

Sheeley, Scott E (DEC)

From: Phaneuf, Robert (DEC)
Sent: Friday, June 08, 2012 3:10 PM
To: Rick Wakeman
Cc: Swanson, John (DEC); Domagala, Mark (DEC); Ray Liuzzo; Foti, Scott J (DEC)
Subject: RE: Finger Lakes Project - Brine Pond Design Conference Call
Attachments: TEXT.htm

Rick,

Per your request we provide the following summary of preliminary comments from Department staff to help guide our discussions on June 12th at 9:00 AM.

In short, the need to relocate the brine ponds from the original location has raised certain new sensitivities with respect to the new pond locations during Department technical staff's preliminary review. We have attempted to summarize our preliminary concerns below for your information and use in getting ready for our call (these comments should not be considered to represent all of the Department's comments). In some cases the Department would like to see additional discussions provided on some of these topics in the application's supporting documentation.

The issues/agenda items to be used for Tuesday's call between our respective technical staffs are summarized as follows:

- (1) Geotechnical Related: There appears to be a disconnect from the actual site characterization hydrogeologic data and certain analyses used in support of the facility design. Appendix A indicates that for the East Pond that nearly 55% of AOI is of group D soils type - yet the supporting stability analyses uses a drained soil condition. Likewise this Appendix illustrates nearly 40% of the West Pond site likewise being of nearly impervious material. Likewise the Appendix A table for the West Pond appears to under estimate the AOI for the Group B soils, not reflecting the extent of the sand layer as depicted on the West Pond cross sections.
- (2) Geotechnical Related: In the stability analyses, the geomembrane liner calculations, nonwoven geotextile over the subgrade, the unit weight provided for drainage stone layer was 190 pcf, however, the analyses used a saturated unit weight for this drainage layer of 40.6 pcf for the stone material. Please clarify.
- (3) Geotechnical Related: Concern for the overall stability of the East Pond with its close proximity to the existing 35' deep ravine in the in-situ till soils for this site should be discussed in more detail.
- (4) Geotechnical Related: The saturated sand layer under the West Pond, was identified to have low blow counts and raises concerns for the pond stability and liner integrity under drawdown conditions or where the final construction stages show low overburden conditions that may present seismic stability concerns, and may warrant added clarification. This also heightens concern and attention to the maximum hydraulic design of the ponds underdrain system, especially realizing that it may not be continuous.
- (5) Construction Related: The projects technical specifications for the placement of the berm materials fail to address a frequency for the Proctor testing, typically for landfill embankment materials a frequency of 9 test per acre per lift is typical. Understanding the high in-situ water tables and varying soil types of the in-situ materials which will become the subbase material for construction of the inward walls/sides of the ponds some form of subbase qualification should be included in the technical specifications as well.

(6) Construction Related: The direct shear test data in the Technical Specifications fails to provide the required shear strengths for the various interfaces identified in the specifications.

(7) Construction Related: The new pond locations encroach to within 25 feet of the property boundaries, this application fails to address how storm water management requirements will be met and controlled during construction.

(8) Operational Related: The report discusses how geomembrane samples will be tabbed to the exposed geomembrane for future testing to evaluate the condition of the exposed geomembrane. While this is very good proactive monitoring practice to help ascertain the geomembranes physical condition over time, the application should identify the minimum tests that would be conducted and provide the failure threshold that would signal that the geomembrane is past its effective service life.

(9) Design Related: The plans for the proposed ponds could use more detailed depiction of the pond underdrains and their outfall locations, the details of the leak detection piping and metering vaults should also be provided in more detail. Consideration should be given to coating the internal concrete vault walls with an elastic type waterproofing to ensure against leakage. Vault subbase and backfill material and drainage should be included to reduce potential for infiltration. Pump on and off levels should be identified on the drawings.

(10) Design Related: The maximum hydraulic design of the leak detection systems for both ponds needs to be provided. The controlling factor for this design needs to be identified to ensure the a confined head condition will not exist for the maximum flow threshold and that the acceptable ALR is established so that it ensures no confined head between the upper and lower liners and that it factors in the drainage outlets for leak detection systems. Based on the information provided leak detection system is drained by a single 6" pipe that is capped with only a 3/4 inch orifice.

(11) Groundwater Monitoring Related: The submission fails to address lateral groundwater monitoring may be needed based on site conditions at the two pond locations. It was not clear if the sand formation would be monitored at the West Pond location. The report characterizes existing groundwater being impacted by certain contaminants but fails to address the likely sources of these impacts.

(12) Receptor Location Related: The new pond locations raise new receptor issues which should be better acknowledged in the supporting documents. For example information was provided that within a 1 mile radius of the ponds that 2 public water supply wells are located with very little other information on how the pond locations will not affect these two wells in the application.

While Department staff are still conducting their detailed review, it was felt that preliminary discussions on the above issues would be helpful to both the projects Design Engineer and Department staff as our review process continues.

We look forward to the call on Tuesday, June 12th at 9:00 AM. Please have Ray copy the 3 Region 8 staff cc'd on this e-mail so they receive the call in information as well. If you have questions with this e-mail please let me know.

Thanks,

Bob Phaneuf

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>>> "Wakeman, Rick" <r.wakeman@ctmale.com> 6/7/2012 4:29 PM >>>

Bob,

We will shoot for Tuesday at 9:00. Ray Liuzzo of our office will arrange for the conference call and advise you of the call in numbers/code. It would be great if you could provide us the questions the regional folks have so we can be somewhat prepared to discuss them on the call.

Best Regards,
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