County of Volusia

Public Works Department
Solid Waste Division
3151 E. New York Avenue, DeLand, Florida 32724
Telephone (386) 943-7889 Fax (386) 943-7904

RECEIVED
MAY 07 2004
Central Dist. - DEP
CK# 176634

May 7, 2004

Mr. James N. Bradner, P.E.
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Re: Application to Renew Class III Landfill Operation Permit
Volusia County Tomoka Farms Road Landfill

Dear Mr. Bradner:

Enclosed for your review are four sets of the Application to Renew Operation Permit, Class III Disposal Cell at the Tomoka Farms Road Landfill.

As required by Rule 62-701.315, F.A.C., enclosed is check #176634 in the amount of $4,000.00, in payment of the minimum fee.

SCS Engineers has been retained as engineer of record for this project.

If you have any questions, please contact this office.

Sincerely,

Josef F. Grusauskas
Director

ADM04139

cc: Lee Powell, P.E., SCS Engineers
Susan Gaze, Environmental Specialist
file

R. TEDDER, P.E
D. LAISURE, P.E
D. HELLE, P.G

Environmental Consultants

501 N. Grandview Avenue
Suite 400
Daytona Beach, FL 32118

386 238-7770
FAX 386 238-7046
www.scsengineers.com

SCS ENGINEERS

July 7, 2004
File No. 09201053.19

Mr. James N. Bradner, P.E.
Program Manager
Solid and Hazardous Waste
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Subject: Volusia County - SW
Tomoka Farms Road Landfill, Class III
Permit Application No. SO64-0078767-019

Dear Mr. Bradner:

Provided below are responses to your correspondence dated June 4, 2004 for additional information regarding the Permit Application for Tomoka Farms Road Landfill, Class III in Volusia County. Your comments are restated in bold print, followed by our response in normal print, which is provided on behalf of Volusia County.

We have provided additional information and replacement pages in attachments to this letter, using a ~~strikethrough~~ and underline format, to facilitate review. We have included the revision date as part of the header/footer for all revised materials.

1. **The information provided for Item B-3. DEP Form #62-701.900(1), appears to be incorrect. The total disposal area for the Class III landfill minus the area used for disposal should equal the available area for solid waste disposal. Submit the revised page with the correct information.**

   Response: The total Class III area is 81.4 acres, as indicated on the application form. All of the 81.4 acres has been used for waste disposal, but most of this area is still available for additional waste placement. Page 6 of 40 of the application form has been revised to show 81.4 acres total area, 21.4 acres used, and 60 acres available.

2. **Section E.9 on Page E-2 of the report indicates that project drawings were submitted as Attachment D-1 in the 1999 permit application. Confirm that all of these drawings reflect current conditions, or provide updated drawings to reflect current conditions, signed and sealed by a professional engineer, licensed in the State of Florida.**

7. **Page J-1, Part J of the report, refers to continued construction of the C&D facility which is incorrect. Submit the revised page on the geotechnical investigation requirements with reference to the Class III facility.**

Response: Enclosed is a revised Page J-1.

SCS is submitting three copies of all requested information. Please call if you have any questions.

Sincerely,

Lee A. Powell, P.E.
Project Manager

Raymond J. Lotito
Vice President
SCS ENGINEERS

LAP/RJL:jlh

cc: Joseph Grusauskas, Volusia County

7-1-04

Environmental Consultants

501 N. Grandview Avenue
Suite 400
Daytona Beach, FL 32118

904 238-7770
FAX 904 238-7046
www.scsengineers.com

FILE COPY

SCS ENGINEERS

May 6, 2004
File No. 09201053.19

RECEIVED
MAY 07 2004
Central Dist. - DEP

Mr. James B. Bradner, P.E.
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803

Subject: Application to Renew Class III Landfill Operation Permit
Volusia County Tomoka Farms Road Landfill

Dear Mr. Bradner:

On behalf of Volusia County (County), SCS Engineers (SCS) is pleased to submit the enclosed application to renew the operation permit for the Class III cell at the Tomoka Farms Road Landfill site. Enclosed please find four (4) copies of the above referenced application and the permit application fee of $4,000.00.

If you have any questions regarding this application, please do not hesitate to give us a call.

Sincerely,

Lee A. Powell, P.E.
Project Manager
SCS ENGINEERS

Raymond J. Lanto
Vice President
SCS ENGINEERS

LAP/RJL:lap

cc: Josef Grusauskas, Volusia County (w/attachments)
Susan Gaze, Volusia County (w/attachments)

APPLICATION TO RENEW
OPERATION PERMIT
TOMOKA FARMS ROAD LANDFILL
CLASS III DISPOSAL CELL
VOLUSIA COUNTY, FLORIDA

Prepared for:

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

Prepared by:

SCS ENGINEERS
501 North Grandview Avenue, Suite 400
Daytona Beach, Florida 32118
(386) 238-7770

May 7, 2004
File No. 09201053.19

6 May, 04

APPLICATION TO RENEW OPERATION PERMIT TOMOKA FARMS ROAD LANDFILL CLASS III DISPOSAL CELL VOLUSIA COUNTY, FLORIDA

Prepared for:

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

Prepared by:

SCS ENGINEERS
501 North Grandview Avenue, Suite 400
Daytona Beach, Florida 32118
(386) 238-7770

Revised June 17, 2004
File No. 09201053.19

7 Jul 04

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

DEP Form # 62-701.900(1)
Form Title Solid Waste Management Facility Permit
Effective Date 05-27-01

DEP Application No. _____
(Filled by DEP)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS AND FORMS

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

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

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

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

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

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

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes, (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department's District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "not applicable" or "no substantial change". Information provided in support of the application shall be marked "submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

II. Application Parts Required for Construction and Operation Permits

A. Landfills and Ash Monofills - Submit parts A,B, D through T
B. Asbestos Monofills - Submit parts A,B,D,E,F,G,J,L,N, P through S, and T
C. Industrial Solid Waste Facilities - Submit parts A,B, D through T
D. Non-Disposal Facilities - Submit parts A,C,D,E,J,N,S and T

NOTE: Portions of some parts may not be applicable.

NOTE: For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A,B,C and D type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

III. Application Parts Required for Closure Permits

A. Landfills and Ash Monofills - Submit parts A,B,M, O through T
B. Asbestos Monofills - Submit parts A,B,N, P through T
C. Industrial Solid Waste Facilities - Submit parts A,B, M through T
D. Non-Disposal Facilities - Submit parts A,C,N,S and T

NOTE: Portions of some parts may not be applicable.

IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.

V. Application Codes

S	-	Submitted
LOCATION	-	Physical location of information in application
N/A	-	Not Applicable
N/C	-	No Substantial Change

VI. LISTING OF APPLICATION PARTS

PART A: GENERAL INFORMATION

PART B: DISPOSAL FACILITY GENERAL INFORMATION

PART C: NON-DISPOSAL FACILITY GENERAL INFORMATION

PART D: PROHIBITIONS

PART E: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

PART F: LANDFILL PERMIT REQUIREMENTS

PART G: GENERAL CRITERIA FOR LANDFILLS

PART H: LANDFILL CONSTRUCTION REQUIREMENTS

PART I: HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

PART J: GEOTECHNICAL INVESTIGATION REQUIREMENTS

PART K: VERTICAL EXPANSION OF LANDFILLS

PART L: LANDFILL OPERATION REQUIREMENTS

PART M: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

PART N: SPECIAL WASTE HANDLING REQUIREMENTS

PART O: GAS MANAGEMENT SYSTEM REQUIREMENTS

PART P: LANDFILL CLOSURE REQUIREMENTS

PART Q: CLOSURE PROCEDURES

PART R: LONG TERM CARE REQUIREMENTS

PART S: FINANCIAL RESPONSIBILITY REQUIREMENTS

PART T: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE
A SOLID WASTE MANAGEMENT FACILITY

Please Type or Print

A. GENERAL INFORMATION

1. Type of facility (check all that apply):

[✔] Disposal
- [ ] Class I Landfill
- [ ] Class II Landfill
- [✔] Class III Landfill
- [ ] Other Describe: _____
- [ ] Ash Monofill
- [ ] Asbestos Monofill
- [ ] Industrial Solid Waste

[ ] Non-Disposal
- [ ] Incinerator For Non-biomedical Waste
- [ ] Waste to Energy Without Power Plant Certification
- [ ] Other Describe: _____

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC; Land Clearing Disposal Facilities should notify on Form 62-701.900(3), FAC; Compost Facilities should apply on Form 62-701.900(10), FAC; and C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:
- [ ] Construction
- [✔] Operation
- [ ] Construction/Operation
- [ ] Closure

3. Classification of application:
- [ ] New
- [✔] Renewal
- [ ] Substantial Modification
- [ ] Intermediate Modification
- [ ] Minor Modification

4. Facility name: Tomoka Farms Road Landfill Class III Cell

5. DEP ID number: _____ County: Volusia

6. Facility location (main entrance): 1990 Tomoka Farms Road
Daytona Beach, FL

7. Location coordinates:

Section: 10 Township: 16S Range: 32E

Latitude: 29 ° 07 ' 53 " Longitude: 81 ° 05 ' 31 "

8. Applicant name (operating authority): Volusia County Solid Waste Department

Mailing address: 3151 East SR 44 (Street or P.O. Box) DeLand (City) FL (State) 32724 (Zip)

Contact person: Josef Grusauskas Telephone: (386) 943-7889

Title: Director of Solid Waste

jgrusauskas@co.volusia.fl.us (E-Mail address (if available))

9. Authorized agent/Consultant: SCS Engineers

Mailing address: 501 N. Grandview Ave., Ste. 400 (Street or P.O. Box) Daytona Beach, (City) FL (State) 32118 (Zip)

Contact person: Lee A. Powell, P.E. Telephone: (386) 238-7770

Title: Project Manager

lpowell@scsengineers.com (E-Mail address (if available))

10. Landowner(if different than applicant): Same

Mailing address: (Street or P.O. Box) (City) (State) (Zip)

Contact person: Telephone: ( )

(E-Mail address (if available))

11. Cities, towns and areas to be served: Volusia and Flagler Counties

12. Population to be served:

Current: 539,912 Five-Year Projection: 579,541

13. Date site will be ready to be inspected for completion: Currently operating

14. Expected life of the facility: 9 years

15. Estimated costs:

Total Construction: $ N/A Closing Costs: $ 4,423,650

16. Anticipated construction starting and completion dates:

From: To: Currently operating

17. Expected volume or weight of waste to be received:

yds^3/day 320 tons/day gallons/day

B. **DISPOSAL FACILITY GENERAL INFORMATION**

1. Provide brief description of disposal facility design and operations planned under this application:

Volusia County is applying for a permit to renew the operating permit for the existing Class III cell at the County's Tomoka Farms Road Landfill

2. Facility site supervisor: Martin Bey

Title: Supervisor Telephone: (386) 947-2952

mbey@co.volusia.fl.us
E-Mail address (if available)

3. Disposal area: Total 81.4 acres; Used 81.4 acres; Available 60 acres. (excludes acreage available in the East Cell)

4. Weighing scales used: [✔] Yes [ ] No

5. Security to prevent unauthorized use: [✔] Yes [ ] No

6. Charge for waste received: _____ $/yds^3 28 $/ton

7. Surrounding land use, zoning:

[ ] Residential	[ ] Industrial
[✔] Agricultural	[✔] None
[ ] Commercial	[ ] Other Describe: _____

8. Types of waste received:

[✔] Residential	[✔] C & D debris
[✔] Commercial	[ ] Shredded/cut tires
[ ] Incinerator/WTE ash	[ ] Yard trash
[ ] Treated biomedical	[ ] Septic tank
[ ] Water treatment sludge	[ ] Industrial
[ ] Air treatment sludge	[ ] Industrial sludge
[✔] Agricultural	[ ] Domestic sludge
[ ] Asbestos	
[ ] Other Describe: _____	

9. Salvaging permitted: [ ] Yes [✔] No

10. Attendant: [✔] Yes [ ] No Trained operator: [✔] Yes [ ] No

11. Spotters: Yes [✔] No [ ] Number of spotters used: 1 per working face

12. Site located in: [ ] Floodplain [ ] Wetlands [ ] Other Uplands

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Central Dist. - DEP

B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:

Volusia County is applying for a permit to renew the operating permit for the existing Class III cell at the County's Tomoka Farms Road Landfill

2. Facility site supervisor: Martin Bey

Title: Supervisor Telephone: (386) 947-2952

mbey@co.volusia.fl.us
E-Mail address (if available)

3. Disposal area: Total 81.4 acres; Used 21.4 acres; Available 60 acres.

4. Weighing scales used: [✔] Yes [ ] No

5. Security to prevent unauthorized use: [✔] Yes [ ] No

6. Charge for waste received: _____ $/yds^3 28 $/ton

7. Surrounding land use, zoning:

[ ] Residential	[ ] Industrial
[✔] Agricultural	[✔] None
[ ] Commercial	[ ] Other Describe: _____

8. Types of waste received:

[✔] Residential	[✔] C & D debris
[✔] Commercial	[ ] Shredded/cut tires
[ ] Incinerator/WTE ash	[ ] Yard trash
[ ] Treated biomedical	[ ] Septic tank
[ ] Water treatment sludge	[ ] Industrial
[ ] Air treatment sludge	[ ] Industrial sludge
[✔] Agricultural	[ ] Domestic sludge
[ ] Asbestos	
[ ] Other Describe: _____	

9. Salvaging permitted: [ ] Yes [✔] No

10. Attendant: [✔] Yes [ ] No Trained operator: [✔] Yes [ ] No

11. Spotters: Yes [✔] No [ ] Number of spotters used: 1 per working face

12. Site located in: [ ] Floodplain [ ] Wetlands [ ] Other Uplands

13. Property recorded as a Disposal Site in County Land Records: [✔] Yes [ ] No

14. Days of operation: 7 days/week, 364 days/year excluding Christmas

15. Hours of operation: M-F 7:00 a.m. - 5:30 p.m., Saturday and Sunday 8:00 a.m. - 2:00 p.m.

16. Days Working Face covered: Once per week

17. Elevation of water table: 26 Ft. (NGVD 1929)

18. Number of monitoring wells: 48

19. Number of surface monitoring points: 8

20. Gas controls used: [ ] Yes [✔] No Type controls: [ ] Active [ ] Passive

Gas flaring: [ ] Yes [✔] No Gas recovery: [ ] Yes [✔] No

21. Landfill unit liner type:

Note: The proposed modifications are independent of existing LFG recovery system installed at the Facility.

[ ] Natural soils
[ ] Single clay liner
[ ] Single geomembrane
[ ] Single composite
[ ] Slurry wall
[ ] Other Describe:
[ ] Double geomembrane
[ ] Geomembrane & composite
[ ] Double composite
[✔] None

22. Leachate collection method:

[ ] Collection pipes
[ ] Geonets
[ ] Well points
[ ] Perimeter ditch
[ ] Other Describe:
[ ] Sand layer
[ ] Gravel layer
[ ] Interceptor trench
[✔] None

23. Leachate storage method:

[ ] Tanks
[ ] Surface impoundments
[ ] Other Describe: N/A

24. Leachate treatment method:

[ ] Oxidation
[ ] Secondary
[ ] Advanced
[ ] None
[ ] Other
[ ] Chemical treatment
[ ] Settling

N/A

25. Leachate disposal method: N/A

[ ] Recirculated
[ ] Transported to WWTP
[ ] Injection well
[ ] Evaporation
[ ] Other _____
[ ] Pumped to WWTP
[ ] Discharged to surface water
[ ] Percolation ponds

26. For leachate discharged to surface waters:

Name and Class of receiving water: N/A

27. Storm Water:

Collected: [✔] Yes [ ] No

Type of treatment: Detention and Natural Treatment

Name and Class of receiving water: On-site wetland

28. Environmental Resources Permit (ERP) number or status: NS64-218726

C. NON-DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of the non-disposal facility design and operations planned under this application:

This section is not applicable.

2. Facility site supervisor: _____

Title: _____ Telephone: (___)_____

_____
E-Mail address (if available)

3. Site area: Facility _____ acres; Property _____ acres

4. Security to prevent unauthorized use: [ ] Yes [ ] No

5. Site located in: [ ] Floodplain [ ] Wetlands [ ] Other_____

6. Days of operation: _____

7. Hours of operation: _____

8. Number of operating staff: _____

9. Expected useful life: _____ Years

10. Weighing scales used: [ ] Yes [ ] No

11. Normal processing rate: _____ yd^3/day _____ tons/day _____ gal/day

12. Maximum processing rate: _____ yd^3/day _____ tons/day _____ gal/day

13. Charge for waste received: _____

14. Storm Water Collected: [ ] Yes [ ] No

Type of treatment: _____

Name and Class of receiving water: _____

15. Environmental Resources Permit (ERP) number or status: NS64-218726

_____

16. Final residue produced:

_____ % of normal processing rate _____ % of maximum processing rate

_____ Tons/day _____ Tons/day

Disposed of at:

Facility name: _____ County: _____

17. Estimated operating costs: $ _____

Total cost/ton: $ _____ Net cost/ton: $ _____

18. Provide a site plan, at a scale not greater than 200 feet to the inch, which shows the facility location and identifies the proposed waste and final residue storage areas, total acreage of the site, and any other features which are relevant to the prohibitions or location restrictions in Rule 62-701.300, FAC, such as water bodies or wetlands on or within 200 feet of the site, and potable water wells on or within 500 feet of the site.

19. Provide a description of how the waste and final residue will be managed to not be expected to cause violations of the Department's ground water, surface water or air standards or criteria

20. Provide an estimate of the maximum amount of waste and final residue that will be store on-site.

21. Provide a detailed description of the technology use at the facility and the functions of all processing equipment that will be utilized. The descriptions shall explain the flow of waste and residue through all the proposed unit operations and shall include: (1) regular facility operations as they are expected to occur; (2) procedures for start up operations, and scheduled and unscheduled shut down operations; (3) potential safety hazards and control methods, including fire detection and control; (4) a description of any expected air emissions and wastewater discharges from the facility which may be potential pollution sources; (5) a description and usage rate of any chemical or biological additives that will be used in the process; and (6) process flow diagrams for the facility operations.

22. Provide a description of the loading, unloading and processing areas.

23. Provide a description of the leachate control system that will be used to prevent discharge of leachate to the environment and mixing of leachate with stormwater. Note: Ground water monitoring may be required for the facility depending on the method of leachate control used.

24. Provide an operation plan for the facility which includes: (1) a description of general facility operations, the number of personnel responsible for the operations including their respective job descriptions, and the types of equipment that will be used at the facility; (2) procedures to ensure any unauthorized wastes received at the site will be properly managed; (3) a contingency plan to cover operation interruptions and emergencies such as fires, explosions, or natural disasters; (4) procedures to ensure operational records needed for the facility will be adequately prepared and maintained; and (5) procedures to ensure that the wastes and final residue will be managed to not be expected to cause pollution.

25. Provide a closure plan that describes the procedures that will be implemented when the facility closes including: (1) estimated time to complete closure; (2) procedures for removing and properly managing or disposing of all wastes and final residues; (3) notification of the Department upon ceasing operations and completion of final closure.

D. **PROHIBITIONS** (62-701.300, FAC)

S	LOCATION	N/A	N/C		
✔	Section D.1	___	___	1.	Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
✔	Section D.2	___	___	2.	If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (16), FAC, then document this qualification(s).
✔	Section D.3	___	___	3.	Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
✔	Section D.4	___	___	4.	Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
✔	Section D.5	___	___	5.	Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
✔	Section D.6	___	___	6.	Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
✔	Section D.7	___	___	7.	Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
✔	Section D.8	___	___	8.	Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
✔	Section D.9	___	___	9.	Provide documentation that the facility will be in compliance with the special waste for waste-to-energy facilities restrictions; (62-701.300(9), FAC)
✔	Section D.10	___	___	10.	Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
✔	Section D.11	___	___	11.	Provide documentation that the facility will be in compliance with the used oil restrictions; (62-701.300(11), FAC)

E. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL (62-701.320, FAC)

S	LOCATION	N/A	N/C		
✔				1.	Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a),FAC)
✔				2.	Engineering and/or professional certification (signature, date and seal) provided on the applications and all engineering plans, reports and supporting information for the application; (62-701.320(6),FAC)
✔	Letter			3.	A letter of transmittal to the Department; (62-701.320(7)(a),FAC)
✔	Application			4.	A completed application form dated and signed by the applicant; (62-701.320(7)(b),FAC)
✔	Separate Cover			5.	Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c),FAC)
✔	Report			6.	An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d),FAC)
✔	Section L&P			7.	Operation Plan and Closure Plan; (62-701.320(7)(e)1,FAC)
✔	Attachment L-1			8.	Contingency Plan; (62-701.320(7)(e)2,FAC)
				9.	Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing; (62-702.320(7)(f),FAC)
			✔		a. A regional map or plan with the project location;
✔	Attachment F-1				b. A vicinity map or aerial photograph no more than 1 year old;
			✔		c. A site plan showing all property boundaries certified by a registered Florida land surveyor;

S	LOCATION	N/A	N/C		PART E CONTINUED
___	_____	___	✔		d. Other necessary details to support the engineering report.
___	_____	___	✔	10.	Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g),FAC)
___	_____	___	✔	11.	For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706,FS; (62-701.320(7)(h),FAC)
✔	Section E.12	___	___	12.	Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders or permit conditions relating to the operation of any solid waste management facility in this state; (62-701.320(7)(i),FAC)
✔	Section E.13	___	___	13.	Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-702.320(8),FAC)
✔	Section E.14	___	___	14.	Provide a description of how the requirements for airport safety will be achieved including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13),FAC)
✔	Attachment L-1	___	___	15.	Explain how the operator training requirements will be satisfied for the facility; (62-701.320(15), FAC)

F. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

S	LOCATION	N/A	N/C		
✔	Attachment F-1			1.	Vicinity map or aerial photograph no more than 1 year old and of appropriate scale showing land use and local zoning within one mile of the landfill and of sufficient scale to show all homes or other structures, water bodies, and roads other significant features of the vicinity. All significant features shall be labeled; (62-701.330(3)(a),FAC)
			✔	2.	Vicinity map or aerial photograph no more than 1 year old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(b),FAC)
			✔	3.	Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(c),FAC)
			✔		a. Dimensions;
			✔		b. Locations of proposed and existing water quality monitoring wells;
			✔		c. Locations of soil borings;
			✔		d. Proposed plan of trenching or disposal areas;
			✔		e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
			✔		f. Any previously filled waste disposal areas;
			✔		g. Fencing or other measures to restrict access.
				4.	Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3)(d),FAC):
			✔		a. Proposed fill areas;
			✔		b. Borrow areas;
			✔		c. Access roads;
			✔		d. Grades required for proper drainage;
			✔		e. Cross sections of lifts;

S	LOCATION	N/A	N/C		PART F CONTINUED
___	_____	___	✔		f. Special drainage devices if necessary;
___	_____	___	✔		g. Fencing;
___	_____	___	✔		h. Equipment facilities.
				5.	A report on the landfill describing the following; (62-701.330(3)(e),FAC)
✔	Section F.5	___	___		a. The current and projected population and area to be served by the proposed site;
✔	Section F.5	___	___		b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;
✔	Section F.5	___	___		c. The anticipated facility life;
✔	Section F.5	___	___		d. The source and type of cover material used for the landfill.
✔	Section F.6	___	___	6.	Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160,FAC; (62-701.330(3)(h),FAC)
✔	Section S	___	___	7.	Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(i),FAC)

G. GENERAL CRITERIA FOR LANDFILLS (62-701.340,FAC)

___	_____	___	✔	1.	Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(4)(b),FAC)
✔	Section G.2	___	___	2.	Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(4)(c),FAC)
✔	Section G.3	___	___	3.	Describe what methods shall be taken to screen the landfill from public view where such screening can practically be provided; (62-701.340(4)(d),FAC)

H. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400,FAC)

S	LOCATION	N/A	N/C	
___	_____	___	✔	1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill; (62-701.400(2),FAC)
				2. Landfill liner requirements; (62-701.400(3),FAC)
				a. General construction requirements; (62-701.400(3)(a),FAC):
___	_____	✔	___	(1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;
___	_____	✔	___	(2) Document foundation is adequate to prevent liner failure;
___	_____	✔	___	(3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
___	_____	✔	___	(4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
___	_____	✔	___	(5) Installed to cover all surrounding earth which could come into contact with the waste or leachate.
				b. Composite liners; (62-701.400(3)(b),FAC)
___	_____	✔	___	(1) Upper geomembrane thickness and properties;
___	_____	✔	___	(2) Design leachate head for primary LCRS including leachate recirculation if appropriate;
___	_____	✔	___	(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component.

S	LOCATION	N/A	N/C	
				PART H CONTINUED
				c. Double liners; (62-701.400(3)(c),FAC)
		✔		(1) Upper and lower geomembrane thicknesses and properties;
		✔		(2) Design leachate head for primary LCRS to limit the head to one foot above the liner;
		✔		(3) Lower geomembrane sub-base design;
		✔		(4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);
				d. Standards for geosynthetic components; (62-701.400(3)(d),FAC)
		✔		(1) Field seam test methods to ensure all field seams are at least 90 percent of the yield strength for the lining material;
		✔		(2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
		✔		(3) Design of 24-inch-thick protective layer above upper geomembrane liner;
		✔		(4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer.
		✔		(5) HDPE geomembranes, if used, meet the specifications in GRI GM13;
		✔		(6) PVC geomembranes, if used, meet the specifications in PGI 1197;
		✔		(7) Interface shear strength testing results of the actual components which will be used in the liner system;
		✔		(8) Transmissivity testing results of geonets if they are used in the liner system;
		✔		(9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

S	LOCATION	N/A	N/C	PART H CONTINUED
				e. Geosynthetic specification requirements; (62-701.400(3)(e),FAC)
___	_____	✔	___	(1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
___	_____	✔	___	(2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;
___	_____	✔	___	(3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and nondestructive seam testing, seam testing location, frequency, procedure, sample size and geomembrane repairs;
___	_____	✔	___	(4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembrane and procedures for lining system acceptance;
___	_____	✔	___	(5) Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
___	_____	✔	___	(6) Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
	_____	✔	___	(7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil material and any overlying materials;
				f. Standards for soil components (62-710.400(3)(f),FAC):
___	_____	✔	___	(1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;

S	LOCATION	N/A	N/C	
___	_____	✔	___	(2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method;
___	_____	✔	___	(3) Procedures for testing in-situ soils to demonstrate they meet the specifications for soil liners;
				(4) Specifications for soil component of liner including at a minimum:
___	_____	✔	___	(a) Allowable particle size distribution, Atterberg limits, shrinkage limit;
___	_____	✔	___	(b) Placement moisture and dry density criteria;
___	_____	✔	___	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
___	_____	✔	___	(d) Minimum thickness of soil liner;
___	_____	✔	___	(e) Lift thickness;
___	_____	✔	___	(f) Surface preparation (scarification);
___	_____	✔	___	(g) Type and percentage of clay mineral within the soil component;
___	_____	✔	___	(5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field.
				3. Leachate collection and removal system (LCRS); (62-701.400(4),FAC)
				a. The primary and secondary LCRS requirements; (62-701.400(4)(a),FAC)
___	_____	✔	___	(1) Constructed of materials chemically resistant to the waste and leachate;
___	_____	✔	___	(2) Have sufficient mechanical properties to prevent collapse under pressure;
___	_____	✔	___	(3) Have granular material or synthetic geotextile to prevent clogging;
___	_____	✔	___	(4) Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;

S	LOCATION	N/A	N/C	
				PART H CONTINUED
				b. Primary LCRS requirements; (62-701.400(4)(b),FAC)
___	_____	✔	___	(1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;
___	_____	✔	___	(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
___	_____	✔	___	(3) Bottom slope design to accomodate for predicted settlement;
___	_____	✔	___	(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.
				4. Leachate recirculation; (62-701.400(5),FAC)
___	_____	✔	___	a. Describe general procedures for recirculating leachate;
___	_____	✔	___	b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
___	_____	✔	___	c. Describe procedures for preventing perched water conditions and gas buildup;
___	_____	✔	___	d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;
___	_____	✔	___	e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;
___	_____	✔	___	f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover and provide documentation that irrigation does not contribute significantly to leachate generation.

S	LOCATION	N/A	N/C	PART H CONTINUED
				5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6),FAC)
				a. Surface impoundment requirements; (62-701.400(6)(b),FAC)
___	_____	✔	___	(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
___	_____	✔	___	(2) Designed in segments to allow for inspection and repair as needed without interruption of service;
				(3) General design requirements;
___	_____	✔	___	(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
___	_____	✔	___	(b) Leak detection and collection system with hydraulic conductivity $\geq$ 1 cm/sec;
___	_____	✔	___	(c) Lower geomembrane placed on subbase $\geq$ 6 inches thick with k $\leq$ $1x10^{-5}$ cm/sec or on an approved geosynthetic clay liner with k $\leq$ $1x10^{-7}$ cm/sec;
___	_____	✔	___	(d) Design calculation to predict potential leakage through the upper liner;
___	_____	✔	___	(e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
___	_____	✔	___	(4) Description of procedures to prevent uplift, if applicable;
___	_____	✔	___	(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
___	_____	✔	___	(6) Procedures for controlling disease vectors and off-site odors.

S	LOCATION	N/A	N/C
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___

PART H CONTINUED

b. Above-ground leachate storage tanks; (62-701.400(6)(c),FAC)

(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;

(2) Describe procedures for cathodic protection if needed for the tank;

(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;

(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;

(5) Describe design to remove and dispose of stormwater from the secondary containment system;

(6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;

(7) Inspections, corrective action and reporting requirements;

(a) Overfill prevention system weekly;

(b) Exposed tank exteriors weekly;

(c) Tank interiors when tank is drained or at least every three years;

(d) Procedures for immediate corrective action if failures detected;

(e) Inspection reports available for department review.

c. Underground leachate storage tanks; (62-701.400(6)(d),FAC)

(1) Describe materials of construction;

(2) A double-walled tank design system to be used with the following requirements;

S	LOCATION	N/A	N/C
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___

PART H CONTINUED

(a) Interstitial space monitoring at least weekly;

(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

(c) Interior tank coatings compatible with stored leachate;

(d) Cathodic protection inspected weekly and repaired as needed;

(3) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling and provide for weekly inspections;

(4) Inspection reports available for department review.

d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e),FAC)

6. Liner systems construction quality assurance (CQA); (62-701.400(7),FAC)

a. Provide CQA Plan including:

(1) Specifications and construction requirements for liner system;

(2) Detailed description of quality control testing procedures and frequencies;

(3) Identification of supervising professional engineer;

(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

(5) State qualifications of CQA professional engineer and support personnel;

(6) Description of CQA reporting forms and documents;

S	LOCATION	N/A	N/C	PART H CONTINUED
___	_____	✔	___	b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;
				7. Soil Liner CQA (62-701.400(8)FAC)
___	_____	✔	___	a. Documentation that an adequate borrow source has been located with test results or description of the field exploration and laboratory testing program to define a suitable borrow source;
___	_____	✔	___	b. Description of field test section construction and test methods to be implemented prior to liner installation;
___	_____	✔	___	c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation.
				8. Surface water management systems; (62-701.400(9),FAC)
___	_____	___	✔	a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;
___	_____	___	✔	b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;
___	_____	___	✔	c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;
				9. Gas control systems; (62-701.400(10),FAC)
___	_____	✔	___	a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;
___	_____	✔	___	10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11),FAC)

I. **HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS** (62-701.410(1), FAC)

S	LOCATION	N/A	N/C		
				1.	Submit a hydrogeological investigation and site report including at least the following information:
___	_____	___	✔		a. Regional and site specific geology and hydrogeology;
___	_____	___	✔		b. Direction and rate of ground water and surface water flow including seasonal variations;
___	_____	___	✔		c. Background quality of ground water and surface water;
___	_____	___	✔		d. Any on-site hydraulic connections between aquifers;
___	_____	___	✔		e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;
___	_____	___	✔		f. Description of topography, soil types and surface water drainage systems;
___	_____	___	✔		g. Inventory of all public and private water wells within a one-mile radius of the landfill including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique and static water level;
___	_____	___	✔		h. Identify and locate any existing contaminated areas on the site;
___	_____	___	✔		i. Include a map showing the locations of all potable wells within 500 feet, and all community water suupply wells within 1000 feet, of the waste storage and disposal areas;
___	_____	___	✔	2.	Report signed, sealed and dated by PE or PG.

J. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(2),FAC)

S	LOCATION	N/A	N/C		
				1.	Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:
___	_____	___	✔		a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;
___	_____	___	✔		b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes;
___	_____	___	✔		c. Estimates of average and maximum high water table across the site;
					d. Foundation analysis including:
___	_____	___	✔		(1) Foundation bearing capacity analysis;
___	_____	___	✔		(2) Total and differential subgrade settlement analysis;
___	_____	___	✔		(3) Slope stability analysis;
___	_____	___	✔		e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;
___	_____	___	✔		f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.
___	_____	___	✔	2.	Report signed, sealed and dated by PE or PG.

K. VERTICAL EXPANSION OF LANDFILLS (62-701.430,FAC)

S	LOCATION	N/A	N/C		
___	_____	___	✔	1.	Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill or adversely affect the closure design of the existing landfill;
___	_____	___	✔	2.	Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c),FAC;
___	_____	___	✔	3.	Provide foundation and settlement analysis for the vertical expansion;
___	_____	___	✔	4.	Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected;
___	_____	___	✔	5.	Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
___	_____	___	✔	6.	Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
___	_____	___	✔	7.	Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.

L. **LANDFILL OPERATION REQUIREMENTS** (62-701.500,FAC)

✔	Section L			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),FAC)
				2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
✔	Attachment L-1			a. Designating responsible operating and maintenance personnel;
✔	Attachment L-1			b. Contingency operations for emergencies;
✔	Attachment L-1			c. Controlling types of waste received at the landfill;
✔	Attachment L-1			d. Weighing incoming waste;
✔	Attachment L-1			e. Vehicle traffic control and unloading;
✔	Attachment L-1			f. Method and sequence of filling waste;
✔	Attachment L-1			g. Waste compaction and application of cover;
✔	Attachment L-1			h. Operations of gas, leachate, and stormwater controls;
✔	Section M			i. Water quality monitoring.
		✔		j. Maintaining and cleaning the leachate collection system;
✔	Section L.3			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),FAC)
✔	Section L.4			4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4),FAC)
✔	Section L.5			5. Describe methods of access control; (62-701.500(5),FAC)
✔	Section L.6			6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6),FAC)
				7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7),FAC)
✔	Section L.7			a. Waste layer thickness and compaction frequencies;

S	LOCATION	N/A	N/C	PART L CONTINUED
___	_____	✔	___	b. Special considerations for first layer of waste placed above liner and leachate collection system;
✔	Attachment L-1	___	___	c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;
✔	Attachment L-1	___	___	d. Maximum width of working face;
				e. Description of type of initial cover to be used at the facility that controls:
✔	Attachment L-1	___	___	(1) Disease vector breeding/animal attraction
✔	Attachment L-1	___	___	(2) Fires
✔	Attachment L-1	___	___	(3) Odors
✔	Attachment L-1	___	___	(4) Blowing litter
✔	Attachment L-1	___	___	(5) Moisture infiltration
✔	Attachment L-1	___	___	f. Procedures for applying initial cover including minimum cover frequencies;
✔	Attachment L-1	___	___	g. Procedures for applying intermediate cover;
✔	Attachment L-1	___	___	h. Time frames for applying final cover;
✔	Attachment L-1	___	___	i. Procedures for controlling scavenging and salvaging.
✔	Attachment L-1	___	___	j. Description of litter policing methods;
✔	Attachment L-1	___	___	k. Erosion control procedures.
				8. Describe operational procedures for leachate management including; (62-701.500(8),FAC)
___	_____	✔	___	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;
___	_____	✔	___	c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
___	_____	✔	___	d. Agreements for off-site discharge and treatment of leachate;
___	_____	✔	___	e. Contingency plan for managing leachate during emergencies or equipment problems;

S	LOCATION	N/A	N/C		PART L CONTINUED
		✔			f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;
		✔			g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;
		✔			h. Procedures for water pressure cleaning or video inspecting leachate collection systems.
			✔	9.	Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9),FAC)
✔	Section L.10			10.	Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9); (62-701.500(10),FAC)
				11.	Equipment and operation feature requirements; (62-701.500(11),FAC)
✔	Section L.11				a. Sufficient equipment for excavating, spreading, compacting and covering waste;
✔	Section L.11				b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
✔	Section L.11				c. Communications equipment;
✔	Attachment L-1				d. Dust control methods;
✔	Attachment L-1				e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
✔	Attachment L-1				f. Litter control devices;
✔	Attachment L-1				g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
✔	Section L.12			12.	Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12),FAC)
✔	Section L.13			13.	Additional record keeping and reporting requirements; (62-701.500(13),FAC)

S	LOCATION	N/A	N/C	PART L CONTINUED
✔	Section L.13	___	___	a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
✔	Section L.13	___	___	b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
✔	Section L.13	___	___	c. Maintain annual estimates of the remaining life of constructed landfills and of other permitted areas not yet constructed and submit this estimate annually to the Department;
✔	Section L.13	___	___	d. Procedures for archiving and retrieving records which are more than five year old.

M. WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (62-701.510, FAC)

S	LOCATION	N/A	N/C		
___	_____	___	✔	1.	Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
___	_____	___	✔	a.	Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a),FAC)
___	_____	___	✔	b.	All sampling and analysis preformed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b),FAC)
				c.	Ground water monitoring requirements; (62-701.510(3),FAC)
___	_____	___	✔	(1)	Detection wells located downgradient from and within 50 feet of disposal units;
___	_____	___	✔	(2)	Downgradient compliance wells as required;
___	_____	___	✔	(3)	Background wells screened in all aquifers below the landfill that may be affected by the landfill;
___	_____	___	✔	(4)	Location information for each monitoring well;
___	_____	___	✔	(5)	Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells unless site specific conditions justify alternate well spacings;
___	_____	___	✔	(6)	Well screen locations properly selected;
___	_____	___	✔	(7)	Procedures for properly abandoning monitoring wells;
___	_____	✔	___	(8)	Detailed description of detection sensors if proposed.

S	LOCATION	N/A	N/C	PART M CONTINUED
				d. Surface water monitoring requirements; (62-701.510(4),FAC)
___	_____	___	✔	(1) Location of and justification for all proposed surface water monitoring points;
___	_____	___	✔	(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
___	_____	✔	___	e. Leachate sampling locations proposed; (62-701.510(5),FAC)
				f. Initial and routine sampling frequency and requirements; (62-701.510(6),FAC)
___	_____	___	✔	(1) Initial background ground water and surface water sampling and analysis requirements;
___	_____	___	✔	(2) Routine leachate sampling and analysis requirements;
___	_____	___	✔	(3) Routine monitoring well sampling and analysis requirements;
___	_____	___	✔	(4) Routine surface water sampling and analysis requirements.
___	_____	___	✔	g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7),FAC)
___	_____	___	✔	h. Water quality monitoring report requirements; (62-701.510(9),FAC)
___	_____	___	✔	(1) Semi-annual report requirements;
___	_____	___	✔	(2) Bi-annual report requirements signed, dated and sealed by PG or PE.

N. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

S	LOCATION	N/A	N/C		
✔	Section N.1			1.	Describe procedures for managing motor vehicles; (62-701.520(1),FAC)
✔	Section N.2			2.	Describe procedures for landfilling shredded waste; (62-701.520(2),FAC)
✔	Section N.3			3.	Describe procedures for asbestos waste disposal; (62-701.520(3),FAC)
✔	Section N.4			4.	Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
✔	Section N.5			5.	Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

O. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530,FAC)

1. Provide the design for a gas management systems that will (62-701.530(1), FAC):

✔	Section O			a.	Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
		✔		b.	Be designed for site-specific conditions;
		✔		c.	Be designed to reduce gas pressure in the interior of the landfill;
		✔		d.	Be designed to not interfere with the liner, leachate control system or final cover.

		✔		2. Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC):
		✔		3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
				4. Landfill gas recovery facilities; (62-701.530(5), FAC):
		✔		a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
		✔		b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
				c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;

PART O CONTINUED

S	LOCATION	N/A	N/C	
		✔		d. Description of procedures for condensate sampling, analyzing and data reporting provided;

N. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

S	LOCATION	N/A	N/C		
✔	Section N.1			1.	Describe procedures for managing motor vehicles; (62-701.520(1),FAC)
✔	Section N.2			2.	Describe procedures for landfilling shredded waste; (62-701.520(2),FAC)
✔	Section N.3			3.	Describe procedures for asbestos waste disposal; (62-701.520(3),FAC)
✔	Section N.4			4.	Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
✔	Section N.5			5.	Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

O. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530,FAC)

				1.	Provide the design for a gas management systems that will (62-701.530(1), FAC):
✔	Section O.1			a.	Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
✔	Section O.1			b.	Be designed for site-specific conditions;
✔	Section O.1			c.	Be designed to reduce gas pressure in the interior of the landfill;
✔	Section O.1			d.	Be designed to not interfere with the liner, leachate control system or final cover.
✔	Section O.2			2.	Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC):
✔	Section O.3			3.	Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
				4.	Landfill gas recovery facilities; (62-701.530(5), FAC):
		✔		a.	Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
		✔		b.	Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
				c.	Estimate of current and expected gas generation rates and description of condensate disposal methods provided;

PART O CONTINUED

S	LOCATION	N/A	N/C		
		✔		d.	Description of procedures for condensate sampling, analyzing and data reporting provided;

		✔		e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;
		✔		f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

P. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600,FAC)

1. Closure schedule requirements; (62-701.600(2),FAC)

✔	Section P			a. Documentation that a written notice including a schedule for closure will be provided to the Department at least one year prior to final receipt of wastes;
✔	Section P			b. Notice to user requirements within 120 days of final receipt of wastes;
✔	Section P			c. Notice to public requirements within 10 days of final receipt of wastes.

2. Closure permit general requirements; (62-701.600(3),FAC)

		✔		a. Application submitted to Department at least 90 days prior to final receipt of wastes;
				b. Closure plan shall include the following:
		✔		(1) Closure report;
		✔		(2) Closure design plan;
		✔		(3) Closure operation plan;
		✔		(4) Closure procedures;
		✔		(5) Plan for long term care;
		✔		(6) A demonstration that proof of financial responsibility for long term care will be provided.

3. Closure report requirements; (62-701.600(4),FAC)

				a. General information requirements;
		✔		(1) Identification of landfill;

___	_____	✔	___	e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;
___	_____	✔	___	f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

P. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600,FAC)

1. Closure schedule requirements; (62-701.600(2),FAC)

✔	Section P.1	___	___	a. Documentation that a written notice including a schedule for closure will be provided to the Department at least one year prior to final receipt of wastes;
✔	Section P.1	___	___	b. Notice to user requirements within 120 days of final receipt of wastes;
✔	Section P.1	___	___	c. Notice to public requirements within 10 days of final receipt of wastes.

2. Closure permit general requirements; (62-701.600(3),FAC)

✔	Section P.2	___	___	a. Application submitted to Department at least 90 days prior to final receipt of wastes;
				b. Closure plan shall include the following:
✔	Section P.2	___	___	(1) Closure report;
✔	Section P.2	___	___	(2) Closure design plan;
✔	Section P.2	___	___	(3) Closure operation plan;
✔	Section P.2	___	___	(4) Closure procedures;
✔	Section P.2	___	___	(5) Plan for long term care;
✔	Section P.2	___	___	(6) A demonstration that proof of financial responsibility for long term care will be provided.

3. Closure report requirements; (62-701.600(4),FAC)

a. General information requirements;

✔	Section P.3	___	___	(1) Identification of landfill;

S	LOCATION	N/A	N/C
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___

PART P CONTINUED

(2) Location, description and vicinity map;

(3) Total acres of disposal areas and landfill property;

(4) Legal property description;

(5) History of landfill;

(6) Identification of types of waste disposed of at the landfill.

b. Geotechnical investigation report and water quality monitoring plan required by Rule 62-701.330(3),FAC;

c. Land use information report indicating: identification of adjacent landowners; zoning; present land uses; and roads, highways right-of-way, or easements.

d. Report on actual or potential gas migration at landfills containing degradable wastes which would allow migration of gas off the landfill property;

e. Report assessing the effectiveness of the landfill design and operation including results of geotechnical investigations, surface water and storm water management, gas migration and concentrations, condition of existing cover, and nature of waste disposed of at the landfill;

4. Closure design requirements to be included in the closure design plan: (62-701.600(5),FAC)

a. Plan sheet showing phases of site closing;

b. Drawings showing existing topography and proposed final grades;

c. Provisions to close units when they reach approved design dimensions;

d. Final elevations before settlement;

e. Side slope design including benches, terraces, down slope drainage ways, energy dissipators and discussion of expected precipitation effects;

f. Final cover installation plans including:

(1) CQA plan for installing and testing final cover;

S	LOCATION	N/A	N/C	PART P CONTINUED
✔	Section P.3			(2) Location, description and vicinity map;
✔	Section P.3			(3) Total acres of disposal areas and landfill property;
✔	Section P.3			(4) Legal property description;
✔	Section P.3			(5) History of landfill;
✔	Section P.3			(6) Identification of types of waste disposed of at the landfill.
✔	Section P.3			b. Geotechnical investigation report and water quality monitoring plan required by Rule 62-701.330(3),FAC;
✔	Section P.3			c. Land use information report indicating: identification of adjacent landowners; zoning; present land uses; and roads, highways right-of-way, or easements.
✔	Section P.3			d. Report on actual or potential gas migration at landfills containing degradable wastes which would allow migration of gas off the landfill property;
✔	Section P.3			e. Report assessing the effectiveness of the landfill design and operation including results of geotechnical investigations, surface water and storm water management, gas migration and concentrations, condition of existing cover, and nature of waste disposed of at the landfill;
				4. Closure design requirements to be included in the closure design plan: (62-701.600(5),FAC)
✔	Section P.4.a			a. Plan sheet showing phases of site closing;
✔	Section P.4.b			b. Drawings showing existing topography and proposed final grades;
✔	Section P.4.c			c. Provisions to close units when they reach approved design dimensions;
✔	Section P.4.d			d. Final elevations before settlement;
✔	Section P.4.e			e. Side slope design including benches, terraces, down slope drainage ways, energy dissipators and discussion of expected precipitation effects;
				f. Final cover installation plans including:
✔	Section P.4.f			(1) CQA plan for installing and testing final cover;

S	LOCATION	N/A	N/C
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
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___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___
___	_____	✔	___

PART P CONTINUED

(2) Schedule for installing final cover after final receipt of waste;

(3) Description of drought-resistant species to be used in the vegetative cover;

(4) Top gradient design to maximize runoff and minimize erosion;

(5) Provisions for cover material to be used for final cover maintenance.

g. Final cover design requirements:

(1) Protective soil layer design;

(2) Barrier soil layer design;

(3) Erosion control vegetation;

(4) Geomembrane barrier layer design;

(5) Geosynthetic clay liner design if used;

(6) Stability analysis of the cover system and the disposed waste.

h. Proposed method of stormwater control;

i. Proposed method of access control;

j. Description of proposed final use of the closed landfill, if any;

k. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC.

5. Closure operation plan shall include: (62-701.600(6),FAC)

a. Detailed description of actions which will be taken to close the landfill;

b. Time schedule for completion of closing and long term care;

c. Describe proposed method for demonstrating financial responsibility;

d. Indicate any additional equipment and personnel needed to complete closure.

S	LOCATION	N/A	N/C	
				PART P CONTINUED
✔	Section P.4.f			(2) Schedule for installing final cover after final receipt of waste;
✔	Section P.4.f			(3) Description of drought-resistant species to be used in the vegetative cover;
✔	Section P.4.f			(4) Top gradient design to maximize runoff and minimize erosion;
✔	Section P.4.f			(5) Provisions for cover material to be used for final cover maintenance.
				g. Final cover design requirements:
✔	Section P.4.g			(1) Protective soil layer design;
✔	Section P.4.g			(2) Barrier soil layer design;
✔	Section P.4.g			(3) Erosion control vegetation;
✔	Section P.4.g			(4) Geomembrane barrier layer design;
✔	Section P.4.g			(5) Geosynthetic clay liner design if used;
✔	Section P.4.g			(6) Stability analysis of the cover system and the disposed waste.
✔	Section P.4.h			h. Proposed method of stormwater control;
✔	Section P.4.i			i. Proposed method of access control;
✔	Section P.4.j			j. Description of proposed final use of the closed landfill, if any;
✔	Section P.4.k			k. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC.
				5. Closure operation plan shall include: (62-701.600(6),FAC)
✔	Section P.5			a. Detailed description of actions which will be taken to close the landfill;
✔	Section P.5			b. Time schedule for completion of closing and long term care;
✔	Section P.5			c. Describe proposed method for demonstrating financial responsibility;
✔	Section P.5			d. Indicate any additional equipment and personnel needed to complete closure.

S	LOCATION	N/A	N/C	PART P CONTINUED
___	_____	✔	___	e. Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.
___	_____	✔	___	f. Development and implementation of gas management system required in Rule 62-701.530, FAC.
___	_____	✔	___	6. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(7),FAC)

S	LOCATION	N/A	N/C		PART P CONTINUED
✔	Section P.5			e.	Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.
✔	Section P.5			f.	Development and implementation of gas management system required in Rule 62-701.530, FAC.
		✔		6.	Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(7),FAC)

Q. CLOSURE PROCEDURES (62-701.610,FAC)

S	LOCATION	N/A	N/C		
___	_____	✔	___	1.	Survey monuments; (62-701.610(2),FAC)
___	_____	✔	___	2.	Final survey report; (62-701.610(3),FAC)
___	_____	✔	___	3.	Certification of closure construction completion; (62-701.610(4),FAC)
___	_____	✔	___	4.	Declaration to the public; (62-701.610(5),FAC)
___	_____	✔	___	5.	Official date of closing; (62-701.610(6),FAC)
___	_____	✔	___	6.	Use of closed landfill areas; (62-701.610(7),FAC)
___	_____	✔	___	7.	Relocation of wastes; (62-701.610(8), FAC)

R. LONG TERM CARE REQUIREMENTS (62-701.620,FAC)

✔	Section R.1	___	___	1.	Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
✔	Section R.2	___	___	2.	Right of property access requirements; (62-701.620(6),FAC)
✔	Section R.3	___	___	3.	Successors of interest requirements; (62-701.620(7),FAC)
✔	Section R.4	___	___	4.	Requirements for replacement of monitoring devices; (62-701.620(9),FAC)
✔	Section R.5	___	___	5.	Completion of long term care signed and sealed by professional engineer (62-701.620(10), FAC).

S. FINANCIAL RESPONSIBILITY REQUIREMENTS (62-701.630,FAC)

✔	Section S.1	___	___	1.	Provide cost estimates for closing, long term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC).
✔	Section S.2	___	___	2.	Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4)&(8), FAC).
✔	Section S.3	___	___	3.	Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5),(6),&(9), FAC).

T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Volusia County _____ is aware that statements made in this form and attached information are an application for a Class III Landfill Operation Permit from the Florida Department of Environmental Protection and certifies that the information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Signature of Applicant or Agent

Josef Grusauskas, Director
Name and Title (please type)

jgrusauskas@co.volusia.fl.us
E-Mail address (if available)

3151 East SR 44
Mailing Address

DeLand, FL 32724
City, State, Zip Code

(386) 943-7889
Telephone Number

Date: 5 May 04

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

Signature

Lee Powell, P.E.
Name and Title (please type)

35992
Florida Registration Number
(please affix seal)

SCS Engineers, 501 N. Grandview Ave, Suite 400
Mailing Address

Daytona Beach, FL 32118
City, State, Zip Code

lpowell@scsengineers.com
E-Mail address (if available)

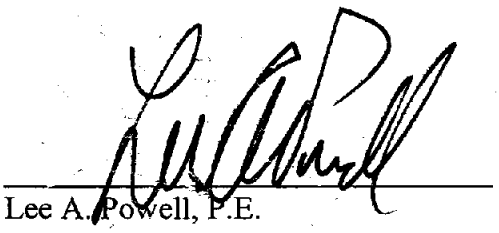
(386) 238-7770
Telephone Number

Date: 5 May 04

TOMOKA FARMS ROAD LANDFILL CLASS III DISPOSAL FACILITY
APPLICATION TO RENEW OPERATION PERMIT

This is to certify the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principals applicable to such facilities. In my professional judgement, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

CONTENTS OF ENGINEERING REPORT:



Lee A. Powell, P.E.
Florida Registration No. 35992

CONTENTS

Attachments

PART A

GENERAL REQUIREMENTS

This report presents information supporting the application to renew the operation permit for the Tomoka Farms Road Class III cell in Volusia County (County), Florida. The cell is operated under permit SO64-0078767008, issued by the Florida Department of Environmental Protection (FDEP) on August 5, 1999. This report was prepared by SCS Engineers (SCS) on behalf of Volusia County. The report is divided into sections following the permit application form.

PART B

DISPOSAL FACILITY GENERAL INFORMATION

The requested information is provided on the permit application form.

PART C

NON-DISPOSAL FACILITY GENERAL INFORMATION

Part C does not apply to this application.

PART D

PROHIBITIONS

D.1 GENERAL

Volusia County will not store, process, or dispose of solid waste except as permitted. The County will not store or dispose of solid waste in a manner or location that causes air or water quality standards to be violated.

There are eight siting restrictions listed in Rule 62-701.300(2), Florida Administrative Code (F.A.C.).

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in an area where geological formations or other subsurface features will not provide support for the solid waste. This is addressed in Part J, Geotechnical Investigation Requirements.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 500 feet of an existing or approved potable water well.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in a dewatered pit.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in an area subject to frequent and periodic flooding. This is addressed in Part G, General Criteria for Landfills.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in any natural or artificial body of water including ground water.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the FDEP. The Class III cell is constructed on top of an old Class I cell and a former Construction and Demolition Debris (C&D) disposal area. The area proposed for continuing disposal of Class III waste is outside the 200-foot limit. The County will continue to carry out side slope and drainage maintenance activity on the former Class I and C&D areas that were previously constructed within the 200-foot limit.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed on the right of way of any public highway, road, or alley.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 1000 feet of an existing or approved potable water well serving a community water system as defined in Rule 62-550.200(9), F.A.C.

D.2 EXEMPTIONS

There are five general exemptions contained in Rule 62-701.300(12) through (16), F.A.C.

Paragraph (12) applies to yard trash only. This provision does not apply to the facilities included in this Class III permit application.

Paragraph (13) applies to waste stored in tanks. This provision does not apply to the facilities included in this Class III permit application.

Paragraph (14) applies to indoor storage. This provision does not apply to the facilities included in this Class III permit application.

Paragraph (15) applies to storage in vehicles. This provision does not apply to the facilities included in this Class III permit application.

Paragraph (16) applies to facilities constructed prior to May 27, 2001. The Class III cell was permitted and constructed prior to May 27, 2001 and remains subject to the prohibitions that were in effect at the time the construction permit was issued.

D.3 BURNING

Open burning will not be performed in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

D.4 HAZARDOUS WASTE

Hazardous waste will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

D.5 PCBS

Liquids containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater, or non-liquid PCBs at concentrations of 50 parts per million or greater in the form of contaminated soil, rags, or other debris, will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

D.6 BIOMEDICAL WASTE

Biomedical waste will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

D.7 CLASS I SURFACE WATERS

There are no Class I surface waters within 3000 feet of the Class III cell. The Tomoka River north of Interstate Highway 4 is classified as "Special Waters" under Rule 62-302.700(9) F.A.C. The minimum separation between the Class III area and this portion of the Tomoka River is approximately 5700 feet. Spruce Creek south of the northern section line of Section 23 Township 16S Range 32E is also classified as "Special Waters" under Rule 62-302.700(9) F.A.C. The minimum separation between the Class III area and this portion of Spruce Creek is approximately 9600 feet.

D.8 SPECIAL WASTES FOR LANDFILLS

The following special wastes will not be disposed of in the Class III cell:

- Lead-acid batteries
- Used oil
- White goods
- Whole waste tires

This is addressed in Part L, Landfill Operation Requirements.

D.9 SPECIAL WASTES FOR WASTE TO ENERGY FACILITIES

This section is not applicable to this application.

D.10 LIQUID RESTRICTIONS

Liquid waste is not accepted for disposal in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

D.11 USED OIL

Used Oil is not accepted for disposal in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

PART E

SOLID WASTE MANAGEMENT FACILITY GENERAL REQUIREMENTS

E.1 PERMIT PACKAGE

The permit package consists of:

- Transmittal Letter
- Application Form
- Engineers Certification Sheet
- Engineering Report (containing supporting data, reports, and attachments)
- Review Application Fee

Four copies of the completed permit package are being submitted to the Florida Department of Environmental Protection.

E.2 ENGINEERS CERTIFICATION

The last page of the permit application form has been signed and sealed by the Engineer of Record. Also, a one page certification sheet has been signed and sealed by the Engineer of Record and is submitted as part of the permit package. The certification sheet outlines the contents of the engineering report.

E.3 TRANSMITTAL LETTER

The letter of transmittal is submitted as part of the permit package.

E.4 APPLICATION FORM

A completed application form is submitted as part of the permit package.

E.5 PERMIT FEE

The permit fee of $4000 in accordance with Rule 62-701.315(2)(c), F.A.C. is enclosed as part of the permit package.

E.6 ENGINEERING REPORT

The engineering report is comprised of responses to the permit application form, and includes engineering plans, reports, supporting documents, and attachments.

E.7 OPERATION PLAN AND CLOSURE PLAN

The operation plan is discussed in Part L, Operation Plan Requirements. The closure plan is discussed in Part P, Final Closure Requirements.

E.8 CONTINGENCY PLAN

The contingency plan is discussed in Part L, Landfill Operation Requirements.

E.9 DRAWINGS

The project drawings were submitted as Attachment D-1 in the 1999 permit application. These drawings included:

Sheet 1 Cover Sheet
Sheet 2 Land Use and Zoning Delineation
Sheet 3 Aerial Photo
Sheet 4 Existing Conditions Site Plan
Sheet 5 Final Grading Plan
Sheet 6 Sections
Sheet 7 Details

E.10 PROPERTY OWNERSHIP

A document verifying property ownership was presented as Attachment D-2 in the 1999 permit application.

E.11 RECYCLING GOALS

The Tomoka Farms Road Landfill, including the Class III cell, contributes toward the County's achievement of its recycling goals.

Facilities at the Tomoka Farms Road Landfill recycle used tires, yard waste, roofing shingles, appliances, and scrap metal. The paint exchange program, conducted by the County at the landfill site, also assists by diverting approximately 300 gallons of paint per month from the waste stream and allowing it to be beneficially used. The Household Hazardous Waste Collection Center diverts used oil, batteries, paint, contaminated gasoline, fluorescent light bulbs, and other hazardous materials that might otherwise have ended up in the Class I waste stream. Municipal waste sludge is processed to produce a soil product at the privately owned and operated lime stabilization facility and landfill gas collected in the adjacent closed Class I cell is used to generate electricity.

E.12 ENFORCEMENT ACTION

There are no enforcement actions against the County for operations at the Tomoka Farms Road Landfill. The County is working with the FDEP on the investigation of vinyl chloride reported in monitor wells in the southwest corner of the old landfill. The County is implementing an approved Remedial Action Plan in response to reported nitrate in the ground water at the County's Plymouth Avenue Landfill in DeLand, Florida.

E.13 PROOF OF PUBLICATION

Once the FDEP deems the construction permit application complete, the County will advertise in a newspaper of general circulation. Proof of publication for the advertisement will be submitted to the FDEP upon advertisement.

E.14 AIRPORT SAFETY

Rule 62-701.320(13) F.A.C. prohibits landfills from being located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, unless the facility is designed and is operated so that it does not pose a bird hazard to aircraft. The airport nearest the Class III cell is the Daytona Beach International Airport. This airport is located approximately 16,000 feet from the Class III cell.

Rule 62-701.320(13) F.A.C. also requires that applicants proposing to construct new landfills within a six mile radius, and applicants proposing to construct lateral expansions of existing landfills within a five-mile radius, of any licensed and operating airport runway used by turbine powered or piston engine aircraft notify the affected airport, the Federal Aviation Administration, and the Florida Department of Transportation when the application is filed with the FDEP, and provide evidence of such notification to the FDEP. This application is for the renewal of an existing operation permit and no new landfill or lateral expansion is proposed.

Rule 62-701.320(13) F.A.C. exempts solid waste management facilities which do not accept putrescible waste for disposal, processing, or recycling from the above notification requirements. The Class III cell does not accept putrescible wastes for disposal, processing, or recycling.

PART F

LANDFILL PERMIT REQUIREMENTS

F.1 AERIAL MAP

Enclosed as Attachment F-1 is an aerial photograph dated May 2003 showing the area within one mile of the Class III cell. Land use and zoning within this area is also shown on the project drawings submitted with the 199 permit application.

There have been no significant changes to the site since the aerial was flown.

F.2 AIRPORT LOCATION MAP

A vicinity map showing airports within five miles of the landfill was attached as Exhibit 1 to the County's 1996 application for an operating permit for the Class I landfill. Two airports are within this range: the Daytona Beach International Airport located approximately 3.0 miles from the Class III cell and the Spruce Creek Airport, a private airport approximately 4.2 miles from the Class III cell.

F.3 PLOT PLAN

A plot plan for the overall Tomoka Farms Road Landfill site is presented in Attachment F-2. The total contiguous property owned by the County is approximately 3400 acres, and the Class III disposal area is approximately 81.4 acres.

The plot plan shows the location of existing structures (i.e., groundwater monitoring wells, buildings, power poles, fences, etc.), and areas for disposal.

F.4 TOPOGRAPHIC MAP

An aerial topographic survey of the Class III area is provided in the Attachment F-3. The proposed final topography of the landfill is presented in Sheet 5 of the original permit drawings. The final side slopes are designed not to exceed a 25 percent grade and the final top slopes are designed not to be less than a 5 percent.

F.5 LANDFILL REPORT

The Class III cell is located on a closed Class I landfill located at the County's Tomoka Farms Road Landfill site.

F.5.a Current and Projected Population

The Tomoka Farms Road Landfill serves the populations of Volusia and Flagler County. The population of the two counties in the service area, taken from the September 2003 Florida Legislature Office of Economic and Demographic Research Demographic Estimating Conference.

TABLE F-1. SERVICE AREA POPULATION
TOMOKA FARMS ROAD CLASS III CELL
VOLUSIA COUNTY, FLORIDA

Year	Volusia County Population	Flagler County Population	Total Service Area Population
1999	433,979	46,855	480,834
2000	443,343	49,832	493,175
2001	452,050	53,061	505,111
2002	459,737	56,785	516,522
2003	470,662	61,538	532,200
2004	476,555	63,357	539,912
2005	479,416	63,550	542,966
2006	483,942	64,611	548,553
2007	490,499	66,742	557,241
2008	498,370	69,577	567,947
2009	506,810	72,731	579,541

F.5.b Type and Quantity of Solid Waste

The Class III cell accepts wastes defined as Class III wastes in Rule 62-701.200(14), including yard trash, construction and demolition debris, processed tires, carpet, cardboard, paper, glass, plastic, furniture other than appliances, and other materials approved by the FDEP. These materials are not expected to produce leachate which would pose a threat to public health or the environment. The quantities of solid waste and cover material placed in the Class III cell during the calendar years 1999 through 2003 are shown in Table F-2.

TABLE F-2. HISTORIC CLASS III WASTE LOADING TOMOKA FARMS ROAD CLASS III CELL VOLUSIA COUNTY, FLORIDA

Year	Class III Tons	Cover Material Tons	Total Tons	Class III Tons/Capita	Cover Tons Per Capita
1999	214,999	17,875	232,874	0.447	0.037
2000	255,377	50,637	306,014	0.518	0.103
2001	319,405	55,156	374,561	0.632	0.109
2002	121,204	31,671	152,875	0.235	0.061
2003	106,150	32,112	138,262	0.199	0.060

The drop in Class III waste loading between 2001 and 2002 reflects the County's increase in the fee charged for disposal of construction and demolition debris in the Class III cell. With the current disposal fee structure, the per capita loading rates for 2003 were used as the basis for projecting future waste loading rates. Combining the above population projections with the 2003 per capita loadings for Class III waste and cover material results in the load projections shown in Table F-3.

TABLE F-3. ANTICIPATED CLASS III WASTE LOADING TOMOKA FARMS ROAD CLASS III CELL VOLUSIA COUNTY, FLORIDA

Year	Class III Tons/Year	Cover Material Tons/Year	Total Tons/Year
2004	107,442	32,577	140,020
2005	108,050	32,762	140,812
2006	109,162	33,099	142,261
2007	110,891	33,623	144,514
2008	113,021	34,269	147,290
2009	115,329	34,968	150,297

F.5.c Facility Life

The active life of the Class III cell will be influenced by various factors, including future disposal rates, types of materials disposed, amounts of cover material used, in-place densities achieved, and the actual final grades. As shown in the March 2004 report, "FY02-FY03 Financial Assurance Report for the Class I Landfill, Tomoka Class III Landfill, and Plymouth Landfill", prepared by Camp Dresser & McKee, Inc., the Class III landfill capacity is expected to last through June 2013.

F.5.d Cover Material

The soil used for intermediate and final cover systems will be taken from on-site borrow pits. This material is classified as a silty-sand.

F.6 TESTING LABORATORY

The County has contracted with Elab, an environmental laboratory to provide sampling and analysis of ground and surface water at the Tomoka Farms Road Landfill. Elab is certified for environmental analysis and drinking water analysis. Elab also has an approved quality assurance plan. On March 16, 2004, the County received bids from analytical laboratories to provide sampling and analysis of ground and surface water at the Tomoka Farms Road Landfill.

F.7 FINANCIAL ASSURANCE

Financial assurance is discussed in Part S, Financial Responsibility Requirements..

ATTACHMENT F-1

AERIAL PHOTOGRAPH

PART G

GENERAL CRITERIA FOR LANDFILLS

G.1 FLOODPLAIN

Flood Insurance Rate Map Panel 125155 0289E, revised June 4, 1990, shows the project area in Zone C, an area of minimal flooding. The edge of Zone A, the area of the 100-year flood, is along the line identified on the project drawings as the edge of the wetland east of the project area. The Class III cell is constructed above the closed Class I landfill and a minimum of 200 feet from the edge of the wetland, and is therefore out of the zone of potential flooding.

G.2 PROPERTY BOUNDARY OFFSET

The distance from the toe of slope to the nearest property line is 1,000 feet, measured from the northeast corner of the Class III cell.

G.3 SCREENING

The County owns approximately 3,400 acres of property contiguous with the Class III cell. The Class III cell is well screened from public view by forested buffer areas and by the adjacent Class I landfill cells. The Class III cell is located almost a mile from I-4 and approximately three-fourths of a mile from Tomoka Farms Road.

PART H

LANDFILL CONSTRUCTION REQUIREMENTS

Landfill construction requirements are discussed in Part G of the 1999 permit application.

PART I

HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

The Hydrogeologic Investigation was discussed in Part H of the 1999 permit application.

A biennial report summarizing the and interpreting the water quality monitoring results and water level measurements is prepared and submitted to the FDEP every two years. The most recent report was submitted in February 2003. An update of this report is included in this application as Attachment I-1.

ATTACHMENT I-1

GROUNDWATER MONITORING REPORT

Environmental Consultants

501 N. Grandview Avenue
Suite 400
Daytona Beach, FL 32118

904 238-7770
FAX 904 238-7046
www.scsengineers.com

SCS ENGINEERS

May 7, 2004
File No. 09201053.19

Mr. James N. Bradner, PE
Solid Waste Program Manager
Florida Department of Environmental Protection
3319 Maguire Boulevard Suite 232
Orlando, Florida 32803-3767

Subject: Biennial Report Update, Tomoka Farms Road Landfill, Volusia County, Florida, FDEP Permit Number S064-0078767-008, Class III Cell

Dear Mr. Bradner:

On behalf of Volusia County Solid Waste Division (County), SCS Engineers (SCS) is pleased to provide the Central District of the Florida Department of Environmental Protection (FDEP) with this biennial report update of the semi-annual water monitoring activities for the Tomoka Farms Road Class III Cell (the site), Volusia County, Florida. This biennial report update was prepared in conjunction with the application to renew existing FDEP operation permit for the subject Class III cell in accordance with Chapter 62-701.510 of the Florida Administrative Code (FAC).

The Class III Cell operates under FDEP Permit No. SO64-00787-008. Paragraph 24 of the permit Ground Water Monitoring Plan Implementation Schedule requires that a technical report be prepared every two years summarizing and interpreting the water quality data and water level measurements collected during the previous four years. This technical report must also be updated at the time of permit renewal. This biennial report update supplements the biennial report prepared for the site by SCS dated February 28, 2003 for eight semi-annual sampling events conducted from June 1999 to December 2002. Since the submittal of the biennial report, semi-annual sampling events were conducted in April and October 2003. Since no additional surface water bodies or leachate collection ponds have been constructed on site, this report provides a discussion of those data generated from the semi-annual groundwater monitoring events.

GROUNDWATER MONITORING PROGRAM SUMMARY

The groundwater monitoring system is described in Specific Conditions in the permits. Groundwater is monitored through Background and Compliance wells in two hydrogeologic zones (Zone 1-2 and Zone 4) within the surficial aquifer.

Well locations for each monitored zone are shown on the site figures included in Attachment A. Groundwater samples are collected semi-annually and analyzed by an approved environmental laboratory for the parameters identified in the FDEP permits. The monitoring

data discussed in this biennial report update include the April 2003 and October 2003 monitoring periods.

Groundwater Quality Regulatory Exceedances

Attachment B includes summary tables of groundwater monitoring well water quality exceedances compiled by ELAB, Inc. and presented in the April 2003 and October 2003 semi-annual monitoring reports for the site. Groundwater samples with concentrations detected above FDEP primary and secondary drinking water standards and FDEP Groundwater cleanup target levels include the following compounds:

- Ammonia
- Benzene
- Chloride
- Iron
- pH
- Sodium
- Sulfate
- Total dissolved solids (TDS)
- Vinyl chloride

Exceedances were detected in both background and detection monitoring wells. The Primary Drinking Water Standards (PDWS) for the volatile organic compounds (VOCs) benzene and vinyl chloride were detected surrounding the Class III landfill. Currently, the Class III landfill has contamination assessment and monitoring activities for the southern side of the landfill. These activities are being conducted in the monitoring well B5 and B37 areas.

GROUNDWATER FLOW ASSESSMENT

Groundwater flow assessment activities were conducted for the shallow zone and deep zone surficial aquifer during each of the previous monitoring periods. The assessment activities included the collection of groundwater depth intervals, the calculation of groundwater elevations in the site wells, and plotting the data onto site figures depicting the estimated groundwater flow direction. Copies of the groundwater flow diagrams generated for each monitoring event are presented in Attachment A. The estimated groundwater flow direction during these periods in the shallow zone and deep zone surficial aquifer is to the north and northeast.

Groundwater flow rates were calculated in David N. Gomberg, Ph.D.'s, July 16, 2001, Tomoka Landfill: Biennial Evaluation of Monitoring Results. Site conditions have not changed since the July 2001 report.

APPROPRIATENESS OF MONITORING PROGRAM

The Tomoka Farms Road Landfill permit specifies the compliance monitoring protocol for groundwater wells, the surface water locations, leachate monitoring, and sampling frequency for the monitoring program. Additionally, the site currently is conducting contamination assessment and monitoring for volatile organic compounds in the monitoring well B5 and B37 areas of the site. The monitoring protocol for the site appears to adequately detect concentrations of parameters in the surficial aquifers monitored on the downgradient, cross-gradient, and upgradient sides of the landfill. The compliance monitoring protocol specified in the operating permit provides an appropriate monitoring program for the Tomoka Farms Road Landfill at this time.

Please contact us if you have any questions or comments regarding this correspondence.

Very truly yours,

K. Mark Tumlin
Project Manager

Lee A. Powell, P.E.
Project Manager
SCS ENGINEERS

KMT/LAP: kmt
Attachments

cc: Joseph F. Grusauskas, Volusia County Solid Waste
Susan M. Gaze, Volusia County Solid Waste

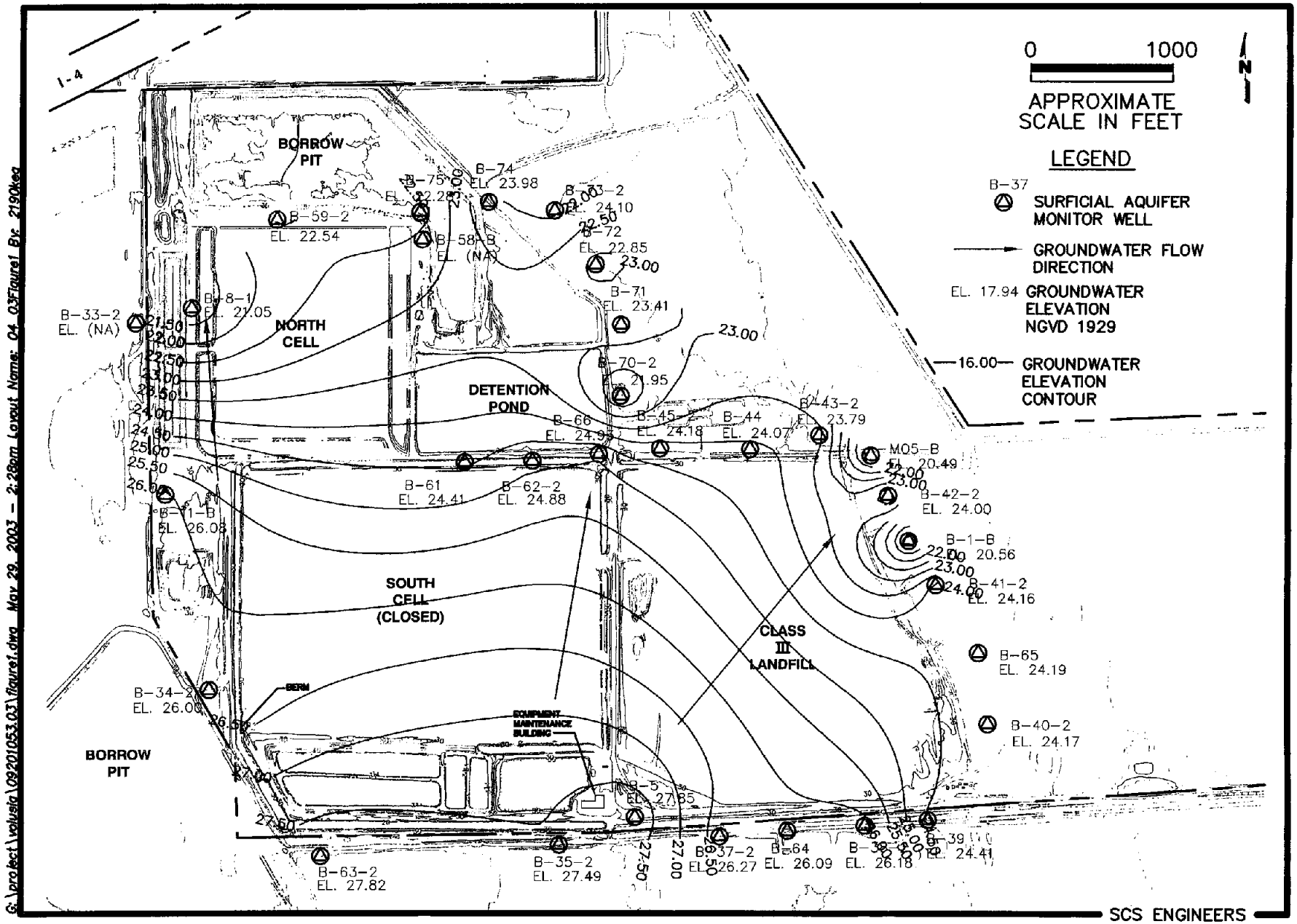
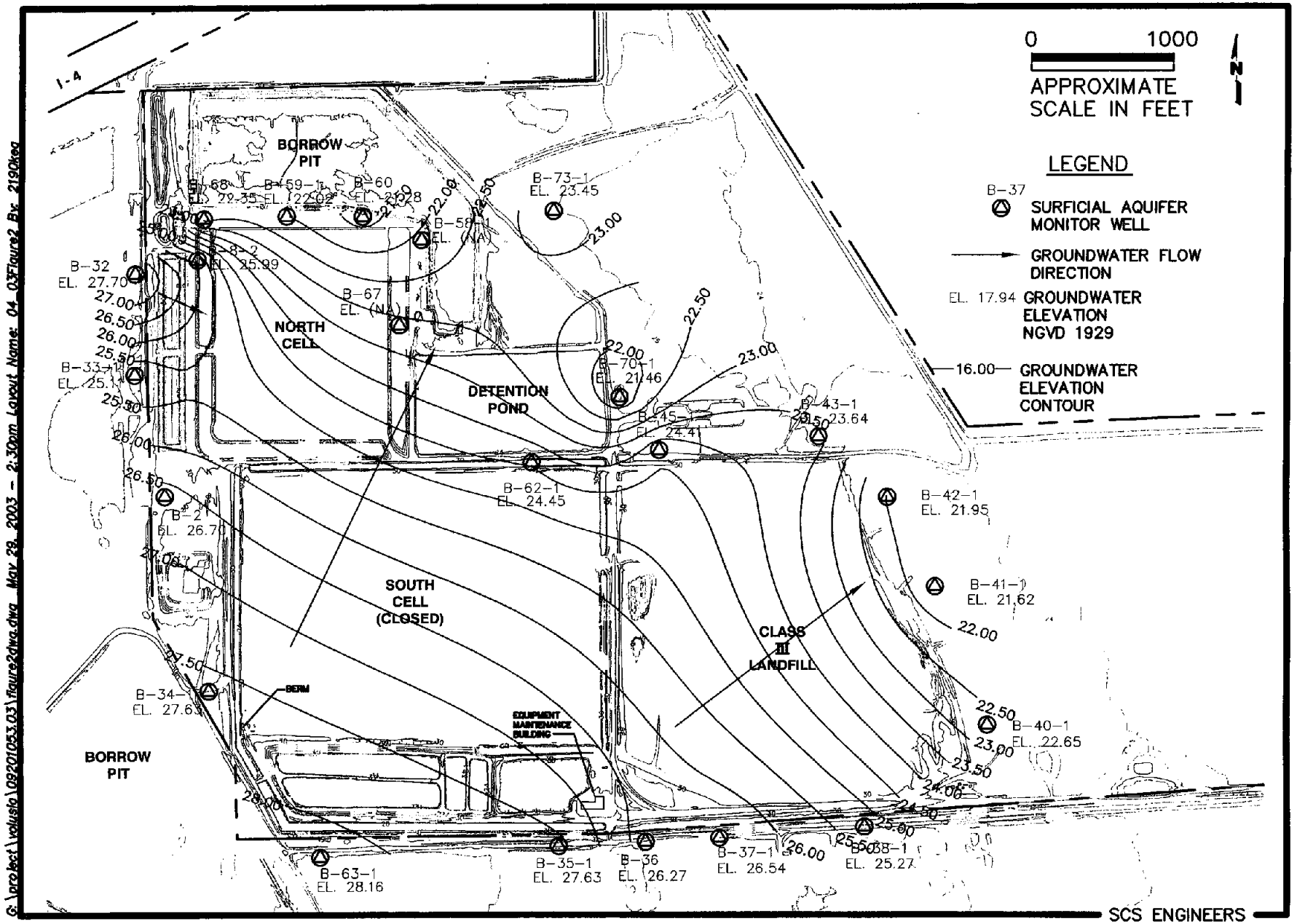


Figure 1. Groundwater Elevation Contour Map, Aquifer Zone 1–2, Tomoka Farms Road Landfill, April 2003



G:\project\volusia\09201053.03\figure2dwg.dwg May 29, 2003 - 2:30pm Layout Name: 04-03Figure2 By: 2190keg

Figure 2. Groundwater Elevation Contour Map, Aquifer Zone 4, Tomoka Farms Road Landfill, April 2003

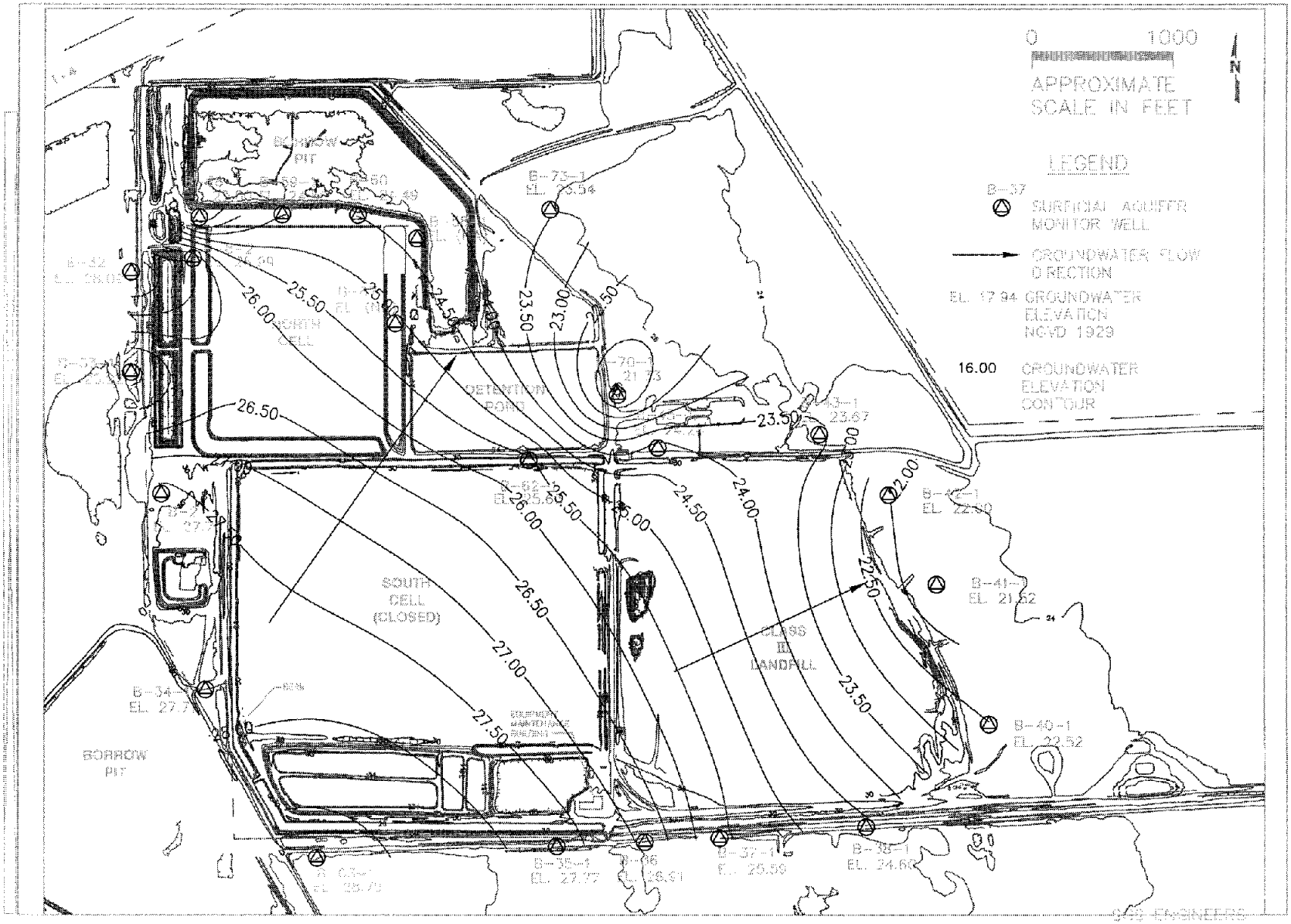


Figure 2. Groundwater Elevation Contour Map, Aquifer Zone 4, Tomoka Farms Road Landfill, October 2003

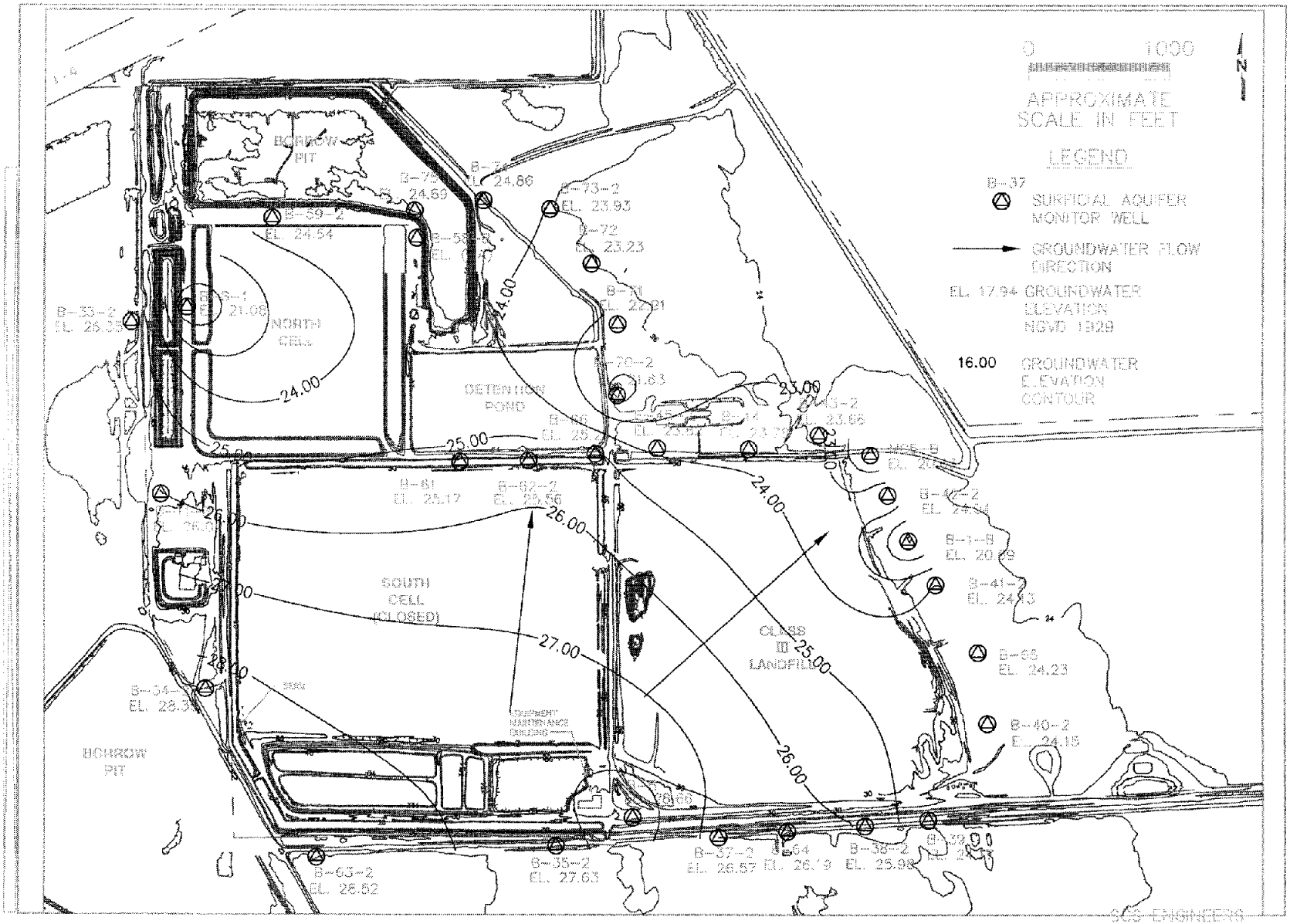


Figure 5. Groundwater Elevation Contour Map, Aquifer Zone 1—2, Tomoka Farms Road Landfill, October 2003

Tomoka Farms Road Landfill
Semi-annual Groundwater Guidance Exceedences
Sampling Date: April, 2003

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 1B	F03040432-15	IRON	23000	300	100	ug/L
B 1B	F03040432-15	pH	6.26	6.5-8.5	----	units
B 1B	F03040432-15	AMMONIA	13	2.8	0.050	mg/L
B 1B	F03040432-15	TDS	770	500	5.0	mg/L
B 2	F03040517-3	IRON	3500	300	100	ug/L
B 2	F03040517-3	TDS	750	500	5.0	mg/L
B 5B	F03040517-1	IRON	18000	300	100	ug/L
B 5B	F03040517-1	pH	6.49	6.5-8.5	----	units
B 5B	F03040517-1	TDS	530	500	5.0	mg/L
B 8-1	F03040432-3	IRON	2200	300	100	ug/L
B 8-2	F03040432-2	IRON	8900	300	100	ug/L
B 8-2	F03040432-2	pH	6.24	6.5-8.5	----	units
B 11	F03040517-2	IRON	3200	300	100	ug/L
B 11	F03040517-2	pH	5.35	6.5-8.5	----	units
B 32	F03040432-4	IRON	5200	300	100	ug/L
B 33-1	F03040432-5	IRON	8300	300	100	ug/L
B 33-1	F03040432-5	pH	6.46	6.5-8.5	----	units
B 34-1	F03040432-17	IRON	340	300	100	ug/L
B 34-2	F03040432-16	IRON	12000	300	100	ug/L
B 34-2	F03040432-16	pH	6.43	6.5-8.5	----	units
B 35-1	F03040465-11	IRON	8900	300	100	ug/L
B 35-1	F03040465-11	pH	5.11	6.5-8.5	----	units
B 35-2	F03040465-10	IRON	8500	300	100	ug/L
B 35-2	F03040465-10	pH	5.04	6.5-8.5	----	units
B 36	F03040465-9	IRON	5600	300	100	ug/L
B 36	F03040465-9	BENZENE	1.9	1.0	1.0	ug/L
B 36	F03040465-9	VINYL CHLORIDE	1.4	1.0	1.0	ug/L
B 36	F03040465-9	TDS	1200	500	5.0	mg/L
B 36	F03040465-9	pH	6.4	6.5-8.5	----	units
B 37-1	F03040465-8	IRON	32000	300	100	ug/L
B 37-1	F03040465-8	SODIUM	210	160	0.50	mg/L
B 37-1	F03040465-8	BENZENE	9.2	1.0	1.0	ug/L
B 37-1	F03040465-8	TDS	1500	500	5.0	mg/L
B 37-1	F03040465-8	CHLORIDE	270	250	1.0	mg/L
B 37-1	F03040465-8	pH	6.36	6.5-8.5	----	units
B 37-2	F03040465-7	IRON	8100	300	100	ug/L
B 37-2	F03040465-7	pH	6.00	6.5-8.5	----	units
B 37-2	F03040465-7	VINYL CHLORIDE	62	1.0	1.0	ug/L
B 38-1	F03040465-5	IRON	8900	300	100	ug/L
B 38-1	F03040465-5	pH	5.35	6.5-8.5	----	units
B 38-2	F03040465-4	IRON	14000	300	100	ug/L
B 38-2	F03040465-4	pH	5.84	6.5-8.5	----	units
B 38-2	F03040465-4	AMMONIA	3.5	2.8	0.050	mg/L
B 39	F03040465-2	IRON	10000	300	100	ug/L
B 39	F03040465-2	pH	4.83	6.5-8.5	----	units
B 39 Dup	F03040465-3	IRON	10000	300	100	ug/L
B 39 Dup	F03040465-3	pH	4.83	6.5-8.5	----	units

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

Tomoka Farms Road Landfill
Semi-annual Groundwater Guidance Exceedences
Sampling Date: April, 2003

[redacted]mple/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 40-1	F03040432-10	IRON	12000	300	100	ug/L
B 40-1	F03040432-10	pH	5.65	6.5-8.5	----	units
B 40-2	F03040432-9	IRON	1700	300	100	ug/L
B 40-2	F03040432-9	pH	6.27	6.5-8.5	----	units
B 41-1	F03040432-13	IRON	24000	300	100	ug/L
B 41-1	F03040432-13	SODIUM	190	160	0.50	mg/L
B 41-1	F03040432-13	BENZENE	1.4	1.0	1.0	ug/L
B 41-1	F03040432-13	TDS	2200	500	5.0	mg/L
B 41-1	F03040432-13	CHLORIDE	260	250	1.0	mg/L
B 41-1	F03040432-13	AMMONIA	33	2.8	0.050	mg/L
B 41-1	F03040432-13	pH	6.25	6.5-8.5	----	units
B 41-2	F03040432-12	IRON	2500	300	100	ug/L
B 41-2	F03040432-12	TDS	1400	500	5.0	mg/L
B 42-1	F03040432-7	IRON	23000	300	100	ug/L
B 42-1	F03040432-7	TDS	910	500	5.0	mg/L
B 42-1	F03040432-7	pH	5.81	6.5-8.5	----	units
B 42-2	F03040432-8	IRON	3200	300	100	ug/L
B 42-2	F03040432-8	pH	6.24	6.5-8.5	----	units
B 43-1	F03040517-11	IRON	28000	300	100	ug/L
B 43-1	F03040517-11	BENZENE	5.1	1.0	1.0	ug/L
B 43-1	F03040517-11	AMMONIA	11	2.8	0.050	mg/L
[redacted] 43-1	F03040517-11	TDS	580	500	5.0	mg/L
[redacted] B 43-1	F03040517-11	pH	6.01	6.5-8.5	----	units
B 43-1 Dup	F03040517-12	IRON	33000	300	100	ug/L
B 43-1 Dup	F03040517-12	BENZENE	6.8	1.0	1.0	ug/L
B 43-1 Dup	F03040517-12	AMMONIA	11	2.8	0.050	mg/L
B 43-1 Dup	F03040517-12	TDS	610	500	5.0	mg/L
B 43-1 Dup	F03040517-12	pH	6.01	6.5-8.5	----	units
B 43-2	F03040517-10	IRON	9500	300	100	ug/L
B 43-2	F03040517-10	pH	6.25	6.5-8.5	----	units
B 44	F03040517-9	IRON	1200	300	100	ug/L
B 44	F03040517-9	pH	5.31	6.5-8.5	----	units
B 45-1	F03040517-8	IRON	49000	300	100	ug/L
B 45-1	F03040517-8	BENZENE	5.8	1.0	1.0	ug/L
B 45-1	F03040517-8	CHLORIDE	440	250	1.0	mg/L
B 45-1	F03040517-8	TDS	1500	500	5.0	mg/L
B 45-1	F03040517-8	pH	5.92	6.5-8.5	----	units
B 45-1	F03040517-8	SODIUM	220	160	0.50	mg/L
B 45-2	F03040517-7	IRON	7800	300	100	ug/L
B 45-2	F03040517-7	pH	5.38	6.5-8.5	----	units
B 59-1	F03040517-4	IRON	8700	300	100	ug/L
B 59-1	F03040517-4	TDS	640	500	5.0	mg/L
B 59-1	F03040517-4	pH	6.39	6.5-8.5	----	units
B 59-2	F03040517-5	IRON	3700	300	100	ug/L
[redacted] B 59-2	F03040517-5	pH	6.33	6.5-8.5	----	units
[redacted] B 59-2	F03040517-5	TDS	530	500	5.0	mg/L

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

Tomoka Farms Road Landfill
Semi-annual Groundwater Guidance Exceedences
Sampling Date: April, 2003

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 60	F03040517-6	IRON	8200	300	100	ug/L
B 60	F03040517-6	pH	5.96	6.5-8.5	----	units
B 61	F03040554-2	AMMONIA	38	2.8	0.050	mg/L
B 61	F03040554-2	TDS	1500	500	5.0	mg/L
B 61	F03040554-2	SODIUM	180	160	0.50	mg/L
B 61	F03040554-2	IRON	15000	300	100	ug/L
B 62-1	F03040465-15	CHLORIDE	670	250	1.0	mg/L
B 62-1	F03040465-15	AMMONIA	110	2.8	0.050	mg/L
B 62-1	F03040465-15	TDS	2600	500	5.0	mg/L
B 62-1	F03040465-15	IRON	89000	300	100	ug/L
B 62-1	F03040465-15	SODIUM	450	160	0.50	mg/L
B 62-1	F03040465-15	pH	6.46	6.5-8.5	----	units
B 62-2	F03040465-14	AMMONIA	95	2.8	0.050	mg/L
B 62-2	F03040465-14	TDS	1900	500	5.0	mg/L
B 62-2	F03040465-14	SODIUM	280	160	0.50	mg/L
B 62-2	F03040465-14	IRON	7300	300	100	ug/L
B 63-1	F03040465-13	IRON	3900	300	100	ug/L
B 63-1	F03040465-13	pH	6.40	6.5-8.5	----	units
B 63-2	F03040465-12	IRON	5200	300	100	ug/L
B 64	F03040465-6	IRON	47000	300	100	ug/L
B 64	F03040465-6	TDS	710	500	5.0	mg/L
B 65	F03040432-11	IRON	2300	300	100	ug/L
B 65	F03040432-11	TDS	520	500	5.0	mg/L
B 65	F03040432-11	pH	6.08	6.5-8.5	----	units
B 66	F03040554-1	IRON	560	300	100	ug/L
B 66	F03040554-1	pH	6.33	6.5-8.5	----	units
B 68	F03040432-1	IRON	11000	300	100	ug/L
B 68	F03040432-1	pH	6.04	6.5-8.5	----	units
B 70-1	F03040435-2	IRON	2500	300	100	ug/L
B 70-1	F03040435-2	pH	5.80	6.5-8.5	----	units
B 70-1 Dup	F03040435-3	IRON	2600	300	100	ug/L
B 70-1 Dup	F03040435-3	pH	5.80	6.5-8.5	----	units
B 70-2	F03040435-1	IRON	5800	300	100	ug/L
B 70-2	F03040435-1	pH	5.43	6.5-8.5	----	units
B 71	F03040518-6	IRON	28000	300	100	ug/L
B 71	F03040518-6	pH	4.97	6.5-8.5	----	units
B 72	F03040518-5	IRON	11000	300	100	ug/L
B 72	F03040518-5	pH	6.30	6.5-8.5	----	units
B 73-1	F03040518-3	IRON	8000	300	100	ug/L
B 73-1	F03040518-3	pH	6.06	6.5-8.5	----	units
B 73-2	F03040518-4	IRON	17000	300	100	ug/L
B 73-2	F03040518-4	pH	6.25	6.5-8.5	----	units
B 74	F03040518-2	IRON	2400	300	100	ug/L
B 75	F03040518-1	IRON	1000	300	100	ug/L
B 75	F03040518-1	TDS	520	500	5.0	mg/L
B 75	F03040518-1	pH	6.01	6.5-8.5	----	units

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

Tomoka Farms Road Landfill
Semi-annual Groundwater Guidance Exceedences
Sampling Date: April, 2003

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
FA-1B	F03040554-3	IRON	320	300	100	ug/L
FA-2C	F03040554-4	pH	8.96	6.5-8.5	----	units
FA-2C Dup	F03040554-5	pH	8.96	6.5-8.5	----	units
MO-5B	F03040432-6	IRON	11000	300	100	ug/L
MO-5B	F03040432-6	TDS	1400	500	5.0	mg/L
MO-5B	F03040432-6	pH	6.08	6.5-8.5	----	units

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

Jeff Baylor, Project Manager

Tomoka Farms Road Landfill
Semi-annual Groundwater Guidance Exceedences
Sampling Date: October, 2003

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 1B	F03100721-001	IRON	24000	300	100	ug/L
B 1B	F03100721-001	pH	6.09	6.5-8.5	----	units
B 1B	F03100721-001	AMMONIA	17	2.8	0.050	mg/L
B 1B	F03100721-001	TDS	850	500	5.0	mg/L
B 2	F03100721-002	IRON	480	300	100	ug/L
B 2	F03100721-002	TDS	990	500	5.0	mg/L
B 5B	F03100721-003	IRON	17000	300	100	ug/L
B 5B	F03100721-003	pH	6.41	6.5-8.5	----	units
B 5B	F03100721-003	TDS	550	500	5.0	mg/L
B 8-1	F03100721-004	AMMONIA	2.9	2.8	0.050	mg/L
B 8-2	F03100721-005	IRON	10000	300	100	ug/L
B 8-2	F03100721-005	pH	5.86	6.5-8.5	----	units
B 11	F03100721-006	IRON	3100	300	100	ug/L
B 11	F03100721-006	pH	5.28	6.5-8.5	----	units
B 32	F03100721-007	IRON	3600	300	100	ug/L
B 33-1	F03100721-008	IRON	7700	300	100	ug/L
B 33-1	F03100721-008	pH	6.24	6.5-8.5	----	units
B 34-1	F03100721-010	IRON	12000	300	100	ug/L
B 34-1	F03100721-010	pH	6.48	6.5-8.5	----	units
B 35-1	F03100721-012	IRON	8000	300	100	ug/L
B 35-1	F03100721-012	pH	5.19	6.5-8.5	----	units
B 35-2	F03100721-013	IRON	8000	300	100	ug/L
B 35-2	F03100721-013	pH	5	6.5-8.5	----	units
B 36	F03100721-014	IRON	5000	300	100	ug/L
B 36	F03100721-014	BENZENE	2.7	1.0	1.0	ug/L
B 36	F03100721-014	VINYL CHLORIDE	8.8	1.0	1.0	ug/L
B 36	F03100721-014	TDS	1100	500	5.0	mg/L
B 36	F03100721-014	pH	6.34	6.5-8.5	----	units
B 37-1	F03100721-015	IRON	32000	300	100	ug/L
B 37-1	F03100721-015	SODIUM	200	160	0.50	mg/L
B 37-1	F03100721-015	BENZENE	11	1.0	1.0	ug/L
B 37-1	F03100721-015	TDS	1500	500	5.0	mg/L
B 37-1	F03100721-015	pH	6.35	6.5-8.5	----	units
B 37-2	F03100721-016	IRON	36000	300	100	ug/L
B 37-2	F03100721-016	pH	5.89	6.5-8.5	----	units
B 37-2	F03100721-016	VINYL CHLORIDE	86	1.0	1.0	ug/L
B 38-1	F03100721-017	IRON	12000	300	100	ug/L
B 38-1	F03100721-017	pH	5.34	6.5-8.5	----	units
B 38-2	F03100721-018	IRON	8500	300	100	ug/L
B 38-2	F03100721-018	pH	5.91	6.5-8.5	----	units
B 38-2	F03100721-018	AMMONIA	3.3	2.8	0.050	mg/L
B 39	F03100721-019	IRON	10000	300	100	ug/L
B 39	F03100721-019	pH	4.73	6.5-8.5	----	units
B 40-1	F03100721-020	IRON	12000	300	100	ug/L
B 40-1	F03100721-020	pH	5.31	6.5-8.5	----	units
B 40-2	F03100721-021	IRON	1600	300	100	ug/L
B 40-2	F03100721-021	pH	6.03	6.5-8.5	----	units
B 41-1	F03100721-022	IRON	23000	300	100	ug/L
B 41-1	F03100721-022	SODIUM	190	160	0.50	mg/L
B 41-1	F03100721-022	BENZENE	1.9	1.0	1.0	ug/L
B 41-1	F03100721-022	TDS	1300	500	5.0	mg/L
B 41-1	F03100721-022	AMMONIA	39	2.8	0.050	mg/L
B 41-1	F03100721-022	pH	6.07	6.5-8.5	----	units

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June2002 exceedences.xls

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 41-2	F03100721-023	IRON	2600	300	100	ug/L
B 41-2	F03100721-023	TDS	630	500	5.0	mg/L
B 42-1	F03100721-024	IRON	24000	300	100	ug/L
B 42-1	F03100721-024	TDS	960	500	5.0	mg/L
B 42-1	F03100721-024	pH	5.56	6.5-8.5	----	units
B 42-1	F03100721-024	Sulfate	360.0	250	0.5	mg/L
B 42-2	F03100721-025	IRON	1800	300	100	ug/L
B 42-2	F03100721-025	pH	6.25	6.5-8.5	----	units
B 43-1	F03100721-026	IRON	29000	300	100	ug/L
B 43-1	F03100721-026	BENZENE	5.3	1.0	1.0	ug/L
B 43-1	F03100721-026	AMMONIA	7.4	2.8	0.050	mg/L
B 43-1	F03100721-026	TDS	600	500	5.0	mg/L
B 43-1	F03100721-026	pH	5.97	6.5-8.5	----	units
B 43-2	F03100721-027	IRON	3200	300	100	ug/L
B 43-2	F03100721-027	pH	6.10	6.5-8.5	----	units
B 44	F03100721-028	IRON	770	300	100	ug/L
B 44	F03100721-028	pH	5.25	6.5-8.5	----	units
B 45-1	F03100721-029	IRON	68000	300	100	ug/L
B 45-1	F03100721-029	BENZENE	7.7	1.0	1.0	ug/L
B 45-1	F03100721-029	CHLORIDE	360	250	1.0	mg/L
B 45-1	F03100721-029	TDS	1500	500	5.0	mg/L
B 45-1	F03100721-029	pH	5.97	6.5-8.5	----	units
B 45-1	F03100721-029	SODIUM	320	160	0.50	mg/L
B 45-2	F03100721-030	IRON	21000	300	100	ug/L
B 45-2	F03100721-030	pH	5.37	6.5-8.5	----	units
B 59-1	F03100721-031	IRON	8500	300	100	ug/L
B 59-1	F03100721-031	TDS	660	500	5.0	mg/L
B 59-1	F03100721-031	pH	6.41	6.5-8.5	----	units
B 59-2	F03100721-032	IRON	6200	300	100	ug/L
B 59-2	F03100721-032	pH	6.34	6.5-8.5	----	units
B 59-2	F03100721-032	TDS	520	500	5.0	mg/L
B 60	F03100721-033	IRON	7800	300	100	ug/L
B 60	F03100721-033	pH	5.96	6.5-8.5	----	units
B 61	F03100721-034	AMMONIA	38	2.8	0.050	mg/L
B 61	F03100721-034	TDS	1200	500	5.0	mg/L
B 61	F03100721-034	SODIUM	170	160	0.50	mg/L
B 61	F03100721-034	IRON	9400	300	100	ug/L
B 62-1	F03100721-035	CHLORIDE	570	250	1.0	mg/L
B 62-1	F03100721-035	AMMONIA	140	2.8	0.050	mg/L
B 62-1	F03100721-035	TDS	2500	500	5.0	mg/L
B 62-1	F03100721-035	IRON	65000	300	100	ug/L
B 62-1	F03100721-035	SODIUM	470	160	0.50	mg/L
B 62-1	F03100721-035	pH	6.44	6.5-8.5	----	units
B 62-1	F03100721-035	BENZENE	1.3	1.0	1.0	ug/L
B 62-2	F03100721-036	AMMONIA	100	2.8	0.050	mg/L
B 62-2	F03100721-036	TDS	1600	500	5.0	mg/L
B 62-2	F03100721-036	SODIUM	260	160	0.50	mg/L
B 62-2	F03100721-036	IRON	13000	300	100	ug/L
B 63-1	F03100721-037	IRON	3500	300	100	ug/L
B 63-1	F03100721-037	pH	6.35	6.5-8.5	----	units
B 63-2	F03100721-038	IRON	4700	300	100	ug/L

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

Tomoka Farms Road Landfill

Semi-annual Groundwater Guidance Exceedences

Sampling Date: October, 2003

Sample/ Well Number	Elab No.	Compounds	Results	MCL*	Reporting Limits	Units
B 64	F03100721-039	IRON	58000	300	100	ug/L
B 64	F03100721-039	TDS	990	500	5.0	mg/L
B 64	F03100721-039	pH	6.25	6.5-8.5	----	units
B 65	F03100721-040	IRON	2300	300	100	ug/L
B 65	F03100721-040	TDS	550	500	5.0	mg/L
B 65	F03100721-040	pH	5.86	6.5-8.5	----	units
B 66	F03100721-041	IRON	510	300	100	ug/L
B 68	F03100721-042	IRON	12000	300	100	ug/L
B 68	F03100721-042	pH	5.80	6.5-8.5	----	units
B 70-1	F03100721-043	IRON	2000	300	100	ug/L
B 70-1	F03100721-043	pH	5.86	6.5-8.5	----	units
B 70-2	F03100721-044	IRON	7400	300	100	ug/L
B 70-2	F03100721-044	pH	5.33	6.5-8.5	----	units
B 71	F03100721-045	IRON	13000	300	100	ug/L
B 71	F03100721-045	pH	4.95	6.5-8.5	----	units
B 72	F03100721-046	IRON	9200	300	100	ug/L
B 72	F03100721-046	pH	6.11	6.5-8.5	----	units
B 73-1	F03100721-047	IRON	9800	300	100	ug/L
B 73-1	F03100721-047	pH	6.22	6.5-8.5	----	units
B 73-2	F03100721-048	IRON	20000	300	100	ug/L
B 73-2	F03100721-048	pH	6.13	6.5-8.5	----	units
B 74	F03100721-049	IRON	1200	300	100	ug/L
B 74	F03100721-049	pH	6.08	6.5-8.5	----	units
B 75	F03100721-050	IRON	1500	300	100	ug/L
B 75	F03100721-050	TDS	710	500	5.0	mg/L
B 75	F03100721-050	pH	5.87	6.5-8.5	----	units
FA-1B	F03100721-051	IRON	670	300	100	ug/L
FA-2C	F03100721-052	pH	8.58	6.5-8.5	----	units
MO-5B	F03100721-053	IRON	15000	300	100	ug/L
MO-5B	F03100721-053	TDS	950	500	5.0	mg/L
MO-5B	F03100721-053	pH	5.75	6.5-8.5	----	units
B 40-2 Dup	F03100721-054	pH	6.03	6.5-8.5	----	units
B 40-2 Dup	F03100721-054	IRON	1600	300	100	ug/L
B 43-1 Dup	F03100721-055	pH	5.97	6.5-8.5	----	units
B 43-1 Dup	F03100721-055	IRON	29000	300	100	ug/L
B 43-1 Dup	F03100721-055	AMMONIA	7.2	2.8	0.050	mg/L
B 43-1 Dup	F03100721-055	TDS	580	500	5.0	mg/L
B 43-1 Dup	F03100721-055	BENZENE	4.7	1.0	1.0	ug/L
B 61 Dup	F03100721-61	IRON	9600	300	100	ug/L
B 61 Dup	F03100721-61	TDS	1300	500	5.0	mg/L
B 61 Dup	F03100721-61	AMMONIA	39	2.8	0.050	mg/L
B 61 Dup	F03100721-61	SODIUM	170	160	0.50	mg/L
B 70-2 Dup	F03100721-61	pH	5.33	6.5-8.5	----	units
B 70-2 Dup	F03100721-61	IRON	7900	300	100	ug/L

Jeff Baylor, Project Manager

*Based on "Ground Water Guidance Concentrations", Florida DEP, Division of Water Facilities, June, 1994

PART J

GEOTECHNICAL INVESTIGATION REQUIREMENTS

The geotechnical investigation was discussed in Part I of the 1999 permit application. The existing facility has been constructed with 4H:1V side slopes. These slopes have been proven to be stable and no change is proposed for the continued construction of the C&D facility

PART J

GEOTECHNICAL INVESTIGATION REQUIREMENTS

The geotechnical investigation is discussed in Part I of the 1999 permit application. The existing facility has been constructed with 4H:1V side slopes. These slopes have been proven to be stable and no change is proposed for the continued construction of the ~~C&D~~ Class III facility

PART K

VERTICAL EXPANSION OF LANDFILLS

Construction of the Class III cell on top of the closed Class I cell was discussed in Part J of the 1999 permit application.

PART L

LANDFILL OPERATION REQUIREMENTS

L.1 LANDFILL OPERATIONS STAFF

The County always has at least one trained operator on the site when the Class III cell is open. Staffing is discussed in Attachment L-1, the Operation Plan.

L.2 LANDFILL OPERATION PLAN

An Operation Plan for the proposed Class III facility is included in Attachment L-1.

L.3 LANDFILL OPERATION RECORDS

Operation records, including records, reports, analytical results, demonstrations, and notifications required by this Rule 62-701 FAC; construction, operation, and closure permits, including modifications to those permits, along with copies of the permit application and drawings, and the training records required by Rule 62-701.320(15), FAC, are kept at the landfill site in the administration building in the office of the Environmental Specialist. These documents are available for inspection during normal operating hours by FDEP personnel.

L.4 MONTHLY RECORDS

The County will compile waste records on the quantity and type of waste received at the site monthly and submit them to the FDEP on a quarterly basis.

L.5 ACCESS CONTROL AND SITE SECURITY

The overall Tomoka Farms Road Landfill site is surrounded by a security fence.

L.6 LOAD CHECKING

County personnel check each vehicle delivering material to the Class III working face for inappropriate material. When unauthorized material is found, the vehicle's owner is fined and a warning letter is issued.

L.7 SPREADING AND COMPACTING WASTE

Site operations are described in Attachment L-1.

L.8 LEACHATE MANAGEMENT

There is no separate leachate collection system at the landfill.

L.9 GAS MONITORING

The County monitors for landfill gas on a quarterly basis in accordance with Specific Condition 22 of the existing operating permit.

L.10 STORMWATER MANAGEMENT SYSTEM OPERATION

The permitted stormwater system consists of vegetated sideslopes, terraces, sand filter trenches, and downpipes. It will be necessary to keep the surface of the sand filter trench clear of silt and debris that would interfere with percolation through the sand. The downpipes may need to be flushed out if they become blocked with debris or animal nests.

L.11 EQUIPMENT AND OPERATION REQUIREMENTS

The County has adequate equipment to operate the Class III cell. The Tomoka Farms Road Landfill has five landfill compactors, three excavators, twelve bulldozers, two graders, six wheel loaders, two draglines, ten dump trucks, one pan, one roller, one waterwagon, and numerous small vehicles. Additional equipment is available through other County agencies and from private contractors. Telephones are available at the scale house, the administration building, and at the maintenance building. The site foremen have portable radios. This allows for good communication from the working face to the administration building. The spotters also have radios at the working face. Temporary shelter is provided at the working face for the spotters. Personnel and sanitary facilities are available at the maintenance building and at the administration building.

L.12 ON-SITE ROADS

The access road is paved from Tomoka Farms Road to the entrance to the Class III cell. The paved road also serves the Class I cell, the recycling facility, and the household hazardous waste facility, and the sludge processing facility. The County maintains all-weather access roads from the entrance to the Class III cell to the working face, as well as to the monitor wells, borrow areas, and other on-site facilities.

L.13 ADDITIONAL RECORD KEEPING

The additional records described in 62-701.500(13), FAC are kept at the administration building and are available for FDEP review. Records of monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all records required by the permit are kept for at least ten years. Background water quality records and records pertaining to the operation of the landfill are kept for the active life of the landfill. An estimate of the remaining life of the facility is prepared every six months and is submitted to the FDEP.

Records which are more than five years old may be archived, provided that the landfill operator can retrieve them for inspection within seven days. At the present time, all records are kept at the administration building.

ATTACHMENT L-1

OPERATION PLAN

OPERATIONS PLAN
TOMOKA FARMS ROAD LANDFILL
CLASS III CELL
VOLUSIA COUNTY, FLORIDA

Prepared for:

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

Prepared by:

SCS ENGINEERS
501 North Grandview Avenue, Suite 400
Daytona Beach, Florida 32118
(386) 238-7770

May 7, 2004
File No. 09201053.19

OPERATIONS PLAN
TOMOKA FARMS ROAD LANDFILL
CLASS III CELL
VOLUSIA COUNTY, FLORIDA

Prepared for:

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

Prepared by:

SCS ENGINEERS
501 North Grandview Avenue, Suite 400
Daytona Beach, Florida 32118
(386) 238-7770

~~April 30, 2004~~Revised June 17, 2004
File No. 09201053.19

7.2.04

CONTENTS

SECTION 1

GENERAL

1.1 PURPOSE

The purpose of this manual is to describe the operations and maintenance, equipment, emergency and contingency procedures, and training procedures for the Volusia County (County) Tomoka Farms Road Landfill Class III cell. The Class III landfill cell is located within the County's Tomoka Farms Road Landfill property, approximately three miles south of US 92 on Tomoka Farms Road in Section 10, Township 16 South, Range 32 East near Daytona Beach, Florida. This plan is intended to meet the requirements of Rule 62-701.500(2), Florida Administrative Code (F.A.C.).

1.2 OWNER AND OPERATOR INFORMATION

The Tomoka Farms Road Landfill is owned and operated by Volusia County. The mailing address of the owner and operator is:

Owner:
Volusia County Department of Solid Waste Services
3151 East New York Avenue
DeLand, FL 32174
Contact: Mr. Joseph Grusauskas
Telephone: (386)-943-7889

Site Supervisor:
Martin Bey
1990 Tomoka Farms Road
Daytona Beach, FL 32114
Telephone: (386) 947-2952

1.3 FACILITY CHARACTERISTICS

The Class III cell was developed over a portion of the property that had previously been used as a landfill. It operated as a construction and demolition debris (C&D) disposal facility from 1988 to 1999, when it was converted to a Class III cell. The cell is operated under permit SO64-0078767008, issued by the Florida Department of Environmental Protection (FDEP) on August 5, 1999. The cell is open to the public and is anticipated to operate until approximately 2020.

The existing Class III cell covers approximately 81 acres east of the closed Class I area. The cell operates as part of the overall Tomoka Farms Road Landfill. Major features of the overall facility shared with the Class III cell include site fencing and security, a scale house, a household hazardous waste facility, a tire and white goods facility, a Class I landfill, equipment maintenance facilities, ground water monitoring, borrow pits, and administration facilities. A groundwater monitoring network is currently in place at the landfill.

SECTION 2

OPERATIONS

2.1 OPERATIONS OVERVIEW

Incoming vehicles enter the landfill site from Tomoka Farms Road. They travel west along the entrance road to the scale house. From the scale house the vehicles continue west along the entrance road to the maintenance building and then north along the entrance road to the Class III cell entrance. Vehicles are directed to the working face of the cell where they are observed by a spotter for unacceptable materials. If no unacceptable materials are observed, the vehicles are unloaded and the materials are spread across the working face (100 feet by 200 feet) in 3- to 5-foot lifts. Materials are handled by a Caterpillar D-6 bulldozer and compacted with a Caterpillar 826 compactor. An initial 6-inch soil cover is applied at the end of each week. A 12-inch thick intermediate soil 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.

Wastes entering the facility are observed by a full-time spotter at the working face of the Class III cell to exclude unacceptable materials from the cell. If unacceptable materials are observed by the spotter prior to unloading, the driver is directed to the portion of the landfill facility which is permitted to handle the type of material rejected. Materials other than Class III materials found following unloading of vehicles are sorted for Class I wastes, tires, and other unacceptable materials. Typical types of unacceptable materials are listed below:

- Oils
- Tires
- Paints
- Batteries
- Chemicals
- Food wastes
- White goods and asbestos
- Infectious and hazardous waste

Clean debris, including roofing shingles and concrete rubble, are separated from other materials and stockpiled for use in constructing on-site roads.

2.2 MANAGEMENT AND OPERATIONS PERSONNEL

2.2.1 Site Supervisor

Volusia County's solid waste management facilities, including the Tomoka Farms Road Landfill, are operated under the direction of the Volusia County Solid Waste Director. The Tomoka Farms Road Landfill Class III cell is operated as part of the overall Tomoka Farms

Road Landfill facility. Overall management of the facility and general direction of the facility operations are the responsibility of the facility Site Supervisor, whose office is located in the administration building near the scale house.

The Site Supervisor is responsible for organizing, assigning, and supervising all activities and personnel involved in the disposal of waste materials in accordance with federal, state, and county regulations and rules. The Site Supervisor is responsible for implementation of compliance with all permit conditions and implementation of safety and training programs. Other duties include overall supervision of personnel and procurement. facility inspections, and repairing of landfill facilities. The Site Supervisor conducts reviews of equipment availability and needs at the landfill and coordinates equipment inspections, maintenance, and repair.

In addition the Site Supervisor coordinates unacceptable and hazardous waste exclusion tasks at the landfill. The Site Supervisor is responsible for the load inspections program and suspicious loads are inspected and documented if any unacceptable material is found.

2.2.2 Scale House Attendant/Scale Operator

The scale house attendants weigh and record waste quantities delivered to the landfill for disposal or recycling and process cash or charge tickets for all loads. The scale house attendants, who are rule-trained spotters, assist in identifying unacceptable or hazardous materials so they are not disposed of in the landfill. The Scale House Attendants identify and report to the Site Supervisor incoming waste loads suspected to contain unacceptable or hazardous materials as well as identify suspicious incoming waste loads to the landfill personnel for inspection. The Scale House Attendants also help direct incoming traffic to the appropriate disposal area.

2.2.3 Operator

A rule-trained landfill operator is at the Tomoka Farms Road Landfill site at all times that the site is open for disposal of waste. The following 13 County employees are listed on the University of Florida Center for Training, Research, and Education for Environmental Occupations (TREEO Center) website as having completed the required training for Class I, II, III Landfill Operators:

Martin Bey
Mark Butler
Chris Ellis
Susan Gaze
Josef Grusauskas
Eric Hill
Patrick McCormack
Brooks Nelson
Gene Palmatier
Gregory Powers
Charles Quinn
Korey Woulard

2.2.4 Spotter / Waste Screener

Waste screeners and spotters direct vehicles to unloading locations at the working face, inspect the load before it is unloaded, observe waste during unloading for indications of being unacceptable for disposal, and observe the waste after the waste is unloaded and spread.

A rule-trained spotter is present at the scale house and at the Class III working face at all times that the Class III cell is open for waste disposal.

The following 40 County employees are listed on the TREEO Center website as having completed the required training for Spotter / Waste Screener:

David Baker
James Bletcher
Bruce Bolio
Brett Bunch
Jeff Carroll
Charles Clement
Jerry Coffey
Mike Csernai
Duane Daniels
Merrell Daugharty
Wayne Douglas
Jeff Faircloth
Bill Faulls
Don Goins
Rick Harris
Solan Hartley
Mike Haygood
Jeff Helfrich
John Hill
Marjorie Holcombe
Troy Hopton
Randy Hunter
Richard Jones
Bruce Kelliher
Victor Lopez
Richard Mackey
Mike McConnell
E. J. Neely
Louie Palmer
Bobby Robinson
Colleen Sawyer
Michael Sousa
Jon Stauffer
Andy Stewart
Peter Stone
Raymond Stone
Jim Towsley
George White
Dennis Williams
Lawrence Wilson, Jr.

2.2.5 Support Staff

Support staff, such as administrative personnel, equipment operators, and maintenance personnel are employed to facilitate operations at the facility. Labor force personnel are employed at the Class III site to assist in traffic control, litter control, and to assist the spotters.

2.3 WASTE TYPE CONTROL

The scale house is the first step in the screening process. At the scale house, users are directed to the facility at the Tomoka Farms Road Landfill appropriate for the type of waste being brought for disposal or recycling. At the entrance to the Class III cell, a sign indicates that only Class III material is accepted for disposal. A traffic controller is located at the entrance to the cell to screen the waste, explain what materials are allowed and what materials are not allowed. If users have waste other than Class III, the controller directs them to the appropriate disposal or recycling area. A second traffic controller is located at the Class III working face to work under the direction of the rule-trained spotter. The spotter and traffic controller at the working face visually screen each load of waste arriving at the working face. The waste is also observed as the D6 bulldozer pushes and spreads the waste.

In the event waste not suitable for processing at the Class III site is observed by any spotter, traffic controller, or equipment operator, the spotter is responsible for isolating the suspect waste. If the truck that delivered the waste is still on-site, the truck driver will be directed to reload the unauthorized waste, and remove the waste from the cell. In the event that the delivery vehicle has left the facility, the rejected waste will be transported by the County to the proper area of the Tomoka Farms Road Landfill site for disposal.

2.4 VEHICLE TRAFFIC CONTROL AND UNLOADING

The entrance/exit road for the Tomoka Farms Road Landfill is located on the eastern side of the County property on Tomoka Farms Road. The entrance road is accessible in all weather conditions. Access to the site is controlled by a lockable gate.

County personnel and signage direct incoming truck traffic to expedite safe movement of vehicles within the facility. The scale house is located 2,500 feet from Tomoka Farms Road to assure that no back-up of in-bound vehicles will take place on the public right-of-way.

Signs clearly indicating truck traffic routes are erected at all necessary points along the road, and are maintained by County personnel. The signage describes the types of waste suitable for disposal at the facility, the location of applicable processing areas, and other general information.

Users are given directions to the portion of the site appropriate for the type of waste that is being brought. A traffic controller at the entrance to the Class III cell provides directions to users who are looking for other on-site facilities such as the household hazardous waste collection center, the recycling facility, or the Class I cell.

At the Class III working face, unloading is directed by a traffic controller, working under the direction of the rule-trained spotter. Scavenging is not allowed in the Class III cell. The traffic controllers have radios to communicate with the spotters and equipment operators.

2.5 GRADING AND COMPACTION

Grading and compaction is accomplished as the working face is constructed. Materials are placed along the working face in lifts of 3 to 5 feet and spread using a D-6 Caterpillar bulldozer. Bulky materials are worked into other materials as much as practical. The maximum slope of the working face is 3 horizontal to 1 vertical. The width of the working face is minimized, being kept only wide enough for the vehicles discharging waste and the equipment spreading and compacting the waste require. The bulldozer pushes the material to form the working face, spreads the material to observe the waste and check for prohibited material, and partially compacts the material. The landfill compactor is used to further compact the waste to reduce landfill volume, reduce wind blown litter, and to provide a stable surface for applying weekly soil cover. Intermediate cover material, when needed, is obtained from the incoming materials and from on-site borrow areas.

Final grading is accomplished as lifts are completed. Grading is designed to direct stormwater flow away from the active portion of the cell and reduce moisture infiltration into the buried waste.

2.6 FILL SEQUENCE

Construction of the working face for each lift begins in the northeast corner of the lift and proceeds westward and southward to the southwest corner of the lift. The waste is placed in lifts until a height of 20 feet is reached.

2.7 STORMWATER CONTROL

The working face is constructed to direct stormwater away from the active area and to prevent ponding of stormwater on the landfill surface. Terraces will be constructed on the sideslopes after every 20 feet of vertical rise. Stormwater will be captured on the side slope terraces and directed to downpipes. It is necessary to maintain the terraces free of siltation and erosion damage to ensure their proper functioning. The downpipes discharge onto energy dissipation structures located at the base of the landfill. It is necessary to inspect these structures for siltation, erosion damage, and animal nesting on a monthly basis. Until the first terrace is reached, stormwater runoff is allowed to sheet flow to the base of the landfill. The sideslopes are covered with compacted soil and are sodded to prevent damage to the soil cover and to prevent erosion and sedimentation of receiving waters.

2.8 GROUNDWATER MONITORING

The Class III facility is included in the ground water monitoring plan for the entire Tomoka Farms Road Landfill, which meets the requirements of Rule 62-701.510, F.A.C.

2.9 HOURS OF OPERATION

The Class III facility is open to the public Monday through Friday from 7:00 a.m. to 5:30 p.m. and on Saturday and Sunday from 8:00 a.m. to 2:30 p.m. The facility is open every day of the year except Christmas Day.

2.10 ACCESS CONTROL AND SECURITY

Access to the landfill site is controlled by a perimeter fence that surrounds the site. Security is maintained by locking the entrance gate during the times the landfill site is not operating. Semi-annual inspections of the fence are conducted to identify locations in need of repair. "NO TRESPASSING" signs are located along the property boundary.

2.11 INSPECTIONS

The Class III facility is inspected on a daily basis by the County.

Inspections include the disposal facility side slopes and side slope drainage features, cover status, and stockpiles. Depressions in the disposal facility surface are filled with cover material, compacted and immediately revegetated (final cover areas only). If standing water develops, the area will be filled, compacted, and graded to provide positive drainage. Where this problem cannot be corrected by proper grading, temporary drainage ditches will be constructed to drain off the standing water. All vegetative growth is mowed on an as-needed basis.

2.12 REGULATORY COMPLIANCE

Volusia County operates the Class III cell in accordance with the terms of the operation permit and in compliance with the applicable rules and regulations governing the operation of Class III landfills. Should a non-compliance event occur, the landfill Site Supervisor will provide immediate notice to FDEP and take appropriate steps to correct the non-compliance. In the event a non-compliance notice is received from the FDEP or other regulatory agency, the County will immediately address the non-compliance in accordance with best engineering practices and regulatory requirements.

2.13 REPORTS

Waste reports are compiled monthly and submitted to the FDEP quarterly. The reports include the amount of waste received in tons per day, and an estimate of each of the types of waste listed in Rule 62-701.500(4)(b).

Other operating records, including training records, permits, reports, and other documents are kept at the landfill administration building and are available for inspection by personnel from the FDEP.

SECTION 3

MAINTENANCE

3.1 ACCESS ROAD

The access road is maintained using asphalt roofing shingles derived from C&D wastes along with materials from the on-site borrow area. A 14 G Caterpillar grader is used for road maintenance.

3.2 EROSION CONTROL

Erosion control is provided by sodding the side slopes as final grade is reached. Developing vegetation on inactive areas of the cell also assists in reducing the potential for erosion. Any erosion which exposes waste or causes malfunction of the storm water management system will be repaired within three days of occurrence. If the erosion cannot be corrected within seven days of occurrence, the County will notify the FDEP and propose a correction schedule.

3.3 ODOR

Odors may be generated at landfills by the wastes accepted for disposal and by the decomposition of buried wastes. Odors may be an indication of the presence of hazardous or other unacceptable waste. Rejection of unacceptable waste that would create odors and efficient compaction and covering of incoming waste are the most effective measures for controlling the production of objectionable odors. Promptly removing putrescible or other rejected wastes from the Class III area also reduces the potential for developing odor problems.

If odor problems develop, appropriate responses will be taken, including employing more aggressive cover management, reducing the size of the working face, and enhancing the diversion of stormwater offsite.

Deodorizing methods such as masking agents, misting, and blowers may be used as temporary measures.

3.4 DUST

Windblown dust particles can pose a health threat to landfill employees and site users and can cause vehicle maintenance problems. The County uses a 5,000-gallon water wagon filled from the landfill perimeter canal to sprinkle roadways, stockpile areas, and processing areas with water as necessary to reduce the production of windblown dust. Developing vegetation on inactive areas of the cell and sodding the Class III sideslopes also assist in reducing the potential for windblown dust.

3.5 LITTER

A litter collection program helps reduce fire hazards, enhances the appearance of the landfill site, and helps control vectors. The County employs temporary litter fencing along the top of slope of the Class III site to control blowing litter. A permanent fence is located along the eastern edge of the Class III area to provide additional litter protection to the forested wetland area. A litter removal crew works five days a week collecting and removing litter from the landfill site, including the Class III area. Litter that is caught on the litter fencing is collected and removed by the litter removal crew. Litter from the Class III cell does not leave landfill property.

3.6 VECTOR CONTROL

Vectors that create nuisance conditions and health hazards at landfill sites include flies, rodents, and mosquitoes or other insects or animals capable of transmitting disease to humans. Because the Class III cell only accepts Class III waste for disposal, problems with vectors are limited and are not as extensive as they are at Class I disposal sites.

The efficient compaction and covering of incoming waste is the most effective measure for controlling propagation of flies and rodents. Compaction of waste limits potential harborage of rodents. Maintenance and grading of drainage channels reduces the potential for standing water, which limits the mosquito problem. Keeping the inactive portions of the site mowed and free from litter and debris accumulation reduces the potential habitat for vectors. Intercepting and promptly removing unacceptable wastes from the Class III area also reduces the potential for developing vector problems. In the event that significant quantities of vectors are observed, Volusia County Mosquito Control or other professional exterminator will be consulted to identify control methods.

3.7 VEHICLES

Vehicle maintenance facilities are located at the landfill adjacent to the Class III cell. Vehicle maintenance is accomplished as necessary to conduct preventative maintenance and repairs.

3.8 FUELS, SOLVENTS, LUBRICANTS

Fuels, solvents, lubricants and other chemicals or materials are properly stored at the landfill maintenance facility. No such materials are stored at the Class III facility

SECTION 4

EMERGENCY AND CONTINGENCY PLANS

4.1 GENERAL GUIDANCE

No evacuation plan has been prepared for the site.

Incidents which might require the assistance of outside emergency response agencies shall be directed to appropriate agencies and/or individuals listed in Table 4-1. In the event of a natural disaster, operations at the facility shall cease until the landfill Site Supervisor has deemed the area safe for contingency operations or resumption of normal operations.

In the event of inclement weather, accidents, fires, receipt of unauthorized waste, and equipment breakdowns, the appropriate provision of this plan will be implemented immediately. Amendments shall be made to this plan if the facility design, operations or maintenance procedures change.

4.2 EMERGENCY PLANS

4.2.1 Emergency Assistance

Emergency telephone numbers are listed in Table 4-1.

TABLE 4-1 EMERGENCY TELEPHONE NUMBERS
TOMOKA FARMS ROAD CLASS III LANDFILL

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
Chemical spills over 25 gallons (State Warning Point)	(800)-320-0519
Poison Control Center	(800)-222-1222
Hazardous Material Contractor: Laidlaw Environmental Services	(800) 699-8916
Sheriff:	(386) 248-1777
Facility Site Supervisor Martin Bey: Cell: Home: Pager:	 (386) 527-6335 (386) 767-6795 (386) 820-3806
Supervisor IV Gene Palmetier: Cell: Home: Pager:	 (386) 527-6333 (386) 228-3477 (386) 820-3811
Solid Waste Director Josef Grusauskas: Cell: Home: Pager:	 (386) 527-6337 (386) 304-9640 (386) 820-3075
Florida Department of Environmental Protection: James Bradner	(407) 894-7555

4.2.2 Personal Injury Accidents

In the event of a personal injury at the facility, on-site personnel will assess the nature and extent of the injury to the extent possible and appropriately trained personnel will administer

medical attention, emergency assistance will be summoned. In all cases, the landfill Site Supervisor will be notified.

4.2.3 Vehicular Accidents

In the event of a vehicular accident at the site, a determination will be made regarding the feasibility of safely moving the vehicle(s) under their own power. If possible, the vehicles will be moved out of the way of normal traffic flow. If the vehicles cannot move under their own power and the vehicles are interrupting traffic flow, the vehicles will be pushed out of the way using on-site equipment. The Site Supervisor will be notified and arrangements to have the disabled vehicles removed will be made in accordance with the directions of the Site Supervisor.

4.2.4 Fire

Fires will be smothered with soil to remove the oxygen fueling the point of combustion. This will be accomplished by using on-site equipment to excavate soil and transport it to the edge of the fire. Soil is stockpiled on the Class III site for use in fire and other emergencies. The soil will be spread onto the fire by working from the sides of the fire towards the center. A bulldozer will compact the soil to increase its density thus decreasing air circulation to fuel the fire. The water wagon will be brought to the site to assist if needed in keeping the portion of operating equipment in contact with smoldering material from becoming too hot and to wet down areas adjacent to the fire to keep the fire from spreading.

During a fire, all placement of combustible waste in the immediate area of the fire will be suspended. Placement of combustible waste in the area of the fire will resume only after a thorough inspection by the Site Supervisor. The Site Supervisor will notify the FDEP of the fire by telephone and will submit a written report within seven days describing the actions taken to extinguish the fire and the results of those actions.

In the event of a fire in or on disposal facility equipment, the following procedures will be used by the equipment operator or other nearby disposal facility personnel:

- Use the vehicle fire extinguishers to control the fire.
- If possible, move equipment away from the disposal area to solid ground, shut off the engine, and place the equipment's blades or buckets on the ground.
- Make other operators in the immediate area of the fire aware of the problem.
- Extinguish any reoccurring fires with fire extinguishers or other fire suppression materials.

Charged and tested fire extinguishers are located on all motorized equipment. In addition, each spotter has a fire extinguisher available at his or her position.

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- Use the vehicle fire extinguishers to control the fire.
- If possible, move equipment away from the disposal area to solid ground, shut off the engine, and place the equipment's blades or buckets on the ground.
- Make other operators in the immediate area of the fire aware of the problem.
- Extinguish any reoccurring fires with fire extinguishers or other fire suppression materials.

Charged and tested fire extinguishers are located on all motorized equipment. In addition, each spotter has a fire extinguisher available at his or her position.

There is no open burning at the facility. All fires will be promptly reported to the fire department listed in Table 4-1 and to the Site Supervisor.

4.2.5 Hazardous Waste

Hazardous wastes are not accepted at the Class III cell. The spotters are responsible for identifying concealed drums, or other suspect wastes. In the event hazardous waste is delivered to the cell, it is handled in accordance with applicable laws and transported to the on-site hazardous waste facility. If waste materials of a questionable nature are unloaded before they are spotted by County personnel, the hauler will be detained (if possible), and the Site Supervisor notified immediately to determine the appropriate action. If any regulated hazardous substance is discovered at the Class III area, the County will notify the FDEP, the person responsible for shipping the waste to the landfill, and the generator of the waste, if known. The area where the hazardous waste is deposited will be cordoned off from public access. If the generator or hauler of the waste is not known, the County will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste facility. If the shipper or generator is known, the shipper or generator will be held responsible for reimbursing the

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If unauthorized hazardous waste, fuel, or oil is spilled at the site, the spill area will be bermed or absorbent material placed to contain the spill. The Site Supervisor will be notified immediately in the event a spill occurs. The County hazardous waste response team will also be notified. In case of a spill, the following spill contingency plan will be implemented.

- In case of, or as soon as any spill is observed, the source of the spill will be located and actions taken to prevent further spillage, if possible.
- Potential ignition sources will be removed from and restricted from entering the area of the spill, if the material is flammable.
- A temporary dike will be constructed to contain the spill.
- Absorbent socks/booms will be used where appropriate. The fire station and hazard response contacts listed in Table 4-1 will be immediately advised of the nature and location of the spill.
- All absorbed material or contained liquid will be removed and packaged in Florida Department of Transportation (FDOT) approved containers. Used absorbent materials should be packaged separately from liquids.
- All containers used for the disposal of spill response debris will be labeled with the type of waste and the start date of accumulation and disposed in accordance with Federal and State environmental regulations.

4.3 CONTINGENCY PLANS

4.3.1 Inclement Weather

During rainy weather, care will be taken to maintain access to the working face of the Class III cell along on-site roads. Minor regrading and/or filling may be required from time to time to smooth out ruts in site access roads and processing areas. A stockpile of material for use in maintaining passable access roads during wet weather is kept available at the site.

4.3.2 Hot Loads

Any hot material that is found will be deposited on an unfilled area away from the active disposal area. The load will immediately be covered with earth if a fire is imminent. The waste will not be incorporated into the cell until it has cooled completely, and the fire hazard has been mitigated.

4.3.3 Equipment Failure

Sufficient backup equipment is available at the landfill site for equipment breakdowns and downtime for normal routine equipment maintenance. In the case of major equipment failure the following procedures will be followed:

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

SECTION 5

TRAINING

5.1 PURPOSE

In-house and publicly available training will be obtained to ensure that operators and spotters are properly trained to operate the facility and identify and manage unacceptable materials entering the facility.

5.2 TRAINING CLASSES AND SCHEDULES

Operators and Spotters at the Tomoka Farms Road Landfill are trained in accordance with Rule 62-701.320(15). Operators are required to complete 24 hours of initial training at an appropriate course offered by the University of Florida TREEO Center. Every three years thereafter, the Operators are required to complete 16 hours of additional training at an appropriate course offered by the University of Florida TREEO Center. Spotters are required to complete 8 hours of initial training at an appropriate course offered by the University of Florida TREEO Center. Every three years thereafter, the Spotters are required to complete 4 hours of additional training at an appropriate course offered by the University of Florida TREEO Center.

In-house training is also provided on an as-needed basis for temporary labor force personnel and for new employees. In-house trained operators or spotters are required to work under the supervision of a Rule-trained operator or spotter until they complete the next available University of Florida TREEO Center course is offered.

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The County maintains a database listing the training that each operator and spotter must receive and the timeframe during which that training must be completed. This database is updated as each employee attends and completes various TREEO courses. A copy of the training needs as of June 11, 2004 is presented in Table 5-1.

TABLE 5-1. OPERATOR AND SPOTTER TRAINING REQUIREMENTS SCHEDULE VOLUSIA COUNTY TOMOKA FARMS ROAD CLASS III LANDFILL

NAME	POSITION	ASSIGNMENT	TRACK	HRS NEEDED	TRAINING MUST BE COMPLETED BETWEEN
Baker, Charles David	EO III	TS	Spotter	4	8/06/03 - 8/05/06
Bletcher, James	EO III	TS	Spotter	4	8/06/03 - 8/05/06
Bolio, Bruce	Landfill Attendant	LF	Spotter	4	8/06/03 - 8/05/06
Brewer, Robert	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Bunch, Brett	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Clement, Charles	Landfill Attendant	LF	Spotter	4	8/06/03 - 8/05/06
Coffey, Jerry	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Douglas, Richard Wayne	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Faulls, William	EO III	TS	Spotter	4	8/06/03 - 8/05/06
Goins, Donald	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Helfrich, Jeffrey	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Hill, John	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Holcombe, Marjorie	Landfill Attendant	LF	Spotter	4	8/06/03 - 8/05/06
Hunter, Randal	Compliance Officer	Compliance	Spotter	4	8/06/03 - 8/05/06
Neeley, E.J.	Compliance Officer	Compliance	Spotter	4	8/06/03 - 8/05/06
Palmer, Victor Louie	EO III	LF	Spotter	4	8/06/03 - 8/05/06
Hartley, Charles Solan	EO III	TS	Spotter	4	8/07/03 - 8/06/06
Carroll, Aaron Jeffrey	EO III	TS	Spotter	4	8/07/03 - 8/06/06
Csernai, Michael	EO II	TS	Spotter	4	8/07/03 - 8/06/06
Daniels, Duane	EO II	LF	Spotter	4	8/07/03 - 8/06/06
Faircloth, Jeffery	EO III	LF	Spotter	4	8/07/03 - 8/06/06
Harris, Richard	EO III	TS	Spotter	4	8/07/03 - 8/06/06

TABLE 5-1. (CONTINUED)

NAME	POSITION	ASSIGNMENT	TRACK	HRS NEEDED	TRAINING MUST BE COMPLETED BETWEEN
Haygood, James Michael	EO III	LF	Spotter	4	8/07/03 - 8/06/06
Kelliher, Bruce	EO III	LF	Spotter	4	8/07/03 - 8/06/06
Lopez Nieves, Victor	EO III	LF	Spotter	4	8/07/03 - 8/06/06
Mackey, Richard	EO III	LF	Spotter	4	8/07/03 - 8/06/06
Daugherty, Merrell	EO II	LF	Spotter	4	3/20/05 - 3/20/08
Hopton, Troy	EO III	TS	Spotter	4	3/21/05 - 3/20/08
Jones, Richard	Maintenance II	TS	Spotter	4	3/21/05 - 3/20/08
McConnell, Michael	EO III	LF	Spotter	4	3/21/05 - 3/20/08
Grusauskas, Josef	Director	TS	Operator	6	9/13/02 - 9/12/05
Gaze, Susan	Enviro Spc III	LF	Operator	8	5/16/03 - 5/15/06
Quinn, Charles	Enviro Tech	LF	Operator	16	7/22/03 - 7/21/09
McCormack, Patrick	Support Service Supervisor	TS	Operator	6	9/15/03 - 9/14/06
Nelson, Brooks Alan	Supervisor III	LF	Operator	16	11/21/03 - 11/20/06
Palmatier, R. Gene	EOIII	TS	Operator	8	11/16/02 - 11/15/05
Powers, Gregory	EO III	LF	Operator	16	5/19/04 - 5/18/07
Bey, Martin	Support Service Super	LF	Operator	16	2/07/06 - 2/06/09

In-house training is also provided on an as-needed basis for temporary labor force personnel and for new employees. This training, offered by the County to County employees, is not a training course as defined by Section 403.716, Florida Statutes and is not a substitute for FDEP-approved training courses. No one is allowed to perform the duties of a landfill operator unless he or she has completed an operator training course approved by the FDEP or qualifies as an interim operator who works under the direct supervision of a rule-trained operator. In-house trained interim operators or interim spotters are required to work under the supervision of a Rule-trained operator or spotter until they complete the next available University of Florida TREEO Center course ~~is offered~~.

PART M

WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

The County monitors ground and surface water in accordance with the groundwater monitoring plan included as Exhibit I in the existing operation permit. No changes to this plan are proposed at this time.

PART N

SPECIAL WASTE HANDLING REQUIREMENTS

N.1 MOTOR VEHICLES

Motor vehicle bodies are not accepted for disposal in the Class III cell.

N.2 SHREDDED WASTE

The Class III cell does not accept shredded tires or shredder fluff.

N.3 ASBESTOS

Asbestos waste is not accepted at the Class III cell.

N.4 CONTAMINATED SOIL

Contaminated soils will not be accepted for disposal in the Class III cell.

N.5 BIOLOGICAL WASTE

Biological waste as defined by Rule 62-701.200(9) will not be accepted for disposal in the Class III cell.

PART O

GAS MANAGEMENT SYSTEM REQUIREMENTS

O.1 GAS MANAGEMENT SYSTEMS

There is no gas collection system in the Class III cell. Class III waste includes yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, and furniture. These materials do not produce landfill gas at as high a rate or in as great a quantity as Class I wastes. During the active life of the Class III cell, gas generated in the buried waste will be allowed to vent to atmosphere through the soil cover. The existing landfill gas monitoring program has documented that concentrations of combustible gasses do not exceed 25 percent of the lower explosive limit (LEL) in structures or 100 percent of the LEL at the property boundary. At the time of closure, the County will evaluate the gas generation in the Class III cell and incorporate venting or collection as necessary.

O.2 GAS MONITORING

The Tomoka Farms Road Landfill has a gas monitoring plan that includes the Class III cell. Soil probes are monitored on a quarterly basis for the presence of landfill gas.

O.3 GAS REMEDIATION PLAN

If gas or odor becomes a problem in the Class III cell, specific remediation measures will be undertaken.

O.4 LANDFILL GAS RECOVERY

There is no gas collection system in the Class III cell.

PART P

FINAL CLOSURE REQUIREMENTS

P.1 CLOSURE SCHEDULE

The County will notify the FDEP in writing at least one year prior to final receipt of waste in the Class III cell. This notice will include a schedule for completion of the required closure tasks. Users of the facility will be notified of the planned closure within 120 days of final receipt of wastes, and the general public will be notified of the planned closure within 10 days of final receipt of wastes.

P.2 CLOSURE PERMIT GENERAL REQUIREMENTS

The County understands that a closure plan must be submitted to the FDEP at least 90 days prior to the date when waste will no longer be accepted. Within 30 days of closing the Class III cell, the County will submit a certification of closure construction completion. A final survey will also be performed and a survey report will be submitted to the FDEP showing the final contours and grades.

Proposed final contours and details are shown on Sheets 5 and 7 of the project drawings included with the 1999 permit application. The proposed final cover, from bottom to top, consists of 12 inches of soil cover, a geosynthetic clay liner (GCL), 18 inches of soil, six inches of soil capable of supporting vegetative growth, and a rolled sod vegetative cover. The final cover for the thirty acres above elevation 110 includes a biplanar geocomposite drainage layer immediately above the GCL. The site will be graded to promote drainage, minimize erosion, and prevent ponding. The County has been constructing the final soil cover on the existing C&D site using landfill personnel and equipment as areas of the site reach the proposed final grade. Rolled sod has been used to provide the vegetative cover. The County intends to continue constructing the final cover as a part of on-going landfill operation in the manner described above.

P.3 CLOSURE REPORT

A closure plan will be submitted to the FDEP at least 90 days prior to final receipt of waste. A closure report will be included with that plan.

P.4 CLOSURE DESIGN

A closure design plan will be submitted to the FDEP at least 90 days prior to final receipt of waste.

PART P

FINAL CLOSURE REQUIREMENTS

P.1 CLOSURE SCHEDULE

The County will notify the FDEP in writing at least one year prior to final receipt of waste in the Class III cell. This notice will include a schedule for completion of the required closure tasks. Users of the facility will be notified of the planned closure within 120 days of final receipt of wastes, and the general public will be notified of the planned closure within 10 days of final receipt of wastes.

P.2 CLOSURE PERMIT GENERAL REQUIREMENTS

The County understands that a closure plan must be submitted to the FDEP at least 90 days prior to the date when waste will no longer be accepted. This plan will include the following:

- Closure Report
- Closure Design Plan
- Closure Operation Plan
- Closure Procedures
- Plan for Long Term Care
- Proof of Financial Responsibility

Within 30 days of closing the Class III cell, the County will submit a certification of closure construction completion. A final survey will also be performed and a survey report will be submitted to the FDEP showing the final contours and grades.

The County has been constructing the final soil cover on the existing C&D site using landfill personnel and equipment as areas of the site reach the proposed final grade. Rolled sod has been used to provide the vegetative cover. The County intends to continue constructing the final cover as a part of on-going landfill operation in the manner described above.

P.3 CLOSURE REPORT

A closure report will be submitted to the FDEP at least 90 days prior to final receipt of waste. The closure report will address the following:

- General information on the Class III cell
- Geotechnical investigation report
- Water quality monitoring plan
- Land use information

P.5 CLOSURE OPERATIONS

A closure operation plan will be submitted to the FDEP at least 90 days prior to final receipt of waste.

- Gas migration report
- Landfill design and operation effectiveness report

P.4 CLOSURE DESIGN

A detailed closure design plan will be submitted to the FDEP at least 90 days prior to final receipt of waste.

P.4.a Phases of Site Closing

The County intends to construct the terrace drainage system and final cover in phases as each terrace level is completed. After the fourth terrace is completed the fifth and final phase to be closed will be the top area above the fourth terrace.

P.4.b Existing Topography and Proposed Final Grades

Attachment F-3 shows the existing topography of the Class III cell area as of May 31, 2003. The proposed final grades are shown on Sheet 5 of the project drawings included with the 1999 permit application.

P.4.c Provision to Close Units When They Reach Approved Final Dimensions

The County intends to construct terraces and final cover over areas that have reached the permitted final grade.

P.4.d Final Elevations

Final elevations before settlement are shown on Sheet 5 of the project drawings included with the 1999 permit application.

P.4.e Side Slope Design

The Class III cell is designed with 3:1 side slopes, with 20-foot wide terraces after every 20 feet of vertical rise. Surface runoff is collected on the terraces and directed to the toe of slope through downpipes, as shown on Sheet 5 of the project drawings included with the 1999 permit application. Energy dissipation at the toe of slope is provided by concrete rubble pads, as shown on Sheet 7 of the project drawings included with the 1999 permit application.

PART Q

CLOSURE PROCEDURES

Closure procedures will be described in the closure permit application, to be submitted to the FDEP at least 90 days prior to final receipt of wastes. The permit application report will address the requirements for survey monuments and a final survey report, certification of closure construction completion, declaration to the public, determination of the official date of closing, the use of closed landfill areas, and, if necessary, procedures for relocation of buried waste within the Class III area.

PART R

LONG TERM CARE REQUIREMENTS

R.1 GAS COLLECTION AND MONITORING

There are no gas collection structures existing or proposed for the Class III cell. If gas collection becomes necessary, it will be constructed and maintained for the long-term care period of the Class III cell. The County may request that the FDEP allow the County to abandon the gas collection system prior to the expiration of the 30-year long-term care period if the landfill has stabilized to the point where there is no significant production of combustible gases or objectionable odors. The gas monitoring system will be maintained during the long-term care period as part of the overall Tomoka Farms Road Landfill gas monitoring.

R.2 PROPERTY ACCESS

The County will continue to make the site available for inspection by the FDEP after closure.

R.3 SUCCESSORS

The County recognizes that any future property owner would be required to abide by permit and other regulatory requirements. Currently, there are no plans for selling the property.

R.4 MONITORING DEVICES

After closure, the County will continue to monitor and maintain the Class III cell for at least 30 years or longer if requested by the FDEP. Monitoring activities will include inspection of the side slopes and soil cover, monitoring for evidence of gas formation, and checking for unauthorized use of the site for debris disposal. Ground water monitoring will be conducted under the requirements of the closure permit. The Class III cell is part of the overall Tomoka Farms Road Landfill site which is protected by the perimeter fencing and security procedures in place at that facility.

Long-term maintenance consists of periodic inspection, repairing erosion damage to the side slopes, maintaining and re-establishing the vegetative cover, mowing, repair and replacement of groundwater monitor wells, and cleaning and maintenance of the stormwater control structures. The County will conduct these activities in conjunction with the maintenance and repair activities required at the other Tomoka Farms Road Landfill facilities.

Long term care will be more fully described in the closure permit application, which will be submitted at least 90 days prior to final receipt of wastes.

R.5 COMPLETION OF LONG TERM CARE

Following completion of the long-term care period for the Class III cell, the County will notify the FDEP that a certification, signed and sealed by a professional engineer, verifying that long-term care has been completed in accordance with the closure plan has been placed in the operating record with a copy forwarded to the FDEP.

PART S

FINANCIAL RESPONSIBILITY REQUIREMENTS

S.1 CLOSURE COST ESTIMATE

The March 2004 report, "FY02-FY03 Financial Assurance Report for the Class I Landfill, Tomoka Class III Landfill, and Plymouth Landfill", prepared by Camp Dresser & McKee, Inc., includes cost estimates for the closure and the long term maintenance of the Class III cell. A copy of these estimates are included in Attachment S-1.

The County intends to complete the required closure activities with County forces as a part of normal site operation. At the time of closure, required activities would include a small area of final cover, the final survey, and certification of closure construction. If the site were to be closed prior to reaching final grade, additional grading and soil cover would be required. Attachment S-1 presents the estimate of probable closure cost based on an outside contractor being brought in to complete the required closure. The estimate assumes that sufficient cover soil and topsoil is available on-site, and that the County will have this material stockpiled for use by the closure contractor.

S.2 ANNUAL COST ADJUSTMENTS

The County updates the Closure and Long-term Care Cost Estimates as required by Rule 62-701.630(4), F.A.C., and certified copies are submitted to FDEP on an annual basis for review and approval in accordance with regulatory requirements.

S.3 PROOF OF FINANCIAL RESPONSIBILITY FUNDING MECHANISMS

A description of the County's proof of financial responsibility is included in Attachment S-1.

ATTACHMENT S-1

FINANCIAL ASSURANCE

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01

DEP Application No. _____
(Filled by DEP)

Florida Department of Environmental Protection

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

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: 03/01/04 Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Tomoka Farms Road Class III Landfill WACS or GMSID #: _____

Permit / Application No.: SC64-0078767-007 Expiration Date: 07/08/04

Facility Address: 1990 Tomoka Farms Road, Daytona Beach, FL 32128

Permittee: Volusia County

Mailing Address: 3151 E. New York Avenue, DeLand, FL 32724

Latitude: 29-7-53 Longitude: 81-05-31 or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Class III	81.4	7/18/98	15 Years

Total Landfill Acreage included in this estimate. 81.4 Closure 81.4 Long-Term Care

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

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

_____ Letter of Credit*

_____ Performance Bond*

_____ Guaranty Bond*

_____ Insurance Certificate

✓ Escrow Account

_____ Trust Fund Agreement

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

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

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

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

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

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

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

III. ESTIMATE ADJUSTMENT

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

☑ **(a) Inflation Factor Adjustment**

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste Financial Coordinator at (850)-488-0300.

This adjustment is based on the Department approved closure cost estimate dated: September 2002

Latest Department Approved Closure Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Closure Cost Estimate:
$4,379,849.40	X	1.01	=	**$4,423,647.89**

This adjustment is based on the Department approved long-term care cost estimate dated: **September 2002**

Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Annual Long-Term Care Cost Estimate:
$66,830.40	X	1.01	=	$67,498.70

Number of Years of Long Term Care Remaining:	X	30
Inflation Adjusted Long-Term Care Cost Estimate:	=	**2,024,961.12**

☐ **(b) Recalculate Estimates** (see section V)

IV. CERTIFICATION BY ENGINEER

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

3/1/04
Signature of Engineer

John G. Ladner
Name & Title (please type)

P.E. No. 037969
Florida Registration Number (affix seal) &Date

2301 Maitland Center Pkwy., Suite 300
Mailing Address

Maitland, FL 32751
Telephone Number

Signature of Owner/Operator

Josef F. Grusauskas
Name & Title (please type)

(386) 943-7889
Telephone Number