



Oregon

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via electronic delivery (email)

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Re: Pile Memorandum Re Fuel Facility Improvements
Portland International Airport/ECSI# 3324
PDX Bulk Fuel Tanks/ECSI# 5848

Thank you for providing the July 26, 2024 memorandum titled PDX Fuel Facility Improvements (memo). The document, prepared by Burns & McDonnell, responds to DEQ Cleanup Program concerns about the potential for piling work in the vicinity of the existing PDX Fuel Facility to displace/mobilize petroleum and PFAS contamination in soil and the water table aquifer, potentially resulting in contamination being introduced to the underlying Columbia River Sand Aquifer. DEQ concerns are outlined in our July 2024 comments on the draft *Contaminated Media Management Plan* (CMMP) prepared by Burns & McDonnell on behalf of the PDX Fuel Company and dated June 27, 2024 (Revision Draft).

As requested by DEQ, Burns & McDonnell provided additional information in the memo to support their conclusion that the potential for cross-contamination is low. Specifically, page 3 text concludes that “CFSP piles, comprised of impermeable steel, filled with low-permeability concrete, and installed radially, are considered low risk by BMcD and best practice for the scenario described.”

DEQ observations and conclusions/recommendations are presented below. Portland Water Bureau comments (submitted to DEQ on August 13, 2024) are presented as an attachment to this letter.

DEQ Observations:

- There is no specific discussion of contaminant conditions in the area proposed for piling installation, where PFAS concentrations in groundwater are high (in close proximity to the locus of historical fire training), and petroleum is also expected to be present. Petroleum and PFAS mobility are generally regarded as medium to high.
- Analysis would benefit from the discussion of geological and hydrological conditions in the planned installation area, including the relevance of grain size, confining units,

vertical groundwater gradients, etc. to potential “drag-down” of contamination and creation of flow channels. To the extent that geotechnical assessment has already been completed to support deep pile design, we request that this information be provided to DEQ.

- It is unclear whether there is any significant potential for piles to fail or be damaged during emplacement, which might allow for cross-contamination.
- Environmental literature cited in the memo is very limited and does not consider site-specific conditions. Nor is there discussion in the memo of the large number of piles, density, depth, and other factors that may be relevant to cross-contamination.

DEQ Conclusions/Recommendations:

- We understand and appreciate the requirement for seismic stability measures for planned above-ground fuel tank construction at PDX, consistent with DEQ’s Fuel Tank Seismic Stability Rule. We further acknowledge that the planned pile construction/installation method has many advantages over other methods in reducing the potential for exacerbation of existing contaminant conditions. However, based on the information provided and acknowledging existing soil and groundwater contamination and the magnitude of proposed work (> 400 18” piles to 130 or more feet below ground surface), we cannot confidently conclude that exacerbation will not occur. Given the importance of the CRSA as a drinking water source, we recommend both monitoring and precautionary measures (see below).
- We recommend that monitoring of the Overbank Deposits and Columbia River Sand Aquifer be completed in association with piling work to confirm that exacerbation has not occurred. This recommendation is in alignment with the literature cited in the memo and recommendations from the Portland Water Bureau (attached), DEQ, and the Port of Portland. Ideally, monitoring well installation and sampling would be completed *prior* to the start of project work, and continue through a to-be-determined period after completion. Similar monitoring is being performed by the Port in association with the PDX terminal expansion project, where deep piling work is also being completed and the potential for exacerbation lower.
- Other QA/QC measures available to mitigate exacerbation or mobilization of contamination, such as those described in the literature cited in the memo, should be considered and implemented to the degree feasible.

Please contact me at (503) 229-5417 or dan.hafley@deq.oregon.gov if you have questions or wish to discuss our comments.

Respectfully,



Daniel Hafley, Hydrogeologist
Northwest Region Cleanup Section

Att: Portland Water Bureau comments

Ec: Sarah Van Glubt, DEQ Cleanup
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Cc: ECSI# 3324 and 5848