

Wilson, Donna

From: David Garrett [david@davidgarrettpe.com]
Sent: Tuesday, September 15, 2009 1:40 PM
To: Wilson, Donna
Cc: 'Wayne Bell'; 'judson whitehurst'
Subject: RE: Alternate Financial Assurance Supplement
Attachments: Table 9C.pdf; Section 11 Financial Assurance.pdf; Table 9A.pdf

The volumes on the cost breakdown were for Phase 1 only. Same unit rates would apply to Phase 2A. The proposed testing and surveying cost change is based on a percentage of the earthwork costs, as is the contingency, and these have been revised back to the same percentage values presented in the October 2008 calculations which were approved). The substantial change in the closure costs are the unit earthwork costs, for which I believe we have provided justification with the cost breakdown provided yesterday. The post-closure costs have been restored to the original values that were approved based on the October 2008 calculations. These revisions increased the closure post-closure bond requirement by approximately \$200K. Please see the attached Tables 9A, 9C, and Section 11. The Owner/Operator realizes that these calculations will be revised once the closure of Phase 1 is completed, scheduled for later this year. Please call me with any further questions, as I will be on the road this afternoon and tomorrow. Thank you.

David Garrett, P.G., P.E.
David Garrett & Associates
5105 Harbour Towne Drive
Raleigh, NC 27604

Tel. 919-418-4375 (mobile)

From: Wilson, Donna [mailto:donna.wilson@ncdenr.gov]
Sent: Tuesday, September 15, 2009 11:43 AM
To: David Garrett; 'Donna Wilson'; ed.mussler@ncmail.net
Cc: 'judson whitehurst'; 'Wayne Bell'; 'John A.K. Tucker, PE'
Subject: RE: Alternate Financial Assurance Supplement

Dave – I'm still reviewing the numbers. Can you tell me why the volumes were changed for both layers? Also, please address my question regarding the testing and surveying changes.
Thanks, Donna

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E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: David Garrett [mailto:david@davidgarrettpe.com]
Sent: Sunday, September 13, 2009 8:01 PM
To: 'Donna Wilson'; ed.mussler@ncmail.net
Cc: 'judson whitehurst'; 'Wayne Bell'; 'John A.K. Tucker, PE'
Subject: Alternate Financial Assurance Supplement

Please see attached document with a breakdown of earthwork costs requested by SWS.

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TABLE 9C REVISED
ESTIMATED POST-CLOSURE COSTS FOR PHASES 1 and 2A (in 2009 dollars)

Annual Events	Units		Unit Cost	Cost/Event	Annual Costs
Reseeding/mulching and erosion repair (Assume 5% of 25 ac., once per year)	1.25	ac.	\$1,600	\$2,000.00	\$2,000.00
Mow final cap (twice per year)	25	ac.	\$25	\$625.00	\$1,250.00
Ground Water (semi-annual, 22 wells)*	22	ea.	\$400	\$8,800.00	\$17,600.00
Surface Water (semi-annual, 3 locations)*	3	ea.	\$350	\$1,050.00	\$2,100.00
Water quality analysis and reporting	2	ea.	\$2,500	\$2,500.00	\$5,000.00
Landfill Gas Monitoring (quarterly)	4	ea.	\$1,750	\$1,750.00	\$7,000.00
Engineering inspection (annual basis)	1	ea.	\$3,500	\$3,500.00	\$3,500.00
Maintain storm water conveyances	1	ea.	\$2,000	\$2,000.00	\$2,000.00
Maintain access roads, gates, buildings	1	ea.	\$1,000	\$1,000.00	\$1,000.00
	Total Estimated Annual Cost				\$41,450.00

*Appendix I Detection Monitoring (**Section 10.0**)

11.0 FINANCIAL ASSURANCE

The **2006 C&D Rules** require that Owners/Operators demonstrate financial assurance for closure and post-closure activities. Typically, for local government-owned facilities, said demonstration is based on a local government test. For private facilities, the posting of a performance bond or insurance policy is typically acceptable to the Division.

Cost estimates for closure and post-closure of CDLF Phases 1 and 2A are presented in **Sections 9.2.4** and **9.3.4**, respectively. The following is a summation of the projected closure and post closure costs in 2009 dollars, on which an initial financial assurance document will be based.

The financial assurance document will be recalculated upon reaching key milestones in the project, i.e., opening new cells or closing old ones with approved final cover (including incremental closure of exterior slopes), upon effecting a change the monitoring requirements, and annually during the post-closure period to account for completion of each year's monitoring and maintenance activities. Likewise, the posted financial assurance instrument amount (bond, insurance, etc.) should be adjusted on a yearly basis.

SUMMARY OF CLOSURE AND POST-CLOSURE COST

1.	Final Closure Construction (see Table 9A)	\$ 691,875
2.	Projected Post-Closure Costs (see Table 9C)	
		\$41,450 x 30 years = \$1,243,500
	TOTAL CLOSURE/POST-CLOSURE COST	\$1,935,375

Upon approval of the financial assurance amount (and issuance of the Permit) by NC DENR Division of Waste Management, Owners/Operators must furnish an acceptable financial assurance instrument (e.g., performance bond, irrevocable letter of credit, insurance policy, other fiduciary instrument) within 30 days of notification of approval. Said documentation shall be furnished by the deadline and will be included as a future amendment to this report (see **Appendix 10**).

TABLE 9A REVISED
ESTIMATED FINAL CLOSURE COSTS FOR PHASES 1 and 2A (2009 dollars) ¹

VSL (topsoil) ² – 25 acres	60,500 c.y.	@	\$3 / cubic yard ⁵	\$181,500
CSB (barrier) ² – 25 acres	70,000 c.y.	@	\$3.5 / cubic yard ⁵	\$245,000
Establish Vegetation	25 acres	@	\$1,300 per acre	\$ 32,500
Storm Water Piping ³	1200 LF	@	\$35.00 / LF	\$ 42,000
Erosion Control Stone ³	100 tons	@	\$40.00 / ton	\$ 4,000
Gas Vents – 25 ac * 3/ac	75 each	@	\$100 each	\$ 7,500
Subtotal Construction Costs				\$512,500
Testing and Surveying ⁴	Estimated 20 percent of subtotal			\$ 102,500
Contingency	Estimated 15 percent of subtotal			\$ 76,875
Total Construction Cost (if contracted out)				\$ 691,875

- 1 Intended to represent likely third-party construction costs (hired contractor, not the Owner/Operator), based on knowledge of local construction costs for similar projects – these estimates provided to meet NC DENR Division of Waste Management financial assurance requirements; actual costs may be lower for construction by the Owner/Operator; final closure work will be performed incrementally, spreading out the costs over the life of the project.
- 2 Includes soil work for regulatory requirements of 15A NCAC 13B .0543 (c), i.e., a minimum of 18 inches of compacted soil barrier (CSB) with max. permeability of 1×10^{-5} cm/sec and 18 inches of vegetation support layer (VSL), or topsoil, with a total soil thickness of 36 inches.

For the compacted soil barrier, use a shrinkage factor of 15%; costs include surface preparation, soil procurement and transport costs, soil placement and compaction, machine/equipment costs, fuel costs
- 3 Conservative estimate based on similar project history; includes materials and installation
- 4 Includes Construction document and bidding, construction administrative fee, CQA field monitoring and lab testing, CQA reporting and certification, final survey for as-built drawings, recordation/notation fee
- 5 Suitable soil has been identified in the adjacent soil borrow site in sufficient quantities to close the landfill, which would be available for third-party closure – a local contractor has verified the unit costs for earthwork