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MEMORANDUM | November 22, 2023

TO Jim Orr 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 "Storm Water Source Control Evaluation with Source Control Measures Performance Monitoring, Lampros Steel" dated August 28, 2023

This memorandum, submitted on behalf of the Five Tribes,[1] reviews the draft *Storm Water Source Control Evaluation with Source Control Measures Performance Monitoring, Lampros Steel* (SCE) prepared by Evren Northwest, Inc. (ENW) on behalf of Johnson-Lampros Warehouse LLC (ENW 2023).

Substantive Comments

1. The SCE reports complete reconstruction of the stormwater system at the facility in 2021 with new catch basins, stormwater sewers, and an end-of-pipe treatment vault. Comparisons with DEQ (2010) curves for stormwater concentrations at industrial sites in Appendix C show that the new system appears to provide good control and treatment of site stormwater. We agree with the conclusion on page 23 of the report that "Adequate measures are in place to ensure source control and good stormwater management measures occur in the future."
2. On page 8, the report indicates that new catch basins and conveyance lines were installed as part of the Phase I source control measures (SCMs). We recommend that the report describe the construction of these features in more detail, including the type of catch basin installed, the type of conveyance pipe used, how the conveyance lines were constructed, and the depths of the system components (see also Comment #3).
3. On page 10, we recommend that the analysis of potential "Ground water infiltration of the storm water conveyance system" and "Ground water migration through utility corridors" be supported with additional information. In particular, we recommend that the report indicate (1) the depth of stormwater conveyances below the ground surface and their elevation relative to groundwater; and (2) how the stormwater conveyances were constructed. If the stormwater conveyances intersect the water table, then they are more likely to receive groundwater infiltration. If the conveyances intersect the water table and include a crushed stone bed, then they are likely to represent preferential pathways for groundwater migration.

[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.

4. On page 10, the report lists "Inundation of the storm water system by turbid Willamette River water during high river stages" as a potential source. We recommend the report include additional detail as to the frequency and extent of such inundation. We also recommend that the report discuss the effects of inundation on the integrity and long-term sustainability of the stormwater collection and treatment system.
5. We recommend that Table 1 be checked and revised as follows:
    a. Reformat Table 1 to appear on a single page rather than split between two pages. This will facilitate comparisons between measured concentrations and screening level values.
    b. The "Average percent difference" column should show only meaningful significant digits. The change in total suspended solids (TSS) cannot possibly be known to eight significant digits.
    c. Show TSS in its conventional units, which are milligrams per liter (mg/L).
    d. It is unclear what the results in the "Average percent difference" column represent. It appears that the percent difference is a comparison of some representative average of pre-SCM concentrations with another representative average of post-SCM concentrations. We recommend the SCE detail how these representative concentrations have been derived.
    e. The three-million-fold increase in TSS shown in the "Average percent difference" column appears to be erroneous and needs to be checked and potentially corrected.
6. The revised SCE includes references to and draws comparisons with data from an earlier SCE report (Integral 2019) that is not readily available. We recommend that the earlier SCE be included as an appendix to the new SCE.
7. The results in Table 1 are curious in that the samples representative of first-flush conditions (Storms 1 and 4) have markedly lower concentrations of TSS than the samples representative of stabilized stormwater flow (Storms 2 and 3). Normally, first-flush samples would be expected to have higher TSS concentrations. Since unexpected results suggest potential problems in sampling and/or treatment, we recommend that the report discuss these results and, if possible, offer an explanation. We recommend that the volume of storage in the water treatment vault relative to stormwater flow volume be addressed in this discussion. We note that aluminum and zinc, constituents typically associated with roof runoff, show similar patterns to TSS. We therefore also recommend that the discussion address drainage from the roof and how roof drainage may or may not be delayed relative to catch basin flows.

Editorial Comments

8. On page 2, the text references a "covered fuel station" but no such feature is indicated in Figures 2 or 3. We recommend that all text references and figure labels use the same names. We also recommend that the fuel station be described in more detail.
9. We recommend that links to manufacturer websites be provided for all proprietary equipment cited in the report.

10. The report spells the name of one manufacturer, Kristar, incorrectly.

References

Evren Northwest, Inc. (ENW). 2023. Storm Water Source Control Evaluation with Source Control Measures Performance Monitoring, Lampros Steel, 9040 North Burgard Way, Portland, Oregon 97203. August 28.

Integral Consulting Inc. (Integral). 2019. Draft Stormwater Source Control Evaluation, Lampros Steel, 9040 N Burgard Way, Portland, Oregon. Prepared for Lampros Properties Portland, Oregon. August 9.

Oregon Department of Environmental Quality (DEQ). 2010. Guidance for Evaluating the Stormwater Pathway at Upland Sites. Oregon DEQ, Portland, Oregon. January 2009, updated October 2010, links updated July 2017.