

Permit No.	Date	Document ID No.
<b>06-03</b>	<b>October 26, 2010</b>	<b>11953</b>



**RICHARDSON SMITH GARDNER & ASSOCIATES**

Engineering and Geological Services

October 25, 2010

Mr. Allen Gaither, P.E.  
*Environmental Engineer*  
**NCDENR - Division of Waste Management**  
2090 U.S. HWY 70  
Swannanoa, North Carolina 28778

**Re: Financial Assurance Update**  
**Avery County C&D Landfill**  
**(NC Solid Waste Permit No. 06-03)**

Dear Allen,

On behalf of Avery County Solid Waste Department, and in response to the memorandum issued October 14, 2010 by NCDENR (copy **attached**), Richardson Smith Gardner & Associates (RSG) has prepared revised closure and post-closure estimates, including total costs with potential assessment and corrective action for the Avery County C&D Landfill (**attached**) for your review and approval.

We appreciate your attention in this matter and we are prepared to respond immediately to any questions regarding this update as it is our understanding that this information should be submitted by October 29, 2010. Please feel free to contact us by phone at (919) 828-0577 or by email below.

Sincerely,

**Richardson Smith Gardner & Associates, Inc.**

Don Misenheimer  
Project Scientist, ext. 141  
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Stacey A. Smith, P.E.  
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Cc: Donald Herndon, NCDENR  
Bill Wagner, NCDENR  
Henry "Buddy" Norris, Avery County

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North Carolina Department of Environment and Natural Resources  
Division of Waste Management

Beverly Eaves Perdue  
Governor

Dexter R. Matthews  
Director

Dee Freeman  
Secretary

October 12, 2010

**MEMORANDUM**

**To:** Solid Waste Directors, Finance Directors and Landfill Owners and Operators

**From:** North Carolina Division of Waste Management, Solid Waste Section

**Re:** **Financial Assurance Process for Solid Waste Management Facilities**

The purpose of this memo is to clarify the process of providing financial assurance for solid waste management facilities. According to N.C.G.S. 130A-295.2 (f): "The applicant and permit holder for a solid waste management facility shall establish financial assurance..." The acceptable financial assurance mechanisms are outlined in 15A NCAC 13B .1628.

The process for securing and updating financial assurance should be as follows:

- During the application for a new permit or the amendment (five year review cycle) of an existing permit, the applicant shall submit cost estimates for any closure, post closure or corrective action costs associated with the facility.
- The cost estimates shall be reviewed and approved by a Solid Waste Section Permitting Engineer. Please note that for a landfill, the approved cost estimates relate to the "largest area" that the active permit allows.
- The facility shall secure a financial assurance mechanism and submit the original documentation to the Compliance Officer with the Solid Waste Section. It is highly recommended that the facility submit a draft copy for any **NEW** financial assurance mechanisms (excluding the Local Government Financial Test) to the Compliance Officer for review before the mechanism is finalized.
- On the anniversary date of a financial assurance mechanism, the facility shall send an updated financial assurance mechanism that has been adjusted for inflation (using the current inflation factor located on our website <http://portal.ncdenr.org/web/wm/sw/financialassurance>) from the previous year. Please note that for each year until new cost estimates are reviewed and approved by a Solid Waste Section engineer during the permit amendment process, the **ONLY** adjustment to



the cost estimates should be for inflation. If the facility has increased costs due to environmental assessment or corrective action activities, the facility shall petition the Section for cost estimate adjustment. If the facility petitions the Section for cost estimates to be adjusted for any reason other than inflation, they may be subject to a permitting fee.

#### Reminders

- The Solid Waste Section will no longer be sending out “approval letters” on an annual basis to facilities after they have submitted their initial or updated financial assurance mechanism. If there is a problem with the financial assurance mechanism, the Solid Waste Section Compliance Officer will contact the facility at that point.
- For facilities that are using the Local Government Financial Test, the deadline for annual submittals is October 29<sup>th</sup>. All requests for an extension of this deadline must be received by that date.
- In Accordance with NCGS 130A 295.2 (h), all sanitary landfills must provide financial assurance for potential assessment and corrective action in the minimum amount of \$3,000,000. This is required when the permit is next subject to renewal after August 1, 2009.
- It is allowable for a facility to secure financial assurance for an amount higher than the cost estimates such that an adjustment does not need to be made for inflation until the mechanism no longer accounts for the inflation adjusted amount. This must be arranged with the Solid Waste Section Compliance Officer prior to implementation.
- For all facilities that use a Surety Bond or Letter of Credit for a financial assurance mechanism, they must also establish a Standby Trust Fund.
- Our website address has changed, and currently, the Financial Assurance page with all relevant information including template language for mechanisms, inflation factors, Solid Waste Rules and general guidance is located at:  
<http://portal.ncdenr.org/web/wm/sw/financialassurance>

If you have any questions or concerns, please feel free to contact Donald Herndon ([donald.herndon@ncdenr.gov](mailto:donald.herndon@ncdenr.gov) or 919-508-8502) or Shawn McKee ([shawn.mckee@ncdenr.gov](mailto:shawn.mckee@ncdenr.gov) or 919-508-5812).

Thank you for your continued cooperation with these matters.



**Avery County C&D Landfill (NC SW Permit No. 06-03)  
Engineer's Post Closure Estimate**

Item	Quantity	Unit	Comments
<b>Groundwater Monitoring</b>			
Monitoring wells	4	wells	Reference 1
Surface water point	2	points	Reference 1
Sampling frequency	2	events	Reference 1
Field sampling, collection, and shipping	\$800	per event	RSG estimate
Laboratory Analysis	\$325	per well	RSG estimate
Data review, statistics, and reporting	\$2,000	per event	RSG estimate
Maintenance and repair	\$1,000	per well	RSG historical estimate
<b>Subtotal Cost</b>	<b>\$13,500</b>	<b>per year</b>	
<b>Landfill Gas Management</b>			
Control System Vents	7	vents	Per Ref. 1 (pro-rated @ one (1) per acre)
Sub-Surface Perimeter Monitoring Probes	4	probes	Per Ref. 1
Control system monitoring, maintenance and repair	\$50	per vent per year	RSG estimate
Semi-Annual Perimeter Monitoring	\$50	per probe per year	RSG estimate
<b>Subtotal Cost</b>	<b>\$560</b>	<b>per year</b>	Averaged over post-closure period
<b>Final Cover Management</b>			
Area of maintenance	7.19	acres	Extends to area immediately around landfill.
Mowing	\$100	per acre	Site historical estimate
Erosion and sediment control maintenance	\$200	per acre	Site historical estimate
Topdressing (seed & fertilizer)	\$150	per acre	Site historical estimate
Vector and rodent control	\$10	per acre	Site historical estimate
Maintenance Mobilization	\$1,000	per year	Site historical estimate
<b>Subtotal Cost</b>	<b>\$4,307</b>	<b>per year</b>	
<b>Administration, Inspections, and Reporting</b>			
Administration and record keeping	\$1,000	per year	Site historical estimate
Inspection	\$1,000	per year	Site historical estimate
Miscellaneous engineering	\$1,500	per year	Site historical estimate
<b>Subtotal Cost</b>	<b>\$3,500</b>	<b>per year</b>	
<b>Subtotal Post-Closure Costs</b>			
Estimated Average Annual Costs	\$21,867	per year (2010\$)	
Number of Years for Post-Closure	30	years (see Note 1)	
Cost per Acre	\$3,041.29	per year	
<b>Subtotal Post Closure Costs</b>	<b>\$656,007</b>	(2010\$) (See Note 2)	
<b>Potential Assessment and Corrective (Remedial) Action</b>			
Minimum amount required by NCDENR Division of Waste Management	\$3,000,000	lump sum	Regulatory requirement
Deduct Groundwater Monitoring	\$405,000	see above	Includes full post closure period. 30 years.
Deduct Landfill Gas Management	\$16,785	see above	Includes full post closure period. 30 years.
Deduct Final Cover Management	\$129,222	see above	Includes full post closure period. 30 years.
Deduct Administration, Inspections, and Reporting	\$105,000	see above.	Includes full post closure period. 30 years.
<b>Subtotal Remedial Cost</b>	<b>\$2,343,993</b>	<b>lump sum</b>	
<b>Total Post Closure and Remedial Costs</b>	<b>\$3,000,000</b>	(2010\$) (See Note 2)	
<b>Total Closure, Post Closure, and Remedial Costs</b>	<b>\$3,394,959</b>	(2010\$) (See Note 2)	

**Notes:**

- All costs are presented in current dollars and should be increased at an inflation rate prescribed by the NCDENR Division of Waste Management per <http://portal.ncdenr.org/web/wm/sw/financialassurance> if additional review is not performed annually.
- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor and is considered acceptable within a +/- 10% of the Total Estimate value.

**References:**

- Avery County Construction and Demolition Landfill Phase III Permit to Construct Application by Richardson Smith Gardner & Associates, Inc. dated February 2009 with revisions through August 2009.

Denotes values calculated in spreadsheet.



DATE: 21-Oct-10  
BY: SAS / DMM

Avery County C&D Landfill (NC SW Permit No. 06-03)  
Engineer's Closure Construction Cost Estimate

Item No.	Item Description	Unit	Contractor			Comments
			Quantity	Unit Price	Total Price	
<b>Closure Area (Horizontal Plan) ----&gt;</b>		<b>AC</b>	<b>7.19</b>			
<b>1.0</b>	<b>Pre-Construction</b>			<b>Subtotal</b>	<b>\$18,595.00</b>	
1.1	Construction Documents & Bidding	AC	7	\$10k + \$500/AC	\$18,595.00	RSG Estimate
<b>2.0</b>	<b>Construction</b>				<b>\$320,314.50</b>	References 1 and 2.
2.1	Surveys and Layout	AC	7	\$1,000.00	\$7,190.00	RSG Historical Estimate
2.2	Mobilization	AC	7	\$1,000.00	\$7,190.00	~4% of Construction Cost
2.3	Site Preparation (repairs to intermediate cover layer)	AC	7	\$1,000.00	\$7,190.00	Assumed estimate for repair of erosion rills.
2.4	18" On-site Low Permeability Soil	CY	17,400	\$8.00	\$139,198.40	RSG Estimate
2.5	18" Vegetative Support Layer	CY	17,400	\$4.50	\$78,299.10	RSG Estimate
2.6	Landfill Gas Venting System	AC	7	\$2,500.00	\$17,975.00	RSG Estimate
2.7	Cap Drainage Structures (berms, piping, etc.)	AC	7	\$5,000.00	\$35,950.00	RSG Historical Estimate
2.8	Erosion & Sediment Control (grading, silt fence, maintenance, etc.)	AC	7	\$800.00	\$5,752.00	RSG Historical Estimate
2.9	Revegetation	AC	7	\$3,000.00	\$21,570.00	Site Historical Estimate
<b>3.0</b>	<b>Quality Assurance, Certification, &amp; Deed Notation</b>				<b>\$47,061.50</b>	
3.1	Field Monitoring	AC	7	\$3,000.00	\$21,570.00	RSG Estimate
3.2	Laboratory Testing	AC	7	\$2,500.00	\$17,975.00	RSG Estimate
3.3	Engineering Certification	AC	7	\$5k + \$250/AC	\$6,797.50	RSG Estimate
3.4	Surveying and Deed Notation	AC	7	\$100.00	\$719.00	RSG Historical Estimate
<b>4.0</b>	<b>Miscellaneous Costs to Close</b>				<b>\$8,987.50</b>	
4.1	Erosion and Stormwater Control (outside landfill footprint)	AC	7	\$1,000.00	\$7,190.00	RSG Historical Estimate
4.2	Engineering and Reporting	AC	7	\$250.00	\$1,797.50	RSG Historical Estimate
<b>5.0</b>	<b>Total Closure Costs</b>					
<b>Construction Estimate ----&gt;</b>					<b>\$394,959</b>	(2010\$)
<b>Cost per Acre ----&gt;</b>					<b>\$54,932</b>	
<b>Total Estimate ----&gt;</b>					<b>\$394,959</b>	(2010\$) (See Note 1)

Notes:

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- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor and is considered acceptable within a +/- 10% of the Total Estimate value.

References:

- Avery County Construction and Demolition Landfill Phase III Permit to Construct Application by Richardson Smith Gardner & Associates, Inc. dated February 2009 with revisions through August 2009.
- Correspondence dated March 17, 2010 regarding approval of the site suitability including lateral expansion of Phase 2 following purchase of the Lechler parcel to Mr. Buddy Norris, Avery County from Mr. Zinith Barbee, NCDENR.

Denotes values calculated in spreadsheet.