

# Response to Oregon DEQ Comments

## Stormwater Source Control Evaluation Report – Final, Terminal 4 Slip 1

### December 2024

| ID No.               | Section Name/Topic | Oregon DEQ Comment (9/8/2024)                                                                                                                                                                                                                                                                                                                                           | Port Response (12/6/2024)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| 1 – General Comments | General Comments   | Please provide a table presenting the screening level values (SLVs) and the concentrations equivalent to 10X the SLVs used for comparison and referenced in the Stormwater SCE. Alternatively, the SLVs could be added to the summary tables presenting data for the stormwater samples.                                                                                | The Acronyms and Abbreviations list has been updated to clarify that the term SLV refers to the SLVs provided in the Joint Source Control Strategy report (DEQ and EPA, 2005) <sup>1</sup> , while the term CUL refers to the ROD Table 17 CULs (EPA, 2017 <sup>2</sup> and relevant Errata <sup>3,4</sup> ). This is also stated in Section 2.5. A table of SLVs, 10x SLVs, CULs, and 10x CULs has been added as the first table in the new Appendix F – Comparison Tables for Recent Stormwater SCE Efforts (2020 – 2024). |
| 2 – General Comments | General Comments   | Please revise the Stormwater SCE to include stormwater data for all Slip 1 basins collected during the period of 2020 to 2024 (i.e., basins N, O and P). Having all of the recent stormwater data in a single document will facilitate preparation (and review) of the future source control decision. The Port can add the 2020 to 2022 data to existing tables in the | Appendix F has been added, which contains all stormwater data collected at T4 since 2020.<br><br>To clarify, Appendix A contains all representative stormwater data for all Slip 1 basins collected since 2020 (L, N, O, P, Q, and S). 2023-2024 data for Basins O and S was inadvertently left out of this table as well as the rank order plots, but has been added in both locations. Appendix F                                                                                                                          |

<sup>1</sup> DEQ and EPA, 2005. Portland Harbor Joint Source Control Strategy. Final. December.

<sup>2</sup> EPA, 2017. Record of Decision Portland Harbor Superfund. US EPA Region 10, Seattle. January.

<sup>3</sup> USEPA, 2018. Memorandum to: Portland Harbor site file. From: Sean Sheldrake, Remedial Project Manager, Office of Environmental Cleanup. Regarding: Errata for Portland Harbor Superfund Site Record of Decision, Version 1.0. April 3, 2018.

<sup>4</sup> USEPA, 2020. Memorandum to: Portland Harbor. From: Sean Sheldrake, Remedial Project Manager, Office of Environmental Cleanup. Regarding: Errata #2 for Portland Harbor Superfund Site Record of Decision ROD Table 17. January 14, 2020.

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|                      |                  | Stormwater SCE or add the data as separate tables. In addition to the Joint Source Control Strategy SLVs (General Comment 1), please also add the Portland Harbor Record of Decision Table 17 cleanup levels (CULs) to the tables for screening.                                                                                                                                                                                                                     | contains all stormwater data collected by the Port since 2020, which includes both data that is representative of current conditions and data that is no longer representative of current conditions.                                                                                                                                                                                                                                 |
| 3 – General Comments | General Comments | Where detected concentrations of contaminants of interest (COI) in stormwater exceeded SLVs, the range of exceedance ratios should be discussed. DEQ acknowledges this information is provided for 2023-2024 stormwater data for basins O and S in Section 5.3.2 and associated subsections; please also provide this information for the 2020 to 2022 stormwater data presented in the December 2022 <i>Stormwater Evaluation Report</i> (see General Comment 2).   | <p>Ten times SLV exceedances are discussed for most other basins in Section 2.5. Exceedance ratios were added to the discussion where applicable. (Note: the term Exceedance Factor, EF, is used in this report, but is the same as exceedance ratio). EFs for CULs were also added to Section 2.5.</p> <p>In addition, tables showing the range of SLV and CUL EFs for all 2020-2024 data are provided at the end of Appendix F.</p> |
| 4 – General Comments | General Comments | Additional data evaluation should be provided for the dioxin/furan stormwater samples data to strengthen the conclusion that the site is not a source of dioxins/furans to sediment in the Terminal 4 Project Area. To support this conclusion please include additional lines of evidence, such as comparing the stormwater results to the now-available rank order charts presented in Appendix E: Tool for Evaluating Stormwater Data, and comparing dioxin/furan | <p>Stormwater data for detected dioxins and furans have been plotted on the now-available rank order curves, which have been added to Appendix B.</p> <p>A comparisons of dioxin and furan congeners detected in sediment as compared to those detected in stormwater was included in the T4 Sufficiency Assessment Report<sup>5</sup>. The conclusion of that comparison was that the</p>                                            |

<sup>5</sup> Anchor QEA, Geosyntec, and Apex, 2022. Sufficiency Assessment: Terminal 4 Remedy. Prepared for US EPA on behalf of the Port of Portland. 4 March.

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|                       |                              | congeners detected in stormwater to the dioxin/furan congeners detected in sediment adjacent to the outfall. DEQ's Guidance for Evaluating the Stormwater Pathway at Upland Sites and supporting information can be found at the following website ( <a href="https://www.oregon.gov/deq/hazards-and-cleanup/env-cleanup/pages/stormwater-guidance.aspx">https://www.oregon.gov/deq/hazards-and-cleanup/env-cleanup/pages/stormwater-guidance.aspx</a> ).     | congener fingerprint of dioxins and furans in stormwater is not similar to that found in T4 sediments. This finding has been added to Section 3.2.                                                                                                                            |
| 5 – General Comments  | General Comments             | The specific ongoing O&M requirements should be summarized for each basin where applicable. For example, that would include vegetation management at Basin M and periodic vacuuming for permeable pavement maintenance at Basins M, N and O, etc., for the purpose of maintaining the stormwater quality into the future. In addition, the basins that are covered under the MS4 permit and the ongoing non-structural BMP requirements should be identified. | A summary of ongoing O&M requirements has been added to Sections 4 and 6, where applicable.                                                                                                                                                                                   |
| 6 – Specific Comments | Section 2.1 Site Description | Berth 401 is described in this section as a water-related area. Please label this feature on at least Figure 2                                                                                                                                                                                                                                                                                                                                                | Figure 2 has been revised to include a label for Berth 401.                                                                                                                                                                                                                   |
| 7 – Specific Comments | Section 2.2.2 Outfalls.      | This section states that trench drains in Basin N were found to drain to the sanitary sewer. Please add this information to Figure 3, which shows other areas of the Slip 1 upland that drain to sanitary.                                                                                                                                                                                                                                                    | This information has been added to Figure 3. The trench drains run at the base of a roll top door on either side of a small building, and the pavement is graded to direct most stormwater away from the drains. The building's downspouts also drain to these trench drains. |

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| 8 – Specific Comments  | Section 2.5.2.1 Historical Uses. | Please revise this section to identify the fumigation chemicals used at Slip 1 (i.e., if known).                                                                                                          | <p>Fumigation in Slip 1 predates the Port’s ownership of the terminal (1923-1955). While the exact chemicals that were used are not known, according to the Remedial Investigation<sup>6</sup>:</p> <p>“Prior to the 1940s, pesticides were based on inorganic compounds, including arsenic, mercury, copper, or lead. DDT was invented in 1939, and became widely used after the 1940s. Fumigants used in the 1920s and 1940s include VOCs such as methyl bromide, ethylene dibromide (EDB), 1,3-dichloropropene, and 1,2-dibromo-3-chloropropene (DBCP).”</p> <p>This information has been added to Section 2.5.2.1.</p> |
| 9 – Specific Comments  | Section 2.5.2.2.                 | Please add the range of arsenic in the regional groundwater that is included in the reference in this section.                                                                                            | The regional groundwater concentrations stated in the referenced document (90 <sup>th</sup> percentile 13 µg/L, range 5-15 µg/L) have been added to this section <sup>5</sup> .                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10 – Specific Comments | Section 2.5.3 Basin N.           | Please add discussion to this section indicating if video inspection of the storm sewer lines showed them to be competent and free from breaks. Comment also applies to Sections 2.5.4, 2.5.5, and 2.5.8. | Sections 2.5.3 and 2.5.4 have been edited to confirm video inspection showed storm sewer lines to be competent and free from breaks. The stormwater network in Basin P consists of two catch basins with discharge directly through a short pipe section of less than 5 feet in length, so these were visually inspected only. Section 2.5.8 already discusses issues found with the                                                                                                                                                                                                                                       |

<sup>6</sup> Ash Creek Associates, Inc./Newfields, 2007. Remedial Investigation Report, Terminal 4 Slip 1 Upland Facility. August.

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|                        |                                               |                                                                                                                                                                                                                                                                                                                            | Basin S pipes, but the section has been expanded for clarity.                                                                                                                                                                                                                                                                                                                                                |
| 11 – Specific Comments | Section 2.5.4<br>Basin O.                     | Please provide additional information regarding the contents of the liquid pipeline installed in 2010. Comment also applies to Section 2.5.7.                                                                                                                                                                              | Sections 2.5.4 and 2.5.7 have been revised to clarify that the above-ground liquid pipeline transfers liquid fertilizer UAN 32.                                                                                                                                                                                                                                                                              |
| 12 – Specific Comments | Section 3.1<br>Potential Contaminant Sources. | In addition to near-surface soils in Basins R and S containing PAHs identified as historical sources, please also include discussion of specific areas where pencil pitch is likely still present as residuals in the site soil (i.e., Basin L) and/or in the Slip 1 riverbank.                                            | Potential areas of historic contamination are identified and discussed in the Slip 1 Remedial Investigation Report <sup>6</sup> . The only area of historic pencil pitch handling is Berth 411 (Basin L) and surrounding areas. For additional information, refer to the Remedial Investigation Report. Text in Section 3.1 has been added that identifies the historical handling near Berth 411 (Basin L). |
| 13 – Specific Comments | Section 3.2<br>Outfall Sediment Data.         | In addition to Figure 4, the Stormwater SCE should include a figure showing the current bank conditions and the potentially erodible segments referenced in this section (e.g., Figure 3 Riverbank Physical Characterization Summary from the in-water December 2021 Riverbank Characterization Report or similar figure). | As noted in the comment, this information is provided in the 2021 Riverbank Characterization Report <sup>7</sup> and will be updated and further assessed through the RD in-water activities (supplemental PDI and design deliverables). Therefore, text has been added to Section 3.2 referencing the 2021 riverbank report and in-water RD process.                                                        |
| 14 – Specific Comments | Section 5.3.3<br>Dioxins and Furans.          | To supplement the discussion in this section, the Port should evaluate, as an additional line of evidence, the dioxin/furan congener data using industrial stormwater curves developed by DEQ for Portland Harbor (see General Comment 4).                                                                                 | See response to General Comment 4.                                                                                                                                                                                                                                                                                                                                                                           |

<sup>7</sup> Apex, 2021. Riverbank Characterization Report, Terminal 4 Action Area, Port of Portland, Portland, Oregon. December 9.

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| 15 – Specific Comments | Section 6.1 Basin L.                  | DEQ was made aware of precipitates on the filter bed of the StormwaterRx Aquip treatment system during performance verification monitoring. Please add a brief discussion about addressing the precipitates going forward. | The StormwaterRx Aquip system is owned and operated by the Port’s tenant, Kinder Morgan. Per the 2023 Basin L Annual Report <sup>8</sup> and the recently submitted 2024 report <sup>9</sup> , Kinder Morgan continues to monitor and maintain the system. When prolonged ponding or notable accumulation of solids on the media surface is observed, Kinder Morgan removes it to restore flow rates to design standards. A note to reflect this has been added to Section 6.1. |
| 16 – Specific Comments | Section 7.1.5 Basin P.                | This section erroneously references Basin N. Please revise to reference Basin P consistent with the name of the subsection.                                                                                                | The textual error has been corrected.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 17 – Specific Comments | Section 7.2. Other Lines of Evidence. | The additional basins that require ongoing O&M should be included in this paragraph, for instance the permeable pavement maintenance requirements for Basins M, N and O.                                                   | This section has been expanded, and now also references Sections 4 and 6. Also see response to General Comment 5.                                                                                                                                                                                                                                                                                                                                                               |
| 18a– Specific Comments | Figure 7                              | This figure shows several areas as “No Action Needed”. However, DEQ notes this description is oversimplified because routine BMPs should be implemented across the site to help ensure stormwater quality is maintained.   | This label has been revised to, “Controlled – MS4 Permit and Tenant Agreements in Place; No New Actions Needed”                                                                                                                                                                                                                                                                                                                                                                 |

<sup>8</sup> Maul Foster & Alongi, 2024a. Basin L Stormwater Treatment System Performance Verification Report. Prepared for Kinder Morgan Bulk Terminals, Inc. 1 April.

<sup>9</sup> Maul Foster & Alongi, 2024b. Basin L Stormwater Treatment System Performance Verification Report. Prepared for Kinder Morgan Bulk Terminals, Inc. 1 October.

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|                         |          | Suggest revising the description of these areas to reflect the need for continued BMP implementation. |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 18b – Specific Comments | Figure 7 | Are the areas shown in green part of the Port’s MS4 permit? Please confirm.                           | Yes, all portions of Terminal 4 that are not covered by a different stormwater permit (i.e. tenant-held 1200-Z permit) are covered under the Port’s MS4 permit. The previous label of “Controlled – Approved O&M Plan or Permit in Place” was in reference to 1200-Z permit coverage held by the Port’s tenant Kinder Morgan. The label has been revised to, “Controlled – Approved O&M Plan, MS4 Permit, Tenant Agreement, and/or 1200Z Permit in Place.” |