



RESPONSE to COMMENTS

**Draft Remedial Investigation/Feasibility Study
R.G. Haley Cleanup Site
Bellingham, Washington**

February 1, 2016

**WASHINGTON STATE DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM**

1. Introduction

On August 31, 2015, a draft Remedial Investigation / Feasibility Study (RI/FS) report for the R.G. Haley cleanup site in Bellingham was issued for a 45-day public comment period. The public comment period closed on October 14, 2015. Public involvement activities related to this public comment period included:

- Distribution of a fact sheet describing the site and requesting review of the draft RI/FS report through mailing and emailing to approximately 3,000 people, including neighboring businesses and other interested parties;
- Publication of one display ad in *The Bellingham Herald*, dated August 28;
- Publication of notices in the Washington State Site Register, dated August 20, September 3, September 17, and October 1;
- Hosting an informational public meeting at the Bellingham Municipal Building on September 17;
- Announcement of the public comment period and posting of the documents on the Department of Ecology (Ecology) website at: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3928>;
- Providing copies of the documents to information repositories at Ecology's Bellingham Field Office and Northwest Regional Office, and the Bellingham Public Library – Downtown Branch.

A total of seven persons/organizations submitted comments during the comment period.

This document includes:

- **Table 1: List of commenters.**
- **Section 2: Background information on the site.**
- **Section 3: Next steps for the cleanup site.**
- **Section 4: Ecology's response to comments received.**
- **Appendix A: Comments received.**

Table 1. Commenters

1	Monte D. Hokanson
2	Scott Melnick
3	Seth Owens
4	Elizabeth Hines
5	Tyler Irwin, Kai Pana; Outrigger Canoe Club
6	Mark Myers, Williams Kastner for Brooks Manufacturing Company
7	Wendy Steffenson, RE Sources

2. Background

The R.G. Haley site consists of about six upland acres and a larger in-water area on the Bellingham waterfront, south of the intersection of Cornwall Avenue and Wharf Street. The site includes land owned by the City of Bellingham and land owned by the State of Washington, managed by the Department of Natural Resources. Studies show that upland soil, marine sediment, and groundwater within the site are contaminated with wood treatment chemicals.

From the mid-1800s to the mid-1900s, the upland area of the site was used for various industries including lumber, coal, wharf, and wood treatment operations. R.G. Haley International Corporation was the last company to operate at the site, treating wood from 1955 to 1985. Douglas Management Company bought the R.G. Haley property in 1990. The City of Bellingham then bought it in 2009.

In 2001 and 2002, Douglas Management investigated oil seeping into Bellingham Bay from the shoreline along the northern boundary of what is now the site. The investigations identified contaminants and located a floating hydrocarbon plume immediately inland from the oil seep. The ongoing release of contaminants to Bellingham Bay prompted the company to coordinate with Ecology and take emergency actions. Emergency measures included building a sheet pile wall along the shoreline, installing oil recovery wells, monitoring wells and equipment, removing some sediment, and building shoreline erosion protection. An additional action was taken in 2013 to stop oil seepage into the bay from the shoreline at the south end of the sheet pile wall.

Along with these measures, work to investigate the nature and extent of contamination at the site continued between 2002 and 2014. The draft RI/FS report describing the work was issued for public review in August, 2015.

Contaminants at the site include pentachlorophenol (PCP), hydrocarbons related to diesel fuel, dioxins/furans, and polycyclic aromatic hydrocarbons (PAHs). These contaminants are present in concentrations that could harm human health and the environment and must be addressed under the state's cleanup law, the Model Toxics Control Act (MTCA).

3. Next Steps

As a result of public comment, the RI/FS will be modified to clarify language pertaining to the operations of the Brooks Manufacturing Company at the Site. It will then be issued as a final document.

Next, as part of pre-design activities, a soil stabilization treatability study and additional sediment sampling will be performed. Both efforts are expected to be completed by May 2016, and results will be posted on Ecology's RG Haley webpage at: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3928>

The next step in the MTCA process is for Ecology to prepare a Cleanup Action Plan. The schedule for preparing this plan has not been set. Ecology will update its RG Haley webpage when this schedule is set and more information is available.

4. Comments and Ecology Responses

Commenter #1, Monte D. Hokanson

Hi Brad,

WSU Beach Watchers wrote "Three factors: salinity, energy from wind and waves, and substrate determine the plant and animal complement of marine habitats (and human intervention can play a role in altering any one of them)."

Local tideland farmers routinely monitor and adjust water PH to protect their shellfish from high acidity. Could we use shellfish to naturally clean contamination from the R.G. Haley aquatic site?

Can we alter the on-site water chemistry enough (control PH, salinity, energy and substrate) to mitigate the effects of contamination on aquatic life?

Could we repurpose abandoned portions of the old sewer plant site to treat (using aquaculture) Whatcom Creek contamination before it enters the aquatic site? What is the Port's plan for the log pond?

Could we upgrade existing on-site stormwater drains to pipe treated water, energy, and substrate to the aquatic site?

Thanks,

Monte

Ecology Response

Research exists on the use of shellfish to naturally filter out contaminants from surface waters that are dominated by waste water discharges. However, the contaminants at the RG Haley site are toxic chemicals from former wood treatment operations and they are present in the soil, sediment and groundwater, rather than surface water. As a result the use of shellfish is not applicable to the RG Haley site cleanup.

With regard to altering the on-site water chemistry, this would not protect people or aquatic life exposed to contaminated soil, sediment, or ground water discharge at the RG Haley site. The preferred cleanup alternative identified in the RI/FS includes stabilizing and isolating potentially harmful levels of contaminants to protect people and aquatic life. The future design of the cleanup will incorporate habitat friendly slopes and substrates as appropriate, while still achieving long-term isolation of contaminants.

With regard to the old sewer plant and Whatcom Creek, neither of these are legally part of, or subject to, the cleanup action at the R.G. Haley site.

The log pond, is also not subject to cleanup action at the R.G. Haley site, but is part of the separate Whatcom Waterway cleanup site. This cleanup covered contaminated areas with clean sediment in 2001, creating new intertidal habitat that has been populated by eel grass. The log pond shoreline is currently being modified to prevent erosion of the edges of the clean sediment cover, and erosion of the adjacent upland GP West cleanup site. This work is being performed as part of the first phase of the final cleanup of the Whatcom Waterway site.

Finally, the future cleanup design will provide for drainage improvements to reduce the risk of stormwater recontaminating sediment after the cleanup.

Commenter #2, Scott Melnick

Let the site be developed and let the clean-up money be used to buy Governor's Point instead and turn that into a park and not let it get developed and destroyed.

Ecology Response

The state Model Toxics Control Act, passed as a citizen initiative in 1989, requires that hazardous substances at levels that pose a potential threat to human health and the environment be addressed. Ecology's role under MTCA is to ensure protection of human health and the environment given current and planned uses of the R.G. Haley Site. The remedial alternatives in the draft RI/FS report, and the identified preferred alternative, satisfy MTCA.

Commenter #3, Seth Owens

I appreciate the work done and realize the need to economize the remediation at the site. However the clean-up is essential, so the idea of watercraft rentals, coffee shop and large parking/bathroom facilities in my opinion is not very important. I like the idea of capping and park use only (open space). I believe the city of Bellingham would have more revenues available for important clean-up and re-development projects if revenues were not wasted on new vehicles, offices and other non-essential expenditures. I also believe State of Washington including Ecology could benefit from economizing motor pool expenses and the farming-out to private companies remediation projects like this one. Put citizens to work for the State of Washington and remove the large profit margins of private enterprise.

Ecology Response

Ecology’s role under the state Model Toxics Control Act is to ensure protection of human health and the environment given current and planned uses of the R.G. Haley Site. The actual development of a land use plan for the Site is the responsibility of the City of Bellingham. Ecology understands that the community was involved in the development of a master plan - the Cornwall Beach Park Master Plan Report (October 2014), which is available on the City of Bellingham website (<http://www.cob.org/Documents/parks/development/projects/cornwall-beach-master-final-plan.pdf>). We also understand there will be additional opportunity for involvement during the future park design phase, following site cleanup.

With regard to practices by which the City of Bellingham and State of Washington could reduce operating costs, these issues are outside the scope of the RG Haley RI/FS.

Commenter #4, Elizabeth Hines

Regarding the R.G. Haley clean-up site, we would like to see the toxic contaminated soils removed entirely from the area (not sealed or capped) but truly cleaned up.

Ecology Response

Ecology acknowledges the preference for complete removal, and this was evaluated in the FS. However it is very costly due to the hazardous waste treatment and disposal requirements. Under MTCA, the selected cleanup action must meet a number of requirements, which includes being “permanent to the maximum extent practicable” (WAC 173-340-360(2) (a)-(b)). To make this determination, we employ the “disproportionate cost analysis” (WAC 173-340-360(3)). Compared to lower cost alternatives, complete removal was determined to be disproportionately costly relative to the increased benefit and was not “permanent to the maximum extent practicable.” All the alternatives evaluated through the disproportionate cost analysis eliminate exposure to harmful levels of contamination. In addition, for the purpose of evaluating the relative benefit of alternatives, MTCA categorizes immobilization or solidification (components of the upland preferred remedy) as having a higher degree of long-term effectiveness than disposal methods (WAC 173-340-360(3)(f)(iv)).

We feel the violators should be financially responsible for the cleanup costs as they profited heavily for many years while they destroyed the environment with their toxic wastes.

Ecology Response

MTCA (Chapter 90.105D RCW) addresses cleanup responsibility and provides standards for cleanup liability at contaminated sites. At this time, the state has identified and named the City of Bellingham, the Port of Bellingham, the Washington State Department of Natural Resources and Brooks Manufacturing, Inc. as potentially liable persons (PLPs) for the R.G. Haley Site. Other PLPs, including Haley, may be identified and named in the future.

Commenter #5, Tyler Irwin, Kai Pana Outrigger Canoe Club

As an avid user of the S. Cornwall Beach/Glass Beach area, our club would be very much interested in working with the City to establish some sort of facility to house our outrigger canoes in the proposed new park. Discussions held on September 17th, 2015 made mention of some sort of “kayak rental” structure/building, and while we don’t use kayaks, we promote access to the Bellingham waters via our club’s outrigger canoes. We actively pursue public involvement in our sport and would look to not only help maintain the waterfront but help improve it by having regular beach “cleanups” and creating an environment where people have a positive experience getting into the water. We would jump at the opportunity to help with feedback on necessary utilities (public restroom, outdoor rinse-off shower) to help create an awesome place to recreate and relax. We are excited to see that the City is working to drastically improve this area as it has a ton of potential to appeal to the area’s water enthusiasts.

Ecology Response

Ecology’s role under MTCA is to ensure protection of human health and the environment given current and planned uses of the R.G. Haley Site. We understand that the City’s master planning for the future Cornwall Beach Park involved community participation and that the City will provide future opportunities for public participation related to the final design of the Park. We suggest you direct comments pertaining to park features at the future Cornwall Beach Park project to the City of Bellingham Parks department.

Commenter #6, Mark Myers, Williams Kastner on behalf of Brooks Manufacturing Company

I am providing the following comments on behalf of Brooks Manufacturing Company (Brooks) regarding the Public Review Draft, Remedial Investigation/Feasibility Study (Draft RI/FS) for the R.G. Haley International site (Haley Site) in Bellingham, WA. There are numerous factual errors in the Draft RI/FS as they relate to Brooks. There are also statements that imply Brooks’ liability, but in fact are completely irrelevant for purposes of the RI/FS. The Draft RI/FS should be substantially revised to avoid misleading the public.

Section 2.2.5.1, at page 2-8. The Draft RI/FS states:

The State-owned upland west of the Haley property was leased to the Port between 1947 and 1965. Frank Brooks Manufacturing (Brooks) leased this land from 1965 to 1985 (DNR 1965, DNR 1976). The area of Brooks' lease between 1965 and 1976 (DNR 1965) extended from the upland Inner Harbor Line to in-water areas west of the shoreline; however, beginning in 1976 Brooks' lease was limited to only the upland portion of the State-owned land (DNR 1976). GP leased the State-owned upland west of the Haley property from 1985 to 2001.

Documents previously provided to you show that Brooks never operated on property between the Haley facility and the Bellingham Bay waterfront. The Port mistakenly leased that area to Brooks while simultaneously leasing it to Haley. The Port's July 27, 1970 letter to Brooks says that "The Port has for years sublet these six acres of Harbor Area" to Haley and that the Port was selling the uplands adjoining the six acres of Harbor Area under discussion. Aerial photos show Haley used that area for storing treated and untreated lumber. When the Port discovered its leasing mistake, it agreed to refund Brooks lease payments for this area. There is no evidence that Brooks ever operated in this area or released any hazardous substances in this area.

Ecology Response

The lease history described in Section 2.2.5.1 in the RI is based on actual lease documentation. No lease or sublease document between the Port and Haley for the state-owned (DNR) land west of the Haley property was located in the course of research conducted for the RI, or provided by the Port or others. Several 1966 – 1970 letters and memoranda between DNR and Brooks indicated that Brooks was filling and dumping, or allowing others to fill and dump, various materials, including pulp waste, debris, and oil, within areas of its leasehold that may be part of the Site in violation of lease terms.

(Letter from DNR to Frank Brooks, August 24, 1966; Letter from Frank Brooks to DNR, September 6, 1966; Letter from R.A. Beswick to Shirley Daniels, September 15, 1970).

Section 2.2.5.2 at page 2-9, 3rd paragraph, first two sentences.

In the third paragraph, the Draft RI/FS states that the Brooks leased property west of the Haley property "during a period of time (1965 to 1985) that coincided with active Haley wood treating operations." The report fails to state what is really important, that (a) Brooks never operated on that property, (b) the Port leased it to Brooks by mistake, (c) the Port simultaneously leased it to Haley, and (d) at all times it was used by Haley – not Brooks.

Ecology Response

Section 2.2.5.2 explains that the Haley facility included areas of wood storage on the State-owned upland west of the Haley property adjacent to the shoreline. However, no lease or sublease by Haley for the State-owned upland west of the Haley property has been located.

Section 2.2.5.2 at page 2-9, 3rd paragraph, third sentence.

Continuing in the third paragraph, the Draft RI/FS states: “Brooks was also a wood treater in the Bellingham-area...” This statement is irrelevant and should be deleted as such. If the statement is retained, to be complete and not mislead the public, the Draft RI/FS should also state the following:

Brooks’ wood treating facility was located on Pacific Street approximately three miles from the Haley facility. Brooks operations adjacent to Haley consisted to manufacturing glue laminated beams and other structural wood products. Brooks did not conduct wood treating operations at the glue laminate facility.

Section 6.3.3, at page 6-11, 1st paragraph, last sentence:

The statement that “Brooks is known to have conducted wood treating operations in the Bellingham area...” is again irrelevant. No one has come forward with evidence that Brooks operated a wood treating facility adjacent to Haley’s wood treating facility. The fact that Brooks operated a wood treating plant three miles away adds nothing to the analysis. This sentence should be deleted.

Ecology Response

Ecology acknowledges that Brooks’ wood treating facility was located on Pacific Street in Bellingham. References in the RI/FS report to Brooks’ wood treatment facility will be clarified as appropriate.

Section 2.2.5.2 at page 2-9, 4th paragraph.

Again, this paragraph mistakenly implies that Brooks operated on land between the Haley facility and Bellingham Bay. That is untrue, as stated earlier and shown in documents provided in prior correspondence. While the 4th paragraph recites a report of “crankcase oil” being dumped “on the ‘open land fill area at the foot of Cornwall Avenue’, “the Draft RI/FS does not say that the area between Haley’s facility and Bellingham Bay was “open landfill area.” As stated elsewhere in the Draft RI/FS, the area between Haley’s facility and Bellingham Bay was consistently used by Haley to store treated and untreated lumber. There is no evidence that any “crankcase oil” was dumped anywhere on the Haley site.

Ecology Response

The text in Section 2.2.5.2 at page 2-9, 4th paragraph will be modified to reflect uncertainties regarding oil dumping. Lube oil (also known as motor oil or crankcase oil) is a reported contaminant at the Haley site as indicated in Section 6.3.2 of the RI report.

Section 6.3.3, at page 6-11, 1st paragraph:

The Draft RI/FS states: “Additionally, as discussed in sections 2.2.5 and 2.2.6, Brooks reportedly dumped oil in the area leased by Brooks in the late 1960s, after closure of the Cornwall landfill (DNR 1970).” Nowhere in any document that Brooks has seen and in none of

documents quoted in the Draft RI/FS as they relate to Brooks, does anyone ever say the Brooks “dumped oil in the area leased by Brooks....” This statement is completely unsupported and should be deleted.

Section 8.1.1, at page 8-1, 2nd paragraph, second sentence in this section.

The Draft RI/FS states “and possible past releases on upland property after landfill closure (e.g, historical oil dumping by Brooks; Section 2.2.5 and 2.2.6).” Again, this claim is completely unsubstantiated and must not be recited as fact in this report. The entire parenthetical quoted above must be deleted.

Ecology Response

Several 1966 – 1970 letters and memoranda between DNR and Brooks indicated that Brooks was filling and dumping, or allowing others to fill and dump, various materials, including pulp waste, debris, and oil, within areas of its leasehold that may be part of the Site in violation of lease terms. (Letter from DNR to Frank Brooks, August 24, 1966; Letter from Frank Brooks to DNR, September 6, 1966; Letter from R.A. Beswick to Shirley Daniels, September 15, 1970).

Corresponding sentences of the RI/FS report will be clarified accordingly.

Throughout Entire Draft RI/FS Report:

While the report at numerous places recites that Haley used carrier oil to treat wood with pentachlorophenol, there is no evidence that “crankcase oil” – meaning used motor oil – was a contaminant at the Haley Site or triggered any remedial action costs or remedy. This site is contaminated with wood treating chemicals directly associated with R.G. Haley’s decades old wood treating operations. The remedy proposed for the Site is directly tied to Haley’s releases of hazardous substances associated with wood treating chemicals. The entire issue of “crankcase oil” allegedly dumped by some unknown/unidentified person at some unknown/unidentified portion of a large property leased by Brooks, is completely irrelevant to the investigation and evaluation of proposed remedies. All references to “crankcase oil” and Brooks’ operations on property adjacent to Haley, including but not limited to the blatant factual errors noted above, have the potential to mislead the public. They should be stricken in their entirety from the Draft RI/FS Report.

Ecology Response

Lube oil (also known as motor oil or crankcase oil) is a reported contaminant at the Haley site as indicated in Section 6.3.2 of the RI report.

Commenter #7, Wendy Steffensen, North Sound Baykeeper, North Sound Baykeeper Team, RE Sources for Sustainable Communities

Dear Mr. Adams,

Thank you for the opportunity to comment on the R.G. Haley cleanup site. You have been very helpful in assisting us with information and I know that you do your level best to get a good cleanup at this site.

As the North Sound Baykeeper at RE Sources, I represent the resource and well over 600 people who care about the Bay and want to see a clean and healthy waterfront. I hope you will consider these comments carefully and re-assess some of the conclusions made in the RI/FS.

The cleanup presented is a half-measure. We know that the groundwater and stormwater will continue to flow through the site, picking up LNAPL and contaminants. We believe that this cleanup must include pumping of LNAPL as well to remove the source of contamination to the sediments.

- The proposed solidified barrier still must be engineered, and thus we do not know its potential shortcomings. As stated on page 9-30, “The solidification process would require treatability testing to determine the appropriate mixture of cement and organoclay and other reagents required to achieve treatability goals including low- permeability of the treated matrix, reduced leachability of treated contaminants, and the strength and stability of the solidified mass to ensure long-term effectiveness.”*
- We also believe that it will also not immobilize all of the LNAPL present and will not fully obstruct the path of groundwater flow. Both of these conditions should be met before considering this an acceptable solution.*

Ecology Response

The FS considered a number of cleanup methods for the LNAPL, including pumping, and identified solidification of the LNAPL/soil mix as the preferred approach.

In situ solidification is a widely-used cleanup technology, and has been applied at numerous LNAPL-impacted sites. A description of several of these sites is presented in a recent publication titled “Stabilization and Solidification of Contaminated Soil and Waste: A Manual of Practice” that can be downloaded at the following link: [Clu-in Solidification Manual of Practice](#). This document presents several case studies in which solidification technologies were applied to LNAPL-impacted soil for the purpose of meeting cleanup objectives similar to those for the R.G. Haley Site.

Under the preferred alternative for the Haley upland, the zone of potentially mobile LNAPL will be treated by in situ solidification, significantly lowering its hydraulic conductivity and thereby reducing the potential for contaminant transport via groundwater flowing through the Haley Site. This cleanup objective has been proven

achievable at many other sites, including similar former wood treating sites. Bench-scale treatability testing and pilot studies will be performed to demonstrate the solidification technology performance under the conditions at the Haley Site.

We believe that manual LNAPL recovery should be used, in addition to whatever other methods are used. This method permanently removes the source. Although the FS states that the recovery using this method is low, we find that over 530 gallons of LNAPL have been removed over the years using the method. This is 530 gallons that will no longer leach into the environment and represents a simple direct way of effecting source control.

Ecology Response

Recoverable in-well LNAPL is manually removed on a periodic basis. This will continue until the remedy is constructed. However this practice removes a small volume of LNAPL and would not have an appreciable effect on groundwater quality compared to more aggressive actions such as the soil treatment component (solidification) of the preferred remedy. If in situ solidification is implemented based on favorable treatability study performance, LNAPL removal will not be possible after soil solidification because the solidification process will sequester the LNAPL within the treated soil mass. This immobilization of LNAPL, combined with reduced groundwater flow through the treated soil mass, will be far more effective in protecting Bellingham Bay sediment and surface water than manual LNAPL removal; the latter would not reduce LNAPL mobility for a very long time (likely decades) and would not reduce impacts to groundwater associated with immobile, residual LNAPL remaining after removal of recoverable LNAPL.

Please present the estimated contaminant loading into marine waters and sediment for each alternative. Without this information it is difficult to make an informed choice of which method is better. The loading of contamination into the environment is key to choosing a cleanup.

The amount of contamination should not contribute to sediment contamination above the cleanup screening level for any contaminant or sediment cleanup objective for any bioaccumulative contaminant, nor above the water quality standard for the most restrictive use. Please conduct this exercise for loading from:

Groundwater

LNAPL

Soil

Ecology Response

MTCA requires that cleanup actions must comply with cleanup standards (WAC 173-340-360(2) (a) (ii)). This is one of the threshold requirements for all remedial alternatives being considered in a feasibility study. All the remedial alternatives presented in the Haley FS meet this requirement, including the protection of sediment and surface water.

Performance of the various sediment removal and capping alternatives presented in the FS was evaluated using a sediment cap model (CAPSIM© Version 2.7b; Dr. David Lampert, Xiaolong Shen and Dr. Danny Reible, 2012). This modeling exercise accounts for contaminant loading from the upland, although not in the form of a standalone contaminant loading (mass) value. The cap design process used in the FS involved using this cap model to calculate mass loading to the cap material to determine long-term cap performance relative to sediment and surface water cleanup levels.

Remedial alternatives were compared and a preferred remedy was selected in the Haley FS using the evaluation criteria specified in WAC 173-340-360. Contaminant loading is not a standalone decision criterion used to select an alternative; however, it was accounted for in the cap modeling process as described above.

Additional cap modeling will be performed during the design phase of the project. This modeling effort will incorporate results of the soil solidification treatability testing and utilize more data to support the design process than was used in the FS to select the remedy.

The descriptor on page 9-23 was not sufficient to explain why hydraulic dredging would not be considered. A note was made that an upland proximal area would be needed for dewatering; is not a portion of the GP West site available?

Ecology Response

Hydraulic dredging removes sediment by fluidizing and pumping the material; hydraulic dredging would not be effective at the Haley Site where there is larger debris. In addition, a large volume of water is pumped during hydraulic dredging operations, requiring dewatering, and management and disposal of dewatering waters. This increases costs significantly. Lastly, the upland area of the site is not large enough to dewater and place the dewatered material. Use of a nearby area to manage the water/sediment, such as the GP West site, would add additional material handling costs and the area may not be available when needed. For these reasons, mechanical dredging was retained rather than hydraulic dredging. Additional detail for the sediment remedial technology screening is presented in Table 9-10.

We urge you to consider full removal of the upland contamination. As stated on page 9-45, all of the upland methods, except for complete removal, will only meet the conditional point of compliance for groundwater contamination. There was a reference to the fact that the timeframe for restoration is not considered by law to be reasonable. Please expound on this.

Ecology Response

Ecology acknowledges the preference for full removal of contaminated media, but must operate within the scope of its authority, as defined by MTCA (Chapter 70.105D RCW), and in accordance with the requirements of the accompanying MTCA regulations WAC 173-340. Under MTCA, the selected cleanup action must meet a number of requirements, including the requirement to be “permanent to the maximum extent practicable” (WAC 173-340-360(2) (a)-(b)). To make this determination, we employ the disproportionate cost analysis (WAC 173-340-360(3)).

Full removal of upland soil, with treatment/disposal off-site was evaluated in the FS. The cost of this alternative was determined to be disproportionate relative to its increased benefit, compared to lower cost alternatives. The full removal alternative, therefore, was not “permanent to the maximum extent practicable” per MTCA (WAC 173-340-360(2) (a)-(b)).

Restoration time frames for each of the upland alternatives were found to be reasonable (Section 9.6.2.2 and Table 9-13).

We are concerned that a lot of money will be paid for a cleanup that only does part of the job, does not meet compliance standards, and puts the marine ecosystem and people who consume fish at risk.

Ecology Response

Please see Ecology response to your first bulleted comments. The preferred cleanup alternative is expected to comply with MTCA and SMS requirements to ensure protection of the marine ecosystem as well as people who consume fish. Long-term monitoring will be conducted to document protectiveness of the remedy over time.

In order to better meet the timeliness of restoration, why were a combination of methods not considered? For example, how much contamination would pump and treat of LNAPL, the permeable reactive barrier (PRB) plus solidification remove and in what timeframe? As the Department of Ecology has taught us in stormwater issues, rarely will one BMP work alone, a combination of BMPS is often more effective to remove contamination.

Ecology Response

The use of different remedial technologies in the same alternative was carefully considered in the FS. Some technologies are compatible for use with each other, and some are not. Remedial technologies proposed in a single alternative were selected based on engineering and scientific principles associated with those technologies and on site conditions.

As an example, the comment questions why LNAPL removal (by pumping), groundwater treatment using a permeable reactive barrier (PRB), and soil solidification were not combined into a single upland alternative. LNAPL removal and use of a PRB would be compatible with each other, and are components of upland alternative U2 in the FS. Soil solidification, however, would not be compatible these other two technologies. Solidification would sequester the LNAPL by physically binding the petroleum and reducing fluid flow within the saturated horizon (via reduced hydraulic conductivity). As a result, the LNAPL would be immobile (not recoverable). Reduced hydraulic conductivity of the treated soil mass also would reduce groundwater flow through a shoreline PRB. This would prevent the PRB from treating groundwater, which is the purpose of a PRB.

We are concerned about the values used for cleanup standards for bioaccumulative chemicals. It is stated that the value used for the amount of fish and shellfish consumed was 61.9 g/ day for shellfish and 7.8 g/ day for fish, based on information from the Tulalip Tribe, as recorded in Ecology's Fish Consumption Rate document (2013). This information while valuable, is not most relevant at this site.

- *The people most likely to use this area are the Lummi Tribal members and in the absence of any specific fish consumption data for the Lummi, we believe you should use the currently accepted fish consumption rate of 175 g/ day. This rate, derived as part of the water quality standards revision, represents a more realistic consumption rate, and does not include the upper end of fish consumption by tribal people, nor does it account for suppression of fish consumption due to contamination and/or poor harvest.*
- *It is not acceptable to have one fish consumption rate for water quality and one for sediment cleanups. The rate is the rate; please instate it here.*

Ecology Response

The fish and shellfish consumption rates (fish consumption rates) used in the Haley RI/FS are consistent with rates used at the Lower Duwamish Waterway Superfund site and multiple sites in Bellingham Bay, including Whatcom Waterway, Harris Avenue Shipyard, and I&J Waterway. The fish consumption rates for these sites are based on the consumption of crabs, clams, mussels and bottom feeding fish because these organisms are expected to have direct contact with sediment.

The Haley fish consumption rate does not include ingestion of salmon and other pelagic fish (fish that live in the water column). Salmon were not included because they are migratory and thus exposure to Haley sediment is expected to be minimal. Other pelagic fish were not included because these fish spend most of their time in the water column and are not in close contact with sediment. If it had been appropriate to consider salmon and other pelagic fish for the Site, the fish consumption rate would have been higher. The fish consumption rates used in the Haley RI/FS are appropriate for evaluating the extent of sediment contamination and the protectiveness of the sediment remedy.

Ecology's final Sediment Cleanup Users Manual II (SCUM II) dated March 2015 establishes sediment cleanup levels as the highest of following: (1) background sediment concentrations, (2) practical quantitation limit and (3) risk-based concentration. The Haley preliminary sediment cleanup levels for bioaccumulative compounds (dioxins/furans, carcinogenic polycyclic aromatic hydrocarbons and pentachlorophenol) are set at either the regional background sediment concentration or the practical quantitation limit. This is permissible under the regulations if one of two conditions can be met: "Technical possibility" or "Net adverse environmental impacts" (WAC 173-204-560(2) (a) (ii)). It is likely the Ecology Cleanup Action Plan will establish that one of these two conditions can be met. That determination will likely provide for final sediment cleanup levels being the same as the preliminary cleanup levels. Since the risk-based concentrations for these bioaccumulative compounds are less than their respective regional background concentrations and/or practical quantitation limits, increasing the fish consumption rates used in the Haley RI/FS would not result in a change of the preliminary sediment cleanup levels presented in the document.

We urge you to dispose of sediment off site.

- *This option appears to not have been considered for options S1 through S4.*
- *Leaving the contaminated sediment on-site represents leaving a leachable source of contamination on site that could be removed. In the face of sea level rise, we believe this represents a poor decision.*

Ecology Response

To provide a range of cleanup alternatives to evaluate for the Site, off-site treatment/disposal of sediment was evaluated as a technology through the FS and included in one of the alternatives (S5). However, the need to comply with state and federal dangerous/hazardous waste regulations for off-site treatment/disposal of excavated sediment results in a very high corresponding cost. Ecology's Area of Contamination (AOC) Policy allows for consolidating contaminated media from one portion of a Site to a different portion of the Site within the designated AOC. Consolidation within the AOC, as an alternative to off-site treatment/disposal, was incorporated into four of the sediment cleanup alternatives in order to support a range of alternatives to be evaluated. Consolidation under the proposed low-permeability upland cap is considered protective and has a significantly lower cost relative to off-site treatment/disposal.

The handling method and location of consolidation of excavated sediment in the upland portion of the AOC will be carefully considered during design phases. Excavated sediment will be consolidated in areas covered with the low-permeability cap and sea level rise will be considered when designing the final remedy. One or more design aspects of the upland cap will prevent leaching of contaminants from sediment placed in the upland. The sediment will be placed at an elevation and covered by a low

permeability cap that will prevent stormwater (or floodwater) infiltration into the sediment, and groundwater (or seawater) invasion into the sediment.

Sea level rise as a forthcoming reality does not appear to be figured into the cleanup options to any great extent.

- *Page 4-7 states, “Flooding, storm surge and tsunamis can increase tidal elevations in Bellingham Bay locally and Baywide. In addition, there is a potential for sea level rise in the future due to global climate changes. These factors are discussed below in relation to the Haley Site and are considered in the FS evaluation of remedies.” What follows is an additional 4 scant paragraphs of predictions, with no mention of sea level rise in the FS or of how the remedies will address the sea level rise.*
- *We do not want the contaminants in the sediment to be inundated through sea level rise, extreme flooding or wave action or to leach into the marine environment. Please address how each of the remedies address sea level rise and include this assessment into the disproportionate cost analysis.*

Ecology Response

The potential effects of sea level rise on components of the Haley preferred remedy will be accounted for during the design phase of the cleanup process. Sea level rise may cause changes in nearshore marine (wave and current) processes, or the locations where these marine processes are focused. Shoreline flooding and increasing groundwater elevations also will likely accompany sea level rise. These effects of sea level rise will be accounted for not only during design of the Haley cleanup action, but during design of the future Cornwall Beach Park.

Certain components of the cleanup action will need to be designed with these potential sea level rise effects in mind. Examples include: the elevations, slope and aggregate size of sediment caps and the shoreline embankment; finish grade of the upland cap; elevations and design of the stormwater system; and the depths of soil solidification relative to rising seawater and groundwater levels. One or more design aspects of the upland cap will prevent leaching of contaminants from sediment placed in the upland. The sediment will be placed at an elevation and covered by a low permeability cap that will prevent stormwater (or floodwater) infiltration into the sediment, and groundwater (or seawater) invasion into the sediment.

An important purpose of the low-permeability upland cap described in the preferred alternative is to effectively reduce/ eliminate stormwater infiltration into the upland area. The FS states in several places that “improved upgradient drainage controls will serve to reduce stormwater infiltration along the BNSF right of way.” However, the BNSF area is designed to effectively promote drainage.

- *How can stormwater infiltration be reduced without removing or altering the tracks, in an area that is not owned by the City?*

Ecology Response

We are aware of the issue and will resolve it during remedial design. Also see response below.

We see infiltration into the site as an issue that should incorporate an area much larger than the BNSF area. Currently there are only two stormwater mains and very few catch basins that drain the area adjacent to the site. Because of the lack of drainage facilities near and above the site, one must surmise that the surrounding land is very permeable. Because the site lies at the base of a sandstone bluff, we feel it is susceptible to a large quantity of seepage from the expansive area above, which includes the wooded South Bay trail, a neighborhood, and the Forest and Cedar Neighborhood park, WWU and Sehome Hill.

To avoid stormwater infiltration into the site, the City should plan to install improved upgradient drainage controls in a much larger area than the BNSF right of way, so that infiltration into the site is indeed reduced.

Ecology Response

Stormwater upgradient of the bluff east of the site is currently managed by the City storm drain system. It is not practical or warranted within the scope of the Haley Site cleanup to capture more stormwater over a broader area. Nearly 70% of groundwater recharge to the Haley Site originates from stormwater infiltration directly on the Haley upland, based on the water balance used for the Site groundwater model explained in the RI/FS report. The low-permeability upland cap will capture this stormwater and convey it to Bellingham Bay, directly reducing the stormwater infiltration in the capped area by at least 95%. The improved upland drainage controls, and other components of the preferred remedy, will result in a successful remedy that addresses the groundwater pathway. Broader upgradient stormwater upgrades would not increase the protectiveness of the remedy.

APPENDIX A
COMMENTS RECEIVED

Adams, Mark (ECY)

1

From: Petrovich, Brad (ECY)
Sent: Monday, August 31, 2015 11:32 AM
To: 'Monte D Hokanson'
Cc: Adams, Mark (ECY)
Subject: RE: Dept. of Ecology - Public Comment Period - RG Haley Cleanup Site - Bellingham

Hi Monte –

Thanks for your comment and questions. I am forwarding to Mark Adams, our Project Manager for the RG Haley site. He'll be in touch soon to reply.

Regards,

brad petrovich
department of ecology / skykomish & bellingham bay cleanup teams
3190 160th avenue se / bellevue, wa / 98008
phone: 425.533.5537
email: brad.petrovich@ecy.wa.gov

From: Monte D Hokanson [mailto:monte.hokanson@hotmail.com]
Sent: Monday, August 31, 2015 7:00 AM
To: Petrovich, Brad (ECY)
Subject: Re: Dept. of Ecology - Public Comment Period - RG Haley Cleanup Site - Bellingham

Hi Brad,

WSU Beach Watchers wrote "Three factors: salinity, energy from wind and waves, and substrate determine the plant and animal complement of marine habitats (and human intervention can play a role in altering any one of them)."

Local tideland farmers routinely monitor and adjust water PH to protect their shellfish from high acidity. Could we use shellfish to naturally clean contamination from the RG Haley aquatic site?

Can we alter the on-site water chemistry enough (control PH, salinity, energy and substrate) to mitigate the effects of contamination on aquatic life?

Could we repurpose abandoned portions of the old sewer plant site to treat (using aquaculture) Whatcom Creek contamination before it enters the aquatic site? What is the Ports plan for the log pond?

Could we upgrade existing on-site stormwater drains to pipe treated water, energy and substrate to the aquatic site?

Thanks,
Monte

On Aug 28, 2015, at 11:33 AM, Petrovich, Brad (ECY) <bp461@ecy.wa.gov> wrote:

All –

Attached is a fact sheet regarding the cleanup at the RG Haley site in Bellingham. Ecology is conducting a public comment period for this site from August 31 – October 14, 2015, and will host a public meeting in Bellingham on September 17, 2015. You are receiving this email either because of your professional affiliation with Ecology and this site, or because you requested to be on an electronic mailing list for cleanup sites in Bellingham.

Regards,

brad petrovich

department of ecology / skykomish & bellingham bay cleanup teams
3190 160th avenue se / bellevue, wa / 98008

phone: 425.533.5537

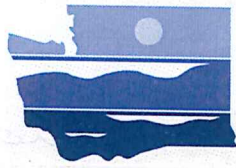
email: brad.petrovich@ecy.wa.gov

<FINAL-FACTSHEET-RGHaley.pdf>

Adams, Mark (ECY)

From: Scott Melnick <shm63@comcast.net>
Sent: Monday, September 14, 2015 9:32 AM
To: Adams, Mark (ECY)
Subject: R.G. Haley site

Let the site be developed and let the clean-up money be used to buy Governor's Point instead and turn that into a park and not let it get developed and destroyed.



Comment Form

RG Haley Cleanup Site Remedial Investigation/Feasibility Study Report

Comments must be received by 5 p.m. October 14, 2015

Thank you for participating in today's meeting. If you wish to submit a written comment, you may use this form. **Please leave your comment form on the room table before you leave.** You may also mail this form to: Department of Ecology, attention Mark Adams, 3190 160th Avenue SE, Bellevue WA 98008, or e-mail your comments to Mark at mark.adams@ecy.wa.gov. Please indicate the RG Haley Cleanup Site in your subject line.

Ecology will review and respond to your comments. Responses to all comments will be included in a responsiveness summary. The summary will be made part of the public record and mailed directly to those who comment following the public comment period. Comments will also be posted on Ecology's Harris Avenue Shipyard webpage at www.ecy.wa.gov/programs/tcp/sites, and enter "RG Haley" in the search box.

Please print clearly

Name: SETH OWENS
Organization/Neighborhood: SE HOME / SOUTH HILL
Mailing Address: 608 Boulevard street
City: Bellingham State: wa Zip: 98225
Email: northstardieselmarine@yahoo.com
Phone Number: 360 7384798

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

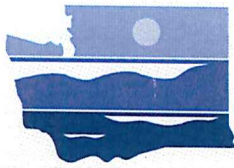
I appreciate the work done and
realize the need to economize the
remediation at the site. However the
clean-up is essential, so the idea of

Watercraft Rentals, coffee shop and large parking / bathroom facilities in my opinion is not very important. I like the idea of capping and park use only (open space).

I believe the city of Bellingham would have more revenues available for important clean-up and re-development projects if revenues were not wasted on new vehicles, offices and other non-essential expenditures.

I also believe State of Washington including ecology could benefit from economizing motor pool expenses and the farming-out to private companies remediation projects like this one.

Put citizens to work for the State of Washington, and remove the large profit margins of private enterprise.



Comment Form

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Please print clearly

Name: Elizabeth Heines
Organization/Neighborhood: Scheme / South Hill
Mailing Address: 608 Boulevard Street
City: Bellingham State: wa Zip: 98225
Email: lizzyseth@yahoo.com
Phone Number: 360 738-4798

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

Regarding the R.G. Haley clean-up site we would like to see the toxic contaminated soils removed entirely from the area (not sealed or capped) but truly cleaned up. We feel the violators should be financially responsible for all cleanup costs as they profitted heavily for many years while

They destroyed the environment with
their toxic wastes.

Thank you,

Errol Herd

Adams, Mark (ECY)

From: Tyler Irwin <tyler@tekconstructioninc.com>
Sent: Friday, October 02, 2015 11:06 AM
To: Adams, Mark (ECY)
Subject: RG Haley Site Improvements - Kai Pana
Attachments: Ecology Feedback Form - Kai Pana.pdf

Good Morning Mark,

I've attached the comment form following the September 17th meeting.

I appreciate the time in looking at our comments and welcome any questions/comments that you may have.

Thanks,

-Tyler

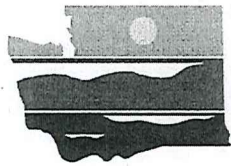
Tyler Irwin

Project Manager

TEK Construction, Inc.

-c- (406) 580-9807

tyler@tekconstructioninc.com



Comment Form

RG Haley Cleanup Site Remedial Investigation/Feasibility Study Report

Comments must be received by 5 p.m. October 14, 2015

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Ecology will review and respond to your comments. Responses to all comments will be included in a responsiveness summary. The summary will be made part of the public record and mailed directly to those who comment following the public comment period. Comments will also be posted on Ecology's Harris Avenue Shipyard webpage at www.ecy.wa.gov/programs/tcp/sites, and enter "RG Haley" in the search box.

Please print clearly

Name: Tyler Irwin

Organization/Neighborhood: Kai Pana Outrigger Canoe Club

Mailing Address: 1980 W Bakerview Rd

City: Bellingham State: WA Zip: 98226

Email: kaipanaoutrigger@gmail.com

Phone Number: (406) 580-9807

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

As an avid user of the S. Cornwall Beach/Glass Beach area, our club would be very interested in working with the City to establish some sort of facility to house our outrigger canoes in the proposed new park. Discussions held on September 17th, 2015 made mention of some sort of "kayak rental" structure/building, and while we don't use kayaks, we promote access to the Bellingham waters via our club's outrigger canoes. We actively pursue public involvement in our sport and would look to not only help maintain the waterfront but help improve it by having regular beach "cleanups" and creating an environment where people have a positive experience getting onto the water. We would jump at the opportunity to help with feedback on necessary utilities (public restroom, outdoor rinse-off shower) to help create an awesome place to recreate and relax.

We are excited to see that the City is working to drastically improve this area as it has a ton of potential to appeal to the area's water enthusiasts.

6

Adams, Mark (ECY)

From: Mosebar, Kris <KMosebar@williamskastner.com>
Sent: Wednesday, October 14, 2015 11:12 AM
To: Powell, Anne M. (ATG)
Cc: Myers, Mark; Hallstrom, Jordann; jrf@brooksmfg.com; psharpe@adelstein.com; 'akraham@cob.org'; Adams, Mark (ECY)
Subject: Brooks Mfg./R.G. Haley International
Attachments: WKG-#5595324-v1-Brooks_Letter_to_Anne_Powell__AAG.PDF

Anne: Attached please find Mark Myers' letter to you in the above-referenced matter. A copy will follow in the mail.

Sincerely,

Kristen Mosebar

Williams Kastner | Legal Assistant to Mark Myers, Judd Lees & James Robenalt
601 Union Street, Suite 4100
Seattle, WA 98101-2380
P: 206.233.2922 | F: 206.628.6611
www.williamskastner.com

SEATTLE PORTLAND



RECEIVED

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DEPT OF ECOLOGY
TCP - NWRO

October 14, 2015

VIA U.S. MAIL AND E-MAIL

Anne Powell, AAG
Attorney General of Washington
Ecology Division
P.O. Box 40117
Olympia, WA 98504

Re: *Comments on Public Review Draft, Remedial Investigation/Feasibility Study*
R.G. Haley International Site
Facility/Site No.: 2870

Dear Anne:

I am providing the following comments on behalf of Brooks Manufacturing Company (Brooks) regarding the Public Review Draft, Remedial Investigation/Feasibility Study (Draft RI/FS) for the R.G. Haley International site (Haley Site) in Bellingham, WA. There are numerous factual errors in the Draft RI/FS as they relate to Brooks. There are also statements that imply Brooks' liability, but in fact are completely irrelevant for purposes of the RI/FS.¹ The Draft RI/FS should be substantially revised to avoid misleading the public.

1. Section 2.2.5.1, at page 2-8. The Draft RI/FS states:

The State-owned upland west of the Haley property was leased to the Port between 1947 and 1965. Frank Brooks Manufacturing (Brooks) leased this land from 1965 to 1985 (DNR 1965, DNR 1976). The area of Brooks' lease between 1965 and 1976 (DNR 1965) extended from the upland Inner Harbor Line to in-water areas west of the shoreline; however, beginning in 1976 Brooks' lease was limited to only the upland portion of State-owned land (DNR 1976). GP leased the State-owned upland west of the Haley property from 1985 to 2001.

Documents previously provided to you show that Brooks never operated on property between the Haley facility and the Bellingham Bay waterfront. The Port mistakenly leased that area to Brooks while simultaneously leasing it to Haley. The Port's July 27, 1970 letter to Brooks says that "The Port has for years sublet these six acres of Harbor Area" to Haley and that the Port was selling the uplands adjoining the six acres of Harbor Area under discussion. Aerial photos show Haley used that area for

¹ On Brooks' behalf, I have already responded regarding the absence of credible evidence that Brooks operated on and/or releases hazardous substances on the R. G. Haley Site. I will not repeat those arguments in this letter.

storing treated and untreated lumber. When the Port discovered its leasing mistake, it agreed to refund Brooks lease payments for this area. There is no evidence that Brooks ever operated on this area or released any hazardous substances on this area.

2. Section 2.2.5.2 at page 2-9, 3rd paragraph, first two sentences.

In the third full paragraph, the Draft RI/FS states that Brooks leased property west of the Haley property "during a period of time (1965 to 1985) that coincided with active Haley wood treating operations." The report fails to state what is really important, that is (a) Brooks never operated on that property, (b) the Port leased it to Brooks by mistake, (c) the Port simultaneously leased it to Haley, and (d) at all times it was used by Haley – not Brooks.

3. Section 2.2.5.2 at page 2-9, 3rd paragraph, third sentence.

Continuing in the third full paragraph, the Draft RI/FS states: "Brooks was also a wood treater in the Bellingham-area . . ." This statement is irrelevant and should be deleted as such. If the statement is retained, to be complete and not mislead the public, the Draft RI/FS should also state the following:

Brooks' wood treating facility was located on Pacific Street approximately three miles from Haley's facility. Brooks operations adjacent to Haley consisted to manufacturing glue laminated beams and other structural wood products. Brooks did not conduct wood treating operations at the glue laminate facility.

4. Section 2.2.5.2 at page 2-9, 4th paragraph.

Again, this paragraph mistakenly implies that Brooks operated on land between the Haley facility and Bellingham Bay. That is untrue, as stated earlier and shown in documents provided in prior correspondence. While the 4th paragraph recites a report of "crankcase oil" being dumped "on the 'open land fill area at the foot of Cornwall Avenue,'" the Draft RI/FS does not say that the area between Haley's facility and Bellingham Bay was "open landfill area." As stated elsewhere in the Draft RI/FS, the area between Haley's facility and Bellingham Bay was consistently used by Haley to store treated and untreated lumber. There is no evidence that any "crankcase oil" was dumped anywhere on the Haley site.

5. Section 6.3.3, at page 6-11, 1st paragraph:

The Draft RI/FS states: "Additionally, as discussed in Sections 2.2.5 and 2.2.6, Brooks reportedly dumped oil in the area leased by Brooks in the late 1960s, after closure of the Cornwall landfill (DNR 1970)." Nowhere in any document that Brooks has seen, and in none of the documents quoted in the Draft RI/FS as they relate

to Brooks, does anyone ever say that Brooks “dumped oil in the area leased by Brooks” This statement is completely unsupported and must be deleted.²

6. Section 6.3.3, at page 6-11, 1st paragraph, last sentence:

The statement that “*Brooks is known to have conducted wood treating operations in the Bellingham area . . .*” is again irrelevant. No one has come forward with evidence that Brooks operated a wood treating facility adjacent to Haley’s wood treating facility. The fact that Brooks operated a wood treating plant three miles away adds nothing to the analysis. This sentence should be deleted.

7. Section 8.1.1, at page 8-1, 2nd paragraph, second sentence in this section.

The Draft RI/FS states “*and possible past releases on upland property after landfill closure (e.g., historical oil dumping by Brooks; Section 2.2.5 and 2.2.6).*” Again, this claim is completely unsubstantiated and must not be recited as fact in this report. The entire parenthetical quoted above must be deleted.

8. Throughout Entire Draft RI/FS Report:

While the report at numerous places recites that Haley used carrier oil to treat wood with pentachlorophenol, there is no evidence that “crankcase oil” – meaning used motor oil – was a contaminant at the Haley Site or triggered any remedial action costs or remedy. This site is contaminated with wood treating chemicals directly associated with R.G. Haley’s decades of wood treating operations. The remedy proposed for the Site is directly tied to Haley’s releases of hazardous substances associated with wood treating chemicals. The entire issue of “crankcase oil” allegedly dumped by some unknown/unidentified person at some unknown/unidentified portion of a large property leased by Brooks, is completely irrelevant to the investigation and evaluation of proposed remedies. All references to “crankcase oil” and Brooks’ operations on property adjacent to Haley, including but not limited to the blatant factual errors noted above, have the potential to mislead the public. They should be stricken in their entirety from the Draft RI/FS Report.

² The Draft RI/FS at pages 5-11 and 5-12 notes that total petroleum hydrocarbons (TPH) are indicator hazardous substances (IHSs) for soil and groundwater at the Haley Site. The report attributes those TPHs to Haley’s wood treating operations. The Draft RI/FS states: *TPH occurrence is closely related to the occurrence of other soil IHSs because of the historical use of carrier oil in the wood treatment process.* There is no mention anywhere in the Draft RI/FS that crankcase oil supposedly dumped somewhere in the vicinity of the Haley Site has caused any remedial actions.

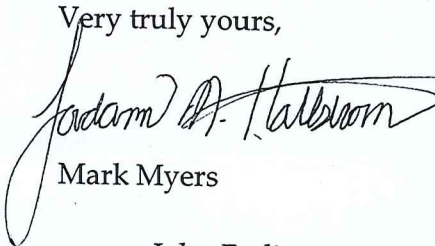
Anne Powell, AAG

October 14, 2015

Page 4

Thank you for accepting these comments on Brooks' behalf. I am happy to further discuss these issues with you if needed.

Very truly yours,

 on behalf of
Mark Myers

cc: John Ferlin
Phil Sharpe, Jr.
Mark Adams
Amy Kraham

Adams, Mark (ECY)

From: Wendy Steffensen <wendys@re-sources.org>
Sent: Wednesday, October 14, 2015 10:31 PM
To: Adams, Mark (ECY)
Subject: RG Haley comments
Attachments: RGHaleyComments_RESources_101415.pdf

Please see attached comments. Thanks Mark!
Wendy

--

Wendy Steffensen, North Sound Baykeeper
North Sound Baykeeper Team
RE Sources for Sustainable Communities
2309 Meridian St.
Bellingham, WA 98225

360 733-8307 (office)
360 223-6707 (cell)

RE Sources for Sustainable Communities
2309 Meridian St.
Bellingham, WA 98225

Mark Adams, Site Manager
Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452
[via e-mail:mada461@ecy.wa.gov]

October 14, 2015

Dear Mr. Adams,

Thank you for the opportunity to comment on the R.G. Haley cleanup site. You have been very helpful in assisting us with information and I know that you do your level best to get a good cleanup at the site.

As the North Sound Baykeeper at RE Sources, I represent the resource and well over 600 people who care about the Bay and want to see a clean and healthy waterfront. I hope you will consider these comments carefully and re-assess some of the conclusions made in the RI/FS.

Sincerely,

Wendy Steffensen
North Sound Baykeeper
RE Sources for Sustainable Communities

- The cleanup presented is a half-measure. We know that groundwater and stormwater will continue to flow through the site, picking up LNAPL and contaminants. We believe that this cleanup must include pumping of LNAPL as well to remove the source of contamination to the sediments.
 - o The proposed solidified barrier still must be engineered, and thus we do not know its potential shortcomings. As stated on page 9-30, "The solidification process would require treatability testing to determine the appropriate mixture of cement and organoclay and other reagents required to achieve treatability goals including low-permeability of the

treated matrix, reduced leachability of treated contaminants, and strength and stability of the solidified mass to ensure long-term effectiveness.”

- We also believe that it will also not immobilize all of the LNAPL present and will not fully obstruct the path of groundwater flow. Both of these conditions should be met before considering this an acceptable solution.
- We believe that manual LNAPL recovery should be used, in addition to whatever other methods are used. This method permanently removes the source. Although the FS states that the recovery using this method is low, we find that over 530 gallons of LNAPL have been removed over the years using this method. This is 530 gallons that will no longer leach into the environment and represents a simple direct way of effecting source control.
- Please present the estimated contaminant loading into marine waters and sediment for each alternative. Without this information it is difficult to make an informed choice of which method is better. The loading of contamination into the environment is key to choosing a cleanup.
 - The amount of contamination should not contribute to sediment contamination above the cleanup screening level for any contaminant or sediment cleanup objective for any bioaccumulative contaminant, nor above the water quality standard for the most restrictive use. Please conduct this exercise for loading from:
 - Groundwater
 - LNAPL
 - Soil
- The descriptor on page 9-23 was not sufficient to explain why hydraulic dredging would not be considered. A note was made that an upland proximal area would be needed for dewatering; is not a portion of the GP West site available?
- We urge you to consider full removal of the upland contamination. As stated on page 9-45, all of the upland methods, except for complete removal, will only meet the conditional point of compliance for groundwater contamination. There was a

reference to the fact that the timeframe for restoration is not considered by law to be reasonable. Please expound on this.

- o We are concerned that a lot of money will be paid for a cleanup that only does part of the job, does not meet compliance standards, and puts the marine ecosystem and people who consume fish at risk.
- In order to better meet the timeliness of restoration, why were a combination of methods not considered? For example, how much contamination would pump and treat of LNAPL, permeable reactive barrier (PRB) plus solidification remove and in what timeframe? As the Department of Ecology has taught us in stormwater issues, rarely will one BMP work alone, a combination of BMPS is often more effective to remove contamination.
- We are concerned about the values used for cleanup standards for bioaccumulative chemicals. It is stated that the value used for the amount of fish and shellfish consumed was 61.9 g/ day for shellfish and 7.8 g/day for fish, based on information from the Tulalip Tribe, as recorded in Ecology's Fish Consumption Rate document (2013). This information while valuable, is not most relevant at this site
 - o The people most likely to use this area are the Lummi Tribal members and in the absence of any specific fish consumption data for the Lummi, we believe you should use the currently accepted fish consumption rate of 175 g/ day. This rate, derived as part of the water quality standards revision, represents a more realistic consumption rate, and does not include the upper end of fish consumption by tribal people, nor does it account for suppression of fish consumption due to contamination and/or poor harvest.
 - o It is not acceptable to have one fish consumption rate for water quality and one for sediment cleanups. The rate is the rate; please instate it here.
- We urge you to dispose of sediment off site.
 - o This option appears to not have been considered for options S1 through S4.

- o Leaving the contaminated sediment on-site represents leaving a leachable source of contamination on site that could be removed. In the face of sea level rise, we believe this represents a poor decision
- Sea level rise as a forthcoming reality does not appear to be figured into the cleanup options to any great extent.
 - o Page 4-7 states, "Flooding, storm surge and tsunamis can increase tidal elevations in Bellingham Bay locally and Baywide. In addition, there is a potential for sea level rise in the future due to global climate changes. These factors are discussed below in relation to the Haley Site and are considered in the FS evaluation of remedies." What follows is an additional 4 scant paragraphs of predictions, with no mention of sea level rise in the FS or of how the remedies will address sea level rise.
 - o We do not want the contaminants in the sediment to be inundated through sea level rise, extreme flooding or wave action or to leach into the marine environment. Please address how each of the remedies address sea level rise and include this assessment into the disproportionate cost analysis.
- An important purpose of the low-permeability upland cap described in the preferred alternative is to effectively reduce/eliminate stormwater infiltration into the upland area. The FS states in several places that "improved upgradient drainage controls will serve to reduce stormwater infiltration along the BNSF right of way". However, the BNSF area is designed to effectively promote drainage.
 - o How can stormwater infiltration be reduced without removing or altering the tracks, in an area that is not owned by the City?
- We see infiltration into the site as an issue that should incorporate an area much larger than the BNSF area. Currently there are only two stormwater mains and very few catch basins that drain the area adjacent to the site. Because of the lack of drainage facilities near and above the site, one must surmise that the surrounding land is very permeable. Because the site lies at the base of a sandstone bluff, we feel it is susceptible to a large quantity of seepage from the expansive area above, which includes the wooded South Bay trail, a neighborhood, and the Forest and Cedar Neighborhood park, WWU and Sehome Hill.

- o To avoid stormwater infiltration into the site, the City should plan to install improved upgradient drainage controls in a much larger area than the BNSF right of way, so that infiltration into the site is indeed reduced.