

# 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 Public Infrastructure 14230 Hays Road Spring Hill, FL 34610

Prepared by:

JMG Engineering, Inc. 3825 Henderson Blvd., Suite 604 Tampa, FL 33629

August 2023

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 software adjusted 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



**Print Form** 

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Standard Report FLORID	A

# Florida Department of **Environmental Protection**

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

DEP	Form #	62-701	.900	)(28),	F.A	ч.С.	

Form Title: Closure Cost Estimating Form For Solid Waste Facilities

Effective Date: January 6, 2010

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

#### CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval:

I. GENERAL INF	ORMATION:						
Facility Name:	West Pasco C	lass III Lai	ndfill		\	WACS ID: 45799	
Permit Applicatio	n or Consent C	order No.:	26254-003-8	SO/T3	Expira	tion Date: <u>11/2</u>	2/2033
Facility Address:	14230 Hays	Road, Sp	ring Hill, FL 34	610			
Permittee or Owr	ner/Operator:	Pasco C	ounty Utilities				
Mailing Address:	same						
Latitude:	28 °	22'	30 "	Longitude:	82°	34'	00 "
Coordinate Methe	od:		D	atum:			
Collected by:				ompany/Affiliation:			
Solid Waste Disp	osal Units Inclu	uded in Es	timate:	•			
			Date Unit Began Accepting	Active Life of Unit From Date of Initial Receipt	If active: Remaining	If closed: Date last waste	If closed: Official date of
Phase	/ Cell	Acres	Waste	of Waste	life of unit	received	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	Jan 2022	~40	~20	N/A	N/A
Cell	4	5	Jul 1990	~40	~20	N/A	N/A

Facility type: □ Class I  $\mathbf{\check{}}$ Class III

Total disposal unit acreage included in this estimate:

Closure: 20

38 Total

□ C&D Debris Disposal

2295 Victoria Ave., Ste. 364

Fort Myers, FL 33901-3881

239-332-6975

Long-Term Care: 20

(Check all that apply)	Other:	

## II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

Letter of Credit\*

- Insurance Certificate
- Performance Bond\*
  - Guarantee Bond\*
- Financial Test
- □ 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 3319 Maguire Blvd., Ste. 232 Jacksonville, FL 32256-7590 Orlando, FL 32803-3767 904-807-3300

Central District Southwest District 13051 N. Telecom Pky. Temple Terrace, FL 33637 407-894-7555 813-632-7600

- × Escrow Account
- □ Form 29 (FA Deferral)
- South District
  - 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 ajustment below.

#### □ (a) Inflation Factor Adjustment

#### Ճ (b) Recalculated or New Cost Estimates

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

This adjustment is based on the Department approved of	closing cost estimate dat	ted:	
Latest Department Approved Current Year Inf Closing Cost Estimate: Factor, e.g. 1.		=	Inflation Adjusted Closing Cost Estimate:
This adjustment is based on the Department approved I	ong-term care cost estin	nate dated:	
Latest Department Approved Annual Long-Term Care Cost Estimate: Factor, e.g. 1. ×		=	Inflation Adjusted Annual Long-Term Care Cost Estimate:
Number of Years of Long Term Care Remai	ning:	×	
Inflation Adjusted Long-Term Care Cost I	Estimate:	=	
Signature by:	IX Engineer	(check what a	oplies)
traf	3825 H	Henderson Blvd., S	uite 604
Signature		Α	ddress
Jason Gorrie, P.E., BCEE	Tampa	a, FL 33629	
Name & Title		City, St	ate, Zip Code
@ 28 2023	jason@	@jmg-eng.com	
Date			ail Address
(813) 605-0706 Telephone Number			

#### IV. ESTIMATED CLOSING COST (check what applies)

#### Ճ 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
Description 1. Proposed Monitoring Wells		ide wells already		
i. Froposed monitoring wells	EA		\$0.00	
	LA		Proposed Monitoring Wells:	
2. Slope and Fill (bedding layer	hotwoon wast		· · · -	
Excavation	CY	e and barrier lay	<i>cıj</i> .	
Placement and Spreading	CY	33,880	\$2.00	\$67,760.00
Compaction	CY	33,880	\$3.65	\$123,662.00
Off-Site Material	CY	33,880	<u> </u>	\$135,520.00
Delivery	CY		Ψ <del>.</del>	φ100,020.00
Delivery	01		Subtotal Slope and Fill:	\$326,942.00
3. Cover Material (Barrier Layer)				φ020,9 <del>4</del> 2.00
Off-Site Clay	CY			
Synthetics - 40 mil	SY	101,640	\$4.95	\$503,118.00
Synthetics - GCL	SY			φ505, 110.00
Synthetics - Geonet	SY		<u> </u>	
Synthetics - Other (explain)	51			
Synthetics - Other (explain)			 Subtotal Cover Material:	\$503,118.00
4. Top Soil Cover:	_			\$505,116.00
Off-Site Material	CY			
	CY	50,820	\$4.00	\$203,280.00
Delivery	CY	50,820	\$2.50	\$127,050.00
Spread	CT	30,820	Subtotal Top Soil Cover:	
E Vegetative Laver				\$330,330.00
5. Vegetative Layer	SY	101,640	<b>*</b> 0.70	¢004 400 00
Sodding	AC	101,040	\$3.78	\$384,199.20
Hydroseeding	AC	21		¢46 040 00
Fertilizer	AC		\$802.00	\$16,842.00
Mulch Other (explain)	AC		<u> </u>	
			Subtotal Vegetative Layer:	
6 Stormwater Central System	_			\$401,041.20
6. Stormwater Control System: Earthwork	CY			
	SY			
Grading	LF			
Piping	LF			
Ditches				
Berms	LF			
Control Structures	EA			
Other (explain)			Stormwater Control System:	

Unit EA LF EA LS EA EA EA EA EA EA EA LF		Subtotal P	st / Unit	Total Cost
LF EA LS EA EA EA EA EA EA EA LF				
LF EA LS EA EA EA EA EA EA EA LF				
EA LS EA EA EA EA EA EA EA LF				
LS EA EA EA EA EA EA LF				
EA EA EA EA EA EA LF				
EA EA EA EA EA EA LF				
EA EA EA EA EA EA LF	    Subtotal	Active Gas		
EA EA EA EA EA LF	    Subtotal	Active Gas		
EA EA EA EA LF	   Subtotal	Active Gas		
EA EA EA LF	   Subtotal	Active Gas		
EA EA EA LF	   Subtotal	Active Gas	s Extraction Control:	
EA EA LF	Subtotal	Active Gas	s Extraction Control:	
EA LF	Subtotal	Active Gas	s Extraction Control:	
LF 	  Subtotal	Active Gas	s Extraction Control:	
. <u></u>	Subtotal	Active Gas	s Extraction Control:	
·	Subtotal	Active Gas	s Extraction Control:	
	Subtotal	Active Ga	s Extraction Control:	
EA				
EA	1	\$	2,500.00	\$2,500.00
		Subto	tal Security System:	\$2,500.00
LS		\$5	50,000.00	\$50,000.00
LS	1	\$6	60,000.00	\$60,000.00
LS	1			
LS	1	\$1	10,000.00	\$10,000.00
LS	1	\$3	30,000.00	\$30,000.00
_		S	ubtotal Engineering:	\$150,000.00
	···			
Co	st / Hour	Hours	Cost / Hour	Total Cost
<u>et Manageme</u>	<u>ent</u>			
	\$175.0(		\$175.00	\$10,500.00
			\$125.00	\$51,250.00
	\$125.0(	160	\$125.00	\$25,000.00
	\$75.00	40	\$75.00	\$6,000.00
11			ot / Unit	Total Cart
				Total Cost
LS				\$50,000.00
	EA LS LS LS LS - - <u>Co</u>	EA EA LS LS LS LS  <u>Cost / Hour</u> <u>Cost / Hour</u> <u>Cost / Hour</u> <u>Cost / Hour</u> <u>\$125.0(</u> <u>\$125.0(</u> <u>\$125.0(</u> <u>\$125.0(</u> ) <u>\$125.0(</u> ]	EAI $\frac{1}{s}$ EA1 $\frac{s}{s}$ LS1 $\frac{s}{s}$ LS1 $\frac{s}{s}$ LS1 $\frac{s}{s}$ LS1 $\frac{s}{s}$ LS1 $\frac{s}{s}$ ManagementQuality $\frac{$175.0($ $\frac{30}{380}$ $\frac{$125.0($ $\frac{380}{160}$ $\frac{$75.00}$ 40	EA

Subtotal of 1-11 Above:	\$1,856,681.20
<b>12. Contingency</b> % of Subtotal of 1-11 Above	\$92,834.06
Subtotal Contingency:	\$92,834.06
Estimated Closing Cost Subtotal:	\$1,949,515.26
Description	Total Cost
13. Site Specific Costs	
Mobilization	\$75,000.00
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain)	
Subtotal Site Specific Costs:	\$75,000.00

TOTAL ESTIMATED CLOSING COSTS (\$): \$2,024,515.26

#### 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 X 30 Years C X do Years C X do 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 Monitorii	ng [62-701.510(6), and (8	5)(a)]		
Monthly	12			
Quarterly	4			
Semi-Annually	2	13	\$1,101.00	\$28,626.00
Annually	1	 Subtotal	Groundwater Monitoring:	\$28,626.00
2. Surface Water Monito	ring [62-701.510(4), and (			φ20,020.00
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Annually	1	Subtotal S	Surface Water Monitoring:	
3. Gas Monitoring [62-70	1 400(10)]	Oublotal C	undee water mennening.	
Monthly	12			
Quarterly	4		······································	
Semi-Annually	2			
•	1			
Annually	I		Subtotal Gas Monitoring:	
4. Leachate Monitoring	[62_701_510/5)_(6)(b) and	62-701 510(8)c1	oubtotal oub Monitoring.	
4. Leachate Monitoring Monthly	12	02-101.010(0)0]		
•	4			
Quarterly	4			
Semi-Annually				
Annually	1	1		
Other (explain)	I		\$400.00 otal Leachate Monitoring:	\$400.00
Annual TCLP analysis		Subi	otal Leachate Monitoring.	\$400.00
<u> </u>	unanan , isistatukan takanan sebagatan	Number of		
Description	Unit	Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/7	Freatment Systems Main	tenance		
<u>Maintenance</u>				
Collection Pipes	LF			······
Sumps, Traps	EA			
Lift Stations	EA	Participa (11/2)		
Cleaning	LS		\$9,000.00	\$9,000.00
Tanks	EA			

		Number of		
Description	Unit	Units / Year	Cost / Unit	Annual Cost
5. (continued)				
Impoundments				
Liner Repair	SY			
Sludge Removal	CY			
Aeration Systems				
Floating Aerators	EA		<u></u>	
Spray Aerators	EA			
Disposal				
Off-site (Includes	1000 gallon	450	\$6.08	\$2,736.00
transportation and disposal)		Subtotal Leacha	te Collection / Treatment Systems Maintenance:	\$11,736.00
6. Groundwater Monitoring We	II Maintenance			
Monitoring Wells	LF			
Replacement	EA	0.5	\$4,500.00	\$2,250.00
Abandonment	EA	0.5	\$600.00	\$300.00
	Subto	otal Groundwater Monit	oring 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 G	as System Maintenance:	
8. Landscape Maintenance				
Mowing	AC		\$20.00	\$3,600.00
Fertilizer	AC			
		Subtotal I	Landscape Maintenance:	\$3,600.00
9. Erosion Control and Cover	Maintenance			
Sodding	SY	1.000	\$2.00	\$2,000.00
Regrading	AC	0.125	\$9,600.00	\$1,200.00
Liner Repair	SY			
Clay	CY		<u> </u>	
,		ubtotal Erosion Control	and Cover Maintenance:	\$3,200.00
10. Storm Water Management				
Conveyance Maintenance	LS	- 1	\$1,800.00	\$1,800.00
		torm Water Manageme	ent System Maintenance:	\$1,800.00
11. Security System Mainten				ψ1,000.00
Fences	LS	1	\$1,290.00	\$1,290.00
Gate(s)	EA		ψ1,200.00	ψι,200.00
Sign(s)	EA			
Olgh(3)			rity System Maintenance:	

		Number of		
Description	Unit	Units / Year	Cost / Unit	Annual Cost
2. Utilities	LS	1	\$6,000.00	\$6,000.00
			Subtotal Utilities:	\$6,000.00
3. Leachate Collection/Trea	atment Systems O	peration		
<u>Dperation</u>				
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 Lea	achate Collection/Treatn	nent Systems Operation:	\$14,520.00
4. 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 surveyor	HR	40	\$95.00	\$3,800.00
			Subtotal Administrative:	\$21,440.00
	_	\$	Subtotal of 1-14 Above:	\$95,162.00
15. Contingency	10	% of Subtotal of 1-14 A	bove	\$9,516.20
0			Subtotal Contingency:	\$9,516.20
		Number of		
Description	Unit	Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
		Sub	ototal Site Specific Costs:	
	A	ANNUAL LONG-TERM	CARE COST (\$ / YEAR):	\$104,678.20
		Number of Y	ears of Long-Term Care:	30

#### 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.

Signatore	3825 Henderson Blvd., Suite 604 Mailing Address
Jason Gorrie, President	Tampa, FL 33629
Name and Title (please type)	City, State, Zip Code
<u>B/29/2023</u> Date	jason@jmg-eng.com E-Mail address (if available)
55341 IN GORRIE	(813) 605-0706
Florida Registration Nember	Telephone Number
(please affire cal) NO. 5534 NO. 5534 VII. SIGNATURE BY OWNER/OPERATOR ESSIONAL	
Signature of Applicant	14855 Softwind Lane Mailing Address
Justin Roessler, Director Name and Title (please type)	Spring Hill, FL 34610 City, State, Zip Code
Manie and The (please type)	Sity, State, Lip South
jroessler@pascocountyfl.net	(727) 856-0119 Telephone Number
E-Mail address (if available)	

PART 3

COST ESTIMATE REPORT



# CLOSURE COST ESTIMATES REPORT

#### August 2023

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 ft<sup>2</sup> = 101,640 yd<sup>2</sup>

Soils:

914,760 ft<sup>2</sup> x 0.5 ft (6") cover = 457,380 ft<sup>3</sup> / 27 = 16,940 yd<sup>3</sup> 914,760 ft<sup>2</sup> x 1.0 ft (12") cover = 914,760 ft<sup>3</sup> /27 = 33,880 yd<sup>3</sup> 914,760 ft<sup>2</sup> x 1.5 ft (18") cover = 1,372,140 ft<sup>3</sup> /27 = 50,820 yd<sup>3</sup>

#### **Unit Cost Estimations and Calculations:**

All unit costs are explained in the following parts for each item. The RS Means<sup>®</sup> Heavy Construction Cost Data Estimating Software 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<sup>®</sup> Software.

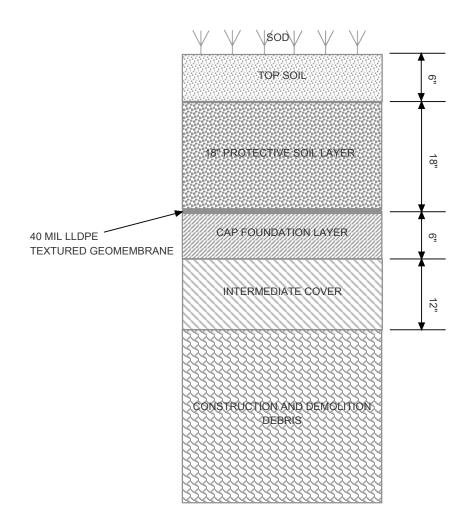


Figure 2 Permitted SW Cell Closure Cap Design

#### 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. The bid price included the costs of excavation, transportation, placement, and grading. Compaction unit pricing was obtained from the RS Means<sup>®</sup> software.

## 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 a quotation from a local landscaping and general site development contractor.

• Sodding unit cost from contractor quotes = \$3.78 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 \$2,500 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 10% of the closure costs, or approximately \$150,000.

#### Item No. 11 Professional Services

The cost for professional services related to contract management and quality assurance for closure is estimated to be approximately 10% of the closure costs, or approximately \$142,000.

#### 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 2023

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

The West Pasco Class III Landfill has 13 groundwater monitoring wells that are sampled semiannually. 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 **\$29,000**.

#### 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 \$400.

Annual leachate monitoring is estimated to be \$400.

#### 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 provided a quotation for cleaning all four of the County's landfills for \$21,700 (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 (for the Class III Landfill only).

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 \$6.08/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 \$6.08/thousand gallon disposal, this equates to approximately **\$2,736** per year in leachate disposal costs.

#### 6. Groundwater Monitoring Well Maintenance

The RS Means<sup>®</sup> estimating software reports that the construction of a new well in the Tampa area, installed to a depth of approximately 30 feet (the average depth of a surficial aquifer monitoring well at the site) is approximately \$3,800. Applying a safety factor and a well abandonment factor, JMG assumes a unit cost of \$5,100 per well. 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 x 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 a Pasco County Bid Tabulation for a county-wide Request for Bid associated with the landscape maintenance activities. The prevailing bidder provided a cost of \$18/acre and the estimated acreage will be approximately 20 acres. JMG assumes a conservative value of \$20/acre. Assuming a mowing frequency of 9 times per year, the annual cost associated with landscape maintenance is **\$3,600** (\$20/acre x 20 acres x 9 events/year).

#### 9. Erosion Control and Cover Maintenance

It is estimated that approximately 1,000 square yards of the landfill surface area requires resodding every year. Assuming a conservative cost for sod of \$2.00 per square foot, the total estimated annual cost for re-sodding is approximately **\$2,000**.



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 acres x 0.5 ft x 43,560 ft<sup>2</sup>/acre = 2,723 ft<sup>3</sup> = 100 cubic yds. Assuming a conservative unit rate of \$12/yd<sup>3</sup>, 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 \$3,500

#### 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 feet x \$25/ft + \$1,200/30 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/month x 12 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 Item	Unit	Quantity Estimate	Cos	t Estimate	Tot	al Cost
lope and Fill (Bedding Layer Betweei	n waste and Barı	ler Layer)				
lope Fill - Excavation	CY	22,380	\$	4.00	\$ 1	89,520
lope Fill - Place & Spread	CY	22,380	\$	2.00	\$	44,760
over Material (Barrier Layer)						
0 mil HDPE - material	SY	67,130	\$	3.51	\$	235,62
0 mil HDPE - Installation	SY	67,130	\$	1.44	\$ 2	96,66
op Soll Cover Material (24" Protecti	ve Cover with U	oper 6" to Support	Vegeta	ative Growth)		
Material - Delivery (Excavation)	CY	22,380	\$	4.00	\$	89,52
Vaterial - Place & Spread	CY	22,380	\$	2.50	\$ 3	55,95
Vegetative Layer						
Hydroseeding	Acre	13.8	\$	3,500.00		48,30
Fertilizer	Acre	13.8	\$	1,500.00	\$	20,70
Passive Gas Control						
Wells - (Shallow passive system)	each	6.0	\$	6,500.00	\$	39,00
Site Specific Costs						
Mobilization	each	1.0	\$	75,000.00	\$	75,00

#### 2022 - Azland Closure Phases 1 & 2 (13.6 acres)

NOTES:

1. Materials for Slope/Fill and Top Soil (protective Cover shall be obtained from either adjacent Phase 3 or

Phase 4 design area or from adjacent designated 40-acre restrictive reserve borrow area for closure use.

2. Quantities and costs are estimates provided at time of review.

Source: Comanco, Inc. email dated 8/9/2023

1: Closure, Slope and Fill

2: Closure, Cover Material (synthetics)

3: Closure, Top Soil Cover (delivery and spread)

#### **Jason Gorrie**

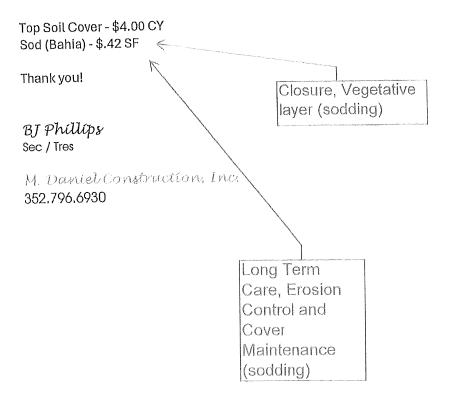
From: Sent: To: Subject: John Power Tuesday, August 15, 2023 9:32 AM Jason Gorrie FW: Materials Costs

Hope this suffices, see below email from Daniels Construction.

From: BJ <bj@mdanielinc.com> Sent: Monday, August 1.4, 2023 2:53 PM To: John Power <john@jmg-eng.com> Subject: Materials Costs

Good Afternoon,

Per our conversation, the pricing of materials is as follows:



		COST ESUMATE REPORT			
					Date: 08/23/2023
Spring Hill, FL 1.4230 Hays Road					
Class III Closure Costs					
Year 2023 Quarter 3					
Unit Detail Report					
Prepared By: Jason Gorrie	JMG Engineering, Inc.				
LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. 0&P
Division 31 Earthwork					
313219161510	Geosynthetic soil stabilization, geotextile fabric, woven, heavy duty,	101,640.00	S.Y.	\$6.42	\$652,528.80
Division 31 Earthwork Subtotal	סטט וט. גבוואוב אם בואניו				\$652,528.80
					\$652,528.80
Subtotal				0.00%	\$0.00
General Contractor's Markup on Subs					
Subtotal					\$652,528.80
General Conditions				0.00%	\$0.00
Subtotal					\$652,528.80
General Contractor's Overhead and Profit	tt			0.00%	\$0.00
Grand Total					\$652,528.80
					Cover Material (Barrier Layer), Synthetics - (Other) Geocomposite

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Cost Esti	Cost Estimate Report			
				Date: 06/16/2023
Spring Hill, FL 142301 Have Read				
Class III Closure Costs				
Year 2023 Quatter 3				
Unit Detail Report				
Prepared By: Jacon Gorrie JMG Engineering, Jnc.				Ext. Total Incl. 0&P
LineNumber Description	Quantity	Unit		
Division 3.1 Earthwork			ç	\$117,902.40
312322327540 Compaction, 4 passes, 24" wide, 6" lifts, walk behind, vibrabing roller	33,880.00	B.C.Y.	0+-0¢	\$117,902.40
Division 31 Earthwork Subtotal				
				5117,902.40
Subbatai			7,00%	\$0.00
General Contractor's Markup on Subs				¢117.902.40
Subtotal			0,00%	00'0\$
General Conditions				
Subtotal				902.4U
General Contractor's Overfiead and Profit			5.00%	
Grand Total				\$123,797.52
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Spring Hill, FL 14230 Hays Road					
Spring Hill, FL 14230 Hays Road					Date: 08/18/2023
Class III Closure Costs					
Year 2023 Quarter 3					
port Jacon Gorria	1016 Engineering, Inc.				
		OuanHtv	Unit	Totai Inci. O&P	Ext. Total Incl. 0&P
LineNumber		Amana	2010		
Division 32 Exterior Improvements		:	ŀ	\$1.480.87	\$11,846.96
329219147000 Seeding athle	Seeding athletic fields, apply fertilizer, 800 lb./acre	8.00		\$237.96	\$4 <b>,</b> 997.16
329219147025 Seeding athle	Seeding athletic fields, apply fertilizer, mechanical spread	00.12			\$16,844.12
Division 32 Exterior Improvements Subtotal					C1 5 8 4 4 1 7
C. HAMPEL				7000 0	00 <sup>005</sup>
auouuai Gaaraa I Contractorie Markim on Sübs				960070	
					\$16,844.12
Subtotal				0,00%	\$0.00
General Conditions					
Subtotal					21.448/dIŞ 50.00
General Contractor's Overhead and Profit				0.00%	r
Grand Total					Clos Laye
					sure, Veg er (fertiliz
RSMeans data tem Gordian				,	etative er)

# Source: Pasco County Task Order 1-23 awarded to SCS Engineers

sampling event will be added to the semi-annual report within 45 days of recelpt of final results from the laboratory.

The final deliverables to the County following each of the compliance sampling events will include the following:

- SemI-Annual report for the sampling event
- One electronic correspondence containing the following files:
  - Water level measurement sheets, calibration records, and field sampling logs.
    - Laboratory analytical reports.
    - Parameter Monitoring Reports in ADaPT format.

SCS will submit an electronic file of each report on behalf of the County to the FDEP.

#### ASSUMPTIONS AND LIMITATIONS

The scope of services does not include any activities not explicitly listed herein. This scope of services and fee are based on the following assumptions:

- This scope is based on previously submitted work by others, specifically well information and purge data. In the event previous data or assumptions are incorrect, SCS will notify the County to resolve any issues.
- SCS will be allowed access to the wells during regular working hours (7:00 am to 5:00 pm).
- This includes one re-sampling event per semi-annual event. If additional re-sampling is needed, it will be discussed with the County and SCS will prepare a change order.
- This assumes some monitoring wells will be dry and samples will be collected and analyzed from 27 monitoring wells. Analysis of additional monitoring well samples will be invoiced at a rate of \$500 per sample and the effort for a technician to collect the sample invoiced at a rate of \$95 per hour.

#### COMPENSATION

SCS will perform this scope of services on a lump-sum fee, percent-complete-by-task basis. Table 4 shows the fees for each task.

Task	Description	Cost
Task 1	Semi-Annual Sampling	\$22,270.00
Task 2	Laboratory Analysis and Review	\$27,810.00
Task 3	Reporting	\$9,380.00
TOTAL		\$59,460.00

#### Table 4. Compensation

Long Term Care: Groundwater Monitoring (proration to 13 well semi-annually = \$29000

# FLORIDA JETCLEAN

# HIGH PRESSURE WATER JETTING - PIPELINE VIDEO INSPECTION SERVICES PIPE LOCATING - NO DIG POINT REPAIRS - VACUUM TRUCK SERVICES

1660 Sea Breeze Drive Tarpon Springs, FL 34689 www.floridajetclean.com

TEL: 800-226-8013 FAX: 813-926-4616

#### PROPOSAL

DATE	: 8/1/2023
ТО	: John Power – JMG Engineering
FROM	: Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT	Pasco County Landfills - 2023 Leachate Pipe Jetting Proposal

Thank you for your inquiry. We confirm our capability and interest in providing these leachate collection system jetting services for Pasco County Solid Waste at the West Pasco Landfill and the East Pasco Landfill.

FLORIDA JETCLEAN specializes in leachate collection system maintenance and inspection, and has developed a considerable amount of specific expertise in this field over the last 30+ years. Our company has worked at an extensive number of landfills in Florida, Georgia, the Carolinas, Delaware, and westward to Arkansas. We have worked with most engineering companies active in this field, and have also fostered excellent working relationships with the regulatory authorities. We use modified jetting equipment designed to achieve extended pipe distances found in landfill environments and our explosion proof camera equipment complies with all OSHA and regulatory mandates for methane environments. Substantial references are available on request.

Based on prior work at the West Pasco and East Pasco Landfills, we quote as follows:

West Pasco Landfill - Cells A1, A2, A3, A4, SW1, SW2, Class 3, Gravity MH's = 38,301 LF

East Pasco Landfill - East and West side Cleanouts = 5,000 LF

Proposed Price for BOTH West and East Pasco Landfill Piping (43,301 LF) = \$ 21,717.49

Subject to:

- An adequate no charge on site water supply for jetcleaning. A hose bib does not supply enough pressure and will not suffice.
- 2 wheel drive vehicle access within 10'-15' of each-cleanout and manhole.
- · Continuity of access allowing work to be carried out on a single mobilization
- · Exposed and opened cleanouts at ground level
- All jetting work will begin at the available access locations and continue through the piping as far as possible. Additional access may be required for complete coverage.

Long Term Care, Leachate System Maintenance (cleaning)

- Hardened scale deposits evident in some of these pipes during previous maintenance programs may not be removed with the standard 4,000 PSI jetcleaning process. Such deposits may require pipeline waterblasting at pressures up to 10,000 PSI for removal. Such services are not currently a part of this quoted scope of work since their existence and quantities are not currently known.
- Throughput from jetcleaning will be directed downstream toward sump areas and/or pump stations. Vacuum removal from these areas, if necessary, at additional cost.
- Standby time chargeable at \$250.00 per hour should delays not of our making delay progress
   e.g. access problems, high leachate flow levels etc.
- Payment: net 30 days

Regards,

Ralph Colothi

Ralph Calistri - Florida Jetelean - 800-226-8013

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	Cost Estimate Report	port			
					Date: 08/18/2023
Spring Hill, FL					
14230 Hays Road					
Class III Closure Costs					
Year 2023 Quarter 3					
Unit Detail Report	turn Envineerinn [NC.				
Prepared By: Jason Gontie		Quantity	Unit	Total Incl. O&P	Ext. Total Incl. 0&P
LineNumber	Description				
Division 33 Utilities			ц 	\$Z3.73	\$2,373.00
001001611160	Public water supply wells, weils domestic water, drilled, 4" to 5"	nnnnt	í		\$559.00
2011011CTTT22	diameter	100.00	LF.	\$5.59	
331113103244	Public Water supply weils, weils domestic water, wei coming of an architecture pipe, PVC, 1/2" diameter	00 6	L L	\$8.01	\$24.03
331113108300	Public water supply wells, wells domestic water, well screen assembly,	2			\$61.95
	slotted PVC, 1-1/4 <sup>-</sup> diameter 	3.00	С.,	ca.117¢	
331113108400	rought water supply many many many starts.	1.60	붓	\$740.52	\$740.52
331113108500	Public water supply wells, wells domestic water, develop well				\$3,758,50
Division 33 Utilities Subtotal					
					Long Term Care, Groundwater Monitoring Well Replacement

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Cost Estimate Report	ate Report		
			Date: 08/18/2023
Spring Hill, FL 14230 Hays Road			
Class III Closure Costs			
Year 2023 Quarter 3			
Unit Detail Report			
Prepared By: Jason Gorrie JMG Engineering, Inc.			OSD Land March 02D
LineNumber Description	Quantīty Unit	Total Incl. O&P	EXC. 10tal India User
Division 32 Exterior Improvements			00.0\$
Wire fencing & gates, wire fencing general, steel gate fencing, chain Inde fehrin: steel, calvanized, 2-1/4" mesh, 11-1/2 ga, galvanized, 6'	0.00 C.S.F.	Sc:c/t	
high			\$0.D0
Division 32 Exterior Improvements Subtotal			
			\$a.00
Subtotal		0.00%	\$0.00
General Contractor's Markup on Subs			\$0.00
Subtotal		0,00%	\$0.00
General Conditions			
Subtotal			
General Contractor's Overhead and Profit		0.00%	2 5 7
Grand Total	Long Term Care, Security System Maintenance		\$0.00

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# **BID FORM**

Business Name: Megascapes Landscape and Maintenance

SOLID WASTE FACILITIES: Pasco County intends to award to one (1) vendor for all areas.

ltem No,	Description	Cost Per Acre
1.	East Pasco Sanitary Landfill 12511 Auton Road Dade City, Florida.	\$18/acre
	Approximately <u>115</u> Acres.	
2.	East Pasco Transfer Station 9626 Handcart Road Dade City, Florida.	\$24/acre
	Approximately <u>11</u> Acres	
3.	West Pasco Landfill 14230 Hays Road Spring Hill, Florida.	\$18/acre
	Approximately <u>160</u> Acres.	$\uparrow$
4.	Ridge Road Closed Landfill (Southeast Corner of San Miquel Drive and Galen Wilson Boulevard) Port Richey, Florida.	\$22/acre
	Approximately <u>40</u> Acres	

- [] Submitted list of current and past contracts of similar size and scope (Section 6.1)
- [ ] Submitted list of at least three (3) references (Section 6.2)
- [ ] Submitted list of equipment with model number and service date (Section 6.3)

	Long Te	rm
	Care,	
	Landsca	ipe
	Mainten	ance
30 SOLICITATION NO. IFB-CA-19-206	(mowing	)
00LI0HAH0HH0.11D-0A-10-200		

	Cost Estir	Cost Estimate Report			
					Date: 08/23/2023
Spring Hill, FL 14230 Hays Road					
Class III Closure Costs Year 2023 Quarter 3 Unit Detail Report Prenared Bv: Jason Gorrie	JMG Engineering, Inc.				
	Description	Quantity	Unit	Total Incl. 0&P	Ext. Total Incl. O&P
Division 31 Earthwork 312316130500 Division 31 Earthwork Subtotal	Excavating, trench or continuous footing, common earth, 3/4 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering	29,472.00	B.C.K	\$8.36 \$	\$261,121.92 <b>\$261,121.92</b>
Subtotal General Contractor's Markup on Subs				0.00%	\$261,121.92 \$0.00
Subtotal General Conditions				0.00%	\$261,121.92 \$0.00
Subtotal General Contractor's Overhead and Profit				0.00%	\$261,121.92 \$0.00
Grand Total					Stormwater Control System Earthwork

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Date: 08/23/2023

Spring Hill, FL 14230 Hays Road

# Class III Closure Costs

Year 2023 Quarter 3

Unit Detail Report Prepared By: Jason Gorrie	JMG Engineering, Inc.				
	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. 0&P
LineNumber					
Division 02 Existing Conditions					¢128 490 00
024113700200	Selective demolition, rip-rap & rock lining, slope protection, 3/8 to 1/4 C.Y. pieces	1,500.00	s.Y.	\$\$ <b>3</b> .00	
Division 02 Existing Conditions Subtotal	tal				\$128,490.00
Division 33 Utilities					00 788 DA
334211501040	Public storm utility drainage piping, drainage and sewage, corrugated HIDPF. type. S. bell and spidot, with gaskets, 12" diameter, excludes	3,800.00	Г. Г.	\$11.26	
	excavation and backfill		Ľ	¢2 R5∩ 23	\$28,502.30
334213130520	Concrete culvert, headwall concrete, precast, 30 degree skewed wingwall, 1.2" diameter pipe	10.00	Ea.	7	
					\$71,290.30
Division 33 Utilities Subtoral					

Stormwater Control System, Piping Control Structures Rip-Rap

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30.07 30.09 30.09 30.09 30.09 30.07 30 30 30 30 30 30 30 30 30 30 30 30 30
246.08
35.04
1,115.16
37.23 37.78
2.399.44 2.459.58
-
35.04 35.04
284.34 292.36
Apparently no longer active
No longer Active
Apparently no longer active
Apparently no longer active
7.728.02 8,254.02
35.04 35.04
81.41 66.58

Long Term Care Utilities