



England-Thims & Miller, Inc.

ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

September 15, 2000

Principals

James E. England, P.E., C.E.O.
Douglas C. Miller, P.E., President
N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Jeffrey A. Crammond, P.E., V.P.
Scott A. Wild, P.E., P.S.M., V.P.

Ms. Mary C. Nogas, P.E.
Solid Waste Section Supervisor
Department of Environmental Protection
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

Reference: Trail Ridge Landfill
DEP Permit Number 0013493-002-SC

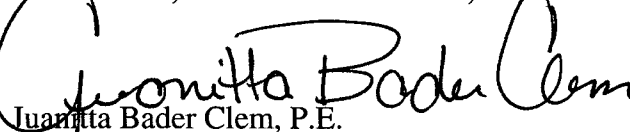
Dear Ms. Nogas:

On behalf of Trail Ridge Landfill, Inc., please find herewith the *Application for Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility* for a minor modification to the referenced permit for Trail Ridge Landfill. It is hereby requested that Specific Condition 20 be modified from a maximum daily tonnage of 3,500 tons to a maximum daily tonnage of 5,000 tons. Please find herein a narrative regarding the equipment and personnel required for this increase in waste receipt. Please note that the equipment is currently on site.

I would respectfully request that any questions regarding this application be directed to me.

Sincerely,

ENGLAND, THIMS & MILLER, INC.



Juanitta Bader Clem, P.E.

Vice President

RECEIVED

SEP 15 2000

Attachments: Application for Solid Waste Management Facility Permit
Narrative regarding Equipment and Personnel
Permit Fee of \$250.00

STATE OF FLORIDA
DEPT. OF ENV. PROTECTION
NORTHEAST DISTRICT-JAX

cc: Greg Mathes w/Attachments
Chris Pearson w/Attachments



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

DEP Form # 62-7011-9000(1)
Form Title Solid Waste Management Facility Permit
Effective Date May 19, 1994
DEP Application No. _____
(Filled by DEP)

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SEP 15 2000

STATE OF FLORIDA
DEPT. OF ENV. PROTECTION
NORTHEAST DISTRICT-JAX

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOLID WASTE MANAGEMENT FACILITY PERMIT

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Center
Tallahassee, FL 32301-5794
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
941-332-8975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-8600

REGfiles: 10/1998

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT 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 six copies of the application shall be submitted to the Department District Office having jurisdiction over the facility. The appropriate fee in accordance with Chapter 62-4, FAC, and Rule 62-701.320(5)(c), FAC, shall be submitted with the application by check made payable to the Department of Environmental Regulation (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 R, and T
- B. Asbestos Monofills - Submit parts A,B,D,E,F,I,K, M through Q, and T
- C. Industrial Solid Waste Facilities - Submit parts A,B, D through Q, and T
- D. Volume Reduction Facilities - Submit parts A,C,D,S, and T
- E. Materials Recovery Facilities - Submit parts A,C,D,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,D, and E 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, N through R, and T
- B. Asbestos Monofills - Submit parts A,B, M through Q, and T
- C. Industrial Solid Waste Facilities - Submit parts A,B, N through Q, and T
- D. Volume Reduction Facilities - Submit parts A,C,S, and T
- E. Materials Recovery Facilities - Submit parts A,C,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	-	MATERIALS RECOVERY / VOLUME REDUCTION FACILITY GENERAL INFORMATION
PART D	-	SOLID WASTE MANAGEMENT FACILITY PERMIT GENERAL REQUIREMENTS
PART E	-	LANDFILL PERMIT GENERAL REQUIREMENTS
PART F	-	GENERAL CRITERIA FOR LANDFILLS
PART G	-	LANDFILL CONSTRUCTION REQUIREMENTS
PART H	-	HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
PART I	-	GEOTECHNICAL INVESTIGATION REQUIREMENTS
PART J	-	VERTICAL EXPANSION OF LANDFILLS
PART K	-	LANDFILL OPERATION REQUIREMENTS
PART L	-	WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
PART M	-	SPECIAL WASTE HANDLING REQUIREMENTS
PART N	-	LANDFILL CLOSURE REQUIREMENTS
PART O	-	CLOSURE PROCEDURES
PART P	-	LONG TERM CARE REQUIREMENTS
PART Q	-	FINANCIAL RESPONSIBILITY REQUIREMENTS
PART R	-	CLOSURE OF EXISTING LANDFILL REQUIREMENTS
PART S	-	MATERIALS RECOVERY FACILITY REQUIREMENTS
PART T	-	CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

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

Please Type or Print

A. GENERAL INFORMATION

1. Type of facility:

Disposal ☒

Class I Landfill	<input checked="" type="checkbox"/>	Ash Monofill	<input type="checkbox"/>
Class II Landfill	<input type="checkbox"/>	Asbestos Monofill	<input type="checkbox"/>
Class III Landfill	<input type="checkbox"/>	Industrial Solid Waste	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>	Waste Tire Processing	

Volume Reduction ☐

Incinerator	<input type="checkbox"/>	Pulverizer / Shredder	<input type="checkbox"/>
Composting	<input type="checkbox"/>	Compactor / Baling Plant	<input type="checkbox"/>
Materials Recovery	<input type="checkbox"/>	Energy Recovery	<input type="checkbox"/>
Other	<input type="checkbox"/>		

2. Type of application:

Construction	<input type="checkbox"/>	Construction/Operation	<input checked="" type="checkbox"/>
Operation	<input type="checkbox"/>	Closure	<input type="checkbox"/>

3. Classification of application: This application includes a vertical expansion over the double lined landfill.

New	<input type="checkbox"/>	Substantial Modification	<input type="checkbox"/>
Renewal	<input type="checkbox"/>	Minor Modification	<input checked="" type="checkbox"/>

4. Facility name: Trail Ridge Landfill

5. DEP ID number: GMS3116P02787 County: Duval

6. Facility location (main entrance): 5110 U.S. Hwy. 301

Baldwin, FL 32234

7. Location coordinates:

18, 19

Section: 20, 21 Township: 3S Range: 23E

UTMs: Zone 17 399764 km E 3344918 km N

Latitude: 30 ° 14 ' 00 " Longitude: 82 ° 02 ' 30 "

8. Applicant name (operating authority): Trail Ridge Landfill, Inc.
- Mailing address: 5110 U.S. Hwy. 301 Baldwin Florida 32234
Street or P.O. Box City State Zip
- Contact person: Greg Mathes Telephone: (904) 289-9100
- Title: General Manager
9. Authorized agent/Consultant: England, Thims & Miller, Inc.
- Mailing address: 14775 St. Augustine Rd. Jacksonville Florida 32258
Street or P.O. Box City State Zip
- Contact person: Juanitta Clem Telephone: (904) 642-8990
- Title: Vice President
10. Landowner (if different than applicant): City of Jacksonville
- Mailing address: 515 N. Laura St., 6th Floor, Jacksonville, Florida 32202
Street or P.O. Box City State Zip
- Contact person: Chris Pearson Telephone: (904) 665-4467
11. Cities, towns and areas to be served: City of Jacksonville (Duval County) and
neighboring environs.
12. Population to be served: Duval County
- Current: 732,034 (1995) Five-Year Projection: 777,641 (2000)
13. Volume of solid waste to be received: 5,000 * tons/day (peak)
3,900 tons/day (monthly average)
14. Date site will be ready to be inspected for completion: N/A
15. Estimated life of facility: 16± years
16. Estimated costs:
- Total Construction: \$ 21.4 Million ± Closing Costs: \$ 12.43 Million ±
17. Anticipated construction starting and completion dates:
- From: 2000 To: 2001

* This waste receipt may increase in the case of a natural disaster and will vary due to market conditions.

B. DISPOSAL FACILITY GENERAL INFORMATION

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

Increase the waste receipt to a daily maximum of 5,000 tons.

2. Facility site supervisor: Greg Mathes

Title: General Manager Telephone: (904) 289-9100

3. Disposal area: Total 144 acres; Used 91 acres; Available 53 acres

4. Weighing scales used: Yes ☒ No ☐

5. Security to prevent unauthorized use: Yes ☒ No ☐

6. Charge for waste received: N/A \$/yds³ 32.00 \$/ton

7. Surrounding land use, zoning:

Residential	<input type="checkbox"/>	Industrial	<input type="checkbox"/>
Agricultural	<input type="checkbox"/>	None	<input type="checkbox"/>
Commercial	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/> <u>Silviculture</u>

8. Types of waste received:

Residential	<input checked="" type="checkbox"/>	C & D debris	<input checked="" type="checkbox"/>
Commercial	<input checked="" type="checkbox"/>	Shredded/cut tires	<input checked="" type="checkbox"/>
Incinerator / WTE ash	<input type="checkbox"/>	Yard trash	<input type="checkbox"/>
Treated biohazardous	<input checked="" type="checkbox"/>	Septic tank	<input type="checkbox"/>
Water treatment sludge	<input checked="" type="checkbox"/>	Industrial	<input checked="" type="checkbox"/>
Air treatment sludge	<input type="checkbox"/>	Industrial sludge	<input checked="" type="checkbox"/>
Agricultural	<input checked="" type="checkbox"/>	Domestic sludge	<input checked="" type="checkbox"/>
Asbestos	<input checked="" type="checkbox"/>		
Other	<input checked="" type="checkbox"/>	<u>Non-Hazardous Special Waste</u>	

9. Salvaging permitted: Yes ☐ No ☒

10. Attendant: Yes ☒ No ☐ Trained operator: Yes ☒ No ☐

11. Spotters: Yes ☒ No ☐ Number of spotters used: 2

12. Site located in: Floodplain ☐ Wetlands ☐ Other ☒ Upland Pine Flatwoods

13. Property recorded as a Disposal Site in County Land Records: Yes ☐ No ☒
14. Days of operation: Monday - Saturday
15. Hours of operation: 5:00 A.M. - 10:00 P.M.*
16. Days Working Face covered: Daily with cover dirt or tarpaulin
17. Elevation of water table: varies Ft. NGVD
18. Number of monitoring wells: 43 (27 wells monitored)
19. Number of surface monitoring points: 3
20. Gas controls used: Yes ☒ No ☐ Type controls: Active ☒ Passive ☐
 Gas flaring: Yes ☒ No ☐ Gas recovery: Yes ☐ No ☒
21. Landfill Unit - liner type:
- | | | | |
|--------------------|--------------------------|---|-------------------------------------|
| Natural soils | <input type="checkbox"/> | Double geomembrane | <input checked="" type="checkbox"/> |
| Single clay liner | <input type="checkbox"/> | Geomembrane & composite | <input type="checkbox"/> |
| Single geomembrane | <input type="checkbox"/> | Double composite | <input type="checkbox"/> |
| Single composite | <input type="checkbox"/> | None | <input type="checkbox"/> |
| Slurry wall | <input type="checkbox"/> | | |
| Other | <input type="checkbox"/> | <u>w/Bentonite Mat and 6" clay subgrade</u> | |
22. Leachate collection method:
- | | | | |
|------------------|-------------------------------------|--------------------|--------------------------|
| Collection pipes | <input checked="" type="checkbox"/> | Sand layer | <input type="checkbox"/> |
| Geonets | <input checked="" type="checkbox"/> | Gravel layer | <input type="checkbox"/> |
| Well points | <input type="checkbox"/> | Interceptor trench | <input type="checkbox"/> |
| Perimeter ditch | <input type="checkbox"/> | None | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | | |
23. Leachate storage method:
- | | | | |
|-------|-------------------------------------|----------------------|--------------------------|
| Tanks | <input checked="" type="checkbox"/> | Surface impoundments | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | | |
24. Leachate treatment method:
- | | | | |
|-----------|-------------------------------------|---|--------------------------|
| Oxidation | <input type="checkbox"/> | Chemical treatment | <input type="checkbox"/> |
| Secondary | <input type="checkbox"/> | Settling | <input type="checkbox"/> |
| Advanced | <input type="checkbox"/> | None | <input type="checkbox"/> |
| Other | <input checked="" type="checkbox"/> | <u>Off-site Treatment at a City Wastewater Treatment Facility</u> | |

* May vary dependent upon waste receipt.

25. Leachate disposal method:

Recirculated	[X]	Pumped to WWTP	[]
Transported to WWTP	[X]	Discharged to surface water	[]
Injection well	[]	Evaporation (ie: Perc Pond)	[]
Other	[]		

26. For leachate discharged to surface waters:

Name and Class of receiving water: N/A

27. Storm Water: Collected: Yes [X] No [] Type of treatment: wet detention

Name and Class of receiving water: Headwaters of Deep Creek - Class III

28. Management and Storage of Surface Waters (MSSW) Permit number or status: _____

Permitted as Solid Waste Permit (DEP File Nos. 184444, 184445 and 184447). Pond was permitted, constructed and certified.

N/A

C. MATERIALS RECOVERY / VOLUME REDUCTION FACILITY GENERAL INFORMATION

1. Provide brief description of materials recovery / volume reduction facility design and operations planned by this application:

2. Facility site supervisor: _____

Title: _____ Telephone: (____) _____

3. Disposal area: Total _____ acres; Used _____ acres; Available _____ 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: _____ yd³/day _____ tons/day _____ gal/day

12. Maximum processing rate: _____ yd³/day _____ tons/day _____ gal/day

13. Charge for waste received: _____

14. Type of facility (check one or more):

Incinerator	<input type="checkbox"/>	Composting	<input type="checkbox"/>
Pulverizer / shredder	<input type="checkbox"/>	Materials recovery	<input type="checkbox"/>
Compactor / baling	<input type="checkbox"/>	Energy recovery	<input type="checkbox"/>
Sludge concentration	<input type="checkbox"/>	Pyrolysis	<input type="checkbox"/>
Other	<input type="checkbox"/>		

15. Material recovered, tons/week:

_____ Paper	_____ Glass
_____ Ferrous metals	_____ Non-ferrous metals
_____ Aluminum	_____ Plastics
_____ Other:	

16. Energy recovery, in units shown:

_____ High pressure steam, lb/hr	_____ Chilled water, gal/hr
_____ Low pressure steam, lb/hr	_____ Oil, gal/hr
_____ Electricity, kw/hr	_____ Oil, BTU/hr
_____ Gas, ft ³ /hr	_____ Gas, BTU/hr
_____ Other:	_____

17. Process water management:

Recycled: Yes ☐ No ☐

Treatment method used: _____

Discharged to: Surface waters ☐ Underground ☐ Other ☐

Name and Class of receiving water: _____

18. Storm Water:

Collected: Yes ☐ No ☐ Type of treatment: _____

Name and Class of receiving water: _____

19. ERP Permit number or status: _____

20. Final residue produced:

_____ % of normal processing rate

_____ % of maximum processing rate

Disposed of at (Site name): _____

21. Supplemental fuel used:

Type: _____ Quantity used/hour: _____

22. Costs:

Estimated operating costs (material-energy revenue): \$ _____

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

23. State pollution control bond financing amount: \$ _____

24. Estimated amount of tax exemptions that will be requested: \$ _____

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

S LOCATION N/A N/C

- | | | | | | |
|----------|-----------------|-----|----------|----|--|
| <u>X</u> | <u>Attached</u> | ___ | ___ | 1. | Six copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC) |
| <u>X</u> | <u>Attached</u> | ___ | ___ | 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) |
| <u>X</u> | <u>Attached</u> | ___ | ___ | 3. | A letter of transmittal to the Department; (62-701.320(7)(a), FAC) |
| <u>X</u> | <u>Attached</u> | ___ | ___ | 4. | A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC) |
| <u>X</u> | <u>Attached</u> | ___ | ___ | 5. | Permit fee specified in Rule 62-4.050, FAC and Rule 62-701.320(5)(c), FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC) |
| <u>X</u> | <u>Attached</u> | ___ | ___ | 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) |
| ___ | ___ | ___ | <u>X</u> | 7. | Operation Plan; (62-701.320(7)(e)1., FAC) |
| ___ | ___ | ___ | <u>X</u> | 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) showing; (62-702.320(7)(f), FAC) |
| ___ | ___ | ___ | <u>X</u> | a. | A regional map or plan with the project location; |
| ___ | ___ | ___ | <u>X</u> | b. | A vicinity map or aerial photograph no more than 1 year old; |
| ___ | ___ | ___ | <u>X</u> | c. | A site plan showing all property boundaries certified by a registered Florida land surveyor; |

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	—	<u>X</u>	d. Other necessary details to support the engineering report.
—	—	—	<u>X</u>	10. Proof of property ownership or a copy of appropriate agreements between the facility operator and property owner authorizing use of property; (62-701.320(7)(g), FAC)
—	—	—	<u>X</u>	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 recycling goals contained in Section 403.706, FS; (62-701.320(7)(h), FAC)
—	—	—	<u>X</u>	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)
—	—	<u>X</u>	—	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; (62-701.320(8), FAC)
—	—	—	<u>X</u>	14. Provide a description of how the requirements for airport safety will be achieved including proof of required notices if applicable; (62-701.320(12), FAC)

E. LANDFILL PERMIT GENERAL REQUIREMENTS (62-701.330, FAC)

S	LOCATION	N/A	N/C	
_____	_____	_____	<u>X</u>	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(4)(a), FAC)
_____	_____	_____	<u>X</u>	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(4)(b), FAC)
_____	_____	_____	<u>X</u>	3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(4)(c), FAC)
_____	_____	_____	<u>X</u>	a. Dimensions;
_____	_____	_____	<u>X</u>	b. Locations of proposed and existing water quality monitoring wells;
_____	_____	_____	<u>X</u>	c. Locations of soil borings;
_____	_____	_____	<u>X</u>	d. Proposed plan of trenching or disposal areas;
_____	_____	_____	<u>X</u>	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
_____	_____	_____	<u>X</u>	f. Any previously filled waste disposal areas;
_____	_____	_____	<u>X</u>	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(4)(d), FAC):
_____	_____	_____	<u>X</u>	a. Proposed fill areas;
_____	_____	_____	<u>X</u>	b. Borrow areas;
_____	_____	_____	<u>X</u>	c. Access roads;
_____	_____	_____	<u>X</u>	d. Grades required for proper drainage;
_____	_____	_____	<u>X</u>	e. Cross sections of lifts;

S	LOCATION	N/A	N/C	
			<u>X</u>	f. Special drainage devices if necessary;
			<u>X</u>	g. Fencing;
			<u>X</u>	h. Equipment facilities.
				5. A report on the landfill describing the following; (62-701.330(4)(e), FAC)
			<u>X</u>	a. The current and projected population and area to be served by the proposed site;
<u>X</u>	<u>Attached</u>			b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;
			<u>X</u>	c. The anticipated facility life;
			<u>X</u>	d. The source and type of cover material used for the landfill.
			<u>X</u>	6. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Rule 62-160, FAC; (62-701.330(4)(h), FAC)
			<u>X</u>	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(4)(i), FAC)

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

			<u>X</u>	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 is a washout of solid waste; (62-701.340(4)(b), FAC)
			<u>X</u>	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)
			<u>X</u>	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)

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

S LOCATION N/A N/C

- | | | | | |
|-------|-------|----------|----------|--|
| _____ | _____ | _____ | <u>X</u> | 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): |
| _____ | _____ | _____ | <u>X</u> | (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; |
| _____ | _____ | _____ | <u>X</u> | (2) Document foundation is adequate to prevent liner failure; |
| _____ | _____ | _____ | <u>X</u> | (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water; |
| _____ | _____ | _____ | <u>X</u> | (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table; |
| _____ | _____ | _____ | <u>X</u> | (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) |
| _____ | _____ | <u>X</u> | _____ | (1) Upper geomembrane thickness and properties; |
| _____ | _____ | <u>X</u> | _____ | (2) Design leachate head for primary LCRS including leachate recirculation if appropriate; |
| _____ | _____ | <u>X</u> | _____ | (3) Design thickness in accordance with Table A and number of lifts planned for lower soil component. |

S	LOCATION	N/A	N/C
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c. Double liners; (62-701.400(3)(c), FAC)

- | | | | |
|-------|-------|-------|----------|
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
- (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 ($k \geq 1$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);

d. Standards for geomembranes;
(62-701.400(3)(d), FAC)

- | | | | |
|-------|-------|-------|----------|
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
- (1) Field seam test methods to ensure all field seams are at least 90 percent of the yield strength for the lining material;
 - (2) Design of 24-inch-thick protective layer above upper geomembrane liner;
 - (3) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer.

e. Geosynthetic specification requirements;
(62-701.400(3)(e), FAC)

- | | | | |
|-------|-------|-------|----------|
| _____ | _____ | _____ | <u>X</u> |
| _____ | _____ | _____ | <u>X</u> |
- (1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
 - (2) Material specifications for geomembranes, geotextiles, geogrids, and geonets;

S	LOCATION	N/A	N/C
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	<u>X</u>	_____

(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;

(6) Geonet specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials;

f. Standards for soil components
(62-701.400(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;

(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;

S	LOCATION	N/A	N/C
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_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	<u>X</u>	_____
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

(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)

_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

- (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
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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 accommodate 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 to control odors and migration of methane;
- 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

5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____

- (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 ≥ 1 cm/sec;
 - (c) Lower geomembrane placed on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ 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 vectors and off-site odors.

S	LOCATION	N/A	N/C
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b. Above-ground leachate storage tanks;
(62-701.400(6)(c), FAC)

_____	_____	_____	<u>X</u>
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	<u>X</u>	_____
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

- (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 overflow prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overflowing;
- (7) Inspections, corrective action and reporting requirements;
 - (a) Overflow 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)

_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____

- (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
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_____	_____	<u>X</u>	_____
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(a) Interstitial space monitoring at least weekly;

_____	_____	<u>X</u>	_____
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(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(c) Interior tank coatings compatible with stored leachate;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

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

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

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

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(4) Inspection reports available for department review.

_____	_____	<u>X</u>	_____
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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)

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

a. Provide CQA Plan including:

_____	_____	_____	<u>X</u>
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(1) Specifications and construction requirements for liner system;

_____	_____	_____	<u>X</u>
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(2) Detailed description of quality control testing procedures and frequencies;

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

(3) Identification of supervising professional engineer;

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

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

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

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

_____	_____	_____	<u>X</u>
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(6) Description of CQA reporting forms and documents;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>
<u> </u>	<u> </u>	<u> </u>	<u> X </u>

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. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;

b. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;

9. Gas control systems; (62-701.400(10), FAC)

a. Design details for gas control system including collection pipes and vents, and passive venting or vacuum extraction details;

b. Documentation that the gas control system will not impact the liner or leachate control system;

c. Proposed methods of odor control including flaring designs in accordance with Chapter 62-296, FAC;

d. Description of a routine gas monitoring program to ensure gas control system is operating properly including:

(1) Location of monitoring points;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	<u>X</u>	—

(2) Requirements for quarterly sampling of all monitoring points;

(3) Description of corrective measures to be completed within 60 days of detection of elevated levels of explosive gases;

e. Description of condensate collection and disposal methods.

10. Landfill gas recovery facilities; (62-701.400(11), FAC)

a. Information required in Rules 62-701.320(7) and 62-701.330(4), 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;

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;

f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

11. 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(12), FAC)

H. 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. Site topography and soil characteristics;
- g. Inventory of all public and private water wells within a one-mile radius of the landfill including 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. Description of topography, soil types and surface water drainage systems;
- i. An inventory of all public and private water wells within one mile of the landfill.
- j. Existing contaminated areas on landfill site.

2. Report signed, sealed and dated by PE or PG.

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

S LOCATION N/A N/C

- | | | | | |
|-------|-------|-------|----------|--|
| _____ | _____ | _____ | <u>X</u> | 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following: |
| _____ | _____ | _____ | <u>X</u> | a. Description of subsurface conditions including soil stratigraphy and ground water table conditions; |
| _____ | _____ | _____ | <u>X</u> | b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes; |
| _____ | _____ | _____ | <u>X</u> | c. Estimates of average and maximum high water table across the site; |
| _____ | _____ | _____ | <u>X</u> | d. Foundation analysis including: |
| _____ | _____ | _____ | <u>X</u> | (1) Foundation bearing capacity analysis; |
| _____ | _____ | _____ | <u>X</u> | (2) Total and differential subgrade settlement analysis; |
| _____ | _____ | _____ | <u>X</u> | (3) Slope stability analysis; |
| _____ | _____ | _____ | <u>X</u> | e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions; |
| _____ | _____ | _____ | <u>X</u> | 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. |
| _____ | _____ | _____ | <u>X</u> | 2. Report signed, sealed and dated by PE or PG. |

J. VERTICAL EXPANSION OF LANDFILLS (62-701.430, FAC) N/A

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. |

K. LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

- | | | | | | |
|-------|-------|-------|----------|----|---|
| _____ | _____ | _____ | <u>X</u> | 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) |
| _____ | _____ | _____ | <u>X</u> | 2. | Provide a landfill operation plan including procedures for: (62-701.500(2), FAC) |
| _____ | _____ | _____ | <u>X</u> | a. | Designating responsible operating and maintenance personnel; |
| _____ | _____ | _____ | <u>X</u> | b. | Contingency operations for emergencies; |
| _____ | _____ | _____ | <u>X</u> | c. | Controlling types of waste received at the landfill; |

S	LOCATION	N/A	N/C	
_____	_____	_____	<u>X</u>	d. Weighing incoming waste;
_____	_____	_____	<u>X</u>	e. Vehicle traffic control and unloading;
_____	_____	_____	<u>X</u>	f. Method and sequence of filling waste;
_____	_____	_____	<u>X</u>	g. Waste compaction and application of cover;
_____	_____	_____	<u>X</u>	h. Operations of gas, leachate, and stormwater controls;
_____	_____	_____	<u>X</u>	i. Water quality monitoring.
_____	_____	_____	<u>X</u>	3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3), FAC)
_____	_____	_____	<u>X</u>	4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), FAC)
_____	_____	_____	<u>X</u>	5. Describe methods of access control; (62-701.500(5), FAC)
_____	_____	_____	<u>X</u>	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)
_____	_____	_____	<u>X</u>	a. Waste layer thickness and compaction frequencies;
_____	_____	_____	<u>X</u>	b. Special considerations for first layer of waste placed above liner and leachate collection system;
_____	_____	_____	<u>X</u>	c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;
_____	_____	_____	<u>X</u>	d. Maximum width of working face;

S	LOCATION	N/A	N/C
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_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

e. Description of type of initial cover to be used at the facility that controls:

- (1) Disease vector breeding/animal attraction
- (2) Fires
- (3) Odors
- (4) Blowing litter
- (5) Moisture infiltration

f. Procedures for applying initial cover including minimum cover frequencies;

g. Procedures for applying intermediate cover;

h. Time frames for applying final cover;

i. Description of litter policing methods;

j. Erosion control procedures.

8. Describe operational procedures for leachate management including; (62-701.500(8), FAC)

_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

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;

f. Procedures for recording quantities of leachate generated in gal/day;

g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates.

S	LOCATION	N/A	N/C	
—	—	—	<u>X</u>	9. Describe routine gas monitoring program for the landfill as required by Rule 62-701.400(10), FAC; (62-701.500(9), FAC)
—	—	—	<u>X</u>	10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the standards of Chapters 62-3, 62-302 and 62-25, FAC; (62-701.500(10), FAC)
				11. Equipment and operation feature requirements; (62-701.500(11), FAC)
<u>X</u>	<u>Attached</u>	—	—	a. Sufficient equipment for excavating, spreading, compacting and covering waste;
—	—	—	<u>X</u>	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
—	—	—	<u>X</u>	c. Communications equipment;
—	—	—	<u>X</u>	d. Personnel shelter and sanitary facilities, first aid equipment;
—	—	—	<u>X</u>	e. Dust control methods;
—	—	—	<u>X</u>	f. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
—	—	—	<u>X</u>	g. Litter control devices;
—	—	—	<u>X</u>	h. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
—	—	—	<u>X</u>	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)

S	LOCATION	N/A	N/C
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13. Additional record keeping and reporting requirements;
(62-701.500(13), FAC)

_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>
_____	_____	_____	<u>X</u>

- a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
- b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
- c. Background water quality records shall be maintained for the design period of the landfill;
- d. 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.

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

S	LOCATION	N/A	N/C	
—	—	—	<u>X</u>	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;
—	—	—	<u>X</u>	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)
—	—	—	<u>X</u>	b. All sampling and analysis performed by organizations having Department approved Comprehensive Quality Assurance Plans; (62-701.510(2)(b), FAC)
—	—	—		c. Ground water monitoring requirements; (62-701.510(3), FAC)
—	—	—	<u>X</u>	(1) Detection wells located downgradient from and within 50 feet of disposal units;
—	—	—	<u>X</u>	(2) Downgradient compliance wells as required;
—	—	—	<u>X</u>	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
—	—	—	<u>X</u>	(4) Location information for each monitoring well;
—	—	—	<u>X</u>	(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;
—	—	—	<u>X</u>	(6) Well screen locations properly selected;
—	—	—	<u>X</u>	(7) Procedures for properly abandoning monitoring wells;
—	—	<u>X</u>	—	(8) Detailed description of detection sensors if proposed.

S	LOCATION	N/A	N/C
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

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. Routine sampling frequency and requirements;
(62-701.510(6), FAC)

(1) Background ground water and surface water sampling and analysis requirements;

(2) Leachate semi-annual and annual sampling and analysis requirements;

(3) Detection well semi-annual sampling and analysis requirements;

(4) Compliance well sampling and analysis requirements;

(5) Surface water sampling and analysis requirements.

g. Describe procedures for implementing assessment monitoring 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.

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

S LOCATION N/A N/C

- | | | | | |
|-------|-------|----------|----------|--|
| _____ | _____ | <u>X</u> | _____ | 1. Describe procedures for managing motor vehicles;
(62-701.520(1), FAC) |
| _____ | _____ | _____ | <u>X</u> | 2. Describe procedures for landfilling shredded waste;
(62-701.520(3), FAC) |
| _____ | _____ | _____ | <u>X</u> | 3. Describe procedures for asbestos waste disposal;
(62-701.520(4), FAC) |
| _____ | _____ | _____ | <u>X</u> | 4. Describe procedures for contaminated soil disposal;
(62-701.520(5), FAC) |

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

- | | | | | |
|-------|-------|----------|----------|--|
| | | | | 1. Closure schedule requirements; (62-701.600(2), FAC) |
| _____ | _____ | _____ | <u>X</u> | 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; |
| _____ | _____ | _____ | <u>X</u> | b. Notice to user requirements within 120 days of final receipt of wastes; |
| _____ | _____ | _____ | <u>X</u> | c. Notice to public requirements within 10 days final receipt of wastes. |
| | | | | 2. Closure permit general requirements; (62-701.600(3), FAC) |
| _____ | _____ | <u>X</u> | _____ | a. Application submitted to Department at least 90 days prior to final receipt of wastes; |
| | | | | b. Closure plan shall include the following: |
| _____ | _____ | _____ | <u>X</u> | (1) Closure report; |
| _____ | _____ | _____ | <u>X</u> | (2) Closure design plan; |
| _____ | _____ | _____ | <u>X</u> | (3) Closure operation plan; |
| _____ | _____ | _____ | <u>X</u> | (4) Closure procedures; |
| _____ | _____ | _____ | <u>X</u> | (5) Plan for long term care; |

S	LOCATION	N/A	N/C
—	—	—	<u>X</u>
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

(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;
- (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(4), 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 biodegradable wastes including detailed description of test and investigation methods used;

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;

S	LOCATION	N/A	N/C
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

- 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;
 - (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.
- h. Proposed method of stormwater control;
- i. Proposed method of access control;
- j. Description of proposed final use of the closed landfill, if any;

S	LOCATION	N/A	N/C
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5. Closure operation plan shall include:
(62-701.600(6), FAC)

—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

- Detailed description of actions which will be taken to close the landfill;
- Time schedule for completion of closing and long term care;
- Describe proposed method for demonstrating financial responsibility;
- Indicate any additional equipment and personnel needed to complete closure.
- Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.
- Development and implementation of routine gas monitoring program required in Rule 62-701.400(10)(c), 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)

O. CLOSURE PROCEDURES (62-701.610, FAC)

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

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

_____	_____	_____	<u>X</u>	1. Right of property access requirements; (62-701.620(4), FAC)
_____	_____	_____	<u>X</u>	2. Successors of interest requirements; (62-701.620(5), FAC)
_____	_____	_____	<u>X</u>	3. Requirements for replacement of monitoring devices; (62-701.620(7), FAC)
_____	_____	<u>X</u>	_____	4. Completion of long term care signed and sealed by professional engineer (62-701.620(8), FAC).

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

_____	_____	_____	<u>X</u>	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).
_____	_____	_____	<u>X</u>	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).
_____	_____	_____	<u>X</u>	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5), (6), &(9), FAC).

R. CLOSURE OF EXISTING LANDFILLS (62-701.640, FAC) N/A

S	LOCATION	N/A	N/C
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- | | | | | |
|-------|-------|-------|-------|---|
| _____ | _____ | _____ | _____ | 1. Demonstration that facility does not pose a bird hazard to aircraft as specified in Rule 62-701.320(12)(b), FAC. |
| _____ | _____ | _____ | _____ | 2. Demonstration that facility does not restrict the flow of the 100-year flood, reduce water storage capacity or result in wash-out of solid waste as specified in Rule 62-701.340(4)(b), FAC. |
| _____ | _____ | _____ | _____ | 3. Demonstration that facility is not located in a fault area, seismic zone or unstable area as specified in Rule 62-701.410(2)(c), FAC. |
| _____ | _____ | _____ | _____ | 4. Request for extension of closure criteria as specified in Rule 62-701.640(2)(a) & (2)(b), FAC. |
| _____ | _____ | _____ | _____ | a. Demonstration of no alternative disposal capacity. |
| _____ | _____ | _____ | _____ | b. Demonstration of no threat to human health or the environment. |

S. MATERIALS RECOVERY FACILITY REQUIREMENTS (62-701.700, FAC) N/A

- | | | | | |
|-------|-------|-------|-------|---|
| _____ | _____ | _____ | _____ | 1. Demonstration of financial assurance to cover closing costs, if required; (62-701.700(4), FAC) |
| _____ | _____ | _____ | _____ | 2. Materials recovery facility requirements; (62-701.700, FAC) |
| _____ | _____ | _____ | _____ | a. Submit information required in Rule 62-701.320, FAC |
| _____ | _____ | _____ | _____ | b. Submit an engineering report including the following: |
| _____ | _____ | _____ | _____ | (1) Description of the solid waste proposed to be collected, stored, processed or disposed; |
| _____ | _____ | _____ | _____ | (2) Projection with assumptions for waste types and quantities expected in future years; |

[illegible]

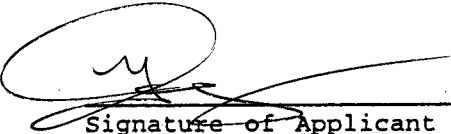
- c. Submit the following operational information:

- DEP FORM 62-701.900(1)
Effective 05-19-94

T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

A. Applicant

The undersigned applicant or authorized representative of Trail Ridge Landfill, Inc. is aware that statements made in this form and attached information are an application for a minor modification Permit from the Florida Department of Environmental Regulation and certifies that the information in this application is true, correct and complete to the best of his 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

Greg Mathes, General Manager
Name and Title

Date: 09/14/00

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

B. Professional Engineer Registered in Florida or Public Officer as required in Section 403.707 and 403.707(5), 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 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.


Signature

Juanitta Bader Clem
Name and Title (please type)

43245

Florida Registration Number
(please affix seal)

England, Thims & Miller, Inc.
14775 St. Augustine Road
Mailing Address

Jacksonville, FL 32258
City, State, Zip Code

(904) 642-8990

Telephone Number

• Date: 9/15/00

EQUIPMENT

The heavy equipment available at Trail Ridge Landfill on a daily basis is as follows:

Refuse Placement/Compaction

- 2 - Caterpillar 826C Compactor
- 2 - Caterpillar 836F Compactor
- 1 - Caterpillar D8N Dozer

Cover Soil Placement and Transport

- 1 - Caterpillar EL300B Excavator
- 2 - Caterpillar D-400E Articulating Dump Truck
- 1 - Volvo A30 Articulating Dump Truck
- 2 - Caterpillar d-6H L.G.P. Dozer

Supplemental Equipment

- 1- Caterpillar 12 G Road Grader
- 1- Caterpillar 623 Water Truck
- 1- Caterpillar IT-28

According to the compactor manufacturer, the compactors can handle approximately 100 tons/hour. Therefore based upon the facility's thirteen hour day, three compactors can handle approximately 3,900 tons/day, which corresponds to the average daily waste receipt. Further, with the fourth compactor, the facility can handle approximately 5,200 tons/day, which exceeds the maximum daily waste receipt. It should also be noted that the dozers on site can be utilized to supplement the compactors. In addition, Waste Management, Inc. has equipment throughout the State of Florida, which can be made available as needed.

PERSONNEL

On a normal basis, the personnel present on the landfill will include one spotter, one material handler (laborer) and three equipment operators as well as the General Manager and Operations Manager. During peak operating hours, the facility will have an additional spotter or laborer and an additional equipment operator.

A work schedule is developed on a weekly basis to ensure that adequate staff is present on the landfill to handle the expected volume of waste. During non-peak hours, the staff may include a spotter and two equipment operators. Whereas, during extreme peaks, the staff may include two spotters, one laborer, and four equipment operators. It should be noted that the Operations Manager can operate the equipment on an as needed basis as well as provide backup for spotting.

Handwritten signature: George H. Smith
Handwritten signature: Bobbie Ann
Handwritten date: 9/15/00