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## consultants

**To:** Mr. Thomas Lubozynski, P.E.  
FDEP - Solid Waste Section, Central District  
3319 Maguire Boulevard, Suite 232  
Orlando, FL 32803-3767  
phone: (407) 893-3328

<b>Date</b>	18-May-11	<b>Job No.</b>	FL1868.04
<b>Attention</b>	Mr. Thomas Lubozynski, P.E.		
<b>Re:</b>	Response to 2nd Request for Add'l Info. Class I - Lateral Expansion Construction J.E.D. Solid Waste Mgmt. Facility Permit App No. SC49-0199726-017		

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### Remarks

**Signed** *Craig R. Browne, P.E.*

18 May 2011

Mr. Thomas Lubozynski, P.E.  
Waste Program Administrator  
Florida Department of Environmental Protection  
Central District Office  
3319 Maguire Boulevard, Suite 232  
Orlando, Florida 32803-3767

**Subject: Response to Second Request for Additional Information dated 6 May 2011  
J.E.D. Solid Waste Management Facility (WACS #89544)  
Class I – Lateral Expansion Construction  
Osceola County, Florida  
(Permit Application No. SC49-0199726-017)**

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), Geosyntec Consultants (Geosyntec) has prepared this letter to respond to Florida Department of Environmental Protection's (FDEP's) second request for additional information (RAI) regarding the major permit modification application for lateral expansion of the J.E.D. Solid Waste Management Facility (JED facility) located in St. Cloud, Florida. The permit modification application was received by the FDEP on 18 February 2011. The second RAI was addressed to Mr. Mike Kaiser of Omni in a letter dated 6 May 2011.

Each FDEP comment has been provided below in italic font followed by the corresponding response in normal font. In this response, deletions to the original document have been shown with a strikethrough and additions have been shown with an underline.

## **RESPONSE TO FDEP COMMENTS**

### **FDEP Comment #2**

*2. The Department will incorporate a Specific Condition into the issued permit requiring proof of mitigation for the jurisdictional wetlands and proof of compensating storage for the 100-year floodplain prior to the start of construction in these areas.*

**Response to Comment #2:**

Omni acknowledges this comment. It is noted that construction of stormwater retention basins must occur within the 100-year floodplain in order to provide compensating storage for subsequent construction of the landfill disposal cells. As such, it is requested that the proposed Specific Condition refer to “landfill disposal cell construction” as opposed to construction in general.

**FDEP Comment #8**

8. *The Department acknowledges the intent to include the approval of a gas to energy (GTE) facility as part of this permit modification. It is our understanding that the initial GTE facility will be four internal combustion engine driven electric generators with an approximate output of 1.4MW. Please note, expansions to the GTE may require a permit modification. Provide responses to the following questions:*

- a. How will the condensate from the GTE facility be collected and disposed of? Provide drawings if applicable.*
- b. How much condensate is expected to be generated?*
- c. Will waste oil be generated? If so, how much and how will it be stored and disposed of?*
- d. Describe the connection and tie-in to the LFG collection system. Provide drawings.*
- e. The flare system shall be designed to manage 100% of the landfill gas and shall remain independent of the GTE facility. Provide a plan for the use of the flare as a backup system in the event of a GTE facility shut-down. Include a schedule for the periodic use of the flare in order to maintain its integrity.*
- f. What safety measures will be incorporated into the GTE facility design?*

*The Department has a concern with the location of the GTE facility as depicted on drawing 29A with respect to the surrounding structures and buildings. It has been our experience that a GTE fire is a real possibility and must be taken into consideration when planning the layout of a GTE facility.*

**Response # 8:**

Omni is currently negotiating with a 3<sup>rd</sup> party developer to permit, install and operate a GTE facility. Therefore, construction level design plans for the GTE facility have not been developed to the extent where the above information can be provided. Accordingly as discussed with the FDEP during a teleconference call on May 12, 2011, a separate permit modification submittal

will be provided to FDEP with detailed design information (including the information requested above) prior to construction of a GTE facility.

**FDEP Comment # 11**

*11. The Department acknowledges that Omni will be seeking deferred financial assurance for cells 8 through 23. Please submit closure cost estimates for these cells either as a whole or as individual cells.*

**Response # 11:**

Closure cost estimates have been prepared for Cells 8 through 23 as a whole and are included in **Attachment 1**.

**FDEP Comment # 19**

*19. Item #19 requested that Table 1 be revised to include columns for latitude and longitude. SPT-5 on the revised table is not consistent with the location of SPT-5 on the revised Figure 4 site plan in Attachment 7. Please correct the appropriate item and resubmit both Table 1 and Figure 4.*

**Response # 19:**

Table 1 and Figure 4 have been revised to be consistent with each other and with the boring and well survey, which was included as Attachment C of the Hydrogeological Investigation Report (dated February 2011). The revised table and figure are provided in **Attachment 2**.

**FDEP Comment # 20**

*20. The revised tables for DEP Items #20.e. and #20.f. (Table 11 and Table 12) were provided in Attachment 7. However, the letter response did not include either item. Please respond to these two items. In particular, verify that the latitude and longitude of the 5 potable well locations marked "NA" are not available.*

**Response # 20:**

Mr. Thomas Lubozynski, P.E.  
18 May 2011  
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DEP's comment (#20.e) relative to Table 11 was in regards to parameter units. As requested, Table 11 was checked and revised accordingly and was provided in Attachment 7 of the response to DEP comments dated 14 April 2011. The revised Table 11 has been included again in this response as **Attachment 2**. The coordinates for the potable wells in Table 12, which were marked as "NA" have been rechecked. Based on the graphical locations of the wells, shown on Figure 5 of the Hydrogeological Investigation Report (dated February 2011), latitude and longitude coordinates for the wells have been estimated. The coordinates are provided on Table 12 with the note that they are approximate. As indicated in the Hydrogeological Investigation Report (dated February 2011), these well locations are located on private property and were inaccessible during the dashboard verification survey. As indicated on Table 12, Well 2 represents a surface water withdrawal point and therefore a well location is not available. The revised Table 12 is provided in **Attachment 2**.

**FDEP Comment # 21**

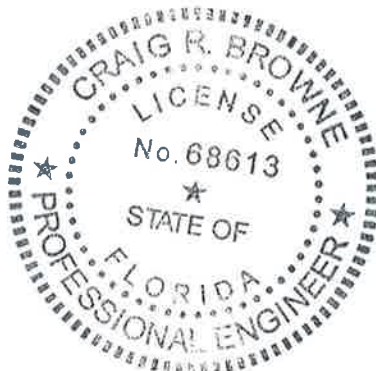
*21. Based on the background levels the Department intends to specify in the MPIS that the lower compliance level for the ground water pH will be dropped from 6.5 to 4.5 standard units. The pH of 2.94 noted in MW-2 will be investigated with further review of the Biennial.*

**Response # 21:**

Comment noted.

**CLOSURE**

If you have any questions or require additional information, please do not hesitate to contact Mr. Mike Kaiser of Omni at (904) 673-0446, [mkaiser@wsii.us](mailto:mkaiser@wsii.us), or the undersigned at (813) 558-0990.



Sincerely,

A handwritten signature in blue ink, dated 5/18/2011.

Craig Browne, P.E.  
Engineer  
P.E. Number 68613

Mr. Thomas Lubozynski, P.E.  
18 May 2011  
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#### Attachments

Copies to: Mike Kaiser, WSI

## **ATTACHMENT 1**

### **Financial Assurance Cost Estimate**



## **Attachment 1A**

FDEP Form 62-701.900(28) Closure Cost Estimating Form for  
Solid Waste Facilities



# 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: J.E.D. Solid Waste Management Facility WACS ID: 89544  
 Permit Application or Consent Order No.: SC49-199726-017 (Application) Expiration Date: N/A  
 Facility Address: 1501 Omni Way, Saint Cloud, Florida 34773  
 Permittee or Owner/Operator: Omni Waste of Osceola County, LLC (a wholly owned subsidiary of WSI, Inc.)  
 Mailing Address: 1501 Omni Way, Saint Cloud, Florida 34773

Latitude: 28 ° 03 ' 32 " Longitude: 81 ° 05 ' 46 "  
 Coordinate Method: DGPS Datum: WGS84  
 Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

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
Cells 8 through 23	272.7	N/A	Approx. 22yrs			

Total disposal unit acreage included in this estimate: Closure: 272.7 Long-Term Care: 272.7

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 Deflator 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](http://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:

Current Year Inflation  
Factor, e.g. 1.02

Inflation Adjusted Closing  
Cost Estimate:

x

=

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

Latest Department Approved  
Annual Long-Term Care  
Cost Estimate:

Current Year Inflation  
Factor, e.g. 1.02

Inflation Adjusted Annual  
Long-Term Care Cost  
Estimate:

x

=

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

1501 Omni Way

Address

Mike Kaiser, Regional Engineer

Name & Title

St. Cloud, FL 34773

City, State, Zip Code

5/17/2011

Date

mkaiser@wsii.us

E-Mail Address

(904) 673-0446

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
<b>1. Proposed Monitoring Wells (Do not include wells already in existence.)</b>				
	EA			
Subtotal Proposed Monitoring Wells:				
<b>2. Slope and Fill (bedding layer between waste and barrier layer):</b>				
Excavation	CY			
Placement and Spreading	CY	454,315	\$1.91	\$867,741.65
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
Subtotal Slope and Fill:				\$867,741.65
<b>3. Cover Material (Barrier Layer):</b>				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	1,362,94	\$2.41	\$3,284,695.04
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	904,596	\$3.11	\$2,813,293.56
Subtotal Cover Material:				\$6,097,988.60
<b>4. Top Soil Cover:</b>				
Off-Site Material	CY			
Delivery	CY			
Spread	CY	681,472	\$2.06	\$1,403,832.32
Subtotal Top Soil Cover:				\$1,403,832.32
<b>5. Vegetative Layer</b>				
Sodding	SY	1,362,94	\$1.81	\$2,466,928.64
Hydroseeding	AC			
Fertilizer	AC	281.6	\$1,010.00	\$284,416.00
Mulch	AC			
Other (explain)	CY	227,157	\$3.09	\$701,915.13
Subtotal Vegetative Layer:				\$3,453,259.77
<b>6. Stormwater Control System:</b>				
Earthwork	CY	48,008	\$4.12	\$197,792.96
Grading	SY			
Piping	LF	81,904	\$17.95	\$1,470,176.80
Ditches	LF			
Berms	LF			
Control Structures	EA	344	\$876.00	\$301,344.00
Other (explain)				
Subtotal Stormwater Control System:				\$1,969,313.76

Description	Unit	Number of Units	Cost / Unit	Total Cost
<b>7. Passive Gas Control:</b>				
Wells	EA	323	\$11,426.77	\$3,690,846.71
Pipe and Fittings	LF	68,500	\$57.95	\$3,969,575.00
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
Subtotal Passive Gas Control:				\$7,660,421.71
<b>8. Active Gas Extraction Control:</b>				
Traps	EA	12	\$6,697.00	\$80,364.00
Sumps	EA			
Flare Assembly	EA	5	\$356,130.00	\$1,780,650.00
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain) _____				
Subtotal Active Gas Extraction Control:				\$1,861,014.00
<b>9. Security System:</b>				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System:				
<b>10. Engineering:</b>				
Closure Plan Report	LS	1	\$50,000.00	\$50,000.00
Certified Engineering Drawings	LS	1		
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1	\$337,428.00	\$337,428.00
Certification of Closure	LS	1	\$20,000.00	\$20,000.00
Other (explain) _____				
Subtotal Engineering:				\$407,428.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
<b>11. Professional Services</b>					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor					
On-Site Engineer					
Office Engineer					
On-Site Technician					
Other (explain)	1	\$699,407.15	1	\$0.15	\$699,407.15

Estimated @ 3% of Construction Cost (i.e., .03 x \$23,313,571.81 = \$699,407.15)

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$1,631,950.03	\$1,631,950.03
Subtotal Professional Services:				\$2,331,357.18

Estimated @ 7% of Construction Cost (i.e., .07 x \$23,313,571.81 = \$1,631,950.03)

**Subtotal of 1-11 Above:** \$26,052,356.99

<b>12. Contingency</b>	<u>10</u>	% of Subtotal of 1-11 Above	<u>\$2,605,235.70</u>
		Subtotal Contingency:	<u>\$2,605,235.70</u>

**Estimated Closing Cost Subtotal:** \$28,657,592.69

Description	Total Cost
<b>13. Site Specific Costs</b>	
Mobilization <b>Estimated @ 3% of Construction Cost</b>	\$699,407.15
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain) _____	
<b>Subtotal Site Specific Costs:</b>	<b>\$699,407.15</b>

**TOTAL ESTIMATED CLOSING COSTS (\$):** \$29,356,999.84

## 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
<b>1. Groundwater Monitoring [62-701.510(6), and (8)(a)]</b>				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	60	\$620.16	\$74,419.20
Annually	1	_____	_____	_____
Subtotal Groundwater Monitoring:				\$74,419.20
<b>2. Surface Water Monitoring [62-701.510(4), and (8)(b)]</b>				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Surface Water Monitoring:				_____
<b>3. Gas Monitoring [62-701.400(10)]</b>				
Monthly	12	_____	_____	_____
Quarterly	4	21	\$136.00	\$11,424.00
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Gas Monitoring:				\$11,424.00
<b>4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]</b>				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	16	\$1,088.00	\$17,408.00
Other (explain) _____	_____	_____	_____	_____
Subtotal Leachate Monitoring:				\$17,408.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
<b>5. Leachate Collection/Treatment Systems Maintenance</b>				
<u>Maintenance</u>				
Collection Pipes	LF	_____	_____	_____
Sumps, Traps	EA	16	\$533.12	\$8,529.92
Lift Stations	EA	_____	_____	_____
Cleaning	LS	1	\$19,723.26	\$19,723.26
Tanks	EA	_____	_____	_____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
<b>5. (continued)</b>				
<u>Impoundments</u>				
Liner Repair	SY	1	\$1,088.00	\$1,088.00
Sludge Removal	CY			
<u>Aeration Systems</u>				
Floating Aerators	EA			
Spray Aerators	EA			
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	10.052	\$130.00	\$1,306.76
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$30,647.94
<b>6. Groundwater Monitoring Well Maintenance</b>				
Monitoring Wells	LF			
Replacement	EA	1	\$992.00	\$992.00
Abandonment	EA	1	\$152.61	\$152.61
Subtotal Groundwater Monitoring Well Maintenance:				\$1,144.61
<b>7. Gas System Maintenance</b>				
Piping, Vents	LF	400	\$57.95	\$23,180.00
Blowers	EA			
Flaring Units	EA	1	\$59,355.00	\$59,355.00
Meters, Valves	EA			
Compressors	EA			
Flame Arrestors	EA			
Operation	LS	1	\$16,473.00	\$16,473.00
Subtotal Gas System Maintenance:				\$99,008.00
<b>8. Landscape Maintenance</b>				
Mowing	AC			
Fertilizer	AC			
Subtotal Landscape Maintenance:				
<b>9. Erosion Control and Cover Maintenance</b>				
Sodding	SY	2,000	\$1.81	\$3,620.00
Regrading	AC			
Liner Repair	SY	200	\$21.21	\$4,242.00
Clay	CY			
Subtotal Erosion Control and Cover Maintenance:				\$7,862.00
<b>10. Storm Water Management System Maintenance</b>				
Conveyance Maintenance	LS	1	\$10,000.00	\$10,000.00
Subtotal Storm Water Management System Maintenance:				\$10,000.00
<b>11. Security System Maintenance</b>				
Fences	LS	1		
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System Maintenance:				



Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
<b>12. Utilities</b>	LS	<u>1</u>	<u>\$41,779.20</u>	<u>\$41,779.20</u>
			Subtotal Utilities:	<u>\$41,779.20</u>

**13. Leachate Collection/Treatment Systems Operation**

Operation

P.E. Supervisor	HR	<u>          </u>	<u>          </u>	<u>          </u>
On-Site Engineer	HR	<u>          </u>	<u>          </u>	<u>          </u>
Office Engineer	HR	<u>          </u>	<u>          </u>	<u>          </u>
OnSite Technician	HR	<u>          </u>	<u>          </u>	<u>          </u>
Materials	LS	<u>1</u>	<u>          </u>	<u>          </u>

Subtotal Leachate Collection/Treatment Systems Operation:           

**14. Administrative**

P.E. Supervisor	HR	<u>          </u>	<u>          </u>	<u>          </u>
On-Site Engineer	HR	<u>          </u>	<u>          </u>	<u>          </u>
Office Engineer	HR	<u>          </u>	<u>          </u>	<u>          </u>
OnSite Technician	HR	<u>          </u>	<u>          </u>	<u>          </u>
Other <u>                    </u>	YR	<u>1</u>	<u>\$34,816.00</u>	<u>\$34,816.00</u>

Subtotal Administrative: \$34,816.00

See attached notes

**Subtotal of 1-14 Above:** \$328,508.95

<b>15. Contingency</b>	<u>10</u>	% of Subtotal of 1-14 Above	<u>\$32,850.89</u>
		Subtotal Contingency:	<u>\$32,850.89</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
<b>16. Site Specific Costs</b>				
<u>                                    </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>                                    </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>                                    </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
			Subtotal Site Specific Costs:	<u>          </u>


**ANNUAL LONG-TERM CARE COST (\$ / YEAR):** \$361,359.84

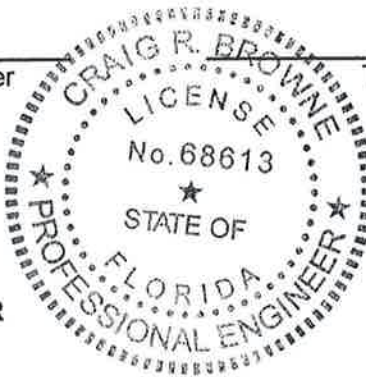
Number of Years of Long-Term Care: 30

**TOTAL LONG-TERM CARE COST (\$):** \$10,840,795.35


## 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	13101 Telecom Drive, Suite 120 _____ Mailing Address
Craig R. Browne, P.E. _____ Name and Title (please type)	Temple Terrace, Florida 33637 _____ City, State, Zip Code
5/18/2011 _____ Date	cbrowne@geosyntec.com _____ E-Mail address (if available)
68613 _____ Florida Registration Number (please affix seal)	(813) 558-0990 _____ Telephone Number



## VII. SIGNATURE BY OWNER/OPERATOR

 _____ Signature of Applicant	1501 Omni Way _____ Mailing Address
Mike Kaiser, Regional Engineer _____ Name and Title (please type)	Saint Cloud, Florida 34773 _____ City, State, Zip Code
mkaiser@wsii.us _____ E-Mail address (if available)	(407) 891-3720 _____ Telephone Number



**2893 Executive Park Drive, Suite 305, Weston, Florida 33331**

January 24, 2011

RE: Omni Waste of Osceola County, LLC

To Whom It May Concern:

This is to confirm that Michael Kaiser is an authorized signatory of Omni Waste of Osceola County, LLC (the "Corporation"), with authority to execute and deliver all documents and instruments required in connection with environmental matters for the Corporation, including without limitation, permit applications, modifications and financial assurances for permits issued to the Corporation.

**Omni Waste of Osceola County, LLC**

A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan  
Manager

**Waste Services, Inc.**

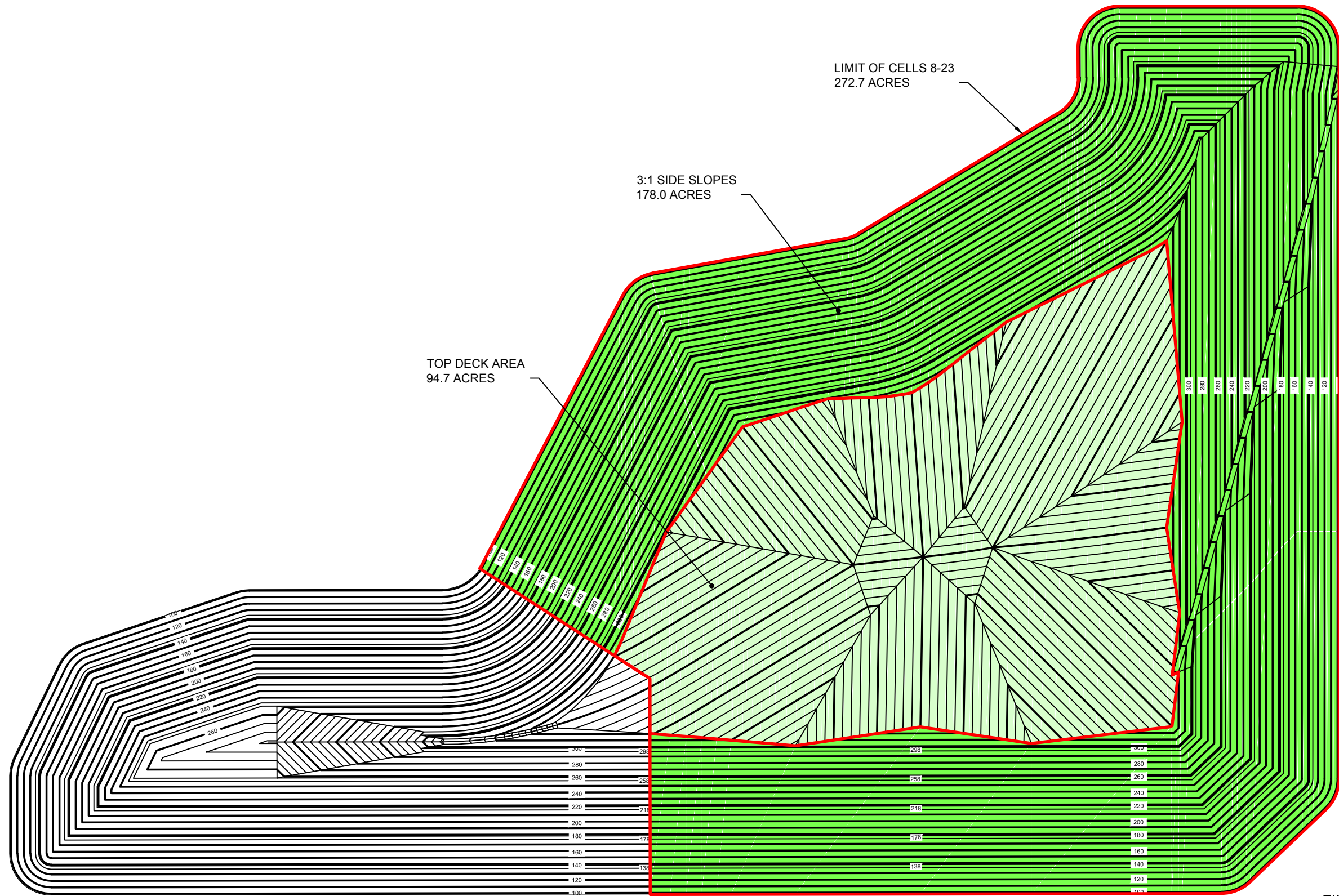
A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan  
Executive Vice President, U.S. Operations

## **Attachment 1B**

Closure Cost Estimate – Figure, Notes and Calculations

I:\\_CADD (PROJECTS)\JUED LANDFILL\PERMIT\LATERAL EXPANSION (FL1868)\FIGURES\FL1868.04\FL1868.04F01.DWG (11 May 2011) cvickers



FINAL COVER SYSTEM GRADING PLAN  
J.E.D. SOLID WASTE MANAGEMENT FACILITY

**Geosyntec**  
consultants

TAMPA, FL

DATE:	MAY 2011	FILE NO.	FL1868.04F01
PROJECT NO.	FL1868	FIGURE NO.	1

Written by: **V. Damasceno** Date: **May 2011** Reviewed by: **C. Browne** Date: **May 2011**

Client: **Omni Waste of  
Osceola County, LLC** Project: **Financial  
Assurance** Project No.: **FL1868** Phase No.: **04**

**FINANCIAL ASSURANCE COST ESTIMATE FOR  
CELLS 8 THROUGH 23:  
NOTES AND CALCULATIONS  
J.E.D. SOLID WASTE MANAGEMENT FACILITY**

The information provided below presents the methods and assumptions used to estimate the cost for the items listed on FDEP Form 62-701.900(28), *Closure Cost Estimating Form for Solid Waste Facilities*. The unit prices for closure and long term care for Cells 8 through 23 of the J.E.D. Solid Waste Management (JED) facility were estimated using the FDEP approved unit rate costs from the financial assurance cost estimate revision associated with the partial closure project completed and approved in December 2009. The same methodology was utilized by EPS for preparing the financial assurance cost estimate revision corresponding to the construction of Cell 7. The December 2009 financial assurance revision included bids obtained for the construction of the partial closure project completed in the third quarter of 2009 and the Phase 1, Sequence 1 and 2 Gas Collection and Control System (GCCS) construction completed in December 2008 and March 2009, respectively. The unit rate costs used in calculation of the closing costs for Cells 8 through 23 have been inflated by a factor of 1.03 to account for the 2010 (1.02) and 2011 (1.01) inflation adjustments issued by the FDEP (website reference: <http://www.dep.state.fl.us/waste/categories/swfr/pages/CostEstimates.htm>). The section numbers noted below correspond to the item numbers on FDEP Form 62-701.900(28), F.A.C.

The JED lateral expansion solid waste and environmental resource permit (ERP) drawings were used to calculate the closure quantities for this closing cost estimate. The closure area for Cells 8 through 23 has been divided into side slope and top deck areas as shown on Figure 1. The corrected, three dimensional areas (to account for side slopes) for Cells 8 through 23 are included in the quantity calculations that follow.

## **I. GENERAL INFORMATION**

The financial assurance cost estimate presented on the FDEP form provides for the closure (i.e., closing and long-term care) costs for the Cells 8 through 23 area at the JED facility that have not currently been constructed.

Written by: **V. Damasceno** Date: **May 2011** Reviewed by: **C. Browne** Date: **May 2011**

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## IV. ESTIMATED CLOSING COST

### 1. Monitoring Wells

The groundwater monitoring well system for Cells 8 through 23 will be constructed (i.e., in place) prior to FDEP approval for waste placement in Cells 8 through 23. Accordingly, no monitoring well construction costs have been included as part of this financial assurance closure cost estimate.

### 2. Slope and Fill (Bedding layer between waste and barrier layer)

On-site soils will be used for intermediate cover. The total estimated volume is 454,315 yd<sup>3</sup> for the 1-ft thick intermediate cover layer over the waste surface. The cost per cubic yard (yd<sup>3</sup>) includes excavation, hauling, placement, spreading, grading, and compaction. The estimated cost for slope and fill material is as follows:

The top deck area for Cells 8-23 covers 94.7 acres and 3:1 side slope area covers 178.0 acres for a total of 272.7 acres, as shown on Figure 1. To account for the surface area attributed to the 3:1 side slopes, the plan (two-dimensional) areas are multiplied by 1.05. Therefore, the 3:1 side slope area for Cells 8-23 is 178.0 acres x 1.05 = 186.9 acres plus 94.7 acre top deck area equals a total corrected area of **281.6 acres**.

$$(281.6 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 454,315 \text{ yd}^3$$

$$454,315 \text{ yd}^3 @ \$1.91/\text{yd}^3 = \mathbf{\$867,741.65}$$

### 3. Cover Material (Barrier Layer)

The final cover system for the JED facility is comprised of (from bottom to top):

- 12 inch intermediate cover soil layer (Item No.2 above)
- 40-mil PE textured geomembrane;
- geocomposite drainage layer (on 3H:1V side slopes only);
- 18 inch cover protective soil layer; and

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- 6 inch vegetative soil layer (Item No. 4 below)

Cover protective soil will consist of material obtained from on-site. Cost for cover protective soil includes excavation, hauling, placement, spreading, grading, and compaction. Cost for geosynthetics includes material and installation costs.

The estimated quantities are:

- 40-mil PE textured geomembrane:  
 $281.6 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 1,362,944 \text{ yd}^2$   
 $1,362,944 \text{ yd}^2 \text{ 40-mil PE textured geomembrane @ } \$2.41/\text{yd}^2 = \underline{\$3,284,695.04}$
- geocomposite drainage layer (on 3H:1V side slopes only):  
 $186.9 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 904,596 \text{ yd}^2$   
 $904,596 \text{ yd}^2 \text{ geocomposite drainage layer @ } \$3.11/\text{yd}^2 = \underline{\$2,813,293.56}$

The total cost for final cover materials (excluding the intermediate and vegetative soil layers) is **\$6,097,988.60.**

#### 4. Top Soil Cover

Cover protective soil will consist of material obtained from on-site. Cost for cover protective soil includes excavation, hauling, placement, spreading, grading, and compaction.

- 18 inch cover protective soil layer:  
 $(281.6 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 681,472 \text{ yd}^3$   
 $681,472 \text{ yd}^3 \text{ cover soils @ } \$2.06/\text{yd}^3 = \underline{\$1,403,832.32}$

#### 5. Vegetative Layer

The vegetative soil layer consists of a 6 inch layer over the cover protective soil. The estimated volume is 227,157 yd<sup>3</sup>. The vegetative soil will consist of material obtained from on-site sources. The cost per cubic yard includes hauling, placing, spreading, and grading. The estimated cost for the vegetative soil layer is as follows:



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$$(281.6 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 227,157 \text{ yd}^3$$

$$227,157 \text{ yd}^3 @ \$3.09/\text{yd}^3 = \underline{\underline{\$701,915.13}}$$

The final cover area will be sodded. Sodding costs include all labor and materials.

$$281.6 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 1,362,944 \text{ yd}^2$$

$$1,362,944 \text{ yd}^2 \text{ Bahia sod} @ \$1.81/\text{yd}^2 = \underline{\underline{\$2,466,928.64}}$$

Fertilizer (Amendments) for the vegetative soil layer is \$1,000 per acre

$$281.6 \text{ acres} \times \$1,010/\text{acre} = \underline{\underline{\$284,416}}$$

The total cost for the vegetative layer (vegetative soil cover, sod, and fertilizer) is **\$3,453,259.77.**

## 6. Stormwater Control System

The perimeter site stormwater control system components (i.e., concrete storm water structures, discharge pipes to dry retention areas, and perimeter road swale inlet pipes) will be installed as part of the landfill (Cell) construction, and therefore, are not included as part of this closure cost estimate. Storm water control components that will be installed during closure consist of side slope drainage swales, inlet structures on the side slope swales, cover drainage piping, and HDPE corrugated down chute pipes. The earthwork estimate includes excavation, hauling, placement, spreading, grading, and compaction of additional soils required on the drainage benches for sloping and over the down chute piping.

Based on the JED Lateral Expansion ERP drawings (Sheet 37 of 40), approximately 24,969 linear feet of 24-inch down chute pipes, 5,209 linear feet of 30-inch down chute pipes, 51,726 linear feet of 4-in cover drainage pipe, and 344 inlet structures will be installed to convey the storm water from the proposed side slope swales to the dry retention area located at the toe of the landfill perimeter berm.

The total cost for the storm water control system is estimated to be **\$1,969,313.76** as detailed below.

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- Earthwork: Additional soil to construct side slope and top deck drainage swales is calculated using typical cross-section detail for the drainage swale from the Lateral Expansion Permit Drawings as follows:
  - Side Slope swales = 20.6 ft<sup>2</sup> per linear foot of swale. 20.6 ft<sup>2</sup> x 51,726 ft = 1,065,556 ft<sup>3</sup> ÷ 27 ft<sup>3</sup>/yd<sup>3</sup> = 39,465 yd<sup>3</sup>
  - Top Deck swales = 33 ft<sup>2</sup> per linear foot of swale. 33 ft<sup>2</sup> x 6,990 ft = 230,670 ft<sup>3</sup> ÷ 27 ft<sup>3</sup>/yd<sup>3</sup> = 8,543 yd<sup>3</sup>
  - Total swale volume = 48,008 yd<sup>3</sup> @ \$4.12/ yd<sup>3</sup> = **\$ 197,792.96**
- Piping (material and installation):
  1. 0 ft of 18-inch HDPE corrugated pipe @ \$29.88/ft = **\$0**
  2. 24,969 ft of 24-inch HDPE corrugated pipe @ \$39.74/ft = **\$992,268**  
(24-inch pipe cost assumed to be 33.3% more than 18-inch pipe)
  3. 5,209 ft of 30-inch HDPE corrugated pipe @ 49.81/ft = **\$259,460**  
(30-inch pipe cost assumed to be 66.7% more than 18-inch pipe)
  4. 51,726 ft of 4-inch HDPE corrugated pipe @ 4.22/ft = **\$218,284**
- For the purposes of the FDEP form, an average cost per lineal foot of pipe is calculated based on total pipe cost divided by total pipe length as follows:
 
$$(\$992,268 + \$259,460 + \$218,284) = \$1,470,012 \div (24,969 \text{ ft} + 5,209 \text{ ft} + 51,726 \text{ ft}) = \$17.95 \text{ per ft. As a check } 81,904 \text{ ft} \times \$17.95/\text{ft} = \mathbf{\$1,470,176.80}$$
- Drainage inlet control structures: 344 @ \$876 each = **\$301,344**

## 7. Passive Gas Control

The JED facility has an active gas collection and control system (GCCS) within the Phase 1 development area (i.e., Cells 1-4), which will be expanded upon with the closure of subsequent cells. The costs associated with the installation of gas controls were calculated utilizing the proposed GCCS design as provided in the lateral expansion permit application for the JED facility (sheets 29 and 29A of 40). Costs include materials and installation for wells and piping within the Cells 8-23 footprint.

Gas Wells (drilling, perforated pipe section including gravel backfill, solid pipe section including soil backfill, and well head):

[Drilling @ \$27.82/ft, perforated pipe section @ \$53.06/ft, solid pipe section @ \$35.03/ft, and well heads @ \$1,236.24 each] Well depths shown are typical.

- 78 – 35-ft gas well @ \$3,553/gas well = **\$277,134**

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- 54 – 75-ft gas well @ \$6,860/gas well = **\$370,440**
- 50 – 135-ft gas well @ \$11,955/gas well = **\$597,750**
- 44 – 170-ft gas well @ \$14,624/gas well = **\$643,456**
- 97 – 220 ft gas well @ \$18,578/gas well = **\$1,802,066**

To calculate an average cost per gas well for the FDEP form, the total well costs above have been divided by the proposed number of gas wells:

$$(\$277,134 + \$370,440 + \$597,750 + \$643,456 + \$1,802,066) = \$3,690,846 \div (78 + 54 + 50 + 44 + 97) = \underline{\$11,426.77} \text{ per well} \times 323 \text{ gas wells} = \underline{\$3,690,846.71}$$

Lateral Piping (assumed to be 6-inch SDR-17 HDPE Pipe):

- 45,100 ft @ \$18.54/ft = **\$836,154**

Sub-header piping (assumed to be 14-inch SDR-17 HDPE Pipe):

- 11,300 ft @ \$42.24/ft = **\$477,312**

Main header piping (assumed to be 24-inch SDR-17 HDPE Pipe):

- 12,100 ft @ \$164.83/ft = **\$1,994,443**

To calculate the cost per linear foot of gas system piping, the total pipe cost has been divided by the total estimated linear footage of pipe:

$$(\$836,154 + \$477,312 + \$1,994,443) = \$3,307,909 \div (45,100 \text{ ft} + 11,300 \text{ ft} + 12,100 \text{ ft}) = \underline{\$48.29/\text{ft}}$$

- As a check:  $\$48.29/\text{ft} \times 68,500\text{ft} = \underline{\$3,307,865}$

It is assumed that an additional 20% of the pipe cost is needed for fittings.

$$(\$48.29 \times 20\%) + \$21.47 = \$57.95$$

$$\$57.95/\text{ft} \times 68,500\text{ft} = \underline{\$3,969,575.00}$$

Perimeter gas monitoring probes will be installed for future cells prior to approval for waste disposal; as such, no costs have been included in this closure cost estimate.

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The total cost for active gas control wells, piping, and fittings is **\$7,660,421.71**.

## 8. Active Gas Extraction Control

Based on the proposed GCCS design, it is assumed that up to 7 gas flare stations will be used for the site-wide GCCS. One gas flare station has already been installed as part of the Phase 1, Sequence 1 and 2 GCCS installation (for Cells 1 through 4). One additional gas flare station will be installed for the closure of Phases 2 and 3 (Cells 5-10). Accordingly, it is assumed that the remaining five gas flare stations will be installed as part of Cells 8-23 closure. The inflated cost for the gas flare station is estimated to be \$228,385 plus an additional \$127,745 (for site work, installation, electrical, condensate management, and misc. installation costs) for a total of \$356,130. Accordingly, the total cost for five flares is calculated to be  $5 \times \$356,130 = \underline{\$1,780,650}$ .

In addition, 12 condensate traps will be installed as part of the GCCS system within the footprint of Cells 8-23. Accordingly, the total cost for condensate traps is  $\$6,697 \times 12 = \underline{\$80,364}$ .

The total cost for active gas extraction control is **\$1,861,014**.

## 9. Security System

The perimeter fencing and gates for the entire facility were installed as part of the Phase 1 construction and, therefore, have not been included as part of this closure cost estimate.

## 10. Engineering

Costs for each engineering services item associated with closure of Cells 8-23 are based on the costs associated with the partial closure of Phase 1. Where applicable, the costs are pro-rated based on the area to estimate the costs for the closure of Cells 8-23. As an example – the survey cost for the partial closure of Phase 1 was based on the closure area of approximately 25-acres:  $\$30,000 / 25 \text{ acres} = \$1,200/\text{acre}$  (2009 cost) = \$1,236 (estimated 2011 cost)

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- Closure Permit Plan and Report (includes Construction Drawings and Technical Specifications): \$50,000
- Final Survey:  $\$1,236/\text{acre} \times 273 \text{ acres} = \underline{\$337,428}$
- Certification Report (prepared and certified by Florida registered professional engineer): \$20,000

Total cost for Engineering is **\$407,428.**

## 11. Professional Services

It has been assumed that 3% of the construction cost (items 1 through 9 above) will be needed for contract/construction management, which corresponds to  $0.03 \times \$23,313,571.81 = \underline{\$699,407.15}$ .

It has also been assumed that 7% of the construction cost (items 1 through 9 above) will be needed for construction quality assurance, which corresponds to  $0.07 \times \$23,313,571.81 = \underline{\$1,631,950.03}$ . This amount includes quality assurance testing.

Total cost for Professional Services is **\$2,331,357.18.**

## 12. Contingency

A contingency of 10% of the closing cost (items 1 through 11 above) has been assumed:  $0.10 \times \$26,052,356.99 = \underline{\$2,605,235.70}$

## 13. Site Specific Costs

### a. Mobilization

Contractor mobilization has been assumed to be 3% of the closing cost (items 1 through 9 above), which corresponds to  $0.03 \times \$23,313,571.81 = \underline{\$699,407.15}$ .

The total estimated closing cost for Cells 8 through 23 is calculated to be **\$29,356,999.84.**

Written by: **V. Damasceno** Date: **May 2011** Reviewed by: **C. Browne** Date: **May 2011**

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## **V. ANNUAL COST FOR LONG-TERM CARE**

The unit costs used to calculate the long-term care costs were primarily extracted from the Financial Assurance documentation provided in the 2007 Lateral Expansion permit application. Inflation adjustments were performed using the corresponding inflation factors of 1.03, 1.025, 1.02, and 1.01 (for 2008 through 2011, respectively). As such, an effective adjustment factor of 1.088 was used when converting 2007 cost to 2011 cost.

### **1. Groundwater Monitoring**

As discussed in the Hydrogeological Investigation Report, dated February 2011 the future groundwater monitoring network has not yet been established. As such, for the purposes of estimating long-term care costs, it is assumed that the groundwater monitoring network for Cells 8-23 will consist of a well cluster (with shallow, intermediate, and deep wells) located adjacent to the sump of each cell. Due to the spacing between certain sumps (e.g., Cell 20 and Cell 23), four additional well clusters have been assumed to maintain a maximum well spacing of 500 feet. Therefore the monitoring cost has been calculated as follows:

- 20 clusters x 3wells/cluster x \$620.16/well = \$37,209.60 x 2 times/yr = **\$74,419.20/yr**

### **2. Surface Water Monitoring**

The JED facility has been designed to retain all water from a 100-year storm event on-site. No off-site discharge of surface water is anticipated. Accordingly, no surface water monitoring costs have been included.

### **3. Gas Monitoring**

Based on the gas monitoring probe layout presented on Sheet 29 and 29A of the Lateral Expansion permit drawings, 21 gas monitoring probes will exist around the perimeter of Cells 8 through 23. Quarterly gas monitoring was estimated to be \$2,000 per event in the 2007 Lateral Expansion Application, which corresponds to 16 probes in the Cells 1-10 area. Pro-rating this monitoring cost and adjusting for inflation is provided as follows:

- $(\$2000 \times 1.088) \div 16 \text{ probes} = \$136/\text{probe} \times 21 \text{ probes} = \$2856 \times 4\text{times/yr} =$   
**\$11,424**

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#### 4. Leachate Monitoring

A leachate sample would be collected from each of Cells 8-23 annually. The leachate sampling cost includes all labor, equipment, and laboratory analyses required by the regulations.

- Annual leachate monitoring cost: \$1,000/sump x 1.088 x 16 sumps = **\$17,408**

#### 5. Leachate Collection/Treatment System Maintenance

For the long term care cost estimate, the following maintenance activities have been assumed:

*Leachate collection pipes:* Assumed that one cleaning every 10 years within the 30-year monitoring period will be required for each of Cells 8-23 (total of 48 cleanings).  $(\$12,327.04 \times 48) / 30 \text{ years} = \underline{\$19,723.26/\text{year}}$ .

*Leachate pumps:* Assumed that pumps require annual maintenance and each of Cells 8-23 will require one replacement pump during the 30-year monitoring period:

- Annual maintenance = \$308.99/year
- Leachate pump replacement cost =  $\$6,723.84/30\text{years} = \$224.13/\text{year}$
- Total estimated annual cost for pumps =  $\$533.12/\text{year} \times 16 = \underline{\$8,529.92}$

*Leachate storage containers:* Long term care for the leachate storage containers assumes that three of the four bladders will require replacement over the 30-year monitoring period. Replacement cost has been assumed to be \$10,880 per flexible bladder.

- 3 bladders x \$10,880/bladder / 30 years = **\$1,088/year**

*Leachate disposal:* Leachate generation rate after closure was assumed to be 20 percent of the annual average leachate generation rate for maximum waste height that was obtained from the HELP model Analysis (see Case 4 analyzed for maximum waste height of 220 ft in the calculation package entitled *Leachate Management System, dated Sept. 2007*).

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- $24.63 \text{ cf/ac/year or } 184.3 \text{ gal/ac/year} \times 272.7 \text{ acres} \times 20 \text{ percent} = 10,052 \text{ gal/year} \times \$0.13/\text{gallon for transportation and treatment} = \underline{\$1,306.76/\text{year}}.$

Therefore, total long-term care cost for leachate system maintenance = **\$30,647.94/year**.

## 6. Groundwater Monitoring Well Maintenance

In the 2007 Lateral Expansion permit application, 5 replacement wells were assumed for Cells 1-10, or 1 well per 2 cells when pro-rated. Accordingly, for Cells 8-23 (16 cells), 8 wells were assumed to be abandoned and replaced.

- Abandonment cost:  $\$572.29 \text{ per well} \times 8 \text{ wells} = \$4,578.32/30 \text{ years} = \$152.61/\text{yr}.$
- Replacement cost:  $60 \text{ ft} \times \$62/\text{ft} \times 8 \text{ wells} = \$29,760/30 \text{ years} = \$992/\text{yr}$

## 7. Gas System Maintenance

The long-term care cost estimate assumes that each of the five gas flares for Cells 8-23 will require replacement once within the 30-year maintenance period. Annual cost =  $\$356,130 \times 5 / 30\text{yrs} = \underline{\$59,355}$

323 gas wells will eventually be installed within the footprint of Cells 8-23. It is estimated that an additional \$51 per well/year will be needed for operation ( $\$51 \times 323 \text{ wells} = \underline{\$16,473}$ ). It is also assumed that 400 ft piping will require replacement ( $400 \text{ ft} \times \$57.95/\text{ft} = \underline{\$23,180}$ ).

Annual gas system maintenance is estimated to be **\$99,008**.

## 8. Landscape Maintenance

The long-term care cost estimate assumes that for the 281.6-acre area (3D area), the grass will be mowed four times per year at a cost of \$117.50 per acre. Mowing/maintenance:  $4 \text{ times/year} \times 281.6 \text{ acres} \times \$117.50/\text{acre} = \$132,352/\text{year}$

## 9. Erosion Control and Cover Maintenance

As indicated on FDEP form.



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## 10. Storm Water Management System Maintenance

As indicated on FDEP form.

## 11. Security System Maintenance

The long-term care cost for security system maintenance was included in the previously approved financial assurance cost estimate. Therefore, no additional cost is included as part of the long-term care cost estimate for Cells 8-23.

## 12. Utilities

The long-term care cost estimate for Phases 1 through 3 assumes that the power requirements for site equipment (i.e., pumps, lights, blowers, etc.) will cost \$2,000 per month (2007 cost). The total utility cost for Phases 1 through 3 is pro-rated based on number of cells (i.e. 10 cells) and inflated to estimate the utility cost for Cells 8-23:

- $\$2,000/\text{month} \times 1.088 \times 12 \text{ months} \times (1/10) \times 16 = \underline{\$41,779.20/\text{year}}$ .

## 13. Leachate Collection/Treatment Systems Operation

The long-term care costs for the leachate collection/treatment system operation was included in the previously approved financial assurance cost estimate. Therefore, no additional cost is included as part of the long-term care cost for Cells 8-23.

## 14. Administrative

The long-term care cost estimate assumes that the administrative costs for Phases 1 through 3 are \$20,000/year (2007 cost). The total administrative cost for Phases 1 through 3 is pro-rated based on number of cells (i.e. 10 cells) and inflated to estimate the administrative cost for Cells 8-23:

- $\$20,000/\text{year} \times 1.088 \div 10 \times 16 = \underline{\$34,816/\text{year}}$

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## **15. Contingency**

A contingency of 10 % of the total long-term annual care cost (items 1-14) is assumed.

**ANNUAL LONG-TERM CARE COST: \$361,359.84**

**TOTAL LONG-TERM CARE COST (30 years): \$10,840,795.35**

## **Attachment 1C**

Cost Information for the Phase 1 Partial Closure Construction  
and Phase 1, Sequence 1-3 GCCS Construction

## **2.4 BID WORKSHEET:**

### **JED Solid Waste Management Facility (J.E.D. Landfill) Partial Closure Construction Cells 1 - 4**

Revised February 11, 2009

Item	Description	Unit	Quantity	Unit Price	Sub-Total
1	Mobilization and Demobilization (not to exceed 5% of total bid) (See Note 1)	LS	1	\$35,000.00	\$35,000
2	Offloading and Staging Geosynthetic Liner Materials	LS	1	\$2,500.00	\$2,500
3	Surveying & As-builts (See Note 2)	LS	1	\$30,000.00	\$30,000
4	Borrow Area Development and Management (See Note 3)	LS	1	\$50,000.00	\$50,000
5	Silt Fencing at Borrow Area	LF	3,000	\$0.65	\$1,950
6	NOI, SWPPP, Sediment and Erosion Controls (BMP's)	LS	1	\$3,500.00	\$3,500
7	Expose Existing Base Liner at Anchor Trench	LF	4,430	\$0.65	\$2,880
8	Disconnect Existing Odor Flares at Leachate Cleanout Risers (See Note 4)	EA	14	\$150.00	\$2,100
9	Placement of Earthfill and Regrading to Meet Design Waste Grades (See Note 5)	CY	85,000	\$1.85	\$157,250
10	Placement and Grading of Intermediate Cover Layer (See Note 6)	CY	41,200	\$1.85	\$76,220
11	Excavation and Backfilling of Anchor Trenches	LF	4,000	\$1.20	\$4,800
12	Placement and Grading of Cap Protective Layer (See Note 6)	CY	68,750	\$2.00	\$137,500
13	18" Dia. Stormwater Piping (See Note 7)	LF	3,045	\$29.00	\$88,305
14	18" Dia. Stormwater Inlet Structures at Benches (See Note 8)	EA	40	\$850.00	\$34,000
15	18" Dia. Stormwater Inlet Structures (Top Area Outside Closure Limits) (See Note 9)	EA	10	\$730.00	\$7,300
16	Supply of Recycled Concrete Rip-Rap	TN	50	\$63.00	\$3,150
17	4-inch Diameter Seepage Header Pipe (solid and perforated)	LF	11,750	\$1.10	\$12,925
18	Placement and Grading of Soil Vegetation Layer	CY	21,750	\$3.00	\$65,250
19	Vegetation Layer Soil Amendments	AC	27	\$1,000.00	\$27,000
20	Sodding	SY	130,750	\$1.75	\$228,813
21	Waste/Closure Limit Markers	EA	20	\$37.00	\$740
22	Flushing of Existing Stormwater Control Structures and Outfall Piping (See Note 10)	EA	10	\$185.00	\$1,850
					\$0
					\$0
				<b>Total Bid</b>	<b>\$973,032</b>

#### **See Notes Below and Scope of Work - Section I of Contract Agreement:**

**Note 1** - One half of total cost will be paid upon mobilization and one half upon demobilization.

**Note 2** - Six (6) signed and sealed hard copies and one each (pdf and CADD file) of all as-built drawings must be provided to Owner at completion of project.

**Note 3** - Borrow Area Development and Management (Item 3) shall be in accordance with SFWMD permits and RHPA drawings dated October 2004. This item also includes any necessary survey, clearing, grubbing, dewatering, grading and restoration activities for the borrow area and haul road. Vegetation cleared at the borrow area shall be stockpiled south of the Cell 5 area in a location approved by the Owner.

**Note 4** - Payment includes disconnecting, storing and reconnecting odor flares at leachate cleanouts riser pipes.

**Note 5** - Includes haul and placement of clean fill soil to achieve waste grade elevations (account for existing waste underfill). Regrading of overfill soils shall be included in the unit rate.

**Note 6** - Unit rate and payment will be based on in-place compacted volumes based on design grades. No additional payment will be made for overfilling and tolerance allowance.

**Note 7** - Unit rate shall include miscellaneous fittings (elbows, bends, bands and ties, gaskets etc.) required to complete the stormwater piping. Pay item does not include Y-fittings at the bench locations.

**Note 8** - Includes all costs for Y-fittings, pipe extensions, bar screens and concrete to complete the stormwater inlet structures at the bench locations.

**Note 9** - Includes mitered end fittings, filter fabric and placement of recycled concrete rip-rap.

**Note 10** - Includes flushing of sediments in existing stormwater structures and outfall piping at perimeter road/disposal area limits.

**2.4 BID WORKSHEET:****JED Solid Waste Management Facility- Partial Closure Cells 1-4**

M/P Item	Description	Unit	Bid Estimate Install Quantity	Comanco		Bid Estimate Material Supply Quantity	Agru	
1	Mobilization and Demobilization	LS	1	\$5,000	\$5,000			
2	Tie-In to Existing 60-mil Liner at Base Anchor Tr	LF	4,000	4.25	\$17,000			
3	40-mil Textured Geomembrane	SF	1,120,000	\$0.095	\$106,400	1,250,000	0.1664	\$208,000
4	Geocomposite	SF	1,120,000	\$0.090	\$100,800	1,250,000	0.2460	\$307,500
5	Seepage Header Piping Wrap	LF	11,750	\$3	\$30,550			
6	8" Diameter Leachate Riser Pipe Boots	EA	15	\$225	\$3,375	15		
7	8" Diameter Gas Well Boots	EA	43	\$225	\$9,675	43		
8	6" Diameter Lateral Boots	EA	43	\$225	\$9,675	43		
9	4" Diameter Header Riser Access Pipe Boots	EA	10	\$225	\$2,250	10		
	Estimated Delivery							\$37,500

**284,725****\$553,000****WSI Notes:**

1. Install and material supply quantities are provided for bid estimate purposes. Install pay quantities will be based on actual square footage verified by 3rd party survey (including anchor trench). Material supply quantities shall be based on Installers take-off estimate, approved by Owner. Supply quantities shall include waste, slope, anchor trench, overlap, and any other adjustment factors necessary to supply all material to complete the work.
2. Earthwork Contractor will offload and stage geosynthetics materials delivered to the site. Material Supplier will furnish strappings on the rolls for offloading.
3. Installation quotes will be evaluated on cost and time to complete the work - both are important. Please indicate how many crews can be placed on the project and estimated time.
4. Material Supply Unit Price INCLUDES FREIGHT and is a DELIVERED TO FACILITY price. The JED Facility is exempt from sales tax.
5. Material specifications are attached. Material Unit Price includes all MQC testing as required by the specifications.
6. Earthwork Contractor will supply and place the seepage header pipe. Geomembrane installer shall cut, wrap and sew the geocomposite around the pipe.

**Bidder Notes:**


**BID WORKSHEET**  
**J.E.D. Solid Waste Management Facility**  
Phase 1 - Gas Collection and Control System  
Revised May 9, 2008 - Mike Kaiser

Item/Description	Unit	Quantity	Unit Cost	Subtotal Cost
<b>General</b>				
Mobilization/Demobilization	LS	1	5% of Total	\$ 19,500.00
Erosion and Sediment Control	LS	1	\$ 7,760.00	\$ 7,760.00
Survey	LS	1	\$ 11,300.00	\$ 11,300.00
<b>HDPE Header and Lateral Piping</b>				
6" SDR-17 Lateral Pipe	LF	2800	\$ 18.00	\$ 50,400.00
8" SDR-17 Lateral Pipe	LF	200	\$ 24.00	\$ 4,800.00
12" SDR-17 Pipe, Header	LF	350	\$ 34.00	\$ 11,900.00
14" SDR-17 Pipe, Header	LF	310	\$ 41.00	\$ 12,710.00
18" SDR-17 Pipe, Header	LF	1650	\$ 59.00	\$ 97,350.00
20" SDR-17 Pipe, Header	LF	310	\$ 79.00	\$ 24,490.00
24" SDR-17 Pipe, Header	LF	100	\$ 160.00	\$ 16,000.00
<b>Valves and Other Components</b>				
Fittings	LS	1	\$ 15,000.00	\$ 15,000.00
Header Access Riser (Header High Points)	EA	1	\$ 1,000.00	\$ 1,000.00
14" Isolation Butterfly Valve	EA	1	\$ 8,200.00	\$ 8,200.00
18" Isolation Butterfly Valve	EA	1	\$ 16,000.00	\$ 16,000.00
20" Isolation Butterfly Valve	EA	1	\$ 19,000.00	\$ 19,000.00
<b>Gas Extraction Wells</b>				
Gas Well Head Assembly	EA	29	\$ 1,200.00	\$ 34,800.00
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	1410	\$ 51.50	\$ 72,615.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	587	\$ 34.00	\$ 19,958.00
Vertical Well Drilling (36-inch diameter)	LF	1910	\$ 27.00	\$ 51,570.00
<b>Condensate Collection &amp; Management</b>				
Condensate Drains at Leachate Cleanouts	EA	3	\$ 6,500.00	\$ 19,500.00
HDPE 36" Dia. Knockout Pot at Flare Station	EA	1	\$ 15,000.00	\$ 15,000.00
Condensate Management System at Flare Station	LS	1	\$ 18,000.00	\$ 18,000.00
<b>Gas Flare Station</b>				
Flare Station Pad (Excavation, Fill and Grading)	LS	1	\$ 13,000.00	\$ 13,000.00
Gas Flare Station Receiving & Installation	LS	1	\$ 10,900.00	\$ 10,900.00
Electrical	LS	1	\$ 23,000.00	\$ 23,000.00
8' Tall Chain Link Fencing	LF	160	\$ 29.00	\$ 4,640.00
4' Wide Man Gate	EA	1	\$ 520.00	\$ 520.00
Sodding	SF	1000	\$ 2.00	\$ 2,000.00
12" Thick 3/4" Gravel with Geofabric	SF	1250	\$ 3.50	\$ 4,375.00
Retaining Wall and Footing (8' H x 8' W)	LF	80	\$ 350.00	\$ 28,000.00
Start-up Support	LS	1	\$ 4,690.00	\$ 4,690.00
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 637,978.00</b>

**Notes:**

1. Mobilization and demobilization shall not exceed 5% of total.

Date: April 10, 2008

This Agreement covers the purchase of a landfill methane flare system with control rack and related peripheral equipment from LFG Specialties (LFG) by Purchaser.

**Bill-to Address (please fill in)**

J.E.D Solid Waste Management Facility

1501 Omni Way

St. Cloud, Florida 34773

Attention: Mike Kaiser

Phone: (904) 673-0446

Fax: (407) 891-3730

**Ship-to Address (please fill in)**

Same as billing address

Attention:

Phone:

Fax:

The terms and conditions set forth in this Agreement herein, which include the Equipment Specification and the Terms and Conditions of Sales, constitute the entire understanding of the parties relating to the goods and services provided for herein. All subsequent modifications to this Agreement shall not be effective unless they are in writing and signed by LFG Specialties.

TOTAL EQUIPMENT COST: \$205,930.00START-UP AND TRAINING ASSISTANCE: \$4,690.00ESTIMATED SHIPPING & HANDLING: \$9,500.00**OPTIONS SELECTED**Ten foot stack extension (to-be-confirmed) \$ 1,570.00

\$

\$

TOTAL ESTIMATED CONTRACT VALUE: \$ 221,690

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the month, day, and year set forth below.

LFG SPECIALTIESPURCHASERSIGN: NAME: R. Shawn McCashTITLE: Sr. Vice PresidentDATE: 4/11/08P.O.#: NA - Reference JED Flare 2008

## **ATTACHMENT 2**

### **Revised Tables and Figure of Hydrogeological Investigation Report**



**Table 1**  
**Summary of Lithologic Borings**  
**Omni Waste of Osceola County, LLC**  
**J.E.D. Solid Waste Management Facility, Osceola County, FL**

Station ID	Easting	Northing	Latitude	Longitude	Ground Elevation	Total Depth	Borehole Diameter
	Coordinates (FL State Plane East NAD83, ft)		Coordinates (NAD83)		ft. NGVD 1929	ft. bgs	in.
SPT-1 (2010)	626190	1352102	28° 03' 11.96"	81° 05' 34.60"	79.93	62	3 7/8
SPT-2 (2010)	626553	1353558	28° 03' 26.39"	81° 05' 30.55"	78.79	72	3 7/8
SPT-3 (2010)	627388	1352965	28° 03' 20.52"	81° 05' 21.23"	78.22	66	3 7/8
SPT-4 (2010)	627035	1352715	28° 03' 18.04"	81° 05' 25.16"	77.46	162	3
SPT-5 (2010)	626526	1351944	28° 03' 10.41"	81° 05' 30.84"	83.54	162	3 7/8
SPT-6 (2010)	627742	1352144	28° 03' 12.40"	81° 05' 17.27"	78.19	156	3

Notes:

ft. = feet

NGVD 1929 = National Geodetic Vertical Datum of 1929

bgs = below ground surface

in = inch

**Table 11**  
**Summary of Surface Water Analytical - Organic Constituents**  
**Omni Waste of Osceola County, LLC**  
**J.E.D. Solid Waste Management Facility, Osceola County, FL**

Compound	Units	Class III Surface Fresh Water Standards	SW-3		SW-4	
			Result	Qualifier	Result	Qualifier
		Date	9/2/2010		9/2/2010	
1,1,1,2-Tetrachloroethane	ug/L	NS	0.18	U	0.18	U
1,1,1-Trichloroethane (TCA)	ug/L	270	0.17	U	0.17	U
1,1,2,2-Tetrachloroethane	ug/L	10.8	0.11	U	0.11	U
1,1,2-Trichloroethane	ug/L	16	0.17	U	0.17	U
1,1-Dichloroethane	ug/L	NS	0.13	U	0.13	U
1,1-Dichloroethene	ug/L	3.2	0.16	U	0.16	U
1,2,3-Trichloropropane	ug/L	0.2	0.42	U	0.42	U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NS	2.3	U	2.3	U
1,2-Dibromoethane (EDB)	ug/L	13	0.17	U	0.17	U
1,2-Dichlorobenzene	ug/L	99	0.478	U	0.478	U
1,2-Dichloroethane (EDC)	ug/L	37	0.18	U	0.18	U
1,2-Dichloropropane	ug/L	14	0.12	U	0.12	U
1,4-Dichlorobenzene	ug/L	3	0.13	U	0.13	U
2-Butanone (MEK)	ug/L	120,000	3.8	U	3.8	U
2-Hexanone	ug/L	NS	2.2	U	2.2	U
4-Methyl-2-pentanone (MIBK)	ug/L	23,000	0.65	U	0.65	U
Acetone	ug/L	1,700	5.6	U	5.6	U
Acetonitrile	ug/L	20,000	18	U	18	U
Benzene	ug/L	71.28	0.21	U	0.21	U
Bromochloromethane	ug/L	NS	0.27	U	0.27	U
Bromodichloromethane	ug/L	22	0.17	U	0.17	U
Bromoform	ug/L	360	0.42	U	0.42	U
Bromomethane	ug/L	35	0.22	U	0.22	U
Carbon Disulfide	ug/L	110	2.36	U	2.36	U
Carbon Tetrachloride	ug/L	4.42	0.34	U	0.34	U
Chlorobenzene	ug/L	17	0.16	U	0.16	U
Chloroethane	ug/L	NS	0.22	U	0.22	U
Chloroform	ug/L	470.8	0.35	U	0.35	U
Chloromethane	ug/L	470.8	0.11	U	0.11	U
cis-1,2-Dichloroethene	ug/L	NS	0.36	U	0.36	U
cis-1,3-Dichloropropene	ug/L	12	0.2	U	0.2	U
Dibromochloromethane	ug/L	34	0.19	U	0.19	U
Dibromomethane	ug/L	13	0.18	U	0.18	U
Ethylbenzene	ug/L	610	0.519	U	0.519	U
Iodomethane (Methyl Iodide)	ug/L	NS	2.68	U	2.68	U
m,p-Xylenes	ug/L	370*	1.04	U	1.04	U
Methylene Chloride	ug/L	1,580	0.21	U	0.21	U
o-Xylene	ug/L	370*	0.14	U	0.14	U
Styrene	ug/L	460	0.291	U	0.291	U
Tetrachloroethene (PCE)	ug/L	8.85	0.11	U	0.11	U
Toluene	ug/L	480	0.19	U	0.19	U
trans-1,2-Dichloroethene	ug/L	11,000	0.12	U	0.12	U
trans-1,3-Dichloropropene	ug/L	12	0.23	U	0.23	U
trans-1,4-Dichloro-2-butene	ug/L	NS	2.2	U	2.2	U
Trichloroethene (TCE)	ug/L	80.7	0.16	U	0.16	U
Trichlorofluoromethane	ug/L	NS	0.22	U	0.22	U
Vinyl Acetate	ug/L	700	1.9	U	1.9	U
Vinyl Chloride	ug/L	2.4	0.22	U	0.22	U

Notes:

ug/L - micrograms per liter

ND = Indicates that the compound was analyzed for but not detected above minimum reporting limit

= = The analyte was detected

U = Indicates that the compound was analyzed for but not detected above minimum reporting limit

\* = standard is for total xylenes

**Table 12**  
**Summary of Water Well Inventory**  
**Omni Waste of Osceola County, LLC**  
**J.E.D. Solid Waste Management Facility, Osceola County, FL**

	Object ID	Well Coordinates (NAD83)		Data Source	Owner Name	Predominant Use of Well	FLUID Identification	Permitted Usage		Well Construction Details			
		Latitude	Longitude					Daily Peak (GPD)	Daily Average (GPD)	Surface Casing Depth (ft. BLS)	Well Total Depth (ft. BLS)	Surface Casing Diameter (inches)	Primary Stratigraphic Production Zone
Water Wells Identified from Various Databases (September 2010)	1	28° 03' 08.47"	81° 05' 31.10"	OCEHD, SFWMD, SUPERACT	JED Disposal Facility	Potable	AAJ6820	NA	NA	255	380	4	Upper Floridan Aquifer System
	2	NA <sup>A</sup>	NA <sup>A</sup>	SFWMD	JED Disposal Facility	Dewatering <sup>A</sup>	AAJ5471	NA	NA	NA	NA	NA	Surficial Aquifer System
	3	28° 03' 31.15" **	81° 03' 05.94" **	OCEHD	Florida Mulch	Potable**	NA	NA	NA	NA	NA	NA	Upper Floridan Aquifer System
Water Wells Identified During Initial Hydrogeologic Investigation (Kubal-Furr, 2002)	GANN	28° 04' 26.55" **	81° 05' 04.62" **	Kubal-Furr (2002)	Ganarelli Ranch	Presumed Potable**	NA	NA	NA	NA	NA	4	NA
	GSW	28° 04' 26.27" **	81° 05' 12.39" **	Kubal-Furr (2002)	Ganarelli Ranch	Presumed Potable**	NA	NA	NA	NA	NA	4	NA
	ST	28° 04' 03.17" **	81° 06' 39.61" **	Kubal-Furr (2002)	Bronson Ranch	Presumed Potable**	NA	NA	NA	NA	NA	2	NA

Notes:

NA = not applicable/available

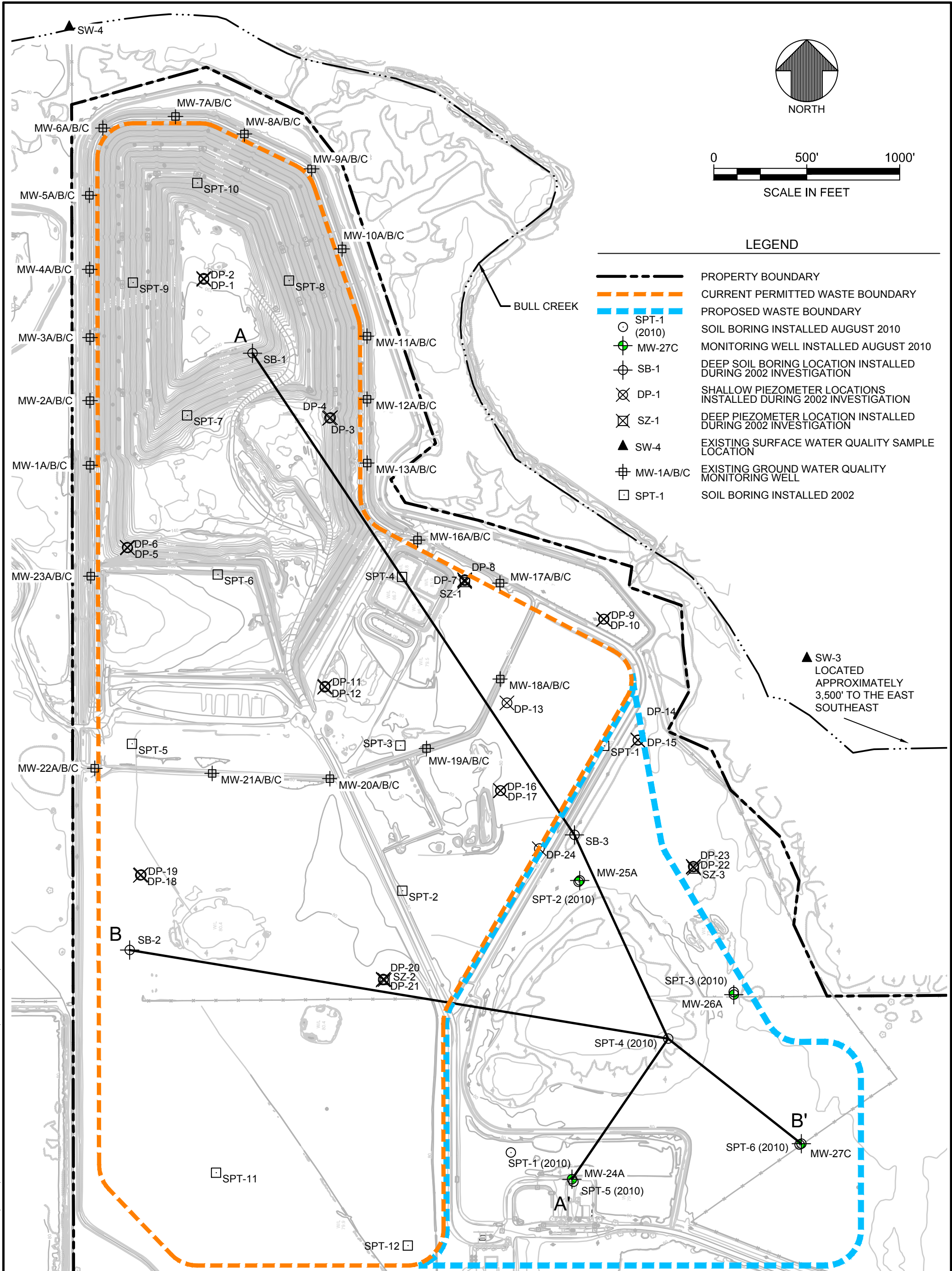
GPD = gallons per day

ft. BLS = feet below land surface

<sup>A</sup> = No well is installed at this location. The permit specifies a surface water withdrawal with a centrifugal pump for dewatering purposes.

\*\* = Well Coordinates are based on graphical location depicted on Figure 5 (Potable Well Survey) and are approximate only.

I:\CADD (PROJECTS)\JUED LANDFILLPERMIT\LATERAL EXPANSION (FL1868)\FIGURES\FL1868.02\FL1868.02F05.DWG (1 October 2010) cvickers



2010 HYDROGEOLOGICAL AND GEOTECHNICAL  
INVESTIGATION ADDENDUM LOCATIONS  
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Geosyntec <sup>®</sup> consultants		TAMPA, FL	
DATE:	MAY 2011	FILE NO.	FL1868.02F05
PROJECT NO.	FL1868	FIGURE NO.	4