

**Bennett Consulting, PLLC**  
**Engineering and Mining Geology**

August 23, 2013

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Project No. GBC 11-08

AUG 26 2013

Ann Mueller, Senior Planner  
City of Covington  
16720 SE 271<sup>st</sup> Street  
Covington, WA 98042-4964

CITY OF COVINGTON

Subject: Hawk Property Planned Action DEIS

Dear Ms. Mueller

I was asked by the Northern Gateway Alliance of Seattle to review the above referenced EIS with regard to the suitability of constructing residential and commercial developments over modified land. Specifically my concern is with the proposed plans to place occupied structures atop mine backfill soils used to reclaim the Lakeside gravel pit. I am a licensed engineering geologist in the State of Washington (License No. 550) and have more than 20-years of experience with mine reclamation of soil backfilling.

In Section 3, page 4, the last sentence of first paragraph states "*Future development on the site would therefore be constructed on modified land,*" meaning land that has been modified by mining and backfilling. On the same page, under the first paragraph of the Geologic Hazards section, in reference to mine backfill areas it is stated "*These areas may not be suited for development consistent with public health and safety concerns without conducting specific studies during the design and permitting process.*"

In Section 3, page 5, in the first paragraph of the Seismic Hazards section it is stated "*Potential seismic hazards include soil liquefaction and ground rupture.*" In the section paragraph of this section it is stated "*...reclamation backfill conditions will govern the actual hazard potential across much of the site. Consequently, the fill soils at the Hawk Property Subarea site could affect the level of earthquake ground shaking felt in the area*"

The attached aerial photograph shows the extent of the Lakeside gravel pit as it looked in 2002, with the proposed Hawk Property subarea plan as proposed in July 2013. As seen on this aerial photograph much of the proposed commercial retail and high density residential developments are planned for areas that either were, or currently are gravel pit lakes. It is my understanding that in some areas the depth of these lakes exceeds 80-feet. It is also my understanding that the soil used to backfill these lakes is undocumented and that mining and backfilling at this site has been on-going since the 1970's.

In my opinion the backfilled lakes that are proposed in this DEIS are at a high risk for liquefaction during even moderate seismic events. While it may be argued that there are engineered solutions to mitigate such hazards, in my experience such solutions would be so prohibitively expensive as to make this proposed development uneconomical. Therefore I urge you to seek a different subsequent land use for this depleted mine site, rather than commercial and residential development. Thank you.

Sincerely,

A handwritten signature in blue ink that reads "George H. Bennett". The signature is written in a cursive style with a long, sweeping underline.

George H. Bennett LEG

Exhibit - 1 -

Proposed Hawk Property Land Use Plan Aerial Overlay

