



North Carolina Department of Environment and Natural Resources
Division of Waste Management

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Secretary

Solid Waste Section

January 11, 2013

Mr. Charles Brushwood, Solid Waste Director
Davidson County MSW Landfill
220 Davidson County Landfill Road
Lexington, NC 27292-6089

Re: Technical Review and Approval Letter for Phase 2, Area 2
Design Hydrogeologic Study, Water Quality Monitoring Plan-Revised January 2013,
and Landfill Gas Monitoring Plan – Permit to Construct Application-May 2012,
Permit No. 29-06
Davidson County MSW Landfill Facility, Davidson County, North Carolina
Document ID No. (Doc ID) 18015

Dear Mr. Brushwood:

The North Carolina Solid Waste Section has completed a technical review of the Design Hydrogeologic Study located in Attachment I of the Permit to Construct Application for Phase 2, Area 2 expansion of the Davidson County MSWLF. The Design Hydrogeologic Study also includes the Water Quality Monitoring Plan and Landfill Gas Monitoring Plan.

Groundwater and surface water monitoring at Phase 2 Davidson County MSW landfill will be conducted in accordance with the Water Quality Monitoring Plan located in Appendix 4 of the aforementioned Design Hydrogeologic Study. Landfill gas monitoring will be conducted in accordance with the Landfill Gas Monitoring Plan, also included in Appendix 5 in the Design Hydrogeologic Study.

The groundwater monitoring well network for Phase 2 will include one upgradient background monitoring well, MW-1, and downgradient groundwater monitoring wells, MW-2, MW-3S, *MW-3D, MW-4S, *MW-4D, MW-5, MW-6S, MW-8, MW-9, MW-10S, *MW-10D for Appendix I detection monitoring. Groundwater monitoring wells, MW-10S (former piezometer PZ-37S) and MW-10D (former piezometer PZ-37) are new groundwater monitoring wells added to the monitoring plan. The existing groundwater monitoring wells, MW-6D and MW-7 have been dry; therefore, these wells will be removed from the monitoring network. Within six (6) months of issuing the Phase 2 Permit to Operate, four independent sampling events of monitoring wells associated with Phase 2 will be collected with at least one sampling event occurring prior to receiving waste. These sampling results will be used to establish a baseline for water quality information for the subsequent Phase 2 sampling events.

*Note: Bedrock groundwater monitoring wells, MW-3D, MW-4D, and MW-10D will be sampled for filtered metals and Appendix I constituents during the spring 2013 monitoring event. If the results from this analysis indicate concentrations below 2L groundwater standards, then the wells will only be used for recording semi-annual water levels from this point forward.

Surface water sampling points SW-1 and SW-2 are to be monitored semi-annually for Appendix 1 constituents and field parameters. Surface water sampling point, SW-3 has been reported historically dry and will be removed from the monitoring network.

Leachate sampling will be sampled for semi-annually for Appendix I constituents and parameters, BOD, COD, phosphate, nitrate, sulfate, and pH; and also according Solid Waste Section guidelines.

The Landfill Gas Monitoring Plan for Phase 2, includes nine (9) existing landfill gas monitoring wells, designated as LFG-1 through LFG-9. No additional gas monitoring wells are proposed with this expansion. In the event that elevated levels of landfill gas are detected in any of the landfill gas monitoring probes, the NC Solid Waste Section will require installation of additional landfill gas wells.

The Design Hydrogeologic Report, Water Quality Monitoring Plan, and Landfill Gas Monitoring Plan meet the criteria required in 15A NCAC 13B .1623(b), .1624(b)(4), and .1626(4) and therefore, this portion of the Permit to Construct application is approved. Copies of the Water Quality Monitoring Plan and Gas Monitoring Plan shall also be placed in the Operating Record.

Piezometers, groundwater monitoring wells, and borings located in the proposed phase for construction may be abandoned now or after a Permit to Construct is issued by the Solid Waste Section. Prior to construction of the new phase, all piezometers, groundwater monitoring wells, and borings located within the footprint must be properly abandoned in accordance with 15A NCAC 2C.0113(d) entitled "Abandonment of Wells".

Well abandonment records (form GW-30) for each decommissioned piezometer, boring, and groundwater monitoring well must be certified by a Licensed Geologist in accordance with rule .1623(b)(2)(I) and submitted to the Solid Waste Section in accordance with 15A NCAC 02C.0114(b). After the piezometers and/or groundwater wells are abandoned, please submit an updated monitoring well location drawing.

A hard copy and an electronic copy of the groundwater and surface water monitoring data collected at the landfill facility must be provided to the Solid Waste Section. Guidelines for groundwater, surface water, and landfill gas monitoring and submitting the results electronically can be located at the Solid Waste Section's web site: <http://portal.ncdenr.org/web/wm/sw/environmentalmonitoring>.

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Additional Geologic, Groundwater and Monitoring Requirements will be included in the Permit to Construct. If you have any questions, you may contact me at (919) 707-8258.

Sincerely,



Brian Wootton
Hydrogeologist
Solid Waste Section

cc: Joan A. Smyth, Smith & Gardner, Inc.
Madeline German, Smith & Gardner, Inc.
Ed Mussler, NC Solid Waste Section
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