

HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.

CONSULTING ENGINEERS

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Permit 13-04

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CLINT L. COURSON  
DANIEL E. CHEEK, P.E.  
K. MATTHEW CHEEK, P.E.

October 21, 2009

Mr. John E. Murray, P.E.  
Professional Engineer - Solid Waste Section  
North Carolina Dept. of Env. & Natural Resources  
Mooresville Regional Office  
610 East Center Avenue, Suite 301  
Mooresville, NC 28115

**Re: Charlotte Motor Speedway Landfill V  
Permit-to-Construct Phase 3  
Permit No. 13-04  
HHNT Project No. 6703-351-01**

Dear Mr. Murray:

We received your comments dated August 11, 2009 concerning the above referenced permit application. Listed below are your comments in italics and our responses in bold.

- 1. Closure Cost Estimate. Justify the reduction of the closure cost estimate from \$11,218,331 as of March 2007 to \$2,615,879 in the current application.*

**Response:** The closure cost estimate provided in the current application is associated with Phase 3 only. As new cells are completed, the site's financial assurance will be revised to include those cells and copies will be provided to the Section. This amount should be added to the 2009 closure cost of \$11,616,892 which includes existing cells, for a total of \$14,232,771. A copy of the 2009 Financial Assurance Instrument has been attached.

- 2. Post-Closure Cost Estimate. Justify the reduction of the post-closure cost estimate from \$5,448,279 as of March 2007 to \$2,730,000 in the current application.*

**Response:** The post-closure cost estimate provided in the current application is associated with Phase 3 only. These costs will be updated annually, as required by the Rules, and copies will be provided to the Section. This amount should be added to the 2009 post-closure cost of \$6,256,242 which includes the existing cells, for a total of \$8,986,242.00. A copy of the 2009 Financial Assurance Instrument has been attached.

3. *Add that all existing leachate lines are to be cleaned and inspected by camera within 12 months of issuance of this permit. Any blockages found during this cleaning will be repaired. All data will be supplied to the Division and maintained in the sites Operating Record. Also, add that jet cleaning and inspection by camera is to be completed every 3 years. Newly constructed leachate lines should be jet cleaned and then inspected by camera to establish a baseline. Add a description of your system maintenance program which will allow you to monitor leachate flows and quantities from individual manholes, pump stations, etc. The system should be read at minimum weekly, and that flow data and leachate levels are to be recorded by the facility in a leachate log. The log should be reviewed on a monthly basis for flow and maintenance issues.*

**Response:** The Operation Plan has been revised to note that all existing leachate lines shall be camera inspected within 12 months of permit issuance, if they can be accessed by the camera inspection equipment. If a blockage is found, the line will be jet cleaned and a subsequent camera inspection shall be done to verify the blockage is removed. Records of all cleaning and inspections will be maintained in the Facility's Operating Record and made available to the Section upon request.

The Operations Plan has been revised to include that the leachate collection piping will be closed-circuit televised (CCTV) 5 years after the most recent CCTV inspection. In addition, if during the leachate piping CCTV inspection a blockage is observed the piping with the blockage at a minimum will be cleaned with high pressure water jetting and CCTV to verify that the blockage is removed. After the 5 year leachate collection piping CCTV inspection and cleaning, a variance from further CCTV inspection and cleaning can be requested from the Division unless a blockage or problem is detected during the leachate collection and pumping inspection and maintenance program.

The Operations Plan has been revised to include that the leachate collection piping located in newly constructed landfill cells will be closed-circuit televised (CCTV) within 12 months following issuance of the Permit to Operate from the NCDENR Division of Waste Management. In addition, if during the leachate piping CCTV inspection a blockage is observed the piping with the blockage at a minimum will be cleaned with high pressure water jetting and CCTV to verify that the blockage is removed.

The Facility currently contracts with GunnCo Pump & Control, Inc., the leachate collection and pumping equipment manufacture to provide yearly inspection and maintenance of the equipment. A report is generated from the yearly inspection and kept in the Facility records. The Operations Plan has been revised to include a leachate

collection and pumping inspection program that includes the following:

- Provide the yearly leachate collection and pumping equipment inspection and maintenance as referenced in the previous paragraph.
- Continuously monitor the high water and pump failure alarms on each of the pump control panels.
- On a monthly basis monitor and record the general operating condition of the leachate collection pumps, pump control panels, leachate level transducers, and flow meters. In addition, when able and when applicable on a monthly basis from each landfill cell, monitor and record leachate flow, leachate level on the base liner system, and pump run time. The monthly monitoring information shall be recorded in a log and kept at the Facility.
- At variable intervals, review the monthly monitoring information for early warnings and to determine if the leachate collection and pumping system is working properly. (Monitoring early warning examples: if a pump has excessive run times with little or no reduction in leachate levels then the leachate collection sump may be clogged; if a pump has low run times with consistent high leachate levels on the base liner system then the pump is not working correctly or the leachate collection sump or piping is clogged; if the pump is constantly operating and the flow meter shows little or no flow then the pump discharge pipe check valve may not be working correctly or a valve may be closed or partially closed).

4. *The transfer of ownership and the compliance review by the Field Operations Branch must be reviewed and approved.*

**Response:** No response required.

5. *The submitted Industrial User Pretreatment Permit #1024 from the City of Concord for leachate disposal has expired. Please submit current permit.*

**Response:** A copy of the current permit has been added to Section V. Facility Plan, Appendix 4.

6. *Facility and Operation Plan need to be submitted to Teresa Bradford (Environmental Senior Specialist) in electronic format.*

**Response:** An electronic copy of the Operation Plan and Engineering Plans was submitted to Teresa Bradford on August 27, 2009.

Mr. John E. Murray, P.E.

October 21, 2009

Page 4 of 4

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7. *Section II page 27 states that alternative liners will not be used at this facility. If this is correct then delete all references to it in the CQA and Technical Sections of the application.*

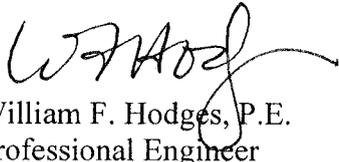
**Response:** Section II, Page No. 27 refers to double liner systems and this type of system will not be used on this facility. On Page No. 26, we noted the alternative liner with a geocomposite clay liner would be used.

In addition to the comments listed above, we have also included a copy of the legal description for the permitted landfill property, and a copy of the approval letter allowing the site to use a native soil protective cover material in the  $1 \times 10^{-4}$  cm/sec range. The CQA Plan and the Technical Specifications have been changed to reflect the approval of this native soil protective cover material. Lastly, the financial assurance cost estimate has been revised to include \$3 million for corrective action, as required by the Rules.

Should you have any questions, please call.

Sincerely,

**HODGES, HARBIN, NEWBERRY & TRIBBLE, INC.**



William F. Hodges, P.E.  
Professional Engineer

WFH/rm

*Enclosure*

cc: Ed Mussler, III, P.E. (w/enclosure)  
Mike Gurley (w/enclosure)  
Matt Cheek, P.E. (w/o enclosure)

June 1, 2009

Ms. Amy Annechino  
North Carolina Dept. of Environmental and Natural Resources  
401 Oberlin Road, Suite 150  
Raleigh, NC 27699

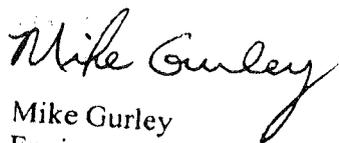
RE: Financial Assurance Instrument Update  
Charlotte Motor Speedway Landfill V

Dear Ms Annechino:

BFI Waste Systems of North America, Inc. is submitting to you our most current Financial Assurance Instrument for the Charlotte Motor Speedway Landfill (CMS).

Should you have any questions or concerns, please feel free to give me a call at (704) 262-6019.

Sincerely,



Mike Gurley  
Environmental Manager  
Allied Waste Industries, Inc.

## CERTIFICATE OF INSURANCE FOR CLOSURE AND/OR POST-CLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"):

Greenwich Insurance Company  
Seaview House, 70 Seaview Avenue  
Stamford, CT 06902-6040

Name and Address of Insured (herein called the "Insured"):

Republic Services, Inc.  
5105 Morehead Road  
Harrisburg, NC 28075

FACILITIES COVERED: (List for each facility: The Solid Waste Section Permit Number, name, address, and the amount of insurance for closure or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below)).

Permit Number: 13-04  
Name: Charlotte Motor Speedway Landfill  
Address: 5105 Morehead Road  
Harrisburg, NC 28075  
Closure Amount: \$11,616,892  
Post Closure Amount: \$6,256,242  
Corrective Action: \$ 0  
Face Amount: \$17,873,134  
Policy Number: PEC000303107  
Effective Date: May 1, 2009

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for closure for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of Paragraph (e)(1) of this Rule, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the North Carolina Division of Solid Waste Management (Division), the Insurer agrees to furnish to the Division a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in Paragraph (e)(2)(E) of this Rule as were constituted on the date shown immediately below.

*Mary Ann Susavidge*  
(Authorized signature for Insurer)

Mary Ann Susavidge  
(Name of person signing)

Vice President  
(Title of person signing)

*Karen J. King*  
(Signature of witness or notary)

5/6/09  
(Date)

SEAL

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Karen V. King, Notary Public  
Uwchlan Twp., Chester County  
My Commission Expires Oct. 31, 2010  
Member, Pennsylvania Association of Notaries

Wachovia Insurance Services, Inc.  
300 E McBee Ave, Ste 303 (29601)  
Post Office Box 3478  
Greenville, SC 29602

Tel 864 233 8626  
800 338-7154



WACHOVIA INSURANCE SERVICES

May 28, 2009

Mr. Mike Gurley  
BFI Waste Systems of North America, LLC  
5105 Morehead Rd  
Concord, NC 28027

Re: Type of Bond: Closure/Post Closure Bonds  
Bond Number: PEC000303107  
Obligee: North Carolina Department of Environmental and Natural  
Resources  
Description: Closure Post Closure for Charlotte Motor Speedway LF  
Bond Amount: \$17,873,134.00  
Premium Due: \$142,985.00

In accordance with your request, we are pleased to enclose the above referenced continuation certificate. Please file the original certificate with the obligee.

Please do not hesitate to contact us should you have any questions.

Sincerely,

Johanne S. Puckett  
864.527.4687

Enclosures

Insurance Products:

Not Insured by FDIC or Any Federal Government Agency | May Lose Value | Not a Deposit of or Guaranteed by a Bank or Any Bank Affiliate.

ADDENDUM TO APPROVED DOCUMENTS  
(Attachment 1, Part II (13) Facility Plan Drawings)

LEGAL DESCRIPTION OF REAL PROPERTY

The municipal solid waste landfill is located within four tracts of land totaling approximately 676.25 acres owned by BFI Waste Systems of North America Inc. The deed and legal descriptions of property are recorded in the Cabarrus County Public Registry at Deed Book 618, Page 204.

The actual permitted facility boundary for the municipal solid waste landfill is identified by the "City Limits of Concord" as shown and described on Attachment 1, Part II, (15) Drawing FP-1, "Site Property Description".

Pursuant to N.C. General Statutes 130A-301, whenever the municipal solid waste facility, or any portion of the land within this permit is sold, leased, conveyed or transferred, the deed or other instrument of transfer shall contain in the description section in no smaller type than that used in the body of the deed or instrument a statement that the property has been used as a sanitary landfill and a reference by book and page to the recordation of the permit.

309 East Morehead Street, Suite 160  
Charlotte, North Carolina 28202

Tel: (704) 358-7204  
Fax: (704) 358-7205

July 24, 2008



Mr. John Murray, P.E.  
NCDENR - Division of Waste Management  
Solid Waste Section - Permitting Branch  
Mooresville Regional Office  
610 East Center Ave.  
Mooresville, NC 28115  
John.Murray@ncmail.net

134961

Subject: Charlotte Motor Speedway V MSW Landfill –  
Cell 2G Construction (Permit Number 13-04)  
Approval of the Alteration of the Hydraulic Transmissivity for the  
Alternate Bottom Liner System Drainage Geocomposite

Dear Mr. Murray:

On July 11, 2008 at 10:00 a.m. a meeting was conducted at the Charlotte Motor Speedway (CMS) Solid Waste Management Facility's office building to discuss the alteration from the specified hydraulic transmissivity for the CMS Landfill's Cell 2G construction drainage geocomposite. Attendees of the meeting included John Murray with North Carolina Department of Environment and Natural Resources (NCDENR), Mike Gurley with Allied Waste Industries, Inc., Albert Glenn with Brown and Caldwell, and Richard Deason with Atlantic Coast Consulting, Inc. Information demonstrating the regulatory acceptability of the drainage geocomposite hydraulic transmissivity alteration was presented to and discussed with Mr. Murray at the meeting. The final outcome of the meeting was the approval of the alteration in the drainage geocomposite hydraulic transmissivity and authorization to continue construction of Cell 2G by Mr. Murray. We were also directed to include the alteration demonstration information in the certification report for Cell 2G construction quality assurance. This letter and its attachments serve as the demonstration for the hydraulic transmissivity alteration. An overview of the alteration demonstration information presented at the meeting is as follows.

The NCDENR approved permit to construct application for Cell 2G specified a geocomposite with a hydraulic transmissivity of  $5 \times 10^{-4}$  m<sup>2</sup>/sec at a hydraulic gradient of 0.25 and normal stress of 10,000 psf (see Attachment 1 – Table 3.5-1 Required Material Properties Geosynthetic Drainage Composite). As part of the construction quality assurance for Cell 2G the drainage geocomposite was laboratory tested to determine the actual field hydraulic transmissivity using a hydraulic gradient of 0.25, normal stress of 10,000 psf, and a seating time of 24-hours. Soil material to be used for the Cell 2G alternate bottom liner system protective cover was used in the laboratory test along with the 60 mil bottom liner system HDPE geomembrane. Three (3) separate laboratory tests of the drainage geocomposite resulted in a lowest hydraulic transmissivity of  $2.33 \times 10^{-4}$  m<sup>2</sup>/sec. The laboratory test results for the drainage geocomposite and protective cover soil are included in Attachment No. 1.

To demonstrate that the lowest laboratory test result for the drainage geocomposite meets the requirements set forth in Solid Waste Management Rules 15 NCAC 13B .1624.b.2, US EPA's Hydrological Evaluation of Landfill Performance (HELP) model version 3.07 was used. The HELP model was used to demonstrate that the laboratory test hydraulic transmissivity of  $2.33 \times 10^{-4} \text{ m}^2/\text{sec}$  (hydraulic conductivity of 4.828 cm/sec) will provide the necessary transmissivity to maintain less than one (1) foot of head on top of the landfill alternate bottom liner system geomembrane. The alteration demonstration HELP model inputs included similar weather, soil, and design data from the NCDENR approved permit to construct application HELP model. Other than the drainage geocomposite hydraulic transmissivity, the only difference in the HELP model inputs was the hydraulic conductivity for the protective soil cover which was  $6.6 \times 10^{-4} \text{ cm/sec}$ . This hydraulic conductivity was the result of laboratory testing of the soil that will be used for the Cell 2G bottom liner system protective cover. The protective cover soil laboratory test result is included in Attachment No. 1.

The HELP model outputs for the alteration demonstration are included in Attachment 2. A summary of the HELP model alteration demonstration results are in the following Table 1-1:

**Table 1-1. Summary of HELP Model Results for Typical One Acre Cell  
(Drainage Geocomposite with Hydraulic Transmissivity of  $2.33 \times 10^{-4} \text{ m}^2/\text{sec}$ )**

Evaluation Parameters	Lowest Laboratory Tested Geocomposite Hydraulic Transmissivity Result <sup>Notes 1, 2 &amp; 3</sup> (Hydraulic Conductivity <sup>Note 4</sup> )	Average Annual Head on Geomembrane	Peak Daily Average Head on Geomembrane	Peak Daily Maximum Head on Geomembrane
5 feet of Waste	$2.33 \times 10^{-4} \text{ m}^2/\text{sec}$ (4.828 cm/sec)	0.013 inches	0.174 inches	0.339 inches
70 feet of Waste with Intermediate Cover	$2.33 \times 10^{-4} \text{ m}^2/\text{sec}$ (4.828 cm/sec)	0.012 inches	0.076 inches	0.149 inches
130 feet of Waste with Intermediate Cover	$2.33 \times 10^{-4} \text{ m}^2/\text{sec}$ (4.828 cm/sec)	0.012 inches	0.073 inches	0.144 inches

Notes

1. The hydraulic transmissivity laboratory testing results for the drainage geocomposite are  $2.72 \times 10^{-4} \text{ m}^2/\text{sec}$ ,  $2.61 \times 10^{-4} \text{ m}^2/\text{sec}$ , and  $2.33 \times 10^{-4} \text{ m}^2/\text{sec}$ .
2. Laboratory tested with 2 feet of protective soil cover, Agru double sided drainage geocomposite, and 60 mil HDPE geomembrane.
3. Tested with a normal load of 10,000 psf and hydraulic gradient of 0.25.
4. Based on a drainage geocomposite hydraulic transmissivity of  $2.33 \times 10^{-4} \text{ m}^2/\text{sec}$  and thickness of 0.4826 cm.

Mr. John Murray, P.E.  
Page 3  
July 24, 2008

As shown in Table 1-1, the HELP model outputs using the lowest laboratory testing result for the drainage geocomposite and protective cover soil meets the requirement set forth in the Solid Waste Management Rule 15 NCAC 13B .1624.b.2 of maintaining less than one (1) foot of hydraulic head on top of the bottom liner system geomembrane.

If you have any questions, or need additional information, please don't hesitate to contact me at (704) 373-7127 or Mike Gurley with Allied Waste at (704) 782-2004 ext 391.

Sincerely,

BROWN AND CALDWELL



Albert D. Glenn, P.E.  
Senior Engineer

Attachments: 1 and 2

Cc: Mike Gurley - Allied Waste Industries, Inc.

Richard Deason - Atlantic Coast Consulting, Inc.

Cell 2G Construction Quality Assurance Certification Report

File