evergreen packaging

Canton Office
175 Main Street • Canton, NC 28716

Fac/Perm/Co ID #	Date	Doc ID#
44-06	9/16/11	15164

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SOLID WASTE SECTION
ASHEVILLE REGIONAL OFFICE

12 September 2011

Mr. Allen Gaither
Environmental Engineer
Division of Waste Management
North Carolina Department of Environment
and Natural Resources
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

Subject: **Revised Estimate for Landfill Financial Assurance**
Canton Mill Landfill No. 6
Permit No. 44-06

Dear Mr. Gaither –

Attached is the cost estimate for the closure of Landfill Number 6, Permit Number 44-06. The estimate previously submitted to the Division on 7 Feb 2011 is revised to reflect the modified Potential Assessment and Corrective Action (PACA) reserve. Sevee & Maher Engineers made the changes to the 2011 lined landfill closure estimate to reflect the current North Carolina PACA standards. These documents are enclosed. The revised total financial assurance amount is $5.472 million.

Evergreen Packaging has established a financial assurance mechanism by letter of credit with an effective date of 3 August 2011 in accordance with 15A NCAC 13B .1628(e).

Sincerely –

James Giauque
Waste Compliance & Landfill Supervisor
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Manager, Environmental Affairs
Canton / Waynesville
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Enclosures: 8 Sep 2011 revised financial assurance estimate prepared by SME, 5 pages
File: 12 Sep 2011 revised financial assure est
Cc w/ enclosures: Shawn McKee, NC DWM Raleigh

Cost Estimate Form for Closure of a Lined Landfill

Facility Name:	
2011 CLOSURE ESTIMATE FOR LANDFILL NO. 6	
Address of Facility:	
CANTON, NORTH CAROLINA	
Owner:	
EVERGREEN PACKAGING - CANTON MILL	
Phase: AREA 6A-WEST	
15	**Acres (15 acres with HDPE)**
DENR Permit #: 44-06	

Task		Unit	Unit Cost	Quantity	Total Cost
I Design of Final Closure Plans	**Cat1**				
Engineering Cost	100	*TS*	$75,000.00	1	$75,000.00
Plans	110	*TS*			$0.00
Modification/Closure Plan Review Fees	120	*TS*			$0.00
II Mobilization, Demobilization & Insurance	**Cat 2**				
Total cost	200	*TS*	$25,000.00	1	$25,000.00
Other	210				$0.00
III Erosion Control	**Cat 3**				
Silt Fence	300	*LF*	$3.50	6000	$21,000.00
Erosion Matting/ Blanket	310	*EA*	$15,000.00	1	$15,000.00
Hay Bale Sediment Barrier	320	*LF*			$0.00
Hay Mulch Cover	330				$0.00
Check Dams	340	*EA*			$0.00
Other	350	*TS*	$25,000.00	1	$25,000.00
IV Waste Relocation	**Cat 4**				
Test Pits (to define limits of refuse and/or ground water to refuse contact)	400	*DAY*			$0.00
Clearing & Grubbing	410	*SY*			$0.00
Waste Regrading	420	*CY*	$0.00	1	$0.00
Other	430				$0.00
V Capping	**Cat 5**				
A Cap (Material and Installation)					$0.00
Geomembrane - 40 mil HDPE	510	*SF*	$0.50	652500	$326,250.00
Common Borrow Soil Layer - 18" thick	520	*CY*	$5.50	36300	$199,650.00
Common Borrow Soil Layer - 36" thick	530	*CY*			$0.00
Anchor Trench	540				$0.00
Geotextile 16 oz.	541	*SF*	$0.30	652500	$195,750.00
Geotextile 12 oz.	542	*SF*	$0.20		$0.00
Geocomposite	543	*SF*	$0.45	652500	$293,625.00
Other	550				$0.00
B Gas Vents Devices	Cat 6				$0.00
Gas Wells	600	*VF*	$80.00	0	$0.00
Gas Vents	610	*LF*	$9.00	6000	$54,000.00
C Layers	Cat 7				$0.00
Drainage Layer - Washed Aggregate - 6" thick	700	*CY*	$17.00	12100	$205,700.00
Intermediate Cover Placement	710	*CY*	$0.00	0	$0.00
Sand - Protective Gas Venting Layer - 12" thick	720	*CY*	$7.00	0	$0.00
Topsoil/Loam or Manufactured Soil - 6" thick	730	*CY*	$10.00	12100	$121,000.00
Sand Bags for berms	740	*ea*	$0.15		$0.00
Other	750				$0.00

Task		Unit	Unit Cost	Quantity	Total Cost
VI Stabilization, Run-off Control	**Cat 8**				
Seed & Mulch (Include Lime, Fertilizer, Seed & Hay Mulch)	800	*Unit*	$50.00	1300	$65,000.00
Surface Water Diversion Swales	810	*LF*	$0.00	0	$0.00
Stone Rip-Rap	820	*LF*	$20.00	0	$0.00
Piping 6 inch	852	*LF*	$9.00	7000	$63,000.00
Piping Connections	853	*EA*	$1,000.00	12	$12,000.00
Stormdrain system	860	*EA*	$0.00	1	$0.00
VII Monitoring Devices	**Cat 9**				
Settlement Monuments/Plates	900	*EA*			$0.00
Groundwater Monitoring Wells	910	*EA*			$0.00
Gas Monitoring Probes	920	*EA*		0	$0.00
Other	930				$0.00
VIII Roadway	**Cat 10**				
Access Roadway	1000	*LF*			$0.00
Drainage Ditches	1010				$0.00
Culvert Inlet & Outlet Headwalls	1020				$0.00
Guide Rail	1030	*LF*			$0.00
Culverts	1040	*LF*	$50.00	500	$25,000.00
New/Replaced Pavement	1050	*SY*			$0.00
Other	1060				$0.00
IX Miscellaneous	**Cat 11**				
Signs	1100	*LS*			$0.00
Perimeter Fence	1110	*LF*			$0.00
Entry Gate - Double Unit	1120	*EA*			$0.00
Miscellaneous Work and Cleanup	1130				$0.00
Ledge Removal	1140	*CY*			$0.00
Other	1150				$0.00
X Surveying	**Cat 12**				
Baseline, Bench Marks, and Survey Control	1200	*EA*	$5.00	1	$5.00
Other	1210				$0.00
XI Construction Phase Testing	**Cat 13**				
Compaction Testing	1300				$0.00
QAQC	1310		$30,000.00	1	$30,000.00
Other	1320				$0.00
XII Engineering	**Cat 14**				
Resident Engineer, Project Manager, Project Engineer	1400		$125,000.00	1	$125,000.00
Record Drawings	1410		$8,000.00	1	$8,000.00
Other	1420				$0.00
XIII Other (list)	**Cat 15**				
	1500				$0.00
	1510				$0.00
XIV Contingency (minimum 10%)	**Cat 16**				
	1600	*LS*	**10%**	**1884980**	190,000
Total Closure Cost					**$2,074,980**

Total Closure Cost Rounded	**$2,075,000**
Post Closure Monitoring and Maintenance	**$1,397,000**
Corrective Action	**$2,000,000**
Total Financial Assurance	**$5,472,000**

Evergreen Packaging - Canton Mill
Landfill No. 6
Canton, North Carolina
Post-Closure Monitoring and Maintenance Costs

Inflation Rate 1.20%

1. Landfill Maintenance Cost

	ESTIMATED COSTS years	cost/year	total cost	Adjusted for Inflation
a. General site repairs and maintenance.				
Required repairs will include erosion repairs of the cover system, siltation removal from the stormwater conveyance system, surface repairs to the roads, and culvert maintenance.	1-10	$2,500	$25,000	($26,394)
	11-30	$1,500	$30,000	($37,946)
Approximately 150 acres of the landfill facility will require mowing. Mowing will occur twice per year.	1-30	$5,000	$150,000	($179,276)
b. Snow removal. Road maintenance during the winter months will include plowing, sanding, and shoveling	1-30	$2,500	$75,000	($89,638)
c. Gas control system. Not Applicable	1-30	$0	$0	$0
SUBTOTAL LANDFILL MAINTENANCE				**($333,254)**

2. Landfill Inspections

a. Mill inspections This item provides the cost for periodic inspections by Evergreen personnel. The first 3- years will require 2 visits per year. Years 4-30 will require 1 visit per year.	1-3	$500	$1,500	($1,518)
	4-30	$300	$8,100	($9,846)
b. Independent engineering firm Cost associated with this item include 2 site inspections per year for the first three years of post closure and 1 site inspection per year for the last twenty seven years.	1-3	$1,000	$3,000	($3,036)
	4-30	$500	$13,500	($16,409)
c. Geotechnical Inspections This item includes the cost associated with one site inspection per year for the 30-year post closure period. Cost include the review of data (piezometers, settlement, gauges, etc.), and a letter report documenting the condition of the landfill.	1-30	$1,000	$30,000	($35,855)
SUBTOTAL INSPECTION COST				**($66,664)**

Evergreen Packaging - Canton Mill
Landfill No. 6
Canton, North Carolina
Post-Closure Monitoring and Maintenance Costs

3. Leachate Management		year	cost/year	cost	Adjusted for Inflation	
a. Replacement Cost						
These costs are assumed replacement costs for the leachate pond liner (20 yr life), leachate pumps (10 year life), and flow meter and controls (15 yr life).						
Pond liner (40,000 SF)				$40,000	($50,777)	
Pumps				$25,000	($28,167)	
b. Preventative Maintenance						
Assumes biennual preventative maintenance of the leachate force main, cleaning and inspection of the leachate pond liner and annual cleaning and inspection of the leachate collection system.		1-30	$15,000	$450,000	($537,827)	
c. Electric cost (pump station)						
This item includes the electrical cost for two pump stations.		1-30	$2,000	$60,000	($71,710)	
d. General cost						
This item includes costs associated with general repairs and maintenance to the pump station buildings, pumps, fitting, valves, meters and lights.		1-30	$5,000	$150,000	($179,276)	
e. Leachate Treatment	Years	Cost/gal	Leachate Generation Gal/Yr	Cost		
Cost associated with treating the leachate pumped to the WWTP. Leachate generation is based on geomembrane covers for 6D-South and soil covers on 6A-East, West, and B and C.	1-30	$ 0.0004	9007500	$108,090	($129,186)	
	SUBTOTAL LEACHATE MANAGEMENT					**($996,943)**

Evergreen Packaging - Canton Mill
Landfill No. 6
Canton, North Carolina
Post-Closure Monitoring and Maintenance Costs

CORRECTIVE ACTION COST ITEMS INCLUDED IN $2,000,000 (new statutory minimum July 2011)

	year	cost/year	cost	Adjusted for Inflation
Water Quality Monitoring, Testing, and Reporting				
a. Sampling and Analysis	1-5	$50,000	$250,000	($256,072)
	6-30	$25,000	$625,000	($768,341)
Cost associated with water quality monitoring, testing, and reporting include field sampling, laboratory analysis, quarterly and annual reporting, equipment cost, mileage , hotel, and meal cost and miscellaneous materials cost. The water sampling will be at a rate of twice a year for the first five years and once a year the following twenty five years				
b. Methane Gas Monitoring	1-10	$6,000	$60,000	($63,346)
Cost associated with methane gas testing, and reporting include field sampling, and semi annual reporting, equipment cost, mileage , hotel, and meal cost and miscellaneous materials cost. The gas monitoring will be at a rate of twice per year for the first ten years and once a year the following twenty years	10-30	$3,000	$60,000	($75,892)
c. Groundwater and Gas monitoring system. This item provides the cost to replace two monitoring wells and a gas probe over the 30-year post-closure period. The cost include drilling , installation , development , and documentation.	15	$15,000	$15,000	($17,939)

SUBTOTAL CORRECTIVE ACTION	**($1,181,591)**
CORRECTIVE ACTION USED IN FINANCIAL ASSURANCE	**($2,000,000)**
GRAND TOTAL FOR 30 YEARS	**($3,396,861)**
ROUNDED	**($3,397,000)**

Reviewed by Sevee & Maher Engineers, 9/08/2011