

Brantley, Anna

From: Brantley, Anna
Sent: Wednesday, July 25, 2012 10:20 AM
To: 'lerose@scgov.net'
Cc: 'oholtey@scsengineers.com'; 'jtimmons@scgov.net'; Solid Waste Financial Coordinator; Morgan, Steve; Pelz, Susan
Subject: Financial Assurance Cost Estimates Approval Letter - Sarasota CCSWDC WTPF [WACS 51614]
Attachments: Sarasota Central Complex revised inf-adj WTPF estimate approval 2012.pdf

Attached please find "Financial Assurance Cost Estimates Approval letter for the subject Solid Waste Facility.

NOTE: If you have questions concerning the content of this document, please contact the DEP solid waste staff melissa.madden@dep.state.fl.us

This is the only electronic copy you will receive. Acrobat Reader 6.0 or greater is required to read this document, and is available for downloading at: <http://www.adobe.com/products/acrobat/readstep.html>

Anna

Anna Brantley
Administrative Assistant II
FL DEP / SWD / Waste Management
13051 North Telecom Parkway
Temple Terrace FL 33637-0629
Tel: 813/632-7600, Ext. 377
Fax: 813/632-7664
anna.brantley@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Hershel T. Vinyard Jr. is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on this link to the DEP Customer Survey. Thank you in advance for completing the survey.

Inserted into	OCULUS 27/12
Date:	
Initials:	MM

Brantley, Anna

From: Microsoft Exchange
To: 'oholtey@scsengineers.com'
Sent: Wednesday, July 25, 2012 10:21 AM
Subject: Relayed: Financial Assurance Cost Estimates Approval Letter - Sarasota CCSWDC WTPF [WACS 51614]

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

'oholtey@scsengineers.com'

Subject: Financial Assurance Cost Estimates Approval Letter - Sarasota CCSWDC WTPF [WACS 51614]

Sent by Microsoft Exchange Server 2007

Brantley, Anna

From: Microsoft Exchange
To: Solid Waste Financial Coordinator; Pelz, Susan; Madden, Melissa; Morgan, Steve
Sent: Wednesday, July 25, 2012 10:21 AM
Subject: Delivered: Financial Assurance Cost Estimates Approval Letter - Sarasota CCSWDC WTPF [WACS 51614]

Your message has been delivered to the following recipients:

Solid Waste Financial Coordinator

Pelz, Susan

Madden, Melissa

Morgan, Steve

Subject: Financial Assurance Cost Estimates Approval Letter - Sarasota CCSWDC WTPF [WACS 51614]

Sent by Microsoft Exchange Server 2007

51614



Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

July 25, 2012

Transmitted electronically only:
lerose@scgov.net

Ms. Lois Rose, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, FL 34275

RE: Sarasota Central County Solid Waste Disposal Complex WTPF
Financial Assurance Cost Estimates
Pending Permit No.: 126775-003-WT/02
WACS No. SWD/58/51614

Dear Ms. Rose:

This letter is to acknowledge receipt of revised cost estimates dated and received July 24, 2012, in support of *Renewal Application for Waste Tire Processing Facility*, prepared by SCS Engineers, for closure of the Sarasota Central County Solid Waste Disposal Complex Waste Tire Processing Facility. The revised cost estimates received July 24, 2012 (total for closing \$116,941) are **APPROVED**. The approved estimates are for a total of approximately 548 tons of waste tires at the site at any time.

A copy of these estimates will be forwarded to the Solid Waste Financial Coordinator, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with them directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 374.

Sincerely,

Melissa Madden
Solid Waste Section
Southwest District

mam
ec:

Orion J. Holtey, P.E., SCS Engineers, oholtey@scsengineers.com
Jason Timmons, P.E., Sarasota County Solid Waste, jtimmons@scgov.net
Solid Waste Financial Coordinator, FDEP, Tallahassee
Susan Pelz, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

Environmental Consultants
and Contractors

4041 Park Oaks Blvd.
Suite 100
Tampa, FL 33610-9501

813 621-0080
FAX 813 623-6757
www.scsengineers.com

SCS ENGINEERS

July 24, 2012
File No. 09211007.03

Melissa Madden, Solid Waste Section
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

via email: Melissa.Madden@dep.state.fl.us

Subject: Sarasota County CCWDC Landfill – Waste Tire Processing Facility Permit
Renewal - Permit No. 126775-002-WT/02 – Revision Request

Dear Ms. Madden:

On behalf of the Sarasota County Solid Waste Operations, please find attached the revisions to the financial assurance for the Waste Tire Processing Facility Permit Renewal per your request.

Please contact us if you have any questions or if you need any other information to complete these revisions.

Sincerely,



Orion J. Holtey, P.E.
Senior Project Engineer
SCS ENGINEERS

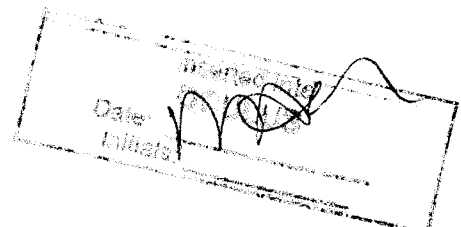


Dan R. Cooper, P.E.
Project Manager
SCS ENGINEERS

OJH/DRC:ojh

cc: Lois Rose, Sarasota County Solid Waste Operations
Jason Timmons, Sarasota County Environmental Utilities

Attachments



ATTACHMENT D

FINANCIAL ASSURANCE

The cost estimate for Sarasota County WTPF is calculated using the quantity of tires permitted on the site. The maximum quantity of tires would be expected to be removed, and disposed of to close the facility. Third party cost estimates were obtained for the tipping fees (Attachment 1, Charlotte County) and hauling rate (Attachment 2, Roots of Sarasota) to calculate the estimated closure cost of one hundred sixteen thousand, nine hundred and forty-one ~~eleven thousand, five hundred eight four dollars (\$111,584)~~ (\$116,941). Attachment D-1 is the detailed cost estimate for the closure of the Sarasota County WTPF.

SCS ENGINEERS

SHEET 1 OF 3

CLIENT	Sarasota County	PROJECT	Waste Tire Processing Facility	JOB NO.	09211007.03
SUBJECT	Closure Cost Estimate			BY	DJH
				DATE	5/29/12
			CHECKED	PH	DATE 7/24/12

Maximum Storage Capacity
conformance with 62-711.540

Based on the design a storage pile which measures

180ft x 50ft is available on site

Area of the pile = $9000 \text{ ft}^2 < 10,000 \text{ OK}$

Volume of each pile (for maximum storage) stacking tires

Volume = $180\text{ft} \times 50\text{ft} \times 15\text{ft} = 135,000 \text{ CF} = 5000 \text{ cy}$

A weight of 200 lbs per CY is used.

At 200 lbs/cy, 5000 CY of storage can accommodate
approximately 500 tons of whole waste tires

Closure cost will include

- Removal of 500 tons of whole tires
- 40 CY of waste tires from containers
- 80 CY of processed tires
- 20 CY of tire rims
- Removal of Equipment
- Clean-up of Facility

CLIENT <u>Sarasota County</u>	PROJECT	JOB NO.	
SUBJECT <u>Revised Closure Cost Estimate</u>	BY <u>OSH</u>	DATE <u>7/24/12</u>	
<u>only pages 2 and 3 revised</u>	CHECKED <u>[initials]</u>	DATE <u>7/24/12</u>	

Cost of Removal of 500 tons of whole tire

From Quote provided by Roots of Sarasota (see Attachment 2)
to haul from Sarasota Central County Landfill
to Zemel Road Landfill costs \$250.⁰⁰/40 YD container

Based on Assumptions from DEP Form #62-701.900(22) FAC.
Waste tire = 100 tires per ton or 10 tire per cubic yard

40 YD container = 400 tires = 4 tons/40 YD container

500 tons / 4 tons per container = 125 containers

125 containers x \$250.⁰⁰ = \$31,250

500 tons x \$130.⁰⁰ tipping fee (see Attachment 1)

= \$65,000 \$96,250

Cost of Removal of 40 CY waste tires from containers
to Zemel Road Landfill

2 containers x \$250.⁰⁰ = \$500.⁰⁰

2 containers x 4 tons x \$130.⁰⁰/ton tipping fee

= \$1,040.⁰⁰ \$1,540

Cost of Removal of 2-40 CY of processed tires
to Zemel Road Landfill

Density of processed tires = 1000 lbs/cy

80 CY x 0.5 tons/cy = 40 tons

80 CY = 2-40 YD containers

cont...

CLIENT	Sarasota County	PROJECT		JOB NO.	
SUBJECT	Revised Closure Cost Estimate		BY	CJH	DATE 7/24/12
	only pages 2 and 3 revised		CHECKED	ME	DATE 7/24/12

$$2 \text{ container} \times \$250.00 = \$500.00$$

$$40 \text{ tons} \times \$130.00/\text{ton tipping fee}$$

$$= \$5,200.00 \quad \boxed{\$5,700.00}$$

Cost for Removal of 20 CY of tire rims to the Zemel Road Landfill (minimum \$250.00)

$$1 \text{ container} \times \$250.00 = \$250.00$$

Assume tire Rims weigh 500 lb/cy

$$20 \text{ CY} \times 500 \text{ lbs/cy} = 10,000 \text{ lbs} = 5 \text{ tons}$$

$$5 \text{ tons} \times \$130.00/\text{ton tipping fee} = \$650.00$$

$$\boxed{\$900.00}$$

Cost for Removal of Equipment and Clean-up of Facility

Removal of Equipment and Clean-up of the Facility will be completed by two workers working for two days

Assuming

Hourly rate per worker is \$60.00

$$2 \text{ workers} \times 8 \text{ hr/day} \times 2 \text{ day/worker} = 32 \text{ hours}$$

$$\$60.00/\text{hr} \times 32 \text{ hrs} = \boxed{\$1,920}$$

Total Closure Cost:

$$\text{Tire Removal} = \$96,250$$

$$\text{Tire Container Removal} = \$1,540$$

$$\text{Processed Tire Removal} = \$5,700$$

$$\text{Tire Rim Removal} = \$900$$

$$\text{Removal of Equipment and Clean-up} = \$1,920$$

$$\text{Sub-total} = \$106,310$$

$$\text{Total with 10\% Contingency} = \$116,941$$



Charlotte County Government

[Home](#) | [PublicWorks](#) | [Solidwaste](#) |

Solid Waste

Tipping Fees and Other Information

- What happens at the landfill
- Tipping Fees - Other Information
- **COUNTY RESIDENTS:** \$36.00 PER TON Minimum charge: \$5.00
- **OUT OF COUNTY:** \$72.00 PER TON Minimum charge: \$17.00
- **TIRES:** In-County \$115.00 PER TON Out-of-County: \$130.00 PER TON
- **ASBESTOS:** \$100.00 PER TON
- **SPECIAL HANDLING:** \$50.00 PER EVENT
- **ACCOUNT APPLICATION:** Call 941-764-4360

FOR COMMERCIAL HAULERS OF CONSTRUCTION DEMOLITION DEBRIS

In an effort to monitor out-of-county waste, the Landfill will now be requiring that haulers disposing of construction and demolition debris have a **building permit number** or **address of the location** that they are hauling the above material from.

The Scalehouse Attendants will use the Charlotte County's Building Department permitting software to look up the permit to verify that the waste is from Charlotte County.

If the hauler does not have this information then they will be charged the out of county waste rate of \$72.00 per ton.

PROHIBITED WASTES

Federal and State Regulations have specified the following types of wastes that **CANNOT** be buried at the Zemel Road Landfill and they cannot be mixed in with your garbage.

Used Motor Oil & Filters: We accept small quantities from businesses at our Used Oil Storage Tank Area. Households can recycle their used motor oil and filters through our curbside program.

Lead-Acid Batteries: We will accept Lead-Acid Batteries from businesses at our Battery Storage Area. Households can recycle these batteries through our curbside program.

Rechargeable Batteries [Nickel Cadmium and Small Sealed Lead-Acid Batteries]: We accept small quantities from businesses at our Scale Building. Households can recycle these batteries at our Household Hazardous Waste Collection sites.

(941)957-HAUL
bobbyphinney@gmail.com
www.RootsSrq.com

ROOTS

Estimate

Date	Estimate #
05/29/2012	1003
	Exp. Date
	06/29/2012

Address

Orion Holtey
SCS Engineers
4041 Park Oaks Blvd
Tampa, Florida 33610

Date	Service	Activity	Quantity	Rate	Amount
05/29/2012	4	40 YD CONTAINER PLUS DUMP FEES (ADDITIONAL FEES ADDED WHEN WEIGHED)	1	250.00	250.00

Thank you for your time and consideration, ROOTS looks forward to working with you!

Total	\$250.00
--------------	-----------------

Accepted By:

Accepted Date:

(941)957-HAUL

ROOTS OF SARASOTA, INC

www.RootsSrq.com

Brantley, Anna

From: Brantley, Anna
Sent: Monday, May 14, 2012 3:18 PM
To: 'lerose@scgov.net'; 'carlos.restrepo@hdrinc.com'; Solid Waste Financial Coordinator; Pelz, Susan
Cc: Morgan, Steve
Subject: Financial Assurance Cost Estimates Approval Letter - Sarasota Central [WACS 51614]
Attachments: Sarasota Central Complex inf-adj CL-LTC cost estimate approval 2012 [WACS 51614] 5-14-2012.pdf

Attached please find "Financial Assurance Cost Estimates Approval letter for the subject Solid Waste Facility.

NOTE: If you have questions concerning the content of this document, please contact the DEP solid waste staff steve.morgan@dep.state.fl.us

This is the only electronic copy you will receive. Acrobat Reader 6.0 or greater is required to read this document, and is available for downloading at: <http://www.adobe.com/products/acrobat/readstep.html>

Anna

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FL DEP / SWD / Waste Management
13051 North Telecom Parkway
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Tel: 813/632-7600, Ext. 377
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Inserted into OCULUS

MAY 14 2012

Initials: AB

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To: Solid Waste Financial Coordinator; Pelz, Susan; Morgan, Steve
Sent: Monday, May 14, 2012 3:18 PM
Subject: Delivered: Financial Assurance Cost Estimates Approval Letter - Sarasota Central [WACS 51614]

Your message has been delivered to the following recipients:

Solid Waste Financial Coordinator

Pelz, Susan

Morgan, Steve

Subject: Financial Assurance Cost Estimates Approval Letter - Sarasota Central [WACS 51614]

Sent by Microsoft Exchange Server 2007



Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Transmitted electronically only:
lerose@scgov.net

Ms. Lois E. Rose, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, Fl. 34275

May 14, 2012

RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Permit No.: 130542-007-SO, Class I
WACS No. SWD/58/51614

Dear Ms. Rose:

This letter is to acknowledge receipt of inflation-adjusted cost estimates dated and received February 27, 2012, prepared by HDR, for closure and long-term care of the Sarasota Central County Solid Waste Disposal Complex. The Department apologizes for the delay in reviewing your submittal. The cost estimates received February 27, 2012 (total for closing \$32,948,028.98 and long term-care \$1,038,190.99/year X 30 years = \$31,145,729.66) are **APPROVED for 2012.** The next annual update (either revised or inflation-adjusted) shall be due no later than March 1, 2013.

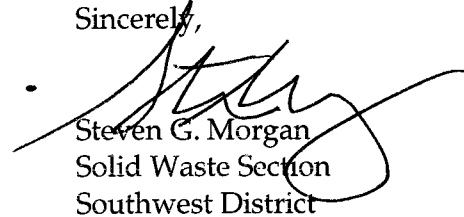
A copy of these estimates will be forwarded to Financial Coordinator, Solid Waste Section, FDEP, 2600 Blair Stone Road, MS 4565, Tallahassee, Florida 32399-2400. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Inserted into OCULUS

MAY 14 2012

Initials: JD

Sincerely,


Steven G. Morgan
Solid Waste Section
Southwest District

sgm
cc:

Carlos Restrepo, P.E., HDR Engineering, Inc, carlos.restrepo@hdrinc.com
Fred Wick/Frank Hornbrook, FDEP, Tallahassee, (via e-mail)
Susan Pelz, P.E., FDEP Tampa (via email)



February 27, 2012

Ms. Susan J. Pelz, P.E.
Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Sarasota County Central County Solid Waste Disposal Complex
Annual Closure and Long-Term Care Cost Estimate Updates
FDEP Permit No: 130542-007-SO/01

Dear Ms Pelz:

On behalf of Sarasota County Solid waste Operations, HDR Engineering, Inc. hereby submits the 2012 closure and long-term care cost estimate updates for the Sarasota County Central County Solid Waste Disposal Complex (Facility ID No. 51614) fulfilling the requirements of Rule 62-701.630(4). The cost estimate updates include the inflation factor adjustment of 1.01.

If you have any questions or have any questions related to this submittal, please contact me at (813) 262-2731.

Sincerely,
HDR ENGINEERING, INC.

Carlos A. Restrepo, P.E.
Sr. Project Engineer

cc: Lois E. Rose, Sarasota County
Gary Bennett, Sarasota County
Spencer Anderson, P.E., Sarasota County

Dept. Of Environmental Protection

FEB 27 2012

Southwest District

Inserted into OCULUS

FEB 29 2012

Initials: GP



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Print Form

Reset Form

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: Central County Solid Waste Disposal Complex WACS ID: SWD/58/51614

Permit Application or Consent Order No.: 130542-007-SO/01 Expiration Date: 11/18/2013

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee or Owner/Operator: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 9.84" Longitude: 82° 23' 24.75"

Coordinate Method: Web Based Mapping Datum: WGS 84

Collected by: HDR Company/Affiliation HDR/Engineer

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
Phase I	55	6/15/1998	13 years	0	Pending	Pending
Phase II	54	8/16/2010	10 years	9.5 years	N/A	N/A

Total disposal unit acreage included in this estimate: Closure: 109 Long-Term Care: 109

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 Pkwy.
Tempe 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

Inserted into OCULUS

FEB 29 2012

Initials: 25

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 or call the Financial Coordinator at (850) 245-8706.

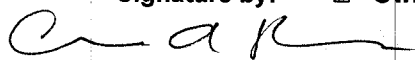
This adjustment is based on the Department approved closing cost estimate dated:		2/24/2011
Latest Department Approved Closing Cost Estimate:	Current Year Inflation Factor, e.g. 1.02	Inflation Adjusted Closing Cost Estimate:
\$32,621,810.87	1.01	= \$32,948,028.98

This adjustment is based on the Department approved long-term care cost estimate dated:		2/24/2011
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:
\$1,027,911.87	1.01	= \$1,038,190.99
Number of Years of Long Term Care Remaining:		30
Inflation Adjusted Long-Term Care Cost Estimate:		= \$31,145,729.66

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)



Signature

5426 Bay Center Drive, Suite 400

Address

Carlos Restrepo, PE HDR Engineering Sr. Project Engineer

Name & Title

Tampa, FL 33609

City, State, Zip Code

February 27, 2012

Date

carlos.restrepo@hdrinc.com

E-Mail Address

813-262-2731

Telephone Number

Morgan, Steve

From: Morgan, Steve
Sent: Thursday, April 21, 2011 11:15 AM
To: 'Lois E. Rose'
Cc: 'Timmons, Jason'; Hornbrook, Frank; Pelz, Susan
Subject: Sarasota Central Complex inf-adj CL-LTC estimate approval 2011
Attachments: Sarasota Central Complex inf-adj CL-LTC estimate approval 2011.pdf

Ms. Rose:

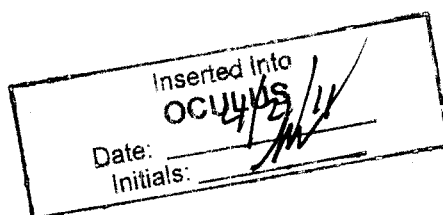
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Please feel free to e-mail or call me if you have any further questions.

Steven G. Morgan, Solid Waste Section
Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

phone - (813) 632-7600 x385
fax - (813) 632-7664
e-mail - steve.morgan@dep.state.fl.us





Florida Department of Environmental Protection

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Rick Scott
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Secretary

Transmitted electronically only:
lerose@scgov.net

Ms. Lois E. Rose, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, Fl. 34275

April 21, 2011

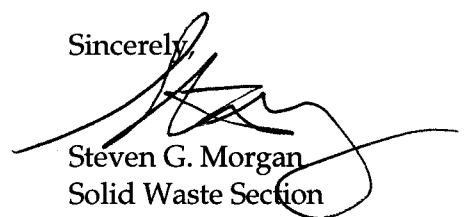
RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Permit No.: 130542-007-SO, Class I
WACS No. SWD/58/51614

Dear Ms. Rose:

This letter is to acknowledge receipt of inflation-adjusted cost estimates dated February 22, 2011 (received February 24, 2011), prepared by HDR, for closure and long-term care of the Sarasota Central County Solid Waste Disposal Complex. The cost estimates received February 24, 2011 (total for closing \$32,621,810.87 and long term-care \$1,027,911.87/year X 30 years = \$30,837,355.96) are **APPROVED for 2011**. The next annual update (either revised or inflation-adjusted) shall be due no later than March 1, 2012.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Sincerely,


Steven G. Morgan
Solid Waste Section
Southwest District

sgm

cc: Jason Timmons, P.E., HDR Engineering, Inc, Jason.Timmons@hdrinc.com
Fred Wick/Frank Hornbrook, FDEP, Tallahassee, (via e-mail)
Susan Pelz, P.E., FDEP Tampa (via email)

Pelz, Susan

From: Lois E. Rose [lerose@scgov.net]
Sent: Thursday, March 31, 2011 11:49 AM
To: Wick, Fred
Cc: Pelz, Susan; Morgan, Steve
Subject: FW: FDEP Reports - Due April 1
Attachments: Sarasota County 2010 SW Management Facility Letter.pdf

Hard copy was mailed to Tallahassee yesterday.

From: Kelly Betz
Sent: Wednesday, March 30, 2011 11:49 AM
To: Lois E. Rose
Subject: RE: FDEP Reports - Due April 1

Sent overnight to the DEP today, please see attached.

Kelly Betz, CPA
Senior Financial/Accounting Analyst
Finance Department
Karen E. Rushing
Clerk of the Circuit Court and County Comptroller
P.O. Box 8, Sarasota, FL 34230
www.SarasotaClerk.com

From: Lois E. Rose
Sent: Friday, March 25, 2011 4:17 PM
To: Spencer Anderson; Kelly Betz
Subject: FDEP Reports - Due April 1

Just a reminder that you are both working on reports for Solid Waste that are due to FDEP on April 1st.

Lois Rose

"E-mail communication, pursuant to Florida Law may be subject to public records request."



SARASOTA COUNTY

"Dedicated to Quality Service"

Dept. of Environmental
Protection

FEB 24 2011

Southwest District

February 22, 2011

Susan J. Pelz, P.E.
Solid Waste Section/Permitting
Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Re: Central County Solid Waste Disposal Complex (CCSWDC)
Permit Number 130542-007-SO/01
Financial Assurance Cost Estimate

Dear Ms. Pelz:

Enclosed is the annual Financial Assurance Cost Estimate for CCSWDC. An inflation adjustment was used to calculate the cost estimate.

Should you have any questions, please contact me at (941) 861-1589 or lerose@scgov.net.

Sincerely,

Lois Rose, Manager
Sarasota County Solid Waste

Enclosure

cc: Solid Waste Financial Coordinator, FDEP, Tallahassee
Kelly Betz, Clerk of the Court, Finance Section

Inserted into OCULUS

MAR 02 2011

Initials: JB



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32309-2400

Print Form

Reset Form

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: Central County Solid Waste Disposal Complex WACS ID: SWD/58/51614
Permit Application or Consent Order No.: 130542-007-SO/01 Expiration Date: 11/18/2013
Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275
Permittee or Owner/Operator: Sarasota County Solid Waste Operations
Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 9.84" Longitude: 82° 23' 24.75"
Coordinate Method: Web Based Mapping Datum: WGS 84
Collected by: HDR Company/Affiliation: HDR/Engineer

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
Phase I	55	6/15/1998	13 years	0.25 year	N/A	N/A
Phase II	54	8/16/2010	10 years	9.5 years	N/A	N/A

Total disposal unit acreage included in this estimate: Closure: 109 Long-Term Care: 109

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.
Tempe 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 or call the Financial Coordinator at (850) 245-8706.

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

January 25, 2010

Latest Department Approved
Closing Cost Estimate:

\$32,298,822.74

Current Year Inflation
Factor, e.g. 1.02

1.01

=

Inflation Adjusted Closing
Cost Estimate:

\$32,621,810.97

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

January 25, 2010

Latest Department Approved
Annual Long-Term Care
Cost Estimate:

\$1,017,734.52

Current Year Inflation
Factor, e.g. 1.02

1.01

=

Inflation Adjusted Annual
Long-Term Care Cost
Estimate:

\$1,027,911.87

Number of Years of Long Term Care Remaining:

30

Inflation Adjusted Long-Term Care Cost Estimate:

=

\$30,837,355.96

Signature by:

☐ Owner/Operator

☒ Engineer

(check what applies)

Signature

5426 Bay Center Drive, Suite 400

Address

Jason Timmons, PE HDR Engineering Project Manager

Name & Title

Tampa, FL 33609

City, State, Zip Code

February 17, 2011

Date

jason.timmons@hdrinc.com

E-Mail Address

813-282-2358

Telephone Number



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road MS 4565
Tallahassee, Florida 32399-2400

March 30, 2010

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Peter Ramsden
Director of Finance
Sarasota County
Post Office Box 3079
Sarasota, Florida 34230-3079

Re: WACS 51614 – Sarasota Central County Solid Waste Disposal Complex
WACS 51611 – Bee Ridge Landfill

Dear Mr. Ramsden:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facilities and find it is in order. The fiscal year end 2009 financial test demonstrates adequate financial assurance covering the Department approved closing and long-term care cost estimates of \$32,298,822.74 and \$30,532,035.56 for the Sarasota Central County Solid Waste Complex and \$57,222.00 for the closing of the Bee Ridge gas to energy system and \$9,115,632.42 for long-term care of the Bee Ridge Landfill. Therefore, these facilities are in compliance with the financial assurance requirements of Rule 62-701.630, Florida Administrative Code, at this time.

If you have any questions, please contact me at (850) 245-8745.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

cc: Fred Wick, DEP/TLH
Susan Pelz, DEP/TPA

Madden, Melissa

From: Hornbrook, Frank
Sent: Tuesday, March 30, 2010 9:46 AM
To: Pelz, Susan; Morgan, Steve; Madden, Melissa; Gaskin, Nancy
Subject: BEE RIDGE LANDFILL - WACS 51611 and SARASOTA CENTRAL COUNTY SW COMPLEX - WACS 51614
Attachments: 51614.pdf

FYI,

I have received an adequate financial test covering the two above referenced facilities. Assuming no changes, the facilities are in financial compliance until 3/1/11 when 2011 cost estimates are due.

Frank Hornbrook

Send Correspondence to:

Solid Waste Financial Coordinator
Florida Department Of Environmental Protection
2600 Blair Stone Rd. MS 4565
Tallahassee, Florida 32399-2400
Att: Frank Hornbrook, Environmental Specialist

Contact Information:

Phone: (850) 245-8745
Fax: (850) 245-8811
E-mail: Frank.Hornbrook@dep.state.fl.us

Please note: Florida has a very broad public records law. Most written communications to or from state officials are public records and may be made available to the public or media upon request. This e-mail communication, your reply, and future e-mails to my attention may therefore be subject to public disclosure.

Madden, Melissa

From: Madden, Melissa
Sent: Monday, March 22, 2010 12:28 PM
To: 'Lois E. Rose'
Cc: 'thomas.yanoschak@hdrinc.com'; Wick, Fred; Hornbrook, Frank; Pelz, Susan
Subject: 2010 Cost Est Approval Ltrs. Sarasota CCSWDC & Bee Ridge
Attachments: 62-701.900(28).pdf; SarasotaBeeRidge.2010Est.pdf; SarasotaCCSWD.2010Est.pdf

Lois,

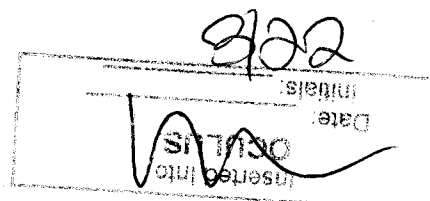
Please find attached the 2010 financial assurance cost estimate approval letters for the Bee Ridge LF LTC and ~~Sarasota~~ CCSWDC. These letters were transmitted electronically only.

Please note that with the recent updates to Rule 62-701, F.A.C., a revised Form 62.701.900(28) was also included. Please submit any future revised or inflation-adjusted cost estimates on the revised form(see attached).

Thanks, Melissa

Melissa Madden, Environmental Specialist II, Solid Waste Section

Florida Department of Environmental Protection - Southwest District
13051 North Telecom Parkway
Temple Terrace, Fl 33637-0926
melissa.madden@dep.state.fl.us
813/632.7600 Ext. 374
813/632.7664 Fax





Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

March 22, 2010

Transmitted electronically only:
lerose@scgov.net

Ms. Lois E. Rose, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, FL 34275

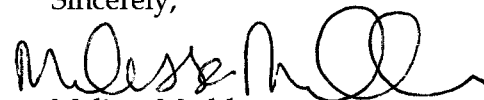
RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Permit No.: 130542-007-SO, Class I
WACS No. SWD/58/51614

Dear Ms. Rose:

This letter is to acknowledge receipt of inflation-adjusted cost estimates dated January 25, 2010 (received January 27, 2010), prepared by HDR, for closure and long-term care of the Sarasota Central County Solid Waste Disposal Complex. The cost estimates received January 27, 2010 (total for closing \$32,298,822.74 and long term-care \$1,017,734.52/year X 30 years = \$30,532,035.56) are **APPROVED for 2010**. The next annual update (either revised or inflation-adjusted) shall be due no later than March 1, 2011.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 374.

Sincerely,


Melissa Madden
Solid Waste Section
Southwest District

mam

cc: Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc, Thomas.Yanoschak@hdrinc.com
Fred Wick/Frank Hornbrook, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa (via email)



SARASOTA COUNTY

"Dedicated to Quality Service"

Dept. Of Environmental Protection
JAN 27 2010
Southwest District

January 25, 2010

Susan J. Pelz, P.E.
Solid Waste Section
Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Re: Central County Solid Waste Disposal Complex (CCSWDC)
Permit Number 130542-007-SO/01
Financial Assurance Cost Estimate

Dear Ms. Pelz:

Enclosed is the annual Financial Assurance Cost Estimate for the CCSWC submitted in accordance with 62-701.630(4)(a) and Part D.4.a of the above operating permit. An inflation adjustment was used to calculate the adjusted closure cost estimate.

Please contact me if you have any questions at (941) 861-1589 or lerose@scgov.net.

Sincerely,

Lois E. Rose
Manager, Solid Waste

Enc

cc: Financial Coordinator, Solid Waste Section, Tallahassee
Kelly Betz, Clerk of the Court, Finance Section



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

Form # 62-701.900(28)
Form Title: Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: January 25, 2010

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: SWD/58/51614

Permit / Application No.: 130542-007-SO/01 Expiration Date: 11/18/2013

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 10.7" Longitude: 82° 23' 16.39" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase I	55	6/15/1998	12
Phase II	54	Late 2010	10

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JAN 27 2010
SOUTHWEST DISTRICT
TAMPA

Total Landfill Acreage included in this estimate. 109 Closure 109 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit* ☐ Insurance Certificate
☐ Surety Bond* ☐ Escrow Account
☐ Trust Fund Agreement ☒ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
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 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

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 Financial Coordinator at (850)-245-8732.

This adjustment is based on the Department approved closure cost estimate dated:		10/29/09	
Latest Department Approved Closure Cost Estimate:		Current Year Inflation Factor	Inflation Adjusted Closure Cost Estimate:
\$31,665,512.49	X	1.020	\$32,298,822.74
This adjustment is based on the Department approved long-term care cost estimate dated:		10/29/09	
Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor	Inflation Adjusted Annual Long-Term Care Cost Estimate:
\$997,778.94	X	1.020	\$1,017,734.52
Number of Years of Long Term Care Remaining:		X	30
Inflation Adjusted Long-Term Care Cost Estimate:		=	\$ 30,532,035.56

☐ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Signature of Engineer

Thomas M. Yanoschak, PE, Project Mgr

Name & Title (please type)

P.E. Number 44200

Florida Registration Number (affix seal) & Date

3233 National Drive Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Signature of Owner/Operator

Lois E. Rose, Solid Waste Manager

Name & Title (please type)

(941) 861-1589

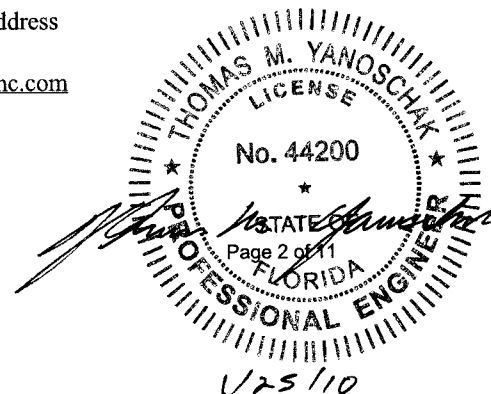
Telephone Number

lerose@scgov.net

Owner/Operator E-mail address

Thomas.yanoschak@hdrinc.com

Engineer E-mail address



Madden, Melissa

From: Pelz, Susan
Sent: Monday, February 01, 2010 12:12 PM
To: 'Lois E. Rose'
Cc: Lora M. Ross; Gary Bennett; Morgan, Steve; Madden, Melissa
Subject: RE: FACE - Permit No. 134912-004-SO/31
Attachments: image001.jpg

Lois,

This email is to confirm that the Department anticipates that the County will continue to include the MRF cost estimates as part of the Central County landfill cost estimate submittal.

If you have any questions, please call or email (email is better).

Susan J. Pelz, P.E.
Solid Waste Program Manager
Southwest District

13051 N. Telecom Parkway
Temple Terrace, Fl. 33637
813-632-7600 x 386
susan.pelz@dep.state.fl.us

From: Lois E. Rose [mailto:lerose@scgov.net]
Sent: Thursday, January 28, 2010 11:04 AM
To: Pelz, Susan
Cc: Lora M. Ross; Gary Bennett
Subject: FACE - Permit No. 134912-004-SO/31

Susan -

I wanted to clarify and have you confirm that the county does not have to submit separate financial assurance documents for the above Materials Recovery Facility (MRF) permit as the financial information for this site is included in the financial assurance documents for the Central County Solid Waste Disposal Complex - Permit No. 130542-007-SO/01.

When we received the new MRF permit dated November 18, 2009, the Financial Assurance section changed and omitted language that was in the prior permit that stated, The permittee shall provide financial assurance for the facility in accordance with Rule 62-701.710(7), F.A.C., either separately or as part of the financial assurance for the adjacent landfill as required by the current landfill operations permit.

Thanks -

Madden, Melissa

From: Madden, Melissa
Sent: Tuesday, December 08, 2009 1:43 PM
To: Franklin D. Coggins
Cc: Pelz, Susan; 'thomas.yanoschak@hdrinc.com'; Wick, Fred; Hornbrook, Frank
Subject: 2009 Sarasota CCSWDC Cost Est Approval Letter
Attachments: SARASOTA CCSWD 2009 Cost Est Apprvl.pdf

Frank,

Please find attached the 2009 cost estimate approval letter for Sarasota CCSWDC. This letter was transmitted electronically only.

Thanks,

Melissa Madden, Environmental Specialist II, Solid Waste Section

Florida Department of Environmental Protection - Southwest District
13051 North Telecom Parkway
Temple Terrace, Fl 33637-0926
melissa.madden@dep.state.fl.us
813/632.7600 Ext. 374
813/632.7664 Fax



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

5614
Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

December 8, 2009

Transmitted electronically only:
fcoggins@scgov.net

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, FL 34275

RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Permit No.: 130542-007-SO, Class I
WACS No. SWD/58/51614

Dear Mr. Coggins:

This letter is to acknowledge receipt of inflation-adjusted cost estimates dated October 29, 2009 (received November 2, 2009), prepared by HDR, for closure and long-term care of the Sarasota Central County Solid Waste Disposal Complex. The cost estimates received November 2, 2009 (total for closing \$31,665,512.49 and long term-care \$997,778.94/year X 30 years = \$29,933,368.29) are **APPROVED for 2009**. The next annual update (either revised or inflation-adjusted) shall be due no later than September 1, 2010.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 374.

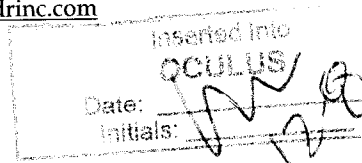
Sincerely,

Melissa Madden
Solid Waste Section
Southwest District

mam

cc:

Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc, Thomas.Yanoschak@hdrinc.com
Fred Wick/Frank Hornbrook, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa (via email)





October 29, 2009

Ms. Melissa Madden
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

**Re: Annual Financial Assurance Cost Estimate (FACE) Update
Revised per Approved MRF Closure Costs
Central County Solid Waste Disposal Complex Landfill
Sarasota County, Florida**

Dear Ms. Madden:

Enclosed are two (2) signed and sealed copies of the updated FACE form for the CCSWDC landfill which is submitted on behalf of Sarasota County. An inflation adjustment was used for the facility.

Please note that the attached cost estimate reflects an increase in the 2008 closure cost estimate of \$728,022, which is the difference between the approved MRF closure cost of \$1,652,022 as stated in the letter transmitted by FDEP to Frank Coggins dated October 21, 2009 and the corresponding cost under item 13 of the 2008 closure cost estimate (\$924,000). This adjustment was made in accordance with my conversation with Mr. Steve Morgan on October 26, 2009 and replaces the previously submitted cost estimate for the CCSWDC dated August 28, 2009.

Please do not hesitate to contact me if you have any questions concerning the attached forms.

Sincerely,

HDR Engineering, Inc.

Thomas M. Yanoschak, PE, BCEE
Senior Project Manager

Enclosures as noted.

cc: Frank Coggins, Sarasota County
Rich Siemering, HDR
Joe Readling, HDR

NOV 02 2009
Southwest District
Dept. of Environmental Protection



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: October 29, 2009

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: 4058C02034

Permit / Application No.: 130542-007-SO/01 Expiration Date: 11/18/2013

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 10.7" Longitude: 82° 23' 16.39" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase I	55	6/15/1998	12
Phase II	54	Late 2010	10

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
NOV 02 2009
SOUTHWEST DISTRICT
TAMPA

Total Landfill Acreage included in this estimate. 109 Closure 109 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit*

☐ Insurance Certificate

☐ Surety Bond*

☐ Escrow Account

☐ Trust Fund Agreement

☒ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

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

III. ESTIMATE ADJUSTMENT

40 C.F.R. Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code 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

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 Financial Coordinator at (850)-245-8732.

This adjustment is based on the Department approved closure cost estimate dated:		8/29/08
Latest Department Approved Closure Cost Estimate:	Current Year Inflation Factor:	Inflation Adjusted Closure Cost Estimate:
\$31,044,620.09	X 1.020 =	\$31,665,512.49
This adjustment is based on the Department approved long-term care cost estimate dated:		8/28/08
Latest Department Approved Annual Long-Term Care Cost Estimate:	Current Year Inflation Factor:	Inflation Adjusted Annual Long-Term Care Cost Estimate:
\$978,214.65	X 1.020 =	\$997,778.94
Number of Years of Long Term Care Remaining:		X 30
Inflation Adjusted Long-Term Care Cost Estimate:		= \$ 29,933,368.29

☐ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Thomas M. Yanoschak
Signature of Engineer

Thomas M. Yanoschak, PE, Project Mgr

Name & Title (please type)

P.E. Number 44200

Florida Registration Number (affix seal) & Date

3233 National Drive Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Frank Coggins
Signature of Owner/Operator

Frank Coggins, Mgr, Solid Waste Operations

Name & Title (please type)

(941) 861-1571

Telephone Number

fcoggins@scgov.net

Owner/Operator E-mail address

Thomas.yanoschak@hdrinc.com

Engineer E-mail address



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

October 21, 2009

Transmitted electronically only:
fcoggins@scgov.net

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, FL 34275

RE: Sarasota Central County Solid Waste Disposal Complex MRF
Financial Assurance Cost Estimates
Pending Permit No.: 134912-004-SO, MRF
WACS No. SWD/58/51614

Dear Mr. Coggins:

This letter is to acknowledge receipt of revised cost estimates dated August 23, 2009 (received August 25, 2009), received in support of *Renewal of Operation Permit* and prepared by PBS&J, for closure of the Sarasota Central County Solid Waste Disposal Complex Material Recovery Facility. The revised cost estimates received August 25, 2009 (total for closing \$1,652,022) are **APPROVED**. Please submit revised 2009 cost estimates for the Sarasota Central County Solid Waste Disposal Complex (received August 28, 2009, attached) to reflect the approved MRF closure costs.

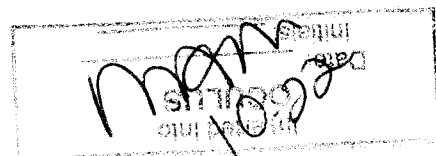
A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 374.

Sincerely,

Melissa Madden
Solid Waste Section
Southwest District

mam

cc: Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc, Thomas.Yanoschak@hdrinc.com
Orion J. Holtey, P.E., PBS&J, ojholtey@pbsj.com
Fred Wick/Frank Hornbrook, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa (via email)
Nancy Gaskin, FDEP Tampa (via email)



3.7.0 Closure Plan and Closure Cost Estimate

Sarasota County will notify the Department in writing prior to ceasing operations, and will specify a closing date. No waste will be received by the MRF after the closing date. Within 30 days after receiving the final solid waste shipment, the owner will remove or otherwise dispose of all solid waste. Putrescible wastes will be removed within 48 hours. Closure will be completed within 180 days after receiving the final solid waste shipment. Closure will include removal of all recovered materials from the site for recycling or for disposal. When closure is completed, Sarasota County will certify in writing to the Department that closure is complete. The Department will be allowed to make an inspection within 30 days to verify the closure, and advise Sarasota County of the closure status.

To close this MRF, all waste and recyclable materials will be removed. Financial Assurance for this MRF is included in the Financial Assurance for the Sarasota County Central County Solid Waste Disposal Complex. The closure cost estimate for the MRF is calculated below. It was assumed that the waste and recyclable materials would be at the maximum stockpile permitted capacity, and would be disposed of in the on-site Class I Landfill at the current tip fee for Class I solid waste of \$57.56 per ton (See rate sheet in Appendix I). The floors will be cleaned/washed when the facility is closed. ¹Leachate will be pumped to the Class I Landfill storage tanks.

CLOSURE COST ESTIMATE FOR THE MRF

Description	Amount	Unit Cost	Total Cost
Disposal of the permitted stockpile	<u>18,925 tons</u>	\$57.56/ton	<u>\$1,089,323</u>
At the on-site Class I Landfill	<u>17,746</u>		<u>\$1,021,460</u>
Loading Trucks	<u>17,746 tons</u>	<u>\$2/ton</u>	<u>\$35,492</u>
<u>Loading and Hauling waste one mile round trip from MRF to on-site Class I Landfill, \$7 per yard. @ 20 tons per truck, four trips per hour and truck costs at \$60 per hour this equals \$15 per trip</u>	<u>58,957 CY</u> <u>888 Truck trips</u>	<u>²\$7/CY</u> <u>\$15/trip</u>	<u>\$412,699</u> <u>\$13,320</u>
Cleaning/Pressure Washing	<u>67,100 SF</u>	<u>³\$0.20/SF</u>	<u>\$13,420</u>
Miscellaneous @ 5% +/-	<u>1</u>	<u>\$75,000</u> <u>\$50,000</u>	<u>\$75,000</u> <u>\$50,000</u>
Profit and overhead @ 5% +/-	<u>1</u>	<u>\$75,000</u> <u>\$50,000</u>	<u>\$75,000</u> <u>\$50,000</u>
TOTAL CLOSURE COST ESTIMATE			<u>\$1,652,022</u>

Since all waste will be removed from the area upon closure, no long-term care is anticipated.

- 1) 90 tons or 105 CY of Leachate that is to be pumped is not included in Closure Estimate
 2) \$7.00/CY provided by Haul-Away of the Suncoast Inc. mileage included (3/14/09) (6/17/09)
 3) \$0.20/SF provided by Affordable Pressure Cleaning & Painting, Inc. (6/23/09)
 See Appendix X for Third Party Estimates

Orion J. Holtey
 Date: 8/23/2009
 Orion J. Holtey, P.E.
 License No. 68373

Revised 8/25/2009



August 28, 2009

Mr. Steve Morgan
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637

FILE COPY
RECEIVED

AUG 28 2009

SOLID WASTE OPERATIONS

**Re: Annual Financial Assurance Cost Estimate (FACE) Updates
Bee Ridge and Central County Solid Waste Disposal Complex Landfills
Sarasota County, Florida**

Dear Steve:

Enclosed are two (2) signed and sealed copies of the updated FACE forms for the Bee Ridge and CCSWDC landfills which are submitted on behalf of Sarasota County. An inflation adjustment was used for both facilities.

Please note that the Bee Ridge form updates the closure and post-closure costs reflecting the proposed landfill gas to energy facility that were submitted to you on May 29, 2009. Also note that the Phase II acreage on the CCSWDC form has been reduced from 55 acres to 54 acres to reflect the as-built acreage.

Please do not hesitate to contact me if you have any questions concerning the attached forms.

Sincerely,

HDR Engineering, Inc.

Thomas M. Yanoschak, PE, BCEE
Senior Project Manager

Dept. Of Environmental Protection

AUG 28 2009

Southwest District

Enclosures as noted.

cc: Frank Coggins, Sarasota County
Rich Siemering, HDR
Joe Readling, HDR



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Dept. Of Environmental Protection

Date: August 28, 2009

Date of DEP Approval: _____

AUG 28 2009

I. GENERAL INFORMATION:

Southwest District

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: 4058C02034

Permit / Application No.: 130542-002-SO/01 Expiration Date: 7/20/2010

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 10.7"

Longitude: 82° 23' 16.39"

or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase I	55	6/15/1998	12
Phase II	54	Late 2010	10

Total Landfill Acreage included in this estimate. 109 Closure 109 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit*

☐ Insurance Certificate

☐ Surety Bond*

☐ Escrow Account

☐ Trust Fund Agreement

☒ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
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 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

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 Financial Coordinator at (850)-245-8732.

This adjustment is based on the Department approved closure cost estimate dated: 8/29/08

Latest Department Approved Closure Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Closure Cost Estimate:
<u>\$30,316,598.09</u>	X	<u>1.020</u>	=	<u>\$30,922,930.05</u>

This adjustment is based on the Department approved long-term care cost estimate dated: 8/28/08

Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Annual Long-Term Care Cost Estimate:
<u>\$978,214.65</u>	X	<u>1.020</u>	=	<u>\$997,778.94</u>

Number of Years of Long Term Care Remaining: X 30

Inflation Adjusted Long-Term Care Cost Estimate: = \$ 29,933,368.29

☐ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Thomas M. Yanoschak
Signature of Engineer

Thomas M. Yanoschak, PE, Project Mgr

Name & Title (please type)

P.E. Number 44200

Florida Registration Number (affix seal) & Date

3233 National Drive Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Frank Coggins
Signature of Owner/Operator

Frank Coggins, Mgr, SolidWasteOperations

Name & Title (please type)

(941) 861-1571

Telephone Number

fcoggins@scgov.net

Owner/Operator E-mail address

Thomas.yanoschak@hdrinc.com

Engineer E-mail address

8/28/09

Brantley, Anna

From: Brantley, Anna
Sent: Thursday, October 22, 2009 9:30 AM
To: Wick, Fred; Hornbrook, Frank
Subject: Sarasota Central Financial Assurance Cost Estimate ltr & attachment - dated and emailed 10-22-2009.pdf - Adobe Acrobat Professional
Attachments: Sarasota Central Financial Assurance Cost Estimate ltr & attachment - dated and emailed 10-22-2009

Attached please find "Financial Assurance Cost Estimates letter letter for the subject Solid Waste Facility.

NOTE: If you have questions concerning the content of this document, please contact the DEP solid waste staff melissa.madden@dep.state.fl.us

This is the only electronic copy you will receive. Acrobat Reader 6.0 or greater is required to read this document, and is available for downloading at: <http://www.adobe.com/products/acrobat/readstep.html>

Anna

Anna Brantley
Administrative Assistant II
FL DEP / SWD / Waste Management
13051 North Telecom Parkway
Temple Terrace FL 33637-0629
Tel: 813/632-7600, Ext. 377
Fax: 813/632-7664
anna.brantley@dep.state.fl.us

Brantley, Anna

From: Brantley, Anna
Sent: Thursday, October 22, 2009 9:34 AM
To: 'Thomas.Yanoschak@hdrinc.com'; 'ojholtey@pbsj.com'; Pelz, Susan; Gaskin, Nancy
Cc: Madden, Melissa
Subject: Sarasota Central Financial Assurance Cost Estimate ltr - dated and emailed 10-22-2009.pdf - Adobe Acrobat Professional
Attachments: Sarasota Central Financial Assurance Cost Estimate ltr - dated and emailed 10-22-2009

Attached please find "Financial Assurance Cost Estimates letter letter for the subject Solid Waste Facility.

NOTE: If you have questions concerning the content of this document, please contact the DEP solid waste staff melissa.madden@dep.state.fl.us

This is the only electronic copy you will receive. Acrobat Reader 6.0 or greater is required to read this document, and is available for downloading at: <http://www.adobe.com/products/acrobat/readstep.html>

Anna

*Anna Brantley
Administrative Assistant II
FL DEP / SWD / Waste Management
13051 North Telecom Parkway
Temple Terrace FL 33637-0629
Tel: 813/632-7600, Ext. 377
Fax: 813/632-7664
anna.brantley@dep.state.fl.us*

Madden, Melissa

From: Hornbrook, Frank
Sent: Monday, April 13, 2009 12:32 PM
To: Pelz, Susan; Morgan, Steve; Madden, Melissa
Subject: Sarasota Central Complex and Bee Ridge Landfill
Attachments: 51614.pdf; image001.jpg

FYI,

I have received an adequate financial test covering the District approved 2009 cost estimates for the above referenced facilities.

Assuming no changes, the facilities are in financial compliance until 3/1/2010 when 2010 cost estimates are due.

Frank Hornbrook



Send Correspondence to:

Solid Waste Financial Coordinator
Florida Department Of Environmental Protection
2600 Blair Stone Rd. MS 4565
Tallahassee, Florida 32399-2400
Att: Frank Hornbrook, Environmental Specialist

Contact Information:

☎ (850) 245-8745
☎ (850) 245-8811
✉ Frank.Hornbrook@dep.state.fl.us

Financial Website References:

Solid Waste Financial Assurance Website (Landfills, C&D's, MRF's, Transfer Stations, Soil Treatment, Waste Tires)

<http://www.dep.state.fl.us/waste/categories/swfr/>

Solid Waste Financial Assurance Forms / Cost Estimate Forms / Permit Forms / Change Forms

http://www.dep.state.fl.us/waste/quick_topics/forms/pages/62-701.htm

Used Oil Website

http://www.dep.state.fl.us/waste/categories/used_oil/default.htm

Used Oil Forms / Financial Assurance Forms / Cost Estimate Forms

http://www.dep.state.fl.us/waste/categories/used_oil/pages/forms.htm

Current Cost Estimate Inflation Factors (for all facility types)

<http://www.dep.state.fl.us/waste/categories/swfr/>

Current Financial Assurance Company Provider Page (for all facility types)

http://www.dep.state.fl.us/waste/quick_topics/publications/shw/swfr/Companies102708.pdf

Please note: Florida has a very broad public records law. Most written communications to or from state officials are public records and may be made available to the public or media upon request. This e-mail communication, your reply, and future e-mails to my attention may therefore be subject to public disclosure.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road MS 4565
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

April 13, 2009

Mr. Peter Ramsden
Director of Finance
Sarasota County
Post Office Box 3079
Sarasota, Florida 34230-3079

Re: WACS 51614 – Sarasota Central County Solid Waste Disposal Complex:
WACS 51611 – Bee Ridge Landfill

Dear Mr. Ramsden:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facilities and find it is in order. The fiscal year end 2008 financial test demonstrates adequate financial assurance covering the Department approved closing and long-term care cost estimates of \$30,316,599 and \$29,346,440 for the Sarasota Central County Solid Waste Complex and \$9,683,941 for long-term care of the Bee Ridge Landfill. Therefore, these facilities are in compliance with the financial assurance requirements of Rule 62-701.630, Florida Administrative Code, at this time.

If you have any questions, please contact me at (850) 245-8745.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

cc: Fred Wick, DEP/TLH
Susan Pelz, DEP/TPA



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Nokomis, FL 34275

December 3, 2008

RE: Central County Solid Waste Disposal Complex, Sarasota County
Financial Assurance Cost Estimates
Phase II Construction - Permit No.: 130542-006-SO/01
Phase II Operation - Permit No.: 130542-007-SC/01

Dear Mr. Coggins:

This letter is to acknowledge receipt of the revised cost estimates dated August 29, 2008 (received September 3, 2008), prepared by HDR, for closure and long-term care of Phases I & II of the Sarasota Central County Solid Waste Disposal Complex. The revised cost estimates received September 3, 2008 (total for closing \$30,316,598.90 and long-term care \$978,214.65/year x 30 years = \$29,346,439.50), are **APPROVED for 2008**. This cost estimate is for closure and long-term care of approximately 110 acres. The next annual update (revised or inflation-adjusted estimates) is due no later than September 1, 2009.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Sincerely,

Steven G. Morgan
Solid Waste Section
Southwest District

cc: Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc., Thomas.Yanoschak@hdrinc.com
Frank Hornbrook, FDEP, Tallahassee, (e-mail)
Susan Pelz, P.E., FDEP Tampa (e-mail)



September 24, 2008

Mr. Steve Morgan
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Dept. of Environmental
Protection
SEP 25 2008
Southwest District

**Re: Annual Financial Assurance Cost Estimate (FACE) Update
Revised Supporting Calculations
Central County Solid Waste Disposal Complex Landfill
Sarasota County, Florida**

Dear Steve:

As discussed over the phone, attached are two (2) copies of revised supporting calculations for the Central County Solid Waste Disposal Complex (CCSWDC) FACE form that was sent to you on August 29, 2008. These revisions are being submitted to more clearly indicate how the quantities and costs provided within the FACE form were developed. Please discard the calculations that were provided to you previously and replace them with the attached calculations. The FACE forms that were previously sent to you are still valid.

Please do not hesitate to contact me if you have any questions.

Sincerely,

HDR Engineering, Inc.

Thomas M. Yanoschak, PE, BCEE
Senior Project Manager

Enclosures as noted.

cc: Frank Coggins, Sarasota County
Bill Embree, HDR
Joe Readling, HDR



Florida Department of Environmental Protection

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: August 29, 2008

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: 4058C02034

Permit / Application No.: 130542-002-SO/01 Expiration Date: 7/20/2010

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27° 12' 10.7" Longitude: 82° 23' 16.39" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase I	55	6/15/1998	15
Phase II	55	Late 2009	10

Total Landfill Acreage included in this estimate. 115 Closure 115 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit* ☐ Insurance Certificate
☐ Surety Bond* ☐ Escrow Account
☐ Trust Fund Agreement ☒ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
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 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

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 Financial Coordinator at (850)-245-8732.

This adjustment is based on the Department approved closure cost estimate dated:		NA		
Latest Department Approved Closure Cost Estimate:	X	Current Year Inflation Factor	=	Inflation Adjusted Closure Cost Estimate:
				\$0.00
This adjustment is based on the Department approved long-term care cost estimate dated:		NA		
Latest Department Approved Annual Long-Term Care Cost Estimate:	X	Current Year Inflation Factor	=	Inflation Adjusted Annual Long-Term Care Cost Estimate:
				\$0.00
Number of Years of Long Term Care Remaining:		X		
Inflation Adjusted Long-Term Care Cost Estimate:		=		0.00

☒ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Thomas M. Yanoschak 08/29/08
Signature of Engineer

Thomas M. Yanoschak, PE, Project Mgr
Name & Title (please type)

P.E. Number 44250

Florida Registration Number (affix seal) & Date

3233 National Drive Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Frank Coggins
Signature of Owner/Operator

Frank Coggins, Mgr, Solid Waste Operations
Name & Title (please type)

(941) 861-1571

Telephone Number

fcoggins@scgov.net

Owner/Operator E-mail address

Thomas.yanoschak@hdrinc.com

Engineer E-mail address

V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing **most expensive**.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. Proposed Monitoring Wells	(Do not include wells already in existence.)			
	EA	NA		\$0.00
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY	178,000	\$1.76	\$313,280.00
Placement and Spreading	CY	178,000	\$1.51	\$268,780.00
Compaction	CY	178,000	\$0.29	\$51,620.00
Off-Site Material	CY	178,000	\$13.15	\$2,340,700.00
Delivery	CY	186,900	\$5.20	\$971,880.00
			Subtotal Slope and Fill:	\$3,946,260.00
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY	NA		\$0.00
Synthetics - 40 mil	SY	532,000	\$6.89	\$3,665,480.00
Synthetics - GCL	SY	NA		\$0.00
Synthetics - Geonet	SY	532,000	\$4.31	\$2,292,920.00
Synthetics - Other	SY	NA		\$0.00
			Subtotal Barrier Layer Cover:	\$5,958,400.00
4. Top Soil Cover:				
Off-Site Material	CY	355,000	\$13.15	\$4,668,250.00
Delivery	CY	373,000	\$5.20	\$1,939,600.00
Spread	CY	355,000	\$1.51	\$536,050.00
			Subtotal Top Soil Cover:	\$7,143,900.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
5. Vegetative Layer				
Sodding	SY	532,000	\$5.81	\$3,090,920.0
Hydroseeding	AC	NA		\$0.00
Fertilizer	AC	110	\$114.60	\$12,606.00
Mulch	AC	NA		\$0.00
Other	SY	NA		\$0.00
Subtotal Vegetative Layer:				<u>\$3,103,526.0</u>
6. Stormwater Control System:				
Earthwork	CY	22,500	\$21.91	\$492,975.00
Grading	SY	NA		\$0.00
Piping	LF	4,840	\$50.72	\$245,484.80
Ditches	LF	NA		\$0.00
Berms	LF	22,500	\$31.90	\$717,750.00
Control Structures	EA	24	\$4,000.00	\$96,000.00
Other	LS	104	\$1,000.00	\$104,000.00
Subtotal Stormwater Controls:				<u>\$1,656,209.8</u>
7. Gas Controls: Passive				
Wells	EA	110	\$6,700.00	\$737,000.00
Pipe and Fittings	LF	NA		\$0.00
Monitoring Probes	EA	NA		\$0.00
NSPS/Title V requirements	LS	1	\$4,000.00	\$4,000.00
Subtotal Passive Gas Control:				<u>\$741,000.00</u>

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
8. Gas Control: Active Extraction				
Traps	EA	2	\$8,600.00	\$17,200.00
Sump	EA	4	\$16,000.00	\$64,000.00
Flare Assembly	EA	1	\$95,000.00	\$95,000.00
Flame Arrestor	EA	1	\$10,000.00	\$10,000.00
Mist Eliminator	EA	1	\$20,000.00	\$20,000.00
Flow Meter	EA	1	\$55,000.00	\$55,000.00
Blowers	EA	2	\$20,000.00	\$40,000.00
Collection System	LF	1	\$1,200,000.00	\$1,200,000.00
Other (describe)		110	\$700.00	\$77,000.00
Subtotal Active Gas Extraction:				\$1,578,200.00
9. Security System:				
Fencing	LF	NA		\$0.00
Gate(s)	EA	NA		\$0.00
Sign(s)	EA	1	\$600.00	\$600.00
Subtotal Security System:				\$600.00
10. Engineering:				
			SUBTOTAL ITEMS 1 - 9	\$24,128,095.80
Closure Plan report	LS		\$483,000.00	\$483,000.00
Certified Engineer	LS	1	\$1,206,000.00	\$1,206,000.00
NSPS/Title V Air Permit	LS	1	\$15,000	\$15,000.00
Final Survey	LS	1	\$35,750.00	\$35,750.00
Certification of Closure	LS	1	\$241,000.00	\$241,000.00
Other (detail)		NA		
Subtotal Engineering:				\$1,980,750.00

	Contract Management		Quality Assurance		Total
	Hours	LS	Hours	LS	
P.E. Supervisor	265	\$40,000.	95	\$15,000.	\$55,000.00
On-Site Engineer	192	\$22,000.	96	\$11,000.	\$33,000.00
Office Engineer	320	\$40,000.	240	\$30,000.	\$70,000.00
On-Site Technician	960	\$67,000.	960	\$67,000.	\$134,000.00
Other (explain)	256	\$17,000.	96	\$6,000.0	\$23,000.00

Subtotal of 1-11 Above:	<u>\$26,698,845.80</u>
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Closing Cost Subtotal: 28,033,788.09

Mobilization	NA
Waste Tire Facility	\$140,000.00
Materials Recovery Facility	\$924,000.00
Special Wastes	\$131,000.00
Leachate Management System Modification	NA
Other Yard Trash Facility	\$556,000.00
Leachate Disposal	\$531,810.00
Subtotal Site Specific Costs:	\$2,282,810.00

Subtotal Site Specific Costs:	\$2,282,810.00
TOTAL CLOSING COSTS	\$30,316,598.09

VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

☐ 5 Years
 ☐ 20 Years
 ☒ 30 Years
 ☐ Other

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.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling Frequency (events/yr.)	Number of Wells	\$ / Well / Event	\$ / Year
1. Groundwater Monitoring (62-701.510(6), and (8)(a))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	10	\$700.00	\$14,000.00
Annual	1	NA		\$0.00
Subtotal Groundwater Monitoring:				\$14,000.00
2. Surface Water Monitoring (62-701.510(4), and (8)(b))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	2	\$1,100.00	\$4,400.00
Annual	1	NA		\$0.00
Subtotal Surface Water Monitoring:				\$4,400.00
3. Gas Monitoring				
Monthly	12	NA		\$0.00
Quarterly	4	10	\$100.00	\$4,000.00
Semi-Annual	2	NA		\$0.00
Annual	1	NA		\$0.00
Subtotal Gas Monitoring:				\$4,000.00

Description	Sampling Frequency (events/yr.)	Number of Locations	\$/Location/Event	\$ / Year
4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	6	\$300.00	\$3,600.00
Annual	1	6	\$900.00	\$5,400.00
Other		NA		\$0.00
Subtotal Leachate Monitoring:				\$9,000.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
5. Leachate Collection/Treatment Systems Maintenance				
Maintenance				
Collection Pipes	LF	14,700	\$1.00	\$14,700.00
Sumps, Traps	EA	5	\$80.00	\$400.00
Lift Stations	EA	7	\$2,400.00	\$16,800.00
Cleaning	LS	NA		\$0.00
Tanks	EA	1	\$2,500.00	\$2,500.00
Impoundments				
Liner Repair	SY	NA		\$0.00
Sludge Removal	CY	NA		\$0.00
Aeration Systems	CY	NA		\$0.00
Floating Aerators	EA	NA		\$0.00
Spray Aerators	EA	NA		\$0.00
Disposal				
Off-site	1000 gallon	21,000	25	\$533,106.00
(Include Transportation and Disposal)				
Subtotal Leachate Collection/Treatment Systems				\$567,506.00

6. Leachate Collection/Treatment Systems Operation

Operation		Hours	\$/Hour	Total
P.E. Supervisor	HR	24	\$159.00	\$3,816.00
On-Site Engineer	HR	16	\$114.00	\$1,824.00
Office Engineer	HR	48	\$125.00	\$6,000.00
OnSite Technician	HR	48	\$70.00	\$3,360.00
Materials	LS			\$1,000.00
Subtotal Leachate Collection/Treatment System Maintenance & Operation:				\$16,000.00

7. Maintenance of Groundwater Monitoring Wells

Monitoring Wells	LF	20	\$70.00	\$1,400.00
Replacement	EA	NA		\$0.00
Abandonment	EA	NA		\$0.00
Subtotal Groundwater Monitoring Well Maintenance:				\$1,400.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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8. Gas System Maintenance

Piping, Vents	LF LS	1	\$50,000.00	\$50,000.00
Blowers	EA	2	\$5,000.00	\$10,000.00
Flaring Units	EA	1	\$10,000.00	\$10,000.00
Meters, Valves	EA	1	\$2,000.00	\$2,000.00
Compressors	EA			\$0.00
Flame Arrestors	EA	1	\$2,000.00	\$2,000.00
Operation	LS			\$102,520.00
SubTotal Gas System:				\$176,520.00

9. Landscape

Mowing	AC	115	\$170.00	\$19,550.00
Fertilizer	AC	115	\$115.00	\$13,225.00
Subtotal Landscape Maintenance:				\$32,775.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
10. Erosion Control & Cover Maintenance				
Sodding	SY	6,000	\$5.81	\$34,860.00
Regrading	AC	1	\$900.00	\$900.00
Liner Repair	SY	250	\$10.00	\$2,500.00
Clay	CY	NA		\$0.00
Subtotal Erosion Control and Cover Maintenance:				\$38,260.00
11. Storm Water Management System Maintenance				
Conveyance Maintenance	LS- LF	5,000	\$1.12	\$5,600.00
Subtotal Storm Water System Maintenance:				\$5,600.00
12. Security System Maintenance				
Fences	LF	100	\$42.00	\$4,200.00
Gate(s)	EA	1	\$2,000.00	\$2,000.00
Sign(s)	EA	1	\$100.00	\$100.00
Subtotal Security System:				\$6,300.00
13. Utilities	LS			\$38,000.00
14. Administrative				
		Hours	\$/Hour	Total
P.E. Supervisor	HR	16	\$159.00	\$2,544.00
On-Site Engineer	HR	72	\$114.00	\$8,208.00
Office Engineer	HR	48	\$125.00	\$6,000.00
OnSite Technician	HR	16	\$70.00	\$1,120.00
Other (explain)		NA		\$0.00
Subtotal Administrative:				\$17,872.00
15. Contingency	% of Total			5%
Subtotal Contingency:				\$46,581.65
SUBTOTAL ITEMS 1-14	\$931,633.00			

16. Site Specific Costs (explain)

UNIT COST

NA	LS	
NA	LS	
NA	LS	

ANNUAL LONG-TERM CARE COST (\$/Year): \$978,214.65

NUMBER OF YEARS OF LONG-TERM CARE 30.00

TOTAL LONG-TERM CARE COST (\$) \$29,346,439.50

Job No. 91148-001

Calc No.

Computation



Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure/Post Closure Costs	Date	9/23/2008

Purpose Estimate Closure/Post Closure costs for Phase I and II of the CCSWPC Class I Landfill. Assume third party will provide all materials and services. Assume worst-case scenario where all 110 acres of Phases I and II have received waste but no closure has occurred.

References Cost Data Obtained from:

- 2008 RS Means Heavy Construction Cost Data (prices adjusted for Sarasota, FL location factors)
- Price Quotes from vendors as noted
- Actual costs adjusted for inflation, as noted.

Procedure (Note: Item numbers correspond to items listed on FDEP Form G2-701.900(28))

C:\working\ba0138859\Phase I and II
FACF Public Version V.01\ba0138859

Job No.

91148-001

Calc No.

00001

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 1)	Date	9/23/2008

Find

Description	Variable	Units
Proposed Monitoring Wells		Ea

Given

Description	Value	Source
Proposed Monitoring Wells		Assume all monitoring wells installed prior to Phase II operation (i.e., no new wells required for closure).

Dep
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Protection
SEP 25 2008
Southwest District

Job No. 91148-001

Calc No. 00002

Computation

HDR

Project CCSWDC I and II

Computed LEP

Subject Phases I and II Financial Assurance

Date 9/23/2008

Component

Reviewed TMY

Task Closure Costs (Item 2)

Date 9/23/2008

Purpose

Slope and Fill (bedding layer between waste and barrier layer).
Assume off-site material will be used per FDEP.

Find

Description	Variable	Units
Excavation		\$
Placement and Spreading		\$
Compaction		\$
Off-Site Material		\$
Delivery		\$

Given

Description	Value	Source
Excavation	\$1.76	Attachment B (2008 Means 02315-424-0300, 02315-424-0020)
Placement and Spreading	\$1.51	Attachment B (2008 Means 02315-520-0020)
Compaction	\$0.29	Attachment B (2008 Means 02315-310-5000)
Off-Site Material	\$13.15	Attachment B (2008 Means 02315-210-4070) (Material Cost Only)
Delivery	\$5.20	Attachment B (2008 Means 02315-490-1100)

Given

Description	Value	Comment
Excavation	178000	Assume 1' of soil will be required on average over Phases I and II
Placement and Spreading	178000	
Compaction	178000	
Off-Site Material	178000	
Delivery	186900	For wet sand assume 5% Swell (Source: Excavation Planning Reference Guid, 1988)

Equations

Quantity = 110 AC * 43560 sf/ac * 1' * (1 cy/ 27cf) = 177,467 CY (Round up to 178,000 CY)
 Quantity in loose cy (LCY) = Bank CY (NCY) * % Swell
 LCY = 178,000 * 1.05 = 186,900

Solution

Description	Equation	Comment	Value
Excavation	Total Cost = 178000cy * \$1.76/cy	Price Adjusted by 15% for truck loading and location	\$313,280.00
Placement and Spreading	Total Cost = 178000cy * \$1.51/cy	Price Adjusted for location	\$268,780.00
Compaction	Total Cost = 178000cy * \$0.29/cy	Price Adjusted for location	\$51,620.00
Off-Site Material	Total Cost = 178000cy * \$13.15/cy	Price Adjusted for location	\$2,340,700.00
Delivery	Total Cost = 186900cy * \$5.20/cy	Price Adjusted for location	\$971,880.00

Job No.

91148-001

Calc No.

00003

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 3)	Date	9/23/2008

Purpose

Cover Material (Barrier Layer). Assume geosynthetic barrier layer consisting of 40 mil textured LLDPE with overlying geosynthetic drainage layer (GDL).

Find

Description	Variable	Units
Off-Site Clay		N/A
40 mil textured LLDPE		\$
Synthetics GCL		N/A
Synthetics Geonet		\$
Synthetics Other		N/A

Given

Description	Value	Source
Off-Site Clay	N/A	N/A
40 mil textured LLDPE	\$4.31	Attachment C (See price quote from GSE)
Synthetics GCL	N/A	N/A
Synthetics Geonet	\$6.89	Attachment C (See price quote from GSE)
Synthetics Other	N/A	N/A

Given

Description	Value	Comment
Off-Site Clay	N/A	N/A
40 mil textured LLDPE	532000	sy
Synthetics GCL	N/A	N/A
Synthetics Geonet	532000	Assume 300 mil Geonet Composite w/ 8 oz/sy non-woven fabric on both sides)
Synthetics Other	N/A	N/A

Equations

Quantity = $110 \text{ AC} * 43560 \text{ sf/ac} * 1' * (1 \text{ sy} / 9 \text{ sf}) = 532,400 \text{ SY} = 532,000 \text{ SY}$

Geonet Installed Cost = $\$0.765/\text{sf} = \$6.89/\text{sy}$

40 mil Textured LLDPE Installed Cost = $\$0.479/\text{sf} = \$4.31/\text{sy}$

Solution

Description	Equation	Comment	Value
Off-Site Clay	N/A	N/A	N/A
40 mil textured LLDPE	Total Cost = $532000\text{sy} * \$4.31/\text{sy}$		\$2,292,920.00
Synthetics GCL	N/A	N/A	N/A
Synthetics Geonet	Total Cost = $532000\text{sy} * \$6.89/\text{sy}$		\$3,665,480.00
Synthetics Other	N/A	N/A	N/A

Job No.

91148-001

Calc No.

00004

Computation

Project CCSWDC I and II

Computed LEP

Subject Phases I and II Financial Assurance

Date 9/23/2008

Component

Reviewed TMY

Task Closure Costs (Item 4)

Date 9/23/2008

Purpose

Top Soil Cover (Assume 24" Cover over Geosynthetics)

Find

Description	Variable	Units
Off-Site Material		\$
Delivery		\$
Spread		\$

Given

Description	Value	Source
Off-Site Material	\$13.15	Attachment B (2008 Means 02315-210-4070) (Material Cost Only)
Delivery	\$5.20	Attachment B (2008 Means 02315-490-1100)
Spread	\$1.51	Attachment B (2008 Means 02315-520-0020)

Given

Description	Value	Comment
Off-Site Material	355000	
Delivery	373000	
Spread	355000	

Equations

$$\text{Quantity} = 110 \text{ AC} * 43560 \text{ sf/ac} * 2' * (1 \text{ cy} / 27 \text{ cf}) = 354,933 \text{ CY} = 355,000 \text{ CY}$$

$$\text{Quantity in loose cy (LCY)} = \text{Bank CY (NCY)} * \% \text{ Swell}$$

$$\text{LCY} = 355,000 * 1.05 = 372,750 \text{ cy} = 373,000 \text{ cy}$$

Solution

Description	Equation	Comment	Value
Off-Site Material	Total Cost = 355000cy * \$13.15/cy	Price Adjusted for location	\$4,668,250.00
Delivery	Total Cost = 373000cy * \$5.20/cy	Price Adjusted for location	\$1,939,600.00
Spread	Total Cost = 355000cy * \$1.51/cy	Price Adjusted for location	\$536,050.00

Job No. 91148-001

Calc No. 00005

Computation

Project CCSWDC I and II
Subject Phases I and II Financial Assurance
Component
Task Closure Costs (Item 5)

HDR
Dept. of Environmental Protection
Computed JEP
Date 9/23/2008
Reviewed TMY
Date 9/23/2008
SEP 25 2008
Southwest District

Purpose

Vegetative Layer (Assume entire closure area will be sodded and fertilized)

Find

Description	Variable	Units
Sodding		\$
Hydroseeding		N/A
Fertilizer		\$
Mulch		N/A
Other		N/A

Given

Description	Value	Source
Sodding	\$5.81	Attachment B (2008 Means 2920-400-1500)
Hydroseeding	N/A	N/A
Fertilizer	\$114.60	Attachment B (2008 Means 2935-100-0140)
Mulch	N/A	N/A
Other	N/A	N/A

Given

Description	Value	Comment
Sodding	532000	
Hydroseeding	N/A	N/A
Fertilizer	110	
Mulch	N/A	N/A
Other	N/A	N/A

Equations

Quantity = $110 \text{ AC} * 43560 \text{ sf/ac} * 1' * (1 \text{ sy} / 9 \text{ sf}) = 532,400 \text{ SY} = 532,000 \text{ SY}$
Installed cost for bent grass on sloped ground = \$645.00/msf
 $\$645/\text{msf} * (1 \text{ msf}/1000 \text{ sf}) * (9 \text{ sf/sy}) = \$5.81/\text{sy}$
Cost using truck whirlwind spreader = \$2.63/msf
 $\$2.63/\text{msf} * (1 \text{ msf}/1000 \text{ sf}) * (43560 \text{ cf/ac}) = \$114.60/\text{ac}$

Solution

Description	Equation	Comment	Value
Sodding	Total Cost = $532000 \text{ sy} * \$5.81/\text{sy}$	Price Adjusted for location	\$3,090,920.00
Hydroseeding	N/A	N/A	N/A
Fertilizer	Total Cost = $110 * \$114.60/\text{ac}$	Price Adjusted for location	\$12,606.00
Mulch	N/A	N/A	N/A
Other	N/A	N/A	N/A

Job No. 91148-001

Calc No. 00006

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 6)	Date	9/23/2008

Purpose

Stormwater Control System

Find

Description	Variable	Units
Earthwork		\$
Grading		N/A
Piping (24" CPP Downdrains)		\$
Ditches		N/A
Berms		\$
Control Structures		\$
Other		\$

Given

Description	Value	Source
Earthwork	\$21.91	Cost of Off-site Borrow including placement (see Item 2) per cy
Grading	N/A	N/A - Included in Earthwork
Piping (24" CPP Downdrains)	50.72	Total Unit Cost, Attachment B (2008 Means G1030-805-1420, G1030-815-2820, 02630-520-1070, 02630-520-1135) per lf
Ditches	N/A	N/A - No additional ditches required for closure
Berms	\$31.90	Attachment B (2008 Means 02370-700-0060), Include Adjusted Cost per LF of berm
Control Structures	\$93,840.00	Total Cost for Fabric Formed Concrete
Other	\$1,000.00	Typical Cost of Installation

Solution

Description	Value	Comment
Earthwork	22500	From Attachment A, Phases I and II will require the construction of approximately 22500 lf of drainage terrace
Grading	N/A	N/A
Piping (24" CPP Downdrains)	4840	Approx. Quantity, See Attachment A
Ditches	N/A	N/A
Berms	22500	Earthwork required for berms is already included within item 6A. Need to add erosion control matting that will be placed over berms
Control Structures	24	Number of Structures
Other	104	Inlet Structures Attachment A

Equations

EarthworkQuantity of Fill Required per LF of berm = $0.5' \times 25' \times 3' = 37.5 \text{ cf/ft} = 1.39 \text{ cy/ft}$

Cost to Excavate Offsite Borrow = \$1.76/cy

Cost to Compact Offsite Borrow = \$0.29/cy

Cost to Obtain Offsite Borrow = \$13.15/cy

Cost to Deliver Offsite Borrow = \$5.20/cy

Cost to Grade Offsite Borrow = \$1.51/cy

Total Cost = \$21.91/cy

Piping

Cost for backfill (FE loadwe with 1 cy bucket; minimal haul) = \$2.07/lf

Convert to \$/lf: Quantity excavated for 4'x4' trench = $16 \text{ cf/lf} = 0.59 \text{ cy/lf}$ Cost = \$2.07/cy $\times 0.59 \text{ cy/lf} = \$1.22/\text{lf}$ BermsArea required to be covered by erosion control matting = $35' \times 22500' = 787500 \text{ sf}$ Adjusted Cost per LF of berm $35 \text{ sf/lf} \times (1 \text{ sy/} 9 \text{ sf}) = \3.89 Control Structures

Quantity of 4" Filter Point Fabric-Formed Concrete (from Attachment A)

 $14' \times 70' = 980 \text{ sf}$ per structure (~1000 sf per structure)

Total Quantity = 24000sf

Cost for 4" Filter Point = \$3.91/sf (See Attachment D)

Calculation

Description	Equation	Comment	Value
Earthwork	Total Cost = Cost to Off-Site Borrow * Total Quantity		\$492,975.00
Grading	N/A	N/A	N/A
Piping (24" CPP Downdrains)	Total Cost = Total Unit Cost * Approx. Quantity		\$245,484.80
Ditches	N/A	N/A	N/A
Berms	Total Cost = 22500 * \$31.90		\$717,750.00
Control Structures	Total Cost = Total Cost for Fabric Formed Concrete/ No. of Structures		\$3,910.00 (Round Up to \$4000 per structure)
Other	Total Cost = 104 Inlet Structures * \$1000 Install. Cost		\$104,000.00

Job No.

91148-001

Calc No.

00007

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 7)	Date	9/23/2008

Purpose

Gas Controls (Passive)

Find

Description	Variable	Units
Wells		\$
Pipe and Fittings		N/A
Monitoring Probes		N/A
NSPS/Title V Requirements		\$

Given

Description	Value	Source
Wells	\$6,700.00	Attachment E (Typical Costs from recent projects, Assume 75' deep)
Pipe and Fittings	N/A	N/A - Included in well cost
Monitoring Probes	N/A	N/A - Assume no new probes required for closure
NSPS/Title V Requirements	\$4,000.00	Attachment E

Solution

Description	Value	Comment
Wells	110	Assume 1 per acre
Pipe and Fittings	N/A	N/A
Monitoring Probes	N/A	N/A
NSPS/Title V Requirements	N/A	See Attachment E

Equations

Quantity at 1/ac avg. = 110

Calculation

Description	Equation	Comment	Value
Wells	Total Cost = 110 * \$6700		\$737,000.00
Pipe and Fittings	N/A	N/A	N/A
Monitoring Probes	N/A	N/A	N/A
NSPS/Title V Requirements	N/A	See Attachment E	\$4,000.00

Computation

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 8)	Date	9/23/2008

Purpose

Gas Control: Active Extraction (cost based on previous experience with similar systems)

Find

Description	Variable	Units
Traps		\$
Sump		\$
Flare Assembly		\$
Flame Arrestor		\$
Mist Eliminator		\$
Flow Meter		\$
Blowers		\$
Collection System Piping		\$
Other		\$

Given

Description	Value	Source
Traps	\$8,600.00	Based On Previous Experience
Sump	\$16,000.00	Based On Previous Experience
Flare Assembly	\$95,000.00	Based On Previous Experience
Flame Arrestor	\$10,000.00	Based On Previous Experience
Mist Eliminator	\$20,000.00	Based On Previous Experience
Flow Meter	\$55,000.00	Based On Previous Experience
Blowers	\$20,000.00	Based On Previous Experience
Collection System Piping	\$1,200,000.00	Based On Previous Experience
Other	\$700.00	Based On Previous Experience (well heads)

Given

Description	Value	Comment
Traps	2	
Sump	4	
Flare Assembly	1	
Flame Arrestor	1	
Mist Eliminator	1	
Flow Meter	1	
Blowers	2	
Collection System Piping	1	
Other	110	

Equations

Job No. 91148-001

Calc No. 00008

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 8)	Date	9/23/2008

Solution

Description	Equation	Comment	Value
Traps	Total Cost = 2 * \$8600	EA	\$17,200.00
Sump	Total Cost = 4 * \$16000	EA	\$64,000.00
Flare Assembly	Total Cost = 1 * \$95000	EA	\$95,000.00
Flame Arrestor	Total Cost = 1 * \$10000	EA	\$10,000.00
Mist Eliminator	Total Cost = 1 * \$20000	EA	\$20,000.00
Flow Meter	Total Cost = 1 * \$55000	EA	\$55,000.00
Blowers	Total Cost = 2 * \$20000	EA	\$40,000.00
Collection System Piping	Total Cost = 1 * \$1200000	LS	\$1,200,000.00
Other	Total Cost = 110 * \$700	EA	\$77,000.00

Job No. 91148-001

Calc No. 00009

Computation

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 9)	Date	9/23/2008

Purpose

Security System

Find

Description	Variable	Units
Fencing		N/A
Gates		N/A
Signs		\$

Given

Description	Value	Source
Fencing	N/A	N/A - Additional fencing not anticipated for closure
Gates	N/A	N/A - Additional gates not anticipated for closure
Signs	\$19.60	Attachment B (2008 Means 01580-700-0020)

Solution

Description	Value	Comment
Fencing	N/A	N/A
Gates	N/A	N/A
Signs	32	Assume 1 4'x8' sign announcing closure and details

Equations

Calculation

Description	Equation	Comment	Value
Fencing	N/A	N/A	N/A
Gates	N/A	N/A	N/A
Signs	Total Cost = 4'x8'*\$19.60/sf		\$627.20 (use \$600)

Job No. 91148-001

Calc No. 00010

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 10)	Date	9/23/2008

Purpose

Engineering

Find

Description	Variable	Units
Closure Plan Report		\$
Certified Engineer		\$
NSPS/Title V Permit		\$
Final Survey		\$
Certification of Closure		\$
Other		N/A

Given

Description	Value	Source
Closure Plan Report	\$24,128,095.80	Subtotal Items Pages 1-9
Certified Engineer	\$24,128,095.80	Subtotal Items Pages 1-9
NSPS/Title V Permit	\$15,000.00	
Final Survey (per acre)	\$325.00	Attachment B (2008 Means 01107-700-0020)
Certification of Closure	\$24,128,095.80	Subtotal Items Pages 1-9
Other	N/A	N/A

Solution

Description	Value	Comment
Closure Plan Report	0.02	Assume 2% of Subtotal Items Pages 1-9
Certified Engineer	0.05	Assume 5% of Subtotal Items Pages 1-9
NSPS/Title V Permit	1	Based on Previous Work with other sites
Final Survey	110	
Certification of Closure	0.01	Assume 1% of Subtotal Items 1-9
Other	N/A	N/A

Equations

Calculation

Description	Equation	Comment	Value
Closure Plan Report	Total Cost = \$ *2%		\$482,561.92 (use \$483,000)
Certified Engineer	Total Cost = \$ *5%		\$1,206,404.79 (use \$1,206,000)
NSPS/Title V Permit	Total Cost = \$15000 *1 Permit		\$15,000.00
Final Survey	Total Cost = 110 * \$325		\$35,750.00
Certification of Closure	Total Cost = \$ *1%		\$241,280.96 (use \$241,000)
Other	N/A	N/A	N/A

Job No.

91148-001

Calc No.

00011

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Closure Costs (Item 11)	Date	9/23/2008

Purpose

Professional Services - Assume 8 month construction project with 6 months full-time field activities

Find

Description	Variable	Units
PE Supervisor		\$
On-Site Engineer		\$
Office Engineer		\$
On-site Technician		\$
Other (Administrative)		\$
Quality Assurance Testing		\$

Given

Description	Value	Comment
PE Supervisor	\$40,704.00	CM Assume 8 hrs/week for 32 weeks @ \$159/hr (use \$40,000)
On-Site Engineer	\$21,888.00	CM Assume 8 hrs/week for 24 weeks @ \$114/hr (use \$22,000)
Office Engineer	\$40,000.00	CM Assume 10 hrs/week for 32 weeks @ \$125/hr
On-site Technician	\$67,200.00	CM Assume 40 hrs/week for 24 weeks @ \$70/hr (use \$67,000)
Other (Administrative)	\$16,896.00	CM Assume 8 hrs/week for 32 weeks @ \$66/hr (use \$17,000)
Quality Assurance Testing	\$2,500.00	Assume \$2500/ac

Given

Description	Value	Comment
PE Supervisor	\$15,264.00	QA Assume 4 hrs/week for 24 weeks @ \$159/hr (use \$15,000)
On-Site Engineer	\$10,944.00	QA Assume 4 hrs/week for 24 weeks @ \$114/hr (use \$11,000)
Office Engineer	\$30,000.00	QA Assume 10 hrs/week for 24 weeks @ \$125/hr
On-site Technician	\$67,200.00	QA Assume 40 hrs/week for 24 weeks @ \$70/hr (use \$67,000)
Other (Administrative)	\$6,336.00	QA Assume 4 hrs/week for 24 weeks @ \$66/hr (use \$6,000)
Quality Assurance Testing	110	Total Acreage of Phases I and II

Equations

Solution

Description	Equation	Comment	Value
PE Supervisor	Total Cost = \$40000/CM + \$15000/QA		\$55,000.00
On-Site Engineer	Total Cost = \$22000/CM + \$11000/QA		\$33,000.00
Office Engineer	Total Cost = \$40000/CM + \$30000/QA		\$70,000.00
On-site Technician	Total Cost = \$67000/CM + \$67000/QA		\$134,000.00
Other (Administrative)	Total Cost = \$17000/CM + \$6000/QA		\$23,000.00
Quality Assurance Testing	Total Cost = 110 ac *\$2500		\$275,000.00

Job No.

91148-001

Calc No.

00012

Computation

HDR**Project** CCSWDC I and II**Computed** LEP**Subject** Phases I and II Financial Assurance**Date** 9/23/2008**Component****Reviewed** TMY**Task** Closure Costs (Item 12)**Date** 9/23/2008**Find**

Description	Variable	Units
Contingency		Ea

Given

Description	Value	Source
Contingency	\$1,334,942.29	Assume 5% of subtotal of Items Pages 1-11

Computation

HDR

Project CCSWDC I and II
 Subject Phases I and II Financial Assurance
 Component
 Task Closure Costs (Item 13)

Computed LEP
 Date 9/23/2008
 Reviewed TMY
 Date 9/23/2008

Purpose

Site Specific Costs

Find

Description	Variable	Units
Mobilization		\$
Waste Tire Facility		\$
Materials Recovery Facility		\$
Special Wastes - Asbestos		N/A
Special Wastes - Contaminated Soil		N/A
Special Wastes - White Goods		\$
Special Wastes - Lead Acid Batteries		\$
Special Wastes - Yard Waste		\$
Special Wastes - Electronics		\$
Special Wastes - Household Hazardous Wastes		\$
Special Wastes - Used Oil		\$
Special Wastes- Total		\$
Yard Trash Facility		\$
Leachate Disposal		\$

Given

Description	Value	Source
Mobilization	N/A	Mobilization costs included within other items
Waste Tire Facility	\$128,520.00	2005 Cost Estimate
Materials Recovery Facility	\$849,590.00	2005 Cost Estimate
Special Wastes - Asbestos	N/A	N/A - Assume disposed at working face before closure
Special Wastes - Contaminated Soil	N/A	N/A - Assume disposed at working face before closure
Special Wastes - White Goods	\$1,587.50	Attachment B (2008 Means 02315-490-4750)
Special Wastes - Lead Acid Batteries	\$63.50	Attachment B (2008 Means 02315-490-4750)
Special Wastes - Yard Waste	\$41.37	Current Cost at CCSWDC for accepting yard waste
Special Wastes - Electronics	\$825.00	Attachment B (2008 Means 02315-490-4750)
Special Wastes - Household Hazardous Wastes	\$774.70	Cost to Haul, Attachment B (2008 Means 02110-300-1270)
Special Wastes - Used Oil	\$452.10	Attachment B (2008 Means 02110-300-3400)
Special Wastes- Total	N/A	N/A
Yard Trash Facility	\$556,000.00	Estimated lump sum cost
Leachate Disposal	\$0.0254	Attachment F, Current Leachate Disposal Cost

Given

Description	Value	Comment
Mobilization	N/A	N/A
Waste Tire Facility	1.09	Inflation Factor
Materials Recovery Facility	1.09	Inflation Factor
Special Wastes - Asbestos	N/A	N/A
Special Wastes - Contaminated Soil	N/A	N/A
Special Wastes - White Goods	\$1,000.00	Labor costs
Special Wastes - Lead Acid Batteries	\$20.00	Labor costs
Special Wastes - Yard Waste	3,000	Max. tonnage of yard waste to be removed by permit
Special Wastes - Electronics	\$200.00	Labor costs
Special Wastes - Household Hazardous Wastes	\$1,160.00	Pickup Costs, Attachment B (2008 Means 2110-300-1130)
Special Wastes - Used Oil	\$127.00	Pickup Costs, Attachment B (2008 Means 2110-300-3110)
Special Wastes- Total	N/A	N/A
Yard Trash Facility	N/A	N/A
Leachate Disposal	20937400	Estimated leachate generation upon Phases I and II Closure

Given

Description	Value	Comment
Special Wastes - Household Hazardous Wastes	\$930.00	Disposal Charge, Attachment B (2008 Means 02110-300-6020)

Equations

Waste Tire Facility and Material Recovery Facility

Inflation Factors

2006 = 1.030

2007 = 1.030

2008 = 1.025

White Goods

Assume 50 can be hauled per truck load

No. of loads = 1250/50 = 25

Assume 2 laborers require 2 hrs each to load each truck at \$10/hr

Labor Costs = 25 loads * 2 laborers * 2 hrs per laborer * \$10/hr = \$1000

Assume each load is taken to metal recycler in Sarasota, FL

Distance = 25 miles

Total miles to transport = 25 loads for 25 miles = 625 miles

Lead Acid Batteries

Assume 1 laborer requires 2 hrs @ \$10/hr to load 30 batteries into truck = \$20

Total miles to transport = 1 load for 25 miles = 25 miles

Electronics

Assume 200 can be hauled per truck load

No. of loads = 1000/200 = 5

Computation

Project	CCSWDC I and II
Subject	Phases I and II Financial Assurance
Component	
Task	Closure Costs (Item 13)

Computed	LEP
Date	9/23/2008
Reviewed	TMY
Date	9/23/2008

Assume 2 laborers require 2 hrs each to load each truck at \$10/hr
 Labor Costs = 5 loads * 2 laborers * 2 hrs per laborer * \$10/hr = \$200
 Assume each load is taken to Creative Recycling in Tampa, FL
 Distance = 66 miles
 Total miles to transport = 5 loads for 66 miles = 330 miles

Household Hazardous Waste

Assume 2 tons to be disposed in 1 load
 Assume HHW is taken to Veolia Environmental Services Facility in West Melbourne, FL
 Distance = 122 miles

Used Oil

Assume 520 gallons picked up by vacuum truck and transported to safety-kleen facility in Tampa
 Total miles to transport = 66 miles

Yard Trash Facility

Includes estimated costs for hauling yard waste offsite to other facility, grading facility to drain, establishing grass, and minimal site remediation.

Leachate Disposal

Assume leachate collected during 1 year if closure activities will be disposed as a closure cost
 Use 2005 Leachate Generation Data for CCSWDC for Cells 1-4 to estimate leachate generated at closure
 Cell 1 = 1040160
 Cell 2 = 591840
 Cell 3 = 494190
 Cell 4 = 6752070
 Rainfall Storage in Tank = 258067
 Leachate Generation per acre = 9136372 gal/48 ac = 190340 gal/ac-yr
 For worst case scenario assume all Phase I and Phase II Cells will be active upon closure = 110 ac
 Total leachate generated = 190340 gal * 110 AC = 20,937,400 gal.

Solution

Description	Equation	Comment	Value
Mobilization	N/A	N/A	N/A
Waste Tire Facility	Total Cost = \$128520*Inflation Factors		\$139,755.54 (use \$140,000)
Materials Recovery Facility	Total Cost = \$849590*Inflation Factors		\$923,863.28 (use \$924,000)
Special Wastes - Permitted Special Wastes	N/A		N/A
Special Wastes - White Goods	Total Cost = Labor Costs + Transport Costs	Conservatively Disregard Scrap Value	\$2,587.50
Special Wastes - Lead Acid Batteries	Total Cost = Labor Costs + Transport Costs	Conservatively Disregard Scrap Value	\$83.50
Special Wastes - Yard Waste	Total Cost= 3000 tons * \$41.37/ton	Assume processed yard waste can be disposed/used on site or given away - no hauling offsite	\$124,110.00
Special Wastes - Electronics	Total Cost = Labor Costs + Transport Costs	Conservatively Disregard Scrap Value	\$1,025.00
Special Wastes - Household Hazardous Wastes	Total Cost = Pickup Costs + Haul Costs + Disposal Charge		\$2,864.70
Special Wastes - Used Oil	Total Cost = Pickup Costs + Transport Costs		\$579.10
Special Wastes- Total	Total Cost= Loading + Transport+Disposal		\$131,249.80 (use \$131,000)
Yard Trash Facility	Total Cost = \$556,000.00		\$556,000.00
Leachate Disposal	Est. Leachate Disposal Cost = 20937400 gal * \$0.0254		\$531,809.96 (use \$531,810)

Notes

Special Wastes
 Permitted Special Wastes at CCSWDC:

- Asbestos - Assume disposed at working face before closure - N/A
- Contaminated Soil - Assume disposed at working face before closure - N/A
- White goods and lawn mowers - Assume max. permitted quantity of 1250 left on-site needing to be loaded and transported to a metal recycler in Sarasota
- Lead Acid Batteries - Assume max. permitted quantity of 30 left on-site needint to be loaded and transported to a broker in Sarasota
- Yard Waste - Assume max. permitted quantity of 3000 tons of unprocessed yard trash must be removed from facility
- Tires - Assume waste tires will be transported to waste tire facility on-site and costs of disposal covered under Phase I Financial Assurance - N/A
- Electronics - Assume Max. permitted quantity of 1000 devices left on-site needing to be loaded and transported to a recycler in Sarasota
- Household Hazardous Waste - Since HHW must be removed at least monthly, assume 1 truck load of HHW must be removed from site and disposed
- Used Oil - 520 gallons max.

Job No.

91148-001

Calc No.

00014

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 1)	Date	9/23/2008

Purpose

Groundwater Monitoring - Semi-Annual

Find

Description	Variable	Units
Groundwater Monitoring		\$

Given

Description	Value	Comment
Groundwater Monitoring	\$1,305.60	Cost per well per 2 events

Given

Description	Value	Comment
Groundwater Monitoring	10	No. of wells sampled

Equations

Sampling Costs (all wells combined):
Assume 12 hrs @ \$70/hr = \$840

Report Costs:
Assume 8 hr @ \$125/hr = \$1000
Assume 2 hrs @ \$159/hr = \$318

Cost per well = $(\$840 + \$1000 + \$318) / 10 \text{ wells} = \215.80

Lab Costs (Attachment G, prices quoted from Elab, Ormond Beach) = \$437 per well
Cost per well = $\$215.80 + \$437 = \$652.80/\text{well/event}$ (use \$700.00/well/event)
2 events per year

Calculation

Description	Equation	Comment	Value
Groundwater Monitoring	Total Cost = 10 wells * \$700/well/event * 2 events		\$14,000.00

Job No.

91148-001

Calc No.

00015

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 2)	Date	9/23/2008

Purpose

Surface Water Monitoring
FDEP - 2 Locations Sampled Semi-Annually

Find

Description	Variable	Units
Surface Water Monitoring		\$

Given

Description	Value	Source
Surface Water Monitoring	\$344.50	Sampling Costs

Given

Description	Value	Source
Surface Water Monitoring	\$250.00	Lab Costs (Attachment G, price quotes from Elab, Ormond Beach)

Given

Description	Value	Source
Surface Water Monitoring	\$460.00	Additional parameters required by permit

Equations

Sampling Costs
4hrs @ \$70/hr
2hrs @ \$125/hr
1 hr @ \$159/hr
Total Sampling Costs = \$689
Sampling Cost per location = \$689/2 = \$344.50

Additional Parameters required by permit = 23
Total Cost = 23 * \$20/parameters = \$460

Calculation

Description	Equation	Comment	Value
Surface Water Monitoring	Total Cost = Sampling Costs + Lab Cost + Addition Param		\$1,054.50 (use \$1000 per location)

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 3)	Date	9/23/2008

Purpose

Gas Monitoring - Quarterly

Find

Description	Variable	Units
Gas Monitoring		\$

Given

Description	Value	Source
Gas Monitoring	10	Number of Monitoring Points

Given

Description	Value	Source
Gas Monitoring	\$759.00	Total Costs per event

Equations

Assume 0.5 hrs/point

5hrs @ \$70/hr

2hrs @ \$125/hr

1 hr @ \$159/hr

Total Costs = \$759

Calculation

Description	Equation	Comment	Value
Gas Monitoring	Total Cost = Sampling Costs/No. of Monitoring Points		\$75.90 (use \$100 per location)

Job No.

91148-001

Calc No.

00017

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 4)	Date	9/23/2008

Purpose

Leachate Monitoring - 1 new location at Phase II Leachate Pump Station and 5 Existing Locations in Phase I

Find

Description	Variable	Units
Leachate Monitoring		\$

Given

Description	Value	Source
Leachate Monitoring	6	Number of Monitoring Points

Given

Description	Value	Source
Leachate Monitoring	\$759.00	Sampling Cost per event

Given

Description	Value	Source
Leachate Monitoring	\$892.50	Lab Costs (Attachment G, price quotes from Elab, Ormond Beach) (Annual parameters)
Leachate Monitoring	\$137.00	Lab Costs (Attachment G, price quotes from Elab, Ormond Beach) (Semi-Annual Parameters)

Equations

Sampling Costs
 5hrs @ \$70/hr
 2hrs @ \$125/hr
 1 hr @ \$159/hr
 Total Sampling Costs = \$759

Calculation

Description	Equation	Comment	Value
Leachate Monitoring		Additional Costs	\$892.50 (use \$900 per event)
Leachate Monitoring	Total Cost = (Sampling Costs/No. of Monitoring Points) + Semi-Annual Lab Costs	Total Cost per event	\$263.50 (use \$300 per event)

Computation

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 5)	Date	9/23/2008

Purpose

Leachate Collection/Treatment System Maintenance

Find

Description	Variable	Units
Maintenance - Collection Pipes		\$
Maintenance - Sumps/Traps		\$
Maintenance - Lift Station		\$
Maintenance - Cleaning		N/A
Maintenance - Tanks		\$
Impoundments		N/A
Aeration Systems		N/A
Leachate Disposal		\$

Given

Description	Value	Source
Maintenance - Collection Pipes	\$14,535.00	Attachment B (2008 Means 02955-210-6160, 02955-210-6110, 02955-210-9060)
Maintenance - Sumps/Traps	\$383.00	Attachment B (2008 Means 02955-210-6200, 02955-210-6110, 02955-210-9060)
Maintenance - Lift Station	\$2,340.00	Yearly Cost to maintain pump station per pump (use \$2400)
Maintenance - Cleaning	N/A	N/A - Accounted for in other categories
Maintenance - Tanks	\$2,500.00	Yearly cost to maintain leachate tank
Impoundments	N/A	N/A
Aeration Systems	N/A	N/A
Leachate Disposal	21000	Leachate generation rate for Phase II

Given

Description	Value	Comment
Maintenance - Collection Pipes	14684	Length of Pipe in Phases I and II (use 14700 LF)
Maintenance - Sumps/Traps	5	Assume Pipe is cleaned out and videotaped every 5 yrs
Maintenance - Lift Station	7	Incl. 1 duplex leachate pump station for Phase II & 5 single pump lift stations for Phase I
Maintenance - Cleaning	N/A	N/A
Maintenance - Tanks	1	One leachate tank
Impoundments	N/A	N/A
Aeration Systems	N/A	N/A
Leachate Disposal	\$25.386	Disposal Cost per 1000 gal

Equations

Collection Pipes

Cost to Clean 8" dia. Pipe = \$2.12

Mobilization = \$425

Camera Inspection = \$1400/500ft = \$2.80/ft

Total Cost = $14684 * \$2.12 + \$425 + ((14684/500) * \$1400) = \72670.28 Yearly Cost = $\$72670.28/5\text{yrs} = \14535 Adjusted Yearly Cost = $14,700\text{ft} * \$1.00/\text{ft} = \$14,700$

Sumps/Traps

Cost to Clean 16" dia. Pipe = \$3.16/ft

Mobilization = \$425

Camera Inspection = \$1400/500ft = \$2.80/ft

Total Cost = $250 * \$3.16 + \$425 + ((250/500) * \$1400) = \1915 Yearly Cost = $\$1915/5\text{yrs} = \383 Adjusted Yearly Cost = $\$80/\text{sump} * 5 \text{sumps} = \400

Lift Stations

Assume pumps have to be replaced every 5 yrs: Cost = \$2500

Assume transducer at each control panel has to be replaced each year: Cost = \$1000

Assume monthly maintenance call, 1 hr @ \$70/hr per pump

Yearly Cost to Maintain Pump Station = $(\$2500/5) + \$1000 + (\$70 * 12) = \2340 (use \$2400)

Leachate Tank

Assume tank cleaned out and inspected every 5 years

Cost to clean out tank = \$10000

Cost to inspect tank = \$2500

Yearly Cost to clean and inspect tank = $(\$10000 + \$2500) / 5\text{yrs} = \$2500$

Leachate Disposal

Disposal Cost = \$25.386/1000

Attachment H, Conservatively assume leachate generation rate for the first year of post-closure is equivalent to estimated leachate generation rate during closure = 10468708 gal/yr (Phase II Only)

Double leachate generation rate to account for Phase I and Phase II = 20,938,000 gal/yr (use 21,000,000)

Job No.

91148-001

Calc No.

00018

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 5)	Date	9/23/2008

Calculation

Description	Equation	Comment	Value
Maintenance - Collection Pipes/Sumps	Cost/LF per year = $\$14535/14684' = \$0.99/\text{lf}$ per year		\$0.99 (use \$1 per LF)
Maintenance - Sumps/Traps	Cost per sump per year = $\$383/5 = \76.60		\$76.60 (use \$80 per sump)
Maintenance - Lift Station	Total Phase I and II Cost = $\$2400 * 7$ pumps		\$16,800.00
Maintenance - Cleaning	N/A	N/A	N/A
Maintenance - Tanks	Total Cost		\$2,500.00
Impoundments	N/A	N/A	N/A
Aeration Systems	N/A	N/A	N/A
Leachate Disposal	Total Cost = Disposal Cost * Est. Leachate Generation		\$533,106.00

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 6)	Date	9/23/2008

Purpose

Leachate Collection/Treatment Systems Operation

Find

Description	Variable	Units
PE Supervisor		\$
On-Site Engineer		\$
Office Engineer		\$
On-site Technician		\$
Materials		\$

Given

Description	Value	Comment
PE Supervisor	\$159.00	Assumed hourly rate
On-Site Engineer	\$114.00	Assumed hourly rate
Office Engineer	\$125.00	Assumed hourly rate
On-site Technician	\$70.00	Assumed hourly rate
Materials	\$1,000.00	Assumed lump sum for operation and maintenance

Given

Description	Value	Comment
PE Supervisor	24	Assume 2 hrs per month for 12 months
On-Site Engineer	16	Assume 2 8hr inspections for 12 months
Office Engineer	48	Assume 4 hrs per month for 12 months
On-site Technician	48	Assume 4 hrs per month for 12 months
Materials	1	Include \$1000 for miscellaneous materials. Most operation and maintenance materials are already included

Solution

Description	Equation	Comment	Value
PE Supervisor	Total Cost = 24 hrs/yr * \$159/hr		\$3,816.00
On-Site Engineer	Total Cost = 16 hrs/yr * \$114/hr		\$1,824.00
Office Engineer	Total Cost = 48 hr/yr * \$125/hr		\$6,000.00
On-site Technician	Total Cost = 48 hr/yr * \$70/hr		\$3,360.00
Materials	Total Cost= \$1000 for misc. materials		\$1,000.00

Job No.

91148-001

Calc No.

00020

Computation

HDR

Project	CCSWDC I and II
Subject	Phases I and II Financial Assurance
Component	
Task	Post Closure Costs (Item 7)

Computed	LEP
Date	9/23/2008
Reviewed	TMY
Date	9/23/2008

Find	Description		Variable	Units	
	Maintenance of GW Wells			\$	
Given	Description		Value	Comments	
	Maintenance of GW Wells		\$140.00	Assume 2 hrs/well maintenance @ \$70/hr	
Given	Description		Value	Comments	
	Maintenance of GW Wells		10	Number of Monitoring Wells installed for Phases I and II	
Solution	Description		Equation	Comment	Value
	Maintenance of GW Wells		Total Cost = 2hrs/well * \$70/hr* 10 wells		\$1,400.00

Computation



Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 8)	Date	9/23/2008

Purpose

Gas System Maintenance (based on HDR's experience with similar site)

Find

Description	Variable	Units
Piping Vents		\$
Blowers		\$
Flaring Units		\$
Meters, Valves		\$
Compressors		N/A
Flame Arrestors		\$
Operation		\$

Given

Description	Value	Source
Piping Vents	\$50,000.00	Based on HDR's experience with similar sites
Blowers	\$5,000.00	Based on HDR's experience with similar sites
Flaring Units	\$10,000.00	Based on HDR's experience with similar sites
Meters, Valves	\$2,000.00	Based on HDR's experience with similar sites
Compressors	N/A	N/A
Flame Arrestors	\$2,000.00	Based on HDR's experience with similar sites
Operation	\$22,000.00	Semi-Annual Reporting = \$10000 per period, Annual Reporting \$2000

Solution

Description	Value	Comment
Piping Vents	1	LS Quantity
Blowers	2	Ea
Flaring Units	1	Ea
Meters, Valves	1	Ea
Compressors	N/A	N/A
Flame Arrestors	1	Ea
Operation (No.wells)	110	Monthly Inspections 1 hr per well @ \$61/hr

Calculation

Description	Equation	Comment	Value
Piping Vents	Total Cost = Piping/Vents LS * \$50000		\$50,000.00
Blowers	Total Cost = 2 Blowers * \$5000		\$10,000.00
Flaring Units	Total Cost = 1 Flaring Unit * \$10000		\$10,000.00
Meters, Valves	Total Cost = 1 Meter/Valve * \$2000		\$2,000.00
Compressors	N/A	N/A	N/A
Flame Arrestors	Total Cost = 1 Flame Arrestor * \$2000		\$2,000.00
Operation	Total Cost= 110 wells * \$61/hr * 12 month/yr +\$22000		\$102,520.00

Job No. 91148-001

Calc No. 00022

Computation

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 9)	Date	9/23/2008

Purpose

Landscape

Find

Description	Variable	Units
Mowing		\$
Fertilizer		\$

Given

Description	Value	Source
Mowing	\$20.91	Attachment B (2008 Means 02935-300-4190) per acre cost
Fertilizer	\$114.56	Attachment B (2008 Means 2935-100-0140) per acre cost (use \$115 per acre)

Given

Description	Value	Comment
Mowing	115	Assume acreage to be mowed includes 110 ac footprint for Phases I and II and 5 ac surrounding Phase II
Fertilizer	115	Assumed applied once yearly

Equations

Mowing

$$115 \text{ ac} * \$20.91/\text{ac}$$

$$8 \text{ mowings/yr} = \$2404.65 * 8 = \$19,237$$

$$\text{Annual Cost Per Acre} = \$170.00$$

Fertilizer

$$115 \text{ ac} * \$114.56/\text{ac} = \$13174.72$$

Solution

Description	Equation	Comment	Value
Mowing	Annual Cost per acre = $\$19,237/115\text{Ac}$		\$167.28 (use \$170 per acre)
Fertilizer	Total Cost = $115 \text{ ac} * \$115/\text{ac}$		\$13,174.40

Computation

HDR

Project	CCSWDC I and II	Computed	LEP
Subject	Phases I and II Financial Assurance	Date	9/23/2008
Component		Reviewed	TMY
Task	Post Closure Costs (Item 10)	Date	9/23/2008

Purpose

Erosion Control and Cover Maintenance

Find

Description	Variable	Units
Sodding		\$
Regrading		\$
Liner Repair		\$
Clay		N/A

Given

Description	Value	Source
Sodding	\$5.81	See Item 5A of Closure Costs per sy
Regrading	\$0.17	Attachment B (2008 Means 02310-100-3310) per sy
Liner Repair	\$10.00	per sy
Clay	N/A	No clay needed for repairs

Solution

Description	Value	Comment
Sodding	6000	Assume 6000 sy of sod has to be replaced each year
Regrading	4840	Assume 1.0 ac to be regraded each year
Liner Repair	\$2,500.00	Assume 1 mob. Of a liner crew (2 man) per year to make repairs (1 day)
Clay	N/A	N/A

Equations

1.0 Ac= 4840 Sy

Calculation

Description	Equation	Comment	Value
Sodding	Total Cost = 6000 sy * \$5.81/sy	Cost Adjusted for location	\$34,860.00
Regrading	Total Cost = 4840 sy * \$0.17/sy	Cost Adjusted for location	\$822.80 (use \$900 per acre)
Liner Repair	Liner Repair = \$2500/day/\$10/sy		250 sy
Clay	N/A	N/A	N/A

Job No. 91148-001

Calc No. 00024

Computation



Project	CCSWDC I and II
Subject	Phases I and II Financial Assurance
Component	
Task	Post Closure Costs (Item 11)

Computed	LEP
Date	9/23/2008
Reviewed	TMY
Date	9/23/2008

Find

Description	Variable	Units
Stormwater Management		\$

Given

Description	Value	Source
Stormwater Management	\$1.12	Attachment B (2008 Means 02240-330-0250), Add \$1/lf to remove material

Given

Description	Value	Source
Stormwater Management	5000	Assume 5000 lf of ditch must be cleaned out each year

Equations

Solution

Description	Equation	Comment	Value
Signs	Total Cost = 5000lf * \$1.12/lf	Price Adjusted for location	\$5,600.00

Job No. 91148-001

Calc No. 00025

Computation

Project CCSWDC I and II
 Subject Phases I and II Financial Assurance
 Component
 Task Post Closure Costs (Item 12)

Computed LEP
 Date 9/23/2008
 Reviewed TMY
 Date 9/23/2008

Purpose

Security System

Find

Description	Variable	Units
Fencing		\$
Gates		\$
Signs		\$

Given

Description	Value	Source
Fencing	\$42.00	Attachment B (2008 Means 2820-130-0920)
Gates	\$2,000.00	Attachment B (2008 Means 2820-130-5080)
Signs	\$100.00	Include \$100/yr to repair/replace signs

Given

Description	Value	Comment
Fencing	100	Assume 100' of fence needs to be replaced each year
Gates	1	Assume 1 gate replaced every year
Signs	1	

Equations

Solution

Description	Equation	Comment	Value
Fencing	Total Cost = 100 lf * \$42/lf	Price Adjusted for Location	\$4,200.00
Gates	Total Cost = 1 * \$2000 each	Price Adjusted 1	\$2,000.00
Signs	Total Cost = 1 * \$100/yr	Price Adjusted 1	\$100.00

Job No.

91148-001

Calc No.

00026

Computation



Project	CCSWDC I and II
Subject	Phases I and II Financial Assurance
Component	
Task	Post Closure Costs (Item 13)

Computed	LEP
Date	9/23/2008
Reviewed	TMY
Date	9/23/2008

Find

Description	Variable	Units
Utilities		Ea/Yr

Given

Description	Value	Source
Utilities	\$38,000.00	Assumed based on County's experience at the closed Bee Ridge Landfill

Job No. 91148-001

Calc No. 00027

Computation

HDR

Project CCSWDC I and II

Computed LEP

Subject Phases I and II Financial Assurance

Date 9/23/2008

Component

Reviewed TMY

Task Post Closure Costs (Item 14)

Date 9/23/2008

Purpose

Administrative - Assume these are costs for a third party consultant to administer the closed Phase I and Phase II area each year.

Find

Description	Variable	Units
PE Supervisor		\$
On-Site Engineer		\$
Office Engineer		\$
On-site Technician		\$
Other		N/A

Given

Description	Value	Source
PE Supervisor	\$159.00	Unit Rate
On-Site Engineer	\$114.00	Unit Rate
Office Engineer	\$125.00	Unit Rate
On-site Technician	\$70.00	Unit Rate
Other (Administrative)	N/A	N/A

Given

Description	Value	Comment
PE Supervisor	16	
On-Site Engineer	72	
Office Engineer	48	
On-site Technician	16	
Other	N/A	N/A

Equations

Solution

Description	Equation	Comment	Value
PE Supervisor	Total Cost = 16 hrs * \$159/hr		\$2,544.00
On-Site Engineer	Total Cost = 72 hrs * \$114/hr		\$8,208.00
Office Engineer	Total Cost = 48 hrs * \$125/hr		\$6,000.00
On-site Technician	Total Cost = 16 hrs * \$70/hr		\$1,120.00
Other	N/A	N/A	N/A

Teague, Anna C.

From: Geiser, Mickey
Sent: Friday, September 19, 2008 12:41 PM
To: Teague, Anna C.
Cc: Coletti, Domenic; McCauley, Jerry; Henderson, Jonathan
Subject: Fred files
Attachments: Align_Fred_D - Culvert Design.dwg; Fred Culvert - Existing Elevs on CL.pdf

Hey Anna,

Please find attached a drawing of just the culvert with more geometric control for you.

Also attached is the existing elevs. for centerline of culvert. The Land Desktop files (AutoCAD equivalent) for this project are ancient and apparently no longer working, so this is probably the best I can get for you without putting the contours back into Geopak and recreating a TIN - up to you. It shouldn't be too hard to draft up.

Thanks again for the help, let me know you questions - you'll undoubtedly have many.

Mickey

9/24/2008

Project: Fred

Computed: DJR Date: 9/17/02

Subject:

Checked:

Date:

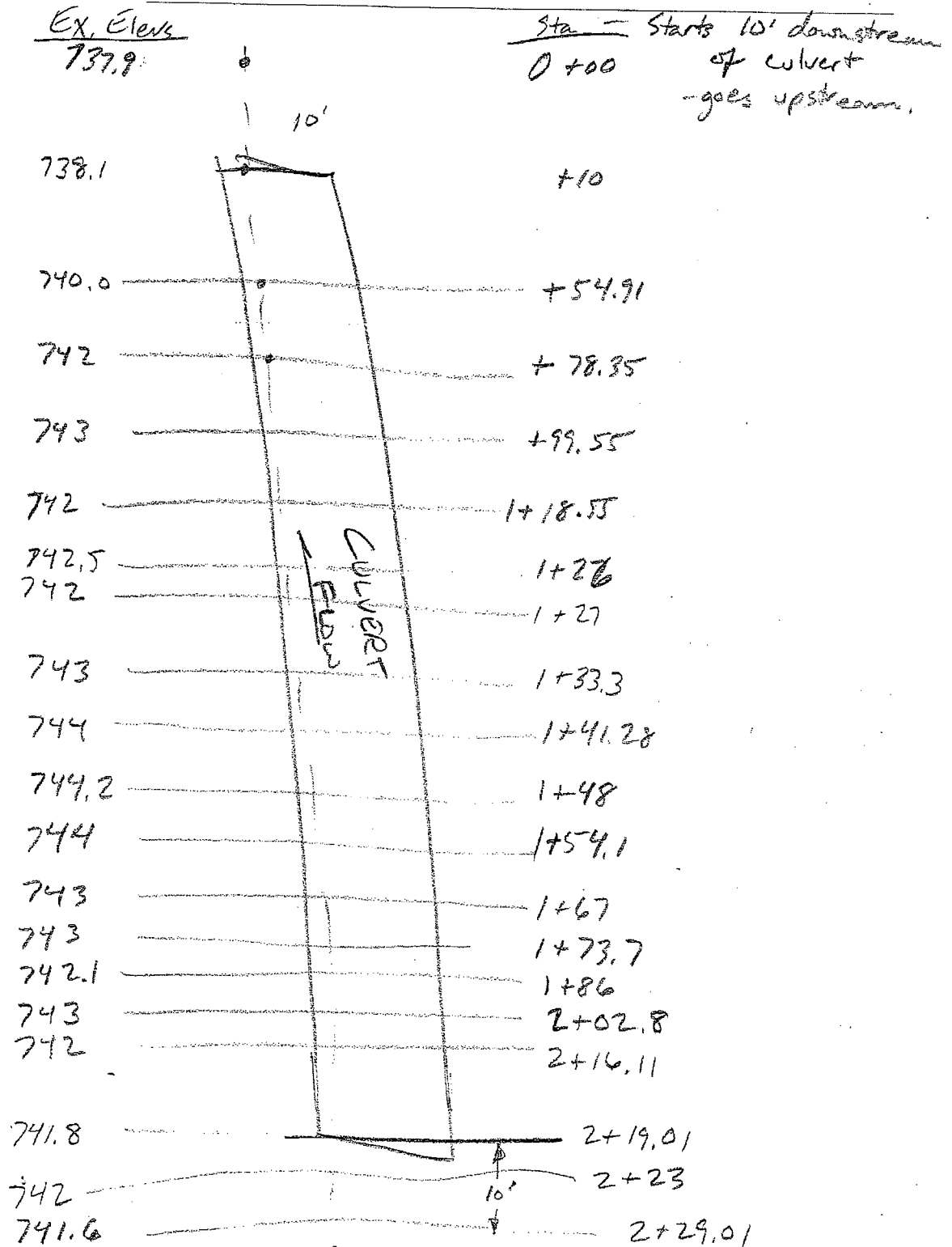
Task:

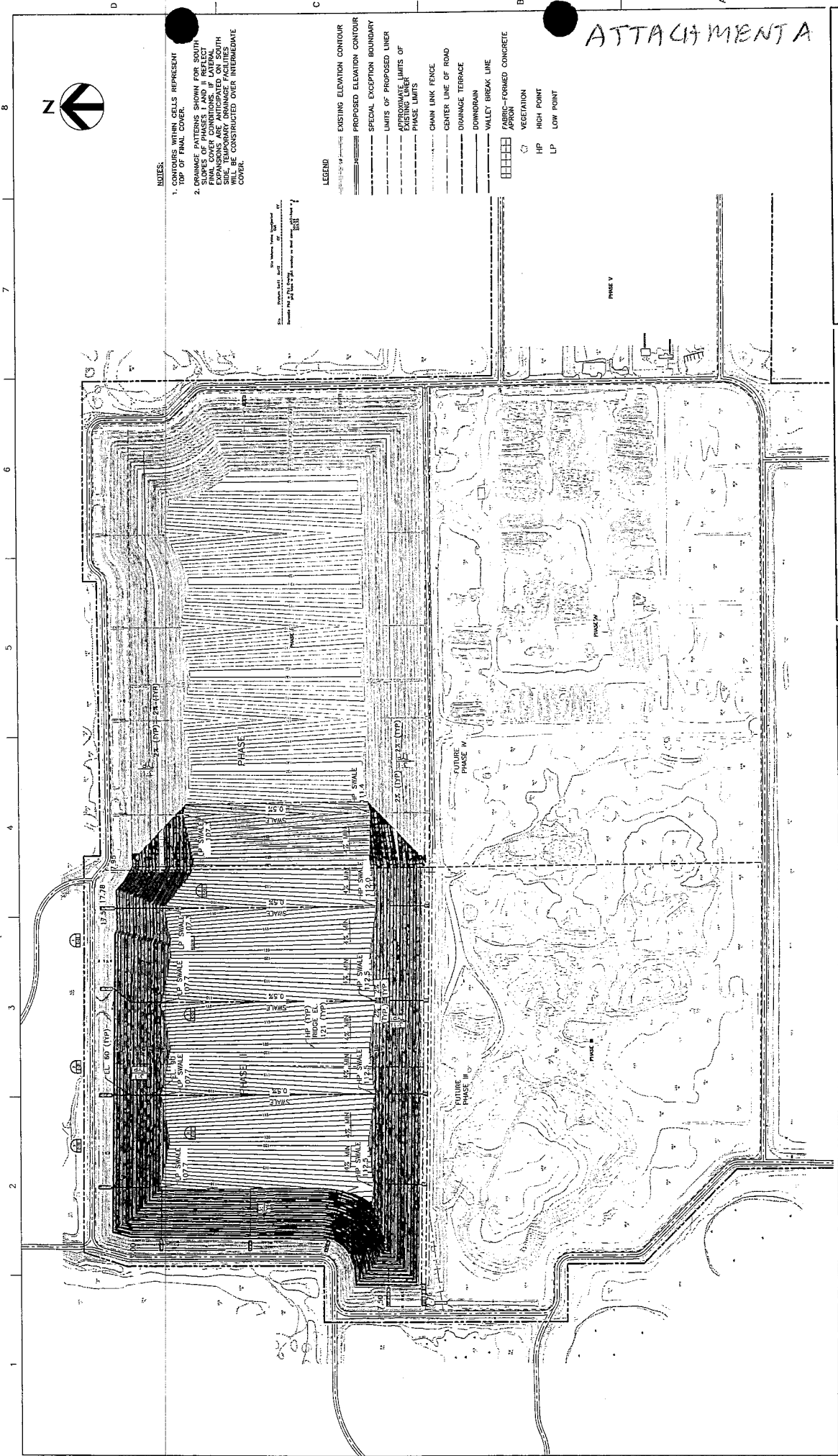
Page:

of:

Job #:

No:





- NOTES:
1. CONTOURS WITHIN CELLS REPRESENT TOP OF FINAL COVER.
 2. PHASES I AND II ARE SOUTH OF PHASE III AND I REFLECT FINAL COVER CONDITIONS. IF LATERAL EROSION OCCURS, PHASES I AND II WILL BE CONSTRUCTED OVER INTERMEDIATE COVER.

- LEGEND
- EXISTING ELEVATION CONTOUR
 - PROPOSED ELEVATION CONTOUR
 - SPECIAL EXCEPTION BOUNDARY
 - LIMITS OF PROPOSED LINDER
 - APPROXIMATE LIMITS OF EXISTING LINDER
 - PHASE LIMITS
 - CHAIN LINK FENCE
 - CENTER LINE OF ROAD
 - DRAINAGE TERRACE
 - DRAINAGE
 - VALLEY BREAK LINE
 - FABRIC-FORMED CONCRETE APRON
 - VEGETATION
 - HP HIGH POINT
 - LP LOW POINT

ATTACHMENT A



HDR
1000 Engineering, Inc.
1000 Engineering, Inc.
1000 Engineering, Inc.
1000 Engineering, Inc.
1000 Engineering, Inc.

PROJECT MANAGER: T.M. YANDOSCHAK
REVIEWED BY: J.C. READING
DRAWN BY: L.E. PATTERSON

ISSUE	DATE	DESCRIPTION
A	08/20/08	ISSUED FOR FACE



Central County Solid Waste Disposal Complex
PHASE I AND II
FINANCIAL ASSURANCE COST
ESTIMATE

SARASOTA COUNTY
FLORIDA

PHASE I AND II CONCEPTUAL
CLOSURE PLAN

SCALE: 1"=200'

FIGURE 1

CostWorks 2008 - Phase I and II FACE

Qty	CSI Number	Description	Crew	Daily Output	Labor Hours	Unit	Base Mat.	Base Labor	Base Equip.	Total	Total Incl. O&P	Zin Code Prefix	Type	Release
1.0	0 107 700 0020	Topographical survey, lineographical, minimum	A7	3.3	7.273	Acre	18.90	169.00	20.50	206.40	326.00 342	0000	Open	2008
1.0	0 110 300 1270	Project Status, stn, high intensity reflectorized, bur, excl. tools				S.F.	0.00	0.00	0.00	17.80	19.60 342	0000	Open	2008
1.0	0 110 300 1270	Hazardous waste cleanuapickup/discard, solid pickup, bulk material				Ton	0.00	0.00	0.00	520.00	690.00 342	0000	Open	2008
1.0	0 110 300 3110	Hazardous waste cleanuapickup/discard, liquid pickup, maximum				He	0.00	0.00	0.00	5.70	8.35 342	0000	Open	2008
1.0	0 110 300 3110	Hazardous waste cleanuapickup/discard, liquid pickup, maximum				Mile	0.00	0.00	0.00	114.00	127.00 342	0000	Open	2008
1.0	0 110 300 6020	Hazardous waste cleanuapickup/discard, domestic discosal charria, maximum				Ton	0.00	0.00	0.00	420.00	469.00 342	0000	Open	2008
1.0	0 240 330 0250	Cut drainage ditch, clean wet drainage ditch, 3" wide	B11L	10.000	0.002	L.F.	0.00	0.04	0.05	0.09	0.12 342	0000	Open	2008
1.0	0 240 330 0250	Fine gravel, slopes, steep, large quantities, finish grading	B11L	10.000	0.002	L.F.	0.00	0.04	0.05	0.09	0.12 342	0000	Open	2008
1.0	0 2315 210 4070	Compacting, 3 C.Y. bucket, loading and/or spreading, front end loader, wheel-mounted	B10T	7.100	0.005	S.Y.	13.15	0.05	0.14	0.13	15.00 342	0000	Open	2008
1.0	0 2315 210 4070	Compacting, 3 C.Y. bucket, loading and/or spreading, 6' lift	B10Y	3.000	0.003	E.C.Y.	0.00	0.07	0.16	0.23	0.28 342	0000	Open	2008
1.0	0 2315 424 0230	Excavating, bulk bank measure, 3 C.Y. capacity = 180 C.Y./hour, backhoe, hydraulic, crawler mounted	B12D	2.080	0.038	B.C.Y.	0.00	0.18	1.10	1.28	15.00%	0000	Open	2008
1.0	0 2315 480 1110	Hauling, excavated or borrow material, loose cubic yards, 4 mile round trip, 18 loads/hour, 16.5 C.Y. dump trailer, highway haulers, excludes loading	B94C	172	0.047	L.C.Y.	0.00	0.98	3.22	4.20	5.20 342	0000	Open	2008
1.0	0 2315 480 1750	Hauling, excavated or borrow material, loose cubic yards, 4 mile round trip, 18 loads/hour, 16.5 C.Y. dump trailer, highway haulers, excludes loading	B94C	172	0.047	L.C.Y.	0.00	0.98	3.22	4.20	5.20 342	0000	Open	2008
1.0	0 2316 610 3020	Fill, dumped material, spread, by dozer, excludes compaction	B10S	1.000	0.009	L.C.Y.	0.00	0.22	1.05	1.27	1.51 342	0000	Open	2008
1.0	0 2316 610 3020	Fill, dumped material, spread, by dozer, excludes compaction	B10S	1.000	0.009	L.C.Y.	0.00	0.22	1.05	1.27	1.51 342	0000	Open	2008
1.0	0 2370 700 0060	Synthetic geomembrane, 6 mil thick	B80A	750	0.02	L.C.Y.	0.00	0.53	0.56	1.09	1.49 342	0000	Open	2008
1.0	0 2370 700 0060	Synthetic geomembrane, 6 mil thick	B80A	750	0.02	L.C.Y.	0.00	0.53	0.56	1.09	1.49 342	0000	Open	2008
1.0	0 2380 520 1070	Public Storm Utility Drainage Piping, drainage and sewage, concrete, 24" diameter, includes excavation and backfill	B21	200	0.31	L.F.	18.55	0.00	7.11	18.08	22.00 342	0000	Open	2008
1.0	0 2380 520 1135	Fence, chain link industrial, galvanized steel, add for the post, 6 m. wa, 2-1/2" posts @ 10' centers, includes excavation, in concrete	B21	200	0.31	L.F.	18.55	0.00	7.11	18.08	22.00 342	0000	Open	2008
1.0	0 2380 520 1135	Fence, chain link industrial, galvanized steel, add for the post, 6 m. wa, 2-1/2" posts @ 10' centers, includes excavation, in concrete	B21	200	0.31	L.F.	18.55	0.00	7.11	18.08	22.00 342	0000	Open	2008
1.0	0 2380 520 1135	Fence, chain link industrial, double swing gate, 6' high, 12' opening, includes excavation, in concrete	B21	200	0.31	L.F.	18.55	0.00	7.11	18.08	22.00 342	0000	Open	2008
1.0	0 2380 520 1135	Fence, chain link industrial, double swing gate, 6' high, 12' opening, includes excavation, in concrete	B21	200	0.31	L.F.	18.55	0.00	7.11	18.08	22.00 342	0000	Open	2008

ATTACHMENT B(1)

CostWorks 2008 - Phase I and II FACE

Qty	Assembly Number	Description	Unit	Mat.	Inst.	Total	Zip Code Prefix	Type	Release	Note
1,000	G1 030 805 1420	Trenching, common earth excavator, no slope, 4'	L.F.	0.00	6.35	6.35	6.35 342	Union	2008	
1,000	G1 030 815 2820	Pipe bedding, side slope 1:1, 4' wide, pipe size 24	L.F.	10.55	6.15	16.70	342	Union	2008	
Totals				\$10.55	\$12.50	\$23.05				

ATTACHMENT C

Yanoschak, Thomas M.

From: Edgar Rodriguez [erodriguez@gseworld.com]
Sent: Monday, August 18, 2008 10:44 AM
To: Yanoschak, Thomas M.
Subject: Budget Pricing for Sarasota

Thomas:

I've put together a rough budget estimate for your 2 materials required, as noted on the previous e-mail.

300mil 8oz. on both sides: \$.55 sf + \$.055 sf for wastage = \$.605 for materials, Estimated install @ \$.14 to .16 sf, plus freight to site.

40mil Tex. LLDPE: \$.29 sf + \$.029 sf for lap/scrap/waste = \$.319 for materials, Estimated install @ \$.16 to .18 sf, plus freight to site.

Hope this gives you a starting point, with so much fluctuation in materials the last couple of weeks, obviously this can change. Let me know if you need anything else, look forward to seeing you at NC SWANA next week.

Sincerely

Ed Rodriguez

GSE
Regional Manager
15217 Kestrelrise Dr.
Lithia, Fl. 33547
Cell # 813-784-6135
Office # 813-571-7252
Fax # 813-571-7270

8/18/2008

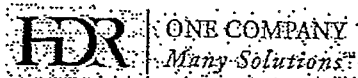
GEOSTAR

Geostar Corporation

Attachment D

Note: Items in the color blue contain input data and information.

HYDROTEXT™ FABRIC FORMED CONCRETE PROJECT COST ESTIMATE									
Contractor:		Project Name:		Date:		2/9/2007			
Location:		Production Rate Guidelines		Cubic Yards of Concrete/Day		96			
Materials Costs:		Estimated		Production Rate/Day		80			
Fabric Forms:		Fabric Form Style		Sq. Ft.		Sq. Ft.			
Geotextile Filter Fabric:		AB300		6400		8000			
Fine Aggregate Concrete:		AB400		840.00		6000			
Total Materials Costs:		AB600		20,547.38		4000			
Supervision and Labor Costs:		AB800		32,119.64		3040			
Superintendents:		AB1000		1600		2000			
Foreman:		AB1200		6400		8000			
Pump Operator:		EB300		3840		4800			
Laborers:		EL250		7680		9600			
Divers:		EL400		832.00		6000			
Total Supervision and Labor:		FB400		2,496.00		6000			
Equipment:		FB800		2432		3040			
Concrete Pump:		FB1200		4,368.00		2000			
Sewing Machine:		FP220		8704		10880			
Pick-up Truck:		FP400		4800		6000			
Diving Equipment:		FP600		3200		4000			
Total Equipment Costs:		FP800		2,600.00		3040			
Total Materials, Supervision and Labor and Equipment:		FP1000		300.00		2400			
Profit:		FP1200		20.00		2000			
Overhead:		US300		300.00		8000			
Freight:		US400		3,220.00		6000			
Sales Tax:		US600		3200		4000			
Bonding:		US800		2432		3040			
Total Price:		US1000		1920		2400			
Total Price/Sq. Ft.:				54,809.19		3.91			



Attachment E

Memo

To: Tom Yanoschak	
From: Joel Miller	Project: Financial Assurance
CC: Carlo Lebron	
Date: 8-14-06	Job No: 096-22404

N:\Users\Joel\Stationery & Forms\Forms\memo.doc

RE: Sarasota County Passive Landfill Gas System Cost Estimate

Cost estimate for passive gas system at the Central County Solid Waste Disposal Complex (CCSWDC) in Sarasota County. Assumes passive system will be needed for Cells 1 – 5 in Phase I area. Cost estimates include mobilization, contingency, materials, and other typical installation items:

From Phase I Partial Closure Basis of Design Report, Phase I is approximately 55 acres.

Common approach is to use 1 passive vent/acre = 55 passive vents.

Assume average depth = 75'

Assume average cost = \$87.75/LF (based on current private contract installation pricing with markup)

$75' * \$87.75 = \$6,581.25/\text{passive vent}$ (Assumes vent will have 3' stickup above grade)

Assume \$100 for procurement and installation of two 90 degree HDPE ells to finish vent.

$\$6,581.25 + \$100 = \$6,681.75/\text{passive vent}$

$55 \text{ passive vents} * \$6,681.75 =$

$\$367,468.75$ (total cost estimate for installation of passive vents on Phase I area)

Pipe and Fittings – Assume zero cost. Not necessary – fittings included in well drilling

Monitoring Probes – Assume zero cost. Assume that they are already installed before waste in place in each cell.

NSPS/Title V Requirements – Assume \$4,000 based on previous reporting for this site.

CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX
SARASOTA COUNTY
2005 ANNUAL SUMMARY

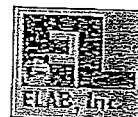
MONTHLY PRECIPITATION DATA AND LEACHATE BALANCE

MONTH	LANDFILL AREA (acres)	LANDFILL RAINFALL ¹ (inches)	RAINFALL IN STORAGE TANK ² (gallons)	LEACHATE PUMPED ³ CELL 1 (gallons)	LEACHATE PUMPED ³ CELL 2 (gallons)	LEACHATE PUMPED ³ CELL 3 (gallons)	LEACHATE PUMPED ³ CELL 4 (gallons)	TOTAL LEACHATE ⁴ (gallons)	LEACHATE REMOVED ⁵ (gallons)	LEACHATE BALANCE ⁶ (gallons)	CUMULATIVE STORAGE ⁷ (gallons)
January	48.00	2.35	11,499	70,740	32,090	41,490	611,180	755,500	773,400	-17,900	1,088,738
February	48.00	3.82	18,692	50,690	30,950	34,330	149,880	266,050	1,259,200	-993,150	203,228
March	48.00	4.17	20,405	144,960	62,150	35,140	753,730	1,016,385	624,800	391,585	624,210
April	48.00	2.60	12,722	46,510	46,390	33,610	166,600	293,110	425,700	-133,590	493,561
May	48.00	1.89	9,248	34,180	46,230	38,490	113,560	232,460	147,500	84,960	551,627
June	48.00	16.01	78,240	219,030	86,010	42,420	2,788,690	3,230,290	2,404,000	826,290	1,437,134
July	48.00	8.43	41,249	175,560	80,000	43,890	1,095,900	1,439,599	2,693,100	-1,253,101	319,363
August	48.00	1.91	9,346	67,820	47,070	43,950	266,770	438,256	607,600	-172,644	145,165
September	48.00	1.81	8,857	44,310	35,680	40,790	123,230	260,787	223,700	-29,187	159,679
October	48.00	6.29	30,778	86,480	42,990	42,850	408,770	611,868	533,400	78,468	261,297
November	48.00	2.70	13,212	58,320	40,640	48,200	177,310	337,682	261,900	75,782	319,363
December	48.00	0.76	3,719	41,560	41,640	48,830	93,430	229,179	262,300	-33,121	275,814
Total		52.74	258,067	1,040,160	391,840	494,190	6,752,070	9,111,166	10,217,600		

Notes:

1. Total monthly precipitation recorded at the CCSWDC.
2. Rainfall falling into the leachate storage tank (13,275 square feet area) which is classified as leachate.
3. Based on flowmeter data, the amount of leachate pumped from the Class I landfill area to the storage tank.
4. Sum of rainfall into the storage tank and the leachate pumped from the Class I landfill.
5. Quantity of leachate hauled away based on the number of tanker trucks and their capacity.
6. Total leachate added to the storage tank minus the quantity hauled during the month (monthly increase or decrease).
7. Cumulative storage read at the tank gauge at the end of each month.

ELAB, INC.
ANALYTICAL SERVICE
COST PROPOSAL



Contact Name:	Mr. Thomas Yanoschak	PROPOSAL NO.:	07-1514	Page 1 of 5
Company:	HDR	PROPOSAL DATE:	April 19, 2007	
Address:	Raleigh, NC	Turnaround Time:	10-15 business days	
Phone No.:	919-232-6618	Sample Arrival Date:		
Fax No.:		Schedule: Firm:	Tentative: X	
Project Name/Description:		Sarasota Central Landfill		

PARAMETERS	Methods	Matrix	No. of Samples			Unit Cost	Subtotal
			Sample	Field QC	Total		
LEACHATE PARAMETERS							
Ammonia	350.1	GW	1	0	1	\$ 20.00	\$ 20.00
Chloride	300.0	GW	1	0	1	\$ 15.00	\$ 15.00
Bicarbonate	SM 2320 B	GW	1	0	1	\$ 20.00	\$ 20.00
Nitrate, Sulfate	300.0	GW	1	0	1	\$ 30.00	\$ 30.00
Total Dissolved Solids	160.1/ SM2540C	GW	1	0	1	\$ 12.00	\$ 12.00
Fe, Ca, Mg, K, Na	6010	GW	1	0	1	\$ 40.00	\$ 40.00
APPENDIX II (VOLATILES, EDB/DBCP, METALS, BNA, ORGANOCHLORINE PEST/PCB, ORGANOPHOS PEST, CHLORINATED HERB, SULFIDE, CYANIDE)	8260, 8011, 6010/6020/7470, 8270, 8081/82, 8141, 8151, 376.1, 9012	GW	1	0	1	\$ 892.50	\$ 892.50
Sub Total of this section							\$ 1,029.50
Ground Water Parameters							
Ammonia	350.1	GW	1	0	1	\$ 20.00	\$ 20.00
Chloride, Nitrate, Sulfate	300.0	GW	1	0	1	\$ 45.00	\$ 45.00
Bicarbonate	SM 2320 B	GW	1	0	1	\$ 20.00	\$ 20.00
Total Dissolved Solids	160.1/ SM2540C	GW	1	0	1	\$ 12.00	\$ 12.00
Fe, Ca, Mg, K, Na	6010	GW	1	0	1	\$ 40.00	\$ 40.00
APPENDIX I (METALS, VOLATILES, EDB/DBCP)	6010/6020/7470, 8260, 8011	GW	1	0	1	\$ 300.00	\$ 300.00
Sub Total of this section							\$ 437.00

Attachment G(2)

Surface Water Parameters							
Unionized Ammonia	350.1/ FDEP	SW	1	0	1	\$ 20.00	\$ 20.00
BOD-5	300.0	SW	1	0	1	\$ 35.00	\$ 35.00
Nitrate, Nitrite, Sulfate	300.0	SW	1	0	1	\$ 45.00	\$ 45.00
Total Dissolved Solids	160.1/ SM2540C	SW	1	0	1	\$ 12.00	\$ 12.00
COD	410.4	SW	1	0	1	\$ 22.00	\$ 22.00
TOC	415.1	SW	1	0	1	\$ 30.00	\$ 30.00
FECAL COLIFORM	SM9222 D	SW	1	0	1	\$ 30.00	\$ 30.00
TOTAL PHOS	365.4	SW	1	0	1	\$ 30.00	\$ 30.00
CHLOR A	SM10200 H	SW	1	0	1	\$ 40.00	\$ 40.00
T-NITROGEN	CALCULATION	SW	1	0	1	\$ 35.00	\$ 35.00
Bicarbonate	SM 2320 B	SW	1	0	1	\$ 20.00	\$ 20.00
TSS	160.2	SW	1	0	1	\$ 12.00	\$ 12.00
APPENDIX I (METALS, VOLATILES, EDB/DBCP)	6010/6020/7470, 8260, 8011	SW	1	0	1	\$ 300.00	\$ 300.00
Total Hadness, Ca, Cu, Fe, Mg, K, Na, Zn	6010	SW	1	0	1	\$ 64.00	\$ 64.00
Sub Total of this section							\$ 695.00
FIELD SAMPLING COST			1	0	1	\$ 120.00	\$ 120.00
Sample Kit Charge							N/C
Kit Shipping Charge							N/C
Rapid Turnaround Charge ()							
TOTAL							\$ 2,281.50
Comments: See attached Proposal Notes and Terms & Conditions							
Subcontracted might include 8270. Sampling cost is per sample.							
Prepared by: Martha Montero (mmontero@elabusa.com)							

ORMOND BEACH:
8 East Tower Circle
Ormond Beach, FL 32174
phone: 386-672-5668
fax: 386-673-4001

TAMPA:
1211 Tech Blvd, Suite 106
Tampa, FL 33619
phone: 813-627-0003
fax: 813-627-0582

Section 7.3 Estimation of Leachate Production Rate in an

have averaged only 7.4 gallons/acre/day (70 lphd) (Bonaparte, 1995). Leachate quantities, however, vary over extremely wide limits and no single value can be considered as being "typical". For example, average leachate generation rates of all landfills in New York State are from 2,000 to 3,000 gallons/acre/year (20,000 to 30,000 liters/hectare/year). Conversely, landfills in Arizona and Nevada will rarely result in any leachate after the first few lifts of waste are placed in the facility.

7.3 ESTIMATION OF LEACHATE PRODUCTION RATE IN AN ACTIVE CONDITION

The leachate rates in a landfill for active and postclosure conditions vary significantly and the methods used to calculate them also differ. The leachate generation rate is higher during the active period of a landfill and is reduced significantly after construction of a qualified final cover. Procedures for estimating leachate quantity during the active and postclosure conditions are described in this section and next section, respectively.

Leachate is generated primarily as a result of percolating precipitation and pore liquid squeezed from waste placed in a landfill. The leachate generation rate in the active condition is denoted by

$$L_A = P + S - E - WA \quad (7.1)$$

where L_A = leachate rate in the active condition;

P = precipitation;

S = pore squeeze liquid from waste;

E = moisture lost through evaporation; and

WA = waste moisture absorption.

Figure 7.2 shows how leachate is generated in an active landfill at a municipal solid waste landfill in active condition. Decomposition of putrescible waste mass can also release liquid. For practical design purposes the volume of leachate generated due to decomposition from waste is negligible. Surface run-on water may also cause an increase in leachate quantity; however, in a properly designed landfill surface, water is not allowed to move into an active cell thereby contacting the waste. Hence, this issue is not addressed here. However, surface run-on water is unavoidable in the case of older landfills. In this case, the volume of run-on water must be estimated using principles of local site hydrology, landfill-specific geometry, and site surface flow pattern. The variables in the Equation 7.1 are discussed in the subsections that follow.

7.3.1 Precipitation

Precipitation includes all water that falls from the atmosphere to the area under consideration. It may occur in a variety of forms, including rainfall, snow, hail, and sleet. Once precipitation strikes the ground, it will produce surface runoff, evaporation, and percolation (Oasim and Chiang, 1994).

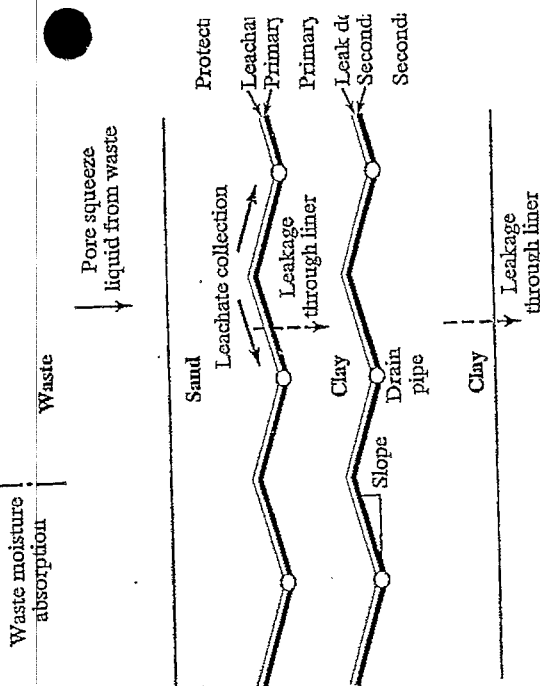
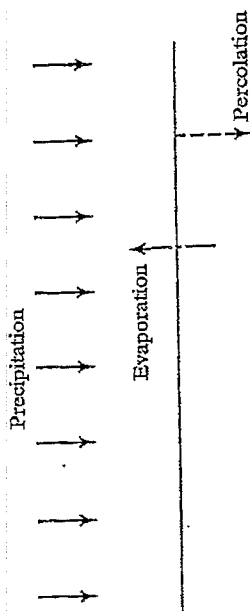


FIGURE 7.2 Leachate Generation or Water Movement in an

the local area under consideration must be developed. The and various other Federal and state agencies that keep important sources of rainfall data. The mean annual precipitation is shown in Figure 7.3.

7.3.2 Squeezed Waste Liquid

The volume of liquid squeezed from the pores of a waste mat by waste composition, waste moisture content, thickness of the waste, as well as by operational measures such as water waste compaction, lift thickness of waste filling, and landfill by is disposed in a landfill, the liquid within the pores of the sludge the weight of the sludge and the weight of the layer above released because of both primary and secondary consolidation.

Mr. John Dewyea
Leachate Tank Cleaning
5918.01

Attachment H(3)

May 3, 2001

Page 3 of 5

Description	Units	Qty.	Unit Cost	Total
May 1, 2001				
Vacuum Truck	hour	5	\$85.00	\$425.00
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$1,175.00</u>
May 2, 2001				
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$750.00</u>
Total to Date				\$8,005.00

In preparation for cleaning of the south leachate tank the modified scope of work is understood by ACT to be cleaning of the tank interior, removal of sludge with ACT vacuum truck, and perform confined space standby rescue for tank inspection. This modified scope of work will include, in addition to the established rates on the Quote Sheet, \$85.00 per hour for use of the vacuum truck and an additional line item to handle the 12" of residual liquid and sludge.

The estimated cost to clean the south leachate tank (with the 12" of liquid and sludge), confined space rescue standby, and vacuum truck service is as follows:

Description	Units	Qty.	Unit Cost	Total
May 10, 2001				
Cleaning of South Leachate Tank	LS	1	\$4,000.00	\$4,000.00
Vacuum Truck	hour	8	\$85.00	\$680.00
Equipment Operator	hour	8	\$40.00	\$320.00
Handle and Transfer 12" of Residual Liquid and Sludge	LS	1	\$2,000.00	\$2,000.00
				<u>\$7,000.00</u>
May 11, 2001				
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$750.00</u>
Estimated Total to Clean South Leachate Tank				\$7,750.00 *

If so desired by the landfill authority, ACT can provide proper disposal of the waste to be removed from the south leachate tank. According to the industrial wastewater



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

April 10, 2008

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

APR 21 2008

SOUTHWEST DISTRICT
TAMPA

Mr. Peter Ramsden, Director of Finance
Sarasota County
Post Office Box 3079
Sarasota, Florida 34230

Re: WACS 51614 – Sarasota Central County Solid Waste Disposal Complex:
Class I Landfill, Materials Processing Facility (MRF) and
Waste Tire Processing Facility (WTPF)
WACS 51611 – Bee Ridge Landfill

Dear Mr. Ramsden:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facilities and find it is in order. The fiscal year end 2007 financial test demonstrates adequate financial assurance covering the Department approved closing and long-term care cost estimates of \$40,886,372.01 and \$20,051,646.54, respectively, dated August 31, 2007, for the Sarasota Central County Solid Waste Complex, and the Department approved long-term care cost estimate of \$9,897,640.55, dated October 16, 2007, for the Bee Ridge Landfill. Therefore, these facilities are in compliance with the financial assurance requirements of Rule 62-701.630(6), Florida Administrative Code, at this time.

If you have any questions, please contact me at (850) 245-8740.

Sincerely,

Chad Fetrow
Environmental Specialist
Solid Waste Section

CWF

cc: Susan Pelz, DEP/TPA
Fred Wick, DEP/TLH
Frank Coggins, Sarasota Co.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

February 8, 2008

Mr. Peter Ramsden
Director of Finance
Sarasota County
Post Office Box 3079
Sarasota, Florida 34230

Re: WACS 51614 – Sarasota Central County Solid Waste Disposal Complex:
Class I Landfill, Materials Processing Facility (MRF) and
Waste Tire Processing Facility (WTPF)

Dear Mr. Ramsden:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facility and find it is in order. The fiscal year end 2006 financial test demonstrates adequate financial assurance covering the August 24, 2006 Department approved inflation adjusted closing and long-term care cost estimates of \$39,695,506.81 and \$19,467,618, respectively. Therefore, Sarasota Central County Solid Waste Disposal Complex is in compliance with the financial assurance requirements of Rule 62-701.630(6), Florida Administrative Code, at this time.

Remember, Rule 62-701.630(6)(d), Florida Administrative Code (F.A.C.), requires government owned facilities providing proof of financial assurance using a financial test to send updated information to the Department within 180 days after the close of each succeeding fiscal year. The updated information includes DEP form 62-701.900(5)(e) - Solid Waste Management Letter from Chief Financial Officer, a copy of the independent certified public accountants report on examination of the latest completed fiscal year financial statement, and a special report from the independent certified public accountant, as outlined in 40 CFR 264.143 (f)(3) as adopted by reference in Rule 62-701.630, F.A.C.

If you have any questions, please contact me at (850) 245-8740.

Sincerely,

Chad Fetrow
Environmental Specialist
Solid Waste Section

CWF

cc: Susan Pelz, DEP/TPA
Fred Wick, DEP/TLH



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Nokomis, FL 34275

October 24, 2007

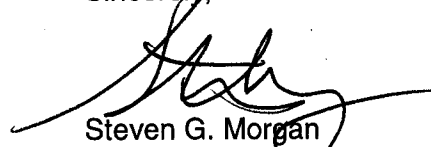
RE: Central County Solid Waste Disposal Complex, Sarasota County
Financial Assurance Cost Estimates
Phase II Construction - Pending Permit No.: 130542-006-SO/01
Phase II Operation - Pending Permit No.: 130542-007-SC/01

Dear Mr. Coggins:

This letter is to acknowledge receipt of the revised cost estimates dated September 25, 2007 (received September 26, 2007), prepared by HDR, for closure and long-term care of Phase II of the Sarasota Central County Solid Waste Disposal Complex. The revised cost estimates received September 26, 2007 (total for closing \$12,556,478.49 and long-term care \$525,602.63/year x 30 years = \$15,768,078.92), are **APPROVED for 2007**. This cost estimate is for closure and long-term care of approximately 55 acres. The next annual update (revised or inflation-adjusted estimates) is due no later than September 1, 2008.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Sincerely,



Steven G. Morgan
Solid Waste Section
Southwest District

cc: Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc., 3725 National Dr., Suite 103, Raleigh, NC
27612-4879
Fred Wick, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa



SARASOTA COUNTY

"Dedicated to Quality Service"

September 25, 2007

Steven G. Morgan
Solid Waste Section
Southwest District Office
13051 N. Telcom Parkway
Temple Terrace, FL 33637

Dept. Of Environmental Protection

SEP 26 2007

Southwest District

Re: Central County Solid Waste Disposal Complex, Sarasota County
Financial Assurance Cost Estimates
Phase II Construction – Pending Permit No. 130542-006-SO/01
Phase II Operation – Pending Permit No. 130542-007-SO/01

Dear Mr. Morgan:

Enclosed is our response to RAI #2 from FDEP letter dated June 20, 2007. As requested, we have enclosed two (2) updated copies of DEP form 62-701.900(28) and supporting calculations.

Sincerely,

Frank Coggins
Manager, Solid Waste Operations

September 20, 2007

Steven G. Morgan
Solid Waste Section
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RE: Central County Solid Waste Disposal Complex, Sarasota County
Financial Assurance Cost Estimates
Phase II Construction - Pending Permit No.: 130542-006-SO/01
Phase II Operation - Pending Permit No.: 130542-007-SC/01

Dear Mr. Morgan:

On behalf of Sarasota County Solid Waste Management Department, HDR Engineering is pleased to provide the following information in response to the Florida Department of Environmental Protection's (FDEP) June 20, 2007 second Request for Additional Information (RAI#2) regarding the Central County Solid Waste Disposal Complex Class I Landfill Phase II Expansion Construction/ Operation Permit Application - Attachment S-1 Financial Assurance Cost Estimate.

As requested, we have attached four (2) updated copies of DEP Form 62-701.900(28) and supporting calculations in their entirety. Please replace the previously submitted corresponding documents in Attachment S.1 with these.

FDEP's comment is repeated below in *italics* with the response immediately following in **bold**.

General Comment

Based on your response to the comments below and comments provided as part of the above referenced permit application, please provide a revised DEP Form 62-701.900(28) that incorporates all proposed changes to the closure and long-term care cost estimates.

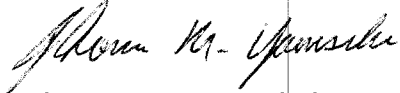
Long-term Care Costs

1. Leachate Collection/Treatment Systems Maintenance - Disposal In accordance with Rule 62-701.630(5)(d)2., government-owned landfills are required to deposit into escrow sufficient funds to cover the following year's long-term care costs after closing. Therefore the annual long-term care cost for leachate disposal shall be based on the first year's leachate generation rate after closing (i.e. 10,468,708 gal/yr.). During the facility's long-term care period, as the annual leachate generation rate decreases, long-term care costs for leachate disposal can be reduced accordingly. Please revise the leachate quantities provided for long-term care costs accordingly.

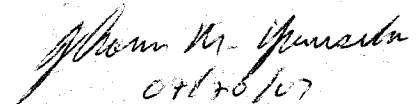
1. Response: As requested, the annual long-term care costs have been revised to reflect the treatment of 10,468,708 gallons annually during the entire 30-year post-closure period. A revised financial assurance form and backup calculations are attached.

If you have any questions or concerns, please contact me at (919)232-6618.

Sincerely,



Thomas M. Yanoschak, P.E.
HDR Engineering, Inc.
Florida Certificate No. 44200
Florida Certificate of Authorization No. 00004213



09/10/07



Florida Department of Environmental Protection

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: Feb 15, 2007 Date of DEP Approval: _____

Revised May 30, 2007 per FDEP RAI#1

Revised September 18, 2007 per FDEP RAI#2

I. GENERAL INFORMATION:

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: 4058C02034

Permit / Application No.: 130542-006-SO/01 Expiration Date: 7/20/2010

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27°12'10.7" Longitude: 82°23'16.39" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase II	55	June 2009	10

Total Landfill Acreage included in this estimate. _____ Closure _____ Long-Term Care _____

Type of landfill: ☒ Class I _____ Class III _____ C&D Debris _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

_____ Letter of Credit* _____ Insurance Certificate

_____ Surety Bond* ☒ Escrow Account

_____ Trust Fund Agreement _____ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
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 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

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 Financial Coordinator at (850)-245-8732.

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

Latest Department Approved Closure Cost Estimate:	Current Year Inflation Factor	Inflation Adjusted Closure Cost Estimate:
_____	_____	_____
X	_____	= \$0.00

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	Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	_____	_____
X	_____	= \$0.00
Number of Years of Long Term Care Remaining:	X	_____
Inflation Adjusted Long-Term Care Cost Estimate:	=	0.00

☒ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Thomas M. Yanoschak 09/20/07
Signature of Engineer

Thomas M. Yanoschak, P.E. Project Mgr.

Name & Title (please type)

P.E. Number 44200

Florida Registration Number (affix seal) & Date

3233 National Drive, Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Frank Coggins
Signature of Owner/Operator

Frank Coggins, Mgr, SolidWasteOperations

Name & Title (please type)

(941) 861-1574

Telephone Number

fcoggins@scgov.net

Owner/Operator E-mail address

thomas.yanoschak@hdrinc.com

Engineer E-mail address

V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing **most expensive**.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. Proposed Monitoring Wells	(Do not include wells already in existence.)			
	EA	N/A		\$0.00
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY	89,000	\$2.29	\$203,810.00
Placement and Spreading	CY	89,000	\$1.36	\$121,040.00
Compaction	CY	89,000	\$0.29	\$25,810.00
Off-Site Material	CY	89,000	\$6.78	\$603,420.00
Delivery	CY	93,500	\$3.87	\$361,845.00
			Subtotal Slope and Fill:	\$1,315,925.00
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY	N/A		\$0.00
Synthetics - 40 mil	SY	266,200	\$4.32	\$1,149,984.00
Synthetics - GCL	SY	N/A		\$0.00
Synthetics - Geonet	SY	266,200	\$5.49	\$1,461,438.00
Synthetics - Other	SY	N/A		\$0.00
			Subtotal Barrier Layer Cover:	\$2,611,422.00
4. Top Soil Cover:				
Off-Site Material	CY	177,500	\$9.07	\$1,609,925.00
Delivery	CY	186,400	\$3.87	\$721,368.00
Spread	CY	186,400	\$1.36	\$253,504.00
			Subtotal Top Soil Cover:	\$2,584,797.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
5. Vegetative Layer				
Sodding	SY	266,200	\$5.15	\$1,370,930.00
Hydroseeding	AC	N/A		\$0.00
Fertilizer	AC	55	\$89.50	\$4,922.50
Mulch	AC	N/A		\$0.00
Other	SY	N/A		\$0.00
Subtotal Vegetative Layer:				<u>\$1,375,852.50</u>
6. Stormwater Control System:				
Earthwork	CY	15,500	\$14.78	\$229,090.00
Grading	SY	N/A		\$0.00
Piping	LF	2,420	\$39.41	\$95,372.20
Ditches	LF	N/A		\$0.00
Berms	LF	11,100	\$21.47	\$238,317.00
Control Structures	EA	12	\$4,000.00	\$48,000.00
Other (inlet structures)	LS	1	\$52,000.00	\$52,000.00
Subtotal Stormwater Controls:				<u>\$662,779.20</u>
7. Gas Controls: Passive				
Wells	EA	55	\$6,700.00	\$368,500.00
Pipe and Fittings	LF	N/A		\$0.00
Monitoring Probes	EA	N/A		\$0.00
NSPS/Title V requirements	LS	1	\$4,000.00	\$4,000.00
Subtotal Passive Gas Control:				<u>\$372,500.00</u>

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
8. Gas Control: Active Extraction				
Traps	EA	1	\$8,600.00	\$8,600.00
Sump	EA	2	\$32,000.00	\$64,000.00
Flare Assembly	EA	1	\$95,000.00	\$95,000.00
Flame Arrestor	EA	1	\$10,000.00	\$10,000.00
Mist Eliminator	EA	1	\$20,000.00	\$20,000.00
Flow Meter	EA	1	\$55,000.00	\$55,000.00
Blowers	EA	2	\$20,000.00	\$40,000.00
Collection System	LF LS	1	\$600,000.00	\$600,000.00
Other (describe) wellheads		55	\$700.00	\$38,500.00
Subtotal Active Gas Extraction:				<u>\$931,100.00</u>
9. Security System:				
Fencing	LF	N/A		\$0.00
Gate(s)	EA	N/A		\$0.00
Sign(s)	EA	1	\$500.00	\$500.00
Subtotal Security System:				<u>\$500.00</u>
10. Engineering:				
Closure Plan report	LS	1	\$ 200,000.00	\$200,000.00
Certified Engineer	LS	1	\$ 492,000.00	\$492,000.00
NSPS/Title V Air Permit	LS	1	\$ 15,000.00	\$15,000.00
Final Survey	LS	1	\$ 22,000.00	\$22,000.00
Certification of Closure	LS	1	\$ 98,500.00	\$98,500.00
Other (detail)		N/A		
Subtotal Engineering:				<u>\$827,500.00</u>

	Contract Management		Quality Assurance		Total
	Hours	LS	Hours	LS	
P.E. Supervisor	256	40,000.0	96	15,000.0	\$55,000.00
On-Site Engineer	192	22,000.0	96	11,000.0	\$33,000.00
Office Engineer	320	40,000.0	240	30,000.0	\$70,000.00
On-Site Technician	960	67,000.0	960	67,000.0	\$134,000.00
Other Administrative (explain)	256	17,000.0	96	\$6,000.00	\$23,000.00

Subtotal of 1-11 Above:	<u>\$11,134,875.70</u>
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5%

Closing Cost Subtotal: 11,691,619.49

Mobilization	\$467,000.00
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Waste Tire Facility	N/A
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Materials Recovery Facility	N/A
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Special Wastes	\$132,100.00
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Leachate Management System Modification	N/A
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Other (Leachate Disposal)	\$265,759.00
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Subtotal Site Specific Costs:	\$864,859.00
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TOTAL CLOSING COSTS	\$12,556,478.49
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VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

_____ 5 Years _____ 20 Years ☒ 30 Years _____ Other

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.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling Frequency (events/yr.)	Number of Wells	\$ / Well / Event	\$ / Year
1. Groundwater Monitoring (62-701.510(6), and (8)(a))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	2	\$800.00	\$3,200.00
Annual	1	NA		\$0.00
Subtotal Groundwater Monitoring:				\$3,200.00
2. Surface Water Monitoring (62-701.510(4), and (8)(b))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	NA		\$0.00
Annual	1	NA		\$0.00
Subtotal Surface Water Monitoring:				\$0.00
3. Gas Monitoring				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	NA		\$0.00
Annual	1	NA		\$0.00
Subtotal Gas Monitoring:				\$0.00

Description	Sampling Frequency (events/yr.)	Number of Locations	\$/Location/Event	\$ / Year
4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c))				
Monthly	12	NA		\$0.00
Quarterly	4	NA		\$0.00
Semi-Annual	2	1	\$900.00	\$1,800.00
Annual	1	1	\$900.00	\$900.00
Other		NA		\$0.00
Subtotal Leachate Monitoring:				\$2,700.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
5. Leachate Collection/Treatment Systems Maintenance				
Maintenance				
Collection Pipes	LF	8,085	\$0.74	\$5,982.90
Sumps, Traps	EA	NA		\$0.00
Lift Stations	EA	1	\$3,680.00	\$3,680.00
Cleaning	LS	NA		\$0.00
Tanks	EA	NA		\$0.00
Impoundments				
Liner Repair	SY	NA	NA	\$0.00
Sludge Removal	CY	NA	NA	\$0.00
Aeration Systems	CY	NA	NA	\$0.00
Floating Aerators	EA	NA	NA	\$0.00
Spray Aerators	EA	NA	NA	\$0.00
Disposal				
Off-site (Include Transportation and Disposal)	1000 gallon	10,469	25	\$265,766.03
Subtotal Leachate Collection/Treatment Systems				\$275,428.93

6. Leachate Collection/Treatment Systems Operation

Operation		Hours	\$/Hour	Total
P.E. Supervisor	HR	24	\$159.00	\$3,816.00
On-Site Engineer	HR	16	\$114.00	\$1,824.00
Office Engineer	HR	48	\$125.00	\$6,000.00
OnSite Technician	HR	48	\$70.00	\$3,360.00
Materials	LS	1	\$1,000.00	\$1,000.00
Subtotal Leachate Collection/Treatment System Maintenance & Operation:				\$16,000.00

7. Maintenance of Groundwater Monitoring Wells

Monitoring Wells	LF HR	12	\$70.00	\$840.00
Replacement	EA	NA		\$0.00
Abandonment	EA	NA		\$0.00
Subtotal Groundwater Monitoring Well Maintenance:				\$840.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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8. Gas System Maintenance

Piping, Vents	LF LS	1	\$50,000.00	\$50,000.00
Blowers	EA	2	\$5,000.00	\$10,000.00
Flaring Units	EA	1	\$10,000.00	\$10,000.00
Meters, Valves	EA	1	\$2,000.00	\$2,000.00
Compressors	EA	NA		\$0.00
Flame Arrestors	EA	1	\$2,000.00	\$2,000.00
Operation	LS	1	\$62,260.00	\$62,260.00
SubTotal Gas System:				\$136,260.00

9. Landscape

Mowing	AC	60	\$160.00	\$9,600.00
Fertilizer	AC	60	\$90.00	\$5,400.00
Subtotal Landscape Maintenance:				\$15,000.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
10. Erosion Control & Cover Maintenance				
Sodding	SY	3,000	\$5.15	\$15,450.00
Regrading	AC	1	\$726.00	\$363.00
note: value entered is 0.5				
Liner Repair	SY	250	\$10.00	\$2,500.00
Clay	CY	NA		\$0.00
Subtotal Erosion Control and Cover Maintenance:				\$18,313.00
11. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	5,000	\$1.11	\$5,550.00
Subtotal Storm Water System Maintenance:				\$5,550.00
12. Security System Maintenance				
Fences	LF	100	\$34.10	\$3,410.00
Gate(s)	EA	NA		\$0.00
Sign(s)	EA	NA		\$0.00
Subtotal Security System:				\$3,410.00
13. Utilities				
	LS			\$6,000.00
14. Administrative				
		Hours	\$/Hour	Total
P.E. Supervisor	HR	16	\$159.00	\$2,544.00
On-Site Engineer	HR	72	\$114.00	\$8,208.00
Office Engineer	HR	48	\$125.00	\$6,000.00
OnSite Technician	HR	16	\$70.00	\$1,120.00
Other (explain)		NA		\$0.00
Subtotal Administrative:				\$17,872.00
15. Contingency				
	% of Total			5%
Subtotal Contingency:				\$25,028.70
\$500,573.93				

16. Site Specific Costs (explain)

	<u>UNIT COST</u>	
NA	LS	
NA	LS	
NA	LS	

ANNUAL LONG-TERM CARE COST (\$/Year): \$525,602.63

NUMBER OF YEARS OF LONG-TERM CARE 30.00

TOTAL LONG-TERM CARE COST (\$) \$15,768,078.92

Project: CCSWPC

Computed: Tmy

Date: 1/17/06

Subject: Phase II Financial Assurance

Checked:

Date:

Task: Closure / Post Closure Costs

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of: 19

Job #: 43485

No:

PURPOSE: Estimate closure / post closure costs for Phase II of the CCSWPC Class I landfill. Assume third party will provide all materials and services. Assume worst-case scenario where all 55 acres of Phase II has received waste but no closure has occurred.

REFERENCES: Cost data obtained from:

- 2006 RS Means Heavy construction cost data (prices adjusted for Sarasota, FL location factor = 84.2) (see Att. 5)
- Price Quotes from vendors as noted,
- Actual costs adjusted for inflation, as noted.

PROCEDURE: (Note: item numbers correspond to items listed on FDEP Form 62-701.900(28))

Phase II Closure / Post Closure Area

From Attachment A, Phase II closure area ≈ 55 AC.

PART II - Closing Costs

1. Proposed Monitoring Wells

Assume all monitoring wells installed prior to Phase II operation (i.e. no new wells required for closure).

2. Slope and Fill (bedding layer between waste and barrier layer). (Assume off-site material will be used per FDEP).

A. Excavation - Assume 1' of soil will be required on average over Phase II.

$$\text{Quantity} = 55 \text{ AC} \times \frac{43,560 \text{ ft}^2}{\text{AC}} \times 1 \text{ ft} \times \frac{1.34}{27 \text{ ft}^3} = 86,733 \text{ cy (say 89,000 cy)}$$

Cost 3 cy backhoe = \$2.37/cy (2006 means - 02315-424-0300) (Att. B)

Add 15% for loading onto trucks (2006 means - 02315-424-0020)



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Multiply by Sarasota location factor 0.842.

$$\text{Adjusted unit cost} = \$2.37/\text{cy} (115)(0.842) = \$2.29/\text{cy}$$

$$\text{Total} = 89,000 \text{ cy} (\$2.29/\text{cy}) = \$203,810.00$$

B. Placement & Spreading

$$\text{Quantity} = 89,000 \text{ cy}$$

$$\text{Cost to spread by dozer} = \$1.62/\text{cy} \text{ (2006 means 02315-520-0020) (Att. C)}$$

$$\text{Adjusted Cost} = \$1.62/\text{cy} (0.842) = \$1.36/\text{cy}$$

$$\text{Total} = 89,000 \text{ cy} (\$1.36/\text{cy}) = \$121,040.00$$

C. Compaction

$$\text{Quantity} = 89,000 \text{ cy}$$

$$\begin{aligned} \text{Cost to spread using vibratory roller, 6" lifts, 2 passes} \\ = \$0.35/\text{cy} \text{ (2006 means 02315-310-5000) (Att. D)} \end{aligned}$$

$$\text{Adjusted Cost} = \$0.35/\text{cy} (0.842) = \$0.29/\text{cy}$$

$$\text{Total} = 89,000 \text{ cy} (\$0.29/\text{cy}) = \$25,810.00$$

D. Off-Site Material

$$\text{Quantity} = 89,000 \text{ cy}$$

$$\text{Cost for select fill (material only)} = \$8.05/\text{cy} \text{ (2006 means 02315-210-5070) (Att. E)}$$

$$\text{Adjusted Cost} = \$8.05/\text{cy} (0.842) = \$6.78/\text{cy}$$

$$\text{Total} = 89,000 \text{ cy} (\$6.78/\text{cy}) = \$603,420$$

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E. Delivery

$$\text{Quantity in loose cy (LCY)} = \text{bank cy (BCY)} \times \% \text{ swell}$$

For wet sand, assume 5% swell (Source: Excavation Planning Reference Guide, 1988).

$$\therefore \text{Quantity} = 89,000 \text{ cy} (1.05) = 93,450 \text{ LCY (say } 93,500 \text{ LCY)}$$

$$\begin{aligned} \text{Cost to haul using 16.5cy dump, 4 mile round trip} \\ = \$4.60 / \text{LCY} (2006 \text{ means } 02315-490-1100) (\text{Att. F}) \end{aligned}$$

$$\text{Adjusted Cost} = \$4.60 / \text{LCY} (0.842) = \underline{\$3.87 / \text{LCY}}$$

$$\text{Total} = \$3.87 / \text{LCY} (93,500 \text{ LCY}) = \underline{\$361,845.00}$$

3. Cover Material (Barrier Layer). Assume geosynthetic barrier layer consisting of 40 mil Text. LLDPPE w/ overlying geosynthetic drainage layer (GDL)

A. Off-site Clay - N/A

B. 40 mil textured LLDPPE

$$\text{Quantity} = \text{SS AC} \times \frac{43,561 \text{ ft}^2}{\text{AC}} \times \frac{1 \text{ sq}}{9 \text{ ft}^2} = 266,200 \text{ sq}$$

$$\text{Installed Cost} = \$0.48 / \text{ft}^2 = \underline{\$4.32 / \text{sq}} \text{ (See price quote from GSE, Att. G)}$$

$$\text{Total} = \$4.32 / \text{sq} (266,200 \text{ sq}) = \underline{\$1,149,984.00}$$

C. Synthetics - GCL - N/A



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D. Synthetics - Geonet (Assume 300 mil geonet composite w/ 6 oz/sy non-woven fabric on both sides)

$$\text{Quantity} = 266,200 \text{ sy}$$

$$\text{Installed Cost} = 0.61/\text{ft}^2 = 5.49/\text{sy} \text{ (see price quote from GSE, ATT.6)}$$

$$\text{Total} = 5.49/\text{sy} (266,200 \text{ sy}) = \underline{1,461,438.00}$$

E. Synthetics - Other - N/A

4. Top Soil Cover (Assume 24" cover over geosynthetics).

A. Off-site Material

$$\text{Quantity} = 55 \text{ AC} \times \frac{43,560 \text{ ft}^2}{\text{AC}} \times 2 \text{ ft} \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = 177,467 \text{ cy} \text{ (say } 177,500 \text{ cy)}$$

$$\text{Cost for select granular fill (material only)} = 8.05/\text{cy} \text{ (2006 means 02315-210-5070) (ATT.E)}$$

$$\text{Adjusted cost} = 8.05/\text{cy} (0.84) = 6.78/\text{cy} + \text{Add } 2.29/\text{cy} \text{ Excavation (see Item 2A)} = \underline{9.07/\text{cy}}$$

$$\text{Total} = 177,500 \text{ cy} (9.07/\text{cy}) = \underline{1,609,975.00}$$

B. Delivery

Swell
Factor
↓

$$\text{Quantity in LCY} = 177,500 \text{ cy} (1.05) = 186,375 \text{ LCY} \text{ (say } 186,400 \text{ LCY)}$$

$$\begin{aligned} \text{Cost to haul using 16.5 cy dump, 4 mile round trip} \\ = 4.60/\text{LCY} \text{ (2006 means 02315-490-1100) (ATT.F)} \end{aligned}$$

$$\text{Adjusted Cost} = 4.60/\text{LCY} (0.84) = \underline{3.87/\text{LCY}}$$

$$\text{Total} = 3.87/\text{LCY} (186,400 \text{ LCY}) = \underline{721,368.00}$$

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C. Spread

$$\text{Quantity} = 186,400 \text{ cy}$$

$$\text{Cost to spread by dozer} = \$1.62/\text{cy} \text{ (2006 Means 02315-520-0020)}$$

$$\text{Adjusted cost} = \$1.62/\text{cy} (0.842) = \underline{\$1.36/\text{cy}}$$

$$\text{Total} = 186,400 \text{ cy} (\$1.36/\text{cy}) = \underline{\$253,504.00}$$

5. Vegetative Layer (Assume entire closure area will be sodded and fertilized)

A. Sodding

$$\text{Quantity} = 55 \text{ AC} \times \frac{43,560 \text{ ft}^2}{\text{AC}} \times \frac{1 \text{ sq ft}}{9 \text{ ft}^2} = 266,200 \text{ sq ft}$$

$$\text{Installed cost for bent grass on sloped ground} = \$6.80/\text{msf} \text{ (2006 Means 02920-400-1500)}$$

$$\$6.80/\text{msf} \left(\frac{1145 \text{ sq ft}}{1000 \text{ sq ft}} \right) \left(\frac{9 \text{ sq ft}}{1 \text{ sq ft}} \right) = \underline{\$6.12/\text{sq ft}}$$

$$\text{Adjusted unit cost} = \$6.12/\text{sq ft} (0.842) = \underline{\$5.13/\text{sq ft}}$$

$$\text{Total} = \$5.13/\text{sq ft} (266,200 \text{ sq ft}) = \underline{\$1,370,930.00}$$

B. Hydrosodding (Not required w/sodding) - N/A

C. Fertilizer

$$\text{Quantity} = 55 \text{ AC}$$

$$\text{Cost using truck whirlwind spreader} = \$2.44/\text{msf} \text{ (AH.I)}$$

$$\$2.44/\text{msf} \times \frac{1 \text{ msf}}{1000 \text{ ft}^2} \times \frac{43,560 \text{ ft}^2}{\text{AC}} = \$106.29/\text{AC}$$

$$\text{Adjusted unit cost} = \$106.29/\text{AC} (0.842) = \underline{\$89.50/\text{AC}}$$

$$\text{Total} = \$89.50/\text{AC} (55 \text{ AC}) = \underline{\$4,922.50}$$

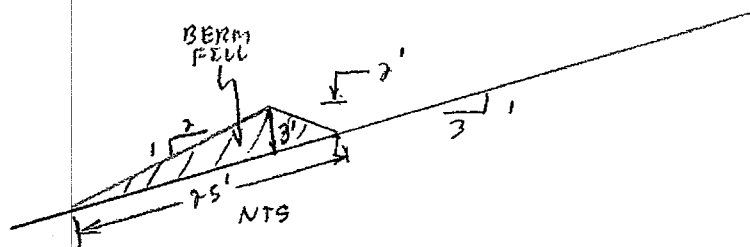
Project:	Computed:	Date:
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D. Mulch (Not reqd. w/sodding) - N/A

E. Other - N/A

6. Stormwater Control System

A. Earthwork - From Att. A, Phase II will require the construction of approx. 11,100 LF of drainage terrace.



Quantity of fill reqd. per LF of berm = $\frac{1}{2} (25') (3') = 37.5 \text{ ft}^3/\text{ft} = 1.39 \text{ cy}/\text{ft}$

Total quantity = $1.39 \text{ cy}/\text{ft} (11,100 \text{ LF}) = 15,429 \text{ cy}$ (say 15,500 cy)

Cost to excavate offsite borrow = $\$2.29/\text{cy}$ (see item 2A)

" compact " " = $\$0.29/\text{cy}$ (see item 2C)

" obtain " " = $\$6.78/\text{cy}$ (see item 2D)

" deliver " " = $\$4.06/\text{cy}$ (see item 2E)

" grade " " = $\$1.36/\text{cy}$ (see item 2B)

$\$14.78/\text{cy}$

Adjusted for swell below

$\$3.87 \times 1.05 = \$4.06/\text{cy}$

Total = $\$14.78/\text{cy} (15,500) = \$229,090.00$

B. Grading (included in Item 6A) - N/A

C. ~~Piping (24" CPP Downdrains)~~

[Revised - see
Page 6A]

Quantity Approx. 2,420 LF (See Att. A)

Installed Cost = $\$44/\text{LF}$ (quote from ADS), Total = $\$44/\text{LF} (2,420 \text{ LF})$
 $= \$106,480.00$

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6.C. Piping (24" CPP Downdrains)

Quantity Approx. 2,420 LF (See ATT. A)

[See ATT. T]

Cost for trenching (4'x4') = \$8.19/LF (2006 Means G1030 805 1420)

Cost for pipe bedding (4' wide, 24" pipe) = \$10.36/LF (2006 Means G1030 815 2820)

Cost for 24" HDPE Pipe = \$23.50/LF + 15% for water-tight connections
= \$27.03/LF (2006 Means 02630 520 1070, 1135)

Cost for backfill (FE loader w/ 1 cy bucket; minimal haul)
= \$2.07/LCY

Convert to \$/LF: Quantity excavated for 4'x4' trench
= 16 ft³/LF = 0.59 cy/LF
∴ Cost = \$2.07/cy ($\frac{0.59 \text{ cy}}{\text{LF}}$) = \$1.22/LF

∴ Total unit cost = \$8.19/LF + \$10.36/LF + \$27.03/LF + \$1.22/LF
= \$46.80/LF

∴ Total adjusted unit cost = \$46.80/LF (0.842) = \$39.41/LF

Total Cost = \$39.41/LF (2,420 LF) = \$95,372

Project:	Computed:	Date: Rev. 4/18/07
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D. Ditches (No additional ditches reqd. for closure) - N/A

E. Berms - Earthwork reqd. for berms is already included within item 6A.
Need to add erosion control matting that will be placed over berms.

Quantity of berms = 11,100 LF

Area reqd. to be covered by erosion control matting
= 35' (11,100') = 388,500 ft²

Cost of matting = \$6.55/sy (means 02360-700-0060) (Att. J)

Adjusted cost = \$6.55/sy (0.842) = \$5.52/sy

Adjusted cost per LF of berm = 35 ft²/LF ($\frac{1sy}{9ft^2}$) = 3.89 \$/LF

∴ Cost = \$5.52/sy (3.89 \$/LF) = \$21.47/LF

Total = \$21.47/LF (11,100 LF) = \$238,317.00

F. Control Structures - From Att. A, 12 reqd. for Phase II

Quantity of 4" filter point fabric-formed concrete (from Att. A)

14' x 70' = 980 ft² per structure (Say 1,000 ft² per structure)

Total quantity = 1,000 ft²/structure (12 structures) = 12,000 ft².

Cost = ~~\$3.75/sf~~ (per quote from Thomas Evans at Grestar)

∴ Cost per structure = ~~\$3.75/sf (1,000 sf) = \$3,750 per structure~~

Total = ~~\$3,750 (12) = \$45,000.00~~

[Revised - See
page 7A]

G. Other (inlet structures), From Att. A, 52 inlets reqd.

Typical cost = \$1,000 each installed

Total CS = 52 (\$1,000) = \$52,000.00

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F. Control Structures (continued)

Cost for 4" Filter point = \$3.91/Ft² (See Att. U)

Total cost for fabric-formed concrete = 12,000 Ft² (\$3.91/Ft²)
= \$46,920

Cost per structure = $\frac{\$46,920}{12} = \$3,910$ (say \$4,000)

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7. Gas Controls (passive)

A. Wells

Quantity @ 1/AC avg = 55

Typical cost from recent projects = \$6,700 (Assume 75' deep) (See Att.k)

Total = \$6,700 (55) = \$368,500.00

B. Pipe and Fittings (included in Item 7A), N/A

C. Monitoring Probes (Assume no new probes req'd. for closure), N/A

D. NSPS/Title V Requirements. (See Att.k).

Cost = \$4,000.00

8. Gas Control : Active Extraction (costs based on previous experience with similar systems)

A. Traps:

Quantity = 1

Typical cost = \$8,600.00 (based on previous experience)

Total = 1 (\$8,600.00) = \$8,600.00

B. Sump:

Quantity = 2

Typical cost = \$16,000.00 ea

Total = 2 (\$16,000) = \$32,000.00

1. Response: As requested, the annual long-term care costs have been revised to reflect the treatment of 10,468,708 gallons annually during the entire 30-year post-closure period. A revised financial assurance form and backup calculations are attached.

If you have any questions or concerns, please contact me at (919)232-6618.

Sincerely,

Thomas M. Yanoschak, P.E.
HDR Engineering, Inc.
Florida Certificate No. 44200
Florida Certificate of Authorization No. 00004213

Project:	Computed:	Date:
Subject:	Checked:	Date:
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- C. Flare Assembly
 Quantity = 1
 Typical Cost = \$95,000.00
 Total = 1 (\$95,000) = \$95,000.00
- D. Flame Arrestor
 Quantity = 1
 Typical Cost = \$10,000.00
 Total = 1 (\$10,000) = \$10,000.00
- E. Mist Eliminator
 Quantity = 1
 Typical Cost = \$20,000.00
 Total = 1 (\$20,000) = \$20,000.00
- F. Flow Meter (Flare skid included)
 Quantity = 1
 Typical Cost = \$55,000.00
 Total = 1 (\$55,000.00) = \$55,000.00
- G. Blowers
 Quantity = 2
 Typical Cost = \$20,000.00 ea
 Cost = 2 (\$20,000.00) = \$40,000.00
- H. Collection System Piping
 LS = \$600,000.00
- I. Other (Retrofit well heads)
 Quantity = 55
 Typical Cost = \$700.00 ea
 Total = 55 (\$700.00) = \$38,500.00

Project:	Computed:	Date:
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9. Security System

A. Fencing (additional fencing not anticipated for closure) - N/A

B. Gates (additional gates not anticipated for closure) - N/A

C. Signs - Assume one 4'x8' sign announcing closure and details.

$$\text{Cost} = \$18.70/\text{sf} \quad (\text{means 01580-700-0020}) \quad (\text{A.H. L})$$

$$\text{Adjusted cost} = \$18.70/\text{sf} (0.847) = \$15.37/\text{sf}$$

$$\text{Cost for sign} = 4' \times 8' \times \$15.37/\text{sf} = \$490.24 \quad (\text{say } \$500.00)$$

10. Engineering

A. Closure Plan Report - Assume 2% of Subtotal of Items 1-9.

$$\text{Cost} = \$9,830,983.50 (0.02) = \$196,620.00 \quad (\text{say } \$200,000.00)$$

B. Certified Engineer - Assume 5% of Items 1-9.

$$\text{Cost} = \$9,830,983.50 (0.05) = \$491,549.18 \quad (\text{say } \$492,000.00)$$

C. NSPS/Title V Air Permit

$$\text{Cost} = \$15,000.00 \quad (\text{based on previous work at similar sites})$$

D. Final Survey

$$\text{Quantity} = 55 \text{ Ac}, \quad \text{Cost} = \$475/\text{Ac} \quad (2006 \text{ means } 01107-700-0020) \quad (\text{A.H. M})$$

$$\text{Adjusted Cost} = \$475/\text{Ac} (0.847) = \$400/\text{Ac}$$

$$\text{Total} = \$400.00/\text{Ac} (55 \text{ Ac}) = \$22,000.00$$

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E. Certification of Closure - Assume 1% of subtotal of items 1-9

$$\text{Cost} = \$9,830,983.50 (0.01) = \$98,310 \quad (\text{Say } \$98,500.00)$$

F. Other - There are no other engineering costs identified for the Phase I closure.

II. Professional Services - Assume 8 month construction project with 6 months full-time field activities.

A. PE Supervisor

$$\text{CM } 8 \text{ hrs/wk}^{256} (32 \text{ weeks}) (\$159/\text{hr}) = \$40,764 \quad (\text{Say } \$40,000.00)$$

$$\text{QA } 4 \text{ hrs/wk}^{96} (24 \text{ weeks}) (\$159/\text{hr}) = \$15,264 \quad (\text{Say } \$15,000.00)$$

B. On-Site Engineer

$$\text{CM } 8 \text{ hrs/wk}^{192} (24 \text{ weeks}) (\$114/\text{hr}) = \$21,888 \quad (\text{Say } \$22,000.00)$$

$$\text{QA } 4 \text{ hrs/wk}^{96} (24 \text{ weeks}) (\$114/\text{hr}) = \$10,944 \quad (\text{Say } \$11,000.00)$$

C. Office Engineer

$$\text{CM } 10 \text{ hrs/wk}^{320} (32 \text{ wks}) (\$125/\text{hr}) = \$40,000.00$$

$$\text{QA } 10 \text{ hrs/wk}^{240} (24 \text{ wks}) (\$125/\text{hr}) = \$30,000.00$$

D. On-site Technician

$$\text{CM } 40 \text{ hrs/wk} (24 \text{ wks}) (\$70/\text{hr}) = \$67,200.00 \quad (\text{Say } \$67,000.00)$$

$$\text{QA } 40 \text{ hrs/wk} (24 \text{ wks}) (\$70/\text{hr}) = \$67,200.00 \quad (\text{Say } \$67,000.00)$$

E. Other (administrative)

$$\text{CM } 8 \text{ hrs/wk} (32 \text{ wks}) (\$66/\text{hr}) = \$16,896 \quad (\text{Say } \$17,000.00)$$

$$\text{QA } 4 \text{ hrs/wk} (24 \text{ wks}) (\$66/\text{hr}) = \$8,336 \quad (\text{Say } \$8,000.00)$$

F. Quality Assurance Testing - Assume \$2,500/AC

$$\text{Cost} = \$5 \text{ AC} (\$2,500/\text{AC}) = \$137,500.00$$

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12. Contingency - Assume 5% of subtotal of Items 1-11

$$\text{Cost} = 0.05 (11,110,983.50) = \underline{\$555,549}$$

13. Site-Specific Costs

A. Mobilization - Assume 4% of Items 1-12

$$\text{Cost} = 0.04 (11,666,532.68) = \underline{\$466,661} \quad (\text{say } \$467,000)$$

B. Waste Tie Facility Financial Assurance included w/ Phase I - N/A

C. Materials Recovery Facility Financial Assurance included w/ Phase I - N/A

~~D. Special Wastes - No additional closure costs anticipated for special wastes. [Revised - See Pages 12A-12D]~~

E. Leachate Management System Modification - No additional closure costs are anticipated for leachate management system modifications.

~~F. Other - there are no other site specific costs associated with Phase II~~
[Revised to add leachate disposal during closure - See Page 12E]

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B. D. Special Wastes

Permitted Special Wastes at CCSWDC:

- N/A ① Asbestos - Assume disposed at working face before closure.
- N/A ② Contaminated Soil - Assume disposed at working face before closure.
- ③ White Goods and Lawn Mowers - Assume Max. permitted quantity of 1250 left on-site needing to be loaded and transported to a metal recycler in Sarasota.
- ④ Lead Acid Batteries - Assume Max. permitted quantity of 30 left on-site needing to be loaded and transported to a broker in Sarasota.
- ⑤ Yard Waste - Assume Max. permitted quantity of 3000 tons of unprocessed yard trash must be removed from facility.
- N/A ⑥ Tires - Assume wash tires will be transported to waste tire facility on-site and costs of disposal covered under Phase I financial assurance.
- ⑦ Electronics - Assume Max. permitted quantity of 1,000 devices left on-site needing to be loaded and transported to a recycler in Sarasota.
- ⑧ Household Hazardous Waste - Since HHW must be removed at least monthly, Assume 1 truck load of HHW must be removed from site and disposed.
- ⑨ Used Oil - 520 gallons Max.

White Goods:

Assume 50 can be hauled per truck load

$$\# \text{ loads} = 1250 / 50 = 25$$

Assume 2 laborers require 2 hrs each to load each truck.
 @ \$10/hr each.

$$\therefore \text{ labor cost to load} = 25 \text{ loads} (2 \text{ laborers}) (2 \text{ hrs per laborer}) (\$10/\text{hr}) \\ = \underline{\underline{\$1,000}}$$

Assume each load is taken to metal recycler in Sarasota, FL
 Distance $\approx$ 25 miles

$$\text{Total miles to transport} = 25 \text{ loads} (25 \text{ miles}) = 625 \text{ miles}$$

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Cost to haul = \$2.64/mile Max. (2006 means 0.2315 490 4750)

Adjusted Cost = \$2.64/mile (0.842) = \$2.22/mile

Cost to transport = 625 miles (\$2.22/mile) = \$1,389

∴ Total Cost = \$1,000 + \$1,389 = \$2,389.50 (say \$2,500)

(Conservatively disregard scrap value)

Lead Acid Batteries:

Assume 1 laborer requires 2 hrs @ \$10/hr to load 30 batteries into truck = \$20.

Assume 1 load required to transport batteries to broker in Sarasota ≈ 25 miles.

∴ Cost to haul = 25 miles (\$2.64/mile) = \$66

Adjusted Cost = \$66 (0.842) = \$55.57

∴ Total Cost = \$20 + \$55.57 = \$75.57 (say \$100.00)

(Conservatively disregard scrap value)

Yard Waste:

Assume 3,000 tons of unprocessed yard trash must be removed from facility (Max. allowed by permit)

Assume current cost at CCSWDC for accepting yard waste (\$41.37/Ton) would be required to process remaining waste.

Processing Cost = \$41.37/Ton (3,000 Tons) = \$124,110 (say \$125,000)

(Assume processed yard waste can be disposed/used on site or given away - No hauling offsite).

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Electronics:

Assume 200 can be hauled per truck load

$$\# \text{ loads} = 1000 / 200 = 5$$

Assume 2 laborers require 2 hrs each to load each truck @ \$10/hr.

$$\therefore \text{ labor cost} = 5 \text{ loads} (2 \text{ laborers}) (2 \text{ hrs/laborer}) (\$10/\text{hr}) \\ = \underline{\$200}$$

Assume each load is taken to Creative Recycling in Tampa, FL
Distance $\approx$ 66 miles.

$$\text{Total miles to transport} = 5 \text{ loads} (66 \text{ miles}) = 330 \text{ miles.}$$

$$\text{Cost to haul} = \$2.64/\text{mile}$$

$$\text{Adjusted cost} = \$2.64 (0.842) = \$2.22/\text{mile.}$$

$$\text{Cost to transport} = 330 \text{ miles} (\$2.22/\text{mile}) = \$732.60$$

$$\therefore \text{ Total cost} = \$200 + \$732.60 = \$932.60 \quad (\text{Say } \$1,000)$$

(Conservatively disregard scrap value)

Household Hazardous Waste:

Assume 2 tons to be disposed in one load

$$\text{Pickup Cost} = \$550/\text{ton max. (2006 means 02110 300 1130) (see Att. W)}$$

$$\therefore \text{ pickup cost} = 2 \text{ tons} (\$550/\text{ton}) = \underline{\$1,100}$$

Assume HHW is taken to Veolia Environmental Services facility in
West Melbourne, FL, distance = 122 miles

$$\text{Cost to haul} = \$4.40/\text{mile (2006 means 02110 300 1270) (see Att. W)}$$

$$\text{Cost} = \$4.40/\text{mile} (122 \text{ mile}) = \underline{\$536.80}$$

$$\text{Disposal Charge} = \$440/\text{ton max. (2006 means 02110 300 6020) (see Att. W)}$$

$$\text{Cost} = 2 \text{ tons} (\$440/\text{ton}) = \underline{\$880}$$

$$\therefore \text{ Total Cost} = \$1,100 + \$536.80 + \$880 = \$2,516.80 \quad (\text{Say } \$3,000)$$

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Used Oil:

Assume 520 gallons picked up by vacuum truck and transported to Safety-Kleen facility in Tampa

Pickup Cost (Assume 1 hr @ \$110). (2006 Means 2110 300 3110) (See ATT. W)

Transportation cost assume 66 miles @ \$4.75/mile (2006 Means 2110 300 3400).

$$\therefore \text{Total Cost} = \$110 + [66 \text{ miles } (\$4.75/\text{mile})] = \$423.50 \text{ (Say } \$500.00).$$

Total Special Wastes Loading / Transport / Disposal

$$= \$2,500 + \$100.00 + \$125,000 + \$1,000 + \$3,000 + \$500$$

$$= \underline{\underline{\$132,100}}$$

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13. F. Leachate Disposal

Assume Leachate collected during 1 year of closure activities will be disposed as a closure cost.

Use 2005 leachate generation data for CCSWDC for Cells 1-4 to estimate leachate generated at closure (See Attachment X)

From Att. X, total leachate pumped in 2005:

Cell 1 = 1,040,160

Cell 2 = 591,846

Cell 3 = 494,190

Cell 4 = 6,750,070

Rainfall in storage tank = 258,667

9,136,327 gallons for 48 Acres (Cells 1-4)

Leachate generation per acre = $\frac{9,136,327 \text{ gal}}{48 \text{ ac}} = 190,340 \text{ gal/ac-year}$

For worst case scenario, assume Cells 1-4 will be active upon closure of Phase II, i.e. active area = 55 ac.

Estimated leachate generation upon Phase II closure:

$190,340 \text{ gal/ac-yr (55 ac)} = 10,468,708 \text{ gal/yr}$

Current Leachate disposal cost = \$25,386/1000 gal

Estimated leachate disposal cost for 1-year during Phase II closure:

$10,468,708 \text{ gal} \times \frac{\$25,386}{1,000 \text{ gal}} = \$265,759$

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PART VI - Long-Term Care Costs

1. Groundwater Monitoring - Semi-Annual

Current No. of wells sampled = 8

No. wells proposed sampled after Phase II is constructed = ~~14~~ 10

Net. No. wells added for Phase II = ~~14~~ 10 - 8 = 2

Sampling costs (all wells combined):

Assume 10 hrs @ \$70/hr = \$700.00

Report: Assume 8 hrs @ \$125/hr = \$1,000.00

2 hrs @ \$159/hr = \$318.00

\$2,158

Cost per well = $\frac{2158}{6} = 360$ /well

Lab Costs (prices quoted from Elab, Ormond beach): (See ATT. 4)

~~Appendix I = \$250~~

Additional parameters reqd. by permit = 13 @ \$20 = \$260

∴ lab cost per well = ~~\$250 + \$260~~ = \$510

\$437 per sample

Cost per well = \$360 + \$437 = \$797/well/event (say \$800/well/event)

Total Cost = \$800 (2) = \$1,600 per event

2. Surface Water Monitoring (No additional surface water sampling locations anticipated for Phase II) - N/A

3. Gas Monitoring (proposed monitoring plan includes replacing 1 existing monitoring location with a new one, therefore no net increase in monitoring locations) - N/A

4. Leachate Monitoring - 1 new location @ Phase II leachate pump station.

Semi-Annual sampling:

sampling cost: 5 hrs @ \$70/hr = \$350

report: 2 hrs @ \$125/hr = \$250

1 hr @ \$159/hr = \$159

\$759 per event

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Lab Costs (price quote from Elab, Ormond Beach) (See Att. 4)

$$\text{13 parameters req'd. by permit} = 13 \times \$20 = \$260.00 \quad (\$137.00)$$

$$\text{Total cost per event} = \$759 + \$137 = \$896.00 \quad (\text{say } \$900)$$

(See Att. 4)

Annual Sampling - Sampling cost included w/ semi-annual sampling.

$$\text{Lab Cost (Quote from Elab) - Appendix II by permit} = \$210/\text{location} \times 14 = \$2940.00 \quad (\text{say } \$3000)$$

S. Leachate Collection/Treatment System Maintenance (Phase II only)

A. Maintenance

1. Collection pipes/sumps

$$\text{Length of pipe in Phase II} = 4(1321) + 1(1600) + 2(400) + 1(400) = 8,084' \quad \downarrow 10'$$

Assume pipe will be cleaned and video taped every 5 years.

$$\text{Cost to clean 8" dia. pipe} = \$1.87/\text{ft} (2006 \text{ means, } 02950-210-6160)$$

$$\text{Mobilization} = \$375 (2006 \text{ means, } 02950-210-6110)$$

$$\text{Camera inspection} = \$1,230/500\text{ft} (2006 \text{ means, } 02950-210-9060)$$

$$\text{Total Cost} = 8,084 \text{ ft} (\$1.87/\text{ft}) + \$375 + \frac{8,084 \text{ ft}}{500 \text{ ft}} (\$1,230) = \$35,379$$

$$\text{Adjusted total Cost} = \$35,379 (0.842) = \$29,789$$

$$\text{Yearly Cost} = \frac{\$29,789}{5 \text{ yrs}} = \$5,958/\text{yr}$$

$$\text{Cost/lf per year} = \frac{\$5,958}{8,084 \text{ ft}} = \$0.74/\text{lf per year}$$

2. Sumps/traps (No sumps/traps in phase II) - N/A

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3. Lift station (Includes 1 - duplex leachate pump station for Phase II)

From conversation with Fred Tolar of Leachator:

Assume both pumps have to be replaced every 5 years.

Cost/pump $\approx$ \$2,500

Assume transducer at each control panel has to be replaced each year at \$1,000 each.

Assume Monthly maintenance call, 1 hr @ \$70/hr per pump

Yearly cost to maintain pump station:

$$\frac{2(\$2,500)}{5} + 1,000 + 2(\$70)(12) = \$3,680$$

4. Cleaning (Accounted for in other categories) - N/A

5. Tanks (No new tanks to be constructed for Phase II. Existing tank maintenance included in Phase I financial assurance).

- N/A

[Revised - See P. 15A]

B. Impoundments (there are no leachate impoundments beyond proposed flexible leachate storage containers. These are needed only in emergency situations and won't be required once final cap is installed), - N/A

C. Aeration Systems (there are no aeration systems) - N/A

D. Disposal

[Revised - See P. 16A]

From Phase II HELP Model analyses, for landfill with 6 lifts of waste and final cover installed & no recirculation:

Avg. annual lateral drainage collected from LCS = 0.12 inches

Avg. annual lateral drainage collected from Leak detection = 0.23 inches

0.35 inches/yr

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A. S. Tanks

(Additional tank removed from permit application)

~~Assume additional leachate tank will be constructed as part of phase II. Maintenance of existing leachate tank is already included in Phase I financial assurance.~~

~~Assume new tank is inspected and cleaned every 5 years.~~

~~Inspection cost & minor repairs by tank manufacturer = \$1,100 (from telephone conversation w/ John Viale, Florida Aquastore and Utility Construction, Inc., 4/25/07.~~

~~Cleaning cost for tank = \$7,750 in 2001 (See Att. EA for estimate for cleaning similar tank)~~

~~Adjust Cost 3% per year for inflation = \$9,254~~

~~Total Yearly cost for 5 year cleaning/inspection cycle:~~

$$\frac{\$1,100 + \$9,254}{5 \text{ yrs}} = \underline{\underline{\$2,071/\text{yr}}}$$

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Quantity of leachate generated per year during post-closure:

[REVISED - SEE P. 16A] $0.35 \text{ inches} \left(\frac{1 \text{ in}}{12 \text{ in}} \right) (55 \text{ ac}) \left(\frac{43,560 \text{ ft}^2}{\text{ac}} \right) = 69,878 \text{ ft}^3 = 527,724 \text{ gal}$
 (See 523,000 gal)

Disposal cost = \$25.386/1000 gal

Total cost = 523 (\$25.39) = \$13,279

6. Leachate Collection/Treatment Systems Operation

Assume these are the costs required for a consultant to coordinate operation & maintenance (per year).

- A. P/E Supervisor 2 hrs/mo (12 mo) = 24 hrs/yr @ \$159/hr = \$3,816.00/yr
- B. On-Site Engineer Assume 2-day long inspections/yr
 = 16 hrs/yr @ \$114/hr = \$1,824/yr
- C. Office Engineer 4 hrs/mo (12 mo) = 48 hrs/yr @ \$125/hr = \$6,000.00/yr
- D. On-Site Technician 4 hrs/mo (12 mo) = 48 hrs/yr @ \$70/hr = \$3,360.00/yr
- E. Include \$1,000/yr for misc. materials. Most O&M materials are already included in other items.

7. Maintenance of Groundwater Monitoring Wells

Net additional monitoring wells installed for Phase II = 6

Assume 2 hrs/well maintenance @ \$70/hr

Total = 6 wells (2 hrs/well) (\$70/hr) = \$840

8. Gas System Maintenance (based on HDR's experience w/similar sites):

- A. Piping/Vents - \$50,000/yr LS
- B. Blowers - 2 @ \$5,000/yr = \$10,000
- C. Flaring units - 1 @ \$10,000/yr = \$10,000
- D. Meters, Valves - 1 @ \$2,000/yr = \$2,000
- E. Compressors - N/A
- F. Flame Arrestors - 1 @ \$2,000 = \$2,000

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D. Disposal

~~From Att. Z, Leachate generation is anticipated to decrease quickly to near constant yearly rates once final cover is installed.~~

Conservatively assume leachate generation rate for first year of post-closure is equivalent to estimated leachate generation rate during closure = 10,468,708 gal/yr (See Item 13 F).

~~Assume after 5 years of post-closure, leachate quantity reduces to what is predicted from Phase II HELP model analysis for landfill with 6 lifts of waste and final cover installed (no recirculation).~~

~~Avg. annual lateral drainage collected from LCS = 0.17 inches~~

~~Avg. annual lateral drainage collected from leak detection = 0.23 inches
0.35 inches/yr~~

~~∴ Quantity of leachate generated per year after Year 5:~~

$$\text{0.35 inches} \left(\frac{1 \text{ ft}}{12 \text{ in}} \right) (55 \text{ ac}) \left(\frac{43,560 \text{ ft}^2}{\text{ac}} \right) = 69,878 \text{ ft}^3 = 522,724 \text{ gal}$$

~~Assume linear reduction in leachate for years 2, 3, and 4 following closure:~~

<u>Year</u>	<u>Leachate Quantity (gal)</u>
1	10,468,708
2	7,982,212
3	5,495,716
4	3,009,220
5	522,724

~~Total Years 1-5 = 27,478,580 gal~~

~~Total Years 6-30 = 25 (522,724) = 13,068,100 gal~~

~~∴ total estimated post-closure leachate = 40,546,680 gal~~

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~~Avg. yearly post-closure leachate generation:~~

$$\frac{40,546,680 \text{ gal}}{30 \text{ yrs}} = 1,351,556 \text{ gal/yr}$$

Disposal cost = \$25,386/1000 gal

$$\text{Total yearly disposal cost} = 1,352 \times (25,386) = 34,311$$

$$= 10,469,000 \text{ gal/yr} (25,386) =$$

$$= 10,469 (25,386) = \$265,766.03$$

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6. Operation

Monthly inspections = 1 hr per well = 55 hrs/mo

$$\text{Total/yr} = 12 \text{ mo} \left(\frac{55 \text{ hrs}}{\text{mo}} \right) (\$61/\text{hr}) = \$40,260/\text{yr}$$
 Semi-Annual reporting = \$10,000 per period

$$\text{Total/yr} = 2 (\$10,000) = \$20,000$$
 Annual Reporting = \$2,000

$$\text{Total per year} = 40,260 + 20,000 + 2,000 = \$62,260.00$$

9. Landscape

A. Mowing - Assume acreage to be mowed includes 55 acre footprint for Phase II and 5 Acres surrounding Phase II. Total = 60 AC.

Cost = \$0.51 / 1000 SF for tractor mower (2006 Means 02938 300 4190) (Att. D).
 Adjusted cost = \$0.51 (0.842) = \$0.43 / 1000 SF

$$\text{Total} = 60 \text{ AC} \left(\frac{43,560 \text{ SF}^2}{\text{AC}} \right) \left(\frac{1 \text{ msf}}{100 \text{ ft}^2} \right) (\$0.43/\text{msf}) = \$1,124/\text{event} \text{ (say } \$1,200/\text{event)}$$

Assume 8 mowings/yr

Yearly cost = \$1,200/event (8) = \$9,600/event

∴ Annual cost/Acre = $\frac{\$9,600}{60 \text{ AC}} = \$160/\text{AC}$

B. Fertilizer - Assumed applied 1 time per year

From Item S.C. of closure costs, cost = \$89.50/AC (Att. I)

Total = 60 AC (\$90/AC) = \$5,400

10. Erosion Control & Cover Maintenance

A. Sodding - Assume 3,000 sy of sod has to be replaced each year

Cost = \$5.15/sy from Item S.A. of Closure Costs.

Total = 3,000 sy (\$5.15/sy) = \$15,450

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B. Regrading - Assume 0.5 AC has to be regroded each year = 2,420 sy
 Cost = \$0.18/sy (finish grading steep slopes) (2006 means, 02310-100-3310) (Att. P)
 Adjusted Cost = \$0.18/sy (0.842) = \$0.15/sy
 Adjusted Cost per Acre = \$0.15/sy ($\frac{4,840 \text{ sy}}{\text{AC}}$) = \$76/AC

C. Liner Repair - Assume 1 mobilization of a liner crew (2 man) per year to make repairs (1 day),
 Assume cost for mobilization / labor / Travel = \$2,500/day
 Convert to sy of liner repair assuming 10/sy
 $\frac{2,500}{10 \text{ sy}} = 250 \text{ sy}$

D. Clay (No clay anticipated for repairs) - N/A

11. Stormwater Management System Maintenance - Assume 5,000 LF of ditch must be cleaned out each year.

Cost = \$0.13 / LF (2006 means, 02240-330-0250) (Att. Q)
 Adjusted Cost = \$0.13 / LF (0.842) = \$0.11 / LF (Add \$1.00 / LF to remove material)
 Total = 5,000 LF (\$1.11 / LF) = \$5,550

12. Security System Maintenance

A. Fences - Assume 100' of fence needs to be replaced each year
 Cost for 8' high galvanized fence = \$40.50 / LF (means 02820-130-0920) (Att. R)
 Adjusted Cost = \$40.50 / LF (0.842) = \$34.10 / LF
 Total = 100 LF (\$34.10 / LF) = \$3,410

B. Gates (Included in Phase I Financial assurance costs) - N/A

C. Signs (Included in Phase I Financial assurance costs) - N/A

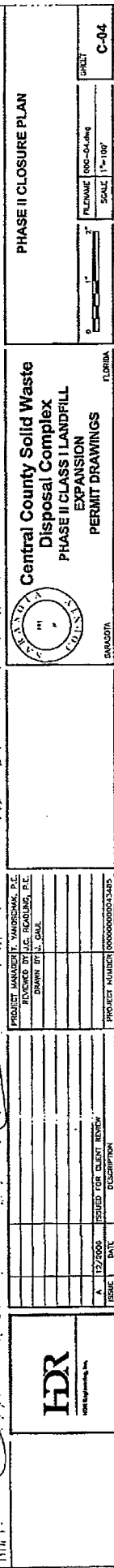
13. Utilities - Only utility req'd. for Phase II is electricity to operate leachate pump station (electric for gas system already accounted for)
 Assume \$500 / mo
 Total = \$500 / mo (12 mo) = \$6,000



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14. Administrative - Assume these are costs for a third party consultant to administer the closed Phase II area each year.

- A. PE Supervisor 16 hrs @ $^3159/\text{hr} = ^22,544.$
- B. On-Site Engineer 72 hrs @ $^9114/\text{hr} = ^8,208.$
- C. Office Engineer 48 hrs @ $^125/\text{hr} = ^6,000.$
- D. On-Site Technician 16 hrs @ $^270/\text{hr} = ^1,120.$
- E. Other N/A.



02300 | Earthwork

02315 | Excavation and Fill

2 SITE CONSTRUCTION

			CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
							MAT.	LABOR	EQUIP.	TOTAL	
418	3450	300' haul	R312316-45 B-10X	600	.020	B.C.Y.		.67	2.56	3.23	3.84
424	0010	EXCAVATING, BULK BANK MEASURE Common earth piled	R312316-40								
	0020	For loading onto trucks, add								15%	15%
	0050	For mobilization and demobilization, see Division 02305-250									
	0100	For hauling, see Division 02315-490	R312316-45								
	0200	Backhoe, hydraulic, crawler mtd., 1 C.Y. cap. = 75 C.Y./hr.	B-12A	600	.027	B.C.Y.		.87	.93	1.80	2.37
	0250	1-1/2 C.Y. cap. = 100 C.Y./hr.	B-12B	800	.020			.66	.90	1.56	1.99
	0260	2 C.Y. cap. = 130 C.Y./hr.	B-12C	1040	.015			.50	.88	1.38	1.74
	0300	3 C.Y. cap. = 160 C.Y./hr.	B-12D	1280	.013			.41	1.58	1.99	2.37
	0310	Wheel mounted, 1/2 C.Y. cap. = 30 C.Y./hr.	B-12E	240	.067			2.18	1.40	3.58	4.88
	0360	3/4 C.Y. cap. = 45 C.Y./hr.	B-12F	360	.044			1.46	1.33	2.79	3.69
	0500	Clamshell, 1/2 C.Y. cap. = 20 C.Y./hr.	B-12G	160	.100			3.28	3.55	6.83	8.90
	0550	1 C.Y. cap. = 35 C.Y./hr.	B-12H	280	.057			1.87	3.30	5.17	6.50
	0950	Dragline, 1/2 C.Y. cap. = 30 C.Y./hr.	B-12I	240	.067			2.18	2.84	5.02	6.45
	1000	3/4 C.Y. cap. = 35 C.Y./hr.		280	.057			1.87	2.44	4.31	5.55
	1050	1-1/2 C.Y. cap. = 65 C.Y./hr.	B-12P	520	.031			1.01	1.86	2.87	3.58
	1100	3 C.Y. cap. = 112 C.Y./hr.	B-12V	900	.018			.58	1.42	2	2.45
	1200	Front end loader, track mtd., 1-1/2 C.Y. cap. = 70 C.Y./hr.	B-10N	560	.021			.72	.56	1.28	1.72
	1250	2-1/2 C.Y. cap. = 95 C.Y./hr.	B-10O	760	.016			.53	.73	1.26	1.62
	1300	3 C.Y. cap. = 130 C.Y./hr.	B-10P	1040	.012			.39	.76	1.15	1.43
	1350	5 C.Y. cap. = 160 C.Y./hr.	B-10Q	1280	.009			.32	.87	1.19	1.43
	1500	Wheel mounted, 3/4 C.Y. cap. = 45 C.Y./hr.	B-10R	360	.033			1.12	.54	1.66	2.29
	1550	1-1/2 C.Y. cap. = 80 C.Y./hr.	B-10S	640	.019			.63	.38	1.01	1.37
	1600	2-1/4 C.Y. cap. = 100 C.Y./hr.	B-10T	800	.015			.50	.38	.88	1.19
	1601	3 C.Y. cap. = 140 C.Y./hr.		1120	.011			.36	.27	.63	.85
	1650	5 C.Y. cap. = 185 C.Y./hr.	B-10U	1480	.008			.27	.47	.74	.93
	1800	Hydraulic excavator, truck mtd., 1/2 C.Y. = 30 C.Y./hr.	B-12J	240	.067			2.18	3.50	5.68	7.20
	1850	48 inch bucket, 1 C.Y. = 45 C.Y./hr.	B-12K	360	.044			1.46	2.71	4.17	5.20
	3700	Shovel, 1/2 C.Y. capacity = 55 C.Y./hr.	B-12L	440	.036			1.19	1.33	2.52	3.28
	3750	3/4 C.Y. capacity = 85 C.Y./hr.	B-12M	680	.024			.77	1.05	1.82	2.34
	3800	1 C.Y. capacity = 120 C.Y./hr.	B-12N	960	.017			.55	.98	1.53	1.91
	3850	1-1/2 C.Y. capacity = 160 C.Y./hr.	B-12O	1280	.013			.41	.78	1.19	1.49
	3900	3 C.Y. cap. = 250 C.Y./hr.	B-12T	2000	.008			.26	.66	.92	1.12
	4000	For soft soil or sand, deduct								15%	15%
	4100	For heavy soil or stiff clay, add								60%	60%
	4200	For wet excavation with clamshell or dragline, add								100%	100%
	4250	All other equipment, add								50%	50%
	4400	Clamshell in sheeting or cofferdam, minimum	B-12H	160	.100			3.28	5.75	9.03	11.35
	4450	Maximum		60	.267			8.75	15.40	24.15	30.50
	8000	For hauling excavated material, see Div. 02315-490									
432	0010	EXCAVATING, BULK, DOZER Open site	R312316-40								
	2000	80 H.P., 50' haul, sand & gravel	B-10L	460	.026	B.C.Y.		.88	.69	1.57	2.09
	2020	Common earth		400	.030			1.01	.80	1.81	2.41
	2040	Clay		250	.048			1.61	1.28	2.89	3.86
	2200	150' haul, sand & gravel		230	.052			1.75	1.39	3.14	4.19
	2220	Common earth		200	.060			2.02	1.59	3.61	4.82
	2240	Clay		125	.096			3.23	2.55	5.78	7.70
	2400	300' haul, sand & gravel		120	.100			3.36	2.66	6.02	8
	2420	Common earth		100	.120			4.03	3.19	7.22	9.65
	2440	Clay		65	.185			6.20	4.91	11.11	14.85
	3000	105 H.P., 50' haul, sand & gravel	B-10W	700	.017			.58	.66	1.24	1.61
	3020	Common earth		610	.020			.66	.76	1.42	1.84
	3040	Clay		385	.031			1.05	1.20	2.25	2.91
	3200	150' haul, sand & gravel		310	.039			1.30	1.49	2.79	3.62

ATTACHMENT C

02300 | Earthwork

02315 | Excavation and Fill

			CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2005 BARE COSTS				TOTAL INCL O&P
							MAT.	LABOR	EQUIP.	TOTAL	
490	1220	3 mile round trip, 1.7 loads/hr.	B-34D	221	.036	L.C.Y.		1.03	1.89	2.92	3.68
	1240	4 mile round trip, 1.5 loads/hr.		195	.041			1.16	2.14	3.30	4.13
	1245	5 mile round trip, 1.1 load/hr.		143	.056			1.59	2.92	4.51	5.68
	1250	10 mile round trip, .75 load/hr.		110	.073			2.06	3.80	5.86	7.30
	1255	20 mile round trip, .5 load/hr.		78	.103			2.91	5.35	8.26	10.35
	1300	Hauling in medium traffic, add								20%	20%
	1400	Heavy traffic, add								30%	30%
	1600	Grading at dump, or embankment if required, by dozer	B-10B	1000	.012			.40	.92	1.32	1.62
	1800	Spotter at fill or cut, if required	1 Clab	8	1	Hr.		27.50		27.50	42.50
	2000	Off highway haulers									
	2010	22 C.Y. rear/bottom dump, 1000' md trip, 4.5 loads/hr.	B-34F	645	.012	L.C.Y.		.35	1.45	1.80	2.13
	2020	1/2 mile round trip, 4.2 loads/hr.		600	.013			.38	1.56	1.94	2.29
	2030	1 mile round trip, 3.9 loads/hr.		555	.014			.41	1.68	2.09	2.47
	2040	2 mile round trip, 3.3 loads/hr.		470	.017			.48	1.99	2.47	2.92
	2050	34 C.Y. rear or bottom dump, 1000' round trip, 4 loads/hr.	B-34G	885	.009			.26	1.33	1.59	1.86
	2060	1/2 mile round trip, 3.8 loads/hr.		840	.010			.27	1.41	1.68	1.96
	2070	1 mile round trip, 3.5 loads/hr.		775	.010			.29	1.52	1.81	2.13
	2080	2 mile round trip, 3.0 loads/hr.		665	.012			.34	1.78	2.12	2.47
	2090	42 C.Y. rear or bottom dump, 1000' round trip, 3.8 loads/hr.	B-34H	1040	.008			.22	1.23	1.45	1.68
	2100	1/2 mile round trip, 3.6 loads/hr.		980	.008			.23	1.30	1.53	1.78
	2110	1 mile round trip, 3.3 loads/hr.		900	.009			.25	1.42	1.67	1.94
	2120	2 mile round trip, 2.8 loads/hr.		765	.010			.30	1.67	1.97	2.29
	2130	60 C.Y. rear or bottom dump, 1000' round trip, 3.6 loads/hr.	B-34J	1400	.006			.16	1.18	1.34	1.54
	2140	1/2 mile round trip, 3.4 loads/hr.		1325	.006			.17	1.25	1.42	1.63
	2150	1 mile round trip, 3.1 loads/hr.		1200	.007			.19	1.37	1.56	1.80
	2160	2 mile round trip, 2.6 loads/hr.		1015	.008			.22	1.62	1.84	2.13
	3000	Rough terrain or steep grades, add to above								100%	
	4500	Dust control, light	B-59	1	8	Day		227	325	552	705
	4501	Heavy		.50	16			455	650	1,105	1,400
	4600	Haul road maintenance	B-86A	1	8			294	455	749	950
	4700	Highway hauling beyond 20 miles, per loaded mile, minimum				Mile				1.20	1.32
	4750	Maximum								2.40	2.64
520	0010	FILL, spread dumped material, no compaction									
	0020	By dozer, no compaction	B-10B	1000	.012	L.C.Y.		.40	.92	1.32	1.62
	0100	By hand	1 Clab	12	.667			18.25		18.25	28.50
	0150	Spread fill, from stockpile with 2-1/2 C.Y. F.E. loader									
	0170	130 H.P., 300' haul	B-10P	600	.020	L.C.Y.		.67	1.32	1.99	2.48
	0190	With dozer 300 H.P., 300' haul	B-10M	600	.020			.67	2	2.67	3.24
	0400	For compaction of embankment, see div. 02315-310									
	0500	Gravel fill, compacted, under floor slabs, 4" deep	B-37	10000	.005	S.F.	.16	.14	.01	.31	.41
	0600	6" deep		8500	.006		.24	.16	.01	.41	.52
	0700	9" deep		7200	.007		.40	.19	.02	.61	.76
	0800	12" deep		6000	.008		.56	.23	.02	.81	1
	1000	Alternate pricing method, 4" deep		120	.400	E.C.Y.	12.05	11.60	.95	24.60	32.50
	1100	6" deep		160	.300		12.05	8.70	.71	21.46	27.50
	1200	9" deep		200	.240		12.05	6.95	.57	19.57	24.50
	1300	12" deep		220	.218		12.05	6.35	.52	18.92	23.50
	1500	For fill under exterior paving, see Div. 02720-200									
	1600	For flowable fill, see Division 03310-220									
610	0010	EXCAVATING, TRENCH or continuous footing, common earth									
	0020	No sheeting or dewatering included	R312316-40								
	0050	1' to 4' deep, 3/8 C.Y. tractor loader/backhoe	B-11C	150	.107	B.C.Y.		3.42	1.51	4.93	6.90
	0060	1/2 C.Y. tractor loader/backhoe	B-11M	200	.080			2.56	1.39	3.95	5.45
	0062	3/4 C.Y. hydraulic backhoe	B-12F	270	.059			1.94	1.77	3.71	4.92
	0090	4' to 6' deep, 1/2 C.Y. tractor loader/backhoe	B-11M	200	.080			2.56	1.39	3.95	5.45

2 SITE CONSTRUCTION

02300 | Earthwork

02315 | Excavation and Fill

			CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
							MAT.	LABOR	EQUIP.	TOTAL	
210	7080	5 C.Y. bucket	B-10U	2600	.005	B.C.Y.	21	.16	.27	21.43	23.50
	8900	For larger hauling units, deduct from above								30%	
	9000	Hauling only, excavated or borrow material, see Div. 02315-490									
	9200	For flowable fill, see section 03310-220									
310	0010	COMPACTION, GENERAL									
	5000	Riding, vibrating roller, 6" lifts, 2 passes	B-10Y	3000	.004	E.C.Y.		.13	.14	.27	.35
	5020	3 passes		2300	.005			.18	.18	.36	.47
	5040	4 passes		1900	.006			.21	.22	.43	.56
	5060	12" lifts, 2 passes		5200	.002			.08	.08	.16	.21
	5080	3 passes		3500	.003			.12	.12	.24	.31
	5100	4 passes		2600	.005			.16	.16	.32	.42
	5600	Sheepsfoot or wobbly wheel roller, 6" lifts, 2 passes	B-10G	2400	.005			.17	.35	.52	.65
	5620	3 passes		1735	.007			.23	.49	.72	.89
	5640	4 passes		1300	.009			.31	.65	.96	1.19
	5680	12" lifts, 2 passes		5200	.002			.08	.16	.24	.30
	5700	3 passes		3500	.003			.12	.24	.36	.45
	5720	4 passes		2600	.005			.16	.33	.49	.60
	6000	Towed sheepsfoot or wobbly wheel roller, 6" lifts, 2 passes	B-10D	10000	.001			.04	.14	.18	.21
	6020	3 passes		2000	.006			.20	.70	.90	1.08
	6030	4 passes		1500	.008			.27	.93	1.20	1.44
	6050	12" lifts, 2 passes		6000	.002			.07	.23	.30	.36
	6060	3 passes		4000	.003			.10	.35	.45	.53
	6070	4 passes		3000	.004			.13	.47	.60	.71
	6200	Vibrating roller, 6" lifts, 2 passes	B-10C	2600	.005			.16	.53	.69	.82
	6210	3 passes		1735	.007			.23	.79	1.02	1.22
	6220	4 passes		1300	.009			.31	1.06	1.37	1.64
	6250	12" lifts, 2 passes		5200	.002			.08	.27	.35	.41
	6260	3 passes		3465	.003			.12	.40	.52	.62
	6270	4 passes		2600	.005			.16	.53	.69	.82
	7000	Walk behind, vibrating plate 18" wide, 6" lifts, 2 passes	A-1D	200	.040			1.10	.13	1.23	1.86
	7020	3 passes		185	.043			1.18	.14	1.32	2
	7040	4 passes		140	.057			1.57	.19	1.76	2.65
	7200	12" lifts, 2 passes	A-1E	560	.014			.39	.05	.45	.68
	7220	3 passes		375	.021			.58	.09	.67	1.01
	7240	4 passes		280	.029			.78	.12	.90	1.36
	7500	Vibrating roller 24" wide, 6" lifts, 2 passes	B-10A	420	.029			.96	.30	1.26	1.79
	7520	3 passes		280	.043			1.44	.45	1.89	2.68
	7540	4 passes		210	.057			1.92	.60	2.52	3.58
	7600	12" lifts, 2 passes		840	.014			.48	.15	.63	.89
	7620	3 passes		560	.021			.72	.22	.94	1.35
	7640	4 passes		420	.029			.96	.30	1.26	1.79
	8000	Rammer tamper, 6" to 11", 4" lifts, 2 passes	A-1F	130	.062			1.69	.28	1.97	2.93
	8050	3 passes		97	.082			2.26	.38	2.64	3.94
	8100	4 passes		65	.123			3.37	.57	3.94	5.90
	8200	8" lifts, 2 passes		260	.031			.84	.14	.98	1.47
	8250	3 passes		195	.041			1.12	.19	1.31	1.96
	8300	4 passes		130	.062			1.69	.28	1.97	2.93
	8400	13" to 18", 4" lifts, 2 passes	A-1G	390	.021			.56	.10	.66	.97
	8450	3 passes		290	.028			.76	.13	.89	1.32
	8500	4 passes		195	.041			1.12	.19	1.31	1.96
	8600	8" lifts, 2 passes		780	.010			.28	.05	.33	.49
	8650	3 passes		585	.014			.37	.06	.43	.65
	8700	4 passes		390	.021			.56	.10	.66	.97
	9000	Water, 3000 gal. truck, 3 mile haul	B-45	1888	.008		.20	.28	.28	.76	.95
	9010	6 mile haul		1444	.011		.20	.36	.37	.93	1.18
	9020	12 mile haul		1000	.016		.20	.52	.53	1.25	1.60



SITE CONSTRUCTION 2

02300 | Earthwork

02315 | Excavation and Fill

02315 Excavation and Fill		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P	
						MAT.	LABOR	EQUIP.	TOTAL		
150	2500	48" depth	B-10M	1125	.011	S.Y.		.36	1.06	1.42	1.72
	2600	54" depth		1000	.012			.40	1.20	1.60	1.93
	2700	60" depth		900	.013			.45	1.33	1.78	2.14
	3100	Backfill, dozer, common earth, 12" depth, 300' haul, no compaction		4050	.003			.10	.30	.40	.47
	3200	13" depth		3740	.003			.11	.32	.43	.51
	3300	14" depth		3470	.003			.12	.35	.47	.56
	3400	15" depth		3240	.004			.12	.37	.49	.60
	3500	16" depth		3040	.004			.13	.39	.52	.63
	3600	17" depth		2860	.004			.14	.42	.56	.67
	3700	18" depth		2700	.004			.15	.44	.59	.72
	3800	19" depth		2560	.005			.16	.47	.63	.75
	3900	20" depth		2430	.005			.17	.49	.66	.79
	4000	21" depth		2315	.005			.17	.52	.69	.84
	4100	22" depth		2210	.005			.18	.54	.72	.88
	4200	23" depth		2115	.006			.19	.57	.76	.91
	4300	24" depth		2025	.006			.20	.59	.79	.95
	4400	30" depth		1620	.007			.25	.74	.99	1.19
	4500	36" depth		900	.013			.45	1.33	1.78	2.14
	9900	For compaction of subgrade see 02315-330									
210	0010	BORROW, LOADING AND/OR SPREADING									
	4000	Common earth, shovel, 1 C.Y. bucket	B-12N	840	.019	B.C.Y.	8.25	.62	1.12	9.99	11.30
	4010	1-1/2 C.Y. bucket	B-120	1135	.014		8.25	.46	.88	9.59	10.80
	4020	3 C.Y. bucket	B-12T	1800	.009		8.25	.29	.73	9.27	10.35
	4030	Front end loader, wheel mounted									
	4050	3/4 C.Y. bucket	B-10R	550	.022	B.C.Y.	8.25	.73	.35	9.33	10.60
	4060	1-1/2 C.Y. bucket	B-10S	970	.012		8.25	.42	.25	8.92	10.00
	4070	3 C.Y. bucket	B-10T	1575	.008		8.25	.26	.19	8.70	9.70
	4080	5 C.Y. bucket	B-10U	2600	.005		8.25	.16	.27	8.68	9.65
	5000	Select granular fill, shovel, 1 C.Y. bucket	B-12N	925	.017		8.05	.57	1.02	9.64	10.85
	5010	1-1/2 C.Y. bucket	B-120	1250	.013		8.05	.42	.80	9.27	10.35
	5020	3 C.Y. bucket	B-12T	1980	.008		8.05	.26	.67	8.98	10.00
	5030	Front end loader, wheel mounted									
	5050	3/4 C.Y. bucket	B-10R	800	.015	B.C.Y.	8.05	.50	.24	8.79	9.90
	5060	1-1/2 C.Y. bucket	B-10S	1065	.011		8.05	.38	.23	8.66	9.70
	5070	3 C.Y. bucket	B-10T	1735	.007		8.05	.23	.18	8.46	9.40
	5080	5 C.Y. bucket	B-10U	2850	.004		8.05	.14	.25	8.44	9.35
	6000	Clay, till, or blasted rock, shovel, 1 C.Y. bucket	B-12N	715	.022		6.10	.73	1.31	8.14	9.30
	6010	1-1/2 C.Y. bucket	B-120	965	.017		6.10	.54	1.04	7.68	8.70
	6020	3 C.Y. bucket	B-12T	1530	.010		6.10	.34	.86	7.30	8.20
	6030	Front end loader, wheel mounted									
	6035	3/4 C.Y. bucket	B-10R	465	.026	B.C.Y.	6.10	.87	.42	7.39	8.55
	6040	1-1/2 C.Y. bucket	B-10S	825	.015		6.10	.49	.29	6.88	7.80
	6045	3 C.Y. bucket	B-10T	1340	.009		6.10	.30	.23	6.63	7.45
	6050	5 C.Y. bucket	B-10U	2200	.005		6.10	.18	.32	6.60	7.40
	6060	Front end loader, track mounted									
	6065	1-1/2 C.Y. bucket	B-10N	715	.017	B.C.Y.	6.10	.56	.44	7.10	8.10
	6070	3 C.Y. bucket	B-10P	1190	.010		6.10	.34	.67	7.11	8.00
	6075	5 C.Y. bucket	B-10Q	1835	.007		6.10	.22	.61	6.93	7.75
	7000	Topsoil or loam from stockpile, shovel, 1 C.Y. bucket	B-12N	840	.019		21	.62	1.12	22.74	25.00
	7010	1-1/2 C.Y. bucket	B-120	1135	.014		21	.46	.88	22.34	24.50
	7020	3 C.Y. bucket	B-12T	1800	.009		21	.29	.73	22.02	24.50
	7030	Front end loader, wheel mounted									
7050	3/4 C.Y. bucket	B-10R	550	.022	B.C.Y.	21	.73	.35	22.08	24.50	
7060	1-1/2 C.Y. bucket	B-10S	970	.012		21	.42	.25	21.67	24.00	
7070	3 C.Y. bucket	B-10T	1575	.008		21	.26	.19	21.45	23.50	



02300 | Earthwork

SITE CONSTRUCTION 2

02315 Excavation and Fill			CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
							MAT.	LABOR	EQUIP.	TOTAL	
1000	Hand trimming, bottom of excavation	R312316-45	B-2	2400	.017	S.F.		.46		.46	.72
1010	Slopes and sides				2400	.017	"		.46		.46
1030	Around obstructions		↓	8	5	B.C.Y.		139		139	216
1100	Hand loading trucks from stock pile, sandy soil		1 Clab	12	.667	↓		18.25		18.25	28.50
1300	Heavy soil or clay		"	8	1	↓		27.50		27.50	42.50
1500	For wet or muck hand excavation, add to above					%				50%	50%
1550	Excavation rock by hand/air tool		B-9	3.40	11.765	B.C.Y.		325	43.50	368.50	560
6000	Machine excavation, for spread and mat footings, elevator pits, and small building foundations										
6030	Common earth, hydraulic backhoe, 1/2 C.Y. bucket		B-12E	55	.291	B.C.Y.		9.55	6.10	15.65	21.50
6035	3/4 C.Y. bucket		B-12F	90	.178			5.80	5.30	11.10	14.75
6040	1 C.Y. bucket		B-12A	108	.148			4.85	5.20	10.05	13.10
6050	1-1/2 C.Y. bucket		B-12B	144	.111			3.64	5	8.64	11.05
6060	2 C.Y. bucket		B-12C	200	.080			2.62	4.60	7.22	9.05
6070	Sand and gravel, 3/4 C.Y. bucket		B-12F	100	.160			5.25	4.78	10.03	13.25
6080	1 C.Y. bucket		B-12A	120	.133			4.37	4.67	9.04	11.85
6090	1-1/2 C.Y. bucket		B-12B	160	.100			3.28	4.52	7.80	9.95
6100	2 C.Y. bucket		B-12C	220	.073			2.38	4.18	6.56	8.25
6110	Clay, till, or blasted rock, 3/4 C.Y. bucket		B-12F	80	.200			6.55	5.95	12.50	16.55
6120	1 C.Y. bucket		B-12A	95	.168			5.50	5.90	11.40	14.95
6130	1-1/2 C.Y. bucket		B-12B	130	.123			4.03	5.55	9.58	12.25
6140	2 C.Y. bucket		B-12C	175	.091	↓		2.99	5.25	8.24	10.40
9010	For mobilization or demobilization, see Div. 02305-250										
9020	For dewatering, see Div. 02240-500										
9022	For larger structures, see Bulk Excavation, Div. 02315-424										
9024	For loading onto trucks, add									15%	
9026	For hauling, see Div. 02315-490										
9030	For sheeting or soldier bms/lagging, see 02250 & 02260										
9040	For trench excavation of strip flgs, see 02315-610		↓								
49010	HAULING, excavated or borrow, loose cubic yards										490
0012	no loading included, highway haulers										
0020	6 C.Y. dump truck, 1/4 mile round trip, 5.0 loads/hr.		B-34A	195	.041	L.C.Y.		1.16	1.68	2.84	3.62
0030	1/2 mile round trip, 4.1 loads/hr.		↓	160	.050			1.42	2.04	3.46	4.42
0040	1 mile round trip, 3.3 loads/hr.			130	.062			1.74	2.51	4.25	5.40
0100	2 mile round trip, 2.6 loads/hr.			100	.080			2.27	3.27	5.54	7.05
0150	3 mile round trip, 2.1 loads/hr.			80	.100			2.84	4.08	6.92	8.80
0200	4 mile round trip, 1.8 loads/hr.		↓	70	.114			3.24	4.67	7.91	10.10
0310	12 C.Y. dump truck, 1/4 mile round trip 3.7 loads/hr.		B-34B	288	.028			.79	1.66	2.45	3.02
0320	1/2 mile round trip, 3.2 loads/hr.		↓	250	.032			.91	1.91	2.82	3.49
0330	1 mile round trip 2.7 loads/hr.			210	.038			1.08	2.27	3.35	4.15
0400	2 mile round trip, 2.2 loads/hr.			180	.044			1.26	2.65	3.91	4.83
0450	3 mile round trip, 1.9 loads/hr.			170	.047			1.33	2.80	4.13	5.10
0500	4 mile round trip, 1.6 loads/hr.			125	.064			1.81	3.81	5.62	6.95
0540	5 mile round trip, 1 load/hr.			78	.103			2.91	6.10	9.01	11.15
0550	10 mile round trip, 0.60 load/hr.			58	.138			3.91	8.20	12.11	15
0560	20 mile round trip, 0.4 load/hr.		↓	39	.205			5.80	12.20	18	22.50
0600	16.5 C.Y. dump trailer, 1 mile round trip, 2.6 loads/hr.		B-34C	280	.029			.81	1.45	2.26	2.83
0700	2 mile round trip, 2.1 loads/hr.			225	.036			1.01	1.80	2.81	3.52
1000	3 mile round trip, 1.8 loads/hr.			193	.041			1.18	2.10	3.28	4.10
1100	4 mile round trip, 1.6 loads/hr.			172	.047			1.32	2.35	3.67	4.60
1110	5 mile round trip, 1 load/hr.			108	.074			2.10	3.75	5.85	7.35
1120	10 mile round trip, .60 load/hr.			80	.100			2.84	5.05	7.89	9.90
1130	20 mile round trip, .4 load/hr.		↓	54	.148			4.20	7.50	11.70	14.65
1150	20 C.Y. dump trailer, 1 mile round trip, 2.5 loads/hr.		B-34D	325	.025			.70	1.28	1.98	2.48
1200	2 mile round trip, 2 loads/hr.		↓	260	.031	↓		.87	1.61	2.48	3.10

ATTACHMENT 6

Yanoschak, Thomas M.

From: Bob Trexler [btrexler@gseworld.com]
Sent: Tuesday, August 08, 2006 10:34 AM
To: Yanoschak, Thomas M.
Subject: RE: Sarasota Pricing Update

Tom,
Thank you for giving GSE the opportunity to provide you with current budgetary prices for the Sarasota County LF Project in FL. GSE's current budgetary prices, based on current raw material prices as of 8/8/06 are as follows:

Price to supply only approximately 2,650,000 sq ft of 40 mil LLDPE Textured both sides black liner at .24 per sq ft delivered, .24 per sq ft for install only.

Price to supply only approximately 2,650,000 sq ft of 300 mil drainage geocomposite, with 6 oz geotextile bonded on both sides at .43 per sq ft delivered, .18 per sq ft install only.

Optional pricing consideration, to supply only approximately 2,650,000 of GSE's Perma Net HL geocomposite with a 6 oz geotextile bonded onto both sides at .45 per sq ft delivered, .18 per sq ft install only.

Please let me know if GSE can provide you with any additional information. Please let me know what the time frame will be on this project for bidding purposes.

Sincerely,
Bob Trexler

Bob Trexler
GSE Regional Sales Manager
1-800-435-2008
FAX: 281-230-6728
E-Mail: btrexler@gseworld.com

-----Original Message-----

From: Yanoschak, Thomas M. [mailto:Thomas.Yanoschak@hdrinc.com]
Sent: Tuesday, August 08, 2006 8:57 AM
To: Bob Trexler
Subject: Sarasota Pricing Update

Bob,

In order to accurately assess financial assurance for the Sarasota, FL County Landfill, I'd appreciate it if you can provide current cost estimates for **supplying and installing** the following geosynthetic components for the final cover system:

40 mil LLDPE, textured both sides, black

Geonet composite, 300 mil, 6 oz nonwoven on both sides

We are looking at approximately 60 acres.

Thanks,

Tom

02900 | Planting

02920 | Lawns & Grasses

	CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
					MAT.	LABOR	EQUIP.	TOTAL	
Hydro or air seeding, with mulch and fertilizer Fine textured, push spreader	B-81 1 Clab	80 8	.300 1	M.S.F.	15.20 6.90	9.25 27.50	5.05	29.50 34.40	36.50 50
Tractor spreader	B-66	52	.154		6.90	5.40	3.44	15.74	19.55
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		15.20	9.25	5.05	29.50	36.50
Shade mix, 6#/M.S.F., push spreader	1 Clab	8	1		9.85	27.50		37.35	53.50
Tractor spreader	B-66	52	.154		9.85	5.40	3.44	18.69	23
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		21.50	9.25	5.05	35.80	43.50
Slope mix, 6#/M.S.F., push spreader	1 Clab	8	1		9.85	27.50		37.35	53.50
Tractor spreader	B-66	52	.154		9.85	5.40	3.44	18.69	23
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		24.50	9.25	5.05	38.80	46.50
Turf mix, 4#/M.S.F., push spreader	1 Clab	8	1		6.55	27.50		34.05	50
Tractor spreader	B-66	52	.154		6.55	5.40	3.44	15.39	19.20
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		16.45	9.25	5.05	30.75	38
Utility mix, 7#/M.S.F., push spreader	1 Clab	8	1		11.50	27.50		39	55
Tractor spreader	B-66	52	.154		11.50	5.40	3.44	20.34	24.50
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		43	9.25	5.05	57.30	67
Wildflower, 10#/M.S.F., push spreader	1 Clab	8	1		4.03	27.50		31.53	47
Tractor spreader	B-66	52	.154		4.03	5.40	3.44	12.87	16.35
Hydro or air seeding, with mulch and fertilizer	B-81	80	.300		22	9.25	5.05	36.30	44
Apply fertilizer, 800 lb./acre	B-66	4	2	Ton	355	70.50	44.50	470	545
Limestone, mechanical spread	1 Clab	1.75	4.571	Acre	3.46	125		128.46	199
Apply mulch, see div. 02910-500									

02930 | Sodding

Sodding, 1" deep, bluegrass sod, on level ground, over 8 M.S.F.	B-63	22	1.818	M.S.F.	223	52.50	7	282.50	335
4 M.S.F.		17	2.353		249	68	9.05	326.05	390
1000 S.F.		13.50	2.963		271	86	11.40	368.40	445
Sloped ground, over 8 M.S.F.		6	6.667		223	193	25.50	441.50	570
4 M.S.F.		5	8		249	232	31	512	670
1000 S.F.		4	10		271	290	38.50	599.50	785
Bent grass sod, on level ground, over 6 M.S.F.		20	2		500	58	7.70	565.70	650
3 M.S.F.		18	2.222		555	64.50	8.55	628.05	720
Sodding 1000 S.F. or less		14	2.857		630	82.50	11	723.50	835
Sloped ground, over 6 M.S.F.		15	2.667		500	77	10.25	587.25	680
3 M.S.F.		13.50	2.963		555	86	11.40	652.40	755
1000 S.F.		12	3.333		630	96.50	12.85	739.35	860

02940 | Stoles, Sprigging

6" O.C., by hand.	1 Clab	4	2	M.S.F.	14	55		69	101
Walk behind sprig planter		80	.100		14	2.74		16.74	19.65
Towed sprig planter	B-66	350	.023		14	.80	.51	15.31	17.15
9" O.C., by hand	1 Clab	5.20	1.538		10.30	42		52.30	77
Walk behind sprig planter		92	.087		10.30	2.38		12.68	15
Towed sprig planter	B-66	420	.019		10.30	.67	.43	11.40	12.80
12" O.C., by hand	1 Clab	6	1.333		6.55	36.50		43.05	64.50
Walk behind sprig planter		110	.073		6.55	1.99		8.54	10.35
Towed sprig planter	B-66	500	.016		6.55	.56	.36	7.47	8.50
Broadcast, by hand, 2 Bu per M.S.F.	1 Clab	15	.533		5.70	14.60		20.30	29.50
4 Bu. per M.S.F.		10	.800		11.40	22		33.40	46.50
6 Bu. per M.S.F.		6.50	1.231		17.15	33.50		50.65	71.50
Hydro planter, 6 Bu. per M.S.F.	B-64	100	.160		17.15	4.40	2.43	23.98	28.50
Manure spreader planting 6 Bu. per M.S.F.	B-66	200	.040		17.15	1.41	.89	19.45	22

02950 | Exterior Plants

TREES, DECIDUOUS zones 2-6									430
Acer campestre, (Hedge Maple), Z4, B&B									

SITE CONSTRUCTION 2

02900 | Planting

2 SITE CONSTRUCTION

02930 Exterior Plants		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL	TO INCI
						MAT.	LABOR	EQUIP.			
430	0110	4' to 5'			Ea.	51.50				51.50	
	0120	5' to 6'				62				62	
	0130	1-1/2" to 2" Cal.				139				139	
	0140	2" to 2-1/2" Cal.				156				156	
	0150	2-1/2" to 3" Cal.			↓	184				184	
	0200	Acer ginnala, (Amur Maple), Z2, cont/BB									
	0210	8' to 10'			Ea.	143				143	
	0220	10' to 12'				156				156	
	0230	12' to 14'			↓	189				189	
	0600	Acer platanoides, (Norway Maple), Z4, B&B									
	0610	8' to 10'			Ea.	167				167	
	0620	1-1/2" to 2" Cal.				124				124	
	0630	2" to 2-1/2" Cal.				149				149	
	0640	2-1/2" to 3" Cal.				183				183	
	0650	3" to 3-1/2" Cal.				239				239	
	0660	Bare root, 8' to 10'				208				208	
	0670	10' to 12'				244				244	
	0680	12' to 14'			↓	174				174	
	0700	Acer platanoides columnare, (Column maple), Z4, B&B									
	0710	2" to 2-1/2" Cal.			Ea.	184				184	
	0720	2-1/2" to 3" Cal.				229				229	
	0730	3" to 3-1/2" Cal.				229				229	
	0740	3-1/2" to 4" Cal.				283				283	
	0750	4" to 4-1/2" Cal.				410				410	
	0760	4-1/2" to 5" Cal.				575				575	
	0770	5" to 5-1/2" Cal.			↓	770				770	
	0800	Acer rubrum, (Red Maple), Z4, B&B									
	0810	1-1/2" to 2" Cal.			Ea.	121				121	
	0820	2" to 2-1/2" Cal.				159				159	
	0830	2-1/2" to 3" Cal.				191				191	
	0840	Bare Root, 8' to 10'				153				153	
	0850	10' to 12'			↓	153				153	
	0900	Acer saccharum, (Sugar Maple), Z3, B&B									
	0910	1-1/2" to 2" Cal.			Ea.	127				127	
	0920	2" to 2-1/2" Cal.				168				168	
	0930	2-1/2" to 3" Cal.				176				176	
	0940	3" to 3-1/2" Cal.				226				226	
	0950	3-1/2" to 4" Cal.				279				279	
	0960	Bare Root, 8' to 10'				140				140	
	0970	10' to 12'				210				210	
	0980	12' to 14'			↓	283				283	
02935 Plant Maintenance											
100	0010	FERTILIZE									
	0100	Dry granular, 4#/M.S.F., hand spread	1 Clab	24	.333	M.S.F.	2.06	9.15		11.21	
	0110	Push rotary		140	.057		2.06	1.57		3.63	
	0112	Push rotary, per 1076 feet squared	↓	130	.062	Ea.	2.06	1.69		3.75	
	0120	Tractor towed spreader, 8'	B66	500	.016	M.S.F.	2.06	.56	.36	2.98	
	0130	12' spread		800	.010		2.06	.35	.22	2.63	
	0140	Truck whirlwind spreader	↓	1200	.007		2.06	.23	.15	2.44	
	0180	Water soluble, hydro spread, 1.5 # /MSF	B64	600	.027		2.16	.73	.40	3.29	
	0190	Add for weed control					.32			.32	
300	0010	MOWING									
	1650	Mowing brush, tractor with rotary mower									

*

02300 | Earthwork

02360 Soil Treatment	CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
					MAT	LABOR	EQUIP.	TOTAL	
200 0010 TERMITE PRETREATMENT	1 Swwk	1200	.007	SF Fz.	.29	.24		.53	.70
0020 Slab and walls, residential		2495	.003		.31	.12		.43	.52
0100 Commercial, minimum		1645	.005		.47	.18		.65	.79
0200 Maximum		14.20	.563	Gal.	11.85	20.50		32.35	45
0400 Insecticides for termite control, minimum		11	.727		20.50	26.50		47	64
0500 Maximum									
3000 Soil poisoning (sterilization)	1 Clab	4496	.002	S.F.	.28	.05		.33	.39
3100 Herbicide application from truck	B59	19000	.001	S.Y.		.01	.02	.03	.04

02370 | Erosion & Sedimentation Control

450 0010 RIP-RAP & ROCK LINING, Random, broken stone	B12G	62	.258	L.C.Y.	25.50	8.45	9.15	43.10	51
0100 Machine placed for slope protection	B13	80	.700	S.Y.	49.50	21	8.15	78.65	96
0110 3/8 to 1/4 C.Y. pieces, grouted	"	53	1.057	"	15.85	31.50	12.30	59.65	79.50
0200 18" minimum thickness, not grouted	B11A	800	.020	Ton	18.25	.64	1.15	20.04	22.50
0300 Dumped, 50 lb. average		700	.023		26	.73	1.32	28.05	31
0350 100 lb. average									
0370 300 lb. average		600	.027		30.50	.85	1.53	32.88	36.50
0400 Gabions, galvanized steel mesh mats or boxes, stone filled, 6" deep	B13	200	.280	S.Y.	17.20	8.40	3.25	28.85	35.50
0500 9" deep		163	.344		26.50	10.30	3.99	40.79	49
0600 12" deep		153	.366		28	10.95	4.25	43.20	52
0700 18" deep		102	.549		35.50	16.45	6.40	58.35	71.50
0800 36" deep		60	.933		60.50	28	10.85	99.35	121

700 0010 SYNTHETIC EROSION CONTROL	B-80A	2400	.010	S.Y.	.75	.27	.07	1.09	1.34
0020 Jute mesh, 100 SY per roll, 4' wide, stapled		700	.034		4.37	.94	.25	5.56	6.55
* 0060 Nylon, 3 dimensional geomatrix, 9 mil thick		515	.047		5.95	1.28	.34	7.57	8.85
0062 12 mil thick		460	.052		6.25	1.43	.38	8.06	9.50
0064 18 mil thick	B-1	2500	.010		.08	.27		.35	.50
0070 Paper biodegradable mesh	B-64	20000	.001		.05	.02	.01	.08	.10
0080 Paper mulch	B-1	2500	.010		.68	.27		.95	1.17
0100 Plastic netting, stapled, 2" x 1" mesh, 20 mil	2 Clab	1000	.016		5.45	.44		5.89	6.70
0120 Revegetation mat, webbed	B-1	2500	.010		1.40	.27		1.67	1.96
0200 Polypropylene mesh, stapled, 6.5 oz./S.Y.	"	2500	.010		.08	.27		.35	.50
0300 Tobacco netting, or jute mesh #2, stapled	B-81	5000	.005		.46	.15	.08	.69	.83
0400 Soil sealant, liquid sprayed from truck									
1000 Silt fence, polypropylene, 3' high, ideal conditions	2 Clab	1600	.010	L.F.	.34	.27		.61	.70
1100 Adverse conditions	"	950	.017	"	.34	.46		.80	1.09
1130 Cellular confinement, poly, 3-dimen, 8' x 20' panels, 4" deep cell	B-6	1600	.015	S.F.	1.82	.45	.14	2.41	2.85
1140 8" deep cells	"	1200	.020	"	2.51	.60	.19	3.30	3.89
1200 Place and remove hay bales	A2	3	8	Ton	56	220	43	319	450
1250 Hay bales, staked	"	2500	.010	L.F.	2.25	.26	.05	2.56	2.94

02390 | Shore Protect/Mooring Structures

110 0010 BREAKWATERS, BULKHEADS Reinforced concrete,									
0015 include footing and tie-backs									
0020 Up to 6' high, minimum	C17C	28	2.964	L.F.	43.50	110	14.15	167.65	234
0060 Maximum		24.25	3.423		69.50	126	16.35	211.85	292
0100 12' high, minimum		20	4.150		113	153	19.85	285.85	368
0160 Maximum		18.50	4.486		131	166	21.50	318.50	422
0180 Precast bulkhead, complete, including									
0190 vertical and battered piles, face panels, and cap				L.F.				240	260
0195 Using 16" vertical piles								255	275
0196 Using 20" vertical piles									
0200 Steel sheeting, with 4' x 4' x 8" concrete deadmen, @ 10' O.C.	B-40	27	2.370	L.F.	62.50	84	102	248.50	315
0210 12' high, shore driven	B-76	15	4.800	"	93.50	170	155	418.50	544
0260 Barge driven	B-12H	120	.133	L.C.Y.	19.15	4.37	7.70	31.22	35
6000 Crushed stone placed behind bulkhead by clam bucket									

ATTACHMENT K



Memo

To: Tom Yanoschak	
From: Joel Miller	Project: Financial Assurance
CC: Carlo Lebron	
Date: 8-14-06	Job No: 096-22404

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RE: Sarasota County Passive Landfill Gas System Cost Estimate

Cost estimate for passive gas system at the Central County Solid Waste Disposal Complex (CCSWDC) in Sarasota County. Assumes passive system will be needed for Cells 1 – 5 in Phase I area. Cost estimates include mobilization, contingency, materials, and other typical installation items:

From Phase I Partial Closure Basis of Design Report, Phase I is approximately 55 acres.

Common approach is to use 1 passive vent/acre = 55 passive vents.

Assume average depth = 75'

Assume average cost = \$87.75/LF (based on current private contract installation pricing with markup)

$75' * \$87.75 = \$6,581.25/\text{passive vent}$ (Assumes vent will have 3' stickup above grade)

Assume \$100 for procurement and installation of two 90 degree HDPE ells to finish vent.

$\$6,581.25 + \$100 = \$6,681.75/\text{passive vent}$

$55 \text{ passive vents} * \$6,681.75 =$

\$367,468.75 (total cost estimate for installation of passive vents on Phase I area)

Pipe and Fittings – Assume zero cost. Not necessary -- fittings included in well drilling

Monitoring Probes – Assume zero cost. Assume that they are already installed before waste in place in each cell.

NSPS/Title V Requirements – Assume \$4,000 based on previous reporting for this site.

01500 | Temporary Facilities & Controls

01550 Vehicular Access & Parking		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
						MAT.	LABOR	EQUIP.	TOTAL	
700	2300	1 Carp	750	.011	S.F.	.31	.38		.69	.93
	2400		650	.012		.33	.44		.77	1.05
	2500		600	.013		.41	.47		.88	1.19
01560 Barriers & Enclosures										
100	0010	BARRICADES								
	0020	2 Carp	20	.800	L.F.	5.10	28.50		33.60	50
	0150	"	30	.533	"	4.38	18.95		23.33	34.50
	0300				Ea.	435			435	480
	0350				"	525			525	580
	0400				"					
	0410				Ea.	305			305	335
	0500				"	72			72	79
	0600				"	122			122	134
	0800				"	6.25			6.25	6.85
	0850				"	19			19	21
	1000	2 Carp	200	.080	L.F.	1.04	2.84		3.88	5.55
	1100	"	165	.097	"	1.91	3.45		5.36	7.45
	1200				"	15.95			15.95	17.55
	1250	2 Carp	600	.027	"	1.65	.95		2.60	3.30
	1300				Ea.	25			25	27.50
	5000									
250	0010	TEMPORARY FENCING								
	0020	2 Clab	400	.040	L.F.	4.79	1.10		5.89	6.95
	0100	"	300	.053	"	4.62	1.46		6.08	7.35
	0200	"	400	.040	"	3.03	1.10		4.13	5.05
	0250	"	300	.053	"	2.19	1.46		3.65	4.68
	0350	A4	135	.178	"	5.15	6.10		11.25	15.10
	0400	"	110	.218	"	9.85	7.50		17.35	22.50
	0500	2 Carp	100	.160	"	8.15	5.70		13.85	17.80
	0550	"	80	.200	"	12.60	7.10		19.70	25
400	0010	TEMPORARY CONSTRUCTION See also Division 01530								
800	0010	WATCHMAN								
	0020				Hr.					20
	0100				"					50
	0200				"					28
	0300				"					60
	0500				Week					250
	0600				"					320
	0800				Ea.					1,500
	0900				"					3,000
01580 Project Signs										
700	0010	SIGNS								
	0020				S.F.	16.55			16.55	18.20

For information about Means Estimating Seminars, see yellow pages 12 and 13 in back of book

ATTACHMENT M

01100 | Summary

GENERAL REQUIREMENTS

01107 Professional Consultant		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
						MAT.	LABOR	EQUIP.	TOTAL	
300	0010 ENGINEERING FEES									300
	0020 Educational planning consultant, minimum				Project					50%
	0100 Maximum				"					250%
	0200 Electrical, minimum				Contract					4.10%
	0300 Maximum									10.10%
	0400 Elevator & conveying systems, minimum									250%
	0500 Maximum									5%
	0600 Food service & kitchen equipment, minimum									8%
	0700 Maximum									12%
	0800 Landscaping & site development, minimum									250%
	0900 Maximum									6%
	1000 Mechanical (plumbing & HVAC), minimum									4.10%
	1100 Maximum									10.10%
	1200 Structural, minimum				Project					1%
	1300 Maximum				"					250%
700	0010 TOPOGRAPHICAL SURVEYS									700
	0020 Minimum	A-7	3.30	7.273	Acre	16.80	283	17.65	317.45	475
	0100 Maximum	A-8	.60	53.333		50.50	2,000	97	2,147.50	3,275
	0300 Lot location and lines, minimum, for large quantities	A-7	2	12		26.50	465	29	520.50	780
	0320 Average	"	1.25	19.200		47.50	745	46.50	839	1,250
	0400 Maximum, for small quantities	A-8	1	32		75.50	1,200	58	1,333.50	2,000
	0600 Monuments, 3' long	A-7	10	2.400	Ea.	20.50	93	5.85	119.35	173
	0800 Property lines, perimeter, cleared land	"	1000	.024	L.F.	.03	.93	.06	1.02	1.53
	1100 Crew for layout of building, trenching or pipe laying, 2 person crew	A-6	1	16	Day		565	58	623	935
	1200 3 person crew	A-7	1	24			930	58.50	988.50	1,525
	1400 Crew for roadway layout, 4 person crew	A-8	1	32			1,200	58	1,258	1,925
	1500 Aerial surveying, including ground control, minimum fee, 10 acres				Total					5,700
	1510 100 acres									9,500
	1550 From existing photography, deduct									1,370
	1600 2' contours, 10 acres				Acre					460
	1650 20 acres									315
	1800 50 acres									95
	1850 100 acres									85
	2150 For 1' contours and									
	2160 dense urban areas, add to above				Acre					40%
	3000 Inertial guidance system for									
	3010 locating coordinates; rent per day				Ea.					4,000

01200 | Price & Payment Procedures

01250 Contract Modification Procedures		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
						MAT.	LABOR	EQUIP.	TOTAL	
500	0010 JOB CONDITIONS Modifications to total									500
	0020 project cost summaries									
	0100 Economic conditions, favorable, deduct				Project					2%
	0200 Unfavorable, add									5%
	0500 General Contractor management, experienced, deduct									2%
	0600 Inexperienced, add									10%
	0700 Labor availability, surplus, deduct									1%
	0800 Shortage, add									10%

02900 | Planting

02935 | Plant Maintenance

		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL. O&P
						MAT.	LABOR	EQUIP.	TOTAL	
500	7600									
	7650	1 Clab	12	.667	Ea.		18.25		18.25	
	9000	↓	10	.800	↓		22		22	
	For sprinkler irrigation systems, see Div. 02810									
610	0010									
	0100	1 Clab	800	.010	S.Y.		.27		.27	
	Weed planting bed									
	02945 Planting Accessories									
510	0010									
	0015									
	Tree guying including stakes, guy wire and wrap									
	0100									
	0200	2 Clab	35	.457	Ea.	15.50	12.55		28.05	
	1000	"	21	.762	"	18.30	21		39.30	
	Including arrowhead anchor, cable, turnbuckles and wrap									
	1100									
	1200	2 Clab	20	.800	Ea.	48.50	22		70.50	
	1300		15	1.067		69.50	29		98.50	
	1400		12	1.333		86	36.50		122.50	
		↓	9	1.778	↓	98.50	48.50		147	
	Less than 3" caliper, 2 stakes									
	3" to 4" caliper, 3 stakes									
	Less than 3" caliper, 3" anchors									
	3" to 6" caliper, 4" anchors									
	6" caliper, 6" anchors									
	8" caliper, 8" anchors									

02950 | Site Restoration & Rehabilitation

02955 | Restoration of Underground Piping

		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL. O&P
						MAT.	LABOR	EQUIP.	TOTAL	
210	0010									
	0100									
	0120									
	0140									
	0160				L.F.				2.14	
	6000				"				5.35	
	Sewage/sanitary systems									
	6100									
	6110									
	6120				Total				320	
	6140				"				750	
	6150				L.F.				1.07	
	6160								1.34	
	6170								1.60	
	6180								1.87	
	6190								2.03	
	6200								2.14	
	6210								2.41	
	6220								2.68	
	6230								2.78	
	6240								3.10	
	6250								3.75	
	6260								4.28	
	6270								4.60	
	6280								6	
	9000				↓				6.65	
	9060				Total					
	Inspection, television camera with film - 500 linear feet									
220	0010								1.075	
	0020									
	PIPEBURSTING, 300' runs, replace with HDPE pipe									
	Not including excavation, backfill, shoring, or dewatering									

02900 | Planting

02935 | Plant Maintenance

02935 Plant Maintenance		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P		
						MAT.	LABOR	EQUIP.	TOTAL			
300	1650		Light density	B84	22	.364	M.S.F.		13.35	10.50	23.85	300
	1670		Medium density		13	.615			22.50	17.75	40.25	
	1680		Heavy density		9	.889			32.50	25.50	58	
3000	2009		Lawn mowing, improved areas, 16" hand push	1 Clab	48	.167			4.57		4.57	7.10
	2020		Power mower, 18" - 22"		65	.123			3.37		3.37	5.25
	2100		22" - 30"		110	.073			1.99		1.99	3.10
	2150		30" - 32"		140	.057			1.57		1.57	2.44
	2160		Riding mower, 36" - 44"	B66	300	.027			.94	.60	1.54	2.08
	2170		48" - 58"		480	.017			.59	.37	.96	1.30
	2175		Mowing with tractor & attachments									
	2180		3 gang reel, 7'	B66	930	.009	M.S.F.		.30	.19	.49	.67
	2190		5 gang reel, 12'		1200	.007			.23	.15	.38	.51
	2200		Cutter or sickle-bar, 5', rough terrain		210	.038			1.34	.85	2.19	2.96
	2210		Cutter or sickle-bar, 5', smooth terrain		340	.024			.83	.53	1.36	1.83
	2220		Drainage channel, 5' sickle bar		5	1.600	Mile		56.50	35	92.50	125
	2230		Lawnmower, rotary type, sharpen (all sizes)	1 Clab	10	.800	Ea.		22		22	34
	2250		Repair or replace part		7	1.143			31.50		31.50	48.50
5000	3000		Edge trimming with weed whacker		5760	.001	L.F.		.04		.04	.06
410	0010		TREE PRUNING									410
	0020		1-1/2" caliper	1 Clab	84	.095	Ea.		2.61		2.61	4.06
	0030		2" caliper		70	.114			3.13		3.13	4.87
	0040		2-1/2" caliper		50	.160			4.38		4.38	6.80
	0050		3" caliper		30	.267			7.30		7.30	11.35
	0060		4" caliper, by hand	2 Clab	21	.762			21		21	32.50
	0070		Aerial lift equipment	B85	38	1.053			31	18.30	49.30	67.50
	0100		6" caliper, by hand	2 Clab	12	1.333			36.50		36.50	57
	0110		Aerial lift equipment	B85	20	2			59	35	94	129
	0200		9" caliper, by hand	2 Clab	7.50	2.133			58.50		58.50	91
	0210		Aerial lift equipment	B85	12.50	3.200			94	55.50	149.50	207
	0300		12" caliper, by hand	2 Clab	6.50	2.462			67.50		67.50	105
	0310		Aerial lift equipment	B85	10.80	3.704			109	64.50	173.50	239
	0400		18" caliper by hand	2 Clab	5.60	2.857			78.50		78.50	122
	0410		Aerial lift equipment	B85	9.30	4.301			127	75	202	278
	0500		24" caliper, by hand	2 Clab	4.60	3.478			95.50		95.50	148
	0510		Aerial lift equipment	B85	7.70	5.195			153	90.50	243.50	335
	0600		30" caliper, by hand	2 Clab	3.70	4.324			118		118	184
	0610		Aerial lift equipment	B85	6.20	6.452			190	112	302	415
	0700		36" caliper, by hand	2 Clab	2.70	5.926			162		162	253
	0710		Aerial lift equipment	B85	4.50	8.889			262	155	417	575
	0800		48" caliper, by hand	2 Clab	1.70	9.412			258		258	400
	0810		Aerial lift equipment	B85	2.80	14.286			420	249	669	925
420	0010		SHRUB PRUNING									420
	5700		Prune, shrub bed	1 Clab	7	1.143	M.S.F.		31.50		31.50	48.50
	5710		Shrub under 3' height		190	.042	Ea.		1.15		1.15	1.80
	5720		4' height		90	.089			2.44		2.44	3.79
	5730		Over 6'		50	.160			4.38		4.38	6.80
	7350		Prune trees from ground		20	.400			10.95		10.95	17.05
	7360		High work		8	1			27.50		27.50	42.50
500	0010		WATERING									500
	4900		Water lawn or planting bed with hose, 1" of water	1 Clab	16	.500	M.S.F.		13.70		13.70	21.50
	4910		50' soaker hoses, in place		82	.098			2.67		2.67	4.16
	4920		60' soaker hoses, in place		89	.090			2.46		2.46	3.83
	7500		Water trees or shrubs, under 1" caliper		32	.250	Ea.		6.85		6.85	10.65
	7550		1" - 3" caliper		17	.471			12.90		12.90	20

SITE CONSTRUCTION 2

02300 | Earthwork

02305 | Equipment

			CREW	DAILY OUTPUT	LABOR- HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
							MAT.	LABOR	EQUIP.	TOTAL	
250	0600	Self-propelled scraper, 15 C.Y.	B-34K -10	2.50	3.200	Ea.		90.50	210	300.50	370
	0700	24 C.Y.		2	4			113	262	375	460
	0900	Shovel or dragline, 3/4 C.Y.		3.60	2.222			63	145	209	256
	1000	1-1/2 C.Y.		3	2.667			75.50	175	250.50	305
	1100	Small equipment, placed in rear of, or towed by pickup truck	A-3A	8	1			27.50	10.65	38.15	53.50
	1150	Equip up to 70 HP, on flatbed trailer behind pickup truck	A-3D	4	2			55	43.50	98.50	132
	2000	Mob & demob truck-mounted crane up to 75 ton, driver only	1 Eqhv	3.60	2.222			84.50		84.50	128
	2100	Crane, truck-mounted, over 75 ton	A-3E	2.50	6.400			213	34	247	365
	2200	Crawler-mounted, up to 75 ton	A-3F	2	8			266	278	544	710
	2300	Over 75 ton	A-3G	1.50	10.667			355	405	760	985
	2500	For each additional 5 miles haul distance, add						10%	10%		
	3000	For large pieces of equipment, allow for assembly/knockdown									
	3001	For mob/demob of vibrofloatation equip, see section 02250-900									
	3100	For mob/demob of micro-tunneling equip, see section 02441-400									
	3200	For mob/demob of pile driving equip, see section 02455-650									
	3300	For mob/demob of caisson drilling equip, see 02465-950									

02310 | Grading

100	0010	FINISH GRADING									
	0012	Finish grading area to be paved with grader, small area	B-11L	400	.040	S.Y.		1.28	1.14	2.42	3.22
	0100	Large area		2000	.008			.26	.23	.49	.64
	0200	Grade subgrade for base course, roadways		3500	.005			.15	.13	.28	.36
	1020	For large parking lots	B-32C	5000	.010			.31	.32	.63	.83
	1050	For small irregular areas		2000	.024			.78	.79	1.57	2.06
	1100	Fine grade for slab on grade, machine	B-11L	1040	.015			.49	.44	.93	1.23
	1150	Hand grading	B-18	700	.034			.96	.05	1.01	1.55
	1200	Fine grade granular base for sidewalks and bikeways	B-62	1200	.020			.60	.13	.73	1.06
	2550	Hand grade select gravel	2 Clab	60	.267	C.S.F.		7.30		7.30	11.35
	3000	Hand grade select gravel, including compaction, 4" deep	B-18	555	.043	S.Y.		1.21	.06	1.27	1.96
	3100	6" deep		400	.060			1.68	.09	1.77	2.72
	3120	8" deep		300	.080			2.25	.12	2.37	3.63
	3300	Finishing grading slopes, gentle	B-11L	8900	.002			.06	.05	.11	.15
	3310	Steep slopes		7100	.002			.07	.06	.13	.18

02315 | Excavation and Fill

110	0010	BACKFILL, GENERAL									
	0015	By hand, no compaction, light soil	R312323 -30	1 Clab	14	.571	L.C.Y.	15.65		15.65	24.50
	0100	Heavy soil			11	.727		19.95		19.95	31
	0300	Compaction in 6" layers, hand tamp, add to above			20.60	.388	E.C.Y.	10.65		10.65	15.55
	0400	Roller compaction operator walking, add	B-10A	100	.120			4.03	1.26	5.29	7.55
	0500	Air tamp, add	B-9D	190	.211			5.85	.97	6.82	10.15
	0600	Vibrating plate, add	A-1D	60	.133			3.65	.44	4.09	6.20
	0800	Compaction in 12" layers, hand tamp, add to above	1 Clab	34	.235			6.45		6.45	10.05
	0900	Roller compaction operator walking, add	B-10A	150	.080			2.69	.84	3.53	5
	1000	Air tamp, add	B-9	285	.140			3.90	.52	4.42	6.60
	1100	Vibrating plate, add	A-1E	90	.089			2.44	.38	2.82	4.21
	3000	For flowable fill, see div. 03310-220									
120	0010	BACKFILL, STRUCTURAL Dozer or F.E. loader									
	0020	From existing stockpile, no compaction									
	2000	80 H.P., 50' haul, sand & gravel	B-10L	1100	.011	L.C.Y.		.37	.29	.66	.88
	2020	Common earth		975	.012			.41	.33	.74	.99
	2040	Clay		850	.014			.47	.38	.85	1.13
	2200	150' haul, sand & gravel		550	.022			.73	.58	1.31	1.76
	2220	Common earth		490	.024			.82	.65	1.47	1.97
	2240	Clay		425	.028			.95	.75	1.70	2.27

02200 | Site Preparation

02230 | Site Clearing

300	3300	Machine load, 2 mte haul to dump, 12" diam. tree, add	CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P	300
							MAT.	LABOR	EQUIP.	TOTAL		
						Ca.				160	240	
500	0010	STRIPPING & STOCKPILING OF SOIL										
	0020	200 H.P. dozer, ideal conditions	B-10B	2300	.005	C.Y.		.18	.40	.58	.71	500
	0100	Adverse conditions		1150	.010			.35	.80	1.15	1.41	
	0200	300 HP dozer, ideal conditions	B-10M	3000	.004			.13	.40	.53	.64	
	0300	Adverse conditions		1650	.007			.24	.73	.97	1.17	
	1400	Loam or topsoil, remove and stockpile on site										
	1420	6" deep, 200' haul	B-10B	865	.014	C.Y.		.47	1.06	1.53	1.88	
	1430	300' haul		520	.023			.78	1.77	2.55	3.13	
	1440	500' haul		225	.053			1.79	4.09	5.88	7.25	
	1450	Alternate method: 6" deep, 200' haul		5090	.002	S.Y.		.08	.18	.26	.32	
	1460	500' haul		1325	.009			.30	.70	1	1.22	

02240 | Dewatering

330	0010	CUT DRAINAGE DITCH										
	0020	Cut drainage ditch, common earth, 30" w x 1' deep	B-11L	6000	.003	L.F.		.09	.08	.17	.21	330
	0200	Clay and till		4200	.004			.12	.11	.23	.31	
	0250	Clean wet drainage ditch, 30' wide		10000	.002			.05	.05	.10	.13	
500	0010	DEWATERING										
	0020	Excavate drainage trench, 2' wide, 2' deep	B-11C	90	.178	C.Y.		5.70	2.51	8.21	11.45	500
	0100	2' wide, 3' deep, with backhoe loader		135	.119			3.80	1.68	5.48	7.65	
	0200	Excavate sump pits by hand, light soil	1 Clab.	7.10	1.127			31		31	48	
	0300	Heavy soil		3.50	2.286			62.50		62.50	97.50	
	0500	Pumping 8 hr., attended 2 hrs. per day, including 20 L.F.										
	0550	of suction hose & 100 L.F. discharge hose										
	0600	2" diaphragm pump used for 8 hours	B-10H	4	3	Day		101	14.50	115.50	169	
	0620	Add per additional pump										
	0650	4" diaphragm pump used for 8 hours	B-10I	4	3			101	21	122	176	
	0670	Add per additional pump										
	0800	8 hrs. attended, 2" diaphragm pump	B-10H	1	12			405	58	463	680	
	0820	Add per additional pump										
	0900	3" centrifugal pump	B-10J	1	12			405	37.50	37.50	43	
	0920	Add per additional pump										
	1000	4" diaphragm pump	B-10I	1	12			405	64.50	469.50	685	
	1020	Add per additional pump										
	1100	6" centrifugal pump	B-10K	1	12			405	53	488	705	
	1120	Add per additional pump										
	1300	CMP, incl. excavation 3' deep, 12" diameter	B-6	115	.209	L.F.	10.05	6.25	1.97	18.27	23	
	1400	18" diameter		100	.240		12.50	7.20	2.26	21.96	27.50	
	1600	Sump hole construction, incl. excavation and gravel, pit		1250	.019	C.F.	.75	.58	.18	1.51	1.92	
	1700	With 12" gravel collar, 12" pipe, corrugated, 16 ga.		70	.343	L.F.	16.30	10.30	3.23	29.83	37.50	
	1800	15" pipe, corrugated, 16 ga.		55	.436		21	13.10	4.11	38.21	47.50	
	1900	18" pipe, corrugated, 16 ga.		50	.480		24.50	14.40	4.53	43.43	54	
	2000	24" pipe, corrugated, 14 ga.		40	.600		29.50	18	5.65	53.15	66	
	2200	Wood lining, up to 4' x 4', add		300	.080	SFCA	13.80	2.40	.75	16.95	19.70	
	9950	See Div. 02240-900 for wellpoints										
	9960	See Div. 02240-700 for deep well systems										
	9970	See Div. 15440 for pumps										
700	0010	WELLS For dewatering 10' to 20' deep, 2' diameter										
	0020	with steel casing, minimum	B-6	165	.145	V.L.F.	2.54	4.36	1.37	8.27	11	700
	0050	Average		98	.245		5.05	7.35	2.31	14.71	19.40	
	0100	Maximum		49	.490		13.50	14.70	4.62	32.82	42.50	
	0300	For pumps for dewatering, see Reference Section										
	0500	For domestic water wells, see Reference Section										

SITE CONSTRUCTION 2

02800 | Site Improvements and Amenities

02810 | Irrigation System

		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
						MAT.	LABOR	EQUIP.	TOTAL	
1200	Rubber cover	2 Skwk	22	.727	Ea.	162	26.50		188.50	220
1250	Plastic case, 2 nozzle, metal cover		25	.640		119	23.50		142.50	168
1260	Rubber cover		25	.640		126	23.50		149.50	176
1270	Iron case, 2 nozzle, metal cover		22	.727		173	26.50		199.50	233
1280	Rubber cover		22	.727		177	26.50		203.50	237
1282	Impact rotor pop-up full circle comm., 39'-99', 30-100 PSI									
1284	Plastic case, metal cover	2 Skwk	25	.640	Ea.	122	23.50		145.50	171
1286	Rubber cover		25	.640		135	23.50		158.50	186
1288	Iron case, metal cover		22	.727		175	26.50		201.50	235
1290	Rubber cover		22	.727		184	26.50		210.50	245
1292	Plastic case, 2 nozzle, metal cover		22	.727		131	26.50		157.50	186
1294	Rubber cover		22	.727		136	26.50		162.50	192
1296	Iron case, 2 nozzle, metal cover		20	.800		169	29		198	232
1298	Rubber cover		20	.800		181	29		210	245
1305	Electric remote control valve, plastic, 3/4"		18	.889		18.40	32.50		50.90	71
1310	1"		18	.889		32.50	32.50		65	86
1320	1-1/2"		18	.889		62.50	32.50		95	119
1330	2"		18	.889		92.50	32.50		125	153
1335	Quick coupling valves, brass, locking cover									
1340	Inlet coupling valve, 3/4"	2 Skwk	18.75	.853	Ea.	45	31		76	98
1350	1"		18.75	.853		55	31		86	109
1360	Controller valve boxes, 6" round boxes		18.75	.853		4.02	31		35.02	53
1370	10" round boxes		14.25	1.123		8.80	41		49.80	73.50
1380	12" square box		9.75	1.641		17.70	60		77.70	113
1388	Electromech. control, 14 day 3-60 min, auto start to 23/day									
1390	4 station	2 Skwk	1.04	15.385	Ea.	191	560		751	1,075
1400	7 station		.64	.25		247	915		1,162	1,700
1410	12 station		.40	.40		305	1,450		1,755	2,600
1420	Dual programs, 18 station		.24	66.667		1,525	2,425		3,950	5,450
1430	23 station		.16	100		1,975	3,650		5,625	7,850
1435	Backflow preventer, bronze, 0-175 PSI, w/valves, test cocks									
1440	3/4"	2 Skwk	2	8	Ea.	125	292		417	590
1450	1"		2	8		130	292		422	600
1460	1-1/2"		2	8		258	292		550	740
1470	2"		2	8		269	292		561	750
1475	Pressure vacuum breaker, brass, 15-150 PSI									
1480	3/4"	2 Skwk	2	8	Ea.	75	292		367	540
1490	1"		2	8		98.50	292		390.50	565
1500	1-1/2"		2	8		194	292		486	670
1510	2"		2	8		180	292		472	655

02820 | Fences & Gates

0010	FENCE, CHAIN LINK INDUSTRIAL, Schedule 40									
0020	3 strands barb wire, 2" post @ 10' O.C., set in concrete, 6' H									130
0200	9 ga. wire, galv. steel	B-80C	240	.100	L.F.	12.75	2.75	.56	16.06	18.85
0300	Aluminized steel		240	.100		16.35	2.75	.56	19.66	23
0500	6 ga. wire, galv. steel		240	.100		20	2.75	.56	23.31	27
0600	Aluminized steel		240	.100		22.50	2.75	.56	25.81	30
0800	6 ga. wire, 6' high but ornit barbed wire, galv. steel		250	.096		19.40	2.64	.54	22.58	26
0900	Aluminized steel		250	.096		27	2.64	.54	30.18	34.50
0920	8' H, 6 ga. wire, 2-1/2" line post, galv. steel		180	.133		31	3.66	.75	35.41	40.50
0940	Aluminized steel		180	.133		38	3.66	.75	42.41	48
1400	Gate for 6' high fence, 1-5/8" frame, 3' wide, galv. steel		10	2.400	Ea.	141	66	13.40	220.40	273
1500	Aluminized steel		10	2.400		174	66	13.40	253.40	310
2000	5'-0" high fence, 9 ga., no barbed wire, 2" line post,									
2010	10' O.C., 1-5/8" top rail									

Location Factors

Costs shown in *Means cost data publications* are based on National averages for materials and installation. To adjust these costs to a specific location, simply multiply the base cost by the factor and divide

by 100 for that city. The data is arranged alphabetically by state and postal zip code numbers. For a city not listed, use the factor for a nearby city with similar economic characteristics.

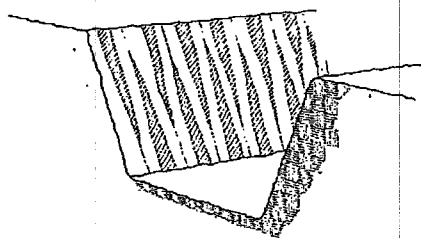
STATE/ZIP	CITY	MAT.	INST.	TOTAL
ALABAMA				
352	Birmingham	96.5	75.2	87.0
354	Tuscaloosa	96.3	55.4	78.1
355	Jasper	96.5	52.1	76.8
356	Decatur	96.2	55.9	78.3
357-358	Huntsville	96.3	72.0	85.5
359	Gadsden	96.1	58.8	79.6
360-361	Montgomery	97.0	57.1	79.3
362	Anniston	95.7	46.5	73.9
363	Dothan	96.3	49.0	75.3
364	Evergreen	95.7	50.2	75.5
365-366	Mobile	97.2	61.1	81.2
367	Selma	95.9	51.6	76.2
368	Phenix City	96.6	54.9	78.1
369	Butler	96.1	49.0	75.2
ALASKA				
995-996	Anchorage	133.7	114.7	125.3
997	Fairbanks	130.3	117.6	124.6
998	Juneau	132.5	114.0	124.3
999	Ketchikan	141.9	113.6	129.3
ARIZONA				
850-853	Phoenix	98.8	73.6	87.6
852	Mesa/Tempe	97.8	68.9	85.0
855	Globe	98.1	65.5	83.6
856-857	Tucson	97.1	71.2	85.6
859	Show Low	98.2	68.0	84.8
860	Flagstaff	100.4	72.3	87.9
863	Prescott	98.3	66.8	84.3
864	Kingman	96.7	67.2	83.6
865	Chambers	96.8	68.3	84.1
ARKANSAS				
716	Pine Bluff	95.2	60.9	80.0
717	Camden	93.2	38.9	69.1
718	Texarkana	94.6	44.0	72.1
719	Hot Springs	92.4	38.4	68.4
720-722	Little Rock	95.1	63.8	81.2
723	West Memphis	94.6	53.4	76.3
724	Jonesboro	95.2	53.4	76.6
725	Batesville	93.3	48.4	73.3
726	Harrison	94.5	48.4	74.0
727	Fayetteville	91.9	46.7	71.8
728	Russellville	93.2	46.6	72.5
729	Fort Smith	95.9	56.9	78.6
CALIFORNIA				
900-902	Los Angeles	102.5	112.1	106.8
903-905	Inglewood	98.2	109.0	103.0
906-908	Long Beach	99.6	109.0	103.8
910-912	Pasadena	100.4	109.3	104.4
913-916	Van Nuys	103.5	109.1	106.0
917-918	Alhambra	102.7	109.1	105.5
919-921	San Diego	104.0	103.9	104.0
922	Palm Springs	100.1	107.2	103.2
923-924	San Bernardino	97.9	108.1	102.4
925	Riverside	102.2	109.5	105.5
926-927	Santa Ana	99.9	108.2	103.5
928	Anaheim	102.6	110.6	106.1
930	Oxnard	103.8	110.0	106.5
931	Santa Barbara	102.6	110.5	106.1
932-933	Bakersfield	102.3	105.9	103.9
934	San Luis Obispo	103.4	107.9	105.4
935	Mojave	100.5	103.1	101.7
936-938	Fresno	104.1	110.9	107.1
939	Salinas	104.1	116.4	109.6
940-941	San Francisco	112.8	132.9	121.7
942-956-958	Sacramento	106.6	113.0	109.4
943	Palo Alto	105.5	127.2	115.1
944	San Mateo	108.4	127.8	117.0
945	Vallejo	105.5	122.2	112.9
946	Oakland	110.7	127.1	118.0
947	Berkeley	110.1	126.7	117.5
948	Richmond	109.5	126.1	116.9
949	San Rafael	110.2	122.8	115.8
950	Santa Cruz	109.4	116.4	112.5

STATE/ZIP	CITY	MAT.	INST.	TOTAL
CALIFORNIA (CONTD)				
951	San Jose	107.3	127.5	116.3
952	Stockton	104.4	113.5	108.4
953	Modesto	104.3	111.0	107.3
954	Santa Rosa	104.1	122.0	112.1
955	Eureka	105.9	101.1	103.8
959	Marysville	105.0	112.5	108.3
960	Redding	106.6	110.3	108.3
961	Susanville	105.7	110.7	107.9
COLORADO				
800-802	Denver	100.6	89.9	95.8
803	Boulder	97.7	86.5	92.7
804	Golden	99.9	85.8	93.6
805	Fort Collins	101.1	82.4	92.8
806	Greeley	98.7	70.4	86.1
807	Fort Morgan	98.4	85.8	92.8
808-809	Colorado Springs	100.4	85.7	93.9
810	Pueblo	100.0	83.1	92.5
811	Alamosa	101.3	79.5	91.7
812	Salida	101.3	80.2	91.9
813	Durango	101.7	81.4	92.7
814	Montrose	100.3	79.6	91.1
815	Grand Junction	103.6	76.8	91.7
816	Glenwood Springs	101.1	83.3	93.2
CONNECTICUT				
060	New Britain	101.1	116.6	108.0
061	Hartford	102.3	117.3	109.0
062	Willimantic	101.8	117.2	108.7
063	New London	98.1	117.3	106.7
064	Meriden	100.1	117.8	108.0
065	New Haven	102.8	117.8	109.4
066	Bridgeport	102.4	117.8	109.2
067	Waterbury	101.9	117.7	108.9
068	Norwalk	101.9	118.2	109.1
069	Stamford	102.0	124.0	111.8
D.C.				
200-205	Washington	102.5	91.2	97.5
DELAWARE				
197	Newark	100.7	103.9	102.1
198	Wilmington	99.7	103.9	101.5
199	Dover	100.7	103.9	102.1
FLORIDA				
320-322	Jacksonville	98.3	59.6	81.1
321	Daytona Beach	98.3	72.8	87.0
323	Tallahassee	97.6	48.2	75.6
324	Panama City	99.4	36.8	71.6
325	Pensacola	99.1	57.2	80.5
326-344	Gainesville	99.6	57.7	81.0
327-328,347	Orlando	99.7	68.6	85.9
329	Melbourne	100.8	77.8	90.6
330-332,340	Miami	98.7	71.4	86.6
333	Fort Lauderdale	97.7	70.3	85.5
334-349	West Palm Beach	96.6	66.6	83.3
335-336,346	Tampa	99.4	70.8	86.7
337	St. Petersburg	101.6	54.2	80.5
338	Lakeland	98.4	70.5	86.0
339-341	Fort Myers	97.7	62.8	82.2
342	Sarasota	99.5	65.1	84.2
GEORGIA				
300-303,399	Atlanta	97.7	79.0	89.4
304	Statesboro	97.1	43.6	73.4
305	Gainesville	96.0	55.7	78.1
306	Athens	95.3	62.2	80.6
307	Dalton	97.4	49.4	76.1
308-309	Augusta	96.3	57.5	79.0
310-312	Macon	95.7	59.1	79.4
313-314	Savannah	97.0	57.7	79.6
315	Waycross	97.0	50.0	76.1
316	Valdosta	96.9	47.6	75.0
317-398	Albany	97.2	56.3	79.1
318-319	Columbus	97.2	60.4	80.8

Source: RS Means Heavy Construction
Cost Data, 20th Annual Edition,
2006.

G10 Site Preparation**G1030 Site Earthwork**

ATTACHMENT T(1)



Trenching Systems are shown on a cost per linear foot basis. The systems include: excavation; backfill and removal of spoil; and compaction for various depths and trench bottom widths. The backfill has been reduced to accommodate a pipe of suitable diameter and bedding.

The slope for trench sides varies from 0:1 to 2:1.

The Expanded System Listing shows Trenching Systems that range from 2' to 12' in width. Depths range from 2' to 25'.

System Components	QUANTITY	UNIT	COST PER L.F.		
			EQUIP.	LABOR	TOTAL
SYSTEM G1030 805 1310					
TRENCHING, BACKHOE, 0 TO 1 SLOPE, 2' WIDE, 2' DP, 3/8 C.Y. BUCKET					
Excavation, trench, hyd. backhoe, track mtd., 3/8 C.Y. bucket	.174	C.Y.	.29	.91	1.20
Backfill and load spoil, from stockpile	.174	C.Y.	.09	.27	.36
Compaction by rammer tamper, 8" lifts, 4 passes	.014	C.Y.		.04	.04
Remove excess spoil, 6 C.Y. dump truck, 2 mile roundtrip	.160	C.Y.	.57	.55	1.12
TOTAL			.95	1.77	2.72

G1030 805	Trenching	COST PER L.F.		
		EQUIP.	LABOR	TOTAL
1310	Trenching, backhoe, 0 to 1 slope, 2' wide, 2' deep, 3/8 C.Y. bucket	.95	1.77	2.72
1320	3' deep, 3/8 C.Y. bucket	1.17	2.58	3.75
1330	4' deep, 3/8 C.Y. bucket	1.40	3.41	4.81
1340	6' deep, 3/8 C.Y. bucket	1.76	4.34	6.10
1350	8' deep, 1/2 C.Y. bucket	2.09	5.50	7.59
1360	10' deep, 1 C.Y. bucket	3.05	6.55	9.60
1400	4' wide, 2' deep, 3/8 C.Y. bucket	2.02	3.56	5.58
1410	3' deep, 3/8 C.Y. bucket	2.86	5.30	8.16
1420	4' deep, 1/2 C.Y. bucket	2.89	5.30	8.19
1430	6' deep, 1/2 C.Y. bucket	3.71	8.10	11.81
1440	8' deep, 1/2 C.Y. bucket	5.65	10.40	16.05
1450	10' deep, 1 C.Y. bucket	6.35	12.90	19.25
1460	12' deep, 1 C.Y. bucket	8.05	16.55	24.60
1470	15' deep, 1-1/2 C.Y. bucket	6.85	14.20	21.05
1480	18' deep, 2-1/2 C.Y. bucket	9.40	20.50	29.90
1520	6' wide, 6' deep, 5/8 C.Y. bucket	7.30	11.20	18.50
1530	8' deep, 3/4 C.Y. bucket	8.90	13.45	22.35
1540	10' deep, 1 C.Y. bucket	9.55	16.20	25.75
1550	12' deep, 1-1/4 C.Y. bucket	8.40	12.80	21.20
1560	16' deep, 2 C.Y. bucket	11.05	14.60	25.65
1570	20' deep, 3-1/2 C.Y. bucket	15	26	41
1580	24' deep, 3-1/2 C.Y. bucket	24	43.50	67.50
1640	8' wide, 12' deep, 1-1/4 C.Y. bucket	12.45	17.50	29.95
1650	15' deep, 1-1/2 C.Y. bucket	14.65	21.50	36.15
1660	18' deep, 2-1/2 C.Y. bucket	17.10	22	39.10
1680	24' deep, 3-1/2 C.Y. bucket	33.50	58	91.50
1730	10' wide, 20' deep, 3-1/2 C.Y. bucket	27	44	71
1740	24' deep, 3-1/2 C.Y. bucket	42.50	73	115.50
1800	1/2 to 1 slope, 2' wide, 2' deep, 3/8 C.Y. bucket	1.29	2.28	3.57
1810	3' deep, 3/8 C.Y. bucket	1.79	3.76	5.55
1820	4' deep, 3/8 C.Y. bucket	2.27	5.50	7.77
1840	6' deep, 3/8 C.Y. bucket	3.38	8.45	11.83
1860	8' deep, 1/2 C.Y. bucket	4.73	12.85	17.58
1880	10' deep, 1 C.Y. bucket	8.45	17.70	26.15

G10 Site Preparation

G1030 Site Earthwork

G1030 815		Pipe Bedding	COST PER L.F.		
			MAT.	INST.	TOTAL
2660	Pipe size 10" diameter		1.64	2.65	4.29
2680	Pipe size 12" diameter		1.80	2.92	4.72
2700	3' wide, pipe size 14" diameter		2.41	3.90	6.31
2720	Pipe size 15" diameter		2.50	4.03	6.53
2740	Pipe size 16" diameter		2.59	4.18	6.77
2760	Pipe size 18" diameter		2.78	4.50	7.28
2780	4' wide, pipe size 20" diameter		3.52	5.70	9.22
2800	Pipe size 21" diameter		3.63	5.85	9.48
2820	Pipe size 24" diameter		3.96	6.40	10.36
2840	Pipe size 30" diameter		4.63	7.50	12.13
2860	6' wide, pipe size 32" diameter		6.30	10.20	16.50
2880	Pipe size 36" diameter		6.90	11.15	18.05
2900	7' wide, pipe size 48" diameter		9.65	15.60	25.25
2920	8' wide, pipe size 60" diameter		12.80	20.50	33.30
2940	10' wide, pipe size 72" diameter		17.65	28.50	46.15
2960	12' wide, pipe size 84" diameter		23.50	37.50	61.00
3000	Side slope 1-1/2 to 1, 1' wide, pipe size 6" diameter		1.34	2.15	3.49
3020	2' wide, pipe size 8" diameter		1.90	3.06	4.96
3040	Pipe size 10" diameter		2.10	3.40	5.50
3060	Pipe size 12" diameter		2.33	3.77	6.10
3080	3' wide, pipe size 14" diameter		3.02	4.87	7.89
3100	Pipe size 15" diameter		3.14	5.10	8.24
3120	Pipe size 16" diameter		3.27	5.30	8.57
3140	Pipe size 18" diameter		3.56	5.75	9.31
3160	4' wide, pipe size 20" diameter		4.39	7.10	11.49
3180	Pipe size 21" diameter		4.53	7.30	11.83
3200	Pipe size 24" diameter		5	8.10	13.10
3220	Pipe size 30" diameter		6	9.70	15.70
3240	6' wide, pipe size 32" diameter		7.80	12.60	20.40
3260	Pipe size 36" diameter		8.60	13.95	22.55
3280	7' wide, pipe size 48" diameter		12.25	19.80	32.05
3300	8' wide, pipe size 60" diameter		16.40	26.50	42.90
3320	10' wide, pipe size 72" diameter		22.50	36.50	59.00
3340	12' wide, pipe size 84" diameter		29.50	48	77.50
3400	Side slope 2 to 1, 1' wide, pipe size 6" diameter		1.71	2.77	4.48
3420	2' wide, pipe size 8" diameter		2.30	3.71	6.01
3440	Pipe size 10" diameter		2.57	4.15	6.72
3460	Pipe size 12" diameter		2.87	4.63	7.50
3480	3' wide, pipe size 14" diameter		3.63	5.85	9.48
3500	Pipe size 15" diameter		3.77	6.10	9.87
3520	Pipe size 16" diameter		3.96	6.40	10.36
3540	Pipe size 18" diameter		4.33	7	11.33
3560	4' wide, pipe size 20" diameter		5.25	8.50	13.75
3580	Pipe size 21" diameter		5.45	8.80	14.25
3600	Pipe size 24" diameter		6.05	9.80	15.85
3620	Pipe size 30" diameter		7.40	11.95	19.35
3640	6' wide, pipe size 32" diameter		9.30	15	24.30
3660	Pipe size 36" diameter		10.35	16.75	27.10
3680	7' wide, pipe size 48" diameter		14.85	24	38.85
3700	8' wide, pipe size 60" diameter		20	32.50	52.50
3720	10' wide, pipe size 72" diameter		27.50	44	71.50
3740	12' wide, pipe size 84" diameter		35.50	57.50	93.00

02600 | Drainage & Containment

SITE CONSTRUCTION 2

02630 Storm Drainage	CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL. O&P
					MAT.	LABOR	EQUIP.	TOTAL	
510 2800 18" diameter	B-14	30	1.600	Ea.	102	46.50	7.55	156.05	192
2810 24" diameter	B-13	25	2.240		149	67	26	242	296
2820 30" diameter		25	2.240		282	67	26	375	440
2825 36" diameter		20	2.800		375	84	32.50	491.50	575
2830 48" diameter		10	5.600		775	168	65	1,008	1,175
2835 60" diameter	B-13B	5	11.200		1,000	335	190	1,525	1,825
2840 72" diameter	"	4	14		1,825	420	238	2,483	2,900
2850 Couplings, 12" diameter					16.60			16.60	18.30
2855 18" diameter					24.50			24.50	26.50
2860 24" diameter					33			33	36
2865 30" diameter					40			40	44.50
2870 36" diameter					56.50			56.50	62
2875 48" diameter					76.50			76.50	84
2880 60" diameter					120			120	132
2885 72" diameter					166			166	183
520 0010 PIPING, DRAINAGE & SEWAGE, CORRUGATED HDPE TYPE S									520
0020 Not including excavation & backfill, bell & spigot									
1000 With gaskets, 4" diameter	B-20	425	.056	L.F.	.78	1.76		2.54	3.59
1010 6" diameter		400	.060		1.79	1.87		3.66	4.88
1020 8" diameter		380	.063		3.43	1.96		5.39	6.85
1030 10" diameter		370	.065		4.74	2.02		6.76	8.35
1040 12" diameter		340	.071		5.30	2.20		7.50	9.20
1050 15" diameter		300	.080		7.20	2.49		9.69	11.75
1060 18" diameter	B-21	275	.102		10.25	3.27	.55	14.07	16.90
1070 24" diameter		250	.112		15.90	3.60	.61	20.11	23.50
1080 30" diameter		200	.140		25	4.49	.76	30.25	35.50
1090 36" diameter		180	.156		32	4.99	.85	37.84	43.50
1100 42" diameter		175	.160		44.50	5.15	.87	50.52	58
1110 48" diameter		170	.165		58	5.30	.90	64.20	72.50
1120 54" diameter		160	.175		89.50	5.60	.95	96.05	108
1130 60" diameter		150	.187		104	6	1.02	111.02	125
* 1135 Add 15% to material pipe cost for water tight connection bell & spigot									
1140 HDPE type s, elbows 12" diam	B-20	11	2.182	Ea.	58.50	68		126.50	171
1150 HDPE type s, elbows 15" diam	"	9	2.667		90.50	83		173.50	229
1160 HDPE type s, elbows 18" diam	B-21	9	3.111		149	100	16.95	265.95	340
1170 HDPE type s, elbows 24" diam		9	3.111		315	100	16.95	431.95	525
1180 HDPE type s, elbows 30" diam		8	3.500		505	112	19.10	636.10	750
1190 HDPE type s, elbows 36" diam		8	3.500		650	112	19.10	781.10	910
1240 HDPE type s, Tee 12" diam	B-20	7	3.429		132	107		239	310
1260 HDPE type s, Tee, 15" diam	"	6	4		156	124		280	365
1280 HDPE type s, Tee, 18" diam	B-21	6	4.667		229	150	25.50	404.50	510
1300 HDPE type s, Tee, 24" diam		5	5.600		300	180	30.50	510.50	640
1320 HDPE type s, Tee, 30" diam		5	5.600		565	180	30.50	775.50	935
1400 Add to basic installation cost for each split coupling joint									
1402 HDPE type s, split coupling, 12" diam	B-20	17	1.412	Ea.	4.27	44		48.27	73
1420 HDPE type s, split coupling, 15" diam	"	15	1.600	"	5.65	50		55.65	84
530 0010 SEWAGE/DRAINAGE COLLECTION, CONCRETE PIPE									530
0020 Not including excavation or backfill									
0050 Box culvert, cast in place, 6' x 6'	C-15	16	4.500	L.F.	108	150		258	350
0060 8' x 8'		14	5.143		158	171		329	440
0070 12' x 12'		10	7.200		310	239		549	710
0100 Box culvert, precast, base price, 8' long, 6' x 3'	B-69	140	.343		168	10.40	7.55	185.95	209
0150 6' x 7'		125	.384		255	11.65	8.45	275.10	305
0200 8' x 3'		133	.361		232	10.95	7.95	250.90	281

02300 | Earthwork

02315 | Excavation and Fill

490	610	0100	5/8 C.Y. hydraulic backhoe		B-12Q	250	.064	B.C.Y.		2.10	1.74	3.84	5.15	610
		0110	3/4 C.Y. hydraulic backhoe	R312316 -40	B-12F	300	.053			1.75	1.59	3.34	4.42	
		0120	1 C.Y. hydraulic backhoe		B-12A	400	.040			1.31	1.40	2.71	3.54	
		0130	1-1/2 C.Y. hydraulic backhoe		B-12B	540	.030			.97	1.34	2.31	2.95	
		0300	1/2 C.Y. hydraulic excavator, truck mounted		B-12J	200	.080			2.62	4.20	6.82	8.65	
		0500	6' to 10' deep, 3/4 C.Y. hydraulic backhoe, 6' to 10' deep		B-12F	225	.071			2.33	2.12	4.45	5.90	
		0510	1 C.Y. hydraulic backhoe		B-12A	400	.040			1.31	1.40	2.71	3.54	
		0600	1 C.Y. hydraulic excavator, truck mounted		B-12K	400	.040			1.31	2.44	3.75	4.68	
		0610	1-1/2 C.Y. hydraulic backhoe		B-12B	600	.027			.87	1.21	2.08	2.67	
		0620	2-1/2 C.Y. hydraulic backhoe		B-12S	1000	.016			.52	1.22	1.74	2.14	
		0900	10' to 14' deep, 3/4 C.Y. hydraulic backhoe		B-12F	200	.080			2.62	2.39	5.01	6.65	
		0910	1 C.Y. hydraulic backhoe		B-12A	360	.044			1.46	1.56	3.02	3.94	
		1000	1-1/2 C.Y. hydraulic backhoe		B-12B	540	.030			.97	1.34	2.31	2.95	
		1020	2-1/2 C.Y. hydraulic backhoe		B-12S	1000	.016			.52	1.22	1.74	2.14	
		1030	3 C.Y. hydraulic backhoe		B-12D	1400	.011			.37	1.45	1.82	2.16	
		1300	14' to 20' deep, 1 C.Y. hydraulic backhoe		B-12A	320	.050			1.64	1.75	3.39	4.43	
		1310	1-1/2 C.Y. hydraulic backhoe		B-12B	480	.033			1.09	1.51	2.60	3.33	
		1320	2-1/2 C.Y. hydraulic backhoe		B-12S	850	.019			.62	1.43	2.05	2.52	
		1330	3 C.Y. hydraulic backhoe		B-12D	1000	.016			.52	2.02	2.54	3.03	
		1400	By hand with pick and shovel 2' to 6' deep, light soil		1 Clab	8	1			27.50		27.50	42.50	
		1500	Heavy soil		"	4	2			55		55	85.50	
		1700	For tamping backfilled trenches, air tamp, add		A-1G	100	.080	E.C.Y.		2.19	.37	2.56	3.82	
		1900	Vibrating plate, add		B-18	180	.133	"		3.74	.19	3.93	6.05	
		2100	Trim sides and bottom for concrete pours, common earth		"	1500	.016	S.F.		.45	.02	.47	.73	
		2300	Hardpan		"	600	.040	"		1.12	.06	1.18	1.81	
		2400	Pier and spread footing excavation, add to above		"			B.C.Y.				30%	30%	
	*	3000	Backfill trench, F.E. loader, wheel mtd., 1 C.Y. bucket											
		3020	Minimal haul		B-10R	400	.030	L.C.Y.		1.01	.49	1.50	2.07	
		3040	100' haul		"	200	.060			2.02	.97	2.99	4.14	
		3060	200' haul		"	100	.120			4.03	1.95	5.98	8.30	
		3080	2-1/4 C.Y. bucket, minimum haul		B-10T	600	.020			.67	.51	1.18	1.58	
		3090	100' haul		"	300	.040			1.34	1.02	2.36	3.17	
520		3100	200' haul		"	150	.080	"		2.69	2.04	4.73	6.35	
		4000	For backfill with dozer, see Div. 02315-120											
		4010	For compaction of backfill, see div. 02315-310											
	620	0010	EXCAVATING, UTILITY TRENCH Common earth											620
		0050	Trenching with chain trencher, 12 H.P., operator walking											
		0100	4" wide trench, 12" deep		B-53	800	.010	L.F.		.35	.06	.41	.60	
		0150	18" deep		"	750	.011			.38	.06	.44	.64	
		0200	24" deep		"	700	.011			.40	.07	.47	.68	
		0300	6" wide trench, 12" deep		"	650	.012			.43	.07	.50	.73	
		0350	18" deep		"	600	.013			.47	.08	.55	.80	
		0400	24" deep		"	550	.015			.51	.09	.60	.87	
		0450	36" deep		"	450	.018			.63	.11	.74	1.06	
		0600	8" wide trench, 12" deep		"	475	.017			.59	.10	.69	1	
		0650	18" deep		"	400	.020			.70	.12	.82	1.19	
		0700	24" deep		"	350	.023			.80	.14	.94	1.36	
		0750	36" deep		"	300	.027	"		.94	.16	1.10	1.59	
		0830	Fly wheel trencher, 18" wide trench, 6' deep, light soil		B-54A	1992	.005	B.C.Y.		.17	.42	.59	.71	
		0840	Medium soil		"	1594	.006			.21	.52	.73	.89	
		0850	Heavy soil		"	1295	.007			.26	.64	.90	1.09	
		0860	24" wide trench, 9' deep, light soil		B-54B	4981	.002			.07	.32	.39	.46	
		0870	Medium soil		"	4000	.003			.09	.39	.48	.56	
		0880	Heavy soil		"	3237	.003	"		.11	.49	.60	.71	
		1000	Backfill by hand including compaction, add											

GEOSTAR

Geostar Corporation

Note: Items in the color blue contain input data and information.

HYDROTEXT™ FABRIC FORMED CONCRETE PROJECT COST ESTIMATE				Contractor:		Date: 2/9/2007	
Fabric Form Style:				Project Name:		Production Rate Guidelines	
Average Concrete Thickness, in.:				Location:		Cubic Yards of Concrete/Day	
Production Rate, Sq. Ft./Day:						.64 80 96	
Installed Area						Estimated	
Fabric Form Waste, %:						Production Rate/Day	
Geotextile Filter Fabric Waste, %:						Sq. Ft. Sq. Ft. Sq. Ft.	
Fine Aggregate Concrete Waste, Cu. Yds./Day						6400 8000 9600	
Production Delays, %:							
Materials Costs:							
Fabric Forms:							
Geotextile Filter Fabric:				\$ 10,732.26			
Fine Aggregate Concrete:				\$ 840.00			
Total Materials Costs:				\$ 20,547.38			
				\$ 32,119.64			
Supervision and Labor Costs:							
Superintendents:				No. Cost/Hr.			
Foreman:				1 \$ 35.00			
Pump Operator:				1 \$ 25.00			
Laborers:				2 \$ 15.00			
Divers:				1 \$ 50.00			
Total Supervision and Labor:				\$ 1,040.00			
				\$ 832.00			
				\$ 2,496.00			
				\$ 4,368.00			
Equipment:							
Concrete Pump:				2,600.00			
Sewing Machine:				300.00			
Generator and Water Pump:				20.00			
Pick-up Truck:				300.00			
Diving Equipment				-			
Total Equipment Costs:				\$ 3,220.00			
Total Materials, Supervision and Labor and Equipment:				\$ 39,707.64			
Profit:				\$ 5,956.15			
Overhead:				\$ 5,956.15			
Freight				\$ 715.48			
Sales Tax:				\$ 2,473.77			
Bonding:				-			
Total Price:				\$ 54,809.19			
Total Price/Sq. Ft.:				\$ 3.91			

Fabric Form Style:	FP100
Average Concrete Thickness, in.:	4.80
Production Rate, Sq. Ft./Day:	12,000
Installed Area	2,112
Fabric Form Waste, %:	10%
Geotextile Filter Fabric Waste, %:	15.0%
Fine Aggregate Concrete Waste, Cu. Yds./Day	15.0%
Production Delays, %:	15.0%
Profit on Material:	15.0%
Overhead on Material	15.0%
Profit on Labor:	15.0%
Overhead on Labor:	15.0%
Profit on Equipment:	15.0%
Overhead on Equipment:	15.0%
Sales Tax:	7.00%
Bonding:	15.00%
Payroll Tax and Insurance:	30.00%
Geotextile Filter Fabric/Sq. Yd.:	17.887
US400 Fabric Form Cost/Sq. Ft.:	1.680
Fine Aggregate Concrete Cost/Cu. Yd.:	179
Hours Worked/Day:	2.9
Days Worked/Week	0.3
Fabric Form Contraction, Slope:	4.0
Fabric Form Contraction, Transverse:	
Geotextile Filter Fabric Provision For Overlaps:	
Total Fabric Form Required, Sq. Ft.	
Total Geotextile Filter, Sq. Yd.	
Total Fine Aggregate Concrete, Cu. Yds.	
Production Days:	
Production Delays, Days:	
Total Production Days:	

02300 | Earthwork

2 SITE CONSTRUCTION

02315 Excavation and Fill			CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P	
							MAT.	LABOR	EQUIP.	TOTAL		
490	1220	3 mile round trip, 1.7 loads/hr.	B-34D	221	.036	L.C.Y.		1.03	1.89	2.92	3.65	490
	1240	4 mile round trip, 1.5 loads/hr.		195	.041			1.16	2.14	3.30	4.13	
	1245	5 mile round trip, 1.1 load/hr.		143	.056			1.59	2.92	4.51	5.65	
	1250	10 mile round trip, .75 load/hr.		110	.073			2.06	3.80	5.86	7.30	
	1255	20 mile round trip, .5 load/hr.		78	.103			2.91	5.35	8.26	10.35	
	1300	Hauling in medium traffic, add								20%	20%	
	1400	Heavy traffic, add								30%	30%	
	1600	Grading at dump, or embankment if required, by dozer	B-10B	1000	.012		.40	.92	1.32	1.62		
	1800	Spotter at fill or cut, if required	1 Clab	8	1	Hr.		27.50		27.50	42.50	
	2000	Off highway haulers										
	2010	22 C.Y. rear/bottom dump, 1000' rnd trip, 4.5 loads/hr.	B-34F	645	.012	L.C.Y.	.35	1.45	1.80	2.13		
	2020	1/2 mile round trip, 4.2 loads/hr.		600	.013		.38	1.56	1.94	2.29		
	2030	1 mile round trip, 3.9 loads/hr.		555	.014		.41	1.68	2.09	2.47		
	2040	2 mile round trip, 3.3 loads/hr.		470	.017		.48	1.99	2.47	2.92		
	2050	34 C.Y. rear or bottom dump, 1000' round trip, 4 loads/hr.	B-34G	885	.009		.26	1.33	1.59	1.86		
	2060	1/2 mile round trip, 3.8 loads/hr.		840	.010		.27	1.41	1.68	1.96		
	2070	1 mile round trip, 3.5 loads/hr.		775	.010		.29	1.52	1.81	2.13		
	2080	2 mile round trip, 3.0 loads/hr.		665	.012		.34	1.78	2.12	2.47		
	2090	42 C.Y. rear or bottom bump, 1000' round trip, 3.8 loads/hr.	B-34H	1040	.008		.22	1.23	1.45	1.68		
	2100	1/2 mile round trip, 3.6 loads/hr.		980	.008		.23	1.30	1.53	1.78		
	2110	1 mile round trip, 3.3 loads/hr.		900	.009		.25	1.42	1.67	1.94		
	2120	2 mile round trip, 2.8 loads/hr.		765	.010		.30	1.67	1.97	2.29		
	2130	60 C.Y. rear or bottom dump, 1000' round trip, 3.6 loads/hr.	B-34J	1400	.006		.16	1.18	1.34	1.54		
	2140	1/2 mile round trip, 3.4 loads/hr.		1325	.006		.17	1.25	1.42	1.63		
2150	1 mile round trip, 3.1 loads/hr.		1200	.007		.19	1.37	1.56	1.80			
2160	2 mile round trip, 2.6 loads/hr.		1015	.008		.22	1.62	1.84	2.13			
3000	Rough terrain or steep grades, add to above								100%			
4500	Dust control, light	B-59	1	8	Day	227	325	552	705			
4501	Heavy	"	.50	16		455	650	1,105	1,400			
4600	Haul road maintenance	B-86A	1	8		294	455	749	950			
4700	Highway hauling beyond 20 miles, per loaded mile, minimum				Mile			1.20	1.32			
4750	Maximum				"			2.40	2.64			
520	0010	FILL, spread dumped material, no compaction									520	
	0020	By dozer, no compaction	B-10B	1000	.012	L.C.Y.	.40	.92	1.32	1.62		
	0100	By hand	1 Clab	12	.667	"	18.25		18.25	28.50		
	0150	Spread fill, from stockpile with 2-1/2 C.Y. F.E. loader										
	0170	130 H.P., 300' haul	B-10P	600	.020	L.C.Y.	.67	1.32	1.99	2.48		
	0190	With dozer 300 H.P., 300' haul	B-10M	600	.020	"	.67	2	2.67	3.21		
	0400	For compaction of embankment, see div. 02315-310										
	0500	Gravel fill, compacted, under floor slabs, 4" deep	B-37	10000	.005	S.F.	.16	.14	.01	.31	.41	
	0600	6" deep		8600	.006		.24	.16	.01	.41	.52	
	0700	9" deep		7200	.007		.40	.19	.02	.61	.76	
	0800	12" deep		6000	.008		.56	.23	.02	.81	1	
	1000	Alternate pricing method, 4" deep		120	.400	E.C.Y.	12.05	11.60	.95	24.60	32.50	
	1100	6" deep		160	.300		12.05	8.70	.71	21.46	27.50	
	1200	9" deep		200	.240		12.05	6.95	.57	19.57	24.50	
	1300	12" deep		220	.218		12.05	6.35	.52	18.92	23.50	
	1500	For fill under exterior paving, see Div. 02720-200										
	1600	For flowable fill, see Division 03310-220										
610	0010	EXCAVATING, TRENCH or continuous footing, common earth									610	
	0020	No sheeting or dewatering included	R312318-40									
	0050	1' to 4' deep, 3/8 C.Y. tractor loader/backhoe	B-11C	150	.107	B.C.Y.	3.42	1.51	4.93	6.90		
	0060	1/2 C.Y. tractor loader/backhoe	B-11M	200	.080		2.56	1.39	3.95	5.45		
	0062	3/4 C.Y. hydraulic backhoe	B-12F	270	.059		1.94	1.77	3.71	4.92		
	0090	4' to 6' deep, 1/2 C.Y. tractor loader/backhoe	B-11M	200	.080		2.56	1.39	3.95	5.45		

02050 | Basic Site Materials & Methods

2 SITE CONSTRUCTION

02080 Utility Materials					CREW	DAILY OUTPUT	LABOR- HOURS	UNIT	2006 BARE COSTS				TOTAL INCL O&P
									MAT.	LABOR	EQUIP.	TOTAL	
500	3916	8" diameter	R221113 -50	B21	6	4.667	Ea.	3,450	150	25.50	3,625.50	4,050	
	3920	12" diameter			4	7		6,425	225	38	6,688	7,475	
	3924	16" diameter			2	14		8,025	450	76.50	8,551.50	9,600	
	3928	20" diameter			.60	46.667		8,700	1,500	254	10,454	12,200	
	3930	24" diameter			.50	56		10,300	1,800	305	12,405	14,500	
600	0010	UTILITY ACCESSORIES											
	0400	Underground tape, detectable, reinforced, alum. foil core, 2"		1 Clab	150	.053	C.L.F.	1.46	1.46		2.92	3.88	
	0500	6"		"	140	.057	"	3.65	1.57		5.22	6.45	

02100 | Site Remediation

02110 Hazmat Removal & Handling		CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2006 BARE COSTS				TOTAL
						MAT.	LABOR	EQUIP.	INCL O&P	
300	0010 HAZARDOUS WASTE CLEANUP/PICKUP/DISPOSAL									300
	0100 For contractor equipment, i.e., dozer,									
	0110 Front end loader, dump truck, etc., see Reference Section									
	1000 Solid pickup									
	1100 55 gal. drums				Ea.					220
	1120 Bulk material, minimum				Ton					165
*	1130 Maximum				"					550
	1200 Transportation to disposal site									
	1220 Truckload = 80 drums or 25 C.Y. or 18 tons									
	1260 Minimum				Mile					2.50
*	1270 Maximum				"					4.40
	3000 Liquid pickup, vacuum truck, stainless steel tank									
	3100 Minimum charge, 4 hours									
*	3110 1 compartment, 2200 gallon				Hr.					110
	3120 2 compartment, 5000 gallon				"					110
*	3400 Transportation in 6900 gallon bulk truck				Mile					4.75
	3410 In teflon lined truck				"					5.50
	5000 Heavy sludge or dry vacuumable material				Hr.					110
	6000 Dumpsite disposal charge, minimum				Ton					110
*	6020 Maximum				"					440
02115 Underground Storage Tank Removal										
200	0010 REMOVAL OF UNDERGROUND STORAGE TANKS									200
	0011 Petroleum storage tanks, nonleaking									
	0100 Excavate & load onto trailer									
	0110 3000 gal. to 5000 gal. tank	B-14	4	12	Ea.		350	56.50	406.50	600
	0120 6000 gal to 8000 gal tank	B-3A	3	13.333			390	241	631	870
	0130 9000 gal to 12000 gal tank	"	2	20			585	360	945	1,300
	0190 Known leaking tank add				%				100%	100%
	0200 Remove sludge, water and remaining product from tank bottom									
	0201 of tank with vacuum truck									
	0300 3000 gal to 5000 gal tank	A-13	5	1.600	Ea.		56.50	100	156.50	195
	0310 6000 gal to 8000 gal tank		4	2			70.50	125	195.50	244
	0320 9000 gal to 12000 gal tank		3	2.667			94	167	261	325
	0390 Dispose of sludge off-site, average				Gal.					4.40
	0400 Insert inert solid CO ₂ "dry ice" into tank									

CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX
 SARASOTA COUNTY
 2005 ANNUAL SUMMARY

MONTHLY PRECIPITATION DATA AND LEACHATE BALANCE

MONTH	LANDFILL AREA (acres)	LANDFILL RAINFALL (inches)	RAINFALL IN STORAGE TANK ² (gallons)	LEACHATE PUMPED ³ CELL 1 (gallons)	LEACHATE PUMPED ³ CELL 2 (gallons)	LEACHATE PUMPED ³ CELL 3 (gallons)	LEACHATE PUMPED ³ CELL 4 (gallons)	TOTAL LEACHATE ⁴ (gallons)	LEACHATE REMOVED ⁵ (gallons)	LEACHATE BALANCE ⁶ (gallons)	CUMULATIVE STORAGE ⁷ (gallons)
January	48.00	2.35	11,499	70,740	32,090	41,490	611,180	755,500	773,400	-17,900	1,088,738
February	48.00	3.82	18,692	50,690	30,950	34,530	149,880	266,050	1,259,200	-993,150	209,228
March	48.00	4.17	20,405	144,960	62,150	35,140	753,730	1,016,385	624,800	391,585	604,210
April	48.00	2.60	12,722	46,510	46,390	33,610	166,600	293,110	426,700	-133,590	493,561
May	48.00	1.89	9,248	34,180	45,230	38,490	113,560	232,460	147,500	84,960	551,627
June	48.00	16.01	78,340	219,030	86,010	42,420	2,788,690	3,230,290	2,404,000	826,290	1,437,134
July	48.00	8.43	41,249	175,560	80,000	43,890	1,098,900	1,439,599	2,693,100	-1,251,101	319,363
August	48.00	1.91	9,346	67,820	47,070	43,950	266,770	438,256	607,600	-172,644	145,165
September	48.00	1.81	8,857	44,310	35,680	40,790	123,250	260,787	223,700	29,187	159,679
October	48.00	6.29	30,778	86,480	42,990	42,850	408,770	611,868	533,400	78,468	261,297
November	48.00	2.70	13,212	58,320	40,640	48,300	171,310	337,682	261,900	75,782	319,363
December	48.00	0.76	3,719	41,560	41,640	48,830	93,430	229,179	262,300	-33,121	275,814
Total		52.74	258,067	1,040,160	591,840	494,190	6,732,070	9,111,166	10,217,600		

Notes:

1. Total monthly precipitation recorded at the CCSWDC.
2. Rainfall falling into the leachate storage tank (13,275 square feet area) which is classified as leachate.
3. Based on flowmeter data, the amount of leachate pumped from the Class I landfill area to the storage tank.
4. Sum of rainfall into the storage tank and the leachate pumped from the Class I landfill.
5. Quantity of leachate hauled away based on the number of tanker trucks and their capacity.
6. Total leachate added to the storage tank minus the quantity hauled during the month (monthly increase or decrease).
7. Cumulative storage read at the tank gauge at the end of each month.

ELAB, INC.
ANALYTICAL SERVICE
COST PROPOSAL



Contact Name:	Mr. Thomas Yanoschak	PROPOSAL NO.:	07-1514	Page 1 of 5
Company:	HDR	PROPOSAL DATE:	April 19, 2007	
Address:	Raleigh, NC	Turnaround Time:	10-15 business days	
Phone No.:	919-232-6618	Sample Arrival Date:		
Fax No.:		Schedule: Firm:	Tentative: X	
		Duration:		

Project Name/Description: Sarasota Central Landfill

PARAMETERS	Methods	Matrix	No. of Samples			Unit Cost	Subtotal
			Sample	Field QC	Total		
LEACHATE PARAMETERS							
Ammonia	350.1	GW	1	0	1	\$ 20.00	\$ 20.00
Chloride	300.0	GW	1	0	1	\$ 15.00	\$ 15.00
Bicarbonate	SM 2320 B	GW	1	0	1	\$ 20.00	\$ 20.00
Nitrate, Sulfate	300.0	GW	1	0	1	\$ 30.00	\$ 30.00
Total Dissolved Solids	160.1/ SM2540C	GW	1	0	1	\$ 12.00	\$ 12.00
Fe, Ca, Mg, K, Na	6010	GW	1	0	1	\$ 40.00	\$ 40.00
APPENDIX II(VOLATILES, EDB/DBCP, METALS, BNA, ORGANOCHLORINE PEST/PCB, ORGANOPHOS PEST, CHLORINATED HERB, SULFIDE, CYANIDE)	8260, 8011, 6010/6020/7470, 8270, 8081/82, 8141, 8151, 376.1, 9012	GW	1	0	1	\$ 892.50	\$ 892.50
Sub Total of this section							\$ 1,029.50
Ground Water Parameters							
Ammonia	350.1	GW	1	0	1	\$ 20.00	\$ 20.00
Chloride, Nitrate, Sulfate	300.0	GW	1	0	1	\$ 45.00	\$ 45.00
Bicarbonate	SM 2320 B	GW	1	0	1	\$ 20.00	\$ 20.00
Total Dissolved Solids	160.1/ SM2540C	GW	1	0	1	\$ 12.00	\$ 12.00
Fe, Ca, Mg, K, Na	6010	GW	1	0	1	\$ 40.00	\$ 40.00
APPENDIX I (METALS, VOLATILES, EDB/DBCP)	6010/6020/7470, 8260, 8011	GW	1	0	1	\$ 300.00	\$ 300.00
Sub Total of this section							\$ 437.00

⊕

⊕

ATTACHMENT Y (2)

Surface Water Parameters							
Unionized Ammonia	350.1/ FDEP	SW	1	0	1	\$ 20.00	\$ 20.00
BOD-5	300.0	SW	1	0	1	\$ 35.00	\$ 35.00
Nitrate, Nitrite, Sulfate	300.0	SW	1	0	1	\$ 45.00	\$ 45.00
Total Dissolved Solids	160.1/ SM2540C	SW	1	0	1	\$ 12.00	\$ 12.00
COD	410.4	SW	1	0	1	\$ 22.00	\$ 22.00
TOC	415.1	SW	1	0	1	\$ 30.00	\$ 30.00
FECAL COLIFORM	SM9222 D	SW	1	0	1	\$ 30.00	\$ 30.00
TOTAL PHOS	365.4	SW	1	0	1	\$ 30.00	\$ 30.00
CHLOR A	SM10200 H	SW	1	0	1	\$ 40.00	\$ 40.00
T-NITROGEN	CALCULATION	SW	1	0	1	\$ 35.00	\$ 35.00
Bicarbonate	SM 2320 B	SW	1	0	1	\$ 20.00	\$ 20.00
TSS	160.2	SW	1	0	1	\$ 12.00	\$ 12.00
APPENDIX I (METALS, VOLATILES, EDB/DBCP)	6010/6020/7470, 8260, 8011	SW	1	0	1	\$ 300.00	\$ 300.00
Total Hadness, Ca, Cu, Fe, Mg, K, Na, Zn	6010	SW	1	0	1	\$ 64.00	\$ 64.00
Sub Total of this section							\$ 695.00
FIELD SAMPLING COST			1	0	1	\$ 120.00	\$ 120.00
Sample Kit Charge							N/C
Kit Shipping Charge							N/C
Rapid Turnaround Charge ()							
TOTAL							\$ 2,281.50
Comments: See attached Proposal Notes and Terms & Conditions							
Subcontracted might include 8270. Sampling cost is per sample.							
Prepared by: Martha Montero (mmontero@elabusa.com)							

ORMOND BEACH:
 8 East Tower Circle
 Ormond Beach, FL 32174
 phone: 386-672-5668
 fax: 386-673-4001

TAMPA:
 1211 Tech Blvd, Suite 106
 Tampa, FL 33619
 phone: 813-627-0003
 fax: 813-627-0582

(continued)

Indicator Parameters	Municipal Solid Waste Landfills Leachate Concentration Reported (ppm)	
	Minimum	Maximum
ethylate	42	130
xylyl phthalate	6	4,900
methyl butyl ketone)	NA	NA
	16	750
	6	690
	4	16,000
antane (methyl isobutyl ketone)	0.017	0.023
loride (dichloromethane)	10	710
thalene	2	220,000
tol	NA	NA
tol	NA	NA
	NA	NA
	2	202
	4	120
benol	17	17
	3	470
	NA	NA
	73	28,000
	11,000	11,000
	94	26,000
chloroethane	NA	NA
ethylene	210	210
an	2	620
	18	1,300
	5.55	18,000
	1	1
ophenol	NA	NA
methane	1	13,000
ethane	30	630
ene	1	1,300
methane	4	150
propane	230	230
	8	61
	32	310

occurs during periods of light rainfall over a long lapse of time; short heavy rainfall during a storm result in a quick saturation of the cover the remainder is shed as runoff, so there is little net infiltration and Cossu, 1989). Precipitation depends on geographical location 994).

dition. Waste condition can include waste composition, waste moisture reprocessing of the waste (baling or shredding), thickness of the waste y of the waste. Leachate quantity will increase if the waste releases

pure water which squeezed because of increasing waste lining depth and velocity of the waste. Unsaturated waste continues to absorb water until it reaches field capacity as described in Chapter 6. Thus, waste in a state lower than its field capacity will reduce leachate formation. Sludge residues from sanitary treatment facilities, combined sewer systems, industrial filter materials, and other quasi-solids are being permitted by many regulatory groups for disposal in MSW landfills. Depending upon their moisture content and quantity, sludges have a major effect on leachate quality and quantity.

Final Cover Implications. Leachate volume is reduced significantly after a landfill is closed and finally covered because of two reasons—vegetation grown in the topsoil of a final cover reduces infiltration significantly by evapotranspiration, and the low permeability barrier reduces percolation. A significantly lesser amount of water will infiltrate into a landfill if it is covered with a composite cap, such as using geomembrane over compacted clay (GM/CCL) or geomembrane over a geosynthetic clay liner (GM/GCL). A properly designed final cover will eventually halt leachate quantity after landfill closure (Bagchi, 1994).

Leachate quantity is site specific and ranges from zero to 100% of precipitation during active landfill operation. Leachate generation rates in arid climates may be very low, even zero. In moist climates, however, leachate generation rates can be quite high. Leachate production from new landfills occurs at relatively low rates, then increases as more waste is placed and larger areas are exposed to precipitation. Leachate production reaches a peak just before closure and then declines significantly with the provision of surface grading and interim or final cover. The trend in leachate generation rates can be seen in Figure 7.1, which presents data for a double-lined municipal solid waste landfill having a geomembrane in the final cover. Monthly average leachate generation rates during the period of cell filling were up to 360 gallons/acre/day [3,400 liters/hectare/day (lphd)]. Rates for the first three years of the post-closure period

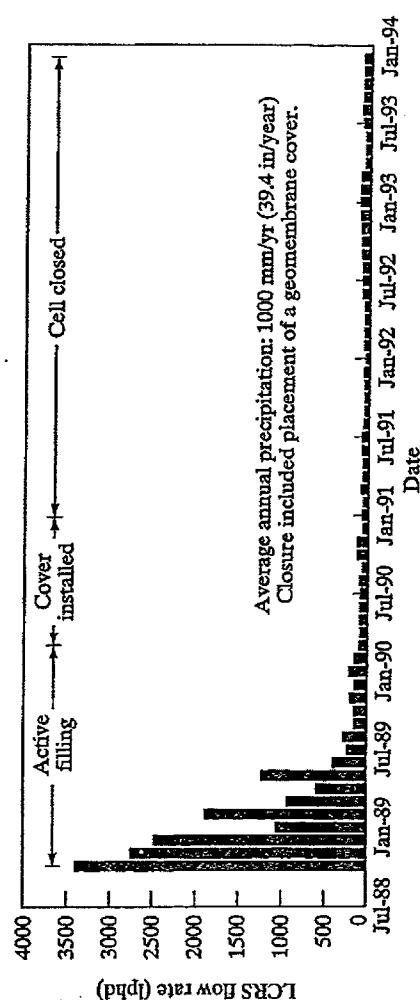


FIGURE 7.1 Leachate Generation Rate at a Municipal Solid Waste Landfill (Bonaparte, 1995). Used with permission of ASCE.

Source: Qian et al., "Geotechnical Aspects of Landfill Design and Construction", 2002.

2(3)

Mr. John Dewyea
 Leachate Tank Cleaning
 5918.01

May 3, 2001

Page 3 of 5

Description	Units	Qty.	Unit Cost	Total
May 1, 2001				
Vacuum Truck	hour	5	\$85.00	\$425.00
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$1,175.00</u>
May 2, 2001				
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$750.00</u>
Total to Date				<u>\$8,005.00</u>

In preparation for cleaning of the south leachate tank the modified scope of work is understood by ACT to be cleaning of the tank interior, removal of sludge with ACT vacuum truck, and perform confined space standby rescue for tank inspection. This modified scope of work will include, in addition to the established rates on the Quote Sheet, \$85.00 per hour for use of the vacuum truck and an additional line item to handle the 12" of residual liquid and sludge.

The estimated cost to clean the south leachate tank (with the 12" of liquid and sludge), confined space rescue standby, and vacuum truck service is as follows:

Description	Units	Qty.	Unit Cost	Total
May 10, 2001				
Cleaning of South Leachate Tank	LS	1	\$4,000.00	\$4,000.00
Vacuum Truck	hour	8	\$85.00	\$680.00
Equipment Operator	hour	8	\$40.00	\$320.00
Handle and Transfer 12" of Residual Liquid and Sludge	LS	1	\$2,000.00	\$2,000.00
				<u>\$7,000.00</u>
May 11, 2001				
Confined Space Standby Rescue	day	1	\$750.00	\$750.00
				<u>\$750.00</u>

Estimated Total to Clean South Leachate Tank

\$7,750.00 *

If so desired by the landfill authority, ACT can provide proper disposal of the waste to be removed from the south leachate tank. According to the industrial wastewater



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

202454
18944

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Sarasota, Fl. 34275

September 26, 2007

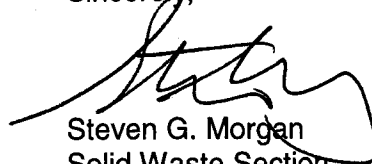
RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Permit Nos.: 130542-002-SO/01, Class I Landfill
134912-003-SO, MRF
126775-001-WT, Waste Tire Processing Facility

Dear Mr. Coggins:

This letter is to acknowledge receipt of the inflation-adjusted cost estimates dated August 31, 2007 (received September 26, 2007), prepared by HDR, for closure and long-term care of the Sarasota Central County Solid Waste Disposal Complex. The inflation-adjusted cost estimates received September 10, 2007 (total for closing \$40,886,372.01 and long-term care \$668,388.22/year x 30 years= \$20,051,646.54), are **APPROVED for 2007**. The next annual update (revised or inflation-adjusted estimates) is due no later than September 1, 2008.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Sincerely,



Steven G. Morgan
Solid Waste Section
Southwest District

cc: Thomas M. Yanoschak, P.E., DEE, HDR Engineering, Inc., 3725 National Dr., Suite 103, Raleigh, NC
27612-4879
Fred Wick, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa



ONE COMPANY | Many Solutions®

188444
SOLID WASTE
SECTION

August 31, 2007

Solid Waste Financial Coordinator
Department of Environmental Protection
2600 Blair Stone Road MS 4565
Tallahassee, Florida 32399-2400

Dept. of Environmental Protection
SEP 04 2007

Re: Financial Assurance Cost Estimate Forms
Sarasota County, Florida

Southwest District

Dear Sir/Madam:

Attached you will find the 2007 Financial Assurance Cost Estimate forms for Central County Solid Waste Disposal Complex (Permit No. 130542-002-SO/01) and Bee Ridge Landfill Site (Permit No. 40049-004-SF/14). These are being submitted on behalf of Sarasota County, Florida. Please feel free to contact me at (919) 232-6618 if you should have any questions regarding these forms.

Respectfully submitted,

HDR Engineering, Inc.

Thomas M. Yanoschak, PE
Senior Project Manager

cc: Frank Coggins, Sarasota County
Joe Readling, HDR
Bill Embree, HDR

Attachments: as noted

RECEIVED

SEP 04 2007

BY: BSHW



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: August 31, 2007

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Central County Solid Waste Disposal Complex WACS or GMSID #: 4058C02034

Permit / Application No.: 130542-002-SO/01 Expiration Date: 7/20/2010

Facility Address: 4000 Knights Trail Road, Nokomis, FL 34275

Permittee: Sarasota County Solid Waste Operations

Mailing Address: 4000 Knights Trail Road, Nokomis, FL 34275

Latitude: 27°12'10.7"

Longitude: 82°23'16.39"

or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Phase I	60	6/15/1998	15
Phases II-V	235	N/A	40

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
SEP 12 2007
SOUTHWEST DISTRICT
TAMPA

Total Landfill Acreage included in this estimate. 295 Closure 295 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit*

☐ Insurance Certificate

☐ Surety Bond*

☒ Escrow Account

☐ Trust Fund Agreement

☐ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
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 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

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 Financial Coordinator at (850)-245-8732.

This adjustment is based on the Department approved closure cost estimate dated:		<u>8/24/06</u>	
Latest Department Approved Closure Cost Estimate: <u>\$39,695,506.81</u>	X	Current Year Inflation Factor <u>1.030</u>	= Inflation Adjusted Closure Cost Estimate: <u>\$40,886,372.01</u>
This adjustment is based on the Department approved long-term care cost estimate dated:		<u>8/24/06</u>	
Latest Department Approved Annual Long-Term Care Cost Estimate: <u>\$648,920.60</u>	X	Current Year Inflation Factor <u>1.030</u>	= Inflation Adjusted Annual Long-Term Care Cost Estimate: <u>\$668,388.22</u>
Number of Years of Long Term Care Remaining:		X	<u>30</u>
Inflation Adjusted Long-Term Care Cost Estimate:		=	<u>20,051,646.54</u>

☐ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Thomas M. Yanoschak 08/31/07
Signature of Engineer

Thomas M. Yanoschak, P.E. Project Mgr.

Name & Title (please type)

P.E. Number 44200

Florida Registration Number (affix seal) & Date

3233 National Drive, Suite 207

Raleigh, NC 27612-4845

Mailing Address

(919) 232-6618

Telephone Number

Frank Coggins
Signature of Owner/Operator

Frank Coggins, Mgr, Solid Waste Operations

Name & Title (please type)

(941) 861-1571

Telephone Number

fcoggins@scgov.net

Owner/Operator E-mail address

thomas.yanoschak@hdrinc.com

Engineer E-mail address



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Frank Coggins, Manager
Sarasota County Solid Waste Operations
4000 Knights Trail Road
Nokomis, Fl. 34275

July 31, 2007

RE: Sarasota Central County Solid Waste Disposal Complex
Financial Assurance Cost Estimates
Pending Permit No.:126775-002-WT, Waste Tire Processing Facility

Dear Mr. Coggins:

This letter is to acknowledge receipt of the revised cost estimates dated July 5, 2007 (received July 6, 2007), for closure of the Sarasota Central County Solid Waste Disposal Complex Waste Tire Processing Facility. The revised cost estimates received July 6, 2007 (total for closing \$138,417.00), are **APPROVED for 2007**. The next annual update (revised or inflation-adjusted estimates) is due no later than September 1, 2007.

A copy of these estimates will be forwarded to Mr. Fred Wick, Solid Waste Section, FDEP, 2600 Blair Stone Road, Tallahassee, Florida 32399-2407. Please work with him directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C. If you have any questions, you may contact me at (813) 632-7600 ext. 385.

Sincerely,


Steven G. Morgan
Solid Waste Section
Southwest District

sgm
cc:

Fred Wick, FDEP, Tallahassee, w/attachment
Susan Pelz, P.E., FDEP Tampa

APPENDIX D
CALCULATIONS

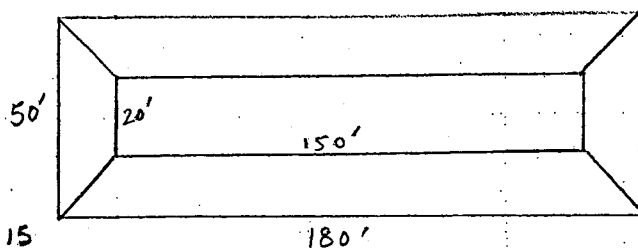
Maximum Storage Capacity

Based on the design plans two piles of 180 ft x 50 ft x 15 ft separated by a 50' fire lane in conformance with 62-711.540(3) can be maintained.

$$\text{Area of each pile} = 180 \text{ ft} \times 50 \text{ ft} = 9000 \text{ ft}^2 < 10,000 \text{ ft}^2$$

∴ O.K.

Volume of each pile (for maximum storage) using 1:1 side slope



$$\text{Vol.} = \frac{(180 \times 50) + (150 \times 20)}{2} \times 15$$

$$= 90,000 \text{ ft}^3 \text{ or } 3333.33 \text{ CY}$$

PLAN (Max^m Ht = 15 ft)

∴ 2 piles provide 2 x 3333.33 = 6667 CY of storage capacity

Based on 62-711.200(7) quantity criteria - 200 lbs per cubic yard of unit weight is used to estimate tonnage.

At 200 lbs/cy, 6667 CY of storage can accommodate approximately 667 tons of whole waste tires

With safety factor Max^m storage capacity = 650 tons

Max^m Area Available = 18,000 sq. feet

SCS ENGINEERS

SHEET 1 OF 1

CLIENT	Sarasota County	PROJECT	Sarasota County Waste Tire Processing	JOB NO.	09201010.24
SUBJECT	Closure Cost Estimate	Facility		BY	MED
				CHECKED	QIB
				DATE	7/3/2007
				DATE	7/5/2007

Tonnage Limit: 650 tons (per original permit)

Processing Fee: \$113.95/ton (per Sarasota County)

Tipping Fee: \$99.00/ton (per Manatee County Landfill - out of county waste)

$$650 \text{ tons} \times (\$113.95/\text{ton} + \$99.00/\text{ton}) = \$138,417.50$$

Closure Cost Estimate for Waste Tire Processing Facility = \$138,417.50