



Florida Department of Environmental Protection

Memorandum

TO: Solid Waste Financial Coordinator, FDEP,
(Solid.Waste.Financial.Coordinator@dep.state.fl.us)

THROUGH: Richard S. Rachal III, P.G. 
Program Administrator
Waste & Air Resource Management

FROM: Michael Bogin, Engineering Specialist IV
NED Solid Waste Section 

DATE: June 7, 2013

SUBJECT: Trail Ridge Landfill
Facility WACS I.D. Number: 33628
DEP Permit Number: 013493-017-SO
2012 Financial Assurance Cost Estimates
Duval County - Solid Waste Permitting

The Northeast District (NED) has completed review of the above-referenced facility's cost estimates (copy enclosed for your files), which were initially submitted on October 3, 2012, and then re-submitted on November 15, 2012; January 15, April 4, and June 4, 2013. The estimates were received in accordance with the requirements of Florida Administrative Code Chapter 62-701.630. The cost estimates for 2012 were recalculated to reflect changes in the Permit's Specific Conditions and other cost items. **The following cost estimates have been approved for the Landfill for 2012:**

Closure Construction Cost - \$21,658,451.00
Annual Long-Term Care Cost - \$1,172,404.00
Total Long-Term Care Cost - \$35,172,120.00 (30 years)

The closure construction costs listed above are for 97.7 acres, and the long-term care costs are for 144 acres. The Landfill is permitted to perform "close-as-you-go," whereas 46.3 acres of the permitted 144 acres have been Certified Closed.

Also note, this memo is not authorization for the Permittee to decrease the amount of the financial instrument. As you are aware, such authorizations may only come from your office.

The following is for your information:

Applicant name: Trail Ridge Landfill, Inc.
Contact person: Tim Hawkins
Title: Area Vice President
Phone number: 904.289.9100

Enclosure

cc: Tim Hawkins, Trail Ridge Landfill, Inc., thawkins@wm.com
Greg Mathes, Trail Ridge Landfill, Inc., gmathes@wm.com
Juanita Bader Clem, England-Thims & Miller, Inc., clemj@etminc.com
Jeff Foster, City of Jacksonville, jfoster@coj.net
Brian Durden, FDEP, brian.durden@dep.state.fl.us



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14775 Old St. Augustine Road • Jacksonville, Florida 32258

June 4, 2012

Attention: Mr. Michael Bogin
Florida Department of Environmental Protection
Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32252

Re: **Trail Ridge Landfill** - 2012 Financial Assurance Cost Estimates
ETM Project No. E 11-019-P4

2013 JUN -4 PM 2:51
NORTHEAST DISTRICT
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FDEP

Dear Michael:

As requested, please find the revised 2012 Financial Assurance Cost Estimates for Trail Ridge Landfill along with an Opinion of Probable Cost Estimating Explanation.

The closure quantities are based on the 97.7 acres remaining to be closed (Total acres 144.0 - Phases 1 and 2 @ 25.0 acres and Phase 3 @ 21.3 acres recently certified = 97.7 acres). Third party unit prices have been provided by ERC General Contracting Services, Inc. (see attached letter). Please note that ERC provided the most recent closure of Trail Ridge Landfill (Phase 3).

If you have any questions, please feel free to give me a call at (904) 265-3163 or email me a Lockwoods@etminc.com.

Sincerely,

ENGLAND, THIMS & MILLER, INC.

Scott Jordan Lockwood, P.E.
Project Manager

Attachments: Revised Closure Cost Estimating Form -- FDEP 62-701.900 (28), F.A.C.
Opinion of Probable Cost Estimating Explanation
Unit Price letter provided by ERC General Contracting Services, Inc.

Xc: Jeff Foster, P.E.	COJ	w/attachments
Greg Mathes, P.E.	TRLI	w/attachments
Eric Parker	TRLI	w/attachments
Juanita Clem, P.E.	ETM	w/attachments

DEP
NORTHEAST DISTRICT
RECEIVED

Print Form Reset Form



2013 JUN -4 PM 2:51
Florida Department of
Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(28), F.A.C.
Form Title: Closure Cost Estimating Form
For Solid Waste Facilities
Effective Date: January 6, 2010
Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Trail Ridge Landfill WACS ID: NED / 16 / 00033628
 Permit Application or Consent Order No.: 0013493-017 Expiration Date: _____
 Facility Address: 5110 U.S. Highway 301, Baldwin, Florida 32234
 Permittee or Owner/Operator: Trail Ridge Landfill, LLC
 Mailing Address: Same as facility address

Latitude: 30° 13' 27" N Longitude: 82° 02' 40" W
 Coordinate Method: _____ Datum: N.G.V.D. 1929
 Collected by: Robert. M. Angas Associates, In Company/Affiliation: Subconsultant

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Phases I - V	144	5-18-92	20 +/-	6 Years +/-		
Note:						
Closure Phases 1, 2 and 3 for a total of 46.3 acres have been closed and certified.						

Total disposal unit acreage included in this estimate: Closure: 97.7 Long-Term Care: 144

Facility type: Class I Class III C&D Debris Disposal
 (Check all that apply) Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- Letter of Credit* Insurance Certificate Escrow Account
- Performance Bond* Financial Test Form 29 (FA Deferral)
- Guarantee Bond* Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

(a) Inflation Factor Adjustment

(b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflatory by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved Closing Cost Estimate:	x	Current Year Inflation Factor, e.g. 1.02	=	Inflation Adjusted Closing Cost Estimate:
_____		_____		_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:	x	Current Year Inflation Factor, e.g. 1.02	=	Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____		_____		_____
Number of Years of Long Term Care Remaining:			x	_____
Inflation Adjusted Long-Term Care Cost Estimate:			=	_____

Signature by: Owner/Operator Engineer (check what applies)



Signature

2700 Wiles Road

Address

Tim Hawkins, Area Vice President

Name & Title

Pompano Beach, Florida 33073

City, State, Zip Code

6-3-13

Date

thawkins@wm.com

E-Mail Address

(904) 289-9100

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)

Recalculated Cost Estimate **New Facility Cost Estimate**

- Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp
 2. Cost estimate must be certified by a professional engineer.
 3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
Subtotal Proposed Monitoring Wells:				
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY	N/A		
Placement and Spreading (97.7 Ac x 2' x 43560 / 27 x 1.033)	CY	326,000	\$1.75	\$570,500.00
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
Subtotal Slope and Fill:				\$570,500.00
3. Cover Material (Barrier Layer):				
Off-Site Clay (68.2 Ac x 1' x 43560 / 27 x 1.054)	CY	116,000	\$25.00	\$2,900,000.00
Synthetics - 40 mil (29.5 Ac)	SY	142,800	\$6.10	\$871,080.00
Synthetics - GCL	SY			
Synthetics - Geonet (29.5 Ac)	SY	142,800	\$3.00	\$428,400.00
Synthetics - Other (explain) Sand (CY) (29.5 Ac x 1')		47,600	\$20.00	\$952,000.00
Subtotal Cover Material:				\$5,151,480.00
4. Top Soil Cover:				
Off-Site Material	CY	326,000	\$15.00	\$4,890,000.00
Delivery (97.7 Ac x 2' x 43560 / 27 x 1.033)	CY			
Spread	CY			
Subtotal Top Soil Cover:				\$4,890,000.00
5. Vegetative Layer				
Sodding (97.7 Ac x 43560 / 9 x 1.033)	SY	488,500	\$2.80	\$1,367,800.00
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain) Watering				
Subtotal Vegetative Layer:				\$1,367,800.00
6. Stormwater Control System: (estimate of remaining stormwater controls)				
Earthwork	CY	8,400	\$16.80	\$141,120.00
Grading	SY			
Piping (remaining downcomers)	LF	7,000	\$248.90	\$1,742,300.00
Ditches	LF			
Berms	LF			
Control Structures Terrace Drains	EA	89	\$7,000.00	\$623,000.00
Other (explain) Underdrain (remaining Underdrain / Terrace Drain)	LF	48,400	\$20.00	\$968,000.00
Subtotal Stormwater Control System:				\$3,474,420.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	_____	_____	_____
Pipe and Fittings	LF	_____	_____	_____
Monitoring Probes	EA	_____	_____	_____
NSPS/Title V requirements	LS	1	_____	_____
Subtotal Passive Gas Control:				_____

8. Active Gas Extraction Control: (Estimate of gas system to be installed)				
Traps	EA	5	\$14,292.00	\$71,460.00
Sumps	EA	_____	_____	_____
Flare Assembly	EA	1	\$212,260.00	\$212,260.00
Flame Arrestor 6"-10" Pipes & Fittings	EA LF	5,200	\$34.60	\$179,920.00
Mist Eliminator 12"-18" Pipes & Fittings	EA LF	5,200	\$50.90	\$264,680.00
Flow Meter Gas Wells (52 @ 140 Ft)	EA LF	7,280	\$100.60	\$523,120.00
Blowers 6"-10" Control Val.	EA Ft	26	\$3,000.00	\$78,000.00
Collection System 12"-18" Control Val.	EA LF	26	\$3,285.00	\$85,410.00
Other (explain) Well Head Assembly	EA	52	\$460.00	\$23,920.00
Subtotal Active Gas Extraction Control:				\$1,438,770.00

9. Security System: The Security System was installed as part of the Operation				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System:				_____

10. Engineering: (Estimate of Engineering services)				
Closure Plan Report	LS	1	\$89,150.00	\$89,150.00
Certified Engineering Drawings	LS	1	_____	_____
NSPS/Title V Air Permit	LS	1	_____	_____
Final Survey	LS	1	\$76,420.00	\$76,420.00
Certification of Closure	LS	1	\$25,480.00	\$25,480.00
Other (explain) Construction Drawings	LS	1	\$318,400.00	\$318,400.00
Subtotal Engineering:				\$509,450.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services (Estimate of Engineering services)					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	104	\$160.00	100	\$134.00	\$30,040.00
On-Site Engineer	_____	_____	1,200	\$83.00	\$99,600.00
Office Engineer	210	\$128.00	400	\$115.00	\$72,880.00
On-Site Technician	1,300	\$96.00	4,800	\$51.00	\$369,600.00
Clerical Other (explain)	_____	_____	_____	_____	\$8,800.00
Expenses	_____	_____	_____	_____	\$12,800.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$82,800.00	\$82,800.00
Subtotal Professional Services:				\$676,520.00

Subtotal of 1-11 Above: \$18,078,940.00

12. Contingency 15 % of Subtotal of 1-11 Above \$2,711,841.00

Subtotal Contingency: _____

Estimated Closing Cost Subtotal: \$20,790,781.00

<u>Description</u>	<u>Total Cost</u>
13. Site Specific Costs	
Mobilization (2.5 % of Construction Cost)	<u>\$412,930.00</u>
Waste Tire Facility (100 Tons @ \$100 per Ton)	<u>\$10,000.00</u>
Materials Recovery Facility (N/A)	_____
Special Wastes	<u>\$63,700.00</u>
Leachate Management System Modification Erosion Control (1% of Const. Cost)	<u>\$168,930.00</u>
Other (explain) <u>Bonds (1.2% of Construction Cost)</u>	<u>\$202,720.00</u>

Subtotal Site Specific Costs:	<u>\$876,670.00</u>

TOTAL ESTIMATED CLOSING COSTS (\$): \$21,658,451.00

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

(Check Term Length) 5 Years 20 Years 30 Years Other, ___ Years

- Notes: 1. Cost estimates must be certified by a professional engineer.
 2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly Sampling	12 2	1	\$660	\$17,160.00
Quarterly- Biennial Report	4 0.5	1	\$6,510.00	\$13,020.00
Semi-Annually Semi-Annual Report	2	1	\$5,520.00	\$2,760.00
Annually Permit Renewal	1 0.2	37	\$2,660.00	\$5,320.00
			\$660.00	\$4,884.00
			Subtotal Groundwater Monitoring: \$43,144.00	
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	2	\$410.00	\$1,640.00
Annually	1			
* Sampling and reporting are included in groundwater monitoring			Subtotal Surface Water Monitoring: \$1,640.00	
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4	10	\$60.00	\$2,400.00
Semi-Annually Report	2	1	\$830.00	\$1,660.00
Annually	1			
			Subtotal Gas Monitoring: \$4,060.00	
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Other (explain) _____	2			
			Subtotal Leachate Monitoring: _____	

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF			
Sumps, Traps	EA			
Lift Stations	EA	1	\$38,300.00	\$38,300.00
Cleaning	LS	1		
Tanks	EA	1		

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	_____	_____	_____
Sludge Removal	CY	_____	_____	_____
<u>Aeration Systems</u>				
Floating Aerators	EA	_____	_____	_____
Spray Aerators	EA	_____	_____	_____
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	<u>5,100</u>	<u>\$51.00</u>	<u>\$260,100.00</u>
Subtotal Leachate Collection / Treatment Systems Maintenance:				<u>\$298,400.00</u>
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	<u>1</u>	<u>\$8,300.00</u>	<u>\$8,300.00</u>
Replacement	EA	<u>0</u>	<u>\$0.00</u>	_____
Abandonment	EA	_____	_____	_____
Subtotal Groundwater Monitoring Well Maintenance:				<u>\$8,300.00</u>
7. Gas System Maintenance				
Piping, Vents	LF	Assume \$32,000 per year for all maintenance		<u>\$32,000.00</u>
Blowers	EA	_____	_____	_____
Flaring Units	EA	_____	_____	_____
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	<u>1</u>	_____	_____
Subtotal Gas System Maintenance:				<u>\$32,000.00</u>
8. Landscape Maintenance				
Mowing	AC	<u>155</u>	<u>\$360.00</u>	<u>\$55,800.00</u>
Fertilizer	AC	<u>155</u>	<u>\$320.00</u>	<u>\$49,600.00</u>
Subtotal Landscape Maintenance:				<u>\$105,400.00</u>
9. Erosion Control and Cover Maintenance * 2% of 155 acres landfill ** 1% of the 155 acres landfill				
Sodding	2% SY	<u>15,000</u>	<u>\$2.90</u>	<u>\$43,500.00</u>
Regrading	2% AC	<u>3.1</u>	<u>\$8,500.00</u>	<u>\$26,350.00</u>
Liner Repair	1% SY	<u>7,500</u>	<u>\$6.10</u>	<u>\$45,750.00</u>
Clay	1% CY	<u>2,500</u>	<u>\$25.00</u>	<u>\$62,500.00</u>
Subtotal Erosion Control and Cover Maintenance:				<u>\$178,100.00</u>
10. Storm Water Management System Maintenance				
Ditch Cleaning	10,400 LF		\$2.20	\$22,880.00
Conveyance Maintenance	LS	<u>1</u>	<u>\$6,400.00</u>	<u>\$6,400.00</u>
Subtotal Storm Water Management System Maintenance:				<u>\$29,280.00</u>
11. Security System Maintenance				
Fences	LS	Assume \$10,620 for all Security Maintenance		<u>\$10,620.00</u>
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System Maintenance:				<u>\$10,620.00</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$53,100.00	\$53,100.00
Subtotal Utilities:				\$53,100.00

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR	55	\$160.00	\$8,800.00
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	210	\$100.00	\$21,000.00
Materials	LS	1		

Subtotal Leachate Collection/Treatment Systems Operation: \$29,800.00

14. Administrative

P.E. Supervisor	HR	416	\$160.00	\$66,560.00
On-Site Engineer	HR	0		
Office Engineer	HR			
OnSite Technician	HR	3,120	\$100.00	\$312,000.00
Other _____				

Subtotal Administrative: \$378,560.00

Subtotal of 1-14 Above: \$1,172,404.00

15. Contingency

^s
% of Subtotal of 1-14 Above

Subtotal Contingency: _____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Subtotal Site Specific Costs:				N/A

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$1,172,404.00

Number of Years of Long-Term Care: 30

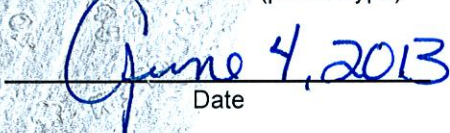
TOTAL LONG-TERM CARE COST (\$): \$35,172,120.00

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.


Signature

Juanitta Bader Clem, P.E.
Name and Title (please type)


Date

43245
Florida Registration Number
(please affix seal)

14755 Old St. Augustine Road
Mailing Address

Jacksonville, Florida 32258
City, State, Zip Code

ClemJ@etminc.com
E-Mail address (if available)

(904) 265-3181
Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR


Signature of Applicant

Tim Hawkins, Area Vice President
Name and Title (please type)

thawkins@wm.com
E-Mail address (if available)

2700 Wiles Road
Mailing Address

Pompano Beach, Florida 33073
City, State, Zip Code

(904) 289-9100
Telephone Number



Trail Ridge Landfill - Opinion of Probable Cost Estimating Explanation

ETM Job. No. E 11-019

Date: 4-1-2013

WAC NED / 16 / 00033628

General Explanation

Trail Ridge Landfill Currently has a lined footprint of 144 acres.

Closure Phases I, 2 and 3 have been completed and certified for a total of 46.3 acres.

Therefore, approximately 97.7 acres remain to be closed.

Unit Costs are based on best available information.

ERC General Contracting Inc. (ERC) provided third party unit prices for the typical construction costs.

ERC was the contractor for the recent Phase 3 closure of Trail Ridge Landfill.

IV Estimated Closing Cost

1. Proposed Monitoring Wells.

Monitoring wells have already been installed, therefore no additional costs are anticipated.

2. Slope and Fill

The remaining total area to be closed is 97.7 acres

To account for the 3:1 side slopes for 68.2 acres and the remaining 29.5 acres of relatively flat top, a blended rate of 1.033 was used to adjust the amount of fill required.

The Bedding Layer is the 2-foot Intermediate Cover Layer which is placed between waste and barrier layer during operations.

The complete cost for placement, spreading, compaction, material and delivery are included in Placement and Spreading as follows:

Placement and Spreading

$$(97.7 \text{ ac} \times 2 \text{ feet} \times 43560 \text{ sq ft} / 27 \text{ cubic ft}) \times 1.033 = 326,000 \text{ cy (rounded)}$$
$$= 326,000 \text{ cy} \times \$1.75 / \text{cy} = \$570,500$$

3. Cover Material (Barrier Layer)

The remaining total area to be closed is 97.7 acres

The side slopes to be capped with clay are 68.2 acres. To account for the 3:1 side slope, a factor of 1.054 was used to adjust the amount of clay required.

The relative flat top area will have a synthetic cap and is approximately 29.5 acres.

Offsite Clay

$$(68.2 \text{ ac} \times 1 \text{ feet} \times 43560 \text{ sq ft} / 27 \text{ cubic ft}) \times 1.054 = 116,000 \text{ cy (rounded)}$$
$$= 116,000 \text{ cy} \times \$25 / \text{cy} = \$2,900,000$$

Synthetics 40 mil - Top Area only

$$29.5 \text{ ac} \times 43560 \text{ sq ft} / 9 \text{ sq ft} = 142,800 \text{ cy (rounded)}$$
$$= 142,800 \text{ sy} \times \$6.10 / \text{sy} = \$871,080$$

GCL - No proposed GCL Layer

Synthetics Geonet - Top Area only

$$29.5 \text{ ac} \times 43560 \text{ sq ft} / 9 \text{ sq ft} = 142,800 \text{ cy (rounded)}$$
$$= 142,800 \text{ sy} \times \$3.00 / \text{sy} = \$428,400$$

Sand - Top Area only

$$29.5 \text{ ac} \times 43560 \text{ sq ft} / 9 \text{ sq ft} = 142,800 \text{ cy (rounded)}$$
$$= 47,600 \text{ cy} \times \$20 / \text{cy} = \$952,000$$



Trail Ridge Landfill - Opinion of Probable Cost Estimating Explanation

ETM Job. No. E 11-019

Date: 4-1-2013

WAC NED / 16 / 00033628

General Explanation

4. Top Soil Cover

The remaining total area to be closed is 97.7 acres

To account for the 3:1 side slopes for 68.2 acres and the remaining 29.5 acres of relatively flat top, a blended rate of 1.033 was used to adjust the amount of fill required.

Delivery and Spreading is included in the unit price for Offsite Material

Offsite Material

$$(97.7 \text{ ac} \times 2 \text{ feet} \times 43560 \text{ sq ft} / 27 \text{ cubic ft}) \times 1.033 = 326,000 \text{ cy (rounded)}$$
$$= 326,000 \text{ cy} \times \$15 / \text{cy} = \$4,890,000$$

5. Vegetative Layer

The remaining total area to be closed is 97.7 acres

To account for the 3:1 side slopes for 68.2 acres and the remaining 29.5 acres of relatively flat top, a blended rate of 1.033 was used to adjust the amount of fill required.

Fertilizer, Mulch, etc is included in the unit price for the Sodding

Sodding -

$$(97.7 \text{ ac} \times 43560 \text{ sq ft} / 9 \text{ sq ft}) \times 1.033 = 488,500 \text{ cy (rounded)}$$
$$= 488,500 \text{ sy} \times \$2.8 / \text{sy} = \$1,367,800$$

6. Storm Water Control

Grading is included in the price for earthworks.

Ditches and berms are installed during operations, therefore these are left blank.

Earthworks -

Estimate 1.2 cy of earthworks per linear foot of downcomer remaining to be installed

$$(7,000 \text{ lf} \times 1.2 \text{ cy} / \text{lf}) = 8400 \text{ cy}$$

$$= 8,400 \text{ cy} \times \$16.8 / \text{cy} = \$141,120$$

Piping (remaining downcomers)

7000 linear feet remaining

$$= 7,000 \text{ lf} \times \$248.90 / \text{lf} = \$1,742,300$$

Terrace Drains

Based on permit drawings the remaining terrace piping is 89 pipes

$$= 89 \text{ pipes} \times \$7,000 \text{ each} = \$623,000$$

Underdrain

Based on permit drawings the remaining underdrain to be installed is 48,400 lf

$$= 48,400 \text{ lf} \times \$20 / \text{lf} = \$968,000$$

7. Passive Gas System

An active system is in place. Therefore, this is not applicable.



Trail Ridge Landfill - Opinion of Probable Cost Estimating Explanation

ETM Job. No. E 11-019

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General Explanation

8. Active Gas Extraction Control This is an estimate of the remaining gas system to be installed.

Traps - estimate 5

= 5 each at \$14,292 each = \$71,460

Flare Assembly - estimate 1

= 1 at \$212,260 each = \$212,260

6" - 10" pipe & fittings - estimate 5,200 lf

= 5,200 lf at \$34.6 / lf = \$179,920

12" - 18" pipe & fittings - estimate 5,200 lf

= 5,200 lf at \$50.90 / lf = \$264,680

Gas Wells - Estimate 52 at 140 feet deep = 7,280 lf

The Fin Resp has 64 wells?????

= 7,280 lf at \$100.60 / lf = \$732,368

6" - 10" control valves - estimate 26

= 26 each at \$3,000 / lf = \$78,000

12" - 18" control valves - estimate 26

= 26 each at \$3,285 / lf = \$85,410

Well head assembly - estimate 52

= 52 each at \$460 / ea = \$23,920

9. Security System Security system has been installed as part of the operations.

10. Engineering Estimate of the Engineering Services

Closure Report Estimate = \$89,150

Final Survey Estimate = \$76,420

Certification of Closure Estimate = \$25,480

Construction Drawings Estimate = \$318,400

11. Professional Services Estimate of the Engineering Services

12. Contingency Estimate is 15% of Items 1 - 11 = \$18,078,940

= 0.15 x \$18,078,940 = \$2,711,841

13. Site Specific Cost

Mobilization - based on 2.5% of construction cost (excludes engineering services).

= 0.025 x ((\$18,078,940 - (\$509,450 + \$676,520))) = \$422,320

Waste Tire Facility - estimate of 100 tons at \$100 per ton.

= 100 x 100 = \$10,000

Material Recovery Facilities - Not Applicable

Special Waste - Estimate Special Waste disposal = \$63,700

Erosion Control - (estimate 1% of Construction Cost excludes engineering services)

= 0.010 x Rounded ((\$18,078,940 - (\$509,450 + \$676,520))) = \$168,930

Bonds - (estimate 1.2% of Construction Cost excludes engineering services)

= 0.012 x Rounded ((\$18,078,940 - (\$509,450 + \$676,520))) = \$202,720



Trail Ridge Landfill - Opinion of Probable Cost Estimating Explanation

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General Explanation

V Annual Cost for Long-Term Care

1. Groundwater Monitoring

Semi Annual sampling for 13 wells @ \$660 each = $(2 \times 13 \times \$660) = \$17,160$

Semi Annual sampling @ \$6,510 each = $(2 \times \$6,510) = \$13,020.00$

Biennial Report @ \$5,520 each = $(0.5 \times \$5,520) = \$2,760$

Semi Annual Report @ \$2,660 each = $(2 \times \$2,660) = \$5,320$

Permit Renewal (once every 5 years = 0.2 per year) for 37 wells @ \$660 each
= $(0.2 \times 37 \times \$660) = \$4,884$

2. Surface Water Monitoring

Sampling and reporting are included in the Groundwater Monitoring

Semi Annual - 2 events / yr at 2 samples each @ \$410 each = $(2 \times 2 \times 410) = \$1,640$

3. Gas Monitoring

Quarterly - 4 events / yr at 10 samples each at \$60 each event = $(4 \times 10 \times \$60) = \$2,400$

Semi Annual Report - 2 events / yr at 1 samples each at \$830 each = $(2 \times \$830) = \$1,660$

4. Leachate Monitoring Not applicable

5. Leachate Collection / Treatment

Lift Stations - maintenance estimate each year at \$38,300

Disposal - Off-site - 5,100,000 gallons at \$51 per 1,000 gallons
= $(5,100,000 \times \$51 / 1,000) = \$260,100$

6. Groundwater Monitoring Well Maintenance

Monitoring Wells - estimated maintenance per year @ \$8300 / yr. = \$8,300

7. Gas System Maintenance

Estimate per year for all maintenance = \$32,000

8. Landscape Maintenance

Mow 155 Acres of Landfill Area at \$360 / ac / yr = \$55,800

Fertilize 155 Acres of Landfill Area at \$320 / ac / yr = \$49,600

9. Erosion Control and Cover Maintenance

Sodding estimate 2% of 155 Acres of Landfill Area at \$2.90 / sy / yr
= $\$2.90 \times .02 \times 155 \times 43,560 / 9 = \$43,500$

Regrading estimate 2% of 155 Acres of Landfill Area at \$8,500 / ac / yr
= $\$8,500 \times .02 \times 155 = \$26,350$

Liner Repair estimate 1% of 155 Acres of Landfill Area at \$6.10 / sy / yr
= $\$6.10 \times 0.01 \times 155 \times 43,560 / 9 = \$45,750$

Clay Repair estimate 1% of 155 Acres of Landfill Area by 1.0 feet deep at \$25 / cy
= $\$25 \times 0.01 \times 155 \times 43,560 / 27 = \$62,500$



Trail Ridge Landfill - Opinion of Probable Cost Estimating Explanation

ETM Job. No. E 11-019

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General Explanation

10. Storm Water Management System Maintenance

Ditch Cleaning estimate 10,400 lf at 2.20 / lf / yr.

= 10,400 x \$2.20 = \$22,880

Conveyance Maintenance estimate = \$6,400

11. Security System Maintenance

Estimated maintenance for security system at \$10,620 per year

12. Utilities

Estimate utility maintenance at \$53,100 per year

13. Leachate Collection / Treatment Systems Operation

Estimate of the Engineering Services

14. Administrative

Estimate of the Engineering Services

15. Contingency - N/A

16. Site Specific Cost - N/A

Jonita
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6/4/2013



ERC GENERAL CONTRACTING SERVICES, INC.

Carter CommerCenter • 890 Carter Road, Suite 170
Winter Garden, Florida 34787
(407) 656-3900 • Fax (407) 656-2128

10/26/12

England, Thims & Miller
Attention: Scott Lockwood
14775 Old St. Augustine Road
Jacksonville, Florida 32258

Re: **Trail Ridge Landfill** ETM No. E 11-019

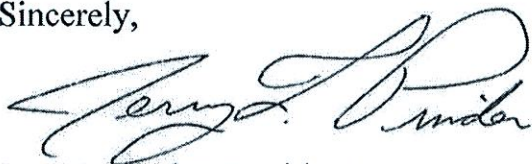
Scott,

ERC can perform the work of reference for the following unit prices:

	Item	Unit	Unit Price
	Final Cover		
1	Placement and spread Intermediate Cover	Cy	\$ 1.75
2	Clay (Offsite) 12" @ 6.67 x 10 ⁻⁸	Cy	\$ 25.00
3	Synthetics 40 Mil HDPE Liner	Sy	\$ 6.10
4	Synthetics - Geonet	Sy	\$ 3.00
5	Sand Layer (1 x 10 ⁻³ cm / sec) (1' thick)	Cy	\$ 20.00
6	Top Soil (2' thick)	Cy	\$ 15.00
7	Sod (Bahia)	Sy	\$ 2.80
8	Earthworks (import fill)	Cy	\$ 16.80
9	30" HDPE Pipe	Lf	\$ 248.90
10	Terrace Side Drains	Ea	\$ 7,000.00
11	Underdrain	Lf	\$ 20.00
	Active Gas System		
1	Traps	Ea	\$ 14,292.00

2	Flare Assembly	Ea	\$ 212,260.00
3	6"-10" Pipes & Fittings	Lf	\$ 34.60
4	12"-18" Pipes & Fittings	Lf	\$ 50.90
5	Wells	Lf	\$ 100.60
6	6"-10" Control Valve	Ea	\$ 3,000.00
7	12"-18" Control Valve	Ea	\$ 3,285.00
8	Well head assembly	Ea	\$ 460.00
	Erosion Control and Maintenance		
1	Regrade Area	Ac	\$ 8,500.00
2	Repair Final Cover	Sy	\$ 6.10
3	Import Clay	Cy	\$ 25.00
4	Ditch Cleaning	Lf	\$ 2.20

Sincerely,



Jerry L. Pinder, President