UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3123

SUPERFUND &
EMERGENCY
MANAGEMENT DIVISION

MEMORANDUM

DATE: July 15, 2021

SUBJECT: Source Control Evaluation Work Plan
Crawford Street Site, Portland, OR
ECSI #2363
May 07, 2021

FROM: Benjamin Leake, PMP
Remedial Project Manager

TO: Kevin Dana
Cleanup Project Manager
Oregon Department of Environmental Quality

Following are United States Environmental Protection Agency's (EPA's) comments on the Source Control Evaluation Work Plan (SCE WP) for the Crawford Street Site (Site), prepared by Cascadia Associates, LLC. 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 approximately river mile 6.3 east (RM 6.3E). The site is listed in the Oregon Department of Environmental Quality's (DEQ's) cleanup program as ECSI #2363. The site is used for industrial activities including metal forging, wood reclamation, and steel storage. The property has redevelopment plans for commercial and residential use.

EPA understands the objective of the SCE WP is to summarize work conducted to date, refine the conceptual site model (CSM), identify data gaps, and define the scope of work to fill the identified data gaps. The SCE WP considers the potential completeness of the river bank, stormwater, and groundwater source control pathways.

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.

A comprehensive review of Appendices D through S was not performed at this time. EPA reserves the option to review these documents at a later date and comment, as necessary, on their contents in regard to ongoing source control at the Site.

Primary Comments

1. Stormwater Assessment: The stormwater source control assessment should consider all contaminants with Portland Harbor Superfund Site Record of Decision (ROD) cleanup levels (CULs) for surface water (EPA 2017). Historical data provides much of the chemical characterization data needed for this assessment; however, there are no stormwater data for DDx despite historical exceedances of the CULs and Remedial Action Levels (RALs) in other media at the site. EPA understands that the planned stormwater assessment will not include analytical sampling at this time, but the lack of stormwater DDx data should be acknowledged as a data gap which may need to be filled at a later date.

2. Section 4.1.3 Summary of River Bank Pathway Data Gaps: Given that the proposed sampling is limited to depths around the expected leave surface, the vertical delineation of COCs exceeding PTW thresholds, required by Section 4.1.2 of the River Bank Guidance, is considered a data gap for informing design decisions. EPA acknowledges that the scope of work is intended to complete characterization of the leave surface and understands that the river bank source control measure (RBSCM) will be designed so that visible black sand fill will be removed prior to or during the layback. However, EPA expects that the vertical extent of contaminants exceeding PTW thresholds that continue below the leave surface be bounded in order to inform the RBSCM design and to ensure consistency with the Portland Harbor Superfund Site ROD and the Remedial Design Guidelines and Considerations. Given the heterogeneity of the bank fill, delineation of continuous RAL exceedances extending below the leave surface should be considered to better inform the RBSCM design.

   The second paragraph of this section should be revised to state that the objective of this work plan is characterization of the leave surface, rather than complete characterization of the entire river bank. The vertical extent of contaminated material left in place beneath the leave surface will remain a data gap until bounded. EPA recommends vertical delineation of PTW exceedances be completed prior to bank layback. This will allow for a more streamlined and strategic approach for any necessary removal of continuous PTW exceedances and black sand fill.

3. Section 4.3.3 Summary of Stormwater Evaluation and Identified Data Gaps: Polychlorinated biphenyls (PCBs) data in stormwater should be identified as a data gap. The PCB results shown in Table 13 indicate that laboratory reporting limits are orders of magnitude higher than the surface water CUL; therefore, there is no way to confirm whether the non-detect results are below the CUL. PCB congener analysis should be conducted to chemically characterize site discharge, which is the analytical approach performed for other PHSS work.

4. Section 5.1 Sampling to Characterize Launchable Toe Leave Surface: EPA recommends analysis of the deeper sample at each location for dioxins/furans regardless of the results of the shallower samples. The surface sediments are dynamic, and therefore not a conclusive measure of likely contamination in the subsurface.

To Be Considered Comments

1. Section 3.4 Potentially Complete Source Control Pathways, Erosion of Riverbank Soil: The discussion about the Erosion of Riverbank Soil pathway is too limited in scope and detail. This section should be supplemented with a brief summary of the RBSCM meant to control this pathway and a brief overview of the plan to complete leave surface characterization. This section should have a similar level of detail to the discussion of the other potential pathways.

2. Section 4.3.1 Stormwater Drainage: Rationale should be provided for the statement, "The Site grade has likely changed since the stormwater drainage basins and discharge locations were mapped." The Site history provided in Section 2.2 does not indicate that any changes were made to site topography. Based on the Site history, it appears that information collected during the 2007, 2012, and 2013 stormwater assessment reports in Appendix O could be used to support the SCE.

3. Section 4.3.2 Stormwater Characterization Data:

    a. Stormwater Sampling: EPA recommends that the following text be removed: "screening Site stormwater data that may never discharge to the river against ROD CUL and JSCS SLV likely overestimates the risk to the river." Comparing site analytical data to screening levels is one line of evidence to assess risk and is not, alone, considered a risk assessment. The text is misleading, as the comparison to ROD CULs and JSCS SLVs, where no CUL is established, is an important consideration when developing the CSM.

    b. SW-1 Discharge from Basins A: EPA disagrees with the conclusion that the 2007/2008 data is more representative of stormwater because there were less total suspended solids (TSS) in the discharge. The misleading text should be justified or removed, and all available data should be considered in the source control evaluation. Changing flow patterns and storm event characteristics may also impact TSS concentrations, and TSS removal is often used as a design parameter as a surrogate for contaminants.

4. Section 5.3 Stormwater: The SCE WP should provide additional detail describing the visual observations to be performed, type of data to be collected, documentation required, and limitations to this approach. For instance, the text states that observations will be used to confirm the volume of stormwater runoff that would need to be addressed through an interim source control measure (ISCM). However, there is no discussion of flow measurement methods, required equipment, or quality control. This section should be revised to describe the type of data needed to initiate the ISCM Work Plan and the specific protocols to be followed for collecting this data to meet necessary quality standards.

5. Appendix A Quality Assurance Project Plan (QAPP): The QAPP should include a section that discusses the data summation methods used to calculate total PCBs, PAHs, cPAHs, dioxins/furans, DDx and chlordanes. Tables should include notes to clearly show how individual analytes are summed in the calculation of totals. Providing a discussion in the text and tables to clearly demonstrate the calculations used to sum analytes is helpful for the reader/reviewer of the report, improves the data quality objectives (DQOs), and allows for a meaningful comparison of the results

with the CULs. For detailed summation rules, refer to the *Program Data Management Plan* (EPA 2020).

6. Appendix B Riverbank Sampling and Analysis Plan: EPA recommends using one (1) foot sampling intervals to correspond with standard practice in the Portland Harbor Superfund Site. Surface samples should be taken in a 0-1' interval, and subsurface sample intervals should be taken in a 1'-2' interval. This will allow the RD at Crawford Street to effectively integrate with the RD at the Cathedral Park and Willamette Cove In-Water Project Areas.

7. Appendix C Groundwater Sampling and Analysis Plan, Section 3.3 Well Installation: If a direct push technology (DPT) drill rig is used to install the proposed monitoring wells, EPA strongly suggests that at a minimum, 2-inch diameter wells be constructed using pre-pack screens to achieve a higher degree of confidence in proper well construction. Due to the limited annular space when installing monitoring wells using a DPT drill rig, placement of the sand filter pack using conventional means with a slotted PVC screen is difficult to control and monitor and there is a high likelihood that well constructions may be compromised. Additionally, given the nature of the lithology of the alluvium at the target depth of installation, flowing sands in the saturated zone may cause the borehole to collapse and prevent the well screens from being installed at the desired depth interval. The use of conventional drilling and well installation methods using a hollow stem auger drill rig should be considered in order to achieve a higher degree of confidence that the objectives of groundwater monitoring well installations will be achieved.

Matters of Style Comments

1. Section 4.3.2 Stormwater Characterization Data, SW-2 Discharge from Drainage Basin A: The first sentence states, "Three stormwater samples were collected from discharge location SW-2 between April ***2017*** and March 2013" (***emphasis added***). It appears that the sentence should be revised to indicate April 2007.

2. Figure 5 Geologic Cross Section A-A': The figure should include a note indicating that a dashed line represents an inferred contact.

References

EPA. 2017. *Record of Decision Portland Harbor Superfund Site Portland, Oregon*. January.

EPA. 2020. *Program Data Management Plan, Portland Harbor Remedial Design Investigation – Portland Harbor Superfund Site. U.S. Environmental Protection Agency Region 10, Seattle, Washington.* August. Data Management Plan is available on the PH Environmental Data Portal at this public link: http://ph-public-data.com/document/PHIDB2020/

EPA. 2019. *Guidance for River Bank Characterizations and Evaluations at the Portland Harbor Superfund Site.* September.

EPA. 2021. *Remedial Design Guidelines and Considerations*. April.