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May 30, 2008

Division of Water Quality (via facsimile, fax number (919) 715-0588)  
 Aquifer Protection Section  
 Land Application Unit  
 2728 Capital Boulevard  
 Raleigh, NC 27604

Re: City of Burlington, Land Application Permit, No. WQ0000520

Dear Sir/Ms:

Upon reviewing the draft permit, and other information in DENR files, I find some important issues which I believe must be addressed prior to issuing this permit. These issues are detailed below.

1. Soils analytical data are incomplete as submitted, and do not meet application requirements in state statutes. As a result, there is insufficient information available at this time for adequately assessing environmental effects and issuing a permit.

Soils analysis data submitted, and required in support of the permit application are incomplete and do not appear to meet an important statutory requirement. That requirement is 15A NCAC 02T .1104 (c)(2)(B), which states that for non-dedicated land application sites, a soils report must be submitted that includes "A representative soils analysis for standard soil fertility and all pollutants listed in Rule .1105(b) of this Section." The latter rule, 1105(b), reads as follows:

15A NCAC 02T .1105 Pollutant Limits

....

- (b) Bulk residuals shall not be applied to the land if the land application causes the exceedance of the cumulative pollutant loading rate for any pollutant as stipulated in the following (i.e., on a dry weight basis):

Pollutant Cumulative Pollutant Loading Rate (kilograms per hectare)  
 Arsenic 41  
 Cadmium 39  
 Copper 1,500  
 Lead 300  
 Mercury 17  
 Nickel 420  
 Selenium 100  
 Zinc 2,800

Post-it <sup>®</sup> Fax Note		7671	Date 5/30/08	# of pages 3
To Ed Harder	From Barnes Bierck		Co.	
Co./Dept.	Phone #		Fax #	
Phone #	Fax #		915-0588	

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Note that a dedicated land application site is defined as follows (from the definitions in the 2T rules):

- (12) "Dedicated land application site" shall mean land:
- (a) to which bulk residuals are applied at greater than agronomic rates,
  - (b) to which bulk residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system, or
  - (c) where the primary use of the land is for the disposal of bulk residuals, and agricultural crop production is of secondary importance.

The City of Burlington proposes applying sludge at agronomic rates; thus, the sites proposed for use are non-dedicated and the analytical requirements cited above apply.

However, only soils fertility related analyses were submitted, and soil concentrations of many of the regulated elements, such as lead, were not measured.

One important reason for making these measurements is that fertilizers can be contaminated with trace levels of metals of concern. It is important to have baseline monitoring data for concentrations of these regulated constituents to help ensure that the soils are appropriate for land application, and to monitor the process.

(Please note that, for measuring these concentrations, it is important to be very certain sample preparation methods are correct. Some soils extraction methods are not appropriate for measuring total metals concentrations.)

2. Buffer (or setback) waivers are not included in the NCAC 2T rules on land application of sludges, and therefore it is not appropriate to allow their use.

Buffer Waivers are part of the permit application (as per Additional Information No. 2, available on-line for the public hearing on this permit).

Setback waivers are noted in the 2T rules for irrigation sites (at 15A NCAC 02T .0506 (c)), infiltration units (at 15A NCAC 02T .0706 (e)), and treatment/storage units (at 15A NCAC 02T .1006(b)). However, there is no stipulation for setback waivers in 15A NCAC 02T .1108, which codifies setbacks for land application of residuals. Therefore, it can be concluded that the intent of the statute as written is not to allow setback waivers for land application units.

The advisability of allowing individuals to waive setback requirements seems in need of some reflection. People are not allowed to waive many requirements, such as wearing seatbelts, much as they might wish to. Waiving setback requirements for land application of wastewater sludges has important public health implications, and it does not seem accidental that the rules do not permit such waivers.

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3. The wording of the first permit schedule requirement is in need of correction.

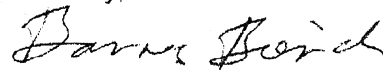
In Section I, No. 1, of the draft permit, it is stated that DENR will, "...if warranted, extend the permit for such period of time and under such conditions and limitations as it may deem appropriate."

While this observation is probably only one of semantics, it seems important to reword this condition so that it is clear that what is meant is permit renewal, not extension. A permit cannot of course be extended beyond its expiration date. It is possible, as in the present case, to operate beyond permit expiration, but that is another matter. It also may help to note in this section that a permit can be renewed for a maximum of five years.

Please do not hesitate to get in touch if there are questions about these comments.

Thank you very much.

Sincerely,



Barnes Bierck, P.E., Ph.D.

cc: Ed Hardee (via facsimile, fax number (919) 715-0588, and email)  
Kim Colson, Land Application Unit, DWQ, via email  
Coleen Sullens, Director, DWQ (via facsimile, fax no. 919-733-2496)  
Jim Gulick, AG's office (via email)