

MEMORANDUM | July 28, 2022

TO Kevin Dana and David Lacey, Oregon Department of Environmental Quality (DEQ)

FROM Peter Shanahan, HydroAnalysis LLC (HALLC); Jennifer Hart and Gail Fricano, Industrial Economics, Inc. (IEc)

SUBJECT Five Tribe review of “Basis of Design Report, Riverbank Source Control Measure, Crawford Street South Site,” dated June 10, 2022

This memorandum, submitted on behalf of the Five Tribes,¹ reviews the *Basis of Design Report, Riverbank Source Control Measure, Crawford Street South Site* (BODR) prepared by GeoEngineers on behalf of the Crawford Street Corporation (GeoEngineers 2022).

GENERAL COMMENTS

1. The BODR includes only limited references to EPA’s Remedial Design Guidelines and Considerations, Appendix D, Guidance for Riverbank Characterizations and Evaluations (EPA 2019), which was developed with DEQ to provide unified guidance for river bank remedial design in the Portland Harbor Superfund Site (PHSS). We recommend that the BODR more closely align with EPA and DEQ’s guidance for Joint Source Control Strategy (JSCS) river banks, as described in EPA (2019).
2. EPA (2019, Figure 2) shows the Crawford Street river bank as a recreational beach. The BODR states that future site use may include high-density housing, light commercial mixed use, and a bicycle pedestrian path along the river (GeoEngineers 2022, page 5). Intended future site uses and their corresponding exposure pathways (e.g., recreational beach users, residential users) are an important aspect of remedial design. We recommend the acceptable risk levels, as they direct the extent of remedial action necessary to achieve a protective cleanup, be discussed further in the BODR.
3. The discussion of future site use in Section 2.3 states that “Planned future use would require a stormwater management system that meets present day criteria, which would preclude discharge of stormwater containing COCs at concentrations of concern to the Willamette River.” We are aware that the current property owner is currently developing an interim stormwater source control measure for the upland site. We recommend the BODR include a detailed assessment of upland sources of contamination that demonstrates that sources

¹ The five tribes are the Confederated Tribes of the Grand Ronde Community of Oregon, the Nez Perce Tribe, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Reservation of Oregon.

will be adequately controlled prior to initiating remedial action in order to limit the potential for recontamination.

4. GeoEngineers (2022, page 1) lists an objective of the BODR as “refinement of the conceptual site model (CSM)”; however, no CSM is clearly identified in the BODR. We recommend that the report include a detailed CSM for the upland site and a discussion of how the CSM has been refined for remedial design.
5. Chemicals of concern (COCs) are identified as polychlorinated biphenyls (PCBs), total polyaromatic hydrocarbons (PAHs), and two dioxin/furan congeners (HxCDF, PeCDD) (GeoEngineers 2022, page 12). This list omits metals, several of which are frequently detected at concentrations exceeding PHSS cleanup levels (CULs). Table 7 lists metals concentrations detected on-site and highlights that CULs for several metals are exceeded across the site. As one example, the CUL for lead is 196 mg/kg, a concentration that is exceeded in 15 samples listed in Table 7 with a peak concentration of 3510 mg/kg, which is 18 times the CUL. We recommend that the BODR identify metals as river bank COCs and discuss the remedial actions that will be taken to address concentrations in excess of CULs. The chemical isolation measures discussed by GeoEngineers (2022, page 29) are unlikely to be effective in isolating metals.
6. The final paragraph of Section 6.3 (GeoEngineers 2022, page 25) appears to identify the preferred remedy but does not state so explicitly. We recommend that the preferred remedy be clearly identified and described.
7. Figure 18 shows that soils at sampling locations XS2-50 and XS3-51 are contaminated by multiple constituents and Figure 3 shows that these locations are adjacent to but not included in the “Black Sand Removal Action Extent.” The BODR is ambiguous as to which sediments, if any, will be removed and the criteria that will dictate removal. The figure annotations imply that sediments will be removed based on visual identification of black sand. The measured concentrations show that visual identification alone would be inadequate. More generally, we recommend that the BODR clearly identify the criteria that will be applied to identify sediment to be removed, and show those areas, at least conceptually, in a figure. Figure 19 shows a conceptual cross section of the remedy but does not include removal. We recommend that a conceptual plan map also be included in the BODR.

EDITORIAL COMMENTS

8. Many of the documents cited in the text are not included in the list of references.
9. There are typographical issues with Figure 19; many of the labels have letters missing and are in some instances unintelligible.

REFERENCES

- GeoEngineers. 2022. Basis of Design Report, Riverbank Source Control Measure, Crawford Street South Site, Portland, Oregon. GeoEngineers, Portland, Oregon. June 10, 2022.

U.S. Environmental Protection Agency (EPA). 2019. Guidance for Riverbank Characterizations and Evaluations. U.S. Environmental Protection Agency Region 10, Seattle, Washington. December 23, 2019.