



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Dexter R. Matthews

Director

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January 26, 2010

Mr. J.V. Potter
Operation Services Director
336 Landfill Road
Boone, North Carolina 28607

Subject: Hydrogeologic Technical Review
Watauga County Solid Waste Management Facility
Permit to Construct Application for LCID Landfill, Permit 95-02
Doc ID 9260

Dear Mr. Potter:

The Solid Waste Section (SWS) completed its first technical review of the hydrogeologic portion of the application (report) for the Land Clearing and Inert Debris (LCID) facility described above. Draper Aden Associates (DAA) submitted the application, which is identified in the SWS record as Doc ID 8870. Facilities larger than two (2) acres shall comply with more stringent requirements for an individual permit. In general, applicable are state standards for groundwater quality, surfacewater quality, and well construction, respectively, Regulations 15A NCAC 2L, 15A NCAC 2B, and 15A NCAC 2C. More specific, applicable are SWS Regulations addressing groundwater and surfacewater monitoring, which are, respectively, Regulations 15A NCAC 13B .0601 and .0602 and referenced in the LCID Regulation 15A NCAC 13B .0566 (15). SWS Hydrogeologists are also now reviewing landfill gas monitoring plans for permitted facilities. Landfill gas at LCID's is addressed in Regulation 15A NCAC 13B .0566 (13).

Revisions of the application are specified below. The numbers and letters correspond to the labeled sections and paragraphs in the report.

Section I

- A. Clarify what is proposed. Understood is that an LCID greater than 2.0 acres is proposed. However, unclear is which of the three proposed phases is intended to be covered by the five-year duration of the permit. Specify the phase of construction for which the permit is sought. Pursuant to Regulation 15A NCAC 13B .0563(4), LCID permits are not issued for more than five years. The SWS defines a phase of landfill construction as an area that "provides no more than approximately five years of operating capacity".
- C. Two revisions are necessary. One, pursuant to Regulation 15A NCAC 13B .0564 (8)(d) show the four-foot vertical separation between waste and groundwater. Two, pursuant to Regulation 15A NCAC 13B .0564 (8)(e) show the seasonal highwater table above which excavation for the LCID is proposed.

E. See comment for Appendix C.

Section II

B. Clarify that 4.23 acres is the area for the proposed LCID, not existing LCID.

J.2 Revise the section to state that the proposed LCID is located where assessment monitoring for groundwater and surfacewater is conducted. Also, include an explanation for why the plan for "Harmful Gas Release" in Appendix D is needed where landfill gas is reportedly not generated.

Section V

B.2 Three revisions are necessary. One, attach a map showing all groundwater monitoring wells adjacent to the existing and proposed LCID, since these are the wells with which to establish cross sections, vertical separation, and groundwater elevations. A separate set of wells is shown on each of the two Figure 2's in the report. (See comments regarding the figure elsewhere in this review.) On the map show both sets of wells in one view. Two, submit boring logs and well construction records for the wells and any other wells used for construction of cross sections and determination of required groundwater elevations. Three, because the proposed LCID is located where groundwater contamination exists, include a brief description of the current groundwater assessment plan for which wells have been installed.

B.3 On the aforementioned requested map, show landfill gas monitoring wells adjacent to the existing LCID, proposed LCID, and nearby buildings. Operational requirements listed in Regulation 15A NCAC 13B .0566 (13) address "explosive gases generated by the facility". Landfill gas monitoring is also required outside the waste boundary. In Figures 2 of 9 to 7 of 9, "existing gas vents" are listed in the legend but unclearly depicted. Therefore, submit a brief description of the landfill gas plan utilizing these gas vents, more clearly denote location of the gas vents, and include details for landfill gas monitoring wells outside the waste boundary. Also, explain how compliance with the aforementioned regulation will be determined.

Appendix A

Figure 2 Two revisions are necessary. One, eliminate one of the two (2) Figure 2's. Comments in this review pertain to Figure 2 in this appendix. The other Figure 2 in Appendix C should be re-numbered. Two, identify the type of closed landfill depicted in the figure—MSW, C&D, INDUS, etc—and denote its closure date.

Appendix C

Figure 2 Re-number the figure, since a Figure 2 already exists in Appendix A. Subsequent figures will need to be re-numbered.

Boring Logs Submit boring logs for all groundwater wells installed and/or utilized at the proposed and existing LCID.

Well Records Submit well construction records for all groundwater wells installed and/or utilized at the proposed and existing LCID.

Appendix A (second of two identically named appendices)

Cover for Appendix Rename the appendix. This appendix is labeled "Appendix A" when there is already an Appendix A attached earlier in the report.

Figure 2 See comment for Figure 2 in the first Appendix A listed after Section V.

Figure 3 See comment for Figure 8.

Figure 4 See comment for Figure 8.

Figure 5 See comment for Figure 8.

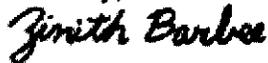
Figure 6 See comment for Figure 8.

Figure 7 See comment for Figure 8.

Figure 8 Revise the cross section information. First, show cross sections drawn through existing wells, show full cross sections across a north/south and east/west axis, through the LCID, and depict each lithologic unit described in the well construction records of the wells from which the cross sections are drawn. Two, show the seasonal high groundwater elevations on each cross section. Three, show on each cross section that vertical separation is achieved pursuant to Regulation 15A NCAC 13B .0564 (8)(d).

If you have questions, I can be reached at zinith.barbee@ncdenr.gov or at 919-508-8401.

Sincerely,



Zinith Barbee
Hydrogeologist
Solid Waste Section

cc: Allen Gaither Environmental Engineer, SWS
Mike Cavell, P.E. Draper Aden Associates
John Patrone SWS/WSRO
Central File