



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT



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July 13, 2000

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Mr. Gary Tweed
Henderson County
802 Stony Mountain Road
Hendersonville, NC 28739

RE: Henderson County, Construction and Demolition Landfill Site
Receipt of letter regarding Initial Review of Site Application

Dear Mr. Tweed,

A review had been completed of the Construction and Demolition Debris Landfill Site Permit Application. The review is according to Rules 15A NCAC 13B .0503(1) and .0504(1) in order to determine if the site proposed is suitable for disposal of construction and demolition waste.

A previous letter from me, dated February 17, 2000, was sent which contained several comments regarding the hydrogeological suitability of the site and the type of information necessary in order for the Solid Waste Section to deem it suitable according to the rules. A response letter from Tim Grant of CDM, dated April 3, 2000, has been received and the information contained within it was assessed to determine the suitability of the site. While some of the questions regarding site suitability were addressed the issue of monitorability of this site remains. The hydrogeological characterization is insufficient to ensure that the groundwater can be adequately monitored in order to detect contamination before it leaves the landfill property.

The groundwater is noted, in piezometers P-2, P-7 and P-9 within the proposed footprint to be moving within the rock. Using these and other piezometers and monitoring wells on this property, CDM has shown on the cross-sections (Sheet 4-5) that the overall flow of groundwater beneath the landfill is within the rock. The existing ground surface in the central portion of the landfill



was cut down to rock (see cross-sections); clearly groundwater is in rock under all or most of the construction and demolition landfill footprint. In addition to the boring data from the piezometers mentioned above, the fracture trace analysis of the local area is the only other data in the Application and/or the Response to Comments letter regarding rock under the proposed landfill

Mention is made in the response from CDM, that "*A similar situation [to the groundwater situation] was encountered during permitting of the Buncombe County C&D landfill in that groundwater was encountered at times within the saprolite, at times within the PWR, and at times within fractured bedrock. To remedy concerns posed by the SWS, a shallow well and deep fractured bedrock well were installed to adequately monitor both portions of the groundwater system. Based on our knowledge of the Henderson County site, this nested pair monitoring well scenario should also be adequate.*" It has not been shown that a similar situation does in fact exist between the Buncombe C&D landfill site and the Henderson County C&D proposed landfill site. The Buncombe C&D site application was only found to contain a suitable representation of the hydrogeology when pump tests, geologic mapping of the rock exposures in and around the proposed C&D, and rock core data were included and used in the characterization of the rock. The rock data received in this Site application is not of sufficient quality or quantity to characterize the hydrogeology to the extent needed in order to design a monitoring system.

Due to the apparent geological and hydrological characteristics of this site, specifically the undetermined flow direction/pattern of groundwater within the fractured rock and the undetermined interconnectivity of groundwater pathways, the ability to effectively monitor this site for release of contamination has not been shown to be possible. The hydrogeology of this site deems it is inappropriate for use as a landfill site.

Please call me for more information or to answer your questions. I can be reached at (919) 733-0692 ext. 345.

Sincerely,

Ellen Lorscheider
Hydrogeologist, Solid Waste Section

Cc: William K. Taylor, Camp Dresser & McKee
Tim Grant, Camp Dresser & McKee
Tim Jewett, Solid Waste Section
Jim Coffey, Solid Waste Section
Jim Patterson, Solid Waste Section