

December 22, 1994

Ms. Janis D. McHargue
North Carolina Department of Health,
Environment and Natural Resources
585 Waughtown Street
Winston-Salem, North Carolina 27107-2241

Subject: Hydrogeologic Considerations Response
(justifications in response to DEHNR December 16, 1994 Memorandum letter)

Dear Ms. McHargue:

Ecological Services, Inc. (ESI), on behalf of Mr. Larry Griffin, offers the following in response to additional hydrogeologic considerations outlined in Jim Bateson's December 16, 1994 memorandum.

Groundwater Monitoring Well MW-2

In order to accommodate ground surface elevation increases around monitoring well MW-2, 10 feet of 2-inch PVC riser was added to the existing monitoring well. In turn, the elevation of the top of casing was increased from 681.00 feet to 691.00 feet. Furthermore, all depth to water elevation data collected during the May gauging events were adjusted to accommodate the additional riser section. Ground surface elevation increases around monitoring well MW-2 were necessary during the holding pond construction. It is ESI's understanding that no grading or surface cover removal associated with the land fill operations will be conducted in this area.

As noted in ESI's November 18, 1994 Hydrogeologic Considerations Response letter, anomalous depth to water levels noted in MW-2 are thought to be due to recharge from the adjacent holding pond. Just as storm events contribute to the projected base flow of a stream, storm events which influence the water level in the holding pond are expected to contribute to the monitoring well in a similar fashion.

Based on the above, ESI maintains that the originally modeled phreatic surface map, constructed from gauging data collected on May 27, 1994 is an accurate depiction of piezometric surface conditions at the site.

Proposed Monitoring Plan

ESI recommends that a groundwater monitoring program be implemented following the Phase II permitting of the subject site. To ensure adequate site coverage, ESI proposes that the following groundwater monitoring well locations should be sampled:

Site Monitoring Points

MW-4 (deep monitoring point near Council well)
MW-3
MW-9
MW-10
PZ-6

**Monitoring well construction information is included as Appendix A*

Water levels will be measured prior to each sampling event with an oil/water interface probe to determine groundwater elevation. The monitoring wells will then be purged by bailing or pumping at least 4 times the water volume within the well, including the sand pack, or to dryness. After allowing each well to recover at least 60% of the initial head, or 24 hours, whichever occurs first, the monitoring well will be sampled using disposable approved sampling bailers. At the time the water samples are collected from the wells, pH, temperature, and specific conductivity will be recorded in the field to ensure that representative groundwater is being obtained for chemical analysis. One field blank sample will be obtained in the field by pouring distilled water into a sampling bailer and then decanting the contents of the bailer into the appropriate glass container. A laboratory trip blank will also accompany the groundwater samples.

All groundwater samples will be properly preserved and shipped to a North Carolina approved analytical laboratory for chemical analysis as outlined in the attached Solid Waste Section Sampling and Analysis Requirements (Appendix B). Appropriate chain-of-custody records will be maintained during each stage of sample collection and transportation.

At the completion of each semi-annual sampling event, a summary of our field activities, collected data, and laboratory results will be forwarded to the DEHNR-Solid Waste Management in a letter report.

Sincerely,

ECOLOGICAL SERVICES, INC.
Paul A. Banks
Project Geologist

cc: Jim Bateson