



March 3, 2008

Mr. Edward F. Mussler, P.E.
Permitting Branch Supervisor
NC DENR - Division of Waste Management
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605

**NC DEPT. OF ENVIRONMENT
AND NATURAL RESOURCES**

MAR 11 2008

**MOORESVILLE REGIONAL OFFICE
DIVISION OF WASTE MANAGEMENT, SWS**

**RE: Davidson County MSW Landfill - Phase 1 (Permit No. 29-06)
Permit Modification Request
Modified Waste Placement Plan and Alternative Final Cover System**

Dear Ed:

On behalf of Davidson County, Richardson Smith Gardner & Associates, Inc. (RSG) would like to submit this request for: 1) a modified waste placement plan and 2) an alternative final cover system for Phase 1 of the County's existing MSW landfill. The following is a description of the proposed modifications. Permit modification drawings showing the proposed modifications are provided as **Attachment C**.

Modified Waste Placement Plan

RSG has revised the waste placement plan for the central to western portion of Phase 1 to provide an increase in disposal capacity of approximately 62,100 CY. The proposed grading plan consists of extending the currently permitted 4H:1V side slopes to a top elevation of approximately 496 feet (refer to Drawing S3 in **Attachment C**). This additional capacity will provide approximately 4 to 5 months of additional operations in Phase 1 at the present tonnages or a longer period as operations are transitioned over to Phase 2.

The increase in capacity represents an increase of only 2.6% of the total design volume of Phase 1 (2,425,000 CY - base grades to top of final cover) and only 0.5% of the total design volume of Phases 1 and 2 combined (11,439,020 CY). In that the change is less than 10% of the permitted capacity, a new permit is not required.

The increase in waste thickness over the central to western portion of Phase 1 requires an evaluation of the following:

- A. Increased load on leachate collection piping and on liner geomembrane (**Attachment A**).
- B. Slope stability, settlement, and bearing capacity of landfill (**Attachment B**).

Based on the results of the above evaluations, the modified waste placement plan is not expected to create any issues related to excessive stresses or slope stability.

Alternative Final Cover System

The proposed final cover system cross section includes the following components (top-down):

- a 24-inch thick vegetative soil layer (including 6 inches of topsoil);
- a drainage geocomposite (with drainage breaks)

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- a 30-mil textured LLDPE geomembrane; and
- a 12-inch thick intermediate cover layer.

The final cover system will be placed on prepared intermediate cover at a maximum slope of 4H:1V. A landfill gas (LFG) control system and surface water control devices will also be incorporated into the final cover.

The proposed final cover system was previously demonstrated in the approved Permit to Construct Application for Phase 2 - Area 1¹ to be better than the regulatory minimum cover stipulated by 15A NCAC 13B.1627. Please refer to this document for design information as well as technical specifications and CQA Manual. Drawings showing the proposed final cover system components are provided in **Attachment C**.

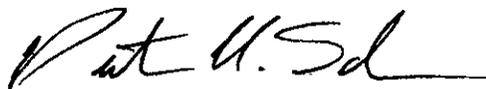
Permit Modification Fee

RSG understands that this permit modification request is subject to a permit modification fee of \$1,500. Please send the invoice for this fee to:

Davidson County Integrated Solid Waste Management Dept.
Attn: Charles Brushwood, Director
1242 Old Highway 29
Thomasville, NC 27360
Phone: (336) 242-2284.

Should you have any questions or require clarification on this information, please contact us at your earliest convenience.

Sincerely,
Richardson Smith Gardner & Associates, Inc.



Pieter K. Scheer, P.E.
Senior Engineer



Attachments: Attachment A: Calculations
Attachment B: Slope Stability, Settlement, and Bearing Capacity Evaluation
Attachment C: Permit Modification Drawings

cc: Charlie Brushwood, Davidson County

¹ Davidson County MSW Landfill - Phase 2 - Area 1, Permit to Construct Application, Vol. 1 of 2 (Design Engineering), prepared by Richardson Smith Gardner & Associates, Inc., dated February 2007.