



August 14, 2017

Ms. Wanda Parker Garvin,  
Section Supervisor  
Waste Management Program – Central District  
Florida Department of Environmental Protection  
Orlando, Florida 32803-3767

Re: Financial Assurance Responsibility Report (Fiscal Year 2017)  
Tomoka Farms Road Landfill ID #27540 (North Cell Class I, South Cell, and Class III  
Landfills) and Plymouth Avenue Landfill ID #27539

Dear Ms. Parker Garvin,

On behalf of the Volusia County Solid Waste Division, HDR Engineering, Inc. is hereby submitting updated closure and long-term care cost estimates for the above-referenced landfills, fulfilling the requirements of 62-701.630(4) F.A.C.

Please contact me if you have any questions or comments at (904) 598-8979.

Sincerely,

HDR Engineering, Inc.

Mark Roberts, P.E.  
Project Manager

cc: Cory Dilmore, FDEP  
Susan Eldredge, FDEP  
Leonard Marion, Volusia County Solid Waste Division  
Jennifer Stirk, Volusia County Solid Waste Division  
Regina Montgomery, Volusia County Solid Waste Division

**VOLUSIA COUNTY SOLID WASTE SYSTEM**

**FINANCIAL RESPONSIBILITY**

**CLOSURE & LONG-TERM CARE COST ESTIMATES**

**FY 2017**

*Prepared for:*



**VOLUSIA COUNTY – SOLID WASTE DIVISION**  
1990 Tomoka Farms Road  
Port Orange FL 32128

*Prepared by:*



**HDR ENGINEERING, INC.**  
200 W Forsyth St, Suite 800  
Jacksonville, FL 32202  
Telephone: (904) 598-8900 Fax (904) 598-8988

August 2017



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## SECTION 1.0

# Executive Summary

The following report provides an estimate of closing and long-term costs for the various portions of the Volusia County (County) Solid Waste Management System for use by the County in providing assurance of Financial Responsibility as required by the Florida Administrative Code, (FAC) Section 62-701.630.

This report provides the County with an updated estimate of closing and long-term care costs for the active North Cell Class I and Class III landfills at the Tomoka Farms Road Solid Waste Management Facility (TFR Facility), and the long-term care costs for the closed South Cell at the TFR Facility and the closed Plymouth Avenue Landfill. This report addresses costs associated with the currently permitted, constructed and operating landfills, but does not provide costs of current areas permitted for future landfilling. The financial assurance mechanism for expansion disposal areas will be fully funded according to Florida Department of Environmental Protection (FDEP) approved cost estimates and FDEP rules governing financial assurance responsibility at least sixty days prior to the acceptance of solid waste in these areas (FAC 62-701.630(1)(b)).

The following definitions for the words closing and closure as stated in FAC 62-701 are used in this report.

- "Closing": means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.
- "Closure": means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance, and financial responsibility.

This report was prepared assuming that financial responsibility for FY 2017 would be met by the Escrow Accounting Method, as defined in FAC 62-701.630(5). The 2016 closing and long-term care cost estimates, approved by FDEP, were adjusted assuming the Class I and Class III landfill areas will be closed in accordance with the requirements of the existing FDEP Operations Permits. The approved closure and long-term care costs were adjusted using current year annual inflation factor published by the U.S. Department of Commerce and provided by the FDEP.

The long-term care cost estimates for the Plymouth Avenue Landfill and TFR Facility's Class I South Cell and Class III Landfills were updated by adjusting the previously approved costs based on the current year annual inflation factor published by the U.S. Department of Commerce and provided by the FDEP. The current year inflation factor is 1.013 for estimates due September 1, 2017.

The FDEP Form 62-701.900(28) was completed for each facility to comply with the filing requirements of FAC 62-701.630. The estimated escrow funding obligations are presented for each disposal area individually.

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Since last year's report:

- The County continued disposal operations in the Class I North Cell (including Phase II Area 3) and Class III landfills at the TFR Facility.
- The County continued long-term care activities at Plymouth Avenue Landfill.

This report includes:

- Updated closing and long-term care cost estimates for the Class I solid waste disposal area at the TFR Facility based on current permit requirements and previously approved cost estimate adjusted for inflation.
- Updated closing and long-term care cost estimates for the Class III solid waste disposal area at the TFR Facility based on current permit requirements and previously approved cost estimate adjusted for inflation.
- Updated long-term care cost estimates for the closed South Cell landfill based on current permit requirements and previously approved cost estimate adjusted for inflation.
- Updated long-term care cost estimates for the Plymouth Avenue Landfill based on current permit requirements and previously approved cost estimates adjusted for inflation.
- Closure cost estimate for the waste tire temporary storage area at the TFR Facility.

Based on the updated cost estimates for closure and long-term care for the noted facilities and detailed in this report, the County's escrow fund must provide for financial responsibility for FY 2017 in the amount of \$12,814,019.18 per Table 7.

The FY 2017 Volusia County Landfill Escrow Fund consisting of account GMS 3064C00071 for TFR Facility and account GMS 3064C00070 for Plymouth Avenue Landfill showed a combined balance of \$11,644,540 as of September 30, 2016. The calculated increase to the Volusia County escrow fund for FY2017 financial responsibility equals \$1,169,479.18.

In accordance with FDEP requirements, the fund balances reported should indicate balance information for closing and long term care costs separately for each disposal facility. The updated closure cost for each facility and required escrow fund balance for FY 2017 is summarized as follows. The financial assurance forms must be submitted by September 1, 2017 to comply with the regulatory deadline specified in FAC 62-701.630(4)(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.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: Tomoka Farms Road Landfill- South Cell WACS ID: 27540  
 Permit Application or Consent Order No.: 0078767-030-SO-01 Expiration Date: 05/13/2033  
 Facility Address: 1990 Tomoka Farms Road, Daytona Beach, Florida  
 Permittee or Owner/Operator: Volusia County Solid Waste Division  
 Mailing Address: 3151 East New York Avenue, DeLand, Florida 32724

Latitude: 29° 07' 50" Longitude: 81° 06' 02"  
 Coordinate Method: AutoCAD/GPS Datum: NAD 1983/90 (east)  
 Collected by: J.E. Zapert Company/Affiliation Sliger & Associates, Inc.

### 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
South Cell	114	June 1978	Approx. 23 years	NA	2001	2001

Total disposal unit acreage included in this estimate: Closure: NA Long-Term Care: 114

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  
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Jacksonville, FL 32256-7590  
904-807-3300

Central District  
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Orlando, FL 32803-3767  
407-894-7555

Southwest District  
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Tempe Terrace, FL 33637  
813-632-7600

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

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

### III. ESTIMATE ADJUSTMENT

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

☒ (a) Inflation Factor Adjustment

☐ (b) Recalculated or New Cost Estimates

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

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

Latest Department Approved  
Closing Cost Estimate:

Current Year Inflation  
Factor, e.g. 1.02

Inflation Adjusted Closing  
Cost Estimate:

x

=

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

9/1/2016

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:

\$123,002.79

x

1.013

=

\$124,601.83

Number of Years of Long Term Care Remaining:

x

30

Inflation Adjusted Long-Term Care Cost Estimate:

=

\$3,738,054.79

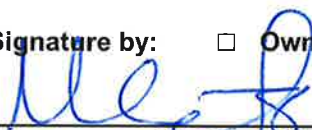
Signature by:

☐

Owner/Operator

☒ Engineer

(check what applies)

  
Signature

200 W Forsyth St, Ste 800

Address

Mark Roberts, Project Manager

Name & Title

Jacksonville, FL 32202

City, State, Zip Code

8/14/17

Date

Mark.Roberts@hdrinc.com

E-Mail Address

(904) 598-8900

Telephone Number



# 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: Tomoka Farms Road Landfill-North Cell, Class I WACS ID: 27540  
 Permit Application or Consent Order No.: 0078767-030-SO-01 Expiration Date: 05/13/2033  
 Facility Address: 1990 Tomoka Farms Road, Daytona Beach, Florida  
 Permittee or Owner/Operator: Volusia County Solid Waste Division  
 Mailing Address: 3151 East New York Avenue, DeLand, Florida 32724

Latitude: 29° 07' 50" Longitude: 81° 06' 02"  
 Coordinate Method: AutoCAD/GPS Datum: NAD 1983/90 (east)  
 Collected by: J.E. Zapert Company/Affiliation Sliger & Associates, Inc.

### 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
North Cell - Excluding Area 4	77.85	June 1999	18 years	7 years	NA	NA

Total disposal unit acreage included in this estimate: Closure: 77.85 Long-Term Care: 77.85

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

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850-595-8360

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Temple Terrace, FL 33637  
813-632-7600

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

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

### III. ESTIMATE ADJUSTMENT

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

☒ (a) Inflation Factor Adjustment

☐ (b) Recalculated or New Cost Estimates

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

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

9/1/2016

Latest Department Approved  
Closing Cost Estimate:

Current Year Inflation  
Factor, e.g. 1.02

Inflation Adjusted Closing  
Cost Estimate:

\$11,306,330.98

x

1.013

=

\$11,453,313.28

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

9/1/2016

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:

\$202,020.95

x

1.013

=

\$204,647.22

Number of Years of Long Term Care Remaining:

x

30

Inflation Adjusted Long-Term Care Cost Estimate:

=

\$6,139,416.67

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)



Signature

200 W. Forsyth St., Ste. 800

Address

Mark G. Roberts, Project Manager

Name & Title

Jacksonville, FL 32202-4321

City, State, Zip Code

8/14/17

Date

Mark.Roberts@hdrinc.com

E-Mail Address

(904)-598-8900

Telephone Number





# 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: Tomoka Farms Road Landfill- Class III Landfill WACS ID: 27540  
 Permit Application or Consent Order No.: 0078767-034-SO-T3 Expiration Date: 9/24/2024  
 Facility Address: 1990 Tomoka Farms Road, Daytona Beach, Florida  
 Permittee or Owner/Operator: Volusia County Solid Waste Division  
 Mailing Address: 3151 East New York Avenue, DeLand, Florida 32724

Latitude: 29° 07' 53" Longitude: 81° 05' 31"  
 Coordinate Method: AutoCAD/GPS Datum: NAD 1983/90 (east)  
 Collected by: J.E. Zapert Company/Affiliation Sliger & Associates, Inc.

### 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
Class III LF	88.06	June 1998	19 years	21 years	NA	NA

Total disposal unit acreage included in this estimate: Closure: 88.06 Long-Term Care: 88.06

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  
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239-332-6975

Southeast District  
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West Palm Beach, FL 33401  
561-681-6600

### III. ESTIMATE ADJUSTMENT

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☒ (a) Inflation Factor Adjustment

☐ (b) Recalculated or New Cost Estimates

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

This adjustment is based on the Department approved closing cost estimate dated: 9/1/2016

Latest Department Approved Closing Cost Estimate:	Current Year Inflation Factor, e.g. 1.02	Inflation Adjusted Closing Cost Estimate:
<u>\$8,868,838.76</u>	<u>1.013</u>	<u>\$8,984,133.66</u>

This adjustment is based on the Department approved long-term care cost estimate dated: 9/1/2016

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:
<u>\$59,388.87</u>	<u>1.013</u>	<u>\$60,160.93</u>

Number of Years of Long Term Care Remaining: 30

Inflation Adjusted Long-Term Care Cost Estimate: \$1,804,827.76

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)



Signature

200 W Forsyth St, Ste 800

Address

Mark Roberts, Project Manager

Name & Title

Jacksonville, FL, 32256

City, State, Zip Code

8/14/17

Date

Mark.Roberts@hdrinc.com

E-Mail Address

(904) 598 8900

Telephone Number



# Florida Department of Environmental Protection

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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: Plymouth Avenue Landfill WACS ID: 27539  
Permit Application or Consent Order No.: 0127461-004-SF Expiration Date: 12/22/2026  
Facility Address: Northeast of the intersection of Plymouth Ave and Grand Ave, west of DeLand, Florida  
Permittee or Owner/Operator: Volusia County Solid Waste Division  
Mailing Address: 3151 East New York Avenue, DeLand, Florida 32724

Latitude: 29 ° 02 ' 35 " Longitude: 81 ° 20 ' 50 "  
Coordinate Method: AutoCAD/GPS Datum: NAD 1983/90 (east)  
Collected by: J.E. Zapert Company/Affiliation Sliger & Associates, Inc.

### 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
Plymouth LF	129.4	1940s				2/7/2000

Total disposal unit acreage included in this estimate: \_\_\_\_\_ Closure: NA Long-Term Care: 39

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

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### 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

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

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

Latest Department Approved  
Closing Cost Estimate:

Current Year Inflation  
Factor, **e.g. 1.02**

Inflation Adjusted Closing  
Cost Estimate:

×

=

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

12/23/2016

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:

\$110,983.27

×

1.013

=

\$112,426.05

Number of Years of Long Term Care Remaining:

×

13

**Inflation Adjusted Long-Term Care Cost Estimate:**

=

\$1,461,538.68

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)



Signature

200 W Forsyth St, Ste 800

Address

Mark Roberts, Project Manager

Name & Title

Jacksonville, FL 32202

City, State, Zip Code



Date

Mark.Roberts@hdrinc.com

E-Mail Address

(904) 598-8900

Telephone Number

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## SECTION 2.0

# Regulatory Requirements

FAC 62-701.630 addresses financial responsibility requirements for landfills and other solid waste management facilities. Government-owned landfills can demonstrate financial responsibility in several ways. Mechanisms available include establishment of an escrow account, use of the corporate guarantee (financial test), surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, and closure insurance.

Volusia County uses the escrow accounting mechanism to provide for financial responsibility. FAC 62-701.630 allows government-owned landfills to demonstrate financial responsibility for the annual cost of long-term care one-year prior to the actual final closure. The disposal areas at the TFR Facility and the Plymouth Avenue Landfill are required to have long-term care for 30 years after the landfill has been certified closed by the FDEP.

In March 1996, the U.S. Environmental Protection Agency (EPA) promulgated *Standards of Performance, Emission Guidelines and Compliance Times, and New Source Performance Standards* for municipal solid waste (MSW) landfills. These regulations brought MSW landfills under the direct control of the Clean Air Act (CAA) and require the installation of landfill gas (LFG) emissions controls for the Volusia County Tomoka Farms Road Landfill. Costs for implementation of the LFG control systems for the TFR Facility has been included in the closure cost estimates. The current FDEP closure permit for the Plymouth Avenue Landfill does not require a landfill gas collection system and costs for such system is not allocated in the updated long-term care cost estimates.

The FDEP establishes the method for estimating closing and long-term care costs for financial responsibility in FAC 62-701.630 and referencing and adopting 40 CFR, Part 264, Subpart H. These federal regulations specify that closing and long-term care cost estimates may be made by:

- Recalculating the maximum costs of closing and long-term care in current dollars; or,
- Using an inflation factor derived from the most recent Implicit Price Deflator for Gross Domestic Product published by the U.S. Department of Commerce in its *Economic Report of the President* to inflate cost estimates from the prior year.

The FDEP requirements for financial responsibility annual adjustments were met for the Class I North Cell landfill, Class I South Cell landfill and Class III landfill at the TFR Facility by updating the 2016 FDEP-approved cost estimates with the annual inflation factor. The financial responsibility for the closed Plymouth Avenue Landfill was adjusted for annual inflation based on approved long term care cost estimates in 2016 permit renewal application. An inflation rate of 1.013 was used for this year's financial responsibility report as provided by the FDEP. This value was obtained from the FDEP Solid Waste Financial Responsibility webpage. The 2016 cost estimates for the Class I North Cell landfill, Class I South Cell landfill and Class III landfill at the TFR Facility and the closed Plymouth Avenue Landfill were approved by the FDEP via an email dated September 1, 2016.

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## SECTION 3.0

### Methodology

Closure and long-term care costs for the Class I North Cell, Class I South Cell and Class III landfills at TFR Facility and the Plymouth Avenue Landfill were adjusted for inflation based on the FY2016 Financial Responsibility Closure and Long-Term Care Cost Estimates Report cost estimates approved by the FDEP. No modifications to the TFR North Cell, TFR South Cell, TFR Class III or Plymouth Avenue landfills or their permits have occurred since the previous year's financial assurance submittal that would necessitate a recalculation of their financial assurance responsibility.

FDEP Form 62-701.900(28) was submitted for each facility individually with the updated estimated cost estimates for closure and long-term. Additional data including population data, airspace depletion rate, and life expectancy of the current permitted landfills are presented in Section 4.0.

Population projections and a six-year-averaged per capita landfill capacity utilization rate for Class I and Class III solid waste is used to project future landfill airspace utilization rates. The amount of permitted airspace utilized since the previous financial assurance report was determined by comparing new aerial topographic mapping flown in April 2017 with last year's aerial topographic survey flown in April 2016. This method takes into account the landfill volume used for the required daily and intermediate cover material and the landfill volume gained due to waste decomposition and compaction, as well as other factors which may impact permitted disposal capacity and the projection of remaining life.

Table 1 provides updated population projections for the Class I and Class III solid waste service areas. The contributing population for Class I solid waste is assumed to be the population of Volusia County only as waste from Flagler County to the Volusia County TFR Facility discontinued at the end of 2013. The contributing population for Class III solid waste was assumed to be Volusia County. The population projections are based on the data supplied by the Office of Economic and Demographic Research (EDR).

Table 2 presents the per capita permitted disposal capacity depletion rate. Tables 3 and 4 provide the permitted airspace depletion analysis for the Class I North Cell and Class III landfills. Table 5 provides a summary of the calculated closure dates and long-term care periods of the landfills. Tables 6 and 7 summarize the costs and required funding for closure and long-term care of each facility and provide an analysis of annual contributions to fund closure. Table 8 has been developed for Volusia County and presents estimates on the accrued liability.

Although permitted for construction, the Phase II Area 4 expansion has not yet been constructed and certified by the FDEP for waste disposal. Therefore, the Phase II Area 4 expansion was not included in the calculations presented in this report. Per FAC 62-701.630(1)(b), the financial assurance mechanism for the Phase II Area 4 expansion area will be funded according to FDEP-approved cost estimates and FDEP rules governing financial assurance responsibility at least sixty days prior to the acceptance of solid waste in these areas. Based on future population projections, per capita utilizations and volume calculation by HDR, the Phase II Area 4 expansion will increase the total waste capacity by 1.7 million cubic yards (excluding added airspace from 2017 proposed lateral expansion) and increase the site life by 4.6 years. If volume addition in the proposed 2017 expansion to Area 4 is considered, total waste capacity is approximately 2.3 million cubic yards and increase the site life by 6.1 years.

The TFR Facility waste tire storage area is a stand-alone waste tire drop-off facility where tires are loaded into containers for transportation to a permitted off-site processing facility. This operation is anticipated to remain as long as the other solid waste activities take place on the property. Since this length of time is not now defined, it is assumed that the closing date will be the same as the closing date for the TFR Solid

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Waste Management Facility. The cost estimate for closing the TFR Facility waste tire storage area was assumed to be the cost of disposing the quantity of tires stored at the facility. This cost was calculated by multiplying 237 tons of tires by the cost of hauling and disposal of tires by a third party contractor currently \$80/ton for regular tires (approx. 97% of total tires) and \$200/ton for oversized tires (approx. 3% of total tires). The quantity of waste tires (approx. 237 tons of quarterly ending inventory) was calculated by averaging quarterly waste tire quantities reported since 2016 report submittal (*Quarterly Waste Tire Report & Inventory Update* reports submitted to the department: 2<sup>nd</sup> quarter 2016, 3<sup>rd</sup> quarter 2016; 4<sup>th</sup> quarter 2016; and 1<sup>st</sup> quarter 2017).



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## SECTION 4.0

# Figures and Tables

The figures and tables are organized as follows:

<u>Figure Number</u>	<u>Title</u>
1	Existing Topographic Survey (April 2017) - Class I North Cell – Tomoka Farms Road Landfill
2	Final Grading Plan without Phase II Area 4 Expansion – Class I North Cell– Tomoka Farms Road Landfill
3	Final Grading Plan with Phase II Area 4 Expansion – Class I North Cell – Tomoka Farms Road Landfill
4	Existing Topographic Survey (April 2017) - Class III Landfill-Tomoka Farms Road Landfill
5	Final Grading Plan - Class III Landfill – Tomoka Farms Road Landfill
6	Aerial Site Plan (April 2017) – Tomoka Farms Road Landfill

<u>Table Number</u>	<u>Title</u>
1	Population Projections of Wasteshed Service Areas
2	Annual Rate of Landfill Capacity Utilization
3	North Cell Class I Landfill - Projected Capacity Utilization
4	Class III Landfill - Projected Capacity Utilization
5	Summary of Closing & Final Closure of Landfills
6	Summary of Estimated Cost
7	Summary of Escrow Analysis
8	Estimate of Accrued Liability (As of September 30, 2017)

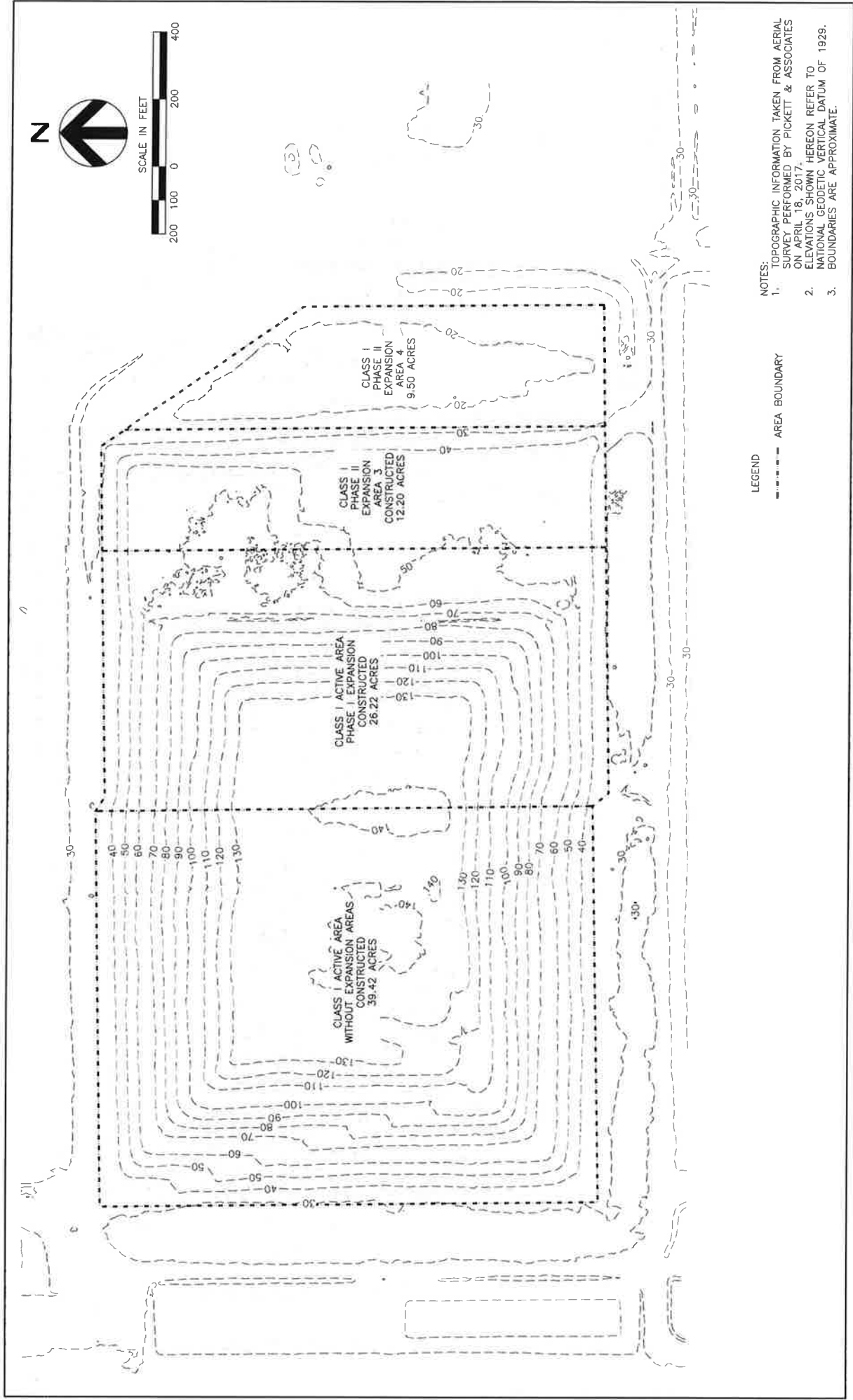


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## SECTION 5.0

### Sources

1. Volusia County Solid Waste System, Financial Responsibility Closure and Long Term Care Costs Report, FY 2016, August 2016, HDR Engineering, Inc.
2. Schedule of Activities, Landfill Management Escrow Accounts, September 30, 2016, James Moore & Co., P.L. dated February 23, 2017.
3. Waste Tire Processing Price Agreement between County of Volusia and Wheelabrator Ridge Energy, Inc. (3131 K-Ville Avenue, Auburndale, FL 33823).
4. Volusia County Public Works Department - Solid Waste Division, Quarterly Waste Tire Report & Inventory Update, 2<sup>nd</sup> Quarter 2016 dated July 8, 2016.
5. Volusia County Public Works Department - Solid Waste Division, Quarterly Waste Tire Report & Inventory Update, 3<sup>rd</sup> Quarter 2016 dated October 03, 2016.
6. Volusia County Public Works Department - Solid Waste Division, Quarterly Waste Tire Report & Inventory Update, 4<sup>th</sup> Quarter 2016 dated January 13, 2017.
7. Volusia County Public Works Department - Solid Waste Division, Quarterly Waste Tire Report & Inventory Update, 1<sup>st</sup> Quarter 2017 dated April 6, 2017.
8. FDEP Operation Permit-North Cell Class I Landfill Tomoka Farms Road Solid Waste Management Facility.
9. FDEP Construction Permit-North Cell Class I Landfill Phase II Expansion Tomoka Farms Road Solid Waste Management Facility.
10. FDEP Closure Permit-North Cell Class I Landfill-Tomoka Farms Road Solid Waste Management Facility.
11. FDEP Operation Permit-Class III Landfill-Tomoka Farms Road Solid Waste Management Facility.
12. FDEP Closure Permit -South Cell Landfill -Tomoka Farms Road Solid Waste Management Facility.
13. FDEP Long-Term Care Permit -Plymouth Avenue Landfill.
14. Topography Survey and Mapping Report, Pickett & Associates, April 2016.
15. Topography Survey - Surveyor's Report, Pickett & Associates, April 2017.
16. Certified Topographic Survey Capacity Calculation Report, Aerial Cartographics of America, November 2008 (ACA Job Number 2008679).



**EXISTING TOPOGRAPHIC SURVEY**  
**(APRIL 2017)**  
**CLASS I NORTH CELL**

VOLUSIA COUNTY, FLORIDA

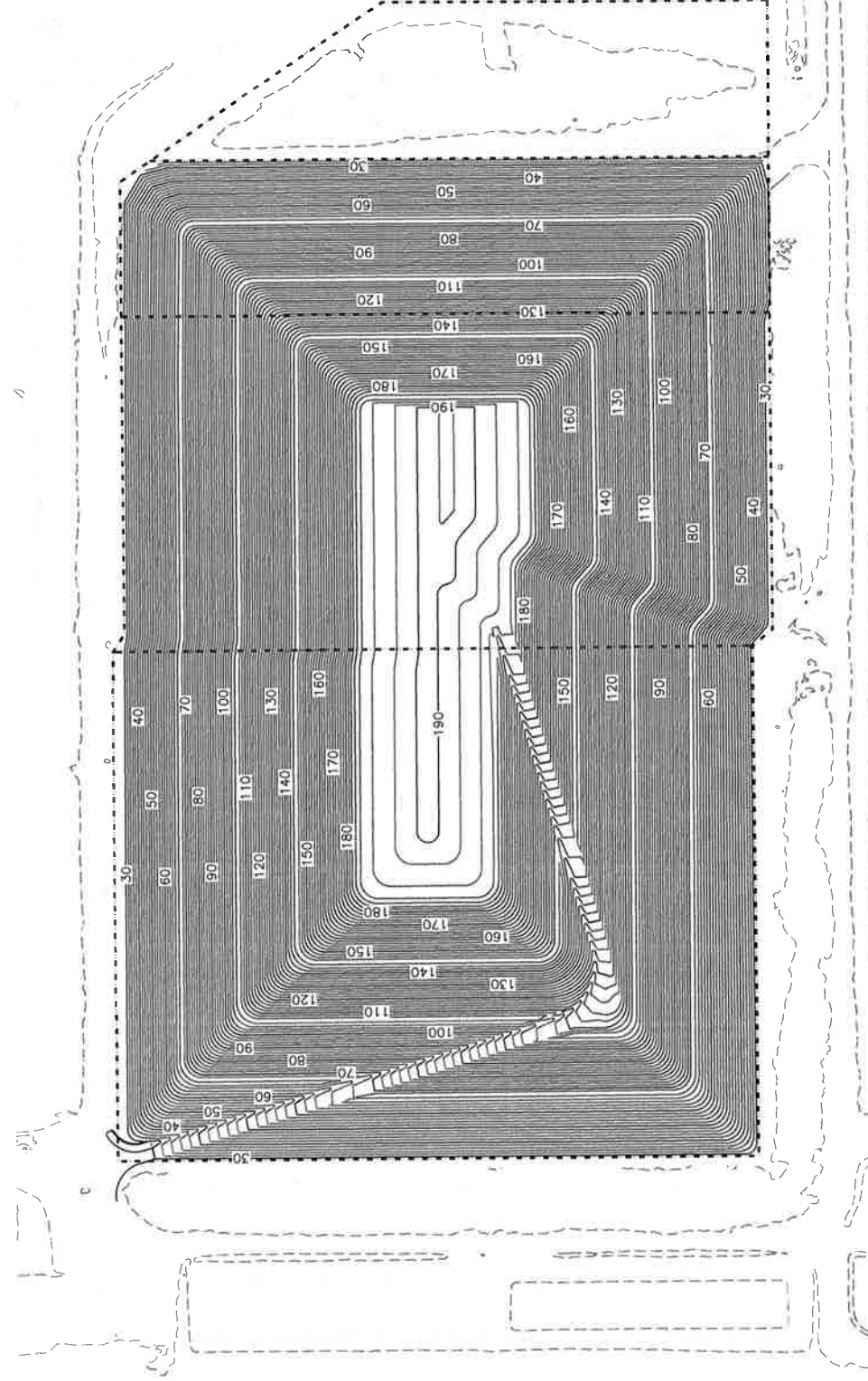
**FOR**

DATE

05/17

FIGURE

1



LEGEND

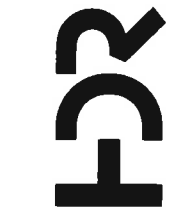
----- AREA BOUNDARY

NOTES:

1. FINAL GRADING IS TAKEN FROM MINOR PERMIT MODIFICATION APPLICATION, DATED MAY 27, 2015 AND PREPARED FOR INCLUSION OF PHASE II AREA 3 INTO OPERATIONS PERMIT FOR THE CLASS I NORTH CELL LANDFILL.
2. ELEVATIONS SHOWN HEREON REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. BOUNDARIES ARE APPROXIMATE.

**FINAL GRADING PLAN  
WITHOUT PHASE II AREA 4 EXPANSION  
CLASS I NORTH CELL**

VOLUSIA COUNTY, FLORIDA

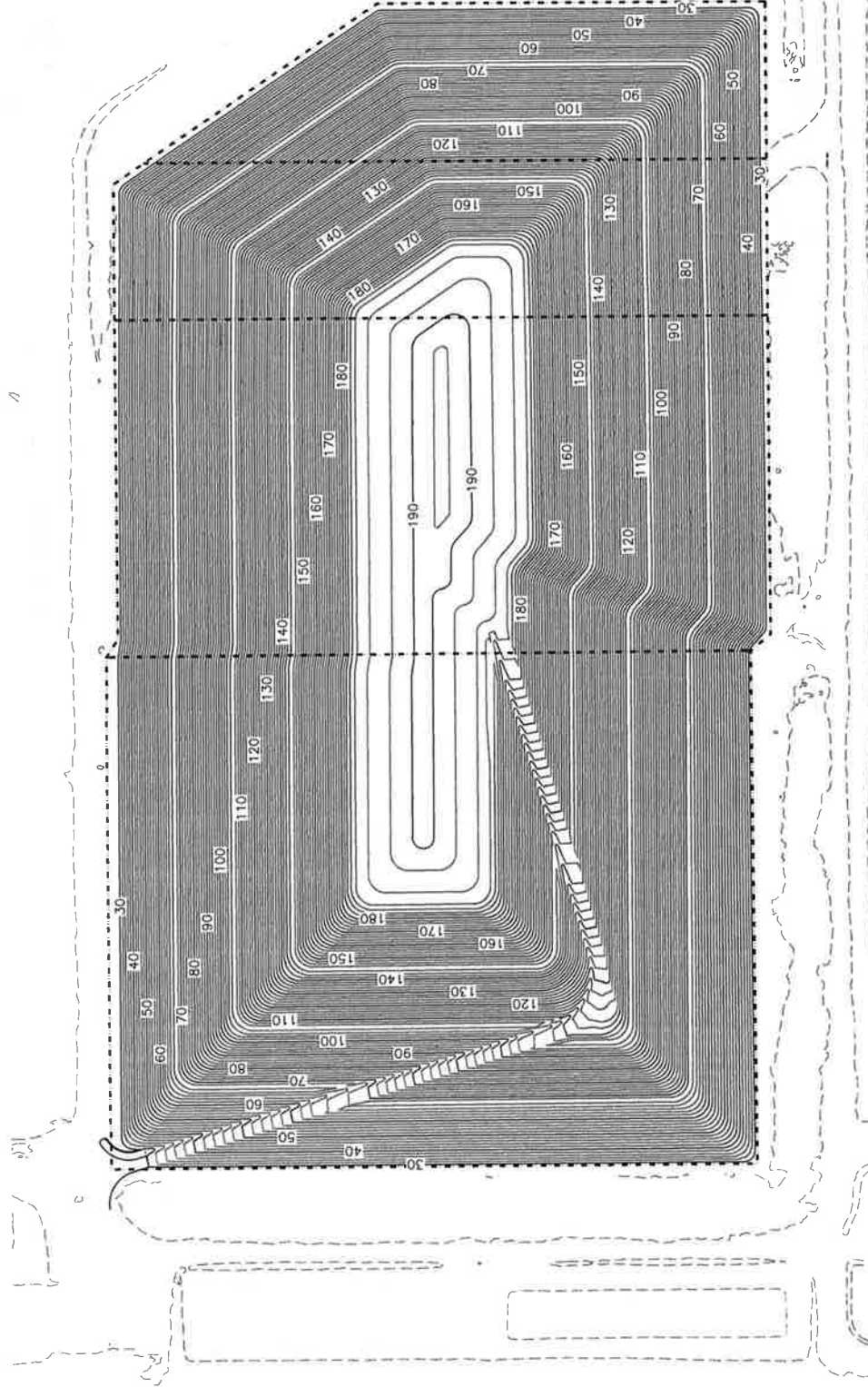
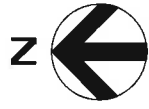


DATE

05/17

FIGURE

2



LEGEND

----- AREA BOUNDARY

NOTES:

1. FINAL GRADING IS TAKEN FROM FIGURE 3 OF FINANCIAL RESPONSIBILITY CLOSURE AND LONG-TERM CARE COST ESTIMATE REPORT FOR FISCAL YEAR 2014. (DATED AUGUST, 2014).
2. ELEVATIONS SHOWN HEREON REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. BOUNDARIES ARE APPROXIMATE.

# FINAL GRADING PLAN WITH PHASE II AREA 4 EXPANSION CLASS I NORTH CELL

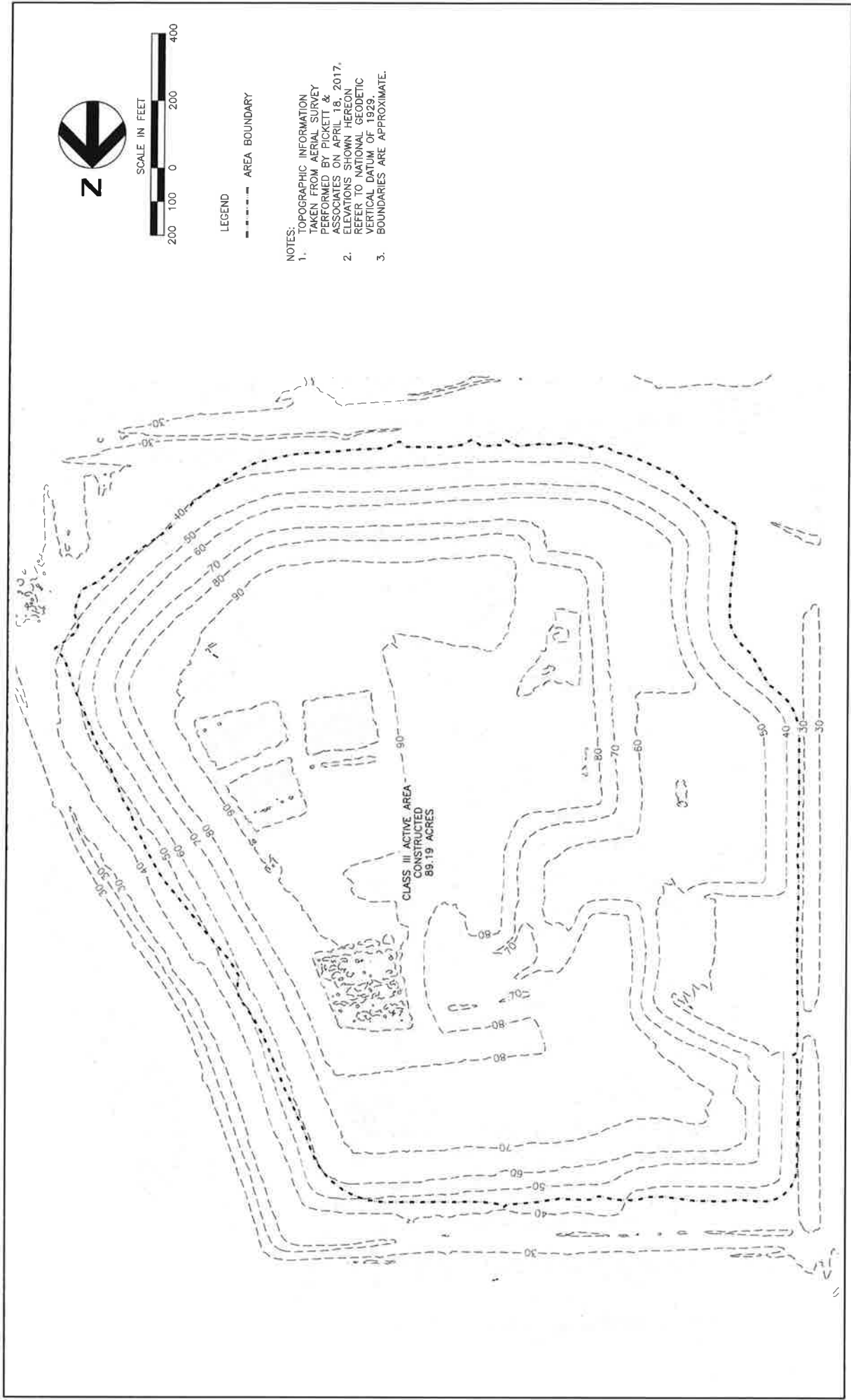
VOLUSIA COUNTY, FLORIDA

DATE

05/17

FIGURE

3



- NOTES:
1. TOPOGRAPHIC INFORMATION TAKEN FROM AERIAL SURVEY PERFORMED BY PICKETT & ASSOCIATES ON APRIL 18, 2017. ELEVATIONS SHOWN HEREON REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
  2. BOUNDARIES ARE APPROXIMATE.
  - 3.

**EXISTING TOPOGRAPHIC SURVEY**  
**(APRIL 2017)**  
**CLASS III LANDFILL**  
VOLUSIA COUNTY, FLORIDA

**FOR**

DATE 06/16  
FIGURE 4



LEGEND

----- AREA BOUNDARY

NOTES:

1. FINAL GRADING TAKEN FROM FIGURE 5 OF FINANCIAL RESPONSIBILITY CLOSURE AND LONG-TERM CARE COST ESTIMATE REPORT FOR FISCAL YEAR 2014 (DATED AUGUST, 2014).
2. ELEVATIONS SHOWN HEREON REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.
3. BOUNDARIES ARE APPROXIMATE.

# FINAL GRADING PLAN CLASS III LANDFILL

**FOR**

VOLUSIA COUNTY, FLORIDA

DATE

05/17

FIGURE

5





**AERIAL SITE PLAN  
(APRIL 2017)**

DATE  
05/17

FIGURE

6

VOLUSIA COUNTY, FLORIDA

**HCR**

**Table 1: Population Projections of Wasteshed Service Areas  
2017 Financial Assurance Report  
Volusia County, Florida**

Year <sup>2,3</sup>	Service Area Populations <sup>1</sup>			Class I Wasteshed	Class III Wasteshed
	Volusia County	Flagler County	City of Deltona		
2010	506,528	95,671	84,749	517,451	421,780
2011	495,400	96,241	85,233	506,408	410,167
2012	497,145	97,160	---	594,305	497,145
2013	498,978	---	---	498,978	498,978
2014	502,179	---	---	502,179	502,179
2015	510,494	---	---	510,494	510,494
2016	517,411	---	---	517,411	517,411
2017	521,997	---	---	521,997	521,997
2018	526,840	---	---	526,840	526,840
2019	531,351	---	---	531,351	531,351
2020	535,789	---	---	535,789	535,789
2021	540,229	---	---	540,229	540,229
2022	544,640	---	---	544,640	544,640
2023	548,979	---	---	548,979	548,979
2024	553,200	---	---	553,200	553,200
2025	557,257	---	---	557,257	557,257
2026	561,111	---	---	561,111	561,111
2027	564,740	---	---	564,740	564,740
2028	568,132	---	---	568,132	568,132
2029	571,271	---	---	571,271	571,271
2030	574,144	---	---	574,144	574,144
2031	576,751	---	---	576,751	576,751
2032	579,154	---	---	579,154	579,154
2033	581,433	---	---	581,433	581,433
2034	583,665	---	---	583,665	583,665
2035	585,929	---	---	585,929	585,929
2036	588,284	---	---	588,284	588,284
2037	590,709	---	---	590,709	590,709
2038	593,164	---	---	593,164	593,164
2039	595,611	---	---	595,611	595,611
2040	598,009	---	---	598,009	598,009

**Notes:**

1. Population estimates for the years 2010 through 2015 were derived from Table 1 of HDR Engineering's FY2016 Financial Responsibility Closure & Long-term Care Cost Estimates, dated August 2016. The Office of Economic and Demographic Research (EDR) is the source for Volusia County population estimates for 2016 through 2040.
2. From June 2009 to September 2011 waste generated by City of Deltona was diverted from disposal in the Class I & III landfills.
3. Per Volusia County, Flagler County's Class I waste was not accepted for disposal at the Class I landfill from 2013 onwards.



**Table 2: Annual Rate of Landfill Capacity Utilization  
2017 Financial Assurance Report  
Volusia County, Florida**

**A. Class I Landfill-North Cell**

Year <sup>(1)</sup>	Annual Utilization <sup>(2)</sup> (CY)	Population of Wasteshed	Rate of Class I Landfill Space Utilization Per Capita (CY/Yr) <sup>(4)</sup>
2010	266,219	517,451	0.514
2011	335,394	506,408	0.662
2012	399,352	594,305	0.672
2013	351,235	498,978	0.704
2014	354,489	502,179	0.706
2015	348,715	510,494	0.683
2016	393,627	517,411	0.761
Projected Rate of Class I Landfill Space Utilization Per Capita (CY/Yr)			<b>0.672</b>

**B. Class III Landfill**

Year <sup>(1)</sup>	Annual Utilization <sup>(2)</sup> (CY)	Population of Wasteshed	Rate of Class III Landfill Space Utilization Per Capita (CY/Yr) <sup>(3),(4)</sup>
2010	145,471	421,780	0.345
2011	122,020	410,167	0.297
2012	78,803	497,145	0.159
2013	125,074	498,978	0.251
2014	154,533	502,179	0.308
2015	144,195	510,494	0.282
2016	242,864	517,411	0.469
Projected Rate of Class III Landfill Space Utilization Per Capita (CY/Yr)			<b>0.302</b>

**Notes:**

1) The year shown refers to the period in between the annual aerial topographic surveys (i.e. year 2016 refers to April 9, 2016 to April 18, 2017). For the year 2016, the annual utilized airspace, 403,333 cubic yards for the Class I North Cell and 248,853 cubic yards for the Class III Landfill, was divided by 1.02466 to normalize for the 374 days in between aerial photograph dates (April 9, 2016 to April 18, 2017).

2) Annual utilization for the years 2010 through 2015 is provided by HDR Engineering's 2016 Financial Assurance Report dated August 2016. The Class I 2016 annual utilization was calculated by Autodesk AutoCAD Civil 3D using the April 9, 2016 and April 18, 2017 aerial topographic surveys by Pickett and Associates, Inc.. The extent of the area used in the volume calculation was the "Existing Edge of Liner" Final Cover/Closure Site Plan SCS Engineers, 7/24/2009. The boundary was truncated at the 29' contour on the northern boundary of the original North Cell. The boundary used for the Class III landfill volume calculation was "the limits of permitted Class III" line shown on the SCS Engineers permit renewal drawing dated June 2009. The western margin of the permitted Class III boundary was truncated (approximately 10 acres) since activities unrelated to waste disposal, compaction or decomposition (i.e. removal of yard trash stockpiles) occurred in this area.

3) Reduced Class III landfill per capita space utilization for 2012 tonnages may be attributed to a downturn in construction.

4) The projected rate of landfill space utilization is assumed to be the average rate of per capita utilization for the past seven years.

5) The estimated annual landfill space utilization includes landfill space lost due to the use of intermediate/daily cover material and the space gained due to settlement and decomposition of waste.

**Table 3: North Cell Class I Landfill - Projected Capacity Utilization**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

Year <sup>(1)</sup>	Time Period	Estimated Volume Utilized (CY)	Estimated Cumulative Volume Utilized (CY)	Permitted Disposal Capacity Remaining without Phase II, Area 4 Expansion (CY)	Percent of Permitted Disposal Capacity Used
2015 <sup>(2)</sup>	4/9/16	---	---	3,035,355	71%
2016 <sup>(3)</sup>	4/10/16 to 4/18/17	403,333	8,000,143	2,632,192	75%
2016	4/19/17 to 9/30/17	156,227	8,156,369	2,475,965	77%
2017	10/1/17 to 9/30/18	350,782	8,507,151	2,125,183	80%
2018	10/1/18 to 9/30/19	354,036	8,861,188	1,771,147	83%
2019	10/1/19 to 9/30/20	357,068	9,218,256	1,414,079	87%
2020	10/1/20 to 9/30/21	360,050	9,578,306	1,054,029	90%
2021	10/1/21 to 9/30/22	363,034	9,941,340	690,995	94%
2022	10/1/22 to 9/30/23	365,998	10,307,338	324,997	97%
2023	10/1/23 to 8/17/24	324,997	10,632,335	0	100%
				Calculated Closure Date	August 2024

**Notes:**

1) Year generally represents October 1 to September 30 (i.e. year 2017 is from October 1, 2017 to September 30, 2018).

2) Source is 2016 Financial Responsibility Report, HDR Engineering dated August 2016.

3) The volume capacity remaining as of the April 18, 2017 topo survey was calculated to be approximately 2,888,494 cubic yards. This volume was calculated using the final cap grade contours and the April 18, 2017 aerial topographic survey. The final cover volume was estimated to be 256,302 cubic yards which assumes a permitted 2-foot thick soil cover for the entire closure area. The remaining capacity, 2,632,192 cubic yards, was assumed to be utilized for waste disposal and daily/intermediate cover.

4) The total design capacity is assumed same as the total capacity used in 2016 Financial Responsibility Report prepared by HDR Engineering and dated August 2016.

**Table 4: Class III Landfill - Projected Capacity Utilization**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

Year <sup>(1)</sup>	Time Period	Estimated Volume Utilized (CY)	Estimated Cumulative Volume Utilized (CY)	Permitted Disposal Capacity Remaining (CY)	Percent of Permitted Disposal Capacity Used
2015 <sup>(2)</sup>	5/8/15 to 4/9/16	--	--	3,898,311	44%
2016 <sup>(3)</sup>	4/10/16 to 4/18/17	248,853	3,359,803	3,649,459	48%
2016	4/19/17 to 9/30/17	70,209	3,430,012	3,579,250	49%
2017	10/1/17 to 9/30/18	157,643	3,587,655	3,421,607	51%
2018	10/1/18 to 9/30/19	159,106	3,746,761	3,262,501	53%
2019	10/1/19 to 9/30/20	160,468	3,907,229	3,102,033	56%
2020	10/1/20 to 9/30/21	161,808	4,069,037	2,940,225	58%
2021	10/1/21 to 9/30/22	163,149	4,232,187	2,777,075	60%
2022	10/1/22 to 9/30/23	164,481	4,396,668	2,612,594	63%
2023	10/1/23 to 9/30/24	165,792	4,562,460	2,446,802	65%
2024	10/1/24 to 9/30/25	167,066	4,729,526	2,279,736	67%
2025	10/1/25 to 9/30/26	168,292	4,897,818	2,111,444	70%
2026	10/1/26 to 9/30/27	169,456	5,067,273	1,941,989	72%
2027	10/1/27 to 9/30/28	170,551	5,237,825	1,771,437	75%
2028	10/1/28 to 9/30/29	171,576	5,409,400	1,599,862	77%
2029	10/1/29 to 9/30/30	172,524	5,581,924	1,427,338	80%
2030	10/1/30 to 9/30/31	173,391	5,755,316	1,253,946	82%
2031	10/1/31 to 9/30/32	174,179	5,929,495	1,079,767	85%
2032	10/1/32 to 9/30/33	174,905	6,104,399	904,863	87%
2033	10/1/33 to 9/30/34	175,593	6,279,992	729,270	90%
2034	10/1/34 to 9/30/35	176,267	6,456,259	553,003	92%
2035	10/1/35 to 9/30/36	176,951	6,633,209	376,053	95%
2036	10/1/36 to 9/30/37	177,662	6,810,871	198,391	97%
2037	10/1/37 to 9/30/38	178,394	6,989,265	19,997	100%
2038	10/1/38 to 11/10/38	19,997	7,009,262	0	100%
Calculated Closure Date				November 2038	

**Notes:**

- 1) Year generally represents October 1 to September 30 (i.e., year 2016 is from October 1, 2016 to September 30, 2017).
- 2) Source is 2016 Financial Responsibility Report, HDR Engineering dated August 2016.
- 3) The total air space remaining as of the April 18, 2017 aerial survey was calculated to be 4,084,575 cubic yards (final cap to 133 feet). The required volume for final cover is 435,116 cubic yards of final cover, per Renewal Application for Operating Permit, SCS, 2009. A remaining capacity of 3,649,459 cubic yards was assumed to be utilized for waste disposal and intermediate cover.
- 4) The total design capacity is assumed same as the total capacity used in 2016 Financial Responsibility Report prepared by HDR Engineering and dated August 2016.

**Table 5: Summary of Closing & Final Closure of Landfills**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

	Calculated Time of Closure <sup>(1)</sup>	Acreage Remaining to be Closed	Acreage Closed	Approximate Time of Post-closure LTC <sup>(1)</sup>	Remaining Years of Operations left in Current Footprint <sup>(1)</sup>	Remaining Years of LTC under Current Status
<b>1. Tomoka Farms Road Landfill</b>						
South Cell <sup>(2)</sup>	---	0	114	---	0	30
North Cell Class I	August 2024	66	0	2025-2055	7	30
Class III Landfill	November 2038	88	0	2039-2069	21	30
<b>2. Plymouth Ave. Landfill</b>						
Final Closure (LTC Period) <sup>(3)</sup>	---	0	39	---	0	13

**Notes:**

1) As calculated in Tables 3 and 4 of this report. Reference date is 9/1/2017.

2) Under the current FDEP permit, the thirty-year long term care period for the South Cell landfill will begin once the North Cell Class I Landfill is certified closed by the FDEP.

3) Plymouth Avenue Landfill's Remaining Years of LTC was acquired from the December 23, 2016 issued permit and subtracting one year.

**TABLE 6: Summary of Estimated Costs**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

Facility	Updated Closing Cost Estimate	Updated Annual LTC Cost Estimate	Total Updated LTC Cost Estimate	Total Updated Cost Estimate
1. Tomoka Farms Road Landfill				
South Cell-Previously Closed (LTC Period) <sup>1</sup>	----	\$ 124,601.83	\$ 3,738,054.79	\$ 3,738,054.79
North Cell (in Operation) <sup>1</sup>	\$ 11,453,313.28	\$ 204,647.22	\$ 6,139,416.67	\$ 17,592,729.95
Class III Landfill (In Operation) <sup>1</sup>	\$ 8,984,133.66	\$ 60,160.93	\$ 1,804,827.76	\$ 10,788,961.42
2. Plymouth Ave. Landfill				
Previously Closed (LTC Period) <sup>1</sup>	----	\$ 112,426.05	\$ 1,461,538.68	\$ 1,461,538.68
3. Used Tire Area (in Operation) <sup>2</sup>	\$ 19,813.00	---	----	\$ 19,813.00
Total Estimated Cost	----	----	----	\$ 33,601,097.84

Notes:

1) Refer to the FDEP Forms 62-701.900(28), F.A.C. provided in this Report. The permit number and the revised long-term care costs based on December 23, 2016 issued permit.

2) The cost for closing the waste tire area was calculated by multiplying 237 tons of tires at average expense of disposing regular tires (\$80/ton and approx. 97% of total tires) and over-sized tires (\$200/ton and approx. 3% of total tires). Quantity of waste tires (237 tons, approx. ending inventory) is calculated by averaging quarterly waste tire quantities reported since 2016 report submittal (Quarterly Waste Tire Report & Inventory Update reports submitted to the department: 2nd quarter 2016; 3rd quarter 2016; 4th quarter 2016; and 1st quarter 2017).

**TABLE 7: Summary of Escrow Analysis**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

Facility	South Cell Landfill	North Cell Class I Landfill	Class III Landfill	Plymouth Ave. Landfill	Used Tire Area	Total Cost
Estimated Updated Closing Cost (CE)	\$ -	\$ 11,453,313.28	\$ 8,984,133.66	\$ -	\$ 19,813.00	\$ 20,457,259.94
Months of Exhausted Design Life (DE) <sup>(1)</sup>	---	219	231	---	---	---
Months of Total Design Life (DL) <sup>(2)</sup>	---	303	485	---	---	---
Documented Closure Expenses (E)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Remaining Years of Long-term Care	30	30	30	13	0	---
Estimated Updated Post-Closure LTC Cost	\$ 3,738,054.79	\$ -	\$ -	\$ 1,461,538.68	\$ -	\$ 5,199,593.47
Escrow Account Balance <sup>(3)</sup>	\$ 123,254.00	\$ 7,662,931.00	\$ 3,756,348.00	\$ 97,650.00	\$ 4,357.00	\$ 11,644,540.00
Total Escrow Funding Required <sup>(4)</sup>	\$ 124,601.83	\$ 8,278,137.32	\$ 4,279,040.98	\$ 112,426.05	\$ 19,813.00	\$ 12,814,019.18
Total Estimated Increase/(Decrease) for FY-17 Requirement	\$ 1,347.83	\$ 615,206.32	\$ 522,692.98	\$ 14,776.05	\$ 15,456.00	\$ 1,169,479.18
Financial Responsibility Escrow Account Balance for 2017 FDEP Requirement						\$ 12,814,019.18

**Notes:**

1) Exhausted design life as of September 1, 2017.

2) North/Phase I Landfill: opening date is June 1999 and closure date of August 2024 as calculated in Table 3. Class III landfill - opening date is June 1998 and closure date of November 2038 as calculated in Table 4.

3) See attached documentation from James & Moore for Escrow balance dated 9/30/2016 (Attachment B).

4) With the exception of the used tire facility, the escrow account funding required for closure of active sites was calculated using the formula  $[CE \times DE/DL] - E$ . Funding requirements for sites in post-closure care are required to provide funding for one year. Keeping with last year's report methodology, it was assumed that the escrow funding required for closing the waste tire facility is equal to the calculated cost of disposing the waste tires.

**TABLE 8: Estimate of Accrued Liability (As of September 30, 2017)**  
**2017 Financial Assurance Report**  
**Volusia County, Florida**

Item <sup>1</sup>	Tomoka Farms (South Cell)	Tomoka Farms (North Class I)	Tomoka Farms (Class III)	Plymouth Avenue	Waste Tire	Total
<b>CLOSURE AND POST-CLOSURE COST ESTIMATES</b>						
Closure Cost (Non-Completed) (Note 1)	\$ -	\$ 11,453,313.28	\$ 8,984,133.66	\$ -	\$ 19,813.00	\$ 20,457,259.94
Post Closure Care (30 Years) (Note 2)	\$ 3,738,054.79	\$ 6,139,416.67	\$ 1,804,827.76	\$ 1,461,538.68	\$ -	\$ 13,143,837.90
<b>Total FY 2017 Estimates</b>	<b>\$ 3,738,054.79</b>	<b>\$ 17,592,729.95</b>	<b>\$ 10,788,961.42</b>	<b>\$ 1,461,538.68</b>	<b>\$ 19,813.00</b>	<b>\$ 33,601,097.84</b>
% of Capacity Used	100.00%	76.71%	48.94%	100.00%	N/A	-
<b>FY2017 LF Closure &amp; LTC Cost Estimate (Current FY2017 Estimate x % of Capacity Used)</b>	<b>\$ 3,738,054.79</b>	<b>\$ 13,495,888.63</b>	<b>\$ 5,279,624.48</b>	<b>\$ 1,461,538.68</b>	<b>\$ 19,813.00</b>	<b>\$ 23,994,919.58</b>
<b>TRIAL BALANCE ADJUSTMENT</b>						
FY2016 LF Closure & LTC Liability (as of 9/30/2016)	\$ 3,690,083.72	\$ 12,668,640.76	\$ 4,827,796.68	\$ 1,364,299.11	\$ 4,347.00	\$ 22,555,167.27
Less Amount Paid for Closure in 2017 included in Closure Cost Re-calculation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>FY2017 LF Closure &amp; LTC Liability Pre-Adjusted Balance (8/30/2017)</b>	<b>\$ 3,690,083.72</b>	<b>\$ 12,668,640.76</b>	<b>\$ 4,827,796.68</b>	<b>\$ 1,364,299.11</b>	<b>\$ 4,347.00</b>	<b>\$ 22,555,167.27</b>
<b>Adjustment for FY2017 Fiscal Year-End Change in LF Closure and LTC Estimate</b>	<b>\$ 47,971.07</b>	<b>\$ 827,247.87</b>	<b>\$ 451,827.80</b>	<b>\$ 97,239.57</b>	<b>\$ 15,466.00</b>	<b>\$ 1,439,752.31</b>

Notes:

- Closure costs, Long-Term Care Costs and Percent Used Capacity are based on this report.
- Post-Closure Care Costs are all based on 30 years except for Plymouth Avenue which is under long-term care period with 13 years of remaining long-term care.

**Attachment A**

**Surveyor's Report**

**Tomoka Farms Road Solid Waste Disposal Facility**



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# SURVEYOR'S REPORT

---

## Tomoka Farms

Prepared for:



Prepared by:



PICKETT & ASSOCIATES PROJECT NO.: 17691-2

TITLE/TYPE OF SURVEY: Topographic Survey

DATE OF SURVEY: This Map is based on aerial imagery & Lidar data flown  
04/18/17

***NOTE: THIS REPORT AND ACCOMPANYING DIGITAL MAP TITLED TOMOKA FARMS, ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.***

**HORIZONTAL DATUM:**

The horizontal control was referenced to the North American Datum of 1983(NAD83) 1990 Adjustment, State Plane Coordinates, Florida East Zone. The primary horizontal data was derived from RTK GPS observations.

**VERTICAL DATUM:**

The vertical control will be referenced to the North American Vertical Datum of 1988 (NAVD88). The vertical data was established from National Geodetic Survey (NGS) monument PC 16 PID# AA8148 having a published elevation of 62.43' feet (63.39' feet NGVD 1929) with additional control data being retrieved from the Lengemann "L-Net" control network, a previous aerial target control survey prepared by ATS Land Surveying, LLC., dated July 29, 2011, June 3, 2012 and June 6, 2013.

**Control Points Used:**

<b><u>Pt#</u></b>	<b><u>Easting</u></b>	<b><u>Northing</u></b>	<b><u>Elevation</u></b>
1	621192.65	1747712.83	34.16
2	624801.65	1749444.68	28.79
3	626771.98	1748662.99	26.58
4	622992.96	1748049.10	31.75
5	626174.30	1745403.95	32.02
6	628818.31	1745500.68	25.40
7	623213.62	1745436.33	31.19
8	624177.82	1741989.90	29.96
9	630415.69	1743108.87	26.74
10	628188.21	1735902.51	27.46
11	629053.93	1739471.43	39.48

**ACCURACY STATEMENT:** The following stated plus or minus tolerances encompass a minimum of 90% of the difference between photogrammetrically measured values and any ground truth of all well-identified features. Mapped features will meet or exceed the Florida Minimum Technical Standards.

**VERTICAL:**

Contours have an estimated vertical positional accuracy of 0.5'. Spot elevations have an estimated vertical positional accuracy of 0.25'.

**HORIZONTAL:**

Well-identified features have an estimated horizontal positional accuracy of 1.66', as per the Standards of Practice, Ch.5J-17, adopted by the State of Florida Department of Agriculture and Consumer Services, regulating Professional Surveyors and Mappers. All measurements are in U.S. Survey Feet.

**Measurement Methods:**

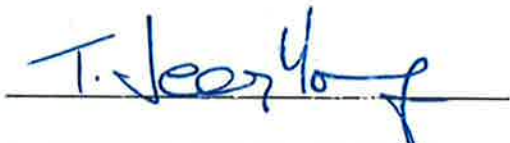
The planimetrics shown are limited to those features visible on aerial imagery. Color digital imagery was acquired at an average altitude of 2473' using a metric precision digital camera whose focal length is 70.3mm. Mapping was performed using LiDAR and softcopy photogrammetric techniques. The LiDAR data has an estimated point sample distance of 0.73 foot and a density of 1.86 points per square foot ( $\pm 20.02$  points per square meter). For a vertical accuracy check, the LiDAR data was compared to five(5) points set as targets for aerial imagery. The Root Mean Square Error of the Elevations (RMSEZ) is 0.035 foot, being the equivalent of 0.069' FGDC/NSSDA Vertical Accuracy. All measurements are in U.S. Survey Feet.

**Limitations:**

This mapping should be used for preliminary design work only and should not replace an actual field survey where the required accuracy is greater than the accuracy stated in this report. No responsibility is assumed for areas outside the contracted scope or for the ground control provided by ATS Land Surveying, LLC, Ormond Beach, Florida. Not all aerial targets were visible so additional photo-identifiable points were extracted from the April 2016 mapping to be used to strengthen the control network.

**MAP PLOTTING:**

This map is intended to be displayed at a scale of 1" = 50' (1:600) or smaller.



T. JEFFREY YOUNG, PSM, CP  
FLORIDA REGISTRATION NO. 5440  
PICKETT AND ASSOCIATES, INC.  
FLORIDA REGISTRATION NO. 364



SURVEY DATE

## Attachment B

### FY – 2017 Escrow Account Balance

**COUNTY OF VOLUSIA, FLORIDA**  
**SCHEDULE OF ACTIVITY**  
**LANDFILL MANAGEMENT ESCROW ACCOUNTS**  
**SEPTEMBER 30, 2016**

## **INDEPENDENT AUDITORS' REPORT**

To the Honorable County Council Members  
of the County of Volusia, Florida:

We have audited the accompanying Schedule of Activity for the County of Volusia, Florida (the County) Landfill Management Escrow Accounts, as of and for the year ended September 30, 2016, and the related notes to the schedule.

### ***Management's Responsibility for the Financial Information***

Management is responsible for the preparation and fair presentation of this schedule in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedule that is free from material misstatement, whether due to fraud or error.

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on the schedule based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule is free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the schedule, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the County's preparation and fair presentation of the schedule in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the County's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting principles used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

121 Executive Circle  
Daytona Beach, FL 32114-1180  
Telephone: 386/257-4100  
Fax: 386/255-3261  
dab@jmco.com

5931 NW 1st Place  
Gainesville, FL 32607-2063  
Telephone: 352/378-1331  
Fax: 352/372-3741  
gnv@jmco.com

2477 Tim Gamble Place, Suite 200  
Tallahassee, FL 32308-4386  
Telephone: 850/386-6184  
Fax: 850/422-2074  
tlh@jmco.com

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### ***Opinion***

In our opinion, the Schedule of Activity for the County of Volusia, Florida Landfill Management Escrow Accounts, for the year ended September 30, 2016, referred to above presents fairly, in all material respects the cash balance of the escrow account as of September 30, 2016, and the activity in the escrow account for the year then ended, in conformity with the requirements of Rule 62-701.630(5), Florida Administrative Code and the escrow agreement.

### ***Report on Audited Financial Statements***

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the County of Volusia, Florida as of and for the year ended September 30, 2016, and our report thereon, dated February 23, 2017, expressed an unmodified opinion on those financial statements.

*James Moore & Co., P.L.*

Daytona Beach, Florida  
February 23, 2017

**COUNTY OF VOUSIA, FLORIDA  
LANDFILL MANAGEMENT ESCROW ACCOUNTS  
SCHEDULE OF ACTIVITY  
FOR THE YEAR ENDED SEPTEMBER 30, 2016**

	<b>Tomoka Class III</b>	<b>Tomoka Class I</b>	<b>Tomoka South</b>	<b>Plymouth</b>	<b>Waste Tire</b>	<b>Total</b>
Escrow Account Balances, October 1, 2015	\$ 3,291,343	\$ 7,051,571	\$ 121,954	\$ 96,617	\$ 6,019	\$ 10,567,504
<b>Deposits/transfers</b>						
September 22, 2016	458,224	596,829	1,049	833	(1,672)	1,055,263
<b>Interest Income</b>						
October 31, 2015	112	240	4	3	-	359
November 30, 2015	108	232	4	3	-	347
December 31, 2015	278	594	10	8	1	891
January 31, 2016	563	1,207	21	17	1	1,809
February 28, 2016	614	1,315	23	18	1	1,971
March 31, 2016	690	1,478	26	20	1	2,215
April 30, 2016	685	1,468	25	20	1	2,199
May 31, 2016	705	1,510	26	21	1	2,263
June 30, 2016	700	1,501	26	21	1	2,249
July 31, 2016	733	1,570	27	22	1	2,353
August 31, 2016	779	1,670	29	23	1	2,502
September 30, 2016	814	1,746	30	24	1	2,615
Total interest income	6,781	14,531	251	200	10	21,773
Escrow Account Balances, September 30, 2016	\$ 3,756,348	\$ 7,662,931	\$ 123,254	\$ 97,650	\$ 4,357	\$ 11,644,540
Cash and Cash Equivalents	\$ 3,756,348	\$ 7,662,931	\$ 123,254	\$ 97,650	\$ 4,357	\$ 11,644,540

The accompanying notes to the schedule of activity  
are an integral part of this schedule.



**COUNTY OF VOLUSIA, FLORIDA**  
**LANDFILL MANAGEMENT ESCROW ACCOUNTS**  
**NOTES TO SCHEDULE OF ACTIVITY**  
**SEPTEMBER 30, 2016**

**(1) Reporting Entity:**

The County of Volusia, Florida (the County) is a political subdivision of the State of Florida, which is responsible for legislative and fiscal administration of the County.

The Schedule of Activity for the County Landfill Management Escrow Accounts (the Schedule) is prepared and submitted to the State of Florida Department of Environmental Protection pursuant to Section 62-701.630 of the Florida Administrative Code (the Code). The Schedule contains only the escrow balances required by the Code and is not intended to present the financial position of the County of Volusia, Florida's Refuse Disposal Fund, or any fund in the County's financial statements.

**(2) Landfill Management Escrow:**

The County records the landfill management escrows as restricted cash to fund postclosure care costs of the Plymouth Landfill and closure costs and postclosure care costs of the Tomoka Landfill. The escrow, which is held in a separate bank account and reported as part of the County's cash and cash equivalents in the Refuse Disposal Fund, is calculated annually based on the "balance" method, which uses months of exhausted design life as a percentage of total design life times the estimated costs calculated by inflationary indexes or, if changes to the facility are made, by a study performed by a Registered Professional Engineer.

# Morgan Stanley

Morgan Stanley Institutional Liquidity Funds  
PO BOX 219804  
Kansas City MO 64121-9804

## Investment Report

September 1, 2016 - September 30, 2016

Page 1 of 2

COUNTY OF VOLUSIA FL SOLID WASTE RE  
FINANCIAL AND ADMINISTRATIVE SERVIC  
ATTN MYRIAM LEMAY  
123 W INDIANA AVENUE ROOM 300  
DELAND FL 32720-4615

000443



Access  
Your Account

888-378-1630



On the Web

www.morganstanley.com/im

For account number(s), refer to page 2 "Account Summary."

### Total Portfolio Value as of September 30, 2016

**\$11,644,540.32**

### Portfolio Value Summary

	Monthly Activity	Year-to-Date Activity
Beginning Value	\$10,586,662.22	\$10,589,101.50
Investments/Contributions	\$1,055,263.07	\$1,055,263.07
Withdrawals/Redemptions	\$0.00	\$0.00
Dividends/Cap Gains	\$2,615.03	\$20,175.75
Change in Portfolio Value	\$1,057,878.10	\$1,075,438.82
<b>Total Portfolio Value</b>	<b>\$11,644,540.32</b>	<b>\$11,644,540.32</b>

Change in Portfolio Value is the difference between the Total Portfolio Value (closing value) and the Beginning Value.

### News

Liquidity Link offers a convenient and secure way of investing with the Morgan Stanley Institutional Liquidity Funds. Access to Liquidity Link includes trading rights, principal and accrual balances, as well as access to a wide range of MSILF reports including monthly statements, holdings reports, daily rates, fund commentary, and fact sheets.

For more information, please call Client Services at the number listed above.

We are pleased to announce the ability to suppress daily confirms. Please contact us at 1-888-378-1630 for more details.

### Asset Allocation as of September 30, 2016

Percent	Asset Category	Total Value
0.00%	Money Market	\$0.00
0.00%	Prime	\$0.00
100.00%	Government	\$11,644,540.32
0.00%	Treasury	\$0.00
0.00%	Government Securities	\$0.00
0.00%	Tax Exempt	\$0.00
0.00%	Treasury Securities	\$0.00
<b>100.00%</b>	<b>Total</b>	<b>\$11,644,540.32</b>



# Morgan Stanley

Morgan Stanley Institutional Liquidity Funds  
PO BOX 219804  
Kansas City MO 64121-9804

## Investment Report

September 1, 2016 - September 30, 2016

Page 2 of 2

### Account Summary

Fund Name Fund/Account Number	Beginning Value as of 9/01/2016	Investments/ Contributions	Withdrawals/ Redemptions	Dividends/ Cap Gains	Change in Value	Closing Value as of 9/30/2016
<b>Investment Accounts</b>						
Government Portfolio Institutional Class 8302/756014866	\$10,586,662.22	\$1,055,263.07	\$0.00	\$2,615.03	\$1,057,878.10	\$11,644,540.32
<b>Total All Accounts</b>	<b>\$10,586,662.22</b>	<b>\$1,055,263.07</b>	<b>\$0.00</b>	<b>\$2,615.03</b>	<b>\$1,057,878.10</b>	<b>\$11,644,540.32</b>

Change in Portfolio Value is the difference between the Total Portfolio Value (closing value) and the Beginning Value.

### Account Transactions

#### Government Portfolio Institutional Class

<b>Fund/Account Number</b>	8302/756014866	<b>Year-to-Date Dividends</b>	\$20,175.75
<b>Tax ID Number</b>	Certified	<b>Year-to-Date Capital Gains</b>	\$0.00
<b>Account Owner</b>	County Of Volusia FL Solid Waste Re Financial and Administrative Servic Attn Myriam Lemay	<b>Dividends are</b>	Reinvested
		<b>Capital Gains are</b>	Reinvested

Trade Date	Transaction Description	Dollar Amount	Share Price	Shares This Transaction	Total Shares
	Beginning Value as of 9/01/2016	\$10,586,662.22	\$1.00		10,586,662.220
09/22/2016	Shares Purchased By Wire	\$1,055,263.07	\$1.00	1,055,263.070	11,641,925.290
09/30/2016	Income Reinvest	\$2,615.03	\$1.00	2,615.030	11,644,540.320
	Ending Value as of 9/30/2016	\$11,644,540.32	\$1.00		11,644,540.320

Thank you for choosing Morgan Stanley Investment Management. Your satisfaction is important to us. If you identify any inaccuracy or discrepancy on your statement, it is your responsibility to notify us promptly but no later than 10 business days following receipt of your initial confirmation. To further protect your rights as a customer, oral communication should be reconfirmed in writing.



## **Attachment C**

### **Plymouth Avenue Landfill Financial Assurance Update September 2016**



# 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: Plymouth Avenue Landfill WACS ID: 27539  
Permit Application or Consent Order No.: 64-0127461-002-SF Expiration Date: 11/29/2016  
Facility Address: 895 Grand Avenue, Edgewater, FL 32720  
Permittee or Owner/Operator: Volusia County Solid Waste Division  
Mailing Address: 1990 Tomoka Farms Road, Port Orange, Florida 32128

Latitude: 29° 02' 35" Longitude: 81° 20' 50"  
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
Plymouth Landfill	129.4	1940's				2/7/2000

Total disposal unit acreage included in this estimate: \_\_\_\_\_ Closure: \_\_\_\_\_ Long-Term Care: 39

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](http://www.dep.state.fl.us/waste/categories/swfr) or call the Financial Coordinator at (850) 245-8706.

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

Latest Department Approved  
Closing Cost Estimate: \_\_\_\_\_

Current Year Inflation  
Factor, **e.g. 1.02** \_\_\_\_\_

Inflation Adjusted Closing  
Cost Estimate: \_\_\_\_\_

x

=

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

Latest Department Approved  
Annual Long-Term Care  
Cost Estimate: \_\_\_\_\_

Current Year Inflation  
Factor, **e.g. 1.02** \_\_\_\_\_

Inflation Adjusted Annual  
Long-Term Care Cost  
Estimate: \_\_\_\_\_

x

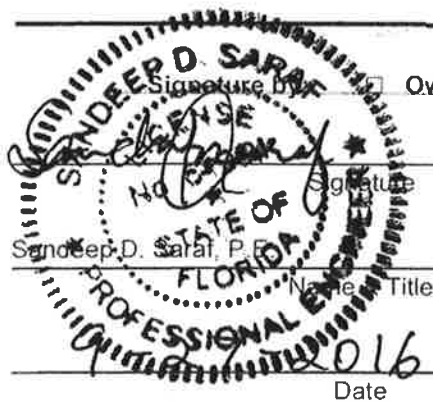
=

Number of Years of Long Term Care Remaining: \_\_\_\_\_

x

Inflation Adjusted Long-Term Care Cost Estimate: \_\_\_\_\_

=



Signature by

☐ Owner/Operator

☒ Engineer

(check what applies)

531 Versailles Drive, Suite 202

Address

Maitland, FL 32751

City, State, Zip Code

ssaraf@s2li.com

E-Mail Address

Date

(407) 475-9163

Telephone Number

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

 **Recalculated Cost Estimate**

☐ **New Facility Cost Estimate**

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

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

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

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

Description	Unit	Number of Units	Cost / Unit	Total Cost
<b>1. Proposed Monitoring Wells (Do not include wells already in existence.)</b>				
	EA	_____	_____	_____
Subtotal Proposed Monitoring Wells:				_____
<b>2. Slope and Fill (bedding layer between waste and barrier layer):</b>				
Excavation	CY	_____	_____	_____
Placement and Spreading	CY	_____	_____	_____
Compaction	CY	_____	_____	_____
Off-Site Material	CY	_____	_____	_____
Delivery	CY	_____	_____	_____
Subtotal Slope and Fill:				_____
<b>3. Cover Material (Barrier Layer):</b>				
Off-Site Clay	CY	_____	_____	_____
Synthetics - 40 mil	SY	_____	_____	_____
Synthetics - GCL	SY	_____	_____	_____
Synthetics - Geonet	SY	_____	_____	_____
Synthetics - Other (explain) _____	_____	_____	_____	_____
Subtotal Cover Material:				_____
<b>4. Top Soil Cover:</b>				
Off-Site Material	CY	_____	_____	_____
Delivery	CY	_____	_____	_____
Spread	CY	_____	_____	_____
Subtotal Top Soil Cover:				_____
<b>5. Vegetative Layer</b>				
Sodding	SY	_____	_____	_____
Hydroseeding	AC	_____	_____	_____
Fertilizer	AC	_____	_____	_____
Mulch	AC	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Vegetative Layer:				_____
<b>6. Stormwater Control System:</b>				
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
<b>7. Passive Gas Control:</b>				
Wells	EA	_____	_____	_____
Pipe and Fittings	LF	_____	_____	_____
Monitoring Probes	EA	_____	_____	_____
NSPS/Title V requirements	LS	1	_____	_____
Subtotal Passive Gas Control:				_____
<b>8. Active Gas Extraction Control:</b>				
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:				_____
<b>9. Security System:</b>				
Fencing	LF	_____	_____	_____
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System:				_____
<b>10. Engineering:</b>				
Closure Plan Report	LS	1	_____	_____
Certified Engineering Drawings	LS	1	_____	_____
NSPS/Title V Air Permit	LS	1	_____	_____
Final Survey	LS	1	_____	_____
Certification of Closure	LS	1	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Engineering:				_____

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
<b>11. Professional Services</b>					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	_____	_____	_____	_____	_____
On-Site Engineer	_____	_____	_____	_____	_____
Office Engineer	_____	_____	_____	_____	_____
On-Site Technician	_____	_____	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____	_____

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	_____	_____
Subtotal Professional Services:				_____



**Subtotal of 1-11 Above:** \_\_\_\_\_

**12. Contingency** \_\_\_\_\_ % of Subtotal of 1-11 Above

Subtotal Contingency: \_\_\_\_\_

**Estimated Closing Cost Subtotal:** \_\_\_\_\_

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

**TOTAL ESTIMATED CLOSING COSTS (\$):** \_\_\_\_\_

## 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, 14 Years

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

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

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

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

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
<b>1. Groundwater Monitoring [62-701.510(6), and (8)(a)]</b>				
Monthly	12			
Quarterly	4			
Semi-Annually	2	23	\$1,440.00	\$66,240.00
Annually	1			
Subtotal Groundwater Monitoring:				\$66,240.00
<b>2. Surface Water Monitoring [62-701.510(4), and (8)(b)]</b>				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Subtotal Surface Water Monitoring:				
<b>3. Gas Monitoring [62-701.400(10)]</b>				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Subtotal Gas Monitoring:				
<b>4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]</b>				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1			
Other (explain) _____				
Subtotal Leachate Monitoring:				

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

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
<b>5. (continued)</b>				
<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	_____	_____	_____
Subtotal Leachate Collection / Treatment Systems Maintenance:				_____
<b>6. Groundwater Monitoring Well Maintenance</b>				
Monitoring Wells	LF	_____	_____	_____
Replacement	EA	<u>1</u>	<u>\$2,100.00</u>	<u>\$2,100.00</u>
Abandonment	EA	<u>1</u>	<u>\$700.00</u>	<u>\$700.00</u>
Subtotal Groundwater Monitoring Well Maintenance:				<u>\$2,800.00</u>
<b>7. Gas System Maintenance</b>				
Piping, Vents	LF	_____	_____	_____
Blowers	EA	_____	_____	_____
Flaring Units	EA	_____	_____	_____
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	<u>1</u>	<u>\$1,000.00</u>	<u>\$1,000.00</u>
Subtotal Gas System Maintenance:				<u>\$1,000.00</u>
<b>8. Landscape Maintenance</b>				
Mowing	AC	<u>129.4</u>	<u>\$153.76</u>	<u>\$19,896.54</u>
Fertilizer	AC	_____	_____	_____
Subtotal Landscape Maintenance:				<u>\$19,896.54</u>
<b>9. Erosion Control and Cover Maintenance</b>				
Sodding	SY	<u>45</u>	<u>\$2.61</u>	<u>\$117.45</u>
Regrading	AC	<u>0.0093</u>	<u>\$125,000.00</u>	<u>\$1,162.50</u>
Liner Repair	SY	<u>45</u>	<u>\$6.75</u>	<u>\$303.75</u>
Clay	CY	_____	_____	_____
Subtotal Erosion Control and Cover Maintenance:				<u>\$1,583.70</u>
<b>10. Storm Water Management System Maintenance</b>				
Conveyance Maintenance	LS	<u>1</u>	<u>\$1,000.00</u>	<u>\$1,000.00</u>
Subtotal Storm Water Management System Maintenance:				<u>\$1,000.00</u>
<b>11. Security System Maintenance</b>				
Fences	LS	<u>1</u>	<u>\$870.00</u>	<u>\$870.00</u>
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	<u>1</u>	<u>\$60.00</u>	<u>\$60.00</u>
Subtotal Security System Maintenance:				<u>\$930.00</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1		
Subtotal Utilities:				

### 13. Leachate Collection/Treatment Systems Operation

#### Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR			
Materials	LS	1		

Subtotal Leachate Collection/Treatment Systems Operation:

### 14. Administrative

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	52	\$65.00	\$3,380.00
Other				

Subtotal Administrative: \$3,380.00

Subtotal of 1-14 Above: \$96,830.24

15. Contingency	10	% of Subtotal of 1-14 Above		\$9,683.02
Subtotal Contingency:				\$9,683.02

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
Biennial Groundwater Report	LS	0.5	\$6,500.00	\$3,250.00
Financial Assurance Reporting	LS	1	\$1,220.00	\$1,220.00
Subtotal Site Specific Costs:				\$4,470.00

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$110,983.27

Number of Years of Long-Term Care: 14

TOTAL LONG-TERM CARE COST (\$): \$1,553,765.76

## 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  
Sandeep D. Sarraf, Sr Engineer  
\_\_\_\_\_  
Name and Title (please type)  
2/7/16  
\_\_\_\_\_  
Date  
64084  
\_\_\_\_\_  
Florida Registration Number  
(please affix seal)

\_\_\_\_\_  
531 Versailles Drive, Suite 202  
Mailing Address  
\_\_\_\_\_  
Maitland, Florida 32751  
City, State, Zip Code  
\_\_\_\_\_  
ssaraf@s2Li.com  
E-Mail address (if available)  
\_\_\_\_\_  
(407) 475-9163  
Telephone Number

## VII. SIGNATURE BY OWNER/OPERATOR

  
\_\_\_\_\_  
Signature of Applicant  
\_\_\_\_\_  
Leonard Marion, Solid Waste Director  
Name and Title (please type)  
\_\_\_\_\_  
lmarion@co.volusia.fl.us  
E-Mail address (if available)

\_\_\_\_\_  
1990 Tomoka Farms Road  
Mailing Address  
\_\_\_\_\_  
Port Orange, Florida 32128  
City, State, Zip Code  
\_\_\_\_\_  
(386) 947-2952  
Telephone Number

## Financial Assurance Memorandum



S2L, INCORPORATED  
531 Versailles Drive, Suite 202  
Maitland, Florida 32751  
(407) 475-9163 Fax (407) 475-9169

## Memorandum

**TO:** Sandeep Saraf, P.E.  
**FROM:** Greg Brunson, E.I.  
**DATE:** September 2016  
**RE:** **Summary of Cost Estimates for Long-Term Care**

---

The purpose of this memorandum is to summarize the methodology of estimating continuing long-term care costs for the closed Plymouth Avenue Landfill (Landfill or Facility).

### **AREA**

This estimate provides costs for the continued long-term care (129.4 acres) of the closed Plymouth Avenue Landfill. The facility was certified closed on February 7, 2000.

### **ESTIMATED COST FOR LONG-TERM CARE**

Groundwater Monitoring – An approved water quality monitoring plan is on file with the Florida Department of Environmental Protection (FDEP or Department). Groundwater monitoring costs average \$1,440 per well per event and are based upon existing third-party collection, testing, and reporting costs updated for the current year. Sampling costs per well is \$185, reporting costs per well is \$890, analytical laboratory costs per well is \$313, and field equipment/travel costs is \$52 per well.

*Source: Costs in this section have been based upon third-party collection, testing, and reporting cost, as supplied by The Colinas Group.*

Gas Monitoring – The 2016 Landfill Stabilization Report recommended ceasing gas monitoring at the Facility due to landfill gas (LFG) stability. Consequently, no costs associated with LFG monitoring are being considered with this financial assurance.

Leachate Collection/Treatment Systems Maintenance – This item does not apply to the Plymouth Avenue Landfill.

Leachate Collection/Treatment Systems Operation – This item does not apply to the Plymouth Avenue Landfill.

Maintenance of Groundwater Monitoring Wells – After closure, the absence of vibration from heavy equipment tends to provide for the longevity of monitoring wells. The estimates provide \$700 per year for monitoring well abandonment and \$2,100 per year for monitoring well replacement.

*Source: Costs in this section have been based upon estimates by The Colinas Group, Inc., and checked by S2Li for reasonableness, for recent, similar work in the immediate vicinity.*

Gas System Maintenance – The Plymouth Avenue Landfill has 48 passive vents, a \$1,000 per year contingency has been provided for maintenance.

*Source: Costs in this section have been based upon estimating third-party collection, testing, and reporting cost.*

Landscape – It is estimated that the mowing of 129.4 acres will be required. Seasonal variations in mowing frequency are expected, but a minimum of quarterly mowing is used at a rate of \$153.76/acre (AC) (\$38.44/AC x four events/year).

*Source: FDOT unit pricing for such services performed by a third-party.*

Erosion Control and Cover Maintenance – Estimates provide for the replacement of 45 SY of sod and regrading/repair of 30 CY of the landfill cover system (20 feet x 20 feet x 2 feet ≈ 45 cubic yards (CY)) (\$2.61/square yards (SY) for sod, \$6.75/SY for GCL, \$42.00/CY for sandy drainage layer, \$15.00/CY for topsoil, and \$3.50/CY for grading and compacting). Cover maintenance for the 20 feet x 20 feet x 2 feet volume would require approximately 22.5 SY (.75 x 30 CY) of drainage sand and approximately 7.5 CY (.25 x 30 CY) of topsoil.

*Source: FDOT unit pricing for such services performed by a third-party.*

*Grading and liner repair costs in this section have been based upon estimates provided by Comanco Environmental Corporation and Lundquist Excavating, and checked by S2Li for reasonableness, for recent, similar work in the immediate vicinity.*

Storm Water System Maintenance – A lump sum has been provided as a contingency.

*Source: Costs in this section have been based upon estimates provided by Comanco Environmental Corporation, and checked by S2Li for reasonableness, for recent, similar work in the immediate vicinity.*

Security System Maintenance – Costs have been provided to repair damaged fencing and replace signs. Fencing was based upon repair of 10 linear feet (LF) at \$86.92/LF for a total of \$870. One sign is assumed to be replaced/repared annually at an estimated cost of \$60.00.

*Source: FDOT unit pricing for such services performed by a third-party.*

Administrative – Hours have been provided for engineering support assuming a technician on-site for two hours every two weeks.

*Source: Please refer to the hourly cost and number of hours for such services performed by a third party, as detailed within form 62-701.900(28).*

Contingency – A contingency is provided at 10% of the subtotal to cover items such as unexpected costs, items that have not been budgeted, shared costs from other County facilities, cash flow for prorated items, or actual expenditures that may exceed the costs estimated above.

Site Specific Costs – Costs have been assumed for the preparation of the biennial ground water report at a rate of \$6,500 per report, financial assurance reporting every 5 years, prorated at a rate of \$1,220 per year, and erosion control mobilization at \$5,000.