

Johnson, Sabrina O

From: Jason Gorrie <jason@jmg-eng.com>
Sent: Tuesday, November 20, 2018 10:00 AM
To: SWD_Waste
Cc: Justin G. Roessler; John Power; Carrie S. Kimble
Subject: 5 Year Report - West Pasco Class III Landfill
Attachments: 5 Year Report - West Pasco Class III Landfill.pdf

Jason M. Gorrie, P.E., BCEE
President



238 East Davis Blvd.
Suite 206
Tampa, FL 33606
(813) 605-0706
www.jmg-eng.com



November 13, 2018

Florida Department of Environmental Protection
Permitting and Compliance Assistance Program
2600 Blair Stone Road, MS 4565
Tallahassee, FL 32399

**SUBJ: 5 Year Report
West Pasco Class III Landfill (WACS #45799)**

Dear Sirs:

Attached, please find the following documentation submitted to comply with Specific Condition No. 2.A.7 of Permit No. 26254-003-SO/T3 issued to the West Pasco Class III Landfill:

1. Updated Closure and Long Term Care Cost Estimate, with accompanying FDEP-approval letter;
2. Leachate Collection System Cleaning Report, and;
3. Updated Operations Plan.

An application processing fee installment payment in the amount of \$4,000 is being submitted separately through the Department's Business Portal.

Please note that Pasco County is requesting Department approval to utilize the alternative landfill cover material commercially known as Posi-Shell® for use as weekly cover in the Class III Landfill. In anticipation of the Department's approval of this commonly-utilized alternative cover material, the appropriate sections of the attached Operations Plan have been modified accordingly. Please also note that no changes to the previously-approved Closure Plan have been identified. The Closure Cost Estimate and associated Long Term Care Estimate have been updated in accordance with Florida Administrative Code requirements and were previously approved on September 13, 2018.

If you have any questions related to the information contained herein, or, if additional information is needed, please do not hesitate to contact me at (727) 856-0119.

Sincerely,

John Power
Solid Waste Director
Pasco County Public Infrastructure

JP/ck

UTILITIES SOLID WASTE & RESOURCE RECOVERY DEPARTMENT

727.857.2780 | 14230 Hays Road | Spring Hill, FL 34610

ATTACHMENT A
LONG TERM CARE AND CLOSURE COST ESTIMATE



FLORIDA DEPARTMENT OF Environmental Protection

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

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

September 13, 2018

Transmitted via e-mail to: rsigmond@pascocountyfl.net

Mr. Robert Sigmond
Pasco County Utilities
19420 Central Blvd., Suite 219
Land O' Lakes, FL 34637

RE: West Pasco Class III Landfill
Pasco County
Recalculated Closing and
Long-Term Care (LTC) Cost Estimates Approval
Permit No.: 26254-003-SO/T3
WACS No: 45799

Dear Mr. Sigmond:

This letter is to acknowledge receipt of the subject facility's recalculated closing and LTC cost estimates dated August 27, 2018, and received August 31, 2018. The cost estimates were prepared by JMG Engineering, Inc., for the West Pasco Class III Landfill. The cost estimates provided closing and LTC costs for Cells 1, 2, 3, and 4 comprising 20 acres. The recalculated estimates were submitted to comply with Rule 62-701.630(4)(a), Florida Administrative Code, (F.A.C.). The following cost estimates received in the referenced document are **APPROVED for 2018:**

	<u>Cells 1, 2, 3, and 4</u>
Size	20 acres
Closing Cost	\$2,981,866.86
Annual Long-Term Care Cost	\$105,118.05
Total Long-Term Care Cost (30 years)	\$3,153,541.50

The next annual cost estimate update is due between July 1 and September 1, 2019.

A copy of these estimates will be forwarded to the Financial Coordinator, FDEP, 2600 Blair Stone Road, MS 4565, Tallahassee, Florida 32399-2400. Please contact Susan Eldredge at

Mr. Robert Sigmond
September 13, 2018
Page 2

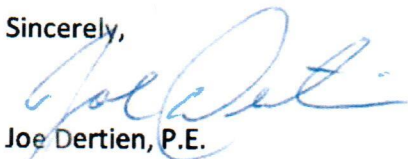
(850) 245-8740 or susan.f.eldredge@dep.state.fl.us directly to assess the facility's compliance with the funding mechanism requirements of Rule 62-701.630, F.A.C.

Most information received or sent by the Department is public record and is placed in OCULUS, an electronic database. You may view this and other documents for this facility at the following link:

http://appprod.dep.state.fl.us/WWW_WACS/Reports/SW_Facility_Docs.asp?wacsid=45799

If you have any questions, you may contact me at (850) 245-8735.

Sincerely,



Joe Dertien, P.E.

Solid Waste Section

Permitting and Compliance Assistance Program

Attachment: West Pasco Class III Landfill, Financial Assurance Closure and Long-Term Care Estimates, August 2018.

cc:

Jason Gorrie, P.E., JMG Engineering, Inc. jason@img-eng.com

Melissa Madden, FDEP Southwest District, Melissa.Madden@floridadep.gov

Steve Morgan, FDEP Southwest District, Steve.Morgan@florida dep.gov

Cory Dilmore, P.E., FDEP PCAP, Cory.Dilmore@dep.state.fl.us

Solid.Waste.Financial.Coordinator@dep.state.fl.us



WEST PASCO CLASS III LANDFILL
FINANCIAL ASSURANCE
CLOSURE AND LONG-TERM CARE ESTIMATES

Facility I.D. Number 45799
Permit No. 26254-003-SO/T3

Prepared for:

Pasco County Utilities

14230 Hays Road
Spring Hill, FL 34610

Prepared by:

JMG Engineering, Inc.
238 East Davis Blvd., Suite 206
Tampa, FL 33606

August 2018

TABLE OF CONTENTS

- PART 1 INTRODUCTION
- PART 2 FDEP FORM 62-701.900(28)
- PART 3 CLOSURE COST AND LONG-TERM CARE COST
ESTIMATE REPORT
- PART 4 UNIT COST REFERENCES

JMG Engineering, Inc. has prepared this Financial Assurance Closure and Long-Term Care Cost Estimate document for the Class III Construction and Demolition Debris landfill cells located at the West Pasco Solid Waste Facility (WACS No. 45799) in accordance with Rule 62-701.630, F.A.C. The cost estimates were completed using FDEP Form 62-701.900 (28) and signed by the authorized representative of the Owner of the facility and signed and sealed by the Engineer of Record. These forms are provided in Part 2 of this report.

Accompanying the cost estimate forms is a Cost Estimate Report provided in Part 3. The Report includes general information regarding the cost estimates, the assumptions and calculations used in preparing the cost estimates, and the unit cost references associated with each line item. The source information for the cost references and contractors' quotes used in Part 3 is provided in Part 4. JMG either requested unit costs from third party vendors/contractors, or used unit costs from RS Means construction cost estimating manuals and adjusted the unit cost for the Tampa, Florida area.

Unit cost estimates for closure and long-term care of the facility are being calculated in accordance with the February 2015 revisions to FDEP 62-701.630(3)(d).

PART 2

FINANCIAL ASSURANCE COST ESTIMATE FORMS



Florida Department of Environmental Protection

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

DEP Form # 62-701.900(28), F.A.C.

Form Title: Closure Cost Estimating Form
For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: West Pasco Class III Landfill WACS ID: 45799
 Permit Application or Consent Order No.: 26254-003-SO/T3 Expiration Date: 11/22/2033
 Facility Address: 14230 Hays Road, Spring Hill, FL 34610
 Permittee or Owner/Operator: Pasco County Utilities
 Mailing Address: same

Latitude: 28° 22' 30" Longitude: 82° 34' 00"
 Coordinate Method: _____ Datum: _____
 Collected by: _____ Company/Affiliation: _____

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
Cell 1	5	Jun 1990	11.92	0	N/A	N/A
Cell 2	5	May 2002	15.52	0	N/A	N/A
Cell 3	5	not in use			N/A	N/A
Cell 4	5	Jul 1990	0.4		N/A	N/A
				38 Total		

Total disposal unit acreage included in this estimate: Closure: 20 Long-Term Care: 20

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: _____

Latest Department Approved
Closing Cost Estimate:

Current Year Inflation
Factor, e.g. 1.02

Inflation Adjusted Closing
Cost Estimate:

x

=

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

Latest Department Approved
Annual Long-Term Care
Cost Estimate:

Current Year Inflation
Factor, e.g. 1.02

Inflation Adjusted Annual
Long-Term Care Cost
Estimate:

x

=

Number of Years of Long Term Care Remaining:

x

Inflation Adjusted Long-Term Care Cost Estimate:

=

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)


Signature

238 East Davis Blvd., Suite 206

Address

Jason Gorrie, P.E., BCEE

Name & Title

Tampa, FL 33606

City, State, Zip Code

8/26/2018

Date

jason@jmg-eng.com

E-Mail Address

(813) 605-0706

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)☒ **Recalculated Cost Estimate**☐ **New Facility Cost Estimate**

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp

2. Cost estimate must be certified by a professional engineer.

3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA	0	\$0.00	
Subtotal Proposed Monitoring Wells:				
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY	33,880	\$4.50	\$152,460.00
Compaction	CY	33,880	\$0.89	\$30,153.20
Off-Site Material	CY	33,880	\$12.90	\$437,052.00
Delivery	CY			
Subtotal Slope and Fill:				\$619,665.20
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	101,640	\$5.50	\$559,020.00
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)				
Subtotal Cover Material:				\$559,020.00
4. Top Soil Cover:				
Off-Site Material	CY			
Delivery	CY	50,820	\$12.90	\$655,578.00
Spread	CY	50,820	\$5.00	\$254,100.00
Subtotal Top Soil Cover:				\$909,678.00
5. Vegetative Layer				
Sodding	SY	101,640	\$2.75	\$279,510.00
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
Subtotal Vegetative Layer:				\$279,510.00
6. Stormwater Control System:				
Earthwork	CY			
Grading	SY			
Piping	LF			
Ditches	LF			
Berms	LF			
Control Structures	EA			
Other (explain)				
Subtotal Stormwater Control System:				

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	_____	_____	_____
Pipe and Fittings	LF	_____	_____	_____
Monitoring Probes	EA	_____	_____	_____
NSPS/Title V requirements	LS	1	_____	_____
			Subtotal Passive Gas Control:	_____
8. Active Gas Extraction Control:				
Traps	EA	_____	_____	_____
Sumps	EA	_____	_____	_____
Flare Assembly	EA	_____	_____	_____
Flame Arrestor	EA	_____	_____	_____
Mist Eliminator	EA	_____	_____	_____
Flow Meter	EA	_____	_____	_____
Blowers	EA	_____	_____	_____
Collection System	LF	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
			Subtotal Active Gas Extraction Control:	_____
9. Security System:				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	1	\$2,000.00	\$2,000.00
			Subtotal Security System:	\$2,000.00
10. Engineering:				
Closure Plan Report	LS	1	\$60,000.00	\$60,000.00
Certified Engineering Drawings	LS	1	\$60,000.00	\$60,000.00
NSPS/Title V Air Permit	LS	1	_____	_____
Final Survey	LS	1	\$30,000.00	\$30,000.00
Certification of Closure	LS	1	\$40,000.00	\$40,000.00
Other (explain) <u>bidding svcs</u>	LS	1	\$30,000.00	\$30,000.00
			Subtotal Engineering:	\$220,000.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	_____	_____	_____	_____	_____
On-Site Engineer	_____	_____	_____	_____	_____
Office Engineer	_____	_____	_____	_____	_____
On-Site Technician	_____	_____	_____	_____	_____
Other (explain) 1	1	\$200.00	_____	_____	\$200,000.00
<u>Contract Management</u>					

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$50,000.00	\$50,000.00
			Subtotal Professional Services:	\$250,000.00

Subtotal of 1-11 Above: \$2,839,873.20

12. Contingency	<u>5</u>	% of Subtotal of 1-11 Above	<u>\$141,993.66</u>
		Subtotal Contingency:	\$141,993.66

Estimated Closing Cost Subtotal: \$2,981,866.86

Description	Total Cost
13. Site Specific Costs	
Mobilization	
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain) _____	
Subtotal Site Specific Costs:	

TOTAL ESTIMATED CLOSING COSTS (\$): \$2,981,866.86

V. ANNUAL COST FOR LONG-TERM CARE

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

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

Notes: 1. Cost estimates must be certified by a professional engineer.

2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

3. In some cases, a price quote in support of individual item estimates may be required.

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

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	13	\$278.61	\$7,243.86
Annually	1			
Subtotal Groundwater Monitoring:				\$7,243.86
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Subtotal Surface Water Monitoring:				
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Subtotal Gas Monitoring:				
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)(c)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Other (explain) _____	1	1	\$350.00	\$350.00
Subtotal Leachate Monitoring:				\$350.00
Annual TCLP analysis _____				

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF			
Sumps, Traps	EA			
Lift Stations	EA			
Cleaning	LS	1	\$9,000.00	\$9,000.00
Tanks	EA			

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	_____	_____	_____
Sludge Removal	CY	_____	_____	_____
<u>Aeration Systems</u>				
Floating Aerators	EA	_____	_____	_____
Spray Aerators	EA	_____	_____	_____
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	450	\$4.04	\$1,818.00
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$10,818.00
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	_____	_____	_____
Replacement	EA	0.5	\$4,500.00	\$2,250.00
Abandonment	EA	0.5	\$600.00	\$300.00
Subtotal Groundwater Monitoring Well Maintenance:				\$2,550.00
7. Gas System Maintenance				
Piping, Vents	LF	_____	_____	_____
Blowers	EA	_____	_____	_____
Flaring Units	EA	_____	_____	_____
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	1	_____	_____
Subtotal Gas System Maintenance:				_____
8. Landscape Maintenance				
Mowing	AC	180	\$20.00	\$3,600.00
Fertilizer	AC	_____	_____	_____
Subtotal Landscape Maintenance:				\$3,600.00
9. Erosion Control and Cover Maintenance				
Sodding	SY	9,000	\$2.75	\$24,750.00
Regrading	AC	0.125	\$9,600.00	\$1,200.00
Liner Repair	SY	_____	_____	_____
Clay	CY	_____	_____	_____
Subtotal Erosion Control and Cover Maintenance:				\$25,950.00
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	\$1,800.00	\$1,800.00
Subtotal Storm Water Management System Maintenance:				\$1,800.00
11. Security System Maintenance				
Fences	LR	1	\$1,290.00	\$1,290.00
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System Maintenance:				\$1,290.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$6,000.00	\$6,000.00
			Subtotal Utilities:	\$6,000.00

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR	24	\$105.00	\$2,520.00
OnSite Technician	HR	200	\$60.00	\$12,000.00
Materials	LS	1		
Subtotal Leachate Collection/Treatment Systems Operation:				\$14,520.00

14. Administrative

P.E. Supervisor	HR	24	\$160.00	\$3,840.00
On-Site Engineer	HR	40	\$120.00	\$4,800.00
Office Engineer	HR	40	\$105.00	\$4,200.00
OnSite Technician	HR	80	\$60.00	\$4,800.00
Other <u>surveyor</u>	HR	40	\$95.00	\$3,800.00
Subtotal Administrative:				\$21,440.00

Subtotal of 1-14 Above: \$95,561.86

15. Contingency	10	% of Subtotal of 1-14 Above		\$9,556.19
Subtotal Contingency:				\$9,556.19

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

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$105,118.05

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$3,153,541.38

VI. CERTIFICATION BY ENGINEER

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



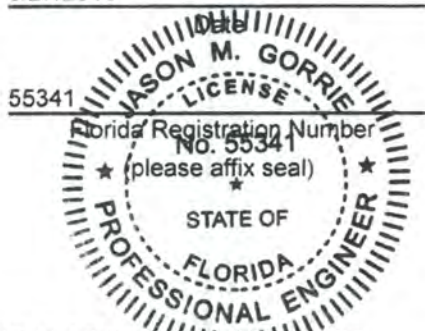
Signature

Jason Gorrie

Name and Title (please type)

8/27/2018

Date



238 East Davis Blvd., Suite 206

Mailing Address

Tampa, FL 33606

City, State, Zip Code

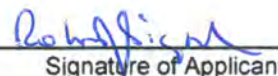
jason@img-eng.com

E-Mail address (if available)

(813) 605-0706

Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR



Signature of Applicant

Robert Sigmond

Name and Title (please type)

rsigmond@pascocountyfl.net

E-Mail address (if available)

19420 Central Blvd., Suite 219

Mailing Address

Land O' Lakes, FL 34637

City, State, Zip Code

(813) 235-6196

Telephone Number

PART 3
COST ESTIMATE REPORT

CLOSURE COST ESTIMATES REPORT

August 2018

Pursuant to Rule 62-701.630(4)(b) F.A.C., unit cost estimates for closure and long-term care of the facility are being calculated in accordance with the February 2015 revisions to FDEP 62-701.630(3)(d), F.A.C. Note that some of the quantities have been obtained from previously calculated and approved Financial Assurance Cost Estimates (FACE).

GENERAL INFORMATION AND ASSUMPTIONS

Surface area of Class III Cells = ~ 20 acres

For Closure Items 2 through 4, assume an overall loss factor of 5% to count for soil losses & testing, geosynthetics losses & testing, and miscellaneous materials uses (such as installation of anchor trenches) during construction.

Geosynthetics:

Area (incorporating 5% loss factor) = 21 acres = 914,760 ft² = 101,640 yd²

Soils:

914,760 ft² x 0.5 ft (6") cover = 457,380 ft³ / 27 = 16,940 yd³

914,760 ft² x 1.0 ft (12") cover = 914,760 ft³ / 27 = 33,880 yd³

914,760 ft² x 1.5 ft (18") cover = 1,372,140 ft³ / 27 = 50,820 yd³

Unit Cost Estimations and Calculations:

All unit costs are explained in the following parts for each item. The RS Means 2017 Heavy Construction Cost Data 31st Annual Edition was used to estimate some unit costs. The cost references third party contractors' quotes, recent construction costs at nearby landfills, and RS Means pages have been provided in Part 4.

CLOSURE COSTS

Item No. 1 Proposed Monitoring Wells

There are 13 existing monitoring wells at the site. No additional monitoring wells are proposed for closure.

Item No. 2 Slope and Fill

The slope and intermediate cover will be maintained during the operation of the landfill. During closure, there will be a need to shape and compact the intermediate cover existing at the time of closure. The currently approved closure design for the landfill is depicted in **Figure 1**. These design concepts were used to generate grading/compaction costs associated with the intermediate cover and cap foundation layer. Soil quantities were increased by an additional 5% to account for shrinkage & bulking losses.

Quantity of 18" soil fill (intermediate cover + cap foundation layer) = 50,820 CY

Off-site soils will be purchased and delivered for closure purposes. Unit cost estimates are based on a third party quotations and on RS Means 2017 Heavy Construction Cost Data 31st Annual Edition.

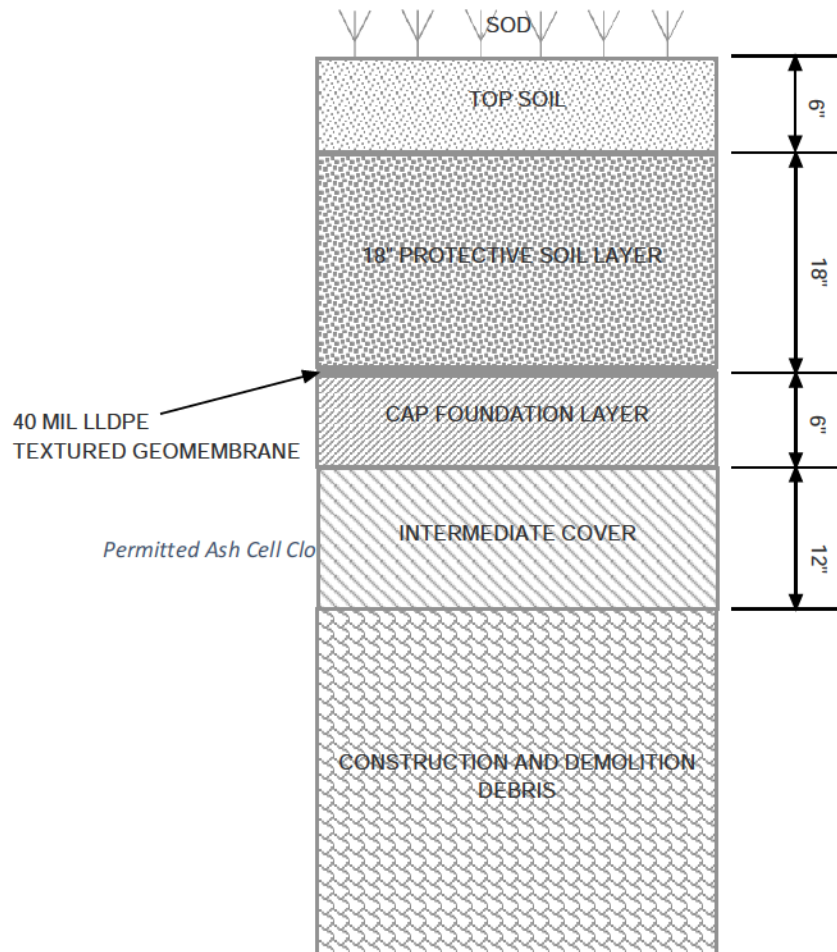


Figure 2
Permitted SW Cell Closure Cap Design

Item No. 3 Barrier Layer

The landfill barrier layers will consist of a layer of 40-mil textured LLDPE (linear low-density polyethylene) geomembrane as depicted in Figure 1.

Quantity of geosynthetics = 101,640 SY

Geosynthetics costs are based on bid pricing by a third party contractor. To verify this cost, third party contractors' quotations for landfill closure projects at similar landfill facilities in Florida were obtained and compared. The estimates used to determine unit cost for the installed geosynthetics are provided in Part 4 of this document.

Item No. 4 Final Cover Material

The quantity for this item was based on 18 inches of soil above the barrier layer. Also, soil quantities were increased by additional 5% to count for shrinkage & bulking losses.

Quantity of 18" protective soil layer = 50,820 CY

Final cover cost is based on bid pricing by a third party contractor and is compared to recent construction activities (March 2015) at the Hillsborough County SCLF. The 2015 bid price included the costs of excavation, transportation, placement, grading and compaction. To verify this cost, third party contractors' quotations for landfill closure projects at similar landfill facilities in Florida were obtained.

Item No. 5 Vegetative Cover

When closed, the landfill will be covered with 6" of top soil capable of supporting vegetative growth. The upper layer will be sodded.

Quantity of top soil (6") placed on top of final cover layer = 16,940 CY

Quantity of soil placed over top soil = 101,640 SY

Sodding cost is based on an April 2015 third party contractors quotations received on landfill closure projects for similar landfill facilities in the Tampa Bay area and from a Pasco County-specific quote provided by Comanco.

- Sodding unit cost from 2015 and 2017 contractor quotes = \$2.75 per SY

Item No. 6 Stormwater Control Systems

The currently approved closure design anticipates that the final contours of the landfill at closure will shed all stormwater to the existing perimeter swale system. An existing stormwater pond located just to the north of the landfill will receive stormwater from the existing swale system. No additional control systems will need to be constructed following closure.

Item No. 7 Passive Gas Control

Because no putrescible waste will be placed in the Class III cells, there is no potential for the generation of landfill gas and no gas control systems are envisioned.

Item No. 8 Active Gas Extraction Control

Because no putrescible waste will be placed in the Class III cells, there is no potential for the generation of landfill gas and no gas control systems are envisioned.

Item No. 9 Security System

Perimeter fencing, gates and signs already exist at the facility. A \$2,000 lump sum is allocated in the cost estimates for additional signs or fence modifications required at the time of closure.

Item No. 10 Engineering

The engineering costs associated with closing the ash cells and the solid waste cells is estimated to be approximately 5% of the closure costs, or approximately \$220,000.

Item No. 11 Professional Services

The cost for professional services related to contract management and quality assurance for closure is estimated to be approximately 6% of the closure costs, or approximately \$250,000.

Item No. 12 Contingency

A contingency of 5% is added to the subtotal of items 1 through 11.

Item No. 13 Site Specific Costs

There are no Site Specific Costs identified at this time

LONG TERM CARE COST ESTIMATE

August 2018

1. Groundwater Monitoring [62-701.510 (6), and (8)(a)]

The West Pasco Class III Landfill has 13 groundwater monitoring wells that are sampled semi-annually. Sampling and analysis is conducted by Pasco County Environmental Services. Included in Part 4 are the unit costs estimates provided by Pasco County Environmental Laboratory to obtain the required groundwater samples and to analyze them for the required constituents. Annual groundwater sampling and analysis is estimated to be **\$7,243.86**.

2. Surface Water Monitoring [62-701.510(4), and (8)(b)]

It is not anticipated that the existing stormwater system will discharge from the site. Accordingly, there is no cost associated with surface water monitoring.

3. Gas Monitoring [62-701.400(10)]

Because the landfill only accepts non-putrescible waste, it is not anticipated to generate significant amounts of landfill gas. Accordingly, there is no cost associated with gas monitoring.

4. Leachate Monitoring [62-701.510(5),(6)(b) and 62-701.510(8)(c).

Currently, leachate is collected and pumped to the adjacent Shady Hills Wastewater Treatment Plant for disposal. The disposal site requires an annual demonstration that the leachate does not exhibit the toxicity characteristic defined at 40 CFR 261.24. The annual cost to conduct a TCLP analysis is approximately \$350.

Annual leachate monitoring is estimated to be **\$350**.

5. Leachate Collection/Treatment Systems Maintenance

Routine maintenance of the leachate collection system is a high-pressure cleaning of all laterals and collection mains every five years. A third-party contractor recently conducted this maintenance at a cost of \$3,200 (see **Part 4**). Though not deemed necessary following the last routine pressure cleaning, it is possible that additional video-inspection *could* become necessary in the future. Therefore, for purposes of estimating long-term care costs, Pasco County will apply a safety factor to this estimate and assume an annual cost of **\$9,000** per year.

Leachate from the landfill is currently collected in 2 lift stations and directly to the adjacent Shady Hills Wastewater Treatment Facility. The current charge-back price that Pasco County Utilities accepts the leachate for is \$4.04/thousand gallons (see **Part 4**).

Once the landfill is in long term care, the amount of leachate generated will be minimal because of the landfill cover. To approximate the amount of leachate that will be generated following installation of the final cover systems, leachate generation rates for the closed East Pasco Class I landfill were reviewed. The East Pasco Landfill was used for this analysis because the closure design is similar to that anticipated for the West Pasco Class III landfill. The portion of the East Pasco Landfill that incorporates a leachate collection system is approximately 80 acres in size. Monthly leachate generation rates for East Pasco show that the average monthly volume of leachate collected in the capped and closed landfill is approximately 150,000 gallons per month. Extrapolating this value out over a 12-month period results in an estimated annual leachate generation rate of 1.8 million gallons for the 80 acre closed landfill, or 22,500 gallons per year per acre. At \$4.04/thousand gallon disposal, this equates to approximately **\$1,818** per year in leachate disposal costs.

6. Groundwater Monitoring Well Maintenance

It is estimated that the construction of a new well, installed to a depth of approximately 30 feet (the average depth of a surficial aquifer monitoring well at the site) is approximately \$4,500. Assuming that all of the existing monitoring wells will at some point during the 30-year long term care period be replaced, total replacement cost will be \$58,500 ($\$4,500 \times 13$ wells). For simplicity, it will be assumed that a new well will be conservatively assumed that a new well will be installed every other year over the 30 year long term care period, resulting in an estimated annual cost of **\$2,250**.

7. Gas System Maintenance

Because the landfill only accepts non-putrescible waste, it is not anticipated to generate significant amounts of landfill gas. Accordingly, there is no cost associated with gas system maintenance.

8. Landscape Maintenance

Pasco County Utilities will contract out the mowing and landscape services necessary at the landfill. **Part 4** provides the latest Bid Tabulation for the Request for Bid associated with the landscape maintenance activities. The prevailing bidder provided a cost of \$20/acre and the estimated acreage will be approximately 20 acres. Assuming a mowing frequency of 9 times per year, the annual cost associated with landscape maintenance is **\$3,600** ($\$20/\text{acre} \times 20 \text{ acres} \times 9 \text{ events/year}$).

9. Erosion Control and Cover Maintenance

It is estimated that approximately 1,000 square yards of the landfill surface area requires re-sodding every year. Assuming a conservative cost for sod of \$2.75 per square foot, the total estimated annual cost for re-sodding is approximately **\$24,750**.

To estimate the amount the amount of cover soil, it is assumed that 6 inches of soil will need to be placed and graded for every 0.125 acres of sod placed each year. This results in a required

volume of $0.125 \text{ acres} \times 0.5 \text{ ft} \times 43,560 \text{ ft}^2/\text{acre} = 2,723 \text{ ft}^3 = 100 \text{ cubic yds}$. Assuming a conservative unit rate of $\$12/\text{yd}^3$, the total annual cost for soil is estimated to be **\$1,200**. Assuming proper maintenance of the cover system, liner repairs are not anticipated.

The estimated total annual cost for cover soil and sod is approximately **\$25,950**

10. Stormwater Management System Maintenance

In order to maintain the stormwater system in its current capacity of precluding off-site discharges, it will be necessary to maintain the drainage swale system by removing vegetation from the swales. To accomplish this, it is assumed that a portion of the annual landscape maintenance costs can be applied to the stormwater system. For purposes of this estimate, it is assumed that annual swale maintenance can be achieved at approximately 50% of the annual landscape maintenance cost, or approximately **\$1,800**.

11. Security System Maintenance

The site security system consists of a 6' chain link fence and multiple rolling chain-link gates. It is estimated that there will be approximately 50 feet of fence that must be replaced each year for the 30 years of long term care, at a cost of approximately \$25 per linear foot. In addition, it is anticipated that 2 gates will need to be replaced at least once in the next 30 years. This results in an annual estimated cost of **\$1,290** ($50 \text{ feet} \times \$25/\text{ft} + \$1,200/30 \text{ years}$).

12. Utility Costs

It is assumed that electricity from the Waste-to-Energy Facility will not be available during the long term care period of the landfill and that electrical power to operate the leachate pumps and other electrical equipment must be purchased from the local electric utility. A review of annual purchases from Withlacoochee Electrical Cooperative (included in Part 4) shows that the site currently purchases approximately \$1,000 worth of electricity monthly. Approximately half of that electricity is consumed by the scalehouse, which will not be in service during closure. Therefore it is assumed that the annual utility costs during closure will be **\$6,000** ($\$500/\text{month} \times 12 \text{ months}$)

13. Leachate Collection/Treatment System Operation

It is assumed that a part-time Operator will be assigned to the landfill throughout the closure period to maintain the leachate collection system and perform daily site security functions. At a fully loaded labor rate of \$60/hr and an anticipated 200 hrs per year of labor, this results in an annual cost of approximately \$12,000 per year. The part time Operator will be assisted by a part time Office Engineer. At a fully loaded labor rate of \$105/hr and an anticipated 24 hrs per year of labor, this results in an annual cost of approximately \$2,520.00 per year. The overall estimated annual operating labor costs are expected to be approximately **\$14,520** per year

14. Administrative

To administer the regulatory obligations of the closed landfill during the long term care period (such as maintaining compliance with the Long Term Care Permit, assessing the condition of the

closed landfill, preparing an annual survey, etc.), a number of Administrative functions are necessary. The total annual estimate for these functions (as broken out on Form 62-701.900(28)) is **\$21,440**.

PART 4
UNIT COST REFERENCES

BID NO. IFB-EC-16-130
 LANDFILL COVER MATERIAL - AA
 5/23/16 2:30 PM

Description	CENTRAL FLORIDA TRANSPORT, LLC		RON MORSE TRACTOR SERVICE LLC	
	COLEMAN, FL		BROOKSVILLE, FL	
Sand Cover Materials Delivered	Cost per Cubic Yard		Cost per Cubic Yard	
to: West Pasco County Class I Sanitary Landfill 14230 Hays Road Spring Hill, Florida	\$ 12.90		\$ 14.50	
Per the specifications, on an as-needed basis.				
Delivery: _____ Calendar				
Days after Receipt of Purchase Order.	3		10	

* The above price is for purchase & delivery of clean fill material.

Closure

2. Slope and Fill
 off-Site Material

4. Top Soil Cover
 Delivery

23 Excavation and Fill

23.23 - Fill

23.20 Hauling

	Crew	Daily Output	Labor-Hours	Unit	Material	2017 Bare Costs Labor	2017 Bare Costs Equipment	Total	Total Incl O&P
25 MPH ave, cycle 4 miles	B-341	216	.037	L.C.Y.		1.69	3.78	5.47	6.70
cycle 6 miles		198	.040			1.84	4.12	5.96	7.30
cycle 8 miles		180	.044			2.02	4.53	6.55	8.05
cycle 10 miles		162	.049			2.25	5.05	7.30	8.95
30 MPH ave, cycle 4 miles		216	.037			1.69	3.78	5.47	6.70
cycle 6 miles		198	.040			1.84	4.12	5.96	7.30
cycle 8 miles		180	.044			2.02	4.53	6.55	8.05
cycle 10 miles		162	.049			2.25	5.05	7.30	8.95
35 MPH ave, cycle 4 miles		234	.034			1.56	3.49	5.05	6.20
cycle 6 miles		216	.037			1.69	3.78	5.47	6.70
cycle 8 miles		198	.040			1.84	4.12	5.96	7.30
cycle 10 miles		180	.044			2.02	4.53	6.55	8.05
cycle 20 miles		126	.063			2.89	6.45	9.34	11.45
cycle 30 miles		108	.074			3.37	7.55	10.92	13.40
cycle 40 miles		90	.089			4.05	9.05	13.10	16.05
40 MPH ave, cycle 6 miles		216	.037			1.69	3.78	5.47	6.70
cycle 8 miles		198	.040			1.84	4.12	5.96	7.30
cycle 10 miles		180	.044			2.02	4.53	6.55	8.05
cycle 20 miles		144	.056			2.53	5.65	8.18	10.05
cycle 30 miles		108	.074			3.37	7.55	10.92	13.40
cycle 40 miles		90	.089			4.05	9.05	13.10	16.05
cycle 50 miles		72	.111			5.05	11.35	16.40	20
45 MPH ave, cycle 8 miles		216	.037			1.69	3.78	5.47	6.70
cycle 10 miles		198	.040			1.84	4.12	5.96	7.30
cycle 20 miles		144	.056			2.53	5.65	8.18	10.05
cycle 30 miles		126	.063			2.89	6.45	9.34	11.45
cycle 40 miles		108	.074			3.37	7.55	10.92	13.40
cycle 50 miles		90	.089			4.05	9.05	13.10	16.05
50 MPH ave, cycle 10 miles		198	.040			1.84	4.12	5.96	7.30
cycle 20 miles		162	.049			2.25	5.05	7.30	8.95
cycle 30 miles		126	.063			2.89	6.45	9.34	11.45
cycle 40 miles		108	.074			3.37	7.55	10.92	13.40
cycle 50 miles		90	.089			4.05	9.05	13.10	16.05

Closure

2. Slope and Fill - Compaction

23.23 Compaction

0010	COMPACTON	B-10Y	3000	.004	E.C.Y.	.20	.20	.40	.52
5000	Riding, vibrating roller, 6" lifts, 2 passes		2300	.005		.25	.26	.51	.68
5020	3 passes		1900	.006		.31	.32	.63	.82
5040	4 passes		4100	.003		.14	.15	.29	.38
5050	8" lifts, 2 passes		5200	.002		.11	.12	.23	.30
5060	12" lifts, 2 passes		3500	.003		.17	.17	.34	.44
5080	3 passes		2600	.005		.23	.23	.46	.60
5100	4 passes	B-10G	2400	.005		.24	.54	.78	.96
5600	Sheepsfoot or wobbly wheel roller, 6" lifts, 2 passes		1735	.007		.34	.75	1.09	1.33
5620	3 passes		1300	.009		.45	1	1.45	1.78
5640	4 passes		5200	.002		.11	.25	.36	.44
5680	12" lifts, 2 passes		3500	.003		.17	.37	.54	.66
5700	3 passes		2600	.005		.23	.50	.73	.89
5720	4 passes	B-10D	10000	.001		.06	.18	.24	.29
6000	Towed sheepsfoot or wobbly wheel roller, 6" lifts, 2 passes		2000	.006		.29	.92	1.21	1.45
6020	3 passes		1500	.008		.39	1.22	1.61	1.94
6030	4 passes		6000	.002		.10	.31	.41	.49
6050	12" lifts, 2 passes								

Jason Gorrie

From: David Scherbaty <dscherbaty@comanco.com>
Sent: Wednesday, December 27, 2017 11:33 AM
To: Jason Gorrie
Subject: Pasco Co. LF Closure Budget Numbers
Attachments: Pasco Co. LF - Closure Budget.pdf

Jason,

It was great talking with you earlier. Per our conversation attached please find some closure budgetary numbers. These numbers assume that the site has an on-site borrow source for the fill below the geomembrane layer and cover material will need to be imported. Geosynthetics will be per the standard Subtitle D closure with a 40-Mil Textured LLDPE and a Geocomposite. Hopefully these numbers help, but please let me know if you need anything else.

Also, if you're around in early January I'd love to get together to discuss any upcoming opportunities that you all might be working on. Please just let me know what your availability is.

Thanks,
David



David Scherbaty | Director of Sales
COMANCO Environmental Corporation
4301 Sterling Commerce Drive | Plant City, FL 33566
Office: 813-988-8829 | Cell: 813-323-3584
E-mail: dscherbaty@comanco.com | web: www.comanco.com

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IV. ESTIMATED CLOSING COST (check what applies)

☐ Recalculated Cost Estimate

☐ New Facility Cost Estimate

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp

2. Cost estimate must be certified by a professional engineer.

3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
			Subtotal Proposed Monitoring Wells:	
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY SY		1.00	
Placement and Spreading	CY		4.50	
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
			Subtotal Slope and Fill:	
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY		5.50	
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY		7.50	
Geocomposite				
			Subtotal Cover Material:	
4. Top Soil Cover:				
Off-Site Material	CY		10.00	
Delivery	CY		4.00	
Spread	CY		5.00	
			Subtotal Top Soil Cover:	
5. Vegetative Layer				
Sodding	SY		2.75	
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
			Subtotal Vegetative Layer:	
6. Stormwater Control System:				
Earthwork	CY			
Grading	SY			
Piping	LF			
Ditches	LF			
Berms	LF			
Control Structures	EA			
Other (explain)				
			Subtotal Stormwater Control System:	

Prepared By: Candia E. Mulhern, Laboratory Manager
Pasco County Environmental Laboratory
Date: 2018 July 20

ANNUAL COST OF ANALYSIS FOR GWM AT West Pasco

SEMI-ANNUAL COSTS

Total Ammonia - N	\$13.00	26	\$338.00
Chlorides	\$6.00	26	\$156.00
Nitrate	\$7.00	26	\$182.00
TDS	\$7.00	26	\$182.00
Iron	\$10.00	26	\$260.00
Mercury	\$20.00	26	\$520.00
Sodium	\$10.00	26	\$260.00
40 CFR Pt. 258, APP I	\$110.00	26	\$2,860.00
*Mileage	\$0.575	492 miles	\$565.80
*Time	\$20.00	48 hours	\$1,920.00
Total Annual Cost			\$7,243.80

*Mileage and Sampling Time vary depending on environmental conditions. The hours and mileage are estimates.

Long Term Care

1. Groundwater Monitoring

Florida Jetclean - Jetclean America

7538 Dunbridge Drive
Odessa, FL 33556
800-226-8013

Invoice

Svc Date	Due Date	Invoice #
6/4/2018	7/4/2018	12989

Bill To
JMG Engineering, Inc. 238 E. Davis Blvd. Unit 206 Tampa FL 33606

Ship To
West Pasco Landfill Class II - Cells 1-4

P.O. No.	Terms	Project Information
Jason Gorrie	Net 30	LCS Pipe Jetclean

Date(s)	Description	Amount
6/4/18	High-pressure water-jetting of 4,540 LF of existing leachate collection pipe across 4 Class III Cells (12 Total Pipes), as instructed, and per approved proposal. *** Report Provided Separately To Jason Gorrie *** <i>Long Term Care S. Leachate Collection/Treatment Cleaning</i>	3,200.00

All work is complete!

Total**\$3,200.00**

- All major credit cards accepted with 4.5% processing fee.
- Please pay against invoice, no statement will be sent.

Closed East Pasco Landfill

	month	leachate generated (gallons)
2015	January-15	161,415
	February-15	124,940
	March-15	186,427
	April-15	147,190
	May-15	205,967
	June-15	192,449
	July-15	356,504
	August-15	198,297
	September-15	126,222
	October-15	193,969
	November-15	148,298
	December-15	141,520
2016	January-16	176,255
	February-16	152,873
	March-16	123,771
	April-16	111,976
	May-16	112,156
	June-16	294,597
	July-16	173,185
	August-16	251,315
	September-16	167,558
	October-16	108,194
	November-16	128,057
	December-16	109,913
2017	January-17	181,247
	February-17	132,662
	March-17	125,753
	April-17	64,413
	May-17	120,773
	June-17	67,979
	July-17	122,779
	August-17	183,196
	September-17	164,691
	October-17	99,420
	November-17	49,663
	December-17	66,996
	January-18	125,978
	February-18	78,849
	March-18	136,362

Long Term Care
Leachate Collection
Treatment
off site disposal

Monthly Average =	149,072
Extrapolated Annual Rate =	1,788,864.31

Jason Gorrie

From: Justin G. Roessler <jroessler@pascocountyfl.net>
Sent: Thursday, August 9, 2018 8:32 AM
To: Jason Gorrie; John Power
Subject: Leachate Costs for Class III

Our wastewater chargeback costs for leachate disposal at shady are \$4.04 per k gal.



Justin Roessler, Ph.D.

Assistant Solid Waste Director
Utilities-Solid Waste
Resource Recovery Facility

Pasco County

P 727-857-2780

F 727-861-3099

14230 Hays Rd.,

Spring Hill, FL 34610

jroessler@pascocountyfl.net

www.pascocountyfl.net

"Serving our community to create a better future."



"Bringing Opportunities Home"

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Long Term Care
S. Leachate Collection /
Treatment
Off-site disposal

A. SOLID WASTE FACILITIES:

Item No.	Description	BEVERLY HILLS SOLID WASTE CITY, FL	NANTUCKET SOLID WASTE CITY, FL	TOTAL PROPERTY MANAGEMENT CITY, FL	LUKE BROOKS INC. CITY, FL	RA BURE SOLID WASTE CITY, FL	SHORELAND MANAGEMENT CITY, FL	SCOTT'S LAND MANAGEMENT CITY, FL
1	East Project Transfer Station 13511 Adams Road Dade City, Florida	\$ 20.00	\$ 10.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 20.00	\$ 20.00
2	West Project Transfer Station 14220 Hays Road Dade City, Florida	\$ 20.00	\$ 10.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 20.00	\$ 20.00
3	Approximately 11 Acres West Project Transfer Station 14220 Hays Road Dade City, Florida	\$ 20.00	\$ 10.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 20.00	\$ 20.00
4	Approximately 100 Acres West Project Transfer Station 14220 Hays Road Dade City, Florida	\$ 20.00	\$ 10.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 20.00	\$ 20.00
5	Approximately 40 Acres West Project Transfer Station 14220 Hays Road Dade City, Florida	\$ 20.00	\$ 10.00	\$ 20.00	\$ 24.00	\$ 20.00	\$ 20.00	\$ 20.00
SUB TOTAL OF A		\$ 80.00	\$ 40.00	\$ 80.00	\$ 96.00	\$ 80.00	\$ 80.00	\$ 80.00

Long Term Care
B. Landscape Maintenance
Mowing

Withlacoochee River Electric - Average Billings

Long Term Care - Utilities

Locations	2011	2012	2013	2014	2015	2016	2017
EPSL-Office Scalehouse-Singletary	71.80	78.61	80.25	64.91	63.21	64.80	
Resource Recovery Lift Station	21.55	21.79	21.15	24.18	26.07	26.05	
Resource Recovery Scale House	225.30	208.38	165.49	177.29	176.17	207.23	
Class III Maintenance Bldg.	441.43	476.19	472.62	489.37	774.64	847.38	
Class III Scalehouse	216.55	199.92	232.22	275.26	251.27	225.73	
Handcart Road - EPTS	1,009.79	1,011.18	938.48	954.12	758.17	823.08	
Resource Recovery Well House	1,881.88	1,547.15	1,330.11	1,169.45	1,336.45	1,567.51	1,325.46
Leachate Tanks - SW1	123.93	133.92	123.65	147.22	170.51	180.62	111.43
Leachate Tanks - Ash Cell	104.94	94.93	116.28	137.17	75.69	81.01	63.35
Galen Wilson Blvd.	34.81	52.87	44.10	57.25	52.46	41.85	42.68
Auton Road - 4" Well	18.46	18.46	21.83	23.68	23.52	25.64	25.64
Hays Road - Lift Station - Class III	60.94	44.07	31.97	38.25	49.87	60.86	32.39
Hays Road - Lift Station - Class III	55.03	43.60	33.84	38.74	52.73	63.56	53.69
Auton Road - Leachate - Cell #5	-	-	-	-	-	0.00	0.00
MRF Building	-	45.49	413.68	336.06	271.04	0.00	0.00
MRF Trailer	0.00	45.49	64.78	93.93	42.55	25.64	27.52
A-2 Cell	19.11	19.16	19.18	24.52	26.28	26.37	26.37
Resource Recovery Compactors	84.63	70.10	28.83	49.03	0.00	0.00	0.00
Stormwater Pump SW2 (End: Dec 2009)	-	-	-	-	-	0.00	0.00
Stormwater Pump A3	-	-	-	-	-	0.00	0.00
RR- Tires	-	-	-	38.83	42.31	46.42	41.74
RR- Brush	-	-	-	40.52	46.05	54.52	50.05
A-4 Lift Station (Oct. 2010)	-	-	-	158.31	210.09	144.20	82.28
Landfill Equipment Barn (Oct. 2010)	-	-	-	42.69	26.47	26.47	26.57
Storage Trailer CL I (Nov. 2010)	-	-	-	23.85	25.64	25.64	25.64
Class 3 CDO (Dec. 2011)	-	-	-	24.77	26.59	26.57	26.57
W Scale A2 (Hays Rd.) (June 2012)	-	-	-	281.99	287.69	316.52	274.97
Hays W Scale (April 2012)	-	-	-	133.06	151.28	162.78	166.93
East Pasco Compactor 2 (June 2012)	-	-	-	174.85	163.75	179.39	191.85
East Pasco Compactor (Apr. 2012)	-	-	-	248.06	249.46	229.26	237.57
DC Well - EPTS (July 2013)	-	-	-	75.37	75.04	74.88	76.44
Recycling Station - 14230 Hays Rd (Start: Nov 2014)	-	-	-	-	377.45	413.45	411.05
TOTAL	6,381.16	6,123.30	6,151.45	7,356.71	7,847.45	7,983.43	

ATTACHMENT B
LEACHATE COLLECTION SYSTEM CLEANING REPORT

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE
ODESSA, FL 33556
T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

JMG Engineering, Inc. Pasco County Solid Waste West Landfill Class III Landfill - Cells 1-4 Leachate Collection Pipe Jetcleaning

Work Performed June 2018

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
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7538 DUNBRIDGE DRIVE
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T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 6/6/2018
TO : Jason Gorrie – JMG Engineering, Inc.
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : 2018 West Pasco County Landfill - Class III Landfill - Pipe Jetcleaning Project

Florida Jetclean completed the high-pressure water-jetting of the Class III - Cells 1-4 leachate collection piping at the above landfill on 6/4/2018. The jetting log (below) documents the pipes that were addressed, as well as the jetting distances that were achieved in each pipe.

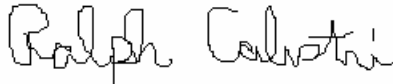
CLASS III (6" HDPE)

Cell 1 - Pipe 1 (Outside Pipe)	500'	Entire Pipe Cleaned
Cell 1 - Pipe 2 (Inside Pipe)	560'	Entire Pipe Cleaned
Cell 1 - Manhole to Pump Station 1	75'	Entire Pipe Cleaned
Cell 2 - Pipe 2 (Inside Pipe)	560'	Entire Pipe Cleaned
Cell 2 - Pipe 1 (Outside Pipe)	500'	Entire Pipe Cleaned
Cell 2 - Manhole to Pump Station 1	75'	Entire Pipe Cleaned
Cell 3 - Pipe 1 (Outside Pipe)	500'	Entire Pipe Cleaned
Cell 3 - Pipe 2 (Inside Pipe)	560'	Entire Pipe Cleaned
Cell 3 - Manhole To Pump Station 2	75'	Entire Pipe Cleaned
Cell 4 - Pipe 2 (Inside Pipe)	560'	Entire Pipe Cleaned
Cell 4 - Pipe 1 (Outside Pipe)	500'	Entire Pipe Cleaned
Cell 4 - Manhole to Pump Station 2	75'	Entire Pipe Cleaned

All pipes were jetcleaned in their entirety, and were blockage free upon completion.

Please call us with questions or concerns.

Thank you,



Ralph Calistri - Florida Jetclean - 800-226-8013

ATTACHMENT C
UPDATED OPERATIONS PLAN

Pasco County, Florida



**Landfill Operation Plan
For
West Pasco Class III Landfill**

Revised November 2018

Document Revision Log

Revision Number	Revision Date	Revision Description	Incorporated In Permit #
0	1/29/1988	Initial issuance	SC51-144683
1	5/14/1996	Replaced in entirety for new permit	SC51-277316
2	10/3/2001	Replaced in entirety for new permit	26255-001-SO
3	6/1/2008	Replaced in entirety for new permit	26254-001-SO/T3
4	10/2013	Replaced in entirety for new permit	26254-003-SO/T3
5	11/2013	Updated operating personnel, included alternative weekly cover material	Five Year Submittal

TABLE OF CONTENTS

Facility Background	1
1. Operating Personnel Training	2
2. Operations	2
a. Responsible Operating and Maintenance Personnel	2
b. Contingency Operations for Emergencies	2
c. Controlling Types of Waste Received at the Landfill	3
d. Weighing Incoming Waste	4
e. Vehicle Traffic Control and Unloading	4
f. Method and Sequence of Filling Waste	4
g. Waste Compaction and Application of Cover	5
h. Operations of Gas, Leachate, and Stormwater Controls	6
i. Water Quality Monitoring	6
j. Maintaining and Cleaning Leachate Collection System	6
3. Operating Record	6
4. Waste Records	6
5. Access Control	6
6. Load Checking Program	7
7. Landfilling Procedures	7
8. Operation of Leachate Control	8
9. Routine Gas Monitoring Program	9
10. Odor Remediation Plan	9
11. Landfill Stormwater Management System	9
12. Equipment and Operation Feature Requirements	10

a. Adequate In-Service and Reserve Equipment	10
b. Reserve Equipment/Arrangements to Obtain Additional Equipment Within 24 Hours of Breakdown	10
c. Communication Equipment	11
d. Dust Control Methods	11
e. Fire Protection Capabilities and Procedures	11
f. Litter Control Devices	12
g. Signs, Hours of Operation, and Disposal Restrictions	12
13. All-Weather Access Road	12
14. Record Keeping and Reporting Requirements	12

List of Figures

Figure No. 1 Site Layout	14
Figure No. 2 Sequence of Filling	15
Figure No. 3 Leachate Holding Tanks	16
Figure No. 4 Liner, Invert, and Tank Elevations	17
Figure No. 5 Load Inspection Form	18

Landfill Operation Plan for West Pasco Class III Landfill

Facility Background

The landfill addressed in this plan is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of a mass-burn resource recovery facility, the West Pasco Class I Landfill, the West Pasco Class III Landfill, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center is permitted separately under Chapters 62-4 and 62-701, FAC.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial, and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers, fabric filter baghouses, and carbon injection for mercury control for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Processed residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) ten hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semitruck transfer trailers, and by smaller private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the ash storage building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which are directed to a public drop-off area outside the building. Inside the facility building on the tipping floor, roll-off containers are provided for removing of nonprocessable waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scale house and the facility operators to advise them of the delivery of any unacceptable waste.

The entire 800-acre site is enclosed by chain-link and barbed-wire fence to limit access. To further limit access, the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed-wire fence to control movement between the units.

1. Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB), which is responsible for the operations of the landfill, has a pro-active approach to training and certifying all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County has staff members who have been trained and are certified through or by the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of course completion certificates are kept on file. The landfill has at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter is at each working face at all times to detect unauthorized wastes when the landfill receives waste

2. Operations

a. Responsible Operating and Maintenance Personnel

John Power, Solid Waste Director

Justin Roessler, Assistant Solid Waste Director

b. In addition to the two supervisory employees above, 52 full-time positions are authorized for landfill operations. As of the writing of this plan, 40 full time employees are trained spotters. At least one of these spotters is located at the working face of the Class III landfill when the landfill is receiving waste.

c. Contingency Operations for Emergencies.

Class III wastes resulting from a natural disaster or other emergency may be stockpiled for later removal. The access road is designed to allow normal operations under adverse conditions. Cooperative lending agreements with other Pasco County departments will be pursued for back-up equipment as necessary.

Emergency Fire Procedures:

- (1) Field staff will contact scale attendant via two-way radio and provide details.
- (2) Scale attendant will contact 9-1-1, requesting fire company response.
- (3) Scale attendant will notify landfill operator.
- (4) Landfill operator will direct additional equipment and manpower as may be required.

Controllable Fire:

- (1) Field staff will contact scale attendant via two-way radio and provide details.
- (2) Field staff will put out the fire using landfill equipment and soil from an on-site stockpile maintained for the suppression. The stockpile is east of the landfill.
- (3) Scale attendant will contact Landfill Supervisor
- (4) Landfill Supervisor will inspect scene.

Natural Disaster Procedures:

When notice is provided of a pending natural disaster (tornado, hurricane, etc.), the landfill supervisor will direct staff to:

- (1) Check stormwater management system for any blockages at culverts, pipes, etc.
- (2) Check leachate management system levels, pumping units, etc.
- (3) Apply daily cover to working face where appropriate.
- (4) Secure equipment where appropriate.

After the natural disaster has occurred, the landfill supervisor will direct staff to assess damage to and operational status of:

- (1) Access roads.
- (2) Stormwater management system.
- (3) Leachate management system.
- (4) Landfill equipment.
- (5) Disposal units.
- (6) Excess Class III waste shall be stockpiled on the Limestone Pad north of Class III Landfill, to segregated wooden material. Class I Waste will only be stored on the lined areas of Class I landfill.

The Landfill Supervisor will report findings to the Solid Waste Manager.

c. Controlling Types of Waste Received at the Landfill

The Class III disposal unit is primarily a construction and demolition (C&D) disposal unit. All incoming material is inspected at the scale house on a daily basis to acquire reasonable assurances that no prohibited wastes are deposited in the cell. Examples of prohibited wastes include Class I wastes, household garbage, medical waste, waste oil, tires, batteries, and/or large metal items. Particular care is addressed to hazardous and medical wastes; should they be detected, arrangements will be made for proper handling and disposal under the direction of the Pasco County Hazardous Waste Manager. Pasco County will not burn any solid waste at this facility. Pasco County will not knowingly dispose any hazardous waste, PCBs, biomedical waste, any special wastes (lead acid batteries, used oil, yard trash, white goods, and whole tires), liquid waste, and oil waste at this facility.

Yard trash and/or lot clearing debris are not accepted for disposal in the Class III unit. Pasco County does not intermingle with the County's used tire collection program with the Class III Landfill operation.

At least one trained spotter will be located at each working face, in accordance with rule 62-701.500(1). Procedures for removal of prohibited wastes are outlined in Section 6 (Entitled "Load Checking Program"). In summary of Section 6, removal of prohibited wastes

is the responsibility of the hauler. Identification of hazardous wastes will be reported to the appropriate regulatory authorities.

Unacceptable waste discovered at Class III will be temporarily stored in a 40 CY container situated near the working face as shown on Figure 1. The container shall be emptied at the end of each working day. Any processible waste is sent to the mass-burn Resource Recovery Facility. Any hazardous waste is sent to household hazardous waste area (as shown on Figure 1) for packaging. The packaged waste is sent to outside contracted company for final disposal and treatment. For biomedical waste, the responsible party shall be contacted to clean up the biomedical waste at their expense. If the responsible party cannot be identified, the Hazardous Waste Department of Pasco County is contacted. The Hazardous Waste Department will arrange with a contract vendor to clean, remove and dispose the biomedical waste. Electronic Waste is stored at the E-waste storage area (Figure 1) for packaging. Oil is collected in similar ways. Both the oil and the electronic waste are packaged and picked up by a County vendor for reprocesses/recycle. Metals are stored in metal storage area (Figure 1) for further processing. Waste tires are transferred to the waste tire processing facility for shredding and then delivered to the Resource Recovery Facility for their facility fuel.

d. Weighing Incoming Waste

No waste can enter the site without passing the main entrance scale and/or the Class III disposal unit scale. Loaded vehicles entering the landfill site will be weighed and will be documented prior to unloading. Vehicles with a franchise or commercial license will be weighed at the Class I/Resource Recovery Facility Scalehouse and issued a receipt indicating the weight and payment received. C&D loads will then be redirected to the Class III Landfill. Small vehicles will be charged by the type of vehicle and size of the load.

e. Vehicle Traffic Control and Unloading

Private refuse haulers are not permitted to drive at random into the Class III cell. Individual vehicles and trucks containing C&D waste receive placing directions from the trained spotter at the working face of the cell.

Directional signs are placed to safely direct vehicles to the current waste unloading area. These signs have large, legible letters and are cleaned when necessary. Signs are placed at points so that the route is clear to the drivers. Speed limit, safety, and prohibitive practice signs have been placed as necessary to encourage a safe, clean operating area.

Unloading will be permitted only at designated working faces of the currently operating cell. Haulers are responsible for unloading their own vehicles. A spotter will be present near the active disposal areas to direct vehicles to appropriate off-loading areas and to observe the off-loading process to ensure that unacceptable materials are not part of the delivery.

f. Method and Sequence of Filling Waste

The landfill will be developed using four disposal areas as shown on **Figure 1**. Each area is approximately 3.5 acres. Disposal cells and their integral liner and leachate collection

systems are constructed with permanent roads and swales for access and surface water management.

Cells 1, 2, 3, and 4 have been constructed and are ready for disposal of Class III materials.

The method of filling wastes in an individual cell is as follows:

All incoming Class III materials waste will be directed to the working face. Class III materials will be placed against the side slope of the previous day's deliveries. The first row will act as a berm to provide a guide for the placement of waste for the remaining rows. In each row, cells will be constructed having a minimum length of working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate. A maximum slope of 3:1 on a 75-foot wide working face will provide for centralization of operations, while providing maneuvering area for private and commercial vehicles unloaded each day. See **Figure 2** for additional details.

The sequence of filling future lined cell areas with installed leachate collection systems is developed to meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift cell.
- Design landfill slopes during operation to maximize surface run-off away from the working face and minimize leachate generation.
- Provide a bench terrace along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over cell lifts within 180 days after the final lift over an area is completed, or within the time frame set forth in the closure plan. Final cover will consist of a 40-mil LLDPE and 24-inch of protective soil layer. The top six inches of the protective soil layer will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration.

g. Waste Compaction and Application of Cover

Sufficient cover material will be available from a fill dirt pit to provide a continuous supply of cover through the period of operational site life. Alternatively, Posi-Shell will be applied in lieu of fill dirt.

The Class III materials will be placed at the top of the working face, spreading outward in approximately two-foot layers. The Class III materials will be compacted as necessary by a front-end loader or bulldozer and/or landfill compactor. The material types comprising Class III refuse are not always conducive to compaction. Therefore, compaction equipment is not included as required equipment, but is available at the site.

Application of final cover is to be performed in accordance with the closure plan. Six inches of initial cover will be applied to the working face at least once a week. Intermediate cover consisting of one foot of compacted native sandy soil from a private dirt pit will be applied

within seven days of cell completion if final cover or an additional lift is not to be applied within 180 days of cell completion. Any intermediate areas that will not be landfilled or covered with final cover within six months will be seeded or covered with wood chips, straw, or other appropriate cover material to preclude slope erosion.

h. Operations of Gas, Leachate, and Stormwater Controls

See Sections 8, 9, and 10 for Gas, Leachate, and Stormwater Controls

i. Water Quality Monitoring

Refer to the Water Quality Monitoring Plan prepared by CDM Smith, dated October 2013.

j. Maintaining and Cleaning Leachate Collection System

Staff from the County's Wastewater Lift Station Maintenance Program inspects the leachate collection holding tanks on a monthly basis. Staff tests the alarms and manually operate the float switches to verify proper operation. In addition, the County will comply with the requirements of the Rule 62-701.500(8)(h), F.A.C. The leachate collection system is water pressure cleaned or inspected by video recording as least once every five years. The latest report is provided in Attachment 3-2.

3. Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 62-701, FAC, including the Department-issued permits, engineering drawings (with supporting information), and the landfill operator training verifications required by Chapter 62-701, FAC. The record is considered part of the operation plan and is kept at the Pasco County Government Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on-site at the office of the landfill supervisor.

The Operating Record will be available for inspection at reasonable times by Department personnel.

4. Waste Records

Waste records are kept on file at the Pasco County Utilities Service Branch, Public Works/Utilities Building, 19420 Central Blvd., Land O' Lake, FL, of tonnage received and/or compiled monthly and provided to the Department quarterly.

5. Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed-wire or chain-link fencing. Interior fencing separates the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery Facility and the West Pasco Class III Landfill are chain-link and are closed and secured during nonworking hours. The primary entrance gate to the Class III Landfill is from Hayes Road.

The landfill supervisor will check or have checked the integrity of the perimeter fencing on a regular basis. The landfill operators will secure the entrance gates at the end of the operating day. The landfill supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

6. Load Checking Program

A load checking program has been implemented to detect and discourage attempts to dispose of unauthorized wastes at the West Pasco Class III Landfill.

A minimum of three loads each week shall be closely examined and documented. A copy of the Load Inspection Form is provided in **Figure 5**. Deliveries will be off loaded at a designated location within the landfill for a content inspection. Should unacceptable wastes be found, the facility will contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

Regulated hazardous wastes are not accepted at the West Pasco Class III Landfill. Should suspected hazardous waste be found, the following action is taken by Pasco County:

- The Environmental Deputy Sheriff is notified.
- The Pasco County Health Department is notified.
- The hauler is called and requested to report to the site by the Environmental Deputy Sheriff.
- Depending on circumstances, the Environmental Deputy Sheriff may make an arrest.
- Proper disposal of hazardous waste if any is found is required via licensed DOT hauler at hauler/generator's expense.

7. Landfilling Procedures

Waste layer thickness and compaction frequencies are covered in Section 2 above. Special considerations are made for the first layer of waste placed above the liner and leachate collection system. The first layer of waste placed above the liner and leachate collection system will be four feet in compacted thickness and consist of special selected wastes containing no large, rigid objects that may damage the liner or leachate collection system. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one-foot vertical rise. Lift depth should not exceed ten feet but may vary depending on specific operations and daily volume of waste, width of working face, and good safety practices. The West Pasco Class III working face will be only wide enough to accommodate vehicles discharging waste, and to control exposed area and conserve cover material. A temporary berm will be constructed around the working face to minimize the formation of leachate. The temporary berm will be moved as the working face/lift progresses. Initial cover will be applied to solid waste disposal units in order to minimize any adverse environmental, safety, or health affects such as those resulting from birds, blowing litter, odors, disease vectors, or fires. Initial cover at the solid waste disposal units will be applied at the end of each working week. The initial cover will be comprised of soil material or Posi-Shell and be six inches in compacted thickness.

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will also be seeded or sodded with grass to further promote run-off and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside and stockpiled for use as initial cover for the resumed disposal activity.

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. Areas of final cover will be seeded with grass or other suitable cover.

Scavenging and salvaging shall not be permitted at the landfill site.

A litter policing operation shall be employed to keep litter from leaving the working area of the landfill. Litter outside the working area shall be picked up by landfill employees within 24 hours.

Grass vegetative cover will be established and maintained on all landfill berm outer slopes, stormwater retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Landfill staff will promptly repair detected erosion. The County shall notify the FDEP of any erosion problem expected to not be corrected within 7 days and provide a schedule for its repair.

8. Operation of Leachate Controls

Each disposal unit is separated by an approximately 4-foot high lined berm; there is no liner penetration on the berm liner. Additionally, to prevent leachate contamination or backflow, there is no piping connection between any of the cell units. Leachate flows via gravity to two identical underground storage tanks located adjacent to the disposal units. A detailed sketch of both leachate holding tanks and the four cells showing piping to the holding tanks is attached as Figure 4. From the tanks, leachate is pumped directly to the adjacent Shady Hills Wastewater Treatment Facility.

Pumps serving both leachate holding tanks are automatically activated and deactivated by level switches. The five float-switches are designated as follows:

- a. Low-low level alarm/shutoff, to protect pump motors.
- b. Low level shutoff to deactivate pumping cycle.
- c. Activates pumps for pumping cycle.
- d. Float for future use (not used at this time).
- e. High-high level alarms (set at approximately 5'0 below the top of leachate holding tank).

At the high-high alarm, the pump system will be repaired and Pasco County will utilize their tanker fleet to pump and haul leachate to a wastewater treatment plant as necessary to prevent overflow. The same procedure will be followed in case of equipment failures.

In the unlikely event of leachate becoming hazardous waste, Pasco County will comply with the state and federal regulations for managing the leachate as a hazardous waste. The leachate would continue to be stored in the on-site tank for less than 30 days but would be transported to a licensed hazardous waste TSDF (Treatment Storage Disposal Facility) instead of to the WWTP.

The leachate holding tanks are metered and recorded in daily logs. Rainfall is recorded by visual rain gauges and is recorded on the daily leachate log sheets.

9. Routine Gas Monitoring Program

Of the Class III Landfill disposal's four cells, Cell #2 is currently in use for acceptance of C&D material. As a Class III facility that disposes primarily of construction and demolition (C&D) material, gas generation is expected to be minimal. Nonetheless, Pasco County has implemented a gas monitoring program. The Class III C&D Landfill is situated in excess of 750 feet from all property boundaries, with the closest structure being in excess of 1,000 feet. The scale house and landfill operator's office, the closest structure, will be checked via gas meter quarterly and the results will be reported to the Department. Existing surficial aquifer wells 2MW-7, 2MW-8, and 2MW-10 will be used for conducting quarterly subsurface landfill gas monitoring adjacent to Cells #1 and #2. If the methane gas levels exceed the lower explosive limits specified by the F.A.C., the operator shall:

- a. Notify his supervisor, who will take measures (if necessary) to protect health and safety.
- b. Submit to the department within seven days a remediation plan. The plan shall describe the nature and extent of the problem and the proposed remedy.
- c. Complete the approved remediation construction within 60 days.

10. Odor Remediation Plan

The facility will be operated to control objectionable odors. If gas concentrations cause objectionable odors beyond the landfill property boundary, the operator shall

- a. Implement a routine odor monitoring program to determine the timing and extent of any off-site odors.
- b. If the monitoring program confirms the existence of objectionable odors, an odor remediation plan will be submitted to the Department for approval. The plan will describe the nature and extent of the problem and the proposed remedy. The remedy will be initiated within 30 days of approval.

11. Landfill Stormwater Management System

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent any surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive run-off from the predeveloped and closed-out areas of the landfill.

The bottom of each landfill disposal unit is lined and positioned above the seasonal high water table to prevent any lateral flow into the waste-filled areas in the unlikely event that standing water was to accumulate in the swales. Also, closed-out disposal units will be capped to inhibit vertical infiltration/percolation of rain.

The landfill supervisor will routinely inspect the stormwater management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The stormwater management system will also be inspected prior to an anticipated natural disaster if sufficient notice is available, and after any natural disaster.

12. Equipment and Operation Requirements

a. Adequate In-Service and Reserve Equipment

Table 1 lists equipment used at the West Pasco County Class III Landfill. Cooperative lending agreements can also be used as a means of procuring additional back-up equipment either from the nearby Class I Facility or the Pasco County Road and Bridge Department:

Table 1

<u>Number</u>	<u>Equipment</u>
1 ^a	Front-end Loader
1 ^a	Compactor
1 ^b	Water Truck w/Spray Boom
1 ^b	Leachate Transport Vehicle
1 ^b	Bulldozer

^aTo be permanent on-site equipment.

^bTo be provided on an as-needed basis from available equipment from the adjacent Class I facility.

b. Reserve Equipment/Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Equipment Failure Procedure:

If equipment fails, the landfill supervisor will be notified so that arrangements can be made for the equipment repair. If the downtime is expected to hinder landfill operations, the landfill supervisor will obtain back-up equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

c. Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building and the Resource Recovery Facility Scale House, and the West Pasco Class III Scale House and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. A telephone is available in the scale house office.

d. Dust Control Methods

Dust control will be performed using a spray truck which will set down unpaved access roads and areas immediately to the working face. Dust masks will also be available to personnel working in excessively dusty areas. The source of water used for dust control is a reclaimed water fire hydrant located on the facility.

e. Fire Protection Capabilities and Procedures

In the event that an uncontrollable fire does occur at the landfill site, the fire department will be contacted immediately. Small fires on the working face will be snuffed by a bulldozer. On-site stockpiles of soil will be available for suppressing fires. Pasco County has 6,000 gallon tanker with spray and 4,000 gallon water truck with directional cannon on site. Non-potable water hydrants are also located at the Class III landfill.

A hot load area will be provided by the spotter in a location away from the working face to allow any vehicles arriving at the landfill with a fire in their load to dump quickly in an area where the "hot load" can be controlled and quickly covered with soil. The location of the hot load area will change from time to time with changing working face locations. After fire suppression of the hot load, the load will be disposed as a Class I waste.

Emergency Fire Procedures:

In the highly unlikely event that an UNCONTROLLABLE fire does occur at the landfill site:

- (1) Field staff will contact scale attendant via two-way radio, private details.
- (2) Scale attendant will contact 9-1-1, requesting fire company response.
- (3) Scale attendant will notify landfill operator.
- (4) Landfill operator will direct additional equipment and manpower as may be required.

Controllable Fire:

- (1) See Item (1) above.
- (2) Field staff will put out the fire using landfill equipment and soil from an on-site stockpile maintained for the suppression.
- (3) See Item (1) above.
- (4) Landfill supervisor will inspect scene.

f. Litter Control Devices

Litter will be controlled by requiring covering loads, efficient unloading and cover operations, and by routine cleanup as required.

g. Signs, Hours of Operation, and Disposal Restrictions

<u>Sign No.</u>	<u>Size</u>	<u>Wording</u>	<u>Location</u>
1	72"x42"	West Pasco Recycling Center and Class III Landfill operating hours: 07:00 a.m. to 05:00 p.m.	Front Gate
2	36"x18"	14230 Hays Road	Front Gate
3	46"x48"	All vehicles weighed at \$56.70/T.	Entry Gate 2
4	46"x18"	No charge, normal household solid waste/garbage	Entry Gate 2
5	48"x24"	Construction debris, demolition debris, waste tires, yard waste, proceed over the scale	Just before the Scale House
6	24"x36"	All vehicles must stop at scale house	Just before the Scale House
7	24"x16"	Construction demolition debris	C&D Cell Unit 1
8	24"x30"	Children must stay in vehicle	Leaving the Scale
9	16"x24"	Grass, clippings, leaves	At Cell Unit 1
10	12"x10"	Tank 1	At Tank 1
11	12"x10"	Tank 2	At Tank 2
12	15"x6"	No smoking	At all Leachate Tanks and at Cell 1 and Cell 4

13. All-Weather Access Road

All road providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed disposal units.

14. Record Keeping and Reporting Requirements

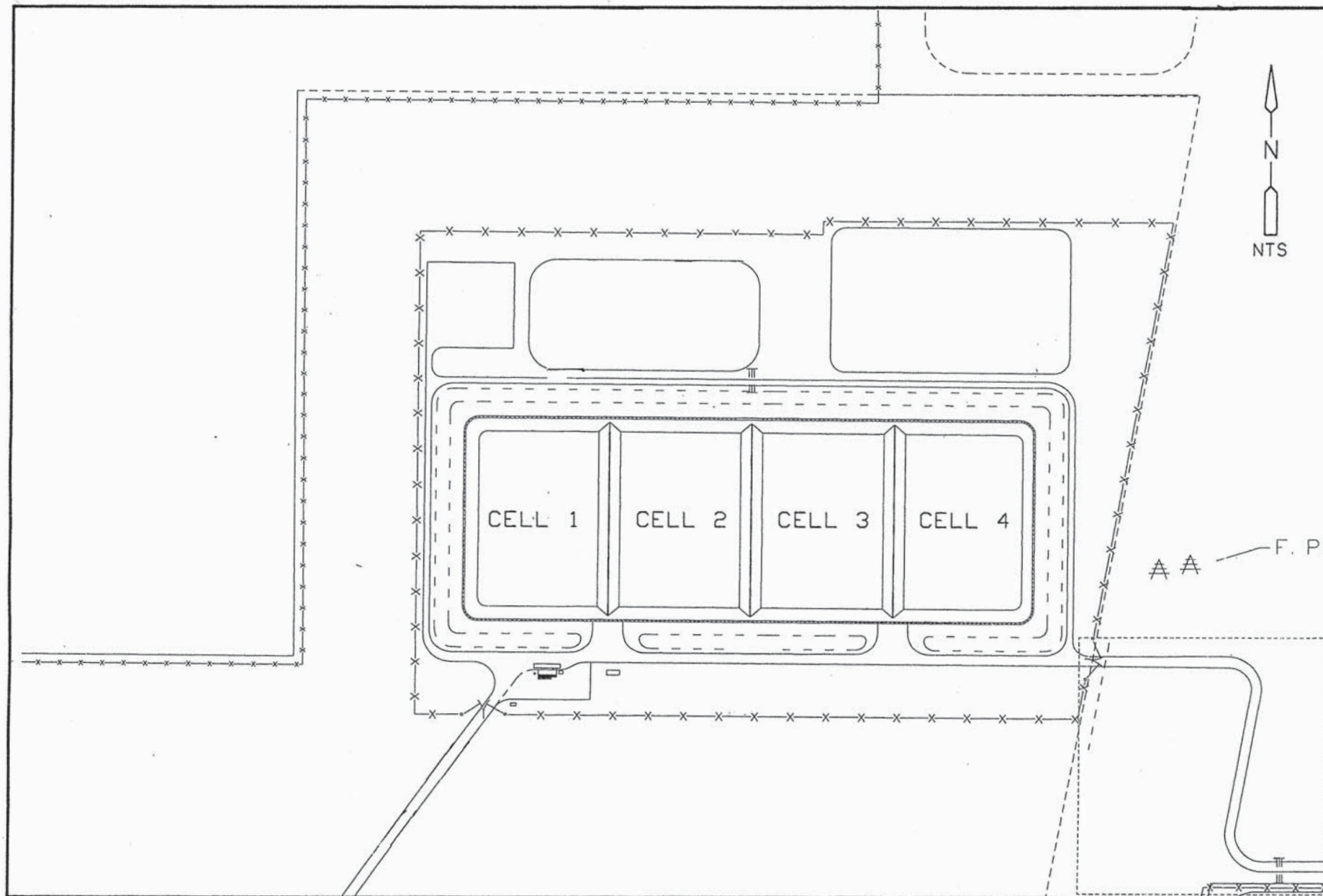
Records used for developing permit applications and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.

Records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit will be maintained for at least ten years in the Utilities Services Branch files.

Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch file.

An annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and an annual estimate of the life and capacity in cubic yards of other permitted area not yet constructed will be maintained by the Utilities Services Branch files. The estimates will be made and reported annually to the Department.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two and one-half years. The report will summarize and interpret the water quality data and water level measurements collected during the past two and one-half years in accordance with 62-701.510(8)(b), F.A.C. The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparison zones or aquifers, comparisons between upgradients and downgradient wells, correlations between related parameters, and any discussions of erratic and/or poorly correlated data. Groundwater contour maps will be interpreted as to groundwater flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.



WEST PASCO COUNTY LANDFILL
CLASS III
SEQUENCE OF FILL

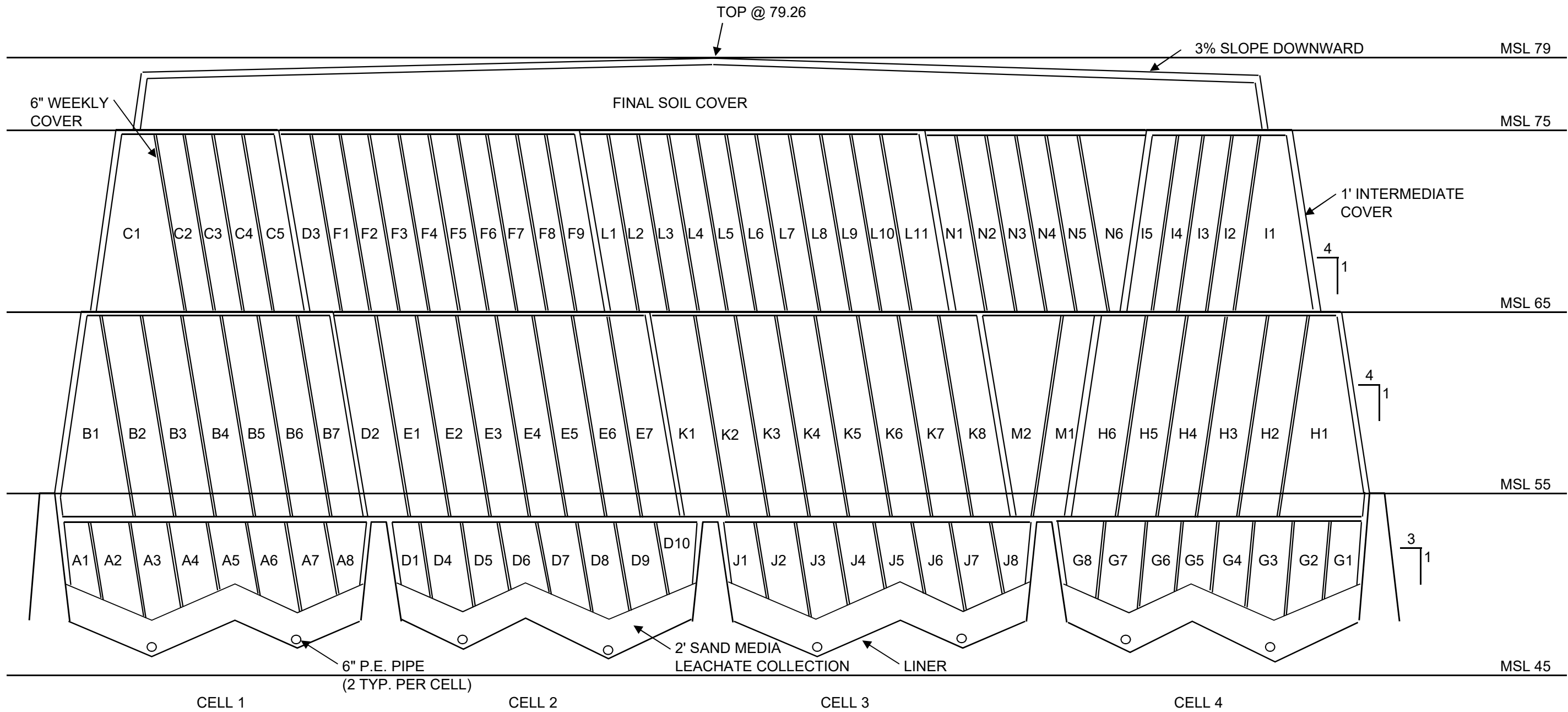
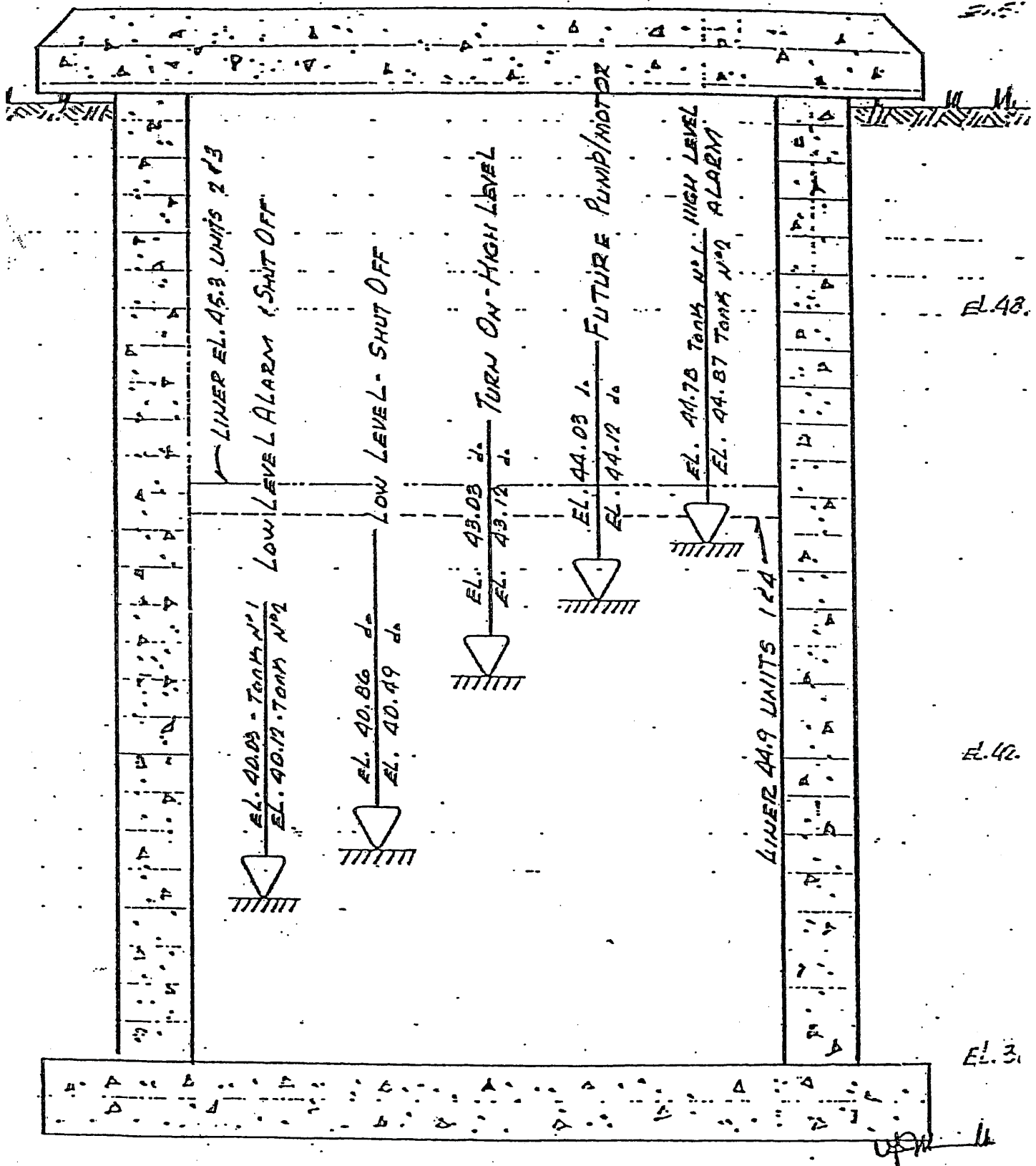


FIGURE NO. 2

Note: Figure is NOT to scale. Figure shall be used only to obtain general sequence of fill.



LEACHATE HOLDING TANKS:

N° 1 & N° 2

NO SCALE

FIGURE N° 3

10/21/95
#31461

WEST PASCO COUNTY LANDFILL
CLASS III
LINER, INVERT, & TANK ELEVATION

TANK NO. 1	
RIM	51.03
INVERT	39.32
LINER	44.90
COMPLIANCE	45.90

TANK NO. 2	
RIM	51.12
INVERT	39.85
LINER	44.90
COMPLIANCE	45.90

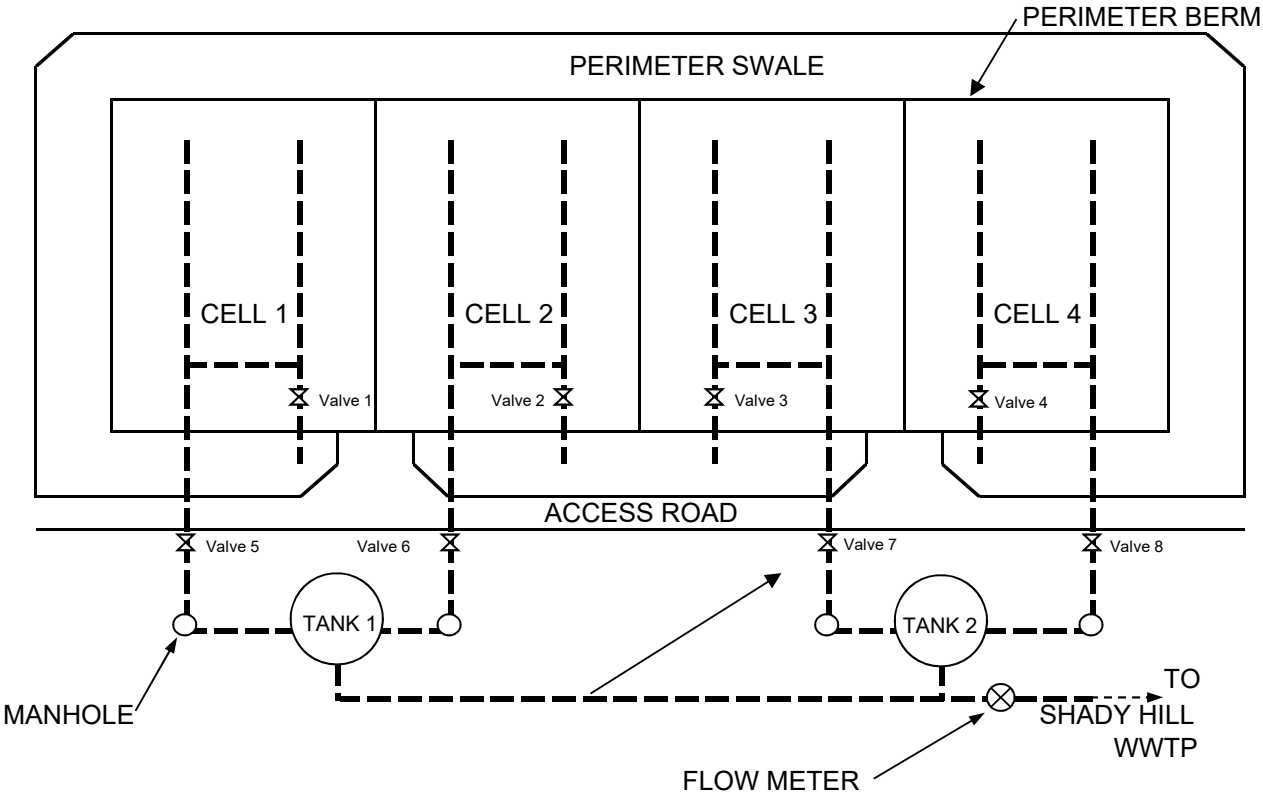


FIGURE NO.4

WASTE SCREENING REPORT

Waste Hauler Company: _____ Date: _____

A. ☐ Acceptable Waste (Do NOT Complete Parts C, D, E)

B. Type of Vehicle

☐ Drop Box

☐ Rear Packer

☐ Other

☐ Transfer Vehicle

C. Type of Unacceptable Waste

☐ Unburnable Construction Materials

☐ Asbestos Wastes

☐ Wallboard/Drywall/Gypsum Board

☐ Dangerous Materials

☐ Oversize Tires/Rim On

☐ Tar or Asphalt

☐ Other (describe) _____

D. Description of Unacceptable Waste

☐ Identifying Marks (specify) _____

☐ Number/Quantity of Items _____

☐ Description of Materials (Document with Photos if appropriate) _____

E. Disposition of Unacceptable Waste (Removal Date: _____)

☐ Returned to Vehicle

☐ Isolated and monitored for removal by hauler

☐ Other (describe): _____

F. Inspector: Signature _____ Date _____