



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Beverly Eaves Perdue  
Governor

Dexter R. Matthews  
Director

Dee Freeman  
Secretary

Solid Waste Section

December 16, 2011

Mr. Tim Broome, Director  
Johnston County Public Utilities Department  
Post Office Box 2263, Smithfield, NC 27577-2633

Re: Clarification of the Re-issuance of the Comment Letter

Dear Mr. Broome:

I write this letter to you to clarify the reason of issuance of the final comment letter to the Construction Documentation Report (Report) – Landfill Gas Collection and Control System Expansion 2011” dated November 17, 2011. The Report is on your behalf prepared by the SCS Engineers, PC (SCS Engineers).

Via an e-mail message dated November 29, 2011, I sent your consultant Mr. Steve Lamb, P.E. with SCS Engineers a draft comment letter for clarification of issues related to the Report. Via e-mail messages and phone conversations, Mr. Lamb promptly communicated with me and cleared concerns addressed in the draft comment letter without any objection. According to information provided by Mr. Lamb, the draft responses to the November 29 2011 comments have been prepared and sent to you or your designee for a review and approval prior to submitting to the Solid Waste Section. To complete the document record processes and for your reference, I send out this final version comment letter without any change from the draft one.

If you have any questions of this matter, please contact me at (919) 707-8251.

Sincerely,

Ming-Tai Chao, P.E.  
Environmental Engineer II  
Permitting Branch, Solid Waste Section

cc:  
Central Files



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Smithfield, NC 27577-2633

Re: Comments on Construction Documentation Report  
Landfill Gas Collection and Control System Expansion 2011  
Johnston County Landfill Facility, Johnston County, North Carolina  
Permit No. 51-03, Document ID No. (Doc ID) 15642

Dear Mr. Broome:

On November 17, 2011, the Division of Waste Management (DWM), Solid Waste Section (SWS) received the following document:

- *Construction Documentation Report – Landfill Gas Collection and Control System Expansion 2011*, Johnston County Landfill (Permit # 51-03). Dated November 17, 2011. Prepared by C21 Methane Partners in New York, New York and SCS Engineers, PC (SCS) in Charlotte, North Carolina (Doc ID 15611).

After conducting a review, the SWS has comments on the Construction Documentation Report (Report) for the constructed landfill gas collection and control system (LFGCCS). Your responses to the following comments will expedite the review of the report:

1. The gas well EW-417 is likely removed from the proposed LFGCCS because no information of this well is provided in the Report. If this is correct, please add status of well EW-417 to the Report.
2. (Section 2.2 – Landfill Gas Extraction Wells)
  - i. As described in this sub-section the well borings were backfilled by a NC DOT No. 57 stone, bentonite seals, and soil which is consistent with the approved work plan (Doc ID 12972). However, the well logs in Appendix C described that # 4 washed aggregates were used as backfill around well screens/slots. Please clarify the discrepancy.
  - ii. The approved specification for a gas well (see Note 10 on the Drawing No. 4 of 6 of the approved work plan) requires the stone gradation in the ranges from ½ -inches to 1 and 1/2

– inches determined by ASTM Method D 421 at the testing frequency of one test per 250 cubic yards. Please provide the type and quantity of the stone used for this project and stone gradation testing results.

3. (Section 4 - Summary and Conclusion) The submitted final Report must be signed, sealed, and certified by a professional engineer registered in the State of North Carolina.
4. (Appendix B - SCS Daily Field Reports) The descriptions of well relocation in the field (EW-406, EW-408, EW-410, EW-411, EW-414, and EW-505) in the Daily Field Report are inconsistent with remarks made to the well logs in Appendix C. Please clarify.
5. (Appendix C – Landfill Gas Extraction Well Logs)
  - i. Please double check the consistency of the present data against the sketch of boring log. For example, the well log for EW-503, the total depth is noted 40 feet, but the boring log shown 41 feet.
  - ii. Well logs of EW-510 & EW-511 are incomplete. There is no “description” of excavated material / waste in the log.
  - iii. According to the data shown on the well logs for EW-509, EW-510, & EW-511 and the baseliner elevations at these two locations shown on the Drawing No. 4 of 6 in the approved work plan, the wells have likely penetrated the landfill baseliner system. The well logs indicated each “well was constructed at surveyed location and terminated at the specific depth.” However, the well depths do not terminate at the proposed depth or adjust according to the ground surface elevation provided by a surveyor. The County must provide the SWS solid information to demonstrate the landfill baseliner system is intact and not damaged by the well installation. Should the baseliner system have been damaged due to well installation, within 15 calendar days after receiving this comment letter, the County must submit a work plan to assess and restore the damaged landfill liner system in the areas surround the wells. The SWS will review the submitted plan, and the County shall not conduct any baseliner restoration activities prior to the SWS approval.
6. (Appendix D – Record Drawing No. 1 of 1)
  - i. The as-built drawing must be signed and sealed by a professional engineer or licensed surveyor registered in the State of North Carolina.
  - ii. Please provide the final well schedule (tabulated format) in consistent with the well logs on the as-built drawing. For example final data of the ground elevation, well depth, etc is based on survey results. Well EW-417 is removed from the project scope. Since many wells are relocated in the field, so the final northing & easting coordinates of these well must be provided in the record report.

7. (Appendix F – Leak Test Results) Air testing that was conducted at 14:00 p.m., June 25, 2011 through 07:00 a.m., June 26, 2011 on the 2-inch forcemain and 2 X 4 DC shown the pressure drop/ air loss "1 lb." Please explain why the test result is acceptable.
8. (Appendix G – Correspondence) The NCDHHS letter dated December 6, 2010 is a review/comment correspondence to inquire clarification and more information and not an approval document. Please provide the documentation issued by NCDHHS that approved the asbestos-containing material/waste plan associated with the construction of LFGCCS.
9. In the February 18, 2011 letter (Doc ID 12976), the SWS has requested the County to submit the revised document including the modification of Operation Plan and Closure and Post-Closure Plan to the existing *Permit Amendment Application, Johnston County MSW Landfill, Phase 4A, Cell 3*, which was approved by the SWS in 2009. Via the February 28 2011 e-mail message, the SWS has further agreed the County's consultant request that the above-mentioned document would be submitted to SWS within four (4) weeks after the LFGCCS starts. Since the Report and the report cover letter do not mention the schedule of submittal of the aforementioned document, please provide the firm submittal date.

Please respond the above-mentioned comments and provide the SWS one hard copy and an electronic copy (in the pdf format) of the revised Report. The Solid Waste Section appreciates your efforts and cooperation in this matter. If you have any questions or would like to schedule a meeting to discuss this matter further, please contact me at (919) 707-8251.

Sincerely,



Ming-Tai Chao, P.E.  
Environmental Engineer II  
Permitting Branch, Solid Waste Section

cc:

Steven C. Lamb, P.E., SCS  
Donna Wilson, DWM  
Mary Whaley, DWM

Ed Mussler, Permitting Branch Supervisor  
Dennis Shackelford, DWM  
Central Files

## Chao, Ming-tai

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**From:** Lamb, Steve [SLamb@scsengineers.com]  
**Sent:** Tuesday, November 29, 2011 1:21 PM  
**To:** Chao, Ming-tai  
**Cc:** Mussler, Ed; Wilson, Donna  
**Subject:** RE: Construction Record Report for LFGCCS, Johnston County MSWLF, 51-03

Ming:

Thanks for the draft comments letter. We will review this week and revise report accordingly. In regards to EW509, EW510, and EW511, we did not drill through the liner. After we submitted the permit drawings to you we obtained better as-built data of the liner grades in Phase 5, revised the drawing/well schedule and adjusted the drilling depths to maximize LFG extraction. Sorry for the confusion on this one, we should have documented that better in the report.

Steve

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**From:** Chao, Ming-tai [<mailto:ming.chao@ncdenr.gov>]  
**Sent:** Tuesday, November 29, 2011 9:31 AM  
**To:** Lamb, Steve  
**Cc:** Mussler, Ed; Wilson, Donna  
**Subject:** Construction Record Report for LFGCCS, Johnston County MSWLF, 51-03

Dear Mr. Lamb:

After completing a review of the "Construction Documentation Report (Report) – Landfill Gas Collection and Control System Expansion 2011" dated November 17, 2011, I made comments on the Report to request for more information and clarification on several issues associated with the project. The attached is the "draft" comment letter for you to review so that certain comments such as the request for supplemental data and the correction of typos can be removed from the final official comment letter if you agree to provide a revised copy of the report including an electronic copy in a CD (pdf format).

Please pay special attention to the Comment No. 5 iii. Based on the data in the report, the landfill baseliner is likely damaged by advancing soil borings – EW509, EW-510, & EW-511. However, I don't want to make the final conclusion on this matter without discussing with you and your associates in charge of the construction activities. Please feel free to contact me if you have any questions on the draft comment letter.

Best regards,

Ming-Tai Chao, P.E.  
Environmental Engineer II  
Permitting Branch, Solid Waste Section  
Division of Waste Management  
1646 Mail Service Center  
Raleigh, NC 27699-1646 (Mailing Address)

**Green Square, 217 West Jones Street**  
**Raleigh, NC 27603**  
**Tel. 919-707-8251**  
[ming.chao@ncdenr.gov](mailto:ming.chao@ncdenr.gov)  
<http://portal.ncdenr.org/web/wm/sw>



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Environmental Engineer II  
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