MAUL FOSTER ALONGI

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November 18, 2025
Project No. M0472.04.009

Nancy Sawka
Oregon Department of Environmental Quality

Re: Response to Oregon DEQ Review of Site Assessment Report, prepared for Superior Lumber Company

Dear Nancy Sawka:

On behalf of Swanson Group Mfg., LLC (Swanson), Maul Foster & Alongi, Inc (MFA) has prepared responses to DEQ's letter dated October 8, 2025, with comments on the Site Assessment Report prepared for Superior Lumber Site in Glendale Oregon. Responses are provided in the attached table. We appreciate your review.

Please reach out to Phil Wiescher if you have any questions.

Sincerely,

Maul Foster & Alongi, Inc.

Phil Wiescher, PhD
Principal Environmental Scientist

Attachments

Table

Photos

cc:
Jeff Remington

Response to DEQ Comments for Site Assessment Report
Glendale, Oregon
Swanson Group Mfg., LLC

Number	Review Comment	Response
	Major Comments	
1	DEQ does not use a default natural background concentration of dioxin for cleanup. If dioxin on-site is suspected to be attributed to background concentrations, then a DEQ-approved site-specific background investigation would need to demonstrate that.	Swanson does not propose to conduct an off-site dioxin background study as it can be overly difficult due to challenges in identifying appropriate locations and accessing multiple properties, which can require agreements with landowners which may not be feasible. Numerous peer-reviewed and Agency-approved background studies of dioxins in the environment, specifically for the PNW region, have been conducted as detailed in the report. These studies are helpful for determining if detected concentrations are within the range of general background conditions. As discussed in the report, the off-site DU3 area concentrations are within the range of typical background. Utilizing peer-reviewed existing studies provides reliable, scientifically validated background concentrations without logistical hurdles, making it a practical alternative for qualitative comparison with on-site contamination.
2	It appears from the wetlands inventory map and lidar image that DU3 misses a lot of the flow path area to Cow Creek. If DU3 encompasses an additional area (and potentially multiple habitats) outside of the flow path from the sediment ponds to Cow Creek, then the low dioxin value of DU3 (2.7 pg/g dioxin TEQ) may be a result of including area outside of the potential dioxin flow path in the DU rather than evidence of limited dioxin transport to Cow Creek. Further, the lack of total organic carbon data prevents an understanding of potential dioxin transport dynamics. To rule out dioxin transport to Cow Creek, the ditch along the flow path should be sampled for dioxin (and total organic carbon) just before it reaches Cow Creek. ISM methodology similar to that applied to DUs1-3 is the preferred approach. Total organic carbon should also be reported for soil and sediment samples.	Swanson proposes to revise the report to clarify site conditions (e.g., additional photodocumentation can be provided, also see attached), as described below. The DU3 area and analytical suite proposed in the work plan was reviewed by DEQ on December 28, 2023 and sampling was completed as described in the report. Outflow from the ponds is only known to occur during periods of prolonged and heavy precipitation. There is no designated flow path between the sediment ponds and Cow Creek. The area includes a broad depression where water infiltrates in this area during dry months and accumulates during wet months. This area is distinct to the upgradient areas where a more pronounced drainage cut is present, as confirmed during sampling conducted by PBS and by topography and LIDAR (see attached items). Sediment received in this area, if any, settles out in the DU3 area. The DU3 area is therefore representative of potential sediment/dioxin deposition in this area. DU3 also better represents typical soil/sediment conditions encountered by receptors in this area, rather than the smaller/narrower area suggested for sampling. Total organic carbon (TOC) data can help estimate the sorptive capacity of soils for dioxins, but is not necessary for decision-making since background/risk-based criteria for dioxins are typically not adjusted for TOC content (or a default of 1% is assumed) under DEQ's framework.
3	Cow Creek is essential salmonid habitat. Given dioxin source in the sedimentation ponds as well as a direct flow path to Cow Creek, sediment (along with total organic carbon) may need to be evaluated in Cow Creek to rule out dioxin mobilization and risk in the Creek if the sampling described in #2 above yields dioxin in the ditch along the flow path to Cow Creek.	As noted above, no designated flow path is present but rather a broad, low-energy depression as represented by DU3. The DU3 results indicate concentrations are consistent with natural background and the DU3 area is located approximately 100 feet east of Cow Creek. Given the area is quiescent/stagnant and measured concentrations are low, no further sampling in the drainage area is necessary. Swanson proposes to revise the report to clarify site conditions.

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4	The Surface Weighted Area Concentration (SWAC) approach is not applied appropriately in this instance. SWAC can sometimes be useful for interpolating limited sampling data to get a better measure of average concentrations at the surface. However, the ISM sampling results in each of the DUs are already more robust than a SWAC analysis. Further, cleanup decisions should be made at the level of each decision unit.	Swanson propose to revise the report to provide additional details as described below. DEQ's 2020 Ecological Risk Assessment (ERA) guidance states "DEQ's default exposure area (decision unit) for the protection of local populations of ecological receptors is the *de minimis* area of 0.5 acres, representing the smallest home range of interest for wildlife guilds." DEQ ERA guidance also specifies 0.5 acres is the default size for making risk determinations. Furthermore, DEQ 2020 Decision Unit Characterization guidance for ISM sampling also specifies that "DEQ has set the minimum size of a terrestrial habitat decision unit (HDU) at 0.5 acres to be representative..." and that the decision unit "correspond with areas of current and/or future exposure to people and plants and animals where the desired exposure estimate is a representative average concentration." This suggests the area should not be smaller than approximately 0.5 acres because this is the baseline scale for meaningful ecological exposure assessment. Because the DUs sampled are much smaller than 0.5 acres, they are not representative of exposure areas or appropriate for risk determinations informing cleanup decision-making. To meet DEQ guidance intent, the DUs sampled were combined to represent approximately 0.5 acres, and the results from each DU were averaged to represent the concentration in that broader area. The area-weighted average methodology simply averages the results, while accounting for the varying sizes of the DUs. For example, the concentrations in slightly larger areas are weighted relatively more (according to size) than smaller areas. In the conceptual circumstance where all DUs are the same size, the area-weighted average would be simply an average of all the results. This methodology is conceptually identical to collecting one ISM sample from the 0.5 acre area, which is the appropriate size for risk determination. However, in this case the sample result is based on over 100 individual sample locations, and is therefore more robust than one broader 0.5 acre DU ISM sample result based on 30 sample locations. In summary, we agree that the data collected is sufficiently robust for decision-making. However, the appropriate scale is the combined area of the DUs sampled.

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5	The site-specific dioxin Tier II RBC referenced in this report is a site-specific value that was determined for another site (Avison Lumber). If a Tier II RBC is desired at this site, then a site-specific evaluation must be completed at this site that provides sufficient detail to justify why that RBC is applicable at this specific site. Sediment RBCs (direct toxicity and bioaccumulation screening levels) also appear to be omitted in this evaluation even though DUs span flow areas.	Swanson propose to revise the report to provide additional details as described below. Although the Tier II dioxin RBC was a site-specific value for a separate site, Swanson believes it is an acceptable value to use for evaluating risk. The justification for this is provided in the report and is based on multiple lines of evidence including background considerations, comparative context, and basis for Tier II RBCs as population protective goals (see Section 8.4 of report). Soils at this site are seasonally inundated during the wettest months of the year, but are dry at other times. Based on these habitat conditions, certain ecological receptors that can be evaluated for bioaccumulative effects such as fish (and fishers) are not present or evaluated. The DEQ sediment RBC for direct toxicity is based on a "SQUIRT" lower threshold developed by NOAA for benthic invertebrates (*Hyaella Azteca*). Probable effects concentrations SQUIRT criteria are also provided by NOAA and reflect concentrations above which adverse effects in sediments are probable, and are used to evaluate potential for sediment toxicity and to bracket uncertainty regarding the predictive ability of toxicity criteria. For dioxin, the probable effects concentration is 21.5 ppt, which is higher (less protective) than the Tier II RBC of 20 ppt identified in the report. Importantly, benthic invertebrate communities are typically significantly more limited in seasonal ditches compared to permanent aquatic habitats and therefore were ultimately not considered a receptor endpoint for evaluation. As described in the report section 7.4, other receptors that can be evaluated for bioaccumulation (such as birds and mammals) are included and default screening criteria are provided in Table 8-1. It is noted that the criteria provided for birds and mammals in Table 8-1 account for bioaccumulation.
Minor Comments		
1	Historically, plywood glue has been a source of dioxin contamination. Could that be the source of dioxin contamination at this site?	Synthetic adhesives (e.g., formaldehyde based) have been used in plywood glue since 1930s and are not known sources of dioxins. The chemistry involved no intentional chlorination in adhesives to our knowledge, that would lead to dioxin formation if combusted.
2	Figure 7-2 Ecological Conceptual Site Model excludes sediment and water flow pathways. These should be acknowledged and added.	See response to Comment 5 above. The CSM can be updated to reflect the discussion.
3	Table 5-1 notes that "(a)Dioxin/furan TEQ calculated as the sum of each congener concentration multiplied by the corresponding mammalian TEF. Non-detect values are multiplied by zero." In future work, it's important to evaluate dioxin TEQ by setting non-detects to zero (already done in the report), one half detection, and full detection to evaluate the range of uncertainty.	Noted. While the use of full detection limits has not been observed on previous DEQ projects, using one half detection limits will be accommodated to support dicussion of uncertainty.
Other Comments and Data Gaps		
1 - 5		MFA has provides responses related to the work conducted for the detention pond and ditch sampling described in the site assessment report. There has been previous sampling related to potential data gaps on other portions of the Site. MFA is currently reviewing the data and work previously completed on other portions of the site, and is working to identify any remaining site data gaps. Reponses to these comments will be provided at a future date.

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DU3 Area. Looking west towards Cow Creek in the background.

DU3 Area. Looking east towards the facility in the background.