



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director
July 15, 2009

Dee Freeman
Secretary

Mike Gurley, Environmental Manager
BFI Waste Systems of North America, Inc.
5105 Morehead Road
Concord, NC 28027

RE: Design Hydrogeologic Report - Application for Permit to Construct,
CMS Landfill V Expansion -Phase 3 (Cells 2I, 2J, 2K, 2M),
MSW Landfill
Cabarrus County, North Carolina
Permit No. 13-04
ID Document No. #8005

Dear Mr. Gurley:

I have reviewed the Design Hydrogeologic Report for the Phase 3 expansion, Cells 2I, 2J, 2K, 2M - (60 acres) of the MSW -V landfill. The Water Quality Monitoring Plan (included in the Design Hydrogeologic Report) is amended to include eleven (11) new groundwater monitoring wells associated with Phase 3 (Cells 2I, 2J, 2K, 2M). The proposed groundwater monitoring wells to be installed are: MW-28A, MW-31A, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, and MW-43. Four (4) existing groundwater monitoring wells, MW-28, MW-29, MW-30, and MW-31 located within proposed Phase 3 footprint will be abandoned (sealed). Also, additional piezometers located within proposed Phase 3 (cells 2I, 2J, 2K, 2M) footprints will need to be abandoned prior to construction activities commencing at Phase 3. The total number of forty (40) groundwater monitoring wells and names of groundwater wells to be sampled at the MSW facility are: MW-11, *MW-12, *MW-14, MW-14B, MW-15, MW-1A, MW-1B, MW-2A, MW-2B, MW-10, MW-10A, MW-16, MW-17, MW-17A, *MW-18A, *MW-19, *MW-19A, MW-20AR, *MW-20B, MW-21, MW-22, MW-22A, MW-24, MW-25, MW-26, MW-27, MW-32, MW-33, MW-34, MW-28A, MW-31A, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, and MW-43. Existing surface water sampling points, SW-1, SW-2A, SW-3A, and SW-4A shall continue to be monitored.

***Note: Groundwater monitoring wells, MW-12, MW-14, MW-18A, MW-19, MW-19A, and MW-20B are associated with Assessment Monitoring at this time.**

The Design Hydrogeologic Report, including the Water Quality Monitoring Plan meet the criteria required in 15A NCAC 13B .1623(b) and 15A NCAC 13B .1624(b)(4). An electronic pdf format copy of the approved Hydrogeologic Report and Water Quality Monitoring Plan (ID Document No.7999) can be obtained on the Solid Waste Section's website located at: <http://wastenotnc.org/sw/swfacilitylist.asp>

As stated in the Landfill Gas Monitoring Plan, (supplement to the Design Hydrogeologic Report) Plan, there are eleven (11) proposed methane monitoring wells to be constructed and labeled MMW-7 through MMW-12; and MMW25 through MMW-29. A total of twenty-nine (29) gas wells will be monitored at the facility. The Section recommends a Professional Geologist be on site during the installation of the new methane monitoring wells. The design and construction of the methane monitoring wells shall be in accordance with the applicable North Carolina Well Construction Standards listed in 15A NCAC 2C and the Landfill Gas Monitoring Plan. Upon completion of the methane monitoring well installations, boring logs and well construction records for each well shall be submitted to the Section. The gas wells shall be sampled according to the schedule stated in the Landfill Gas Monitoring Plan. The Landfill Gas Monitoring Plan meets the criteria required in 15A NCAC 13B .1626(4). An electronic pdf format copy of the Landfill Gas Monitoring Plan (ID Document No. 7998) can also be obtained on the Solid Waste Section's website located at: <http://wastenotnc.org/sw/swfacilitylist.asp>

As noted in Section 1.0 (Introduction) of the Design Hydrogeologic Report, further permit(s) from the US Army Corps of Engineers and NC Division of Water Quality pertaining to wetland(s) located within proposed Phase 3 is forthcoming at the writing of this letter. The Solid Waste Section (SWS) recommends until such wetland permits are received from these agencies, no wells and piezometers associated with Phase 3 be abandoned at this time.

Once wetland permits are approved, the piezometers, groundwater monitoring wells, and borings, located in proposed Phase #3 may be abandoned. Please adhere to the following conditions:

Prior to construction of the phase or cell(s) within the phase, all piezometers, groundwater monitoring wells, and borings located within the footprint must be properly abandoned in accordance with 15A NCAC 2C.0113(b)(1) entitled "Abandonment of Wells".

- a. In areas where soil is to be undercut, abandoned piezometers, monitoring wells, and borings must not be grouted to pre-grade land surface, but to the proposed base grade surface to prevent having to cut excess grout and potentially damaging the wells.

- b. Well abandonment records (GW-30 form) for each decommissioned piezometer, boring, and groundwater monitoring well must be certified by a Licensed Geologist in accordance with rule .1623(b)(2)(1) and submitted to the Solid Waste Section in accordance with 15A NCAC 02C.0114(b).

The new groundwater monitoring wells associated with Phase #3 must be sampled for the Appendix I constituent list prior to the Solid Waste Section issuing the Permit to Operate. In addition to a hard copy report, provide the Solid Waste Section with an electronic copy of the groundwater and surface water monitoring data collected at the landfill facility. Guidelines for sampling groundwater and surface water, and submitting data electronically can be located at the Solid Waste Section's web site:
http://wastenotnc.org/swhome/technical_assistance.asp

Additional Geologic, Ground Water and Monitoring Requirements will be included in the Permit to Construct.

If you have any questions, please do not hesitate to call me at (919) 508-8524.

Sincerely,



Brian Wootton
Hydrogeologist
NC Solid Waste Section

cc: David Garrett David Garrett and Associates
Ed Mussler NC Solid Waste Section
John Murray NC Solid Waste Section
Teresa Bradford NC Solid Waste Section