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TECHNICAL MEMORANDUM

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**To:** Kevin Dana and David Lacey, Oregon Department of Environmental Quality (DEQ)  
**From:** Peter Shanahan, HydroAnalysis  
**Subject:** **Review of Interim Stormwater Source Control Measures Design, Crawford Street South site – ECSI No. 2363**  
**Date:** June 23, 2022

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This review of the Interim Stormwater Source Control Measures Design, Crawford Street South Site (the “Design Memorandum”) (GeoEngineers, 2022a) has been prepared on behalf of the Five Tribes<sup>1</sup>.

### General Comments

1. The Design Memorandum fails to clearly specify the interim drainage measures to be taken at the site. Page 5 has a section entitled “Interim Stormwater Source Control Measure Design,” but that section fails to provide a clear explanation of the measure. There is reference to a stormwater barrier and “proposed berm” but no clear description or design sketch of what actually is planned to be installed. More details appear later in the Design Memorandum, on page 7, but the initial description on page 5 would benefit from additional detail.
2. Page 7 of the Design Memorandum states, “The stormwater barrier will consist of a 1-foot-tall earthen berm covered with a protective apron and secured by landscape staples and gravel.” The nature of the apron is not clearly described. Attachment A (GeoEngineers, 2022b) indicates the apron will be impermeable. If that is the intention, page 7 of the Design Memorandum should be modified to say, “impermeable protective apron” rather than simply “protective apron.” Better still, we recommend the report indicate the specific geotextile product that will be used.
3. Presuming the barrier is intended to be impermeable, the proposed stormwater barrier does not appear to have been adequately assessed. The stated purpose of the berm is to prevent run-on onto the site. To do so, the flow that would otherwise be run-on needs to be diverted elsewhere, and the memorandum provides no indication of where that will be. The land-surface-elevation contours in Figure 2 suggest all of that flow would be diverted along the berm onto the property to the west. Thus, it appears that flow that is now dispersed over

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<sup>1</sup> 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.

several hundred feet and mostly infiltrates will be concentrated as channel flow at the northwest corner of the site along the proposed berm. This design seems likely to exacerbate rather than control erosion. Overall, the plan needs to be assessed more completely.

## Editorial Comments

4. Figure 3 of the Design Memorandum refers to Figure 7 for details on the stormwater barrier; however, Figure 7 is not included in the memorandum.
5. Citations are incorrect throughout the document. There is a citation on page 5 to GeoEngineers, 2022, but it is not included in the list of references. Figures 4, 5, and 6 cite the recent draft City of Portland (COP) Erosion and Sediment Control Manual (COP, 2021) as the source; however, the illustrations are in fact from the 2008 edition of the manual (COP, 2008). There is also on page 5 a citation to COP, 2020, but it appears in the list of references as COP, 2021.

## Cited References

- COP, 2008. Erosion and Sediment Control Manual. City of Portland Oregon, Bureau of Development Services, Bureau of Environmental Services, Portland Office of Transportation, Portland Water Bureau. March 2008.
- COP, 2021. City of Portland Erosion and Sediment Control Manual, Draft. City of Portland Oregon, Bureau of Development Services. October 2021.
- GeoEngineers, 2022a. Interim Stormwater Source Control Measures Design, Crawford Street South site – ECSI No. 2363. Memorandum from Amanda Spencer, PE, RG, GeoEngineers to City of Portland Bureau of Development Services. GeoEngineers, Portland, Oregon. May 25, 2022.
- GeoEngineers, 2022b. Interim Stormwater Source Control Measures Work Plan – Final, Crawford Street South site – ECSI No. 2363. Memorandum from Amanda Spencer, PE, RG, GeoEngineers to Kevin Dana, Cleanup Project Manager; Oregon Department of Environmental Quality (DEQ). GeoEngineers, Portland, Oregon. January 14, 2022.