

**APPLICATION FOR A MINOR MODIFICATION
OF A CLASS I OPERATIONS PERMIT
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA**

Response to RAI2 dated October 29, 2008

Submitted to:

Florida Department of Environmental Protection
Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Submitted by:



**Volusia County
County Council**
123 West Indiana Avenue
DeLand, Florida 32720

**Volusia County Public Works
Solid Waste Division**
3151 East New York Avenue
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386-943-7889

Prepared by:



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November 2008



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DEP Central Dist.

Letter of Transmittal

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

Date: 11-12-08	Project No: 08-279
From: Samuel B. Levin, P.E.	
RE: Application for a Minor Modification of Operations Permit Tomoka Farms Road Landfill Volusia County, Florida Response to RAI dated Oct. 29, 2008 Hand-delivered via courier	

Qty	Contents
3 ccs	Application for a Minor Modification of a Class I Operations Permit - Tomoka Farms Road Landfill, Volusia County, Florida – Response to RAI dated October 29, 2008
1	CD containing pdf file of Response to RAI dated October 29, 2008
1	Tracked copy of all text changes

cc: Leonard Marion - Volusia County Solid Waste Division w/4 ccs of RAI Response, 1 cc of tracked
text changes, 1 CD – via Fedex

If enclosures are not as noted, please notify us at once.

**APPLICATION FOR A MINOR MODIFICATION
OF A CLASS I OPERATIONS PERMIT
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA**

Response to RAI2 dated October 29, 2008

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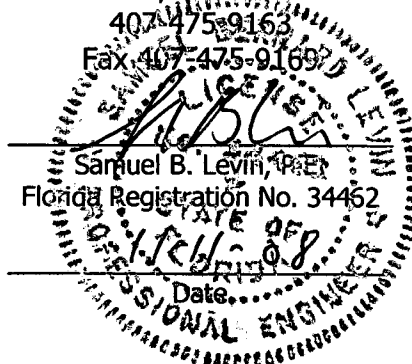
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November 12, 2008

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

**RE: Volusia County – SW
Tomoka Farms Road Landfill, Class I
Leachate Management System – Minor Modification
Second Request for Additional Information
Modification of Permit No. SO64-0078767-023
Permit Application No. SO64-0078767-025**

Dear Mr. Lubozynski:

This letter and attachments are in response to the Florida Department of Environmental Protection Request for Additional Information dated October 29, 2008, for the permit application for the referenced facility. On behalf of the Volusia County Public Works Solid Waste Division (County), S2Li, Incorporated (S2Li) is pleased to submit this response to the Department's request. Enclosed please find three (3) copies of the revised pages and drawings to be inserted into the original permit application. Additionally, we have included one (1) tracked copy of all text changes made.

Comment 1a: Attachment 1, "Report of Geotechnical Subsurface Exploration and Evaluation Tomoka Landfill Proposed Leachate Treatment Plant", Section at end of the report titled "Recommended Groundwater Monitoring Plan Volusia County Tomoka Farms Road SWMF Sod Farm Sprayfield":

On page 4 the recommendation is made that groundwater sampling at the Sod Farm Sprayfield should become part of the landfill's Monitoring Plan Implementation Schedule (MPIS). The Sod Farm Sprayfield is far enough away from the landfill that the Solid Waste MPIS will not need to be modified. All permitting of the Sod Farm Sprayfield for the leachate treatment system including the Ground Water Monitoring Plan specific for that site will be permitted under the Department's Industrial Waste Section.

Response: *Please refer to the amended Page 4 of the recommended monitoring plan in Attachment 2. The recommendation to include the monitoring of the sprayfield as part of the site's MPIS has been removed.*

Comment 1b: If the Primary Sprayfield site had been chosen, it may have required changes to the MPIS. However, the alternate sprayfield site has been chosen and it is far enough away from the landfill that the Solid Waste MPIS will not need to be modified.

Response: *Acknowledged.*

Comment 2a: Attachment 2, Revised Operation Plan:
The response to Comment No. 2 from First RAI dated September 4, 2008 is incomplete. The revised operations plan included as Attachment 2 does not include Section Numbers.

Are Section Numbers depicted in the Table 1-1, Column 2 titled "Corresponding Section/Page No. of Operation Plan"? If so, the Section Numbers need to be used throughout the Operation Plan. Or, are the entries in that column supposed to be page numbers? If so, the entries should have the same format as the page numbers (for example, 2-12 not 2.12).

Response: *The operation plan, including the Table of Contents, has been reformatted so as to address issues raised by the Department in both the initial and second requests for additional information. Please refer to the amended operation plan provided in Attachment 1.*

Comment 2aII: Table 1-1 lists Section 7.5. Is this the page number? If so then pages 7-4 and 7-5 in the Operation Plan are missing. Clarify the discrepancy.

Response: *The operation plan, including the Table of Contents, has been reformatted so as to address issues raised by the Department in both the initial and second requests for additional information. Please refer to the amended operation plan provided in Attachment 1.*

Comment 2aIII: The rule references cited for Rule 62-701.500(7)f thru j in Table 1-1, Page 1-2, Section 7 are incorrect. For example, procedures for applying intermediate cover should be 62-701.500(7)f and not (7)g. Please correct the rule references in Table 1-1.

Response: *The rule references cited for Rule 62-701.500(7)f thru j have been amended. Please refer to the amended operation plan provided in Attachment 1.*

Comment 2aIV: Table 1-1, page 1-4, Section 12, Rule reference 62-701.500(12)a and b are missing.

Response: *The rule references cited for Rule 62-701.500(12)a and b have been amended. Please refer to the amended operation plan provided in Attachment 1.*

Comment 2b: The response to Comment No. 4 from First RAI dated September 4, 2008 is incorrect. The correct telephone number for the Solid Waste Section is 407-893-3328. Please make the necessary correction in the table listed on Page 2-3 thru 2-4 of the revised operation plan.

Response: *S2Li apologizes for the typo. The correct phone number has been included within the amended operation plan (Attachment 1).*

Comment 2c: The hours of operation for the landfill are not listed. Please provide them.

Response: *The hours of operation are provided in Section 1.1 of the amended operation plan (Attachment 1).*

Comment 2d: The Operation Plan does not describe how spotters are used. Are they on the ground or on equipment? When they observe unauthorized waste, what actions are taken to remove the waste from the working face?

Response: *Please refer to Section 6.1, item 10, of the revised operation plan provided in Attachment 1. The spotters are positioned on the equipment. When non-conforming waste is observed, the spotter contacts a day laborer via walkie-talkie for its removal. Should a day laborer not be available, the spotter contacts the site supervisor via walkie-talkie to arrange for removal of the non-conforming material.*

Comment 2e: Page 7-1, Initial/Daily Cover. The Operation Plan should describe the specific daily and initial cover being used at this facility. Will the facility use Recovered Screened Material (RSM)? If so, indicate where and how it would be used.

Response: *Please refer to Section 7.5 of the revised operation plan (Attachment 1). Both mulch and recovered screen materials are used in addition to soil for initial cover at the Class I landfill.*

Comment 2f: Page 13-1, Remaining Life and Capacity Estimate. The Operation Plan states the estimate or remaining capacity will be submitted as part of the closure and long-term care cost estimates. We prefer the two documents be submitted as separate documents. This will make it easier to file them correctly in Oculis.

Response: *Based on the most recently submitted financial assurance documentation approved by the Department on October 9, 2008, the Class I, Phase I North Cell of the TFRL has a remaining life of 7.6 years. Based on work being performed by HDR Engineering and others, the remaining capacity in the Phase I Cell as of September 4, 2008 is 3,860,916 cubic yards.*

Comment 2g: Please provide a new revision of the Operations Plan with appropriate changes.

Response: *Please refer to Attachment 1.*

The Solid Waste Program is permitting those aspects of the leachate management system which affect or are part of the landfill operations. The treatment system and disposal of treated leachate is being permitted by the Industrial Waste Permitting Section in the Water Facilities Program. That permit application is FLA011114.

There was a cover letter dated August 12, 2008 for the original solid waste application submittal. The submittal was signed and sealed August 8, 2008; it was received August 11, 2008. The cover letter mentioned five proposed modifications that were part of the minor modification application for the current solid waste permit. Those modifications are quoted below with clarification regarding FDEP solid waste and industrial waste program jurisdictions identified:

Comment 1): The County is requesting that FDEP allow for piping modifications to the existing Class I disposal facility's leachate collection system in order to direct collected leachate to the proposed leachate treatment system as shown on Figure 4-2 (Attachment A, Section 3, sub-section 4). The leachate is currently directed to the storage ponds, which we plan to use only on an emergency basis in the event that the plant treatment capacity is exceeded, or when the capacity to accommodate treated effluent is exceeded within the spray fields, in conjunction with dust control and sideslope irrigation. This will be addressed in the Solid Waste permit.

Response: *Acknowledged.*

Comment 2): The County is requesting FDEP approval for the construction of a Sequencing Batch Reactor (SBR) in order to treat leachate generated on site as well as leachate from the WVTS. A full discussion of the proposed treatment system is included in Sections 3 and 4 of the "Preliminary Design Report for the Volusia County Tomoka Farms Road Landfill Leachate Treatment Facility" (Attachment A). The location and a plan view of the proposed SBR are included on Figures 4-2 and 4-3, respectively (Attachment A, Preliminary Design Report, Section 4).

This will not be permitted by the Solid Waste Program. It will be addressed by the Industrial Waste Permitting Section in Permit No. FLA 011114.

Response: *Acknowledged.*

Comment 3): The County is requesting FDEP approval for on-site utilization/disposal of effluent from the proposed leachate treatment facility. Proposed are a primary and secondary spray field for spray irrigation, in conjunction with site-wide dust control, and/or side slope irrigation. Note that monitoring wells will be required to monitor the primary and alternate spray fields, and that the hydrogeological information necessary to design these wells is not yet available. A proposal to modify the current MPIS to include these additional monitoring locations shall be submitted to the Department for review shortly after this data becomes available.

This will not be permitted by the Solid Waste Program. It will be addressed by the Industrial Waste Permitting Section in Permit No. FLA 011114.

The MPIS for the solid waste disposal facility does not have to be modified because the utilization/disposal of the effluent for the proposed leachate treatment facility is outside the footprint of the solid waste monitoring wells and solid waste disposal area.

Response: *Acknowledged.*

Comment 4): The County is proposing to dewater the sludge produced during leachate treatment in drying beds to a minimum of 12% solids and subsequently disposing the dried sludge in the TFRL. The treatment of the sludge (sludge processing) will be part of the industrial wastewater permit. However, the disposal of the dried sludge will be addressed in the Solid Waste permit.

Response: *Acknowledged.*

Comment 5): The County is proposing to modify the currently permitted Operation Plan in order to address the changing operational requirements that will be implemented once the County has received FDEP approval and subsequently constructed the proposed leachate treatment system.

The Operation Plan for the disposal facility will be addressed in the Solid Waste permit. A separate Operation Plan may be necessary for the Industrial Waste permit.

Response: *Acknowledged.*

Please note that in addition to the changes discussed within the revised operation plan, the County has also updated the list of trained personnel provided in Section 2.1.3.

November 12, 2008

Mr. F. Thomas Lubozynski, P.E.

Florida Department of Environmental Protection, Central District

Page 5

Please feel free to contact me at 407-475-9163 if you have any questions or require any additional information.

Sincerely,

S2L Incorporated


Samuel B. Levin, P.E., President

Florida Registration No. 34462

Enclosures

cc: Leonard Marion – Volusia County Public Works Solid Waste Division w/enc.

LIST OF ATTACHMENTS

Attachment 1

Revised Operation Plan

Attachment 2

Revised Groundwater Monitoring Plan

* * * * *

ATTACHMENT 1

Revised Operation Plan

**OPERATION PLAN
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA**

Prepared for:

Volusia County Solid Waste Division
3151 East New York Avenue
DeLand, Florida 32724

Updated by:

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Revised November 2008

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SECTION 1

EXECUTIVE SUMMARY

The purpose of this document is to provide a consolidated manual of operating procedures for the Tomoka Farms Road Landfill Class I and Class III disposal cells. This document is intended to fulfill the requirement for an Operation Plan as listed in F.A.C. 62-701.500(2). This operations plan supersedes previous operations plans submitted to FDEP for this facility.

This plan has been prepared in accordance with Florida Rule 62-701, Florida Administrative Code (F.A.C.). Part L of FDEP's permit application form for solid waste management facilities (Part L) includes requirements for an operations plan. All information identified in Part L is provided herein, or in referenced documents. This operations plan is organized in accordance with Part L. In addition, Table 1-1 cross-references this document with the requirements of Part L.

Except where specific procedures are required by F.A.C. 62-701, this plan is intended to represent the best management practices and working goals of the Tomoka Farms Road Landfill.

Table 1-1 Cross Reference of FDEP Permit Application, Part L Requirements	
Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section of Operation Plan
1. Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), F.A.C.)	Section 2.1.1
2. Provide a landfill operation plan including procedures for: (62-701.500(2), F.A.C.)	
a. Designating responsible operating and maintenance personnel;	Section 2.2
b. Contingency operations for emergencies;	Section 2.3
c. Controlling types of waste received at the landfill;	Section 2.4
d. Weighing incoming waste;	Section 2.5
e. Vehicle traffic control and unloading;	Section 2.6
f. Method and sequence of filling waste;	Section 2.7
g. Waste compaction and application of cover;	Section 2.8
h. Operations of gas, leachate, and stormwater controls;	Section 2.9
i. Water quality monitoring;	Section 2.10
j. Maintaining and cleaning the leachate collection system.	Section 2.11

3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), F.A.C.)	Section 3
4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), F.A.C.)	Section 4
5. Describe methods of access control; (62-701.500(5), F.A.C.)	Section 5
6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6), F.A.C.)	Section 6
7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), F.A.C.)	
a. Waste layer thickness and compaction;	Section 7.1
b. Special considerations for first layer of waste placed above liner and leachate collection system;	Section 7.2
c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;	Section 7.3
d. Maximum width of working face;	Section 7.4
e. Description of type of initial cover to be used at the facility that controls:	
(1) Disease vector breeding/animal attraction	Section 7.5
(2) Fires	Section 7.5
(3) Odors	Section 7.5
(4) Blowing litter	Section 7.5
(5) Moisture infiltration	Section 7.5
e. Procedures for applying initial cover including minimum cover frequencies;	Section 7.5
f. Procedures for applying intermediate cover;	Section 7.6
g. Time frames for applying final cover;	Section 7.7
h. Procedures for controlling scavenging and salvaging;	Section 7.8
i. Description of litter policing methods;	Section 7.9
j. Erosion control procedures.	Section 7.10
8. Describe operational procedures for leachate management including: (62-701.500(8), F.A.C.)	

a. Leachate level monitoring, sampling, analysis and data results submitted to the Department;	Section 8.1
b. Operation and maintenance of leachate collection and removal system, and treatment as required;	Section 8.2
b. Procedures for managing leachate if it becomes regulated as a hazardous waste;	Section 8.3
c. Agreements for off-site discharge and treatment of leachate;	Section 8.4
d. Provisions for on-site leachate treatment;	Section 8.5
e. Contingency plan for managing leachate during emergencies or equipment problems;	Section 8.6
f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;	Section 8.7
g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;	Section 8.8
h. Procedures for water pressure cleaning or video inspecting leachate collection systems.	Section 8.9
9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of rule 62-701.530, F.A.C.; (62-701.500(9), F.A.C.)	Section 9
10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-710.400(9); (62-701.500(10), F.A.C.)	Section 10
11. Equipment and operation feature requirements; (62-701.500(11), F.A.C.)	
a. Sufficient equipment for excavating, spreading, compacting and covering waste;	Section 11.1
b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;	Section 11.2
c. Communications equipment;	Section 11.3
d. Dust control methods;	Section 11.4
e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;	Section 11.5
f. litter control devices;	Section 11.6
g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.	Section 11.7

12. Roads; (62-701.500(12), F.A.C.)	
a. Provide a description of all-weather access road;	Section 12.1
b. Provide a description of inside perimeter road and other roads necessary for access which shall be provided at the landfill.	Section 12.2
13. Additional record keeping and reporting requirements: (62-701.500(13), F.A.C.)	
a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;	Section 13.1
b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;	Section 13.2
c. Maintain annual estimates of remaining life of constructed landfills and or other permitted areas not yet constructed and submit this estimate annually to the Department;	Section 13.3
d. Procedures for archiving and retrieving records which are more than five years old.	Section 13.4
14. Closed cell inspections	Section 14

1.1 CURRENT OPERATING CONDITIONS

The Tomoka Farms Road Landfill is owned and operated by the Volusia County Solid Waste Division and is located approximately three miles south of US 92 on Tomoka Farms Road in Section 10, Township 16 South, Range 32 East. The landfill is open for waste acceptance Monday through Friday from 7:00 a.m. until 5:30 p.m. and Saturday and Sunday from 8:00 a.m. until 3:00 p.m. Vehicles access the Tomoka Farms Road Landfill via Tomoka Farms Road. With proposed expansions the landfill is expected to be able to provide disposal of Class I and Class III materials until approximately 2020. A site plan of the Tomoka Farms Road landfill is included as Figure 1-1.

Waste hauling vehicles arriving at the Tomoka Farms Road Landfill travel west along the entrance road to the scale house where loads are weighed. The scale house attendant directs vehicles to the Class I or Class III active areas, or to the Special Waste area where the wastes are unloaded. Any unacceptable waste identified prior to acceptance by the landfill will remain the responsibility of the waste hauler. The various disposal areas will be clearly identified by signs at the locations within the landfill. The landfill does not operate a separated active face for the general public (private vehicles).

Class I waste is directed to the Class I working face where it is spread over the working face area of the landfill, placed in two-foot layers, compacted by a compactor, and covered at the end of the working day. Initial cover is applied at the end of each workday. A 12-inch thick intermediate cover, in addition to the initial cover, is placed on areas where no additional waste will be placed within 180 days. This intermediate cover may be removed before placing additional waste. The final cover system is installed as areas reach the final permitted elevation.

Class III waste is directed to the Class III working face where it is spread in two to five-foot lifts. Class III waste is covered with an initial cover weekly. A 12-inch thick intermediate cover, in addition to the initial cover, is placed on areas where no additional waste will be placed within 180 days. This intermediate cover may be removed before placing additional waste. The final cover system is installed as areas reach the final permitted elevation.

Leachate generated from the landfill is conveyed to the landfill's leachate system. Leachate management options at the Tomoka Farms Road Landfill currently include recirculation, evaporation, and transportation to a Publicly Owned Treatment Works (POTW). Upon initiation of operations of the TFRL leachate treatment facility, leachate shall be treated on site. Treated effluent will be delivered to either of two dedicated spray fields, or used for dust control and/or side slope irrigation. Recirculation of untreated leachate shall be performed only in Class I areas that have received initial cover and can be isolated from the stormwater management system.

Stormwater run-off is directed away from open areas on the active face of the landfill by means of ditches and swales around the landfill. The swales outside the disposal area divert stormwater into the perimeter ditches that are located outside the lined berms and, therefore, isolated from the leachate and solid waste. Within the landfill disposal area, stormwater run-off that has not contacted waste or mixed with leachate is conveyed to the stormwater management system. Stormwater run-off which contacts waste or mixes with leachate is treated as leachate.

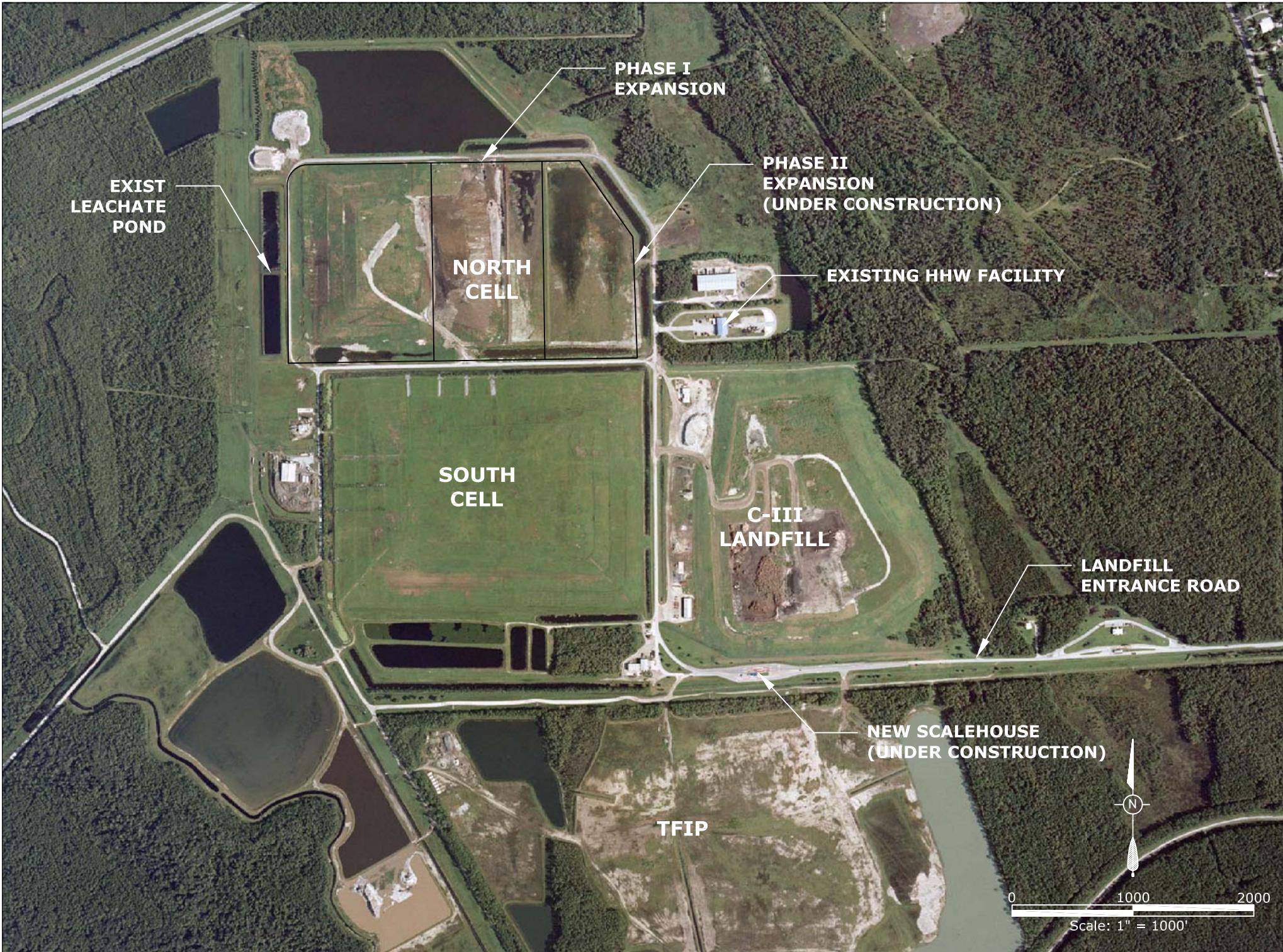


FIGURE 1-1 TOMOKA FARMS ROAD LANDFILL SITE PLAN

SECTION 2 (REVISED)

LANDFILL OPERATIONS AND MAINTENANCE (RULE 62-701.500(2), F.A.C.)

2.1 TRAINING AND CERTIFICATION OF OPERATORS AND SPOTTERS (RULE 62-701.500(1), F.A.C.)

2.1.1 Training Program

Volusia County Solid Waste Division trains employees who are landfill operators and spotters by requiring them to attend a pre-paid training course conducted by the University of Florida TREEO Center who are certified by the State of Florida to be a qualified third party continuing education institution.

Operators at the Tomoka Farms Road Landfill participate in at least 24 hours of initial training. Every three (3) years landfill operators participate in continuing education courses totaling 16 hours. Operator training will consist of courses conducted by the University of Florida TREEO Center. In accordance with Rule 62-701.500(1), F.A.C., at least one trained operator will be on duty at the Tomoka Farms Road landfill whenever waste is received at the facility. The Operators who attend the continuing education courses at the TREEO or other approved providers receive a Certificate of Completion.

At least one trained spotter will be present at each working face whenever waste is being processed for disposal. Spotters participate in 8 hours of initial training that include spotting at Construction and Demolition Sites, Landfills, and transfer Stations and/or Waste Screening and Identification for Landfill Operators and Spotters conducted by the University of Florida TREEO Center. Every three (3) years. Spotters participate in continuing education courses totaling four hours. The spotters who attend the training courses at TREEO or other approved providers receive a Certificate of Completion.

The County typically uses equipment operators/spotters, trained in accordance with F.A.C. 62-701.320(15), to perform spotter duties at the active disposal area to visually screen incoming waste.

2.1.2 Training Administration

The County's Environmental Compliance Coordinator (Environmental Specialist III) has been designated as the person in charge of the administrating the training program to ensure the operators and spotters are registered for the training courses and obtaining their certifications and renewals prior to expiration.

It is acknowledged that all training courses for the County Operators and Spotters, whether public or in-house, shall be approved by the Department in accordance with Section 403.716, F.S., and that a third party must administer any examination required by this sub-section for an in-house operator-training program.

It is acknowledged that any other in-house operator-training program must be administered by a trained operator, and that the Training Plan, along with records documenting how the Training Plan is being implemented, shall be kept at the Facility at all times and be made available for inspection by Department staff.

2.1.3 Certified Operators and Spotters

The following list provides the current landfill personnel whom are certified for landfill operations and spotters. This list is continuously updated by the Environmental Compliance Coordinator.

CERTIFICATION INFORMATION VOLUSIA COUNTY SOLID WASTE DIVISION								
NAME	POSITION	ASSIGNED TO	TRACK	EXP Date	Con Ed Hours			
					Have	Bal Need	Req'd	Have for next period
BEY, MARTIN	LANDFILL SUPERVISOR	TOMOKA	LANDFILL OPERATOR	02/06/09	47	0	16	0
			TRANSFER STA OPER	02/28/09	16	0	16	0
			SPOTTER	EXPIRED	0	0	4	0
			C&D LANDFILL OPER	02/06/09	0	16	16	0
CORBIN, MICHAEL	EO II	TOMOKA	STANDARD LANDFILL	11/17/08	0	16	16	0
			C&D LANDFILL OPER	11/17/08	0	16	16	0
CERNAI, MICHEL	EO II	TOMOKA	STANDARD LANDFILL	12/07/09	0	16	16	0
			SPOTTER	08/06/09	0	4	4	0
DANIELS, DUANE	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	0
DOUGLAS, RICHARD WAYNE	EO III	TOMOKA	SPOTTER	08/05/09	0	4	4	0
DYKES, BARBARA	LANDFILL ATTENDANT	TOMOKA	SPOTTER	11/17/08		4	4	0
ELLIS, CHRIS	SUPERVISOR III	TOMOKA	STANDARD LANDFILL	11/18/08				
			C&D LANDFILL OPER	11/18/08		16	16	0
FAIRCLOTH, JEFFERY	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	0
GUILLO, THOMAS	EO II	TOMOKA	SPOTTER	11/17/08	0	0	4	0
HARGREAVE, JOSEPH	EO III	TOMOKA	SPOTTER	11/17/08	0	0	4	0
HUBBARD, RANDY	EO III	TOMOKA	SPOTTER	11/17/11	0	4	4	0
			STANDARD LANDFILL	11/18/09	0	16	16	0
JONES, JEFFREY S.	EO III	TOMOKA	TRANSFER STA OPER	11/18/06	4	4	8	4
			MRF OPER	11/18/06	4	4	8	4
KELLIHER, BRUCE	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	
LAWSON, DAVID	MWII	TOMOKA	SPOTTER	03/11/11	0	4	4	0
LOPEZ NIEVES, VICTOR M	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	
MCCONNELL, MICHAEL	EO III	TOMOKA	SPOTTER	03/20/08	8	0	4	
NORMAN, WILLIE	EO III	TOMOKA	SPOTTER	03/11/11	0	4	4	0
PALMER, VICTOR LOUIE	EO III	TOMOKA	SPOTTER	08/05/06	0	4	4	
PETERSON, SAMUEL	EO III	TOMOKA	SPOTTER	02/27/13	0	4	4	0
POWERS, GREGORY	EO III	TOMOKA	STANDARD LANDFILL	05/18/07	4	12	16	
QUINN, CHARLES	ENVIRONMENTAL TECH	TOMOKA	STANDARD LANDFILL	11/16/07	0	16	16	
			TRANSFER STA OPER	07/21/09	0	8	8	
SOUSA, MICHAEL	EO III	TOMOKA	SPOTTER	03/20/08	0	4	4	
STIRK, JENNIFER	ENVIRONMENTAL SPEC III	TOMOKA	STANDARD LANDFILL	11/17/08			16	
STONE, PETER J	EO III	TOMOKA	SPOTTER	08/05/06	4	0	4	
WILLIAMS, DENNIS	EO III	TOMOKA	SPOTTER	08/06/06	4	0	4	
WOULARD, KORY	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	

2.2 DESIGNATION OF PERSONS RESPONSIBLE FOR OPERATION AND MAINTENANCE (RULE 62-701.500(2)(A), F.A.C.)

The persons directly responsible for major components of the landfill follow:

<u>Component</u>	<u>Responsible Party</u>
Overall County Solid Waste Operations Responsibility	Solid Waste Division Director
Landfill Operations and Maintenance	Landfill Supervisor
Permitting Requirements	Environmental Compliance Director
Water Quality and Leachate Testing	Environmental Compliance Director

The Landfill Supervisor has overall responsibility for the operation and maintenance of the landfill solid waste receiving, processing, and disposal activities. The Landfill Supervisor is responsible for the day-to-day implementation of the operations plan and, along with the Solid Waste Division Director, is responsible for environmentally safe operations in accordance with the state and federal regulations. The Environmental Specialist III is responsible for compliance with permit conditions and reporting requirements.

2.3 CONTINGENCY OPERATIONS FOR EMERGENCIES (RULE 62-701.500(2)(B), F.A.C.)

Emergencies that result in disruption of normal operations at the Tomoka Farms Road Landfill for more than 24 hours and that would result in the landfill being unable to comply with its permit must be reported to FDEP-Central District Office at (407)894-7555. The contingency plan for the facility addresses the following four potential emergencies:

- Equipment failure
- Unusual operating conditions resulting from poor weather conditions
- Accidents
- Fire
- Unavailable landfill capacity

2.3.1 Emergency Assistance

Emergency telephone numbers are listed below. This table will be updated as needed and an up-to-date version will be posted at the landfill operations office.

EMERGENCY TELEPHONE NUMBERS

Organization	Phone Number
Tomoka Farms Road Landfill On-site Phone:	(386) 947-2952
Primary Emergency Response:	911

Organization	Phone Number
Fire Department (County):	(386) 254-4657
Hospital: Halifax Medical Center 303 N. Clyde Morris Blvd. Daytona Beach, FL 32174	(386) 254-4000 (switchboard) (386) 254-4100 (emergency line)
Ambulance: EVAC Ambulance Service	(386) 252-4911
Hazardous Material Contractor: Clean Harbor Environmental Services	(800) 699-8916
Sheriff:	(386) 248-1777
Operation Supervisor: Chet Purves	Cell: (386) 527-6333 Home: (386) 586-6060 Office: (386) 947-2952
Environmental Specialist:	Cell: (386) 527-6336 Home: (386) 960-6670
Jennifer Stirk	Office: (386) 947-2952
Solid Waste Services Director:	Cell: (386) 527-6332
Leonard Marion	Home: (407) 957-6097 Office: (386) 943-7889
Florida Department of Environmental Protection	Main Reception: (407) 894-7555 Solid Waste Section: (407) 893-3328
Poison Control Assistance	(800) 222-1222
State Warning Point	(800) 320-0519

2.3.2 Equipment Failure

In the event of equipment failure at the Tomoka Farms Road Landfill, sufficient backup equipment is available at the landfill site for equipment breakdowns and downtime associated with normal routine equipment maintenance. In the case of major equipment failure, the following procedures will be followed:

- Arrangements with other County departments and/or contractors will be made to furnish equipment on a short-term basis.
- Applicable site operations will cease until equipment capacity is restored.
- Contact rental equipment dealers to furnish equipment on short-term notice.

In the event of equipment failure, the Landfill Supervisor will be notified. Within 24 hours of notification of the Landfill Supervisor, the equipment will be replaced with back-up capability if necessary, or repaired and placed back in operating condition.

Equipment that could require the use of backup or rental equipment for continued, normal operation of the Tomoka Farms Road Landfill may include:

- Landfill Compactor

- Dozer
- Off-Road Dump Truck
- Back-hoe
- Water Truck

All equipment maintenance will either be performed by Volusia County or will be contracted by Volusia County to a maintenance contractor.

2.3.3 Poor Weather Conditions

Unusual operating conditions could result from excessive rainfall and electrical storms. The type and volume of materials to be disposed of after a hurricane or excessive storms differ from normal landfill operations. During extremely high wind conditions or electrical storms, disposal operations will be temporarily suspended to protect the workers. Disposal operations will be suspended immediately before and during a hurricane or tornado.

During rainy weather, access to the working face along on-site roads must be maintained. It may be necessary to grade out ruts more frequently than during normal operations, or it may be necessary to apply additional material to the on-site access roads to counteract the effects of rain.

2.3.4 Natural Disasters

In the event of a natural disaster, such as a hurricane, the Tomoka Farms Road Landfill will continue normal operations until unsafe weather exist. Normal operations will resume after threatening weather conditions subside.

2.3.5 Procedures Prior to Storm

Prior to the arrival of a severe storm or hurricane, operations at the Tomoka Farms Road Landfill will continue for as long as the Division Director or Operations Supervisor determines that operations can be safely conducted. Beginning 24 – 48 hours prior to the storms arrival, the following will occur:

- Materials and debris that could pose an airborne hazard will be moved to an inside location or secured to the ground.
- Leachate holding ponds, tankage within the leachate treatment facility (once the facility is placed in service), and the gas system will be inspected to ensure that adequate storage capacity is available. If necessary, leachate will be transported for off-site disposal or recirculated into the active Class I cell to provide adequate capacity.

- A stockpile of soil for use as initial cover will be established in case of sudden shut down.

2.3.6 Landfill Shut-down Procedures

The following steps will be taken once it is determined that safe landfill operations can no longer continue:

- Notify on-site personnel and Solid Waste Division employees.
- Scalehouse attendants will begin notifying haulers as soon as the decision has been made to shut-down the landfill.
- Apply initial soil cover to active face. Alternate daily covers such as tarps or other materials that could be damaged or removed by high winds should not be used.
- Ensure that all personnel have exited the landfill prior to closing, and secure the facility.

2.3.7 Procedures During Severe Storms or Hurricanes

If it has been determined that operations cannot safely continue due to a severe storm or hurricane, the Tomoka Farms Road Landfill will be closed and unattended. No operations will take place during the storm.

2.3.8 Landfill Start-up Procedures

Following a severe storm or hurricane, the landfill will re-open when the Division Director determines that safe operations can resume. Prior to resuming operations, the following will occur:

- Inspect the landfill for unsafe conditions and remediate as necessary.
- Inspect leachate and gas systems for damage.
- Ensure safe, adequate access to the working face(s).
- If electrical power service is interrupted, utilize generators or other sources of back-up power, as needed, for normal operations.
- If scales are not operational, the volume of incoming waste will be estimated and repairs to the scale system will be initiated.

2.3.9 Management of Excess Leachate

Severe storms or hurricanes are likely to result in leachate generation rates above those observed during normal weather conditions. Following a severe storm or hurricane, the leachate levels in the storage ponds (and tankage within the leachate treatment system, once it

is placed in service) will be observed to ensure that the ponds do not overflow. Leachate recirculation is the first option for managing excessive leachate generation. However, in the unlikely event that leachate must be transported off-site for disposal and no disposal facility is available due to the storm, temporary storage tanks may be used until disposal capacity is available.

2.3.10 Accidents

The following emergency or equipment procedures will be followed for the various types of accidents that may occur at the facility.

2.3.11 Vehicular Accidents

- Determine if personal injury has occurred. If so, contact the Landfill Supervisor.
- Determine if the vehicle(s) can be safely moved under its own power. If so, move the vehicle(s) out of the way of normal traffic flow.
- If the vehicle(s) cannot move under its own power and is interrupting traffic flow, push the vehicle(s) out of the way with site equipment or reroute traffic if serious injuries are involved.
- Notify landfill and personnel officials of the details of the accident.
- Arrange to have disabled vehicles towed from the site to maintain operations.
- Report incident to the County Risk Management Officer and other appropriate personnel.

2.3.12 Personal Injury

- Determine the nature and extent of the injuries.
- If qualified, administer emergency first aid techniques.
- Call for outside emergency assistance if necessary.
- Report incident to the Landfill Supervisor and personnel officials.
- If injuries require non-emergency medical attention, arrange to transport victim(s) to a place of professional medical care (e.g., hospital emergency room, doctor's office, clinic) by conventional means in accordance with County Safety Procedures.
- Report incident to the County Risk Management Officer and other appropriate personnel.

2.3.13 Fire

Waste loads that arrive at the landfill on fire will not be deposited at the working face. They will be deposited away from the working face on an area that has previously been covered with daily soil cover. The load will then be extinguished prior to being moved to the working face.

Small fires on the landfill working face will be extinguished with fire extinguishers when possible without endangering human health. If a fire at the landfill working face cannot be extinguished by fire extinguishers, on-site equipment will be used to spread soil over the fire thus decreasing oxygen supply to the fire.

If necessary, a temporary waste unloading area may be located as far away from the fire as possible but still within the limits of the lined disposal area where daily soil cover has previously been placed. Solid waste entering the facility will be placed in the temporary area until the fire is extinguished.

When a landfill fire is observed, the Site Supervisor will be notified immediately and shall determine if the fire can be extinguished using on-site equipment and materials or if the local fire department must be contacted for assistance. If on-site equipment and materials are not sufficient to extinguish the fire, the local fire department will be contacted by calling 911.

The first consideration when dealing with a fire is human safety. If the Site Supervisor determines that a fire cannot be safely controlled while awaiting assistance, the immediate area will be evacuated. Depending on weather and other conditions, areas where the fire may potentially spread may also be evacuated.

For any fire at the landfill, a written report will be submitted to the FDEP Central District Office within five (5) days of the fire explaining the cause of the fire, remedial actions taken, and measures taken to prevent recurrence. If the fire is of such size and/or intensity that smoke can be seen from outside the landfill, the County will make every effort to notify the Department, by phone or e-mail, within 24 hours of the fire.

2.3.14 Unavailable Landfill Capacity

It is unlikely, based on the permitted capacity of the Class I and Class III landfills, that disposal capacity would become unavailable. However, if disposal capacity is temporarily unavailable, waste will not be accepted into the landfill for disposal. Signs will be posted notifying waste haulers that the landfill is closed, identifying alternate disposal facilities, and listing a projected reopening date.

2.4 CONTROL/INSPECTION OF INCOMING WASTE (RULE 62-701.500(2)(C), F.A.C.)

All solid waste arriving at the landfill is routed through the scalehouse. Scalehouse attendants screen visible loads for unacceptable materials including recyclables, hazardous waste, and medical waste. Scalehouse attendants at the Tomoka Farms Road Landfill typically receive spotter training in accordance with F.A.C. 62-701.320.(15)(c). From the scalehouse, vehicles

are directed to either the Class I disposal, the Class III disposal area, or to the Special Waste area. The various areas will be clearly identified by signs within the landfill. If prohibited wastes are discovered, the spotter will direct the vehicle back to the scale house. If the unacceptable waste has not yet been unloaded, the person responsible for shipping the waste will be notified. If the waste has been deposited, the area of the waste load should be blocked from public access until the generator or hauler of the waste cleans up the waste. If the generator or hauler of the waste cannot be identified or is unable to remove the waste, Volusia County will be responsible for cleanup, transportation, and disposal of the waste at an appropriate waste management facility.

2.5 WEIGHING OF INCOMING WASTES (RULE 62-701.500(2)(D), F.A.C.)

Weighing of incoming wastes will be performed at the scalehouse. Each customer receives a receipt showing the type of refuse, amount, and fee. These receipts are utilized for financial accountability and to complete the necessary daily, weekly, monthly, and annual activities/materials reports required by the Florida Department of Environmental Protection (FDEP) and Volusia County.

2.6 VEHICLE TRAFFIC CONTROL AND UNLOADING (RULE 62-701.500(2)(E), F.A.C.)

All waste hauling vehicles entering the landfill must proceed to the scalehouse. Vehicles are directed to the appropriate unloading areas by the scale house attendant and assisted by signage around the landfill. The attendant will direct the vehicle to the point of unloading area compatible with the waste. Additional traffic directions will be provided, when needed, by equipment operators or spotters.

2.7 METHOD AND SEQUENCING OF FILLING WASTES (RULE 62-701.500(2)(F), F.A.C.)

The Tomoka Farms Road Landfill will be operated using the area fill method. Waste delivered to landfill will be directed to the working face area of either the Class I or Class III landfill for unloading.

Class I waste will be spread in layers approximately 2-feet in thickness and compacted. Following this method, waste will be placed in 10-foot lifts across the site. Initial cover is applied at the end of each workday. Sequencing diagrams for the Class I landfill are included as Figure 2-1, 2-2, and 2-3.

Class III waste will be spread in layers approximately 2- to 5-feet thick and compacted. Following this method, waste will be placed in 20-foot lifts across the site. An initial cover is applied weekly. The Class III landfill will be systematically filled to the elevations shown in the final grading plan included as Figure 2-4.

2.8 WASTE COMPACTION AND APPLICATION OF COVER (RULE 62-701.50(2)(G), F.A.C.)

2.8.1 Method of Filling Wastes/Compaction

The procedure for filling and compacting of the initial waste lifts over areas of exposed liner in the Class I landfill will be as follows:

- To protect the integrity of the leachate collection system and liner, driving vehicles directly over the liner will be prohibited.
- The liner will be covered with a minimum of two (2) feet of protective soil at least one week prior to the placement of waste.
- The protective soil layer is carefully placed on the liner using a low ground pressure tracked dozer approximately 1 week prior to the placement of waste. The equipment operator is directed by a spotter to ensure that the soil is placed correctly and that the equipment does not come in contact with the liner. The 2-foot minimum in-place thickness of the protective soil layer is verified by the landfill operator.
- The landfill spotter directs equipment away from the side slope liner during normal operations.
- The initial lift of waste will be 4 feet thick and selected for material that will not cause damage to the liner. The initial lift of waste will be spread with equipment that will preserve the integrity of the liner system.

The procedures for filling and compacting all waste will be as follows:

- Waste will be placed against the working face of the previous day's waste, so that the first row will act as a means of access and a berm to guide the placement of waste material for the remaining rows.
- Class I waste will be spread and completed in 2-foot lifts and compacted to approximately 1 foot in thickness by a minimum of five passes using a landfill compactor.
- Class III waste will be spread and completed in 2 to 5-foot lifts and compacted by a minimum of five passes using a landfill compactor or dozer.

2.8.2 Initial and Intermediate Cover

Cover material will be utilized to minimize vector breeding, animal attraction, and fire potential, as well as to prevent blowing litter and control odors. Initial cover will be composed of soil from the on-site stockpile, or synthetic materials such as tarps and geomembranes. Initial cover will be placed and compacted to a minimum thickness of 6 inches or equivalent.

The intermediate cover will comprise of local soil which will be placed and compacted to a minimum thickness of 12 inches.

2.8.3 Final Cover

The final cover system for the Class I landfill will be designed in accordance with Rule 62-701.600(5), F.A.C. The final cover will be placed on the intermediate cover as phases of the facility are closed. The conceptual final cover system for landfill closure, from top to bottom includes the following:

- 6-inch layer of topsoil material with surface vegetation
- 18-inch soil layer
- Composite drainage net layer (geosynthetic filter fabric with drainage net)
- 40-mil textured geomembrane

An interim barrier layer cover system, approved by the Department includes installation of exposed 60 mil HDPE Liner.

2.9 **OPERATION OF GAS, LEACHATE, AND STORMWATER CONTROLS** **(RULE 62-701.500(2)(H), F.A.C.)**

2.9.1 Landfill Gas Controls

An active gas collection system is being installed in the Class I cell. Passive gas vents will be installed as part of final closure for the Class III cell. If it becomes apparent prior to or at the time of closure that passive vents are not adequate to control odors or migration of landfill gas from the landfill, an active landfill gas control system will be installed. The operations plan will be updated as necessary to provide for operation and maintenance of the landfill gas controls.

2.9.2 Leachate Controls

Leachate is collected by a leachate collection and transfer system. The leachate is conveyed by gravity to leachate sumps located as shown in the Tomoka Farms Road Landfill Construction Plans. Collected leachate is currently pumped from the leachate sumps in the landfill to the two leachate storage and evaporation ponds located west of the disposal cell. In the future, leachate will be pumped to the leachate treatment facility. Once the leachate treatment facility has been placed in service, the function of the existing leachate storage ponds will change. One of the two leachate storage ponds will be used to provide additional raw leachate storage capacity, should the quantities of leachate delivered by the leachate collection system temporarily exceed plant capacity. The second leachate storage pond shall be used for the storage of leachate treatment plant effluent, should the effluent quantities temporarily exceed the capacity of the spray fields, in conjunction with requirements for dust control and sideslope irrigation. Please refer to Chapter 4 of the Preliminary Design Report (PDR), provided with the minor permit modification application for the leachate treatment facility submitted to FDEP in

August, 2008, for a process flow diagram that details the future management of leachate flows. Additional information is also provided in Section 8.0 of this operations plan.

Leachate generation will be minimized by operating a single working face and keeping the working face as small as possible. The County's goal is to operate a working face no larger than approximately 150' by 200' under normal operating conditions. Daily and/or intermediate cover will be placed on slopes to promote stormwater runoff. The mixing of stormwater with leachate will be minimized by grading the daily and/or intermediate cover away from the working face and by using soil berms to direct stormwater runoff away. Swales and conveyance ditches will also be used to collect and transport stormwater to stormwater management facilities.

2.9.3 Stormwater Controls

Operation of the existing stormwater system is discussed in Section 10.0 of this operations plan. The stormwater system will be managed as required by Rule 62-701.500(10), F.A.C., to meet applicable standards for Rule 62-302, F.A.C., and Rule 62-330, F.A.C. The system shall minimize stormwater from entering waste filled areas and avoid the mixing of stormwater with leachate. All stormwater conveyances shall be inspected at least weekly to verify adequate performance. Conveyances not performing adequately will be repaired within three (3) working days. Documentation of all inspections and repairs will be kept on file at the landfill office.

2.10 WATER QUALITY MONITORING (RULE 62-701.500(2)(I), F.A.C.)

Groundwater, surface water, and leachate monitoring will be conducted as described in the Tomoka Farms Road Landfill Groundwater and Leachate Monitoring Plan, which is kept in the landfill office.

2.11 MAINTAINING AND CLEANING THE LEACHATE COLLECTION SYSTEM (RULE 62-701.500(2)(J), F.A.C.)

The leachate system at the landfill consists of collection, pumping, storage, and disposal facilities. A sequencing batch reactor (SBR) to be placed in service in 2010 will provide on-site leachate treatment in the future.

Maintenance of the leachate pumping facilities is performed as specified in the manufacturer's manuals kept on file in the landfill office. Inspection and cleaning of the leachate collection system will be performed every 5 years.

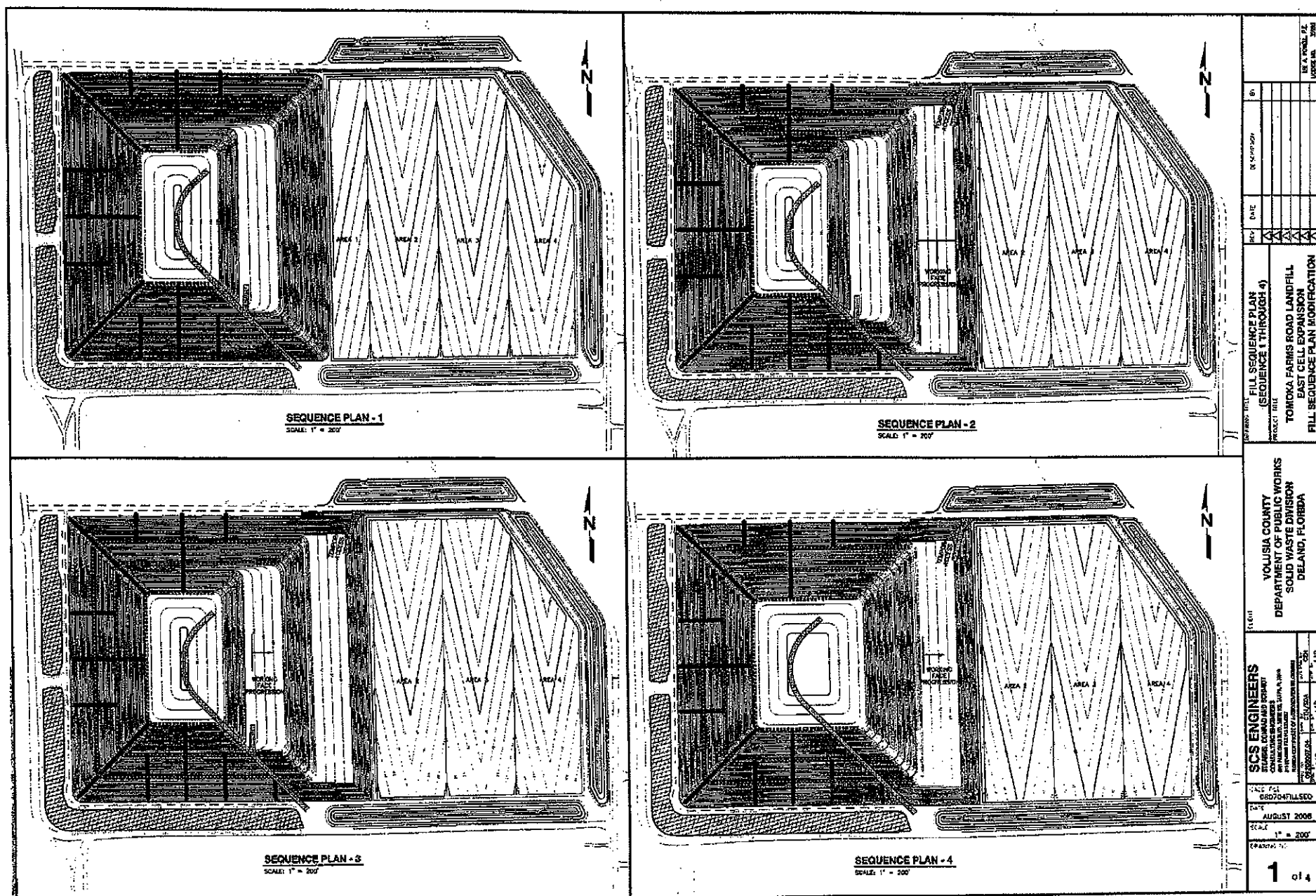


Figure 2-1

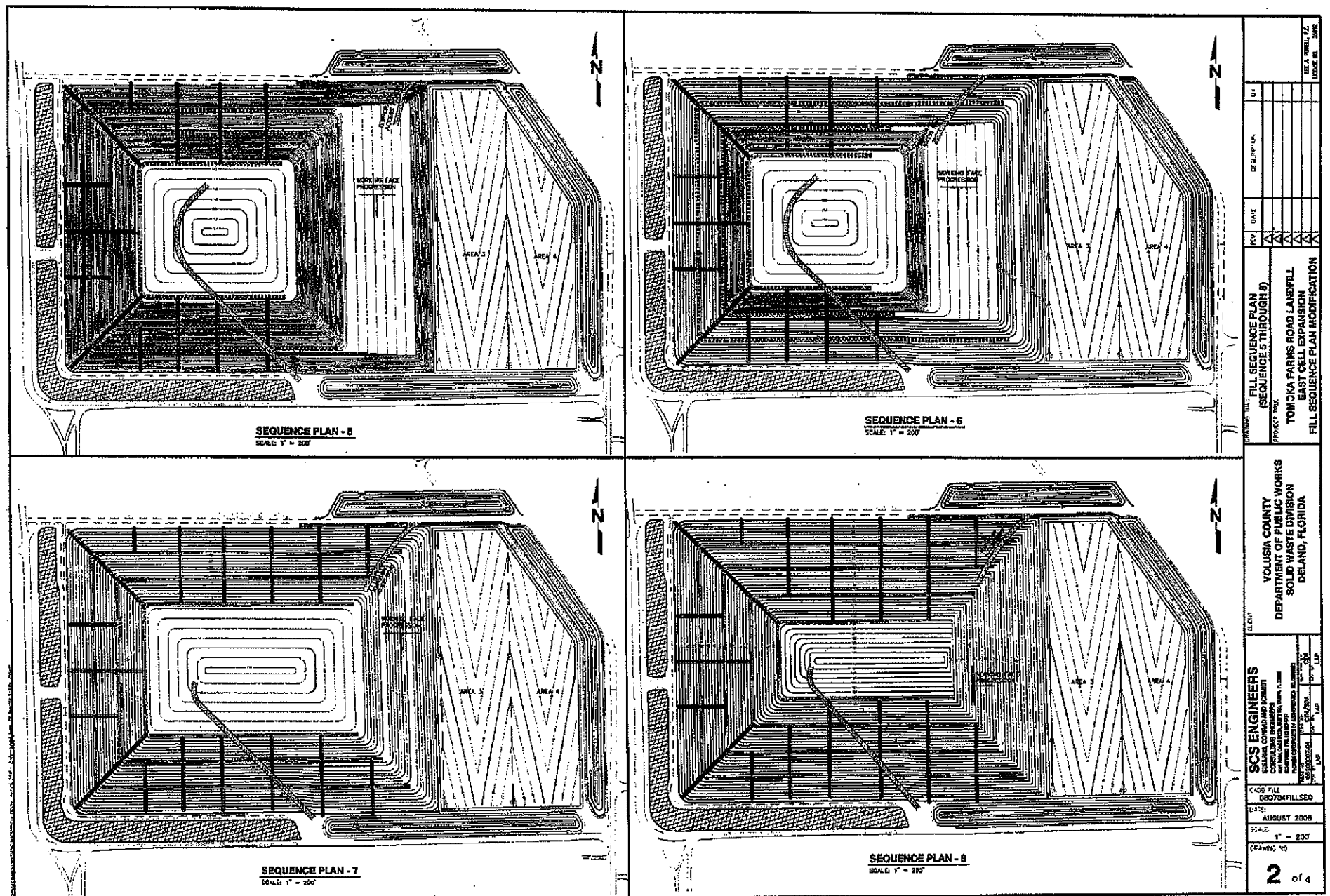


Figure 2-2

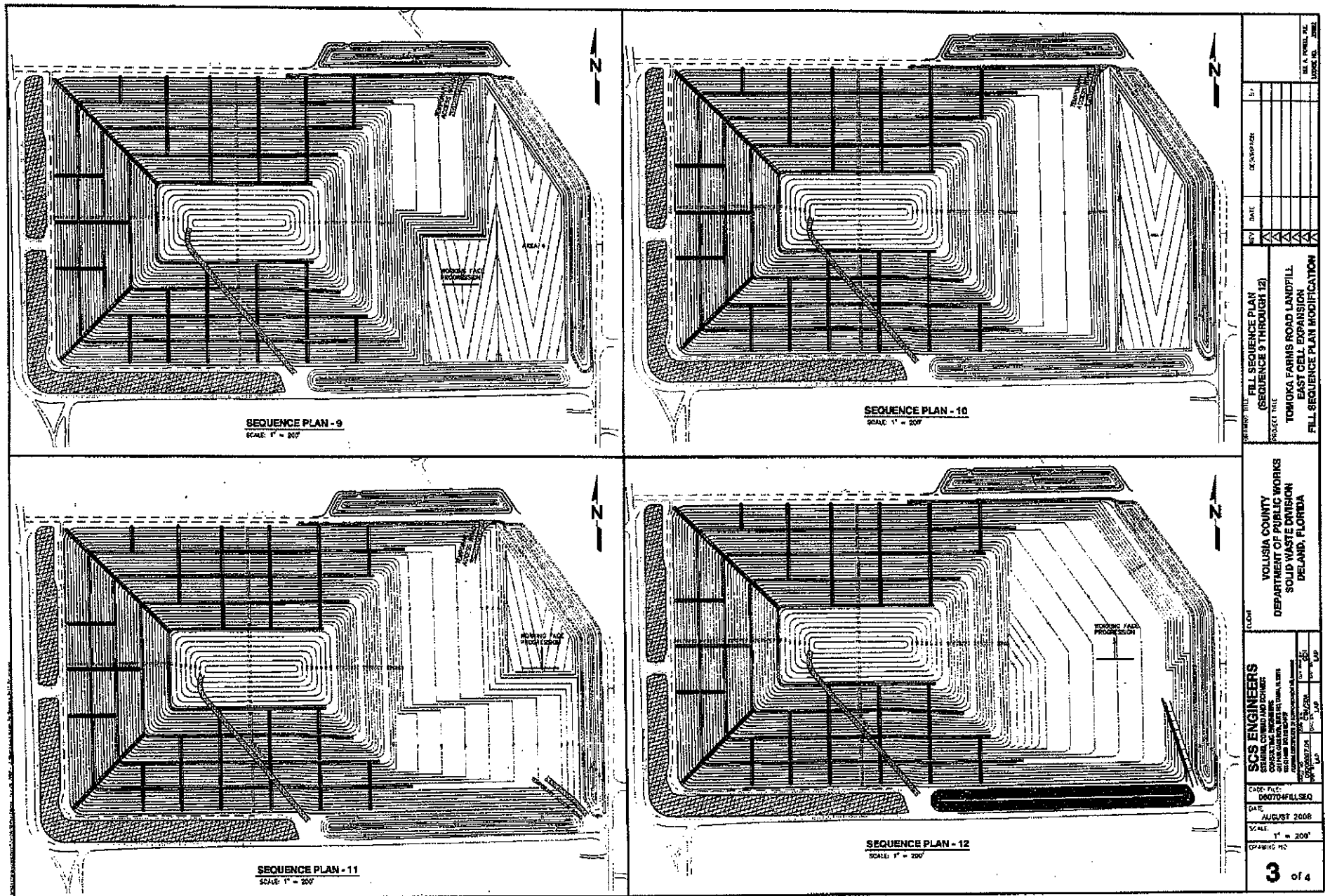


Figure 2-3

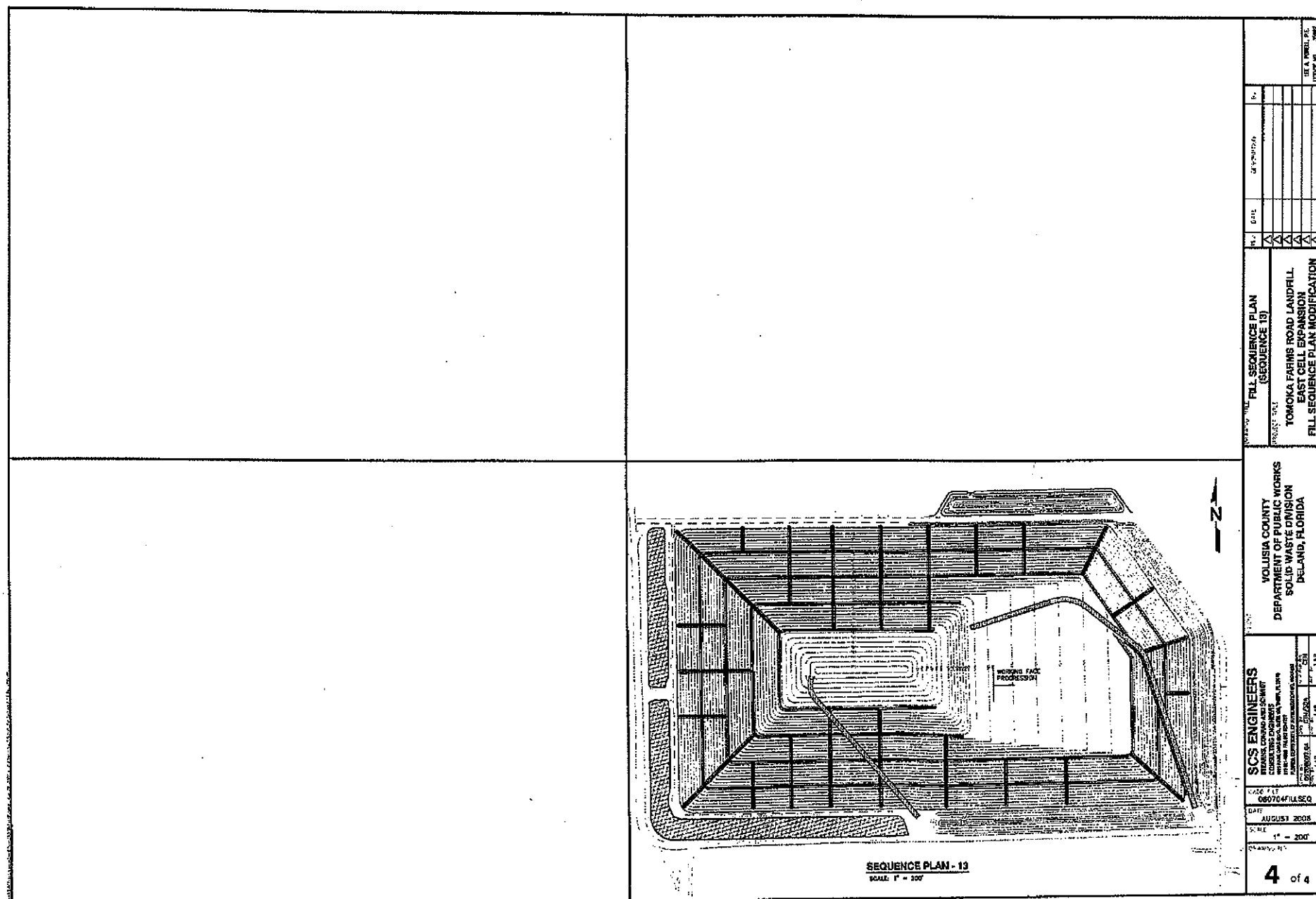


Figure 2-3a

SECTION 3

OPERATING RECORDS (RULE 62-701.500(3), F.A.C.)

Volusia County will maintain a separate operating record for the Class I and Class III landfills. The operating record will consist of all records, reports, analytical results, and all notifications as required by Rule 62-701, F.A.C. These records are considered an integral part of the operations plan and will be kept at or near the facility. The operating records will be available for inspection at reasonable times upon request by FDEP personnel.

The Volusia County Solid Waste Management Division Director will be responsible for the storage and filing of all operational records. The minimum records to be kept as part of the official operating record include the following:

- Current permits and applications
- Monthly waste disposal records (volume, weight, or truckloads)
- Random load checking records
- Leachate quantities, sampling, and analysis
- On-site rain gauge data
- Monthly leachate operating reports (FDEP monthly facility report)
- Leachate Treatment Facility Operations Reports (once the facility has been placed in service)
- Annual estimates of remaining capacity (permitted disposal) in cubic yards
- Regulatory agency inspection reports
- Groundwater, surface water, and leachate sampling plan, including well construction information, sampling locations, and water quality sampling results
- All official notifications to or from FDEP regarding the facility
- Training verifications/certifications
- Landfill operations plan, including all supplementary material incorporated by reference
- Leachate tank inspection records

- Gas monitoring records
- Maintenance summary forms

SECTION 4

WASTE RECORDS (Rule 62-701.500(4), F.A.C.)

Each month, a report of the amount of waste received, in tons, will be compiled. This report will include best estimates of the amounts of the following waste types based on type of hauler and tip fee rates:

- Household waste;
- Commercial waste;
- Ash residue;
- Incinerator by-pass waste;
- Construction and demolition debris;
- Treated biomedical waste;
- Agricultural waste;
- Industrial waste;
- Yard trash;
- Sewage sludge;
- Industrial sludge;
- Water/air treatment sludges;
- Waste tires; and
- Class III waste.

Reports are compiled monthly and submitted on a quarterly basis to:

FDEP-Central District Office
Solid Waste Section
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

SECTION 5

ACCESS CONTROL (Rule 62-701.500(5), F.A.C.)

The entire Volusia County Landfill facility is fenced, and access is gate-controlled at all times. Figure 1-1 is a site plan of the entire landfill and illustrates the landfill access control facilities. The landfill may be operated for up to 24 hours per day, seven days per week.

SECTION 6

WASTE MONITORING (Rule 62-701.500(6), F.A.C.)

6.1 WASTE INSPECTION (RULE 62-701.500(6)(A), F.A.C.)

Volusia County has implemented a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. This program includes at least three (3) random checks by landfill personnel each week and inspection of suspicious loads, which are vehicles that have previously been determined to have delivered unauthorized waste, or loads that have unusual physical characteristics.

If any regulated hazardous wastes are identified during load checking, the following is a summary of the load inspection program.

1. Scalehouse personnel will direct at least three (3) vehicles per week of Class I waste and at least three (3) vehicles per week of Class III waste to a separate disposal area.
2. The driver of the vehicle will be asked the source of the waste by the inspector. The load will be completely discharged and spread uniformly by a front end loader so that all waste is visible.
3. The inspector will proceed to inspect the load for unauthorized waste. These shall include, but are not limited to the following:
 - Restricted materials.
 - Regulated hazardous waste.
 - Biomedical waste.
 - Used oil filters.
 - Compressed gas cylinders.
 - PCB wastes.
 - Household hazardous waste.
4. If any unauthorized items are observed, the waste will be segregated and, if possible, returned to the hauler for proper disposal.
5. The person responsible for shipping the waste will provide a manifest documenting the proper disposal of the unauthorized waste found during inspection. The manifest must indicate the corresponding identification number assigned to the waste during inspection.

6. If any regulated hazardous waste or biomedical waste is observed, the Landfill Supervisor will segregate the waste, notify FDEP, persons responsible for shipping the waste, and the generator of the waste. The waste shall be removed from the facility and disposed of properly.
7. Landfill personnel or haulers will relocate all special wastes such as tires, appliances, and lawn debris to the proper disposal areas.
8. Copies of all completed inspection reports will be maintained for the life of the landfill.
9. Vehicles that have previously been determined to have delivered unauthorized waste will be considered suspicious and may be subjected to inspection at any time and in the same manner as the random inspections.
10. Spotters are positioned on the equipment rather than on the ground. When non-conforming waste is observed, the spotter contacts a day laborer via walkie-talkie for its removal. Should a day laborer not be available, the spotter contacts the site supervisor via walkie-talkie to arrange for removal of the non-conforming material.

6.2 HAZARDOUS WASTES AND HANDLING PROCEDURES (RULE 62-701.500(6)(B), F.A.C.)

No hazardous wastes will be accepted at the landfill for disposal. If unauthorized material is transported to the facility, the appropriate supervisory personnel will be notified immediately and appropriate actions taken to remove any unauthorized materials or wastes from the facility. Special wastes that are discovered will be removed from the landfill and placed in the appropriate processing area.

6.3 RECORDING INSPECTION RESULTS (RULE 62-701.500(6)(C), F.A.C.)

Results of the load checking inspections described in Section 6.1 of this document will be recorded in writing and retained at the landfill. This information will include date and time of inspection, name of hauling firm, name of driver of the vehicle, vehicle license plate number, source of waste as stated by the driver, and observations made by landfill personnel during the inspection. The inspector will sign the written record. A sample form used to document the inspection results is provided in Appendix A.

SECTION 7

WASTE HANDLING REQUIREMENTS (Rule 62-701.500(7), F.A.C.)

The following description represents waste handling requirements as required by Rule 62-701.500(7), F.A.C. Volusia County will meet or exceed the requirements at all times to minimize the potential adverse impacts to employees or public health or safety.

7.1 WASTE THICKNESS AND COMPACTION FREQUENCIES (RULE 62-701.500(7)(A), F.A.C.)

Class I waste material will be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness, or as thin as practical, by a landfill compactor before the next layer is applied.

Class III waste material will be spread in layers of approximately 2 to 5-foot in thickness and compacted as thin as practical by a landfill compactor or dozer before the next layer is applied.

7.2 FIRST LAYER OF WASTE (RULE 62-701.500(7)(B), F.A.C.)

The first lift of Class I waste placed above the liner and leachate collection system will be a minimum of four feet in compacted thickness. Waste loads in this first lift will be screened for any large, rigid objects or other materials that would damage the liner or leachate collection system.

7.3 SLOPES OF WORKING FACE (RULE 62-701.500(7)(C), F.A.C.)

The working face and side grades above land surface will be sloped at a maximum of 3 feet horizontal to 1 foot vertical rise. The lift depth will typically be a maximum of 10 feet. Lift depths may be deeper than 10 feet depending on specific operations, daily waste volumes, width of the working face, and good safety practices.

7.4 WIDTH OF WORKING FACE (RULE 62-701.500(7)(D), F.A.C.)

The working face will be wide enough to safely accommodate vehicles, unloading materials, and compacting equipment. Since the waste requires daily cover, the width of the working face will be minimized. The County's goal is to operate a working face no larger than approximately 150' by 200' under normal operating conditions.

7.5 INITIAL/DAILY COVER (RULE 62-701.500(7)(E), F.A.C.)

Initial cover to address disease vectors/animal attraction, fires, odors, blowing litter, and moisture infiltration will be placed over the Class I waste at the end of each working day. Initial cover will consist of six inches of compacted soils, mulch, residual screen material,

synthetic material such as tarps and geomembranes, or other materials as approved by the FDEP, in conformance with the requirements of F.A.C. Chapter 62-701.500(7)(E).

Initial cover will be placed over the Class III waste weekly. Initial cover will consist of six inches of compacted soils or other materials as approved by the FDEP.

7.6 INTERMEDIATE COVER (RULE 62-701.500(7)(F), F.A.C.)

If additional solid waste will not be deposited in a location within 180 days of initial cover placement, a 12-inch intermediate cover will be placed within 7 days of initial cover placement.

7.7 FINAL COVER (RULE 62-701.500(7)(G), F.A.C.)

The landfill will receive final cover as portions of the facility are closed. A description of the final cover can be found in Section 2, page 2-11 of this plan.

7.8 SCAVENGING AND SALVAGING CONTROL (RULE 62-701.500(7)(H), F.A.C.)

Scavenging is strictly prohibited at the working face of the landfill. Salvageable materials such as metals, as identified by landfill personnel, will be unloaded at designated locations away from the working face for proper placement by landfill personnel at the end of each working day.

7.9 LITTER POLICING METHODS (RULE 62-701.500(7)(I), F.A.C.)

Initial cover will provide the main litter control. Perimeter fencing will provide a barrier to blowing litter. In addition, portable litter fences will be located adjacent to the working face to prevent litter from being blown away from the working area. Temporary fencing is also mobile and easily relocated around the facility as needed. Litter outside the working area of the landfill will be picked up within 24 hours of the cessation of the event. Litter policing will include the removal of litter from the perimeter ditch.

7.10 EROSION CONTROL (RULE 62-701.500(7)(J), F.A.C.)

Soil cover erosion control measures will be integrated into landfill operations to collect and transport stormwater without exposing solid waste and leachate. These measures are identified and discussed as follows:

- Intermediate soil cover configured to collect and transport stormwater
- 4"-5" of mulch soil cover and/or sod to prevent erosion
- Regular inspection of intermediate soil cover
- Benches and lined ditches to transport concentrated volumes of stormwater runoff

7.10.1 Intermediate Soil Cover

Temporary berms to direct stormwater away from solid waste placement and compaction activities will surround the active areas of the landfill. Inactive areas will be covered with intermediate soil cover with a minimum thickness of 1 foot. The intermediate soil cover will be sloped to promote run-off and decrease infiltration of stormwater. Stormwater runoff will be controlled by using benches placed every 40 feet in vertical height.

Intermediately covered areas subject to erosion will be seeded with grass appropriate to the season as needed to control erosion. Yard waste, mulch, or sod may also be used to help control erosion.

7.10.2 Down Drains

Stormwater collected in the benches will be directed to the stormwater system located at the toe of the slope using downpipes, downchutes, or other conveyances.

7.10.3 Inspections

The intermediate soil cover will be regularly inspected for erosion damage. Repairs to any damage that is discovered will be initiated within 3 days to contain solid waste and leachate; and anything that cannot be repaired within 7 days will be reported to FDEP.

SECTION 8

LEACHATE MANAGEMENT (Rule 62-701.500(8), F.A.C.)

Leachate in the Class I landfill is collected in the leachate drainage layer that slopes to collection sumps equipped with leachate pumps. Clean outs are provided to allow access for inspection and cleaning. Leachate is pumped from the pump stations to the leachate storage ponds via force mains that run around the north and west sides of the landfill. Once the leachate treatment facility is placed in service, leachate from the pump stations shall be pumped directly to the treatment facility unless conditions warrant temporary storage in the designated leachate storage pond.

8.1 MONITORING, SAMPLING, AND ANALYSIS OF LEACHATE (RULE 62-701.500(8)(A), F.A.C.)

The Division Director is responsible for leachate monitoring, sampling, and analysis, and for providing copies of the leachate analysis to FDEP. Leachate sampling and analysis is addressed in the Tomoka Farms Road Landfill Groundwater Monitoring Plan. Sampling and analysis will be conducted by contractors meeting applicable FDEP requirements.

The leachate pump side-slope risers and leachate collection pipe clean out side-slope risers provide a mechanism to observe leachate levels through physical measurements.

8.2 OPERATION AND MAINTENANCE OF LEACHATE COLLECTION SYSTEM (Rule 62-701 .500(8)(b), F.A.C.)

The Landfill Supervisor will be responsible for maintenance of the leachate systems, including the piping, pump stations, piping to the leachate storage ponds, and the spray evaporation system within these ponds. The Landfill Supervisor will also oversee the operation of the leachate treatment facility and related components, once the sequencing batch reactor has been placed in service. The equipment manufacturers have provided operation and maintenance manuals for each of the system components. Maintenance of each component will be performed in accordance with manufacturer specifications. Maintenance documentation may also include a video of the cleaning procedures. Operation and maintenance manuals include the following:

- Description of unit and component parts, including normal operating characteristics and limiting conditions.
- Operating procedures.
- Maintenance and overhaul procedures.
- Installation instructions.

- Original manufacturer's parts list, illustrations, and detailed assembly drawings.
- Spare parts ordering instructions.
- Manufacturer's printed operating and maintenance instructions.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows. This will allow determination of leachate production as a function of rainfall and provide information to assess the efficiency of leachate and stormwater management practices. Leachate generation/flow records will be kept at the facility as part of the official operation record.

Leachate pump station maintenance will include reading meters and making sure each pump is operational. Pumping rates and electrical draw will be confirmed semiannually. If these tests indicate significantly reduced performance, the pumps will be pulled for inspection and repair. A replacement pump will be installed while the repairs are being made.

If leachate flow volume is noticeably decreased, the leachate collection system will be inspected. Possible reasons for low or no flow are header collapse or header blockage. If pipe blockage is identified, the header pipe will be power jetted to remove sediment buildup. Power jetting or rodding will be done from either or both ends of the header.

8.3 LEACHATE HANDLING (IF REGULATED AS HAZARDOUS WASTE) (RULE 62-701 .500(8)(B), F.A.C.)

The Landfill Supervisor is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the life of the facility. Leachate will be collected and pumped to the on-site storage and spray evaporation ponds, and disposed of by spray evaporation or by trucking to one of several wastewater treatment plants. Once the leachate treatment facility is placed in service, leachate shall be treated on site, with effluent sent to a dedicated spray field or used for dust control and/or side slope irrigation.

8.4 OFF-SITE TREATMENT (RULE 62-701.500(8)(C), F.A.C.)

At the present time, leachate that, due to precipitation volumes, cannot be managed through on-site evaporation will be transported off-site by county contractor to an Industrial Wastewater Facility for treatment. The Tomoka Farms Road Landfill will transport leachate for off-site disposal when less than one-foot of freeboard is available in the leachate storage ponds. In the future, once the treatment plant has been placed in service, the current leachate storage ponds will be used to provide supplemental storage. One pond shall be used for the storage of raw leachate that is collected from the landfill, but temporarily exceeds the capacity of the leachate treatment plant. The other pond will be dedicated to the storage of excess treated effluent, when the generation of effluent exceeds the capacity of both spray fields and the need for dust control and sideslope irrigation.

8.5 ON-SITE TREATMENT (RULE 62-701.500(8)(D), F.A.C.)

Currently, leachate evaporation is performed at the Tomoka Farms Road Landfill. Once placed in service, a SBR will provide leachate treatment. The design of the SBR is based on actual leachate quality data obtained from the TFRL, and includes provisions for plant modification as necessary to respond to changing leachate quality or quantity in future years, in accordance with Rule 62-701.500(8)(d), F.A.C.

8.6 CONTINGENCY PLAN FOR MANAGING LEACHATE (RULE 62-701.500(8)(E), F.A.C.)

Temporary pumps and emergency power generators are locally available in the event of pump failure or power interruption. Alternate wastewater treatment plants are available for leachate disposal. Therefore, complete interruption of off-site disposal capability is not anticipated.

Under current operations, leachate will be recirculated, or transported off-site for disposal, when less than one foot of freeboard is available in the leachate storage ponds. In the future, after the SBR has been placed in service, excess raw leachate will be pumped to one of the two storage ponds should the level within the tanks exceed design levels. This current and future practice is intended to maintain sufficient storage capacity in the event of a heavy rainfall event.

8.7 RECORDING LEACHATE QUANTITIES (RULE 62-701.500(8)(F), F.A.C.)

Quantities of leachate collected and removed for treatment and/or disposal are recorded and those records are maintained at the landfill. These quantities will be recorded in gallons per day.

8.8 RECORDING PRECIPITATION (RULE 62-701.500(8)(G), F.A.C.)

A rain gauge has been installed and is operated and maintained by Volusia County personnel to record precipitation at the disposal facility. Precipitation records will be maintained in the facility's operating record and will be compared with leachate generation rates.

8.9 INSPECTION AND CLEANING (RULE 62-101.500(8)(H), F.A.C.)

The leachate collection system for future cells will either be pressure cleaned or inspected by video recording after construction but prior to the initial placement of waste. Thereafter, existing leachate collection systems at the Tomoka Farms Road Landfill will be pressure cleaned or inspected by video at the time of permit renewal. Results of the cleanings and inspections are kept on file in the landfill office.

SECTION 9

LANDFILL GAS MONITORING (Rule 62-701 500(9), F.A.C.)

This Landfill Gas Monitoring Plan for the Tomoka Farms Road Landfill has been prepared in accordance with the provision of Rule 62-701.530, F.A.C. This plan includes measures of comprehensive monitoring of landfill gas (LFG) from the landfill.

9.1 LANDFILL GAS MONITORING PROBES

Seven locations around the active and closed landfill cells are monitored for the presence of LFG. These monitoring probes are located around the perimeter of the working area of the landfill. Each probe is monitored for the presence of combustible gas on a quarterly basis and the results are submitted to FDEP.

9.2 GAS PROBE MONITORING

The probes are monitored for concentrations of combustible gas using an instrument calibrated to methane and capable of measuring methane in percent by volume. Combustible gas concentrations will be converted to a percent of the lower explosive limit (LEL). Five percent methane by volume is equal to 100 percent LEL. The gas instrument is calibrated with calibration gas each day before monitoring is performed.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data are recorded. For example, if a probe is full of groundwater or suspected of being so, the comments should be noted for the monitoring round.

9.3 GAS MONITORING IN STRUCTURES

The following gas monitoring will be performed in structures at the facility:

- Enclosed buildings located within 500 feet of disposal are equipped with continuous combustible gas monitors. These monitors are designed to sound an alarm when methane concentrations exceed 25 percent LEL. The signal remains on as long as gas is present, and a red alarm light stays on after an alarm to alert personnel that methane was detected during their absence. These monitors are Macurco, Model GD-21, or similar monitors. These are factory calibrated, plug-in units that require no maintenance or calibration. The units are designed for seven to ten years of use and provide an audible beep when they need replacement.
- The inside of enclosed buildings within 500 feet of disposal areas are monitored for methane on a quarterly basis along with the perimeter probes. The sampling hose of the instrument is held above the floor and inserted into any conduit spaces or cracks that could act as conduits for LFG to enter into the structure. All monitoring is reported to the FDEP.

9.4 REPORTING

Landfill gas monitoring is reported quarterly to FDEP-Central District office at:

FDEP-Central District Office
Solid Waste Section
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Any odor complaints due to landfill gas at or beyond the property boundary are recorded and maintained on site. If methane gas is measured above 25 percent LEL in the structures, Volusia County will take all necessary steps to ensure protection of human health. Exceedances will be included in the quarterly reports to FDEP. The report will also include a description of the nature and extent of the exceedances and measures implemented in response to the exceedances.

SECTION 10

STORMWATER MANAGEMENT SYSTEM AND MAINTENANCE (Rule 62-701.500(10), F.A.C.)

The Stormwater Management System will be operated and maintained as necessary to meet the requirements of Rule 62-701.400(9), F.A.C.

10.1 STORMWATER BEST MANAGEMENT PRACTICES

The landfill will use the following stormwater best management practices (BMPs):

- Sideswales
- Grass
- Sod
- Downdrains
- Benches
- Dry retention stormwater ponds
- Pumps to transport stormwater
- Ditches

10.2 STORMWATER MAINTENANCE PROCEDURES

The stormwater management system operation and maintenance will include the following:

- All stormwater conveyance systems will be inspected periodically or after major storm events.
- Any damaged systems will be repaired.
- Accumulated sediment will be removed as necessary.
- All stormwater pumps will be serviced as specified by the pump manufacturer.

SECTION 11

EQUIPMENT AND OPERATION FEATURES (Rule 62-701.500(11), F.A.C.)

11.1 EQUIPMENT (RULE 62-701.500(11)(A), F.A.C.)

Volusia County owns a diverse mix of equipment to spread, compact, and cover the waste in the landfill. This equipment may include:

- Landfill Compactor
- Dozer
- Off-Road Dump Truck
- Back-hoe
- Water Truck

While the actual equipment at the landfill may vary, sufficient equipment will be maintained at the site to ensure proper operation of the landfill.

Normal equipment maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, and auxiliary drives) will be handled either at the maintenance facilities or at off-site service facilities.

11.2 BACKUP EQUIPMENT (RULE 62-701.500(11)(B), F.A.C.)

There is sufficient equipment available to Volusia County to maintain normal operations during equipment breakdown or during emergency operating conditions. Arrangements will be made with suppliers to obtain reserve equipment within 24 hours of equipment breakdown if sufficient equipment is not available to properly operate the landfill.

11.3 COMMUNICATION EQUIPMENT (RULE 62-701.500(11)(C), F.A.C.)

Landfill employees will be able to communicate by two-way radios, and telephones are located at the office and scalehouse.

11.4 DUST CONTROL (RULE 62-701.500(11)(D), F.A.C.)

Control of dust will be maintained by wetting roads as necessary.

11.5 FIRE PROTECTION AND FIRE FIGHTING CAPABILITIES (RULE 62-701.500(11)(E), F.A.C.)

The initial cover aids in fire prevention at the landfill. The main method of fire extinguishing is to apply soil to the burning waste. Ample soil is stockpiled on-site if needed for fire extinguishing purposes.

All key equipment and vehicles at the landfill will be equipped with fire extinguishers, and all personnel will be trained in their use. All extinguishers will be inspected regularly and repaired or replaced as needed.

Emergency services are notified telephonically using 911.

11.6 LITTER CONTROL PROGRAM (RULE 62-701.500(11)(F), F.A.C.)

Initial cover will provide the main litter control. Perimeter fencing will provide a barrier to blowing litter. In addition, portable litter fences will be located adjacent to the working face to prevent litter from being blown. Temporary fencing is also mobile and easily relocated around the facility as needed. Litter outside the working area of the landfill will be picked up as soon as possible. Litter policing will include the removal of litter from the perimeter ditch.

11.7 SIGNS (RULE 62-701.500 (11)(G), F.A.C.)

Appropriate signs will be utilized and maintained to ensure maximum safety, efficiency, and general information. Signage will include, at a minimum, facility name and operating authority, traffic flow, hours of operation, disposal rates, and restrictions or conditions of disposal.

SECTION 12

ROADS

(Rule 62-701.500(12), F.A.C.)

12.1 ALL-WEATHER ROADS (RULE 62-701.500(12)(A), F.A.C.)

All-weather roads, passable and safe under normal operating conditions, will be maintained to prevent dust, rutting, or loss of traction. Where possible, select source separated Class III materials such as roofing and concrete will be reused as road base materials. Figure 1-1 shows the locations of the access and perimeter site roads.

12.2 PERIMETER AND OTHER ON-SITE ROADS (RULE 62-701.500(12)(B), F.A.C.)

Some perimeter roads and internal roads are paved. Other on-site roads are constructed of limerock and/or stabilized soils. Limerock roads are scraped and smoothed with a road grader or dozer as necessary. When needed, roadways are wetted to control dust and to ensure high visibility. On-site roads are maintained to allow access to monitoring devices and stormwater controls, for landfill inspections, and fire fighting.

SECTION 13

RECORDKEEPING (Rule 62-701.500(13), F.A.C.)

13.1 PERMIT APPLICATION DOCUMENTATION (RULE 62 -701 .500(13)(A), F.A.C.)

Records of all information used to develop or support the permit applications and any supplemental information submitted to comply with Rule 62-701, F.A.C., pertaining to construction of the facility will be kept throughout the life of the facility. Records pertaining to the operation of the landfill will be kept for the life of the facility.

13.2 MONITORING INFORMATION (RULE 62-701.500(13)(B), F.A.C.)

Records of all monitoring information, including calibration and maintenance records and copies of all reports required by permit, will be retained for at least 10 years. Background water quality records will be kept for the life of the facility.

13.3 REMAINING LIFE AND CAPACITY ESTIMATE (RULE 62-701.500(13)(C), F.A.C.)

The County prepares an annual estimate of the remaining life and capacity (in cubic yards) of the existing constructed landfill and the remaining capacity and site life of other permitted areas not yet constructed. The annual estimate is based on scale house records and aerial photomapping of solid waste disposal units. The estimate is reported annually to the FDEP as part of the annual update to the closure and long-term care cost estimates.

13.4 ARCHIVED RECORDS (RULE 62-701.500(13)(D), F.A.C.)

The landfill may archive records that are more than five years old, if necessary. Archived records will be available for inspection within seven days of the receipt of the request.

SECTION 14

CLOSED CELL INSPECTIONS

Closed cells at the Tomoka Farms Road Landfill are inspected quarterly, at a minimum. These inspections will typically be performed during the landfill gas surface emissions monitoring. Inspections will include observations for cap integrity, differential settlement, ponding, erosion, and condition of the vegetation. Corrective actions will be initiated within three working days.

ATTACHMENT 2

Revised Groundwater Monitoring Plan

THE COLINAS GROUP, INC.
HYDROGEOLOGISTS & ENGINEERS

November 3, 2008

Mr. Sam Levin, P.E.

S2L, Inc.

531 Versailles Drive, Suite 202

Maitland, FL 32751

Subj: Report of Soil and Hydrogeologic Investigations
Volusia County Tomoka Farms Road Landfill
Proposed Wastewater Reuse/Disposal Facility
Volusia County, Florida
TCG Project No. P-383

Dear Mr. Levin:

The Colinas Group, Inc. has modified our Recommended Groundwater Monitoring Plan for the proposed treated leachate sprayfield at the Volusia County Tomoka Farms Road Landfill. We have deleted our recommendation to make the sprayfield Groundwater Monitoring Plan part of the landfill Monitoring Plan Implementation Schedule. We understand that the DEP prefers to have the monitoring plan administered under the wastewater treatment plant operating permit and we have no objection. Attached please find an amended Page 4 of our Recommended Groundwater Monitoring Plan reflecting this modification.

If you have any questions or require additional information, please do not hesitate to contact me at your convenience.

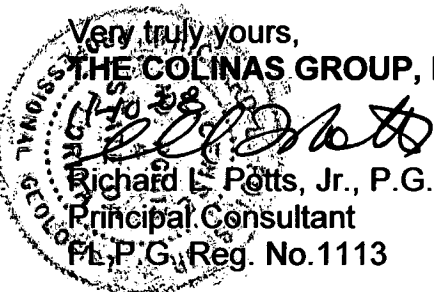
Very truly yours,

THE COLINAS GROUP, INC.


Richard L. Potts, Jr., P.G.

Principal Consultant

FL P.G. Reg. No. 1113



**RECOMMENDED GROUNDWATER MONITORING PLAN
VOLUSIA COUNTY TOMOKA FARMS ROAD SWMF
SOD FARM SPRAYFIELD**

The groundwater monitoring plan (GWMP) recommended for the Volusia County Tomoka Farms Road Solid Waste Management Facility (TFRSWMF) treated leachate sprayfield is developed based on results of exploratory test borings drilled within the sprayfield application area, apparent hydrogeologic conditions derived from these data and measurement of groundwater heads and apparent flow direction within the site boundaries. The GWMP includes:

1. Provisions for installation of monitoring wells to selected depths to account for potential vertical and horizontal movement of applied effluent beneath the sprayfield;
2. Specific location and design characteristics of monitoring wells;
3. List of field and laboratory analytical monitoring parameters; and,
4. Facility sampling and reporting frequency.

Groundwater Monitoring Wells

The locations of proposed monitoring wells comprising the GWMP for the sprayfield are shown on Figure 1. A total of six (6) wells are recommended.

Monitoring wells are divided into two classes: One set of three (3) wells is designed to intercept and monitor groundwater in the uppermost portion of the water table (surficial) aquifer occurring in the vicinity of the site. These wells are designated as SFU (Sod Farm Upper Zone) on Figure 1. Three (3) deeper wells are to be paired with the upper zone wells, indicated on Figure 1 as SFL-series wells.

Upper-zone monitoring wells will be screened from 3 to 13 feet below land surface (bls) to intercept groundwater in the uppermost portion of the receiving aquifer and to allow for sampling at and near the water table surface throughout wet and dry seasons of the average year. Lower-zone wells will be screened from 20 to 30 feet bls to intercept groundwater in the lower portion of the receiving aquifer, accounting for the potential density differences between applied effluent and native groundwater.

One dedicated background monitoring well is proposed for each of the two monitoring zones. These wells will be located upgradient on the water table surface from the sprayfield and within 100 feet of the eastern margin of the sprayfield wetted perimeter as shown on Figure 1. Four (4) detection monitoring wells are proposed: Two (2) finished in the upper monitoring zone and two (2) in the lower zone. Detection wells will be located fifty (50) feet from the downgradient margin of the sprayfield wetted perimeter.

A summary table of proposed monitoring well construction specifications is presented below.

**Summary of Monitoring Well
Construction Specifications
Volusia County TFRSWMF Sod Farm Sprayfield**

Well ID	Monitor Zone	Well Class	Total Depth (ft.bls)	Well Dia. (in.)	Screen Interval (ft.bls)	Screen Slot Size (in.)	Gravel Pack Grad.
SFU-1	Upper	Background	13 ft.bls	2	3 -13	0.010	20/30
SFL-1	Lower	Background	30 ft.bls	2	20 - 30	0.006	30/45
SFU-2	Upper	Detection	13 ft.bls	2	3 -13	0.010	20/30
SFL-2	Lower	Detection	30 ft.bls	2	20 - 30	0.006	30/45
SFU-3	Upper	Detection	13 ft.bls	2	3 -13	0.010	20/30
SFL-3	Lower	Detection	30 ft.bls	2	20 - 30	0.006	30/45

Monitoring wells will be installed using hollow-stem auger methods. Wells will be installed inside hollow-stem augers with a minimum inside diameter of 6.25 inches and without the use of drilling fluids. Casings and screens will be threaded flush-joint Schedule 40 PVC with no glued or welded joints. Annular gravel pack material will be emplaced by tremie using potable water obtained from a municipal water supply system. The gravel pack will extend from the bottom of the wells to two (2) feet above the top of the well screen and topped with a 6-inch thick fine sand seal and neat cement to land surface.

Monitoring wells will be finished with installation of a 3'x3'x6" concrete well pad and an aluminum lockable protective well cover. Upon completion of installation each well will be developed by pumping and surging to a clear, sand-free condition. Elevations of top of well casings and land surface at each monitoring well will be established to the nearest 0.01 ft. by a Florida licensed professional land surveyor.

Water Quality Monitoring Parameters

An initial round of groundwater samples will be collected from the six (6) new monitoring wells to establish baseline water quality characteristics at the Sod Farm Sprayfield. Field and laboratory parameters to be analyzed will include the constituents listed in the Table of Monitoring Parameters (below) plus the constituents listed in 40 CFR Part 258, Appendix II. Regularly recurring groundwater monitoring will include the constituents listed in the following Table of Monitoring Parameters.

**Table of Monitoring Parameters
Volusia County TFRSWMF Sod Farm Sprayfield**

Field Parameters	Laboratory Parameters
Static water level	Ammonia, as N
Specific conductance	Antimony
PH	Arsenic
Dissolved oxygen	Barium
Colors and sheen	Beryllium
Fluid turbidity	Cadmium
Fluid Temperature	Chloride
	Chromium
	Cobalt
	Copper
	Iron
	Lead
	Mercury
	Nickel
	Nitrate, as N
	Selenium
	Silver
	Sodium
	Thallium
	Total dissolved solids
	Vanadium
	Zinc
	40 CFR Part 258, Appendix I

Groundwater monitoring wells will be sampled in accordance with the latest issue of the FDEP Standard Operating Procedures for Field Activities.

Routine Sampling and Reporting Frequency

Considering the relatively low apparent rate of groundwater movement within the Sod Farm and overall landfill facility operation logistics, a semi-annual sampling and reporting frequency for the Sod Farm Sprayfield is recommended.

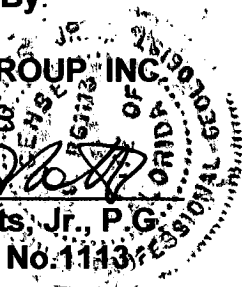
Prepared By:

THE COLINAS GROUP, INC.

11-10-08


Richard L. Potts, Jr., P.G.

FL P.G. Reg. No. 1113



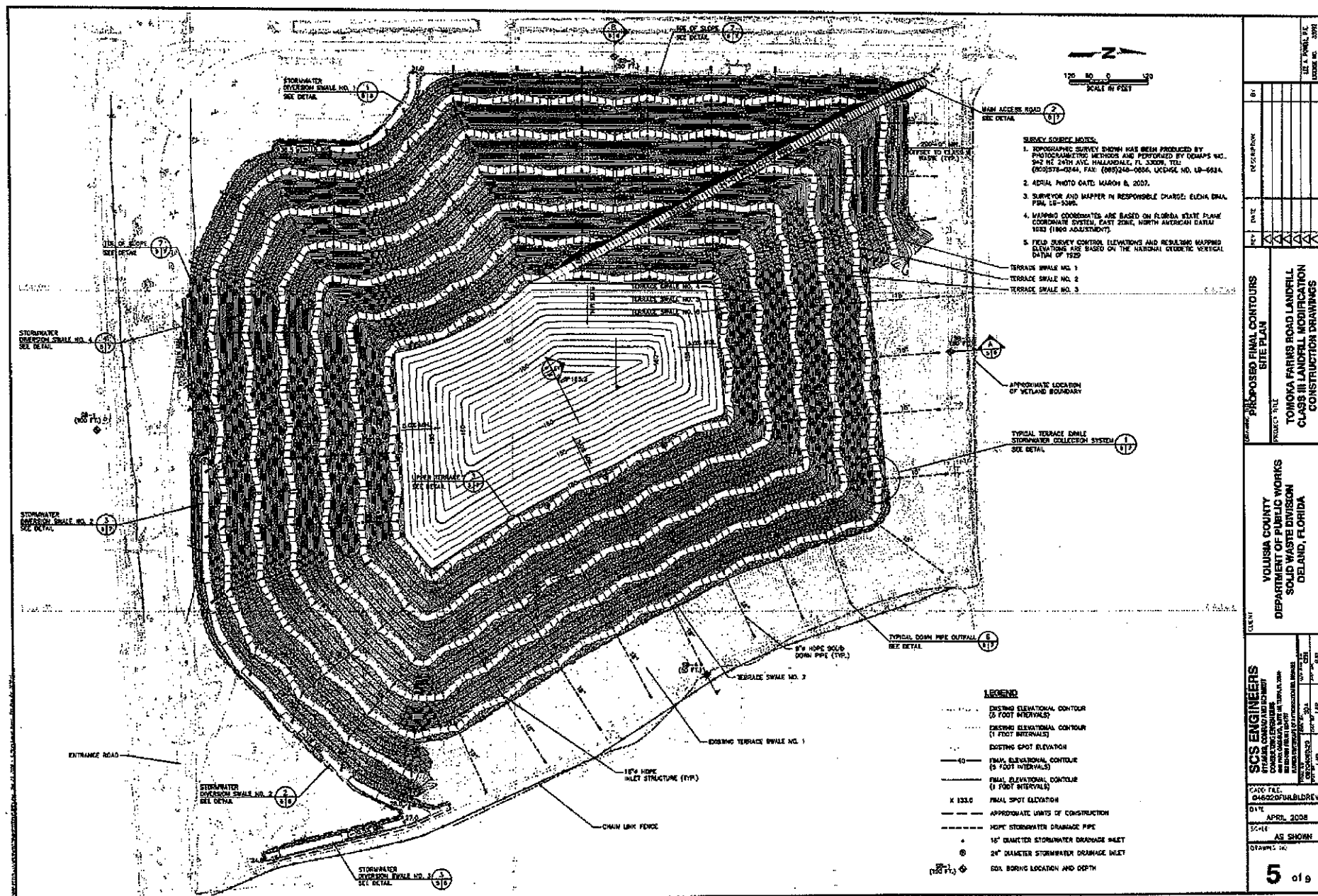


Figure 2-4



PROJ. NO. P-383

DATE: Sept. 5, 2008

SCALE: 1" = 400' (approx)

THE COLINAS GROUP

509 N. Virginia Ave., Winter Park, FL 32789

**Proposed Groundwater Monitoring Plan
Volusia County Tomoka Farms Road Landfill Sprayfield Site**

Figure 1

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Tracked Copy of all Text Changes Made

**OPERATION PLAN
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA**

Prepared for:

Volusia County Solid Waste Division
3151 East New York Avenue
DeLand, Florida 32724

Updated by:

**S2L, Incorporated
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Revised ~~October~~ November 2008

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SECTION 1

EXECUTIVE SUMMARY

The purpose of this document is to provide a consolidated manual of operating procedures for the Tomoka Farms Road Landfill Class I and Class III disposal cells. This document is intended to fulfill the requirement for an Operation Plan as listed in F.A.C. 62-701.500(2). This operations plan supersedes previous operations plans submitted to FDEP for this facility.

This plan has been prepared in accordance with Florida Rule 62-701, Florida Administrative Code (F.A.C.). Part L of FDEP's permit application form for solid waste management facilities (Part L) includes requirements for an operations plan. All information identified in Part L is provided herein, or in referenced documents. This operations plan is organized in accordance with Part L. In addition, Table 1-1 cross-references this document with the requirements of Part L.

Except where specific procedures are required by F.A.C. 62-701, this plan is intended to represent the best management practices and working goals of the Tomoka Farms Road Landfill.

Table 1-1 Cross Reference of FDEP Permit Application, Part L Requirements	
Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section/Page No. of Operation Plan
1. Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), F.A.C.)	Section 2.1 <u>1</u>
2. Provide a landfill operation plan including procedures for: (62-701.500(2), F.A.C.)	
a. Designating responsible operating and maintenance personnel;	Section 2.2
b. Contingency operations for emergencies;	Section 2.3
c. Controlling types of waste received at the landfill;	Section 2.8 <u>4</u>
d. Weighing incoming waste;	Section 2.9 <u>5</u>
e. Vehicle traffic control and unloading;	Section 2.9 <u>6</u>
f. Method and sequence of filling waste;	Section 2.9 <u>7</u>
g. Waste compaction and application of cover;	Section 2.10 <u>8</u>
h. Operations of gas, leachate, and stormwater controls;	Section 2.11 <u>9</u>
i. Water quality monitoring;	Section 2.12 <u>0</u>
j. Maintaining and cleaning the leachate collection system.	Section 2.12 <u>1</u>

3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), F.A.C.)	Section 3
4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), F.A.C.)	Section 4
5. Describe methods of access control; (62-701.500(5), F.A.C.)	Section 5
6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6), F.A.C.)	Section 6
7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), F.A.C.)	
a. Waste layer thickness and compaction;	Section 7.1
b. Special considerations for first layer of waste placed above liner and leachate collection system;	Section 7.1 <u>2</u>
c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;	Section 7.1 <u>3</u>
d. Maximum width of working face;	Section 7.1 <u>4</u>
e. Description of type of initial cover to be used at the facility that controls:	
(1) Disease vector breeding/animal attraction	Section 7.5
(2) Fires	Section 7.5
(3) Odors	Section 7.5
(4) Blowing litter	Section 7.5
(5) Moisture infiltration	Section 7.5
f. e. Procedures for applying initial cover including minimum cover frequencies;	Section 7.1 <u>5</u>
g. f. Procedures for applying intermediate cover;	Section 7.2 <u>6</u>
h. g. Time frames for applying final cover;	Section 7.2 <u>7</u>
i. h. Procedures for controlling scavenging and salvaging;	Section 7.2 <u>8</u>
j. i. Description of litter policing methods;	Section 7.2 <u>9</u>
k. j. Erosion control procedures.	Section 7.2 <u>10</u>
8. Describe operational procedures for leachate management including: (62-701.500(8), F.A.C.)	

<ul style="list-style-type: none"> a. Leachate level monitoring, sampling, analysis and data results submitted to the Department; b. Operation and maintenance of leachate collection and removal system, and treatment as required; a- <u> </u> b. Procedures for managing leachate if it becomes <ul style="list-style-type: none"> <u> </u> regulated as a hazardous waste; d- c. Agreements for off-site discharge and treatment of leachate; d. Provisions for on-site leachate treatment; b- e. <u> </u> Contingency plan for managing leachate during emergencies or equipment problems; e- f. <u> </u> Procedures for recording quantities of leachate <u> </u> generated in gal/day and including this in the <u> </u> operating record; d- g. <u> </u> Procedures for comparing precipitation experienced at <u> </u> the landfill with leachate generation rates and including this information in the operating record; e- h. <u> </u> Procedures for water pressure cleaning or video <u> </u> inspecting leachate collection systems. <p>9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of rule 62-701.530, F.A.C.; (62-701.500(9), F.A.C.)</p> <p>10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-710.400(9); (62-701.500(10), F.A.C.)</p> <p>11. Equipment and operation feature requirements; (62-701.500(11), F.A.C.)</p> <ul style="list-style-type: none"> a. Sufficient equipment for excavating, spreading, compacting and covering waste; b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown; c. Communications equipment; d. Dust control methods; e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies; 	<p>Section 8.1</p> <p>Section 8.4<u>2</u></p> <p>Section 8.2<u>3</u></p> <p>Section 8.4<u>2</u></p> <p><u>Section 8.5</u> Section 8.6<u>3</u></p> <p>Section 8.7<u>3</u></p> <p>Section 8.8<u>3</u></p> <p>Section 8.9<u>3</u></p> <p>Section 9</p> <p>Section 10</p> <p>Section 11.1</p> <p>Section 11.2<u>1</u></p> <p>Section 11.3<u>1</u> Section 11.4<u>1</u> Section 11.5<u>1</u></p> <p>Section 11.6<u>2</u> Section 11.7<u>2</u></p>
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<ul style="list-style-type: none"> f. litter control devices; g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions. 	
<u>12. Roads; (62-701.500(12), F.A.C.)</u>	<u>Section 12.1</u>
<ul style="list-style-type: none"> a. <u>Provide a description of all-weather access road;</u> 	<u>Section 12.2</u>
12. b. Provide a description of inside <u>perimeter road and other roads necessary for access</u> <u>which</u> <u>shall be provided at the landfill.</u>	
13. Additional record keeping and reporting requirements: (62-701.500(13), F.A.C.)	Section 13.1
<ul style="list-style-type: none"> a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill; 	Section 13.2 +
<ul style="list-style-type: none"> b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years; 	Section 13.3 +
<ul style="list-style-type: none"> c. Maintain annual estimates of remaining life of constructed landfills and or other permitted areas not yet constructed and submit this estimate annually to the Department; 	Section 13.4 +
<ul style="list-style-type: none"> d. <u>P</u>rocedures for archiving and retrieving records which are more than five years old. 	<u>Section 14</u>
<u>14. Closed cell inspections</u>	

1.1 CURRENT OPERATING CONDITIONS

The Tomoka Farms Road Landfill is owned and operated by the Volusia County Solid Waste Division and is located approximately three miles south of US 92 on Tomoka Farms Road in Section 10, Township 16 South, Range 32 East. The landfill is open for waste acceptance Monday through Friday from 7:00 a.m. until 5:30 p.m. and Saturday and Sunday from 8:00 a.m. until 3:00 p.m. Vehicles access the Tomoka Farms Road Landfill via Tomoka Farms Road. With proposed expansions the landfill is expected to be able to provide disposal of Class I and Class III materials until approximately 2020. A site plan of the Tomoka Farms Road landfill is included as Figure 1-1.

Waste hauling vehicles arriving at the Tomoka Farms Road Landfill travel west along the entrance road to the scale house where loads are weighed. The scale house attendant directs vehicles to the Class I or Class III active areas, or to the Special Waste area where the wastes

are unloaded. Any unacceptable waste identified prior to acceptance by the landfill will remain the responsibility of the waste hauler. The various disposal areas will be clearly identified by signs at the locations within the landfill. The landfill does not operate a separated active face for the general public (private vehicles).

Class I waste is directed to the Class I working face where it is spread over the working face area of the landfill, placed in two-foot layers, compacted by a compactor, and covered at the end of the working day. Initial cover is applied at the end of each workday. A 12-inch thick intermediate cover, in addition to the initial cover, is placed on areas where no additional waste will be placed within 180 days. This intermediate cover may be removed before placing additional waste. The final cover system is installed as areas reach the final permitted elevation.

Class III waste is directed to the Class III working face where it is spread in two to five-foot lifts. Class III waste is covered with an initial cover weekly. A 12-inch thick intermediate cover, in addition to the initial cover, is placed on areas where no additional waste will be placed within 180 days. This intermediate cover may be removed before placing additional waste. The final cover system is installed as areas reach the final permitted elevation.

Leachate generated from the landfill is conveyed to the landfill's leachate system. Leachate management options at the Tomoka Farms Road Landfill currently include recirculation, evaporation, and transportation to a Publicly Owned Treatment Works (POTW). Upon initiation of operations of the TFRL leachate treatment facility, leachate shall be treated on site. Treated effluent will be delivered to either of two dedicated spray fields, or used for dust control and/or side slope irrigation. Recirculation of untreated leachate shall be performed only in Class I areas that have received initial cover and can be isolated from the stormwater management system.

Stormwater run-off is directed away from open areas on the active face of the landfill by means of ditches and swales around the landfill. The swales outside the disposal area divert stormwater into the perimeter ditches that are located outside the lined berms and, therefore, isolated from the leachate and solid waste. Within the landfill disposal area, stormwater run-off that has not contacted waste or mixed with leachate is conveyed to the stormwater management system. Stormwater run-off which contacts waste or mixes with leachate is treated as leachate.

SECTION 2 (REVISED)

LANDFILL OPERATIONS AND MAINTENANCE (RULE 62-701.500(2), F.A.C.)

| 2.1 TRAINING AND CERTIFICATION OF OPERATORS AND SPOTTERS (RULE 62-701.500(1), F.A.C.)

| 2.1.1 Training Program

Volusia County Solid Waste Division trains employees who are landfill operators and spotters by requiring them to attend a pre-paid training course conducted by the University of Florida TREEO Center who are certified by the State of Florida to be a qualified third party continuing education institution.

Operators at the Tomoka Farms Road Landfill participate in at least 24 hours of initial training. Every three (3) years landfill operators participate in continuing education courses totaling 16 hours. Operator training will consist of courses conducted by the University of Florida TREEO Center. In accordance with Rule 62-701.500(1), F.A.C., at least one trained operator will be on duty at the Tomoka Farms Road landfill whenever waste is received at the facility. The Operators who attend the continuing education courses at the TREEO or other approved providers receive a Certificate of Completion.

| At least one trained spotter will be present at each working face whenever waste is being processed for disposal. ~~In addition,~~ sSpotters participate in 8 hours of initial training that include spotting at Construction and Demolition Sites, Landfills, and transfer Stations and/or Waste Screening and Identification for Landfill Operators and Spotters conducted by the University of Florida TREEO Center. Every three (3) years, Spotters participate in continuing education courses totaling four hours. The spotters who attend the training courses at TREEO or other approved providers receive a Certificate of Completion.

The County typically uses equipment operators/spotters, trained in accordance with F.A.C. 62-701.320(15), to perform spotter duties at the active disposal area to visually screen incoming waste.

| 2.1.2 Training Administration

The County's Environmental Compliance Coordinator (Environmental Specialist III) has been designated as the person in charge of the administrating the training program to ensure the operators and spotters are registered for the training courses and obtaining their certifications and renewals prior to expiration.

It is acknowledged that all training courses for the County Operators and Spotters, whether public or in-house, shall be approved by the Department in accordance with Section 403.716, F.S., and that a third party must administer any examination required by this sub-section for an in-house operator-training program.

It is acknowledged that any other in-house operator-training program must be administered by a trained operator, and that the Training Plan, along with records documenting how the Training Plan is being implemented, shall be kept at the Facility at all times and be made available for inspection by Department staff.

2.1.3 Certified Operators and Spotters

The following list provides the current landfill personnel whom are certified for landfill operations and spotters. This list is continuously updated by the Environmental Compliance Coordinator.

CERTIFICATION INFORMATION VOLUSIA COUNTY SOLID WASTE DIVISION								
NAME	POSITION	ASSIGNED TO	TRACK	EXP Date	Con Ed Hours			
					Have	Bal Need	Req'd	Have for next period
BEY, MARTIN	LANDFILL SUPERVISOR	TOMOKA	LANDFILL OPERATOR	02/06/09	47	0	16	0
			TRANSFER STA OPER	02/28/09	16	0	16	0
			SPOTTER	EXPIRED	0	0	4	0
			C&D LANDFILL OPER	02/06/09	0	16	16	0
CORBIN, MICHAEL	EO II	TOMOKA	STANDARD LANDFILL	11/17/08	0	16	16	0
			C&D LANDFILL OPER	11/17/08	0	16	16	0
CERNAI, MICHEL	EO II	TOMOKA	STANDARD LANDFILL	12/07/09	0	16	16	0
			SPOTTER	08/06/09	0	4	4	0
DANIELS, DUANE	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	0
DAUGHERTY, MERRELL	EO III	TOMOKA	SPOTTER	08/20/08	0	4	4	0
DOUGLAS, RICHARD WAYNE	EO III	TOMOKA	SPOTTER	08/05/09	0	4	4	0
DYKES, BARBARA	LANDFILL ATTENDANT	TOMOKA	SPOTTER	11/17/08		4	4	0
ELLIS, CHRIS	SUPERVISOR III	TOMOKA	STANDARD LANDFILL	11/18/08				
			C&D LANDFILL OPER	11/18/08		16	16	0
FAIRCLOTH, JEFFERY	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	0
GUILLO, THOMAS	EO II	TOMOKA	SPOTTER	11/17/08	0	0	4	0
HARGREAVE, JOSEPH	EO III	TOMOKA	SPOTTER	11/17/08	0	0	4	0
HELEFRICH, JEFFREY	EO III	TOMOKA	SPOTTER	08/05/09	0	4	4	0
HUBBARD, RANDY	EO III	TOMOKA	SPOTTER	11/17/11	0	4	4	0
			STANDARD LANDFILL	11/18/09	0	16	16	0
JONES, JEFFREY S.	EO III	TOMOKA	TRANSFER STA OPER	11/18/06	4	4	8	4
			MRF OPER	11/18/06	4	4	8	4
KELLIHER, BRUCE	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	
LAWSON, DAVID	MWII	TOMOKA	SPOTTER	03/11/11	0	4	4	0
LOPEZ NIEVES, VICTOR M	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4	
MCCONNELL, MICHAEL	EO III	TOMOKA	SPOTTER	03/20/08	8	0	4	
NORMAN, WILLIE	EO III	TOMOKA	SPOTTER	03/11/11	0	4	4	0
PALMATIER, RONNEY GENE	SUPERVISOR IV	TOMOKA	STANDARD LANDFILL	11/17/08	-	-	16	-
PALMER, VICTOR LOUIE	EO III	TOMOKA	SPOTTER	08/05/06	0	4	4	
PETERSON, SAMUEL	EO III	TOMOKA	SPOTTER	02/27/13	0	4	4	0
POWERS, GREGORY	EO III	TOMOKA	STANDARD LANDFILL	05/18/07	4	12	16	
			TRANSFER STA OPER	11/16/07	0	16	16	
QUINN, CHARLES	ENVIRONMENTAL TECH	TOMOKA	TRANSFER STA OPER	07/21/09	0	8	8	
SOUSA, MICHAEL	EO III	TOMOKA	SPOTTER	03/20/08	0	4	4	
STIRK, JENNIFER	ENVIRONMENTAL SPEC III	TOMOKA	STANDARD LANDFILL	11/17/08			16	

STONE, PETER J	EO III	TOMOKA	SPOTTER	08/05/06	4	0	4
WILLIAMS, DENNIS	EO III	TOMOKA	SPOTTER	08/06/06	4	0	4
WOULARD, KORY	EO III	TOMOKA	SPOTTER	08/06/09	0	4	4

2.2 DESIGNATION OF PERSONS RESPONSIBLE FOR OPERATION AND MAINTENANCE (RULE 62-701.500(2)(A), F.A.C.)

The persons directly responsible for major components of the landfill follow:

<u>Component</u>	<u>Responsible Party</u>
Overall County Solid Waste Operations Responsibility	Solid Waste Division Director
Landfill Operations and Maintenance	Landfill Supervisor
Permitting Requirements	Environmental Compliance Director
Water Quality and Leachate Testing	Environmental Compliance Director

The Landfill Supervisor has overall responsibility for the operation and maintenance of the landfill solid waste receiving, processing, and disposal activities. The Landfill Supervisor is responsible for the day-to-day implementation of the operations plan and, along with the Solid Waste Division Director, is responsible for environmentally safe operations in accordance with the state and federal regulations. The Environmental Specialist III is responsible for compliance with permit conditions and reporting requirements.

2.3 CONTINGENCY OPERATIONS FOR EMERGENCIES (RULE 62-701.500(2)(B), F.A.C.)

Emergencies that result in disruption of normal operations at the Tomoka Farms Road Landfill for more than 24 hours and that would result in the landfill being unable to comply with its permit must be reported to FDEP-Central District Office at (407)894-7555. The contingency plan for the facility addresses the following four potential emergencies:

- Equipment failure
- Unusual operating conditions resulting from poor weather conditions
- Accidents
- Fire
- Unavailable landfill capacity

2.3.1 Emergency Assistance

Emergency telephone numbers are listed below. This table will be updated as needed and an up-to-date version will be posted at the landfill operations office.

EMERGENCY TELEPHONE NUMBERS

Organization	Phone Number
Tomoka Farms Road Landfill On-site Phone:	(386) 947-2952
Primary Emergency Response:	911
Fire Department (County):	(386) 254-4657
Hospital: Halifax Medical Center 303 N. Clyde Morris Blvd. Daytona Beach, FL 32174	(386) 254-4000 (switchboard) (386) 254-4100 (emergency line)
Ambulance: EVAC Ambulance Service	(386) 252-4911
Hazardous Material Contractor: Clean Harbor Environmental Services	(800) 699-8916
Sheriff:	(386) 248-1777
Operation Supervisor: Martin Bey Chet Purves Cell:	(386) 527-63353 (386) 767 586-67956060
Home:	(386) 947-2952
Office:	
Environmental Specialist: Cell:	(386) 527-6336
Home:	(386) 960-6670
Jennifer Stirk Office:	(386) 947-2952
Solid Waste Services Director: Cell:	(386) 527-6332
Leonard Marion Home:	(407) 957-6097
Office:	(386) 943-7889
Florida Department of Environmental Protection Main Reception:	(407) 894-7555
Solid Waste Section:	(407) 893-332882
Poison Control Assistance	(800) 222-1222
State Warning Point	(800) 320-0519

2.3.2 Equipment Failure

In the event of equipment failure at the Tomoka Farms Road Landfill, sufficient backup equipment is available at the landfill site for equipment breakdowns and downtime associated with normal routine equipment maintenance. In the case of major equipment failure, the following procedures will be followed:

- Arrangements with other County departments and/or contractors will be made to furnish equipment on a short-term basis.
- Applicable site operations will cease until equipment capacity is restored.
- Contact rental equipment dealers to furnish equipment on short-term notice.

In the event of equipment failure, the Landfill Supervisor will be notified. Within 24 hours of notification of the Landfill Supervisor, the equipment will be replaced with back-up capability if necessary, or repaired and placed back in operating condition.

Equipment that could require the use of backup or rental equipment for continued, normal operation of the Tomoka Farms Road Landfill may include:

- Landfill Compactor
- Dozer
- Off-Road Dump Truck
- Back-hoe
- Water Truck

All equipment maintenance will either be performed by Volusia County or will be contracted by Volusia County to a maintenance contractor.

2.3.3 Poor Weather Conditions

Unusual operating conditions could result from excessive rainfall and electrical storms. The type and volume of materials to be disposed of after a hurricane or excessive storms differ from normal landfill operations. During extremely high wind conditions or electrical storms, disposal operations will be temporarily suspended to protect the workers. Disposal operations will be suspended immediately before and during a hurricane or tornado.

During rainy weather, access to the working face along on-site roads must be maintained. It may be necessary to grade out ruts more frequently than during normal operations, or it may be necessary to apply additional material to the on-site access roads to counteract the effects of rain.

2.3.4 Natural Disasters

In the event of a natural disaster, such as a hurricane, the Tomoka Farms Road Landfill will continue normal operations until unsafe weather exist. Normal operations will resume after threatening weather conditions subside.

2.3.5 Procedures Prior to Storm

Prior to the arrival of a severe storm or hurricane, operations at the Tomoka Farms Road Landfill will continue for as long as the Division Director or Operations Supervisor determines that operations can be safely conducted. Beginning 24 – 48 hours prior to the storms arrival, the following will occur:

- Materials and debris that could pose an airborne hazard will be moved to an inside location or secured to the ground.
- Leachate holding ponds, tankage within the leachate treatment facility (once the facility is placed in service), and the gas system will be inspected to ensure that

adequate storage capacity is available. If necessary, leachate will be transported for off-site disposal or recirculated into the active Class I cell to provide adequate capacity.

- A stockpile of soil for use as initial cover will be established in case of sudden shut down.

2.3.6 Landfill Shut-down Procedures

The following steps will be taken once it is determined that safe landfill operations can no longer continue:

- Notify on-site personnel and Solid Waste Division employees.
- Scalehouse attendants will begin notifying haulers as soon as the decision has been made to shut-down the landfill.
- Apply initial soil cover to active face. Alternate daily covers such as tarps or other materials that could be damaged or removed by high winds should not be used.
- Ensure that all personnel have exited the landfill prior to closing, and secure the facility.

2.3.7 Procedures During Severe Storms or Hurricanes

If it has been determined that operations cannot safely continue due to a severe storm or hurricane, the Tomoka Farms Road Landfill will be closed and unattended. No operations will take place during the storm.

2.3.8 Landfill Start-up Procedures

Following a severe storm or hurricane, the landfill will re-open when the Division Director determines that safe operations can resume. Prior to resuming operations, the following will occur:

- Inspect the landfill for unsafe conditions and remediate as necessary.
- Inspect leachate and gas systems for damage.
- Ensure safe, adequate access to the working face(s).
- If electrical power service is interrupted, utilize generators or other sources of back-up power, as needed, for normal operations.
- If scales are not operational, the volume of incoming waste will be estimated and repairs to the scale system will be initiated.

2.3.9 Management of Excess Leachate

Severe storms or hurricanes are likely to result in leachate generation rates above those observed during normal weather conditions. Following a severe storm or hurricane, the leachate levels in the storage ponds (and tankage within the leachate treatment system, once it is placed in service) will be observed to ensure that the ponds do not overflow. Leachate recirculation is the first option for managing excessive leachate generation. However, in the unlikely event that leachate must be transported off-site for disposal and no disposal facility is available due to the storm, temporary storage tanks may be used until disposal capacity is available.

2.3.10 Accidents

The following emergency or equipment procedures will be followed for the various types of accidents that may occur at the facility.

2.3.11 Vehicular Accidents

- Determine if personal injury has occurred. If so, contact the Landfill Supervisor.
- Determine if the vehicle(s) can be safely moved under its own power. If so, move the vehicle(s) out of the way of normal traffic flow.
- If the vehicle(s) cannot move under its own power and is interrupting traffic flow, push the vehicle(s) out of the way with site equipment or reroute traffic if serious injuries are involved.
- Notify landfill and personnel officials of the details of the accident.
- Arrange to have disabled vehicles towed from the site to maintain operations.
- Report incident to the County Risk Management Officer and other appropriate personnel.

2.3.12 Personal Injury

- Determine the nature and extent of the injuries.
- If qualified, administer emergency first aid techniques.
- Call for outside emergency assistance if necessary.
- Report incident to the Landfill Supervisor and personnel officials.
- If injuries require non-emergency medical attention, arrange to transport victim(s) to a place of professional medical care (e.g., hospital emergency room, doctor's office, clinic) by conventional means in accordance with County Safety Procedures.

- Report incident to the County Risk Management Officer and other appropriate personnel.

2.3.13 Fire

Waste loads that arrive at the landfill on fire will not be deposited at the working face. They will be deposited away from the working face on an area that has previously been covered with daily soil cover. The load will then be extinguished prior to being moved to the working face.

Small fires on the landfill working face will be extinguished with fire extinguishers when possible without endangering human health. If a fire at the landfill working face cannot be extinguished by fire extinguishers, on-site equipment will be used to spread soil over the fire thus decreasing oxygen supply to the fire.

If necessary, a temporary waste unloading area may be located as far away from the fire as possible but still within the limits of the lined disposal area where daily soil cover has previously been placed. Solid waste entering the facility will be placed in the temporary area until the fire is extinguished.

When a landfill fire is observed, the Site Supervisor will be notified immediately and shall determine if the fire can be extinguished using on-site equipment and materials or if the local fire department must be contacted for assistance. If on-site equipment and materials are not sufficient to extinguish the fire, the local fire department will be contacted by calling 911.

The first consideration when dealing with a fire is human safety. If the Site Supervisor determines that a fire cannot be safely controlled while awaiting assistance, the immediate area will be evacuated. Depending on weather and other conditions, areas where the fire may potentially spread may also be evacuated.

For any fire at the landfill, a written report will be submitted to the FDEP Central District Office within five (5) days of the fire explaining the cause of the fire, remedial actions taken, and measures taken to prevent recurrence. If the fire is of such size and/or intensity that smoke can be seen from outside the landfill, the County will make every effort to notify the Department, by phone or e-mail, within 24 hours of the fire.

2.3.14 Unavailable Landfill Capacity

It is unlikely, based on the permitted capacity of the Class I and Class III landfills, that disposal capacity would become unavailable. However, if disposal capacity is temporarily unavailable, waste will not be accepted into the landfill for disposal. Signs will be posted notifying waste haulers that the landfill is closed, identifying alternate disposal facilities, and listing a projected reopening date.

2.4 CONTROL/INSPECTION OF INCOMING WASTE (RULE 62-701.500(2)(C), F.A.C.)

All solid waste arriving at the landfill is routed through the scalehouse. Scalehouse attendants

screen visible loads for unacceptable materials including recyclables, hazardous waste, and medical waste. Scalehouse attendants at the Tomoka Farms Road Landfill typically receive spotter training in accordance with F.A.C. 62-701.320.(15)(c). From the scalehouse, vehicles are directed to either the Class I disposal, the Class III disposal area, or to the Special Waste area. The various areas will be clearly identified by signs within the landfill. If prohibited wastes are discovered, the spotter will direct the vehicle back to the scale house. If the unacceptable waste has not yet been unloaded, the person responsible for shipping the waste will be notified. If the waste has been deposited, the area of the waste load should be blocked from public access until the generator or hauler of the waste cleans up the waste. If the generator or hauler of the waste cannot be identified or is unable to remove the waste, Volusia County will be responsible for cleanup, transportation, and disposal of the waste at an appropriate waste management facility.

2.5 WEIGHING OF INCOMING WASTES (RULE 62-701.500(2)(D), F.A.C.)

Weighing of incoming wastes will be performed at the scalehouse. Each customer receives a receipt showing the type of refuse, amount, and fee. These receipts are utilized for financial accountability and to complete the necessary daily, weekly, monthly, and annual activities/materials reports required by the Florida Department of Environmental Protection (FDEP) and Volusia County.

2.6 VEHICLE TRAFFIC CONTROL AND UNLOADING (RULE 62-701.500(2)(E), F.A.C.)

All waste hauling vehicles entering the landfill must proceed to the scalehouse. Vehicles are directed to the appropriate unloading areas by the scale house attendant and assisted by signage around the landfill. The attendant will direct the vehicle to the point of unloading area compatible with the waste. Additional traffic directions will be provided, when needed, by equipment operators or spotters.

2.7 METHOD AND SEQUENCING OF FILLING WASTES (RULE 62-701.500(2)(F), F.A.C.)

The Tomoka Farms Road Landfill will be operated using the area fill method. Waste delivered to landfill will be directed to the working face area of either the Class I or Class III landfill for unloading.

Class I waste will be spread in layers approximately 2-feet in thickness and compacted. Following this method, waste will be placed in 10-foot lifts across the site. Initial cover is applied at the end of each workday. Sequencing diagrams for the Class I landfill are included as Figure 2-1, 2-2, and 2-3.

Class III waste will be spread in layers approximately 2- to 5-feet thick and compacted. Following this method, waste will be placed in 20-foot lifts across the site. An initial cover is applied weekly. The Class III landfill will be systematically filled to the elevations shown in the final grading plan included as Figure 2-4.

2.8 WASTE COMPACTION AND APPLICATION OF COVER (RULE 62-701.50(2)(G), F.A.C.)

2.8.1 Method of Filling Wastes/Compaction

The procedure for filling and compacting of the initial waste lifts over areas of exposed liner in the Class I landfill will be as follows:

- To protect the integrity of the leachate collection system and liner, driving vehicles directly over the liner will be prohibited.
- The liner will be covered with a minimum of two (2) feet of protective soil at least one week prior to the placement of waste.
- The protective soil layer is carefully placed on the liner using a low ground pressure tracked dozer approximately 1 week prior to the placement of waste. The equipment operator is directed by a spotter to ensure that the soil is placed correctly and that the equipment does not come in contact with the liner. The 2-foot minimum in-place thickness of the protective soil layer is verified by the landfill operator.
- The landfill spotter directs equipment away from the side slope liner during normal operations.
- The initial lift of waste will be 4 feet thick and selected for material that will not cause damage to the liner. The initial lift of waste will be spread with equipment that will preserve the integrity of the liner system.

The procedures for filling and compacting all waste will be as follows:

- Waste will be placed against the working face of the previous day's waste, so that the first row will act as a means of access and a berm to guide the placement of waste material for the remaining rows.
- Class I waste will be spread and completed in 2-foot lifts and compacted to approximately 1 foot in thickness by a minimum of five passes using a landfill compactor.
- Class III waste will be spread and completed in 2 to 5-foot lifts and compacted by a minimum of five passes using a landfill compactor or dozer.

2.8.2 Initial and Intermediate Cover

Cover material will be utilized to minimize vector breeding, animal attraction, and fire potential, as well as to prevent blowing litter and control odors. Initial cover will be composed of soil from the on-site stockpile, or synthetic materials such as tarps and geomembranes. Initial cover will be placed and compacted to a minimum thickness of 6 inches or equivalent.

The intermediate cover will comprise of local soil which will be placed and compacted to a minimum thickness of 12 inches.

2.8.3 Final Cover

The final cover system for the Class I landfill will be designed in accordance with Rule 62-701.600(5), F.A.C. The final cover will be placed on the intermediate cover as phases of the facility are closed. The conceptual final cover system for landfill closure, from top to bottom includes the following:

- 6-inch layer of topsoil material with surface vegetation
- 18-inch soil layer
- Composite drainage net layer (geosynthetic filter fabric with drainage net)
- 40-mil textured geomembrane

An interim barrier layer cover system, approved by the Department includes installation of exposed 60 mil HDPE Liner.

2.9 OPERATION OF GAS, LEACHATE, AND STORMWATER CONTROLS **(RULE 62-701.500(2)(H), F.A.C.)**

2.9.1 Landfill Gas Controls

An active gas collection system is being installed in the Class I cell. Passive gas vents will be installed as part of final closure for the Class III cell. If it becomes apparent prior to or at the time of closure that passive vents are not adequate to control odors or migration of landfill gas from the landfill, an active landfill gas control system will be installed. The operations plan will be updated as necessary to provide for operation and maintenance of the landfill gas controls.

2.9.2 Leachate Controls

Leachate is collected by a leachate collection and transfer system. The leachate is conveyed by gravity to leachate sumps located as shown in the Tomoka Farms Road Landfill Construction Plans. Collected leachate is currently pumped from the leachate sumps in the landfill to the two leachate storage and evaporation ponds located west of the disposal cell. In the future, leachate will be pumped to the leachate treatment facility. Once the leachate treatment facility has been placed in service, the function of the existing leachate storage ponds will change. One of the two leachate storage ponds will be used to provide additional raw leachate storage capacity, should the quantities of leachate delivered by the leachate collection system temporarily exceed plant capacity. The second leachate storage pond shall be used for the storage of leachate treatment plant effluent, should the effluent quantities temporarily exceed the capacity of the spray fields, in conjunction with requirements for dust control and sideslope irrigation. Please refer to Chapter 4 of the Preliminary Design Report (PDR), provided with the minor permit modification application for the leachate treatment facility submitted to FDEP in

August, 2008, for a process flow diagram that details the future management of leachate flows. Additional information is also provided in Section 8.0 of this operations plan.

Leachate generation will be minimized by operating a single working face and keeping the working face as small as possible. The County's goal is to operate a working face no larger than approximately 150' by 200' under normal operating conditions. Daily and/or intermediate cover will be placed on slopes to promote stormwater runoff. The mixing of stormwater with leachate will be minimized by grading the daily and/or intermediate cover away from the working face and by using soil berms to direct stormwater runoff away. Swales and conveyance ditches will also be used to collect and transport stormwater to stormwater management facilities.

2.9.3 Stormwater Controls

Operation of the existing stormwater system is discussed in Section 10.0 of this operations plan. The stormwater system will be managed as required by Rule 62-701.500(10), F.A.C., to meet applicable standards for Rule 62-302, F.A.C., and Rule 62-330, F.A.C. The system shall minimize stormwater from entering waste filled areas and avoid the mixing of stormwater with leachate. All stormwater conveyances shall be inspected at least weekly to verify adequate performance. Conveyances not performing adequately will be repaired within three (3) working days. Documentation of all inspections and repairs will be kept on file at the landfill office.

2.10 WATER QUALITY MONITORING (RULE 62-701.500(2)(I), F.A.C.)

Groundwater, surface water, and leachate monitoring will be conducted as described in the Tomoka Farms Road Landfill Groundwater and Leachate Monitoring Plan, which is kept in the landfill office.

2.11 MAINTAINING AND CLEANING THE LEACHATE COLLECTION SYSTEM (RULE 62-701.500(2)(J), F.A.C.)

The leachate system at the landfill consists of collection, pumping, storage, and disposal facilities. A sequencing batch reactor (SBR) to be placed in service in 2010 will provide on-site leachate treatment in the future.

Maintenance of the leachate pumping facilities is performed as specified in the manufacturer's manuals kept on file in the landfill office. Inspection and cleaning of the leachate collection system will be performed every 5 years.

SECTION 3

OPERATING RECORDS (RULE 62-701.500(3), F.A.C.)

Volusia County will maintain a separate operating record for the Class I and Class III landfills. The operating record will consist of all records, reports, analytical results, and all notifications as required by Rule 62-701, F.A.C. These records are considered an integral part of the operations plan and will be kept at or near the facility. The operating records will be available for inspection at reasonable times upon request by FDEP personnel.

The Volusia County Solid Waste Management Division Director will be responsible for the storage and filing of all operational records. The minimum records to be kept as part of the official operating record include the following:

- Current permits and applications
- Monthly waste disposal records (volume, weight, or truckloads)
- Random load checking records
- Leachate quantities, sampling, and analysis
- On-site rain gauge data
- Monthly leachate operating reports (FDEP monthly facility report)
- Leachate Treatment Facility Operations Reports (once the facility has been placed in service)
- Annual estimates of remaining capacity (permitted disposal) in cubic yards
- Regulatory agency inspection reports
- Groundwater, surface water, and leachate sampling plan, including well construction information, sampling locations, and water quality sampling results
- All official notifications to or from FDEP regarding the facility
- Training verifications/certifications
- Landfill operations plan, including all supplementary material incorporated by reference
- Leachate tank inspection records

SECTION 4

WASTE RECORDS (Rule 62-701.500(4), F.A.C.)

Each month, a report of the amount of waste received, in tons, will be compiled. This report will include best estimates of the amounts of the following waste types based on type of hauler and tip fee rates:

- Household waste;
- Commercial waste;
- Ash residue;
- Incinerator by-pass waste;
- Construction and demolition debris;
- Treated biomedical waste;
- Agricultural waste;
- Industrial waste;
- Yard trash;
- Sewage sludge;
- Industrial sludge;
- Water/air treatment sludges;
- Waste tires; and
- Class III waste.

Reports are compiled monthly and submitted on a quarterly basis to:

FDEP-Central District Office
Solid Waste Section
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

SECTION 5

ACCESS CONTROL (Rule 62-701.500(5), F.A.C.)

The entire Volusia County Landfill facility is fenced, and access is gate-controlled at all times. Figure 1-1 is a site plan of the entire landfill and illustrates the landfill access control facilities. The landfill may be operated for up to 24 hours per day, seven days per week.

SECTION 6

WASTE MONITORING (Rule 62-701.500(6), F.A.C.)

6.1 WASTE INSPECTION (RULE 62-701.500(6)(A), F.A.C.)

Volusia County has implemented a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. This program includes at least three (3) random checks by landfill personnel each week and inspection of suspicious loads, which are vehicles that have previously been determined to have delivered unauthorized waste, or loads that have unusual physical characteristics.

If any regulated hazardous wastes are identified during load checking, the following is a summary of the load inspection program.

1. Scalehouse personnel will direct at least three (3) vehicles per week of Class I waste and at least three (3) vehicles per week of Class III waste to a separate disposal area.
2. The driver of the vehicle will be asked the source of the waste by the inspector. The load will be completely discharged and spread uniformly by a front end loader so that all waste is visible.
3. The inspector will proceed to inspect the load for unauthorized waste. These shall include, but are not limited to the following:
 - Restricted materials.
 - Regulated hazardous waste.
 - Biomedical waste.
 - Used oil filters.
 - Compressed gas cylinders.
 - PCB wastes.
 - Household hazardous waste.
4. If any unauthorized items are observed, the waste will be segregated and, if possible, returned to the hauler for proper disposal.
5. The person responsible for shipping the waste will provide a manifest documenting the proper disposal of the unauthorized waste found during inspection. The manifest must indicate the corresponding identification number assigned to the waste during inspection.

6. If any regulated hazardous waste or biomedical waste is observed, the Landfill Supervisor will segregate the waste, notify FDEP, persons responsible for shipping the waste, and the generator of the waste. The waste shall be removed from the facility and disposed of properly.
7. Landfill personnel or haulers will relocate all special wastes such as tires, appliances, and lawn debris to the proper disposal areas.
8. Copies of all completed inspection reports will be maintained for the life of the landfill.
9. Vehicles that have previously been determined to have delivered unauthorized waste will be considered suspicious and may be subjected to inspection at any time and in the same manner as the random inspections.
10. Spotters are positioned on the equipment rather than on the ground. When non-conforming waste is observed, the spotter contacts a day laborer via walkie-talkie for its removal. Should a day laborer not be available, the spotter contacts the site supervisor via walkie-talkie to arrange for removal of the non-conforming material.

9.

6.2 HAZARDOUS WASTES AND HANDLING PROCEDURES (RULE 62-701.500(6)(B), F.A.C.)

No hazardous wastes will be accepted at the landfill for disposal. If unauthorized material is transported to the facility, the appropriate supervisory personnel will be notified immediately and appropriate actions taken to remove any unauthorized materials or wastes from the facility. Special wastes that are discovered will be removed from the landfill and placed in the appropriate processing area.

6.3 RECORDING INSPECTION RESULTS (RULE 62-701.500(6)(C), F.A.C.)

Results of the load checking inspections described in Section 6.1 of this document will be recorded in writing and retained at the landfill. This information will include date and time of inspection, name of hauling firm, name of driver of the vehicle, vehicle license plate number, source of waste as stated by the driver, and observations made by landfill personnel during the inspection. The inspector will sign the written record. A sample form used to document the inspection results is provided in Appendix A.

SECTION 7

WASTE HANDLING REQUIREMENTS (Rule 62-701.500(7), F.A.C.)

The following description represents waste handling requirements as required by Rule 62-701.500(7), F.A.C. Volusia County will meet or exceed the requirements at all times to minimize the potential adverse impacts to employees or public health or safety.

7.1 WASTE THICKNESS AND COMPACTION FREQUENCIES (RULE 62-701.500(7)(A), F.A.C.)

Class I waste material will be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness, or as thin as practical, by a landfill compactor before the next layer is applied.

Class III waste material will be spread in layers of approximately 2 to 5-foot in thickness and compacted as thin as practical by a landfill compactor or dozer before the next layer is applied.

7.2 FIRST LAYER OF WASTE (RULE 62-701.500(7)(B), F.A.C.)

The first lift of Class I waste placed above the liner and leachate collection system will be a minimum of four feet in compacted thickness. Waste loads in this first lift will be screened for any large, rigid objects or other materials that would damage the liner or leachate collection system.

7.3 SLOPES OF WORKING FACE (RULE 62-701.500(7)(C), F.A.C.)

The working face and side grades above land surface will be sloped at a maximum of 3 feet horizontal to 1 foot vertical rise. The lift depth will typically be a maximum of 10 feet. Lift depths may be deeper than 10 feet depending on specific operations, daily waste volumes, width of the working face, and good safety practices.

7.4 WIDTH OF WORKING FACE (RULE 62-701.500(7)(D), F.A.C.)

The working face will be wide enough to safely accommodate vehicles, unloading materials, and compacting equipment. Since the waste requires daily cover, the width of the working face will be minimized. The County's goal is to operate a working face no larger than approximately 150' by 200' under normal operating conditions.

7.5 INITIAL/DAILY COVER (RULE 62-701.500(7)(E), F.A.C.)

Initial cover to address disease vectors/animal attraction, fires, odors, blowing litter, and moisture infiltration will be placed over the Class I waste at the end of each working day. Initial cover will consist of six inches of compacted soils, mulch, residual screen material,

synthetic material such as tarps and geomembranes, or other materials as approved by the FDEP, in conformance with the requirements of F.A.C. Chapter 62-701.500(7)(E).

Initial cover will be placed over the Class III waste weekly. Initial cover will consist of six inches of compacted soils or other materials as approved by the FDEP.

7.6 INTERMEDIATE COVER (RULE 62-701.500(7)(F), F.A.C.)

If additional solid waste will not be deposited in a location within 180 days of initial cover placement, a 12-inch intermediate cover will be placed within 7 days of initial cover placement.

7.7 FINAL COVER (RULE 62-701.500(7)(G), F.A.C.)

The landfill will receive final cover as portions of the facility are closed. A description of the final cover can be found in Section 2, page 2-11 of this plan.

7.8 SCAVENGING AND SALVAGING CONTROL (RULE 62-701.500(7)(H), F.A.C.)

Scavenging is strictly prohibited at the working face of the landfill. Salvageable materials such as metals, as identified by landfill personnel, will be unloaded at designated locations away from the working face for proper placement by landfill personnel at the end of each working day.

7.9 LITTER POLICING METHODS (RULE 62-701.500(7)(I), F.A.C.)

Initial cover will provide the main litter control. Perimeter fencing will provide a barrier to blowing litter. In addition, portable litter fences will be located adjacent to the working face to prevent litter from being blown away from the working area. Temporary fencing is also mobile and easily relocated around the facility as needed. Litter outside the working area of the landfill will be picked up within 24 hours of the cessation of the event. Litter policing will include the removal of litter from the perimeter ditch.

7.10 EROSION CONTROL (RULE 62-701.500(7)(J), F.A.C.)

Soil cover erosion control measures will be integrated into landfill operations to collect and transport stormwater without exposing solid waste and leachate. These measures are identified and discussed as follows:

- Intermediate soil cover configured to collect and transport stormwater
- 4"-5" of mulch soil cover and/or sod to prevent erosion
- Regular inspection of intermediate soil cover
- Benches and lined ditches to transport concentrated volumes of stormwater runoff

7.10.1 Intermediate Soil Cover

Temporary berms to direct stormwater away from solid waste placement and compaction activities will surround the active areas of the landfill. Inactive areas will be covered with intermediate soil cover with a minimum thickness of 1 foot. The intermediate soil cover will be sloped to promote run-off and decrease infiltration of stormwater. Stormwater runoff will be controlled by using benches placed every 40 feet in vertical height.

Intermediately covered areas subject to erosion will be seeded with grass appropriate to the season as needed to control erosion. Yard waste, mulch, or sod may also be used to help control erosion.

7.10.2 Down Drains

Stormwater collected in the benches will be directed to the stormwater system located at the toe of the slope using downpipes, downchutes, or other conveyances.

7.10.3 Inspections

The intermediate soil cover will be regularly inspected for erosion damage. Repairs to any damage that is discovered will be initiated within 3 days to contain solid waste and leachate; and anything that cannot be repaired within 7 days will be reported to FDEP.

SECTION 8

LEACHATE MANAGEMENT (Rule 62-701.500(8), F.A.C.)

Leachate in the Class I landfill is collected in the leachate drainage layer that slopes to collection sumps equipped with leachate pumps. Clean outs are provided to allow access for inspection and cleaning. Leachate is pumped from the pump stations to the leachate storage ponds via force mains that run around the north and west sides of the landfill. Once the leachate treatment facility is placed in service, leachate from the pump stations shall be pumped directly to the treatment facility unless conditions warrant temporary storage in the designated leachate storage pond.

8.1 MONITORING, SAMPLING, AND ANALYSIS OF LEACHATE (RULE 62-701.500(8)(A), F.A.C.)

The Division Director is responsible for leachate monitoring, sampling, and analysis, and for providing copies of the leachate analysis to FDEP. Leachate sampling and analysis is addressed in the Tomoka Farms Road Landfill Groundwater Monitoring Plan. Sampling and analysis will be conducted by contractors meeting applicable FDEP requirements.

The leachate pump side-slope risers and leachate collection pipe clean out side-slope risers provide a mechanism to observe leachate levels through physical measurements.

8.2 OPERATION AND MAINTENANCE OF LEACHATE COLLECTION SYSTEM (Rule 62-701.500(8)(b), F.A.C.)

The Landfill Supervisor will be responsible for maintenance of the leachate systems, including the piping, pump stations, piping to the leachate storage ponds, and the spray evaporation system within these ponds. The Landfill Supervisor will also oversee the operation of the leachate treatment facility and related components, once the sequencing batch reactor has been placed in service. The equipment manufacturers have provided operation and maintenance manuals for each of the system components. Maintenance of each component will be performed in accordance with manufacturer specifications. Maintenance documentation may also include a video of the cleaning procedures. Operation and maintenance manuals include the following:

- Description of unit and component parts, including normal operating characteristics and limiting conditions.
- Operating procedures.
- Maintenance and overhaul procedures.
- Installation instructions.

- Original manufacturer's parts list, illustrations, and detailed assembly drawings.
- Spare parts ordering instructions.
- Manufacturer's printed operating and maintenance instructions.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows. This will allow determination of leachate production as a function of rainfall and provide information to assess the efficiency of leachate and stormwater management practices. Leachate generation/flow records will be kept at the facility as part of the official operation record.

Leachate pump station maintenance will include reading meters and making sure each pump is operational. Pumping rates and electrical draw will be confirmed semiannually. If these tests indicate significantly reduced performance, the pumps will be pulled for inspection and repair. A replacement pump will be installed while the repairs are being made.

If leachate flow volume is noticeably decreased, the leachate collection system will be inspected. Possible reasons for low or no flow are header collapse or header blockage. If pipe blockage is identified, the header pipe will be power jetted to remove sediment buildup. Power jetting or rodding will be done from either or both ends of the header.

8.3 LEACHATE HANDLING (IF REGULATED AS HAZARDOUS WASTE) (RULE 62-701.500(8)(B), F.A.C.)

The Landfill Supervisor is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the life of the facility. Leachate will be collected and pumped to the on-site storage and spray evaporation ponds, and disposed of by spray evaporation or by trucking to one of several wastewater treatment plants. Once the leachate treatment facility is placed in service, leachate shall be treated on site, with effluent sent to a dedicated spray field or used for dust control and/or side slope irrigation.

8.4 OFF-SITE TREATMENT (RULE 62-701.500(8)(C), F.A.C.)

At the present time, leachate that, due to precipitation volumes, cannot be managed through on-site evaporation will be transported off-site by county contractor to an Industrial Wastewater Facility for treatment. The Tomoka Farms Road Landfill will transport leachate for off-site disposal when less than one-foot of freeboard is available in the leachate storage ponds. In the future, once the treatment plant has been placed in service, the current leachate storage ponds will be used to provide supplemental storage. One pond shall be used for the storage of raw leachate that is collected from the landfill, but temporarily exceeds the capacity of the leachate treatment plant. The other pond will be dedicated to the storage of excess treated effluent, when the generation of effluent exceeds the capacity of both spray fields and the need for dust control and sideslope irrigation.

8.5 ON-SITE TREATMENT (RULE 62-701.500(8)(D), F.A.C.)

Currently, leachate evaporation is performed at the Tomoka Farms Road Landfill. Once placed in service, a SBR will provide leachate treatment. The design of the SBR is based on actual leachate quality data obtained from the TFRL, and includes provisions for plant modification as necessary to respond to changing leachate quality or quantity in future years, in accordance with Rule 62-701.500(8)(d), F.A.C.

8.6 CONTINGENCY PLAN FOR MANAGING LEACHATE (RULE 62-701.500(8)(E), F.A.C.)

Temporary pumps and emergency power generators are locally available in the event of pump failure or power interruption. Alternate wastewater treatment plants are available for leachate disposal. Therefore, complete interruption of off-site disposal capability is not anticipated.

Under current operations, leachate will be recirculated, or transported off-site for disposal, when less than one foot of freeboard is available in the leachate storage ponds. In the future, after the SBR has been placed in service, excess raw leachate will be pumped to one of the two storage ponds should the level within the tanks exceed design levels. This current and future practice is intended to maintain sufficient storage capacity in the event of a heavy rainfall event.

8.7 RECORDING LEACHATE QUANTITIES (RULE 62-701.500(8)(F), F.A.C.)

Quantities of leachate collected and removed for treatment and/or disposal are recorded and those records are maintained at the landfill. These quantities will be recorded in gallons per day.

8.8 RECORDING PRECIPITATION (RULE 62-701.500(8)(G), F.A.C.)

A rain gauge has been installed and is operated and maintained by Volusia County personnel to record precipitation at the disposal facility. Precipitation records will be maintained in the facility's operating record and will be compared with leachate generation rates.

8.9 INSPECTION AND CLEANING (RULE 62-101.500(8)(H), F.A.C.)

The leachate collection system for future cells will either be pressure cleaned or inspected by video recording after construction but prior to the initial placement of waste. Thereafter, existing leachate collection systems at the Tomoka Farms Road Landfill will be pressure cleaned or inspected by video at the time of permit renewal. Results of the cleanings and inspections are kept on file in the landfill office.

SECTION 9

LANDFILL GAS MONITORING (Rule 62-701 500(9), F.A.C.)

This Landfill Gas Monitoring Plan for the Tomoka Farms Road Landfill has been prepared in accordance with the provision of Rule 62-701.530, F.A.C. This plan includes measures of comprehensive monitoring of landfill gas (LFG) from the landfill.

9.1 LANDFILL GAS MONITORING PROBES

Seven locations around the active and closed landfill cells are monitored for the presence of LFG. These monitoring probes are located around the perimeter of the working area of the landfill. Each probe is monitored for the presence of combustible gas on a quarterly basis and the results are submitted to FDEP.

9.2 GAS PROBE MONITORING

The probes are monitored for concentrations of combustible gas using an instrument calibrated to methane and capable of measuring methane in percent by volume. Combustible gas concentrations will be converted to a percent of the lower explosive limit (LEL). Five percent methane by volume is equal to 100 percent LEL. The gas instrument is calibrated with calibration gas each day before monitoring is performed.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data are recorded. For example, if a probe is full of groundwater or suspected of being so, the comments should be noted for the monitoring round.

9.3 GAS MONITORING IN STRUCTURES

The following gas monitoring will be performed in structures at the facility:

- Enclosed buildings located within 500 feet of disposal are equipped with continuous combustible gas monitors. These monitors are designed to sound an alarm when methane concentrations exceed 25 percent LEL. The signal remains on as long as gas is present, and a red alarm light stays on after an alarm to alert personnel that methane was detected during their absence. These monitors are Macurco, Model GD-21, or similar monitors. These are factory calibrated, plug-in units that require no maintenance or calibration. The units are designed for seven to ten years of use and provide an audible beep when they need replacement.
- The inside of enclosed buildings within 500 feet of disposal areas are monitored for methane on a quarterly basis along with the perimeter probes. The sampling hose of the instrument is held above the floor and inserted into any conduit spaces or cracks that could act as conduits for LFG to enter into the structure. All monitoring is reported to the FDEP.

9.4 REPORTING

Landfill gas monitoring is reported quarterly to FDEP-Central District office at:

FDEP-Central District Office
Solid Waste Section
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Any odor complaints due to landfill gas at or beyond the property boundary are recorded and maintained on site. If methane gas is measured above 25 percent LEL in the structures, Volusia County will take all necessary steps to ensure protection of human health. Exceedances will be included in the quarterly reports to FDEP. The report will also include a description of the nature and extent of the exceedances and measures implemented in response to the exceedances.

SECTION 10

STORMWATER MANAGEMENT SYSTEM AND MAINTENANCE (Rule 62-701.500(10), F.A.C.)

The Stormwater Management System will be operated and maintained as necessary to meet the requirements of Rule 62-701.400(9), F.A.C.

10.1 STORMWATER BEST MANAGEMENT PRACTICES

The landfill will use the following stormwater best management practices (BMPs):

- Sideswales
- Grass
- Sod
- Downdrains
- Benches
- Dry retention stormwater ponds
- Pumps to transport stormwater
- Ditches

10.2 STORMWATER MAINTENANCE PROCEDURES

The stormwater management system operation and maintenance will include the following:

- All stormwater conveyance systems will be inspected periodically or after major storm events.
- Any damaged systems will be repaired.
- Accumulated sediment will be removed as necessary.
- All stormwater pumps will be serviced as specified by the pump manufacturer.

SECTION 11

EQUIPMENT AND OPERATION FEATURES (Rule 62-701.500(11), F.A.C.)

11.1 EQUIPMENT (RULE 62-701.500(11)(A), F.A.C.)

Volusia County owns a diverse mix of equipment to spread, compact, and cover the waste in the landfill. This equipment may include:

- Landfill Compactor
- Dozer
- Off-Road Dump Truck
- Back-hoe
- Water Truck

While the actual equipment at the landfill may vary, sufficient equipment will be maintained at the site to ensure proper operation of the landfill.

Normal equipment maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, and auxiliary drives) will be handled either at the maintenance facilities or at off-site service facilities.

11.2 BACKUP EQUIPMENT (RULE 62-701.500(11)(B), F.A.C.)

There is sufficient equipment available to Volusia County to maintain normal operations during equipment breakdown or during emergency operating conditions. Arrangements will be made with suppliers to obtain reserve equipment within 24 hours of equipment breakdown if sufficient equipment is not available to properly operate the landfill.

11.3 COMMUNICATION EQUIPMENT (RULE 62-701.500(11)(C), F.A.C.)

Landfill employees will be able to communicate by two-way radios, and telephones are located at the office and scalehouse.

11.4 DUST CONTROL (RULE 62-701.500(11)(D), F.A.C.)

Control of dust will be maintained by wetting roads as necessary.

11.5 FIRE PROTECTION AND FIRE FIGHTING CAPABILITIES (RULE 62-701.500(11)(E), F.A.C.)

The initial cover aids in fire prevention at the landfill. The main method of fire extinguishing is to apply soil to the burning waste. Ample soil is stockpiled on-site if needed for fire extinguishing purposes.

All key equipment and vehicles at the landfill will be equipped with fire extinguishers, and all personnel will be trained in their use. All extinguishers will be inspected regularly and repaired or replaced as needed.

Emergency services are notified telephonically using 911.

11.6 LITTER CONTROL PROGRAM (RULE 62-701.500(11)(F), F.A.C.)

Initial cover will provide the main litter control. Perimeter fencing will provide a barrier to blowing litter. In addition, portable litter fences will be located adjacent to the working face to prevent litter from being blown. Temporary fencing is also mobile and easily relocated around the facility as needed. Litter outside the working area of the landfill will be picked up as soon as possible. Litter policing will include the removal of litter from the perimeter ditch.

11.7 SIGNS (RULE 62-701.500 (11)(G), F.A.C.)

Appropriate signs will be utilized and maintained to ensure maximum safety, efficiency, and general information. Signage will include, at a minimum, facility name and operating authority, traffic flow, hours of operation, disposal rates, and restrictions or conditions of disposal.

SECTION 12

ROADS

(Rule 62-701.500(12), F.A.C.)

12.1 ALL-WEATHER ROADS (RULE 62-701.500(12)(A), F.A.C.)

All-weather roads, passable and safe under normal operating conditions, will be maintained to prevent dust, rutting, or loss of traction. Where possible, select source separated Class III materials such as roofing and concrete will be reused as road base materials. Figure 1-1 shows the locations of the access and perimeter site roads.

12.2 PERIMETER AND OTHER ON-SITE ROADS (RULE 62-701.500(12)(B), F.A.C.)

Some perimeter roads and internal roads are paved. Other on-site roads are constructed of limerock and/or stabilized soils. Limerock roads are scraped and smoothed with a road grader or dozer as necessary. When needed, roadways are wetted to control dust and to ensure high visibility. On-site roads are maintained to allow access to monitoring devices and stormwater controls, for landfill inspections, and fire fighting.

SECTION 13

RECORDKEEPING (Rule 62-701.500(13), F.A.C.)

| 13.1 PERMIT APPLICATION DOCUMENTATION (RULE 62 -701 .500(13)(A), F.A.C.)

Records of all information used to develop or support the permit applications and any supplemental information submitted to comply with Rule 62-701, F.A.C., pertaining to construction of the facility will be kept throughout the life of the facility. Records pertaining to the operation of the landfill will be kept for the life of the facility.

| 13.2 MONITORING INFORMATION (RULE 62-701.500(13)(B), F.A.C.)

Records of all monitoring information, including calibration and maintenance records and copies of all reports required by permit, will be retained for at least 10 years. Background water quality records will be kept for the life of the facility.

| 13.3 REMAINING LIFE AND CAPACITY ESTIMATE (RULE 62-701.500(13)(C), F.A.C.)

The County prepares an annual estimate of the remaining life and capacity (in cubic yards) of the existing constructed landfill and the remaining capacity and site life of other permitted areas not yet constructed. The annual estimate is based on scale house records and aerial photomapping of solid waste disposal units. The estimate is reported annually to the FDEP as part of the annual update to the closure and long-term care cost estimates.

| 13.4 ARCHIVED RECORDS (RULE 62-701.500(13)(D), F.A.C.)

The landfill may archive records that are more than five years old, if necessary. Archived records will be available for inspection within seven days of the receipt of the request.

SECTION 14

CLOSED CELL INSPECTIONS

Closed cells at the Tomoka Farms Road Landfill are inspected quarterly, at a minimum. These inspections will typically be performed during the landfill gas surface emissions monitoring. Inspections will include observations for cap integrity, differential settlement, ponding, erosion, and condition of the vegetation. Corrective actions will be initiated within three working days.