



## North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Michael F. Easley, Governor  
William G. Ross Jr., Secretary

March 23, 2007

Mr. Ethan J. Caldwell, P.G.  
Mr. Jimmy D. Woodie, P.E.  
Municipal Engineering Services Company, P.A.  
PO Box 97  
Garner, NC 27529

RE: Application for Permit to Construct, Expansion,  
Iredell County Subtitle D Landfill, Phase 4  
Iredell County  
Additional Information Request  
Permit No. 49-03

The above referenced Design Hydrogeologic Study and associated application for Permit to Construct for the expansion (Phase 4, - 12 acres) of Iredell County Subtitle D MSW landfill, submitted by MESCO, P.A., on behalf of Iredell County, is being reviewed by the Solid Waste Section (SWS) for hydrogeologic concerns. The original Design Hydrogeologic Study application was submitted on October 27, 2006 and subsequent documentation submitted on March 15, 2007. The Permit To Construct application for Phase 4 was submitted on February 16, 2007. There are several items in both the Design Hydrogeologic Study and the Permit to Construct application that require clarification and/or revision before the hydrogeologic review can be completed. Please respond to the following questions and comments:

*Permit to Construct Application – 2/16/2007*  
*Section 2.2.8 – Foundation, Settlement, and Slope Analysis*  
*Figure F2, Sheet 4 of 6 – Facility Plan Proposed Base Grade*  
*Figure E2, Sheet 4 of 11 – Engineering Plan – Phase 4 Proposed Grade*  
*Figure E-6, Sheet 8 of 11 – Engineering Plan – Phase 4 Baseline Profile and Cross Sections*

Under Section 2.2.8, no documentation was included in the Permit To Construct Application. The figures mentioned above depict the proposed base grades. Do these base grades take into account vertical settlement? Please submit Section 2.2.8 calculations (i.e. settlement calculations) and modify the Figures if

necessary to reflect settlement. Also, modify Figure E-6, Sheet 8 of 11 (Baseline Profile and Cross Sections) by depicting vertical separation between proposed compacted (post settlement) subgrade and estimated long-term seasonal high water level.

*Design Hydrogeologic Study – Revision – 3/15/2007*  
*Section 5.7.1, pages 19-21 – Water Table Fluctuation – USGS Observation Wells*

Page 20 of Section 5.7.1 states in-part the following pertaining to the location of the USGS observation wells, NC-142, NC-146, and NC-193: "NC-142 is about 54.2 miles from the facility"; "location of NC-146, approximately 73.5 miles from the landfill unit "; NC193 .....approximately 61.1 miles away from the landfill unit".

Review of the distances of the location of the three USGS observation wells in relation to the landfill unit show the distances are shorter than stated in the report. NC-142 is located approximately 15-20 miles from the landfill unit. NC-146 is approximately 35-40 miles from the landfill unit. NC-193 is approximately 15-20 miles from the landfill unit. Please modify the narrative text accordingly.

*Design Hydrogeologic Study – Revision – 3/15/2007*  
*Appendix D*  
*Table D-10, Pages D-63 - D-67 - "Monthly average water level NC 146"*  
*Graph D-35, Page D-68 - "Monthly average water level NC 146"*  
*Table D-11, Page D-69 - "Annual average water level, NC-146"*  
*Graph D-36, Page D-69 - "Annual average water level, NC-146"*  
*Table D-12, Page D-70 - "Average water levels by month, NC-146"*  
*Graph D-37, Page D-70 – Average water levels by month, NC-146*

Pages D-63 through D-68 (associated with Table D-10 and Graph D-35) in Appendix D depict monthly average water level measurement data from NC 146 that range between 2,140 to 2,145 feet above sea level; however, on page D-69 (Table D-11 & Graph D-36) and page D-70 (Table D-12 & Graph D-37) the water levels range from approximately between 725 and 728 feet above sea level. It appears the water level elevations mentioned on pages D-63 through D-68 are from another USGS observation well, probably located in the NC mountain region.

Please submit the correct monthly average water level measurements and monthly average water level graph for this well (NC-146).

*Design Hydrogeologic Study – 10/27/2006*  
*Appendix E – Ground and Surface Water Sampling and Analysis Plan*  
*Section 1.1, Page 1 - Objective*

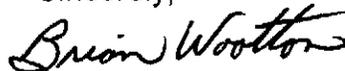
Page 1, 2<sup>nd</sup> paragraph of Section 1.1 states in-part the following: *“Four independent sampling events of monitoring wells MW-25, MW-26, MW-27D, and MW-27S will be taken within six months after the date of issuance of the Permit to Operate for the Phase 2 disposal area, with at least one sampling event occurring prior to receiving waste. The results of these sampling events will be used as baseline water quality information for the subsequent sampling event of Phase 4.”*

Please correct the last portion of the first sentence that refers to “Phase 2” by changing it to read, “Phase 4”.

=====

Please note the comments and questions raised above and provide additional information and revisions as needed. If you have any questions, or wish to schedule a meeting to discuss the items referenced in this letter, please call me at 919-508-8524.

Sincerely,



Brian Wootton  
Hydrogeologist  
Solid Waste Section

cc: Ed Mussler  
Jim Coffey  
Central File

Solid Waste Section  
Solid Waste Section