



Oregon

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Department of Environmental Quality

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June 25, 2009

Mike and Jeff Townsend
Townsend Farms, Inc.
23400 NE Townsend Way
Fairview OR 97024

Re: Focused Remedial Investigation and Risk Assessment Report
Townsend Farms Business Park, ECSI 4230

Dear Mssrs. Townsend:

The Department of Environmental Quality (DEQ) has reviewed the Focused Remedial Investigation (RI) Report, dated April 13, 2009 submitted by GeoDesign, Inc. on your behalf. Please address DEQ comments in a revised RI report, and submit a draft final report. Because a recent removal action has occurred (Geo Design 2009) DEQ recommends that analytical data representing post-removal conditions be used to revise the RI report prior to submitting the draft final report.

General Comments

The RI has collected sufficient data to be able to reach conclusions and inform decisions with respect to both on and off-site areas. Accordingly, the RI has met objectives set forth in Section 1.1. of the report. However, clarification is needed concerning the link between risk assessment conclusions, cleanup (i.e., removal) options to address the predicted risks, and site redevelopment plans. In particular, the third and fourth bullets in Section 1.1 (risk assessments and need for risk management actions) need clarification. DEQ believes that sufficient information is available to make site-wide decisions leading to a no further action determination (NFA) with broader scope, as opposed to the lot-specific interim actions that have been made to this point. The locations and media with predicted risks from the risk assessment exceeding acceptable levels needs to be carried forward to a final decision as to how these risks have been or will be addressed.

- *Lot 20 Pond:* Page 13: The Lot 20 pond has relatively high concentrations of pesticides in sediment, which exceed both terrestrial and aquatic ecological criteria. Lot 20 pond sediments may be considered as a "hot spot" of contamination in accordance with OAR 340-122-0115 (32)(B). Therefore, a removal (cleanup) of Lot 20 sediment is necessary.



As discussed in our meeting on June 22nd, 2009 three cleanup strategies lend themselves to the Lot 20 pond, as follows:

- a. Decommissioning in place (i.e., filling to grade);
- b. Capping pond sediment in place, allowing for continued use of the pond;
- c. Dredging pond sediment with off-site disposal of sediment.

All three options are likely equally effective in meeting DEQs protectiveness criteria. Options a and b are most cost-effective since they do not require removal and off-site transport of sediment. However, options a and b would require an institutional control in the form of a deed restriction on lot 20 to ensure that material is not exposed or inappropriately disposed in the future.

- The report documents concentrations of pesticides in the southwest ditch at levels in excess of applicable source control values. However, a removal action was performed here in May 2009. Residual pesticide concentrations following removal are close to DEQs source control screening levels and the ditch is now capped by backfill (Geo Design 2009, *Progress report 6-Summary of Southwest ditch supplemental remedial excavation activities, June 16th 2009*). Please include and use the confirmation sample data from the May 2009 removal as representing current conditions in the draft final RI report.
- Concentrations of pesticides in No Name and Fairview creeks are low and frequently below the limit of detection. Risks to benthic organisms were not predicted for the creeks. While pesticides were occasionally detected in creek sediment exceeding bioaccumulation screening values, the potential for bioaccumulation risks is low due to the infrequent detections and likely limited use of the area for foraging by aquatic-dependent wildlife. Moreover, the removal actions at the southwest ditch and ongoing redevelopments at Townsend farm lots are expected to reduce erosion and pesticide concentrations over time.
- The lowland discharge area (LDA) is a wetland and provides habitat for benthic invertebrates. The area is hydraulically connected to area waterbodies and is considered to be “waters of the state”. While there is uncertainty with respect to potential significance of this pathway, colonization of ephemeral wetlands is a possibility and may be influenced by size, duration of inundation and proximity to permanent waters. Accordingly, DEQ considers the exposure pathways to aquatic receptors in the lowland dispersion area to be applicable for risk assessment. If current risks as documented in the existing LDA samples are below acceptable levels for benthic toxicity and the affected areal extent is limited, then current risk potential from these pathways is likely low. Please evaluate the LDA for potential aquatic risk potential in the revised RI report.

Specific Comments

Section 1.1: On-site lot categories: Lots 6, 11, 21 and 900 have not yet been redeveloped at the time of this writing, while lot 14 is under development. Therefore, they have not yet been addressed by IRAM. They are expected to be addressed by IRAM, pending completion of the re-developments or under a future NFA.

Section 2.4.4: This section should include a discussion of the soil stripping that was performed on the former lots 7, 8, 9, 16, and 17 and the disposition of that soil.

Page 11: Typographical error. GPS accuracy reported as 6 to 31 feet BGS.

Figures

Figure 4: Based on the detections in the lowland dispersion area the locality of facility (LOF) should include that area. Additionally, the recent 2009 data do indicate the presence of pesticide in the furthest downgradient sample in Fairview Creek. For this reason the LOF should be described as undefined in Fairview Creek, and shown as an open line on Figure 4. The process water dispersion area should be labeled as former, since the process water is now diverted to the City of Fairview sanitary sewer line.

Risk Assessments

In the final version, please correct the formatting issues with tables overlapping pages, etc., to improve readability.

Ecological Risk Assessment

Section 2.1.2.1 and Figure 2-2:

DEQ does not concur with the conclusion that the lowland discharge area does not have potentially complete exposure pathways to freshwater sediment (see general comment). However, based on the relatively low levels of detections, below probable effect concentrations (PECs) relevant for benthic invertebrates, and the apparent limited spatial extent that may exceed bioaccumulation-based screening values, DEQ considers risk potential here to be negligible. Moreover, the recent re-routing of process water away from the lot 20 pond to the sanitary sewer should result in attenuation of concentrations over time with removal of this likely source.

Section 4.1.2: With respect to the metals cadmium, chromium, and nickel, the concentrations of these metals are within the range of background concentrations. The few detections that exceed the estimate of background are unlikely to be associated with excess risk potential. Therefore, DEQ concurs that these metals in soil are unlikely to pose any excess unacceptable risk. Similarly, barium concentrations in surface water are likely representative of background concentrations. DEQ has observed that barium in groundwater in the Portland Basin commonly occurs at concentrations up to several hundred micrograms per liter. Accordingly, it is reasonable to conclude that the relatively uniform concentrations measured in surface water are representative of ambient levels of barium.

Section 4.2: ProUCL output should be included on a CD to verify calculations.

Section 4.3.3 and Section 5.1.1.1: Chromium was selected as a CPEC based on exceedance of screening level values, but the 90th percentile value was below the estimate of background. DEQ concurs that the chromium concentrations in on-site soils are relatively uniform and are indicative of background conditions in soil.

Table 4.2: There are zero values for some COI in the soil maximum columns. DEQ assumes these must be typographical errors.

Table 4-8: This table is inconsistent with the text. The text states DDE/DDT are selected as CPECs, but the table does not show that. Table A-2 shows an exceedance factor of 1.9 for birds in off-site soil.

Section 5.1: DEQ concurs that this screening level evaluation indicates that the most sensitive receptor –CPEC pair is DDT compounds and birds. While this exposure pathway is eliminated by ongoing site redevelopment, DEQ believes that this risk could be demonstrated to be below acceptable levels by use of a modified screening level value (SLV). Site-specific SLVs for substances exceeding DEQ SLVs can be calculated using U.S. EPA's ecological soil screening guidance and an applicable and relevant lowest observed adverse effect level (LOAEL).

Section 5.1.1.1: The second to last sentence in the first paragraph is confusing. Potential risks are described as being predicted for chromium, while the following sentence says they are not predicted. DEQ concurs that the chromium soil data support a conclusion that chromium represents background conditions.

Page 23: Industrial risks are also predicted for arsenic, particularly focused on lot 6 soil.

Human Health Risk Assessment

Overall, DEQ concurs with conclusions of the human health risk assessment. Potential risks were predicted in residential and industrial scenarios for aldrin, dieldrin and arsenic. DEQ is planning a revision to our risk assessment guidance documents. Presently, there are some inconsistencies between the human health risk assessment guidance, published in 2000 and the RBDM document, published in 2003. The soil ingestion rate is a parameter that will be revised to 200 mg/day to represent exposure. Thus, the soil direct contact risk may be somewhat overestimated for the residential scenario which used a 400 mg/day estimate. However, this does not appear to appreciably change the assessment conclusions.

Clarification with respect to residential risk predictions for lot 1 and surrounding lots is needed. As discussed in our meeting on June 22nd, lot 1 is largely covered by gravel, and is surrounded by a fence limiting access to adjacent lots. This suggests that the conceptual model in the draft human health risk assessment may not accurately reflect exposure potential and predicted risks may be applicable in a hypothetical future, but not current, scenario. Moreover, as discussed in meetings between DEQ and Townsend Farms, Inc on June 5th and 22nd, exposure frequency for workers may be significantly less than 350 days per year. If current residential risks are below acceptable levels, then the lots assessed for residential exposure may be managed similarly to the other lots.

Report Conclusions

As discussed in the general comments this section needs to make a clear link between risk assessment conclusions and the planned future site actions/redevelopment. Overall, the remaining on-site potential risk is for terrestrial birds across all undeveloped lots and potential residential use on lots 1, 2, 3, 10, 11, and 900 and industrial use, primarily associated with arsenic on lot 6.


The on-site risk findings should lead into a basis of support for final site decision making. If the ecological risk can be shown to be below acceptable levels as described in the comment on Section 5.1.1.1 of the ecological assessment, then a site-wide remedy applicable to remaining lots can be developed that would be analogous to previously completed interim actions including soil management and contaminated media management plans (SMP/CMMP). When complete, the RI report, together with an NFA letter and associated SMP/CMMP to address remaining lots with residual pesticides, could provide the final decision for the site. However, for the lot 20 pond, concentrations of pesticides in sediment persist in excess of risk-based levels and a plausible pathway exists for suspended sediment transport to the northwest ditch and seasonal wetlands. Cleanup of pond 20 sediment is required as an element of the final remedy.

Next Steps:

While considerable progress has been made on investigation and risk assessment at this site, an NFA at the present time is premature, since risks are predicted for on-site soils and the lot 20 pond. However, an NFA is possible through cleanup action to address lot 20 pond sediments and a revision of the RI report to document protectiveness and/or property management strategy for the remainder of the site.

Please revise the RI report to address DEQ comments, including the most recent data documenting conditions at the southwest ditch. Please prepare a workplan for cleanup work in lot 20 pond sediment and to address risk associated with arsenic at lot 6.

Sincerely,



Paul Seidel
Project Manager
Cleanup and Emergency Response

pc:
Bob Belding and Jason O'Donnell, Geo Design, Inc
Gary Pascoe, Pascoe environmental consulting
Linda Hulme, City of Fairview
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