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SUPERFUND &
EMERGENCY
MANAGEMENT DIVISION

MEMORANDUM

DATE: October 17, 2022

SUBJECT: Source Control Evaluation Basis of Design Report
Crawford Street Site, Portland, OR
ECSI #2363
June 10, 2022

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TO: Kevin Dana
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Following are the United States Environmental Protection Agency's (EPA's) comments on the Source Control Evaluation Basis of Design Report (SCE BODR) for the Crawford Street Site (Site) prepared by GeoEngineers on behalf of Crawford Street Corporation (CSC) and Steel Hammer Properties, LLC (Steel Hammer. The approximately 11-acre Site is on the east side of the Willamette River, just upstream of the St. John's Bridge, located at 8424 N Crawford St., Portland, Oregon at approximate river mile 6.3 east (RM 6.3E). The site is adjacent to two Portland Harbor Superfund Site (PHSS) project areas: Cathedral Park and Willamette Cove. Both project areas have in-water sediment management areas (SMAs) to remediate PCBs, dioxins/furans, PAHs, and metals in sediment that border the proposed Crawford Street Riverbank source control measure. The site is listed in the Oregon Department of Environmental Quality's (DEQ's) Environmental Cleanup Site Information (ECSI) database as #2363. The site was historically used for industrial activities including metal forging, wood reclamation, and steel storage. The property is currently vacant and has redevelopment plans for commercial and residential use.

EPA understands the objective of the SCE BODR is to identify the information necessary to design the Riverbank Source Control Measure (RSCM) to stabilize the riverbank. EPA appreciates that the SCE BODR acknowledges the need for coordination with adjacent in-water project areas.

EPA's comments are categorized as "Primary," which identify concerns that must be resolved to achieve the objective; "To Be Considered," which, if addressed or resolved, would reduce uncertainty, improve confidence in the document's conclusions, and/or best support the objectives; and "Matters of Style," which substantially or adversely affect the presentation or understanding of the technical information provided in the document.

Primary Comments

1. **Section 4 Nature and Extent of COCS in Riverbank Soil, page 12:** The section related to PCBs should discuss the undefined depth of PCB exceedances at XS11-30-N and that the PCBs are not bound laterally towards the top of bank at the existing parking area. The BODR should discuss how these data gaps will be addressed, and identify what related design studies, if any, are needed to fill these data gaps to inform the remedial design.

2. **Section 4 Nature and Extent of COCS in Riverbank Soil, page 13:** The section related to PeCDD should discuss the undefined depth of exceedances at XS1, XS11, XS3, XS5, XS7, XS8 and XS10. Additionally, lateral extent of contamination has not been defined at XS1, XS11, XS3, XS7, and XS2. Figure 5 demonstrates the conclusion that contamination exists between adjacent transects but does not discuss the lateral extent of contamination beyond the outer edge transects. The BODR should discuss how these data gaps will be addressed and identify what related design studies, if any, are needed to fill these data gaps to inform the remedial design.

3. **Section 4 Nature and Extent of COCS in Riverbank Soil, page 13:** The section related to Total PAHs should discuss the undefined depth of PAH exceedances at XS3 the fact that the lateral extent of contamination has not been defined at XS1, XS11, XS2, XS3, and XS7 and 8. Additionally, the area east of XS8, XS14, and XS9 is not delineated laterally towards the parking area (shown on Figure 8). The BODR should discuss how these data gaps will be addressed and identify what related design studies, if any, are needed to fill these data gaps to inform the remedial design.

4. **Section 8.1 Flood Rise Evaluation, page 28:** Section 8.1 describes the flood rise evaluation planned for use at Crawford Street. The US Army Corps of Engineers (USACE) has recently developed a new HEC-RAS flood rise model for use at the Portland Harbor site. The model has been reviewed by the City of Portland and the Federal Emergency Management Agency (FEMA) and meets the requirements of a Corrected Effective Model. EPA is providing this new model to in-water project designers and will provide it to the Crawford Street design team.

To Be Considered Comments

1. **Section 5.1.4 Use of Green Remediation Practices, page 16:** EPA is supportive of green remediation practices being implemented at this site. EPA recommends a revision to the text to specify when the green remediation plan will be drafted during the design process. A clearer sense of timing is important for review and to verify elements that apply to RD data gathering activities are applied in a timely fashion.

2. **Section 5.2.2 Future Land Use, page 19:** Appendix D, Figure 2 of the RDGC (EPA, 2021) shows a recreational beach in the Crawford Street project area. This section should describe the future use of a possible recreational beach following construction of the riprap cap/revetment.

3. **Section 5.3.1 Groundwater Pathway, pages 19 and 20:** This section, or another new sub-section, should discuss the groundwater to surface water pathway and riverbank seeps which showed exceedances of groundwater criteria. The assessment of the groundwater pathway should include

the current stormwater infiltration and future use of the property that may include stormwater infiltration basins.

4. **Section 6.2.5 Habitat Considerations, page 24:** This section mentions habitat features that could be enhanced as part of the project mitigation plan. Revise the section to clarify the components of the project mitigation plan and the schedule for its development and note that the project area resides within critical habitat for salmonid species (as described in the ROD and PBA).

5. **Section 8.4.1 COCs to be Evaluated, page 29:** Chemical isolation modeling will need to demonstrate that the cap can contain contaminant concentrations in the top 30 centimeters of the cap below the Table 17 CULs for a design period of 100 years. Therefore, all Table 17 contaminants with sediment and groundwater CULs should be evaluated.

6. **Section 8.4.3 Model Inputs, page 30:** EPA does not recommend using average COC concentrations for cap design. An upper bound estimate such as the 90^{th} percentile should be considered for cap design. The COC concentration dataset should be statistically evaluated further to confirm that use of the proposed concentrations is adequate for design.

7. **Figure 17 Series:**

    a. Anticipated Leave surface: The green anticipated leave surface in some sections is above the existing ground surface on the beach area. The leave surface in areas where the proposed plan is not showing a remedy would be the existing ground surface not the 3H:1V projection of a conceptual slope. As a result, over steepened slopes approximately 1.5H:1V appear to be present on figures (See figure 17b). Clarify that the excavation cuts provided will be assessed for stability and/or that the existing ground will be backfilled with clean fill in areas where the existing conditions may not have any dredging.

    b. Non-Perpendicular Transects: In the 30% design, provide a plan that consists of perpendicular transects to the slopes to allow for review of constructability and stability basis.

    c. A top of cap/habitat surface should be added to each of the figures to assess how the design concept will meet requirements in the RDGC related to shallow zone habitat.

    d. The figures in this series should indicate the soil/sediments concentrations for other COCs in addition to PCBs (e.g., similar to Figure 18). The current figures depict only PCBs, making it difficult to determine which areas contain other COCs above CULs, RALs, and PTW thresholds. Identifying the depth of contamination at each core location (based on data from all COCs) along the section would clarify the approach and allow for more complete review of conceptual cap design.

    e. Cross sections should clearly depict each of the river regions (Shallow, intermediate and Riverbank) as defined in the ROD and discussed in the RDGC and the Appendix D for riverbank guide (RBG). Adding callouts or extents lines to indicate each of the regions would improve clarity.

f. On Figure 17a, cross section XS1 depicts an armored toe in the shallow zone adjacent to PTW exceedance at location XS1-TOE-S. The SCM must be compatible and consistent with any remedy needed to address PTW contamination at XS1-TOE-S and any adjacent shallow zone action. Therefore, the design of the toe support must consider probable impacts to the surrounding sediments for geotechnical stability. A baseline assumption for the PHSS Selected Remedy is that dredging to a depth of 5 feet will occur adjacent to the reinforced toe and that scenario must be factored in the design and stability modeling assumptions.

Matters of Style Comments

1. **Section 5.1.4 Use of Green Remediation Practices, first sentence, page 16:** Recommend revision of the first sentence to state "The RBSCM design process will be performed to meet the goals associated with green remediation documented in the RDGC (EPA 2021) and the ROD Section 14.2.12."

2. **Section 6.2.3 Remnant Piles, page 23:** Revise this section to note that the programmatic biological assessment (PBA) requirements will be superseded by the Programmatic Biological Opinion (i.e., use "as required by the PBA or Programmatic Biological Opinion once issued.")

3. **Figures 3-16**: Recommend the addition of riverbank features such as Top of bank, OHW, and MLW to these figures for clarity.

References

EPA, 2021. Remedial Design Guidelines and Considerations (RDGC). Portland Harbor Superfund Site. April 23, 2021.

EPA. 2017. Record of Decision, Portland Harbor Superfund Site, Portland Oregon. U.S. Environmental Protection Agency Region 10, Seattle, Washington.

CDM Smith. 2016. Portland Harbor RI/FS, Feasibility Study. Prepared for the U.S. Environmental Protection Agency Region 10, Seattle, Washington.