the outset, the Port would like to correct a partial inaccuracy in the Washington Department of Ecology (Ecology)'s August 17, 2017 request for comments on the Draft RI/FS. Ecology states that IP "found contamination" at the Maintenance Facility Area (MFA) during cleanup of the Treated Wood Products Area. This is only partly true. IP did not just "find" contamination; they caused it. While the Port now owns the MFA site, IP is the party responsible for the contamination due to its historical wood treating operations on neighboring property.

As the property owner, the Port is interested in a long-term solution at the MFA site. For more than ten years, the Port has worked with Ecology and IP to complete the investigation and cleanup of the MFA Site. There is no dispute that IP is responsible for the investigation and cleanup of the MFA Site. What has been at issue is whether IP should be allowed to consolidate soils that are either clean or have low contaminant concentrations with soils with higher contaminant concentrations and solidify it on-site. The Port understands that Ecology considers all of the solidified material to be "contaminated." Combining these soils with a solidifying agent leaves behind a significantly increased volume of contaminated material that will change the topography of the Port's property and directly impact the ability to use and redevelop it in the future. Should the Port need to remove solidified material in the future, it will have to handle and dispose of it as contaminated. Increasing the volume of solidified material on Port property therefore has real adverse impacts on the Port.

The Port has objected to this cleanup approach ever since it learned that IP intended to leave a significant volume of solidified contaminated media on the Port property (Exhibit A). Such impacts are contrary to the Model Toxics Control Act (MTCA) and to the Port's mandate to develop and manage its property for the economic benefit of its community.

PORTOFLONGVIEW.COM

T. 360-425-3305
F. 360-425-8650

10 PORT WAY
LONGVIEW, WASHINGTON 98632

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The Port's objections have not come without solutions. The Port's original position was to excavate and remove all contamination. However, in an effort to arrive at a mutually agreeable solution, the Port has backed off its original demand for complete removal and instead has spent the past decade attempting to work with IP and Ecology to craft a remedy to allow some of the contamination to remain through a treatment process.

Unfortunately, IP has not reciprocated with a flexible approach. Instead, IP has adamantly opposed the Port's proposals for offsite disposal at every turn. The Port acknowledges that its proposed alternative will be incrementally more expensive than the IP alternative -- primarily because the Port's proposal involves off-site disposal of some less contaminated soil, while IP's proposal would consolidate the less contaminated soil with the more contaminated soil and solidify the increased volume of contaminated soil for on-site disposal. To address the incremental cost increase, the Port offered to pay for the additional costs of off-site disposal, thereby avoiding impacts on the usability of Port property and future costs associated with redevelopment of Port property. That is, the Port has proposed an alternative cleanup strategy that will achieve Ecology's cleanup goals at no additional cost to IP.

Moreover, while the Draft RI/FS notes the benefits of on-site solidification, it fails to account for its risks. For instance – under section 9.1.2 "Permanence"—the discussion of permanence and the ranking of technologies does not take into consideration the significantly increased volume of solidification-treated soil which in turn results in a significant increase in volume/mass of contaminated media. Because Ecology considers all of the solidified material to be contaminated, the proposed remedy substantially increases the quantity of contaminated material to remain on Port property. This is not merely an oversight; it is a legal deficiency. When conducting a disproportionate cost analysis (DCA), a party must evaluate the "degree to which the alternative permanently reduces the toxicity, mobility or **volume** of hazardous substances." WAC 173-340-360(3)(f)(ii) . This proposal also contemplates containment of the solidified soil under a paved cap. As such, this is not a permanent solution because long-term maintenance of that surface is required.

The Draft RI/FS also fails in its "Protectiveness" evaluation. Solidification is only effective long term if the material remains undisturbed. That is not the expectation here. This is not a site where the landowner is agreeing to leave the residual contamination undisturbed through a voluntarily negotiated deed restriction. There must be consideration of the Port's future development plans in assessing protectiveness of the solidification alternative. The Port has significant concerns regarding the increased volume of contaminated materials, the resultant decreased distance between ground surface and contaminated materials, and the increased risk to Port and contractor workers under various construction and maintenance scenarios.

In addition, IP's proposed Draft RI/FS fails to consider the reasonably foreseeable costs that the Port would face when redeveloping this property and other public concerns raised by the Port. Leaving a large volume of contaminated material on Port property will negatively affect the Port's ability to redevelop its property and meet its mission of creating economic opportunities for the State and its local community. One clear impact is the anticipated costs for handling and disposal of the solidified material as contaminated for any future excavation needed to construct buildings, install utilities, develop future Port facilities, and install railway lines. If IP was required to address these future remedial costs associated with the Port's redevelopment of its property, we believe that the overall cost differential would tip to the Port's favor. But to date, IP has refused to consider the Port's concerns, despite a requirement in WAC 173-340-360(3)(f)(vii) that obligates IP to consider concerns from local governments that have an interest in or knowledge of the site.

Not only does IP fail to take into consideration the true costs of its proposal, it also artificially inflates the cost of the Port's proposal in order to secure a favorable cost comparison. Specifically, IP through its consultant AECOM has modified the Port's alternative cost estimate to include freeze-wall shoring for 5 and 8-foot excavation areas where the Port has suggested that shallow, low-contamination soil could be excavated and disposed of off-site prior to solidifying the higher contamination deeper soil. As the Port has made clear in prior comments as well as the contemporaneous comment submitted with this letter (GeoEngineers' September 25, 2017 memorandum, Exhibit B) AECOM's modification for freeze-wall shoring is entirely unwarranted. Freeze-wall shoring is extraordinarily complex and not cost effective for a relatively shallow (5 to 8-foot deep) excavation area without adjacent structures to protect. These costly shoring assumptions miss the mark and unfairly distort the cost comparison.

In sum, the Port urges Ecology to reject the proposed remedial alternative in IP's Draft RI/FS because it poses long-term risks and fails to account for public concerns. Instead, Ecology should endorse a cooperative resolution that does not unfairly burden the Port with future property use impediments and costs. The Port believes that an alternative approach that combines the best elements of solidification and off-site disposal would provide the highest level of protectiveness and permanence with a moderate level of increased cost – cost that the Port has offered to pay. Ultimately, there should be a remedy that protects human health and the environment, while allowing the Port to serve its statutory mandate of economic development and productive use of its property.

Very truly yours,



Norm Krehbiel
Chief Executive Officer

Port of Longview's Prior Communications and Reports Directed to the Washington State Department of Ecology

Hendriksen, L. "POL-IPCo- Treatability Comments." Received by Kaia Peterson, 1 July 2011. E-mail.

Hendriksen, L. "Preliminary Comments on IP's May 2011 Draft MFA RI/FS." Received by Kaia Peterson, 8 July 2011. (with attached memoranda).

Hendriksen, L. "Re: Department of Ecology comments on Draft Mechanics Shop Investigation Work Plan, Port of Longview's Maintenance Facility Area, Longview, Washington." Received by Kaia Peterson, et al, 23 Nov. 2011. E-mail.

Hendriksen, L. "POL Comments regarding the Mechanic Shop Investigation Report." Received by Kaia Peterson, et al, 7 May 2012. E-mail

Bailey, C. "RE: Comments on URS treatability document." Received by Kaia Peterson, et al., 23 Jan. 2013. E-mail (with attached memorandum).

Hendriksen, L. "Port of Longview Rail Loop." Received by Kaia Peterson, et al, 5 Mar. 2013. E-mail. (with attached letter and diagram)

Hendriksen, L. "FW: Draft Final Revised RI/FS Report - Cleanup Action Alternative Conceptual Technical Memorandum; IP Longview." Received by Kaia Peterson, et al, 14 Oct. 2013. Email. (with attached memoranda).

Hendriksen, L. "Port of Longview FS Comments." Received by Kaia Peterson, et al, 21 April 2014. E-mail. (with attached memorandum).

Hendriksen, L. "FW: revised slides." Received by Kaia Peterson, et al, 19 March 2015. E-mail (with attached presentation).

Bailey, C. "Port of Longview comments on Draft Final Revised RI/FS Report for the MFA." Received by Kaia Peterson, et al, 26 Oct. 2015. E-mail.

Hendriksen, L. "Port of Longview Alternative." Received by Ava Edmondson, et al, 26 Sept. 2016.

Hendriksen, L. "RE: MFA alternative proposal." Received by Ava Edmondson, et al, 27 Sept. 2016. E-mail. (with attached memoranda).

Hendriksen, L. "RE: Port of Longview's Proposed Alternative for Remediation of MFA Site and Reponse to Comments included in January 31, 2017 letter from K. Peterson." Received by Kaia Peterson, 14 April 2017



TO: Lisa Hendriksen, Port of Longview

FROM: Chris Bailey, John Herzog

DATE: September 25, 2017

FILE: 242-010-03

SUBJECT: Review of July 2017 AECOM Comment Memo and Ecology comments on Memo

On July 21, 2017, AECOM, on behalf of IP, submitted a technical memorandum that provides responses to recent and past comments that the Port of Longview has provided to Ecology regarding the ongoing process of selecting a cleanup action for the MFA Site. The July 2017 memorandum also provided new information regarding the cost estimate for IP's preferred alternative (S5B) from the Feasibility Study (FS). Based on the information in AECOM's July 2017 memorandum, Ecology provided comments on the new cost assumptions for Alternative S5B in an internal email dated August 10, 2017. This memorandum provides comments on several elements of AECOM's July 2017 memorandum as well as Ecology's August 2017 email.

General Remedy Selection Issues

GeoEngineers and the Port have provided numerous and repeated comments disagreeing with the remedy selection process used in the FS, including the elements, or lack of elements, included in the alternatives developed for evaluation, and the evaluation process used to select the preferred alternative. Several of these issues were addressed in AECOM's July 2017 memorandum. The following discussion provides responses to several comments on general issues provided by AECOM/IP.

- **Institutional Control Requirements.** The Port understands that any alternative that leaves contaminants in place exceeding unrestricted cleanup levels will require institutional controls. Institutional controls associated with prevention of direct contact with contaminated soil will be required for all contaminated soil remaining on site, including soil that has been treated by solidification. However, clean soil or structural fill overlying contaminated soil is assumed to be excluded from institutional control triggers, allowing the Port to perform shallow excavation, construction, or maintenance within this shallow interval without the administrative requirements and waste characterization and disposal requirements of zones with known contaminated soil. The current conditions at the MFA Site, with the contaminated soil interval starting at least 3 feet below ground surface and separated from overlying clean structural fill by a geotextile, allows the Port to work within this shallow zone without the expectation of encountering contaminated soil and without triggering the anticipated deed restrictions. While AECOM/IP have attempted to account for this issue in the selected Alternative S5B by creating zones of clean shallow soil, this is accomplished by creating zones where contaminated (solidified) soil falls immediately below the final paved surface, thus exacerbating this factor in the remaining areas of the Site. The current condition at the MFA includes a geotextile and several feet of clean structural fill between contaminated soil and the ground surface, allowing the Port to conduct shallow construction and maintenance without the expectation of encountering contaminated soil. The Port continues to expect that the conditions following cleanup action at the MFA will be more protective to Port workers than the current conditions, and a

similar buffer between the ground surface and contaminated soil will be preserved to allow shallow construction and maintenance without triggering deed restriction requirements.

- **Volumetric Expansion of Soil.** Unmitigated expansion of treated soil resulting from the solidification process negatively affects several factors for the Port; modification of surface topography, modification of thickness of clean surface interval, and increased volume of contaminated media present on Port property. Simply put, these results are expected to increase the likelihood that future construction and maintenance activities within the cleanup action area will incur additional costs for the Port relative to not just a clean site, but relative to current conditions in which shallow soil/structural fill is considered clean. The Port continues to assert that the expected expansion resulting from the solidification process should be mitigated by utilizing off-site disposal of soil to prevent future restrictions and costs for the Port. The resistance to mitigating the effects of solidification is essentially deferring cleanup costs to the future when the Port has to excavate and dispose of contaminated solidified soil to perform construction as minor as utility installation.
- **DCA and Selection of Soil Alternative.** IP has repeatedly indicated that the combination of solidification, institutional controls, and a low-permeability cap is more protective and effective in the long term than excavation and off-site disposal. The Port continues to disagree with the assertion that solidification of contaminated soil should score higher than off-site disposal for common DCA criteria such as protectiveness and long-term effectiveness. This is particularly true in the context of the comparison of a full-solidification alternative to an alternative that utilizes solidification for the most contaminated soil, with off-site disposal reserved for lower concentration shallow soil to mitigate the effect of the expansion associated with solidification. In this context, the soil that is excavated from shallow zones across the site and transported off-site for disposed soil would be otherwise be mixed with deeper, higher concentration soil during the solidification process and across much of the site would end up being located immediately under the final asphalt surface. The resulting solidified soil will resist leaching relative to untreated soil, but will still pose a direct-contact risk to Port workers should the paving be breached or during routine maintenance. GeoEngineers and the Port continue to assert that an alternative that relies on a reasonable level of off-site disposal to prevent leaving contaminated media (solidified soil) in close proximity to the ground surface should score higher than an alternative that relies solely on solidification with institutional controls used to prevent exposure to contaminated soil immediately below the ground surface. Off-site disposal of contaminated soil is a common and permanent remediation technology for contaminated soil (i.e., non-NAPL soil) and should be considered as a way to mitigate the impacts of the solidification process.

Comments on Revised Alternative Cost Estimates

In their July 2017 memorandum, AECOM included a revised cost estimate for Alternative S5B that was selected as the preferred alternative in the FS. The July 2017 AECOM memorandum is the first time the Port has had the opportunity to review the updated alternative costs and this memorandum is the first opportunity the Port has had to provide comments. The primary modification was to include shoring for the excavation element of Alternative S5B in the area referred to as Zone 1. The shoring method included in the revised cost estimate is an extension of the freeze-wall method proposed for excavation in the existing FS alternatives that rely primarily on excavation and off-site disposal. GeoEngineers has previously commented that this shoring method is an extraordinary complex and expensive option to use for a relatively shallow (8-foot deep) excavation in an area without adjacent structures to protect. Excavation within Zone 1 could be accomplished using less expensive shoring methods or without shoring by sloping sidewalls, at significant cost savings.

In addition to revising Alternative S5B costs by adding shoring for excavation in Zone 1, in their July 2017 memorandum AECOM presented a revised version of the cost estimate for the Port's alternative that was presented to Ecology in April 2017 as a hypothetical blended alternative relying on both in situ solidification and off-site disposal. In their July 2017 memorandum, AECOM modified the costs for the Port's alternative, adding freeze-wall shoring to the scope of all excavations. In addition to the application of freeze-wall shoring for the 8-foot deep excavation of Zone 1, AECOM modified the Port's alternative cost estimate to include freeze-wall shoring for the estimated 5-foot deep pre-excavation of vadose zone soil proposed in Zones 1 and 2 where the Port has suggested that shallow, low-contamination soil could be excavated and disposed of off-site prior to solidifying the higher contamination deeper soil. GeoEngineers disagrees with the assumption that the excavation included in the Port's alternative requires a complex and expensive shoring method rather than simple sheet pile or using sloped sidewalls. These assumptions in AECOM's version of the alternative have the effect of unnecessarily driving up the cost of the Port's alternative.

In an internal email submitted on August 10, 2017, Ecology engineer Charles Hoffman provides comments on the revised cost estimates in AECOM's July 2017 memorandum. In Hoffman's message, he indicated that the revised costs presented in AECOM's memorandum are appropriate. GeoEngineers feels that this determination is based on a limited understanding of all site and project factors. This determination fails to consider that, while feasible, the freeze-wall shoring method assumed in the cost analysis is not a cost effective method for shallow excavation without adjacent structures or other conditions that typically warrant the use of complex and expensive shoring methods. Shallow excavations with relatively unlimited space to slope sidewalls, particularly vadose zone soil with limited porewater to "freeze", are not the typical conditions requiring the use of freeze-wall shoring. Mr. Hoffman's review of the cost estimates should have recognized that use of these highly conservative, and disproportionately costly shoring assumptions are intentionally inflating the cost differential between Alternative S5B from the FS and a hypothetical alternative that utilizes shallow excavation and off-site disposal to mitigate the effects of solidification.