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



March 30, 2000

JAMES B. HUNT JR.
GOVERNOR

Mr. Edward J. Kreul
Environmental Services Superintendent
International Paper- Riegelwood Mill
John L. Riegel Road
Riegelwood, NC 28456

BILL HOLMAN
SECRETARY

RE: Site Application for a Sanitary Landfill, International Paper, Riegelwood Mill, Riegelwood, NC.

WILLIAM L. MEYER
DIRECTOR

Dear Mr. Kreul;

The Division of Waste Management, Solid Waste Section (Section), has received your site application for a sanitary landfill at the International Paper (IP) Riegelwood Mill. This is a new landfill, proposed for an adjacent parcel of property, owned by IP. The application was prepared on your behalf by Earth Tech of North Carolina, Inc. of Raleigh, NC. A technical review of the hydrogeologic portion of the application has been performed and sent under separate cover. This is the engineering review of the application. The report has been reviewed for compliance with 15A NCAC 13B .0503 and .0504.

1. Provide a summary of the facility design which includes the total acreage of the facility, the size of the proposed, lined landfill phases, the proposed life of the facility, and the projected total waste to be deposited on site. What is the projected height of the future development?
2. Section 5- It appears that leachate will be pumped out of the cells through sidewall riser pipes. Is this correct? Will pumps be present in the pipes all the time? Will there be leachate collection pipes in the cells?
3. Section 6- A letter from the unit of government having zoning jurisdiction over the site, which states that the proposal meets all the requirements of the local zoning ordinance, or that the site is not zoned, is required.
4. Section 7- Please provide documentation from the NC State Historic Preservation Office that they concur with the recommendations of the archaeological consultant and the proposed course of action regarding significant sites, by IP.



1646 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1646
401 OBERLIN ROAD, SUITE 150, RALEIGH, NC 27605
PHONE 919-733-4996 FAX 919-715-3605

5. Will the sludges proposed for disposal be dewatered sufficient to pass a paint filter test? Have analysis of the sludges been performed, and what is generally present?
6. It appears from the information presented that there may be wetlands on the site. Some of them may be impacted by the proposed construction. It will be necessary to have the wetlands delineated and presented to the Army Corps of Engineers for concurrence.
7. The route of the proposed leachate force main follows the facility road. In future phases of development this line will be under a proposed landfill footprint. Will the line be removed and rerouted at that time?
8. The conceptual facility plan shows the proposed footprint of the landfill with a buffer from the edge of waste to the property line of 150 feet. The distance from the toe of the outer berm to the property line is on the order of 50 feet. The footprint needs to be adjusted to allow a minimum buffer of 200 feet from the edge of waste to the property line. There is inadequate space, with the current design to allow for proper placement of monitoring wells and unobstructed access to them.
9. The conceptual facility plan shows the proposed borrow area with a fifty foot buffer to the property line. This buffer may not be adequate given that future development as a landfill cell is proposed in this area. In addition the area should be investigated during the design hydrogeologic phase of the design, to establish baseline conditions for future development.

The following comments are offered for consideration during the design phase of the project. They do not require a response at this time.

- Use of any composite liner system other than that specified in .0503(d)(2)(ii)(B) will require groundwater modeling to demonstrate compliance with ground water standards established under 15A NCAC 2L.
- The proposed closure cap system is not adequate for a lined waste cell. At a minimum, current engineering practice requires a cap system that is equal to or less permeable than the bottom liner system. This can be addressed in the permit to construct.
- It is possible that methane gas generation may be an issue at some point in the future. The

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presence of large amounts of organic waste, such as wood waste and sludges will generate gas.

- Stability and settlement will need to be investigated during the design hydrogeologic phase of work. The presence of the loose saturated sands and compressible clays may present challenges to the engineering design.
- Stone Columns surrounding the leachate collection lines must penetrate the protective cover and be in contact with the waste.
- The use of concrete manholes for the leachate system can be problematic, particularly if multiple sections are needed. Consideration to using HDPE manholes should be given.

Revisions to the application should be clearly identified with a revision date in either the header or the footer. It is not necessary to submit five copies of the revisions. Two copies will suffice. A total of five copies will be needed when the application is finalized. Please note that some comments may only address a particular section of your report, while the information appears in other areas. Please proofread your submittal carefully, so that the entire application is consistent from section to section. The final submittal must also include an appendix with correspondence.

These comments are intended to expedite the review of the referenced application, and in no way do they restrict the Section's right to request additional information during the technical review process. If you have any additional questions or need help, please feel free to call me at (919) 733-0692 Ext. 343. My email address is : Ed. Mussler @ncmail.net.

Sincerely,



Edward F. Mussler III, P.E.
Environmental Engineer
Solid Waste Section

cc: Ikie Guyton, SWS
Jim Barber, SWS
John Funk, P.E. Earthtech
File