



England-Thims & Miller, Inc.

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August 13, 2001

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

Reference: Trail Ridge Landfill
DEP Permit Number 0013493-002-SC
DEP Project No. 0013493-008
ETM Project No. E98-34-26

31 AUG 15 PM 2 07
STATE OF FLORIDA
DEP - NE DISTRICT
JACKSONVILLE

Dear Ms. Nogas:

We have received your letter dated July 2, 2001 regarding the minor modification request for the referenced project. Upon your request, we conducted additional testing of the HDPE liner material. Based upon the test results and on behalf of Trail Ridge Landfill, Inc., we hereby withdraw the application. We thank you for consideration of the modification.

If you have any questions, please feel free to give me a call.

Sincerely,

ENGLAND, THIMS & MILLER, INC.

Juanitta Bader Clem, P.E.
Vice President

cc: Greg Mathes
Chris Pearson



Jeb Bush
Governor

Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

David B. Struhs
Secretary

July 2, 2001

CERTIFIED - RETURN RECEIPT

Greg Mathes, District Manager
Trail Ridge Landfill, Inc.
5110 U. S. Highway 301
Baldwin, Florida 32234

Dear Mr. Mathes:

Trail Ridge Landfill
Alternative Initial Cover Material
FDEP Project No.0013493-008

The Department of Environmental Protection (Department) has reviewed the Application for a Solid Waste Management Facility Permit for a minor modification to the referenced Permit for Trail Ridge Landfill, received on June 12, 2001, and additional information received on June 27, 2001. The Department has the following comments:

1. Your submitted Application (Part B, Item 10) indicates two spotters. But in accordance with Minor Modification No.0013493-006 to Permit No.0013493-002-SC issued by the Department on October 10, 2000, "The personnel present at the working face shall include four spotters and three equipment operators. During peak operating hours, the facility shall have an additional spotter and an additional equipment operator at the working face." Please correct this item on the application.
2. Please explain how Trail Ridge Landfill intends to meet the requirement of FAC Rule 62-701.500(7)(e) 1.
3. The information that you submitted in Attachment B encompasses the qualification criteria and a description of the method that is suitable for the determination of the ignitability of solids and may be used, but not required, to determine whether a solid waste "when ignited, burns so vigorously and persistently that it creates a hazard." But in accordance with Guidelines for Obtaining Approval to Use Alternative Initial Cover Materials at Municipal Solid Waste Landfills in Florida, dated February 27, 1998, "A demonstration that the material is not flammable or is self-extinguishing must be provided to the Department." Therefore a discrepancy exists between proposed Method 1030 and tests which may be appropriate: ASTM D4982-89, ASTM E1354, NFPA 701 or FMVSS 302. Please submit a laboratory flammability test result of 60-mil HDPE geomembrane material.


"More Protection, Less Process"

Mr. Greg Mathes
July 2, 2001
Page two

The requested information is required for the Department to proceed with the processing of your permit modification application. Please provide the requested information by August 3, 2001. Action on the application will be delayed until the requested information is received in this office. Please reference the associated Department file number in all written correspondence concerning this project.

Thank you for your cooperation in this matter. If you have any questions, please contact Michael Bogin at the letterhead address or telephone number (904) 807-3365.

Sincerely,

A handwritten signature in black ink, appearing to read "M C Nogas". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Mary C. Nogas, P. E.
Solid Waste Supervisor

MCN:mb1

cc: Juanitta Bader Clem, P.E.

Bogin, Michael

From: Tedder, Richard
Sent: Thursday, June 28, 2001 5:06 PM
To: Bogin, Michael
Subject: RE Alternative initial cover material

Michael,

I think what you are asking is can this request be a minor mod to the permit or do we need to get an alternate procedures approval (with the \$2000 fee) If that is correct, I think this qualifies as a minor mod to the permit I don't think an alternate procedure is needed We don't define "tarps" in 62-701 but do allow them as initial cover (Rule 62-701 500(7)(e)1.) I believe most of these are made of some sort of plastic and are usually much thinner than 60-mil HDPE. So this would be like a heavy tarp I suppose. It may be more difficult to deploy but should probably work OK

Those are my quick thoughts on the proposal If I missed what you are actually asking, just let me know and I'll try again. Hope all is well in Jax. Take care - RT

-----Original Message-----

From: Bogin, Michael
Sent: Wednesday, June 27, 2001 3:55 PM
To: Tedder, Richard
Subject: Alternative initial cover material

Richard,

I have received the Application for a minor modification for Trail Ridge Landfill. They would like to use 60-mil HDPE geomembrane as alternative initial cover material. The description of proposed alternative method I have attached below. So, my question is: should we classify this Application just like usual minor modification with a fee \$250, or Applicant should meet our requirements in accordance with Chapter 62-701.310 and pay a fee \$2000 ? Thank you.

<< File. mb bmp >>

check 18 hours period in the permit



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01 JUN 27 PM 3
STATE OF FLORIDA
DEPARTMENT OF
JAN 27 2001

Principals

James E. England, P.E., CEO
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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., P.S.M., V.P.

June 27, 2001

Mr. Michael Bogin
Solid Waste Section
Department of Environmental Protection
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7590

Reference: Trail Ridge Landfill
DEP Permit Number 0013493-002-SC
ETM Project No. E98-34-26

Dear Mr. Bogin:

Pursuant to your request, please find herewith four copies of the Alternate Initial Cover Material narrative with the referenced Attachments A, B and C. Based upon your e-mail message, it appears that the attachments were inadvertently missing. I apologize for any inconvenience.

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

Attachment

cc: Greg Mathes
Chris Pearson

ALTERNATE INITIAL COVER MATERIAL

General Product Description

The proposed alternate initial cover material is 60-mil HDPE geomembrane material. Attachment A contains the material specifications and manufacturing Quality Control for the HDPE geomembrane material. The material is provided in rolls which are 15' x 300'. To create a tarp, two-15' by 100' pieces of geomembrane will be bolted together. Steel pipes (30' long) will be installed at each end of the 100' long mat by folding the geomembrane over the pipe and bolting the loop. Chains will be fastened to the pipes so they can be connected to the compactor or dozer for dragging the geomembrane mat into place over the working face. The steel pipes on each end will provide end anchors for the mat. Sandbags or soil will be installed along the edges, as needed. Multiple mats will be placed over the working face and overlapped a minimum of 6" between mats.

Flammability Information

The HDPE geomembrane material was tested for ignitability using Ignitability of Solids Test Method 1030, which is described in Attachment B. The material was determined to be non-flammable. Attachment C contains the laboratory report for the ignitability testing performed on a sample of the HDPE geomembrane material.

Chemical Characterization

The geomembrane material is HDPE which is the same material approved for and installed in the liner system.

Leaching Potential

The solid HDPE geomembrane material has little to no leaching potential.

Product Performance

The HDPE geomembrane will essentially encapsulate the working face, thereby eliminating exposure to vectors, wind and infiltration. The panels will be laid so that seams are either parallel to the slope or overlapped in a shingled manner to reduce the infiltration of stormwater into the underlying waste.

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STATE OF FLORIDA
DEPT. OF TRANSPORTATION
DISTRICT 10
TALLAHASSEE

ATTACHMENT A

Specifications Waste Management

High Density Polyethylene (HDPE) – Smooth

Property	Test Method	Frequency ¹	Property Value
Thickness (min. avg.) (mils)	D5199	Per Roll	60
• Lowest individual of 10 values			54
Tensile Properties (min. avg.)	D638 Type IV	50,000 sq. ft.	
• Yield Strength (lb/in)	(2 ipm)		126
• Break Strength (lb/in)			228
• Yield Elongation (%)	(1.3" gauge)		12
• Break Elongation (%)	(2.0" gauge)		700
Tear Resistance (min. avg.) (lb)	D1004	50,000 sq. ft.	42
Puncture Resistance (min. avg.) (lb)	D4833	50,000 sq. ft.	108
	FTMS 101C/2065 ²	Certified	78
Carbon Black Content (range) (%)	D1603/D4218	50,000 sq. ft.	2.0-3.0
Carbon Black Dispersion	D5596	50,000 sq. ft.	Note
Density (min. avg.) (g/cc)	D792/D1505	Resin Batch	0.94
Stress Crack Resistance (hr)	D5397 (Appendix)	Resin Batch	200
Dimensional Stability (max. avg.) (%)	D1204	Resin Batch	± 2
Melt Flow Index (g/10 min.) (max)	D1238	Resin Batch	1.0
Low Temperature Brittleness (°C)	D746	Certified	-60
Water Vapor Transmission (g/m ² xday) max	E96-80	Certified	.24
Bonded Seam Strength (lb/in)	D4437	Shear	120
		Peel (Wedge)	90
		Peel (Extrusion)	78

1) Testing frequencies are rounded to the nearest full roll.

2) FTMS 101 has been replaced with D4833. Value shown for comparison purposes only.
Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2 only.

Polyethylene

Manufacturing Quality Control (MQC)

Quality Statement

Serrot International is dedicated to an objective of continuous commitment to quality. This dedication begins with the manufacture of the geomembrane material and ends only when our customer has accepted the liner. The employees of Serrot, therefore, endorse and require a policy of Total Quality. This policy is based on the principle that quality is the fundamental responsibility of every department and is carried out by each person in that department.

Programs and procedures designed to implement this quality principle are developed by the Quality Control Department and are utilized by every employee of the Company.

Serrot's laboratory is accredited by the Geosynthetic Accreditation Institute Lab Accreditation Program (GAI-LAP). Serrot International's Henderson, NV. facility is fully ISO 9002 registered and that facility was the first to obtain GRI GM13 certification in accordance with the Geosynthetic Certification Institute's Product Certification Program (GCI-PCP).

Organization

Persons performing quality-related functions have sufficient authority and organizational freedom to: (1) identify quality programs; (2) initiate, recommend or provide solutions through designated channels; (3) verify implementation of solutions; (4) control further work when required. The person responsible for defining and measuring the overall effectiveness of the Quality Program is the Quality Control Manager.

Key personnel include the President, Vice President, Manufacturing Manager, Quality Manager, Quality Control Engineer, Product Development Manager, Regional Managers, Project Managers, and the Safety Manager. Resumes of key personnel are provided when requested or required by project specifications.

Quality Control Program

1. HDPE and LLDPE Geomembrane Manufacturing Quality Control

- 1.1 Serrot manufactures HDPE (High Density Polyethylene) and LLDPE (Linear Low Density Polyethylene) liner material in rolls for specific projects. Documentation is required showing that the material meets the required specification.
- 1.2 The geomembrane shall consist of quality resins designed and manufactured specifically for the purpose of this work, as satisfactorily demonstrated by prior use. The geomembrane shall be high density polyethylene (HDPE) or linear low density polyethylene (LLDPE). The geomembrane liner will be manufactured from first quality resins containing no plasticizers, fillers, recycled polymers, or extenders. Carbon black is added to provide ultraviolet resistance; other additives to provide thermal stability may be added at a rate less than 1.5 percent.
- 1.3 The geomembrane shall be manufactured as a continuous sheet of approximately 23.0 feet wide. The roll length shall be maximized to provide the largest manageable sheet for the fewest field seams. All rolls shall be identified with a unique roll number printed on a label affixed to the inside and outside of the roll showing manufacturer, thickness, and material type (HDPE or LLDPE).
- 1.4 The geomembrane is produced with either a smooth-surface or textured-surface on the material. Textured-surface geomembrane shall be manufactured so that the surface irregularities are on one side or both sides of the sheet as shown on the drawings.

2. Raw Materials

- 2.1 A first quality resin shall be used in the manufacture of the geomembrane. The resin shall be designed and manufactured specifically for the intended purpose. Tests shall be performed by the resin manufacturer and results provided to Serrot. When the resin is delivered, it shall be tested for the following properties to determine it meets the required specification:

<u>PROPERTIES</u>	<u>TEST METHOD</u>	<u>TEST FREQUENCY</u>
Density	ASTM D792/D1505	1 per Resin Batch
Melt Flow Index	ASTM D1238	1 per Resin Batch

- 2.2 Results from testing shall be recorded on the relevant form.
- 2.3 The resin shall be designed and manufactured specifically for the intended purpose and shall be of the following products or an approved equal.

<u>SUPPLIER</u>	<u>PRODUCT IDENTIFICATION</u>
Phillips 66 Company	HHM-TR-400G Natural Resin
Phillips 66 Company	HHM-TR-305 Natural Resin
Phillips 66 Company	HHM-K-203 Natural Resin
Solvay Polymers	G36-24-149 Preblended Resin
Solvay Polymers	G36-24-150 Natural Resin
Chevron Chemical	9638 Natural Resin
Chevron Chemical	9642 Natural Resin
Chevron Chemical	ER3212 Natural Resin

3. Geomembrane Sheet Testing

- 3.1 HDPE material will be tested at the following test frequencies:

<u>PROPERTIES</u>	<u>TEST METHOD</u>	<u>TEST FREQUENCY</u>
Sheet thickness	ASTM D5199/D5994	1 per roll
Yield strength	ASTM D638 Type IV	50,000 sq. ft.
Yield elongation	ASTM D638 Type IV	50,000 sq. ft.
Break strength	ASTM D638 Type IV	50,000 sq. ft.
Break elongation	ASTM D638 Type IV	50,000 sq. ft.
Tear resistance	ASTM D1004	50,000 sq. ft.
Puncture resistance	ASTM D4833	50,000 sq. ft.
Carbon black content	ASTM D1603/D4218	50,000 sq. ft.
Carbon black dispersion	ASTM D3015/D5596	50,000 sq. ft.
Density	ASTM D792/D1505	Resin batch
Dimensional Stability	ASTM D1204	Resin batch
Stress crack resistance	ASTM D5397 (single point)	Resin batch

- 3.2 LLDPE material, which does not have a well defined yield point, will be tested at the following frequencies:

<u>PROPERTIES</u>	<u>TEST METHOD</u>	<u>TEST FREQUENCY</u>
Sheet thickness	ASTM D5199/D5994	1 per roll
Break strength	ASTM D638 Type IV	50,000 sq. ft.
Break elongation	ASTM D638 Type IV	50,000 sq. ft.
Tear resistance	ASTM D1004	50,000 sq. ft.
Puncture resistance	ASTM D4833	50,000 sq. ft.
Carbon black content	ASTM D1603/D4218	50,000 sq. ft.
Carbon black dispersion	ASTM D3015/D5596	50,000 sq. ft.
Density	ASTM D792/D1505	Resin batch
Dimensional Stability	ASTM D1204	Resin batch

- 3.3 Results from testing are recorded on the relevant form. All test results for the membrane shall refer to the relevant roll number.

4. **Extrudate Rod**

- 4.1 Extrudate shall be made from the same resin type as the geomembrane, and shall be free of contamination by moisture or foreign matter. Additives shall be thoroughly dispersed in the extrudate. The manufacturer shall test the resin for the following properties:

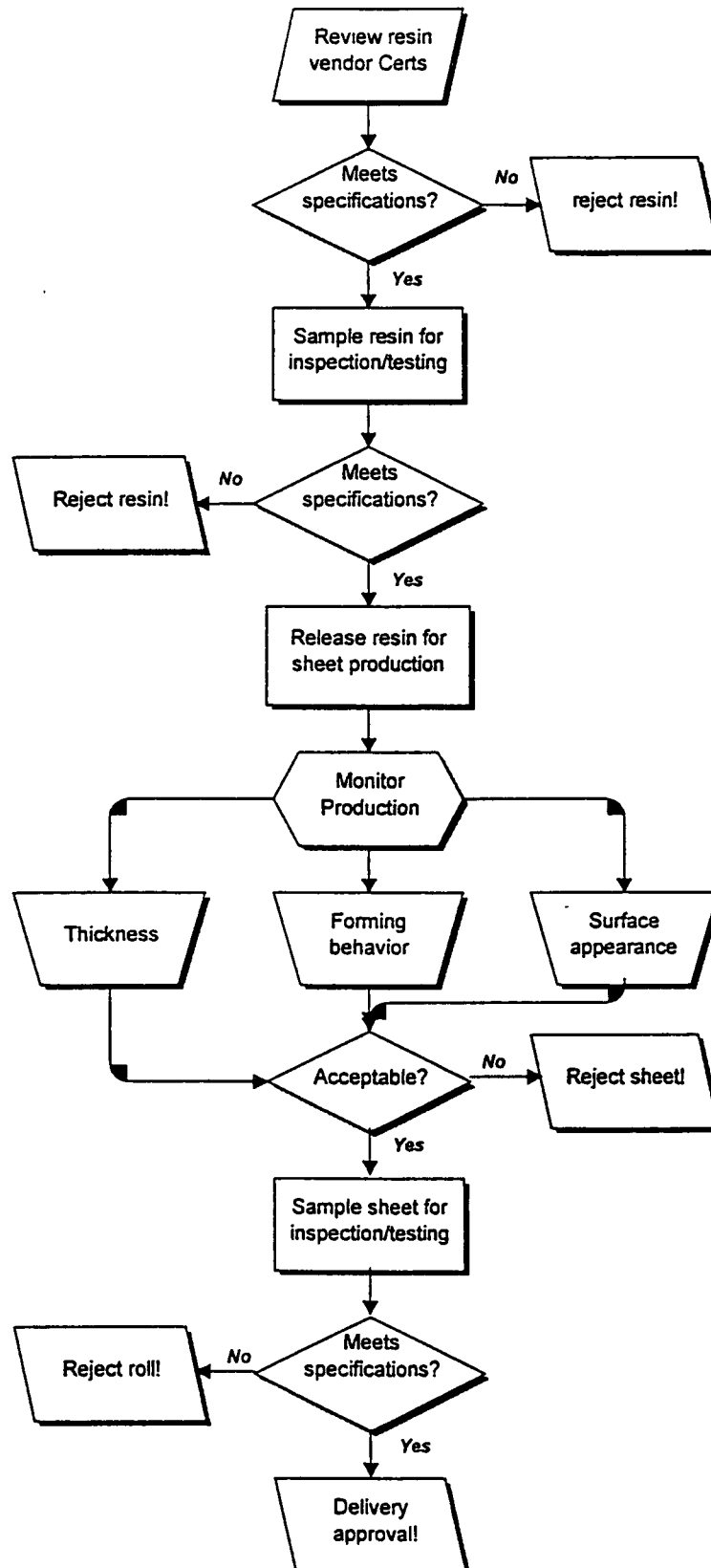
<u>PROPERTIES</u>	<u>TEST METHOD</u>	<u>TEST FREQUENCY</u>
Density	ASTM D792/D1505	1 per Resin Batch
Melt Flow Index	ASTM D1238	1 per Resin Batch
Carbon Black Content	ASTM D1603/D4218	1 per Resin Batch

- 4.2 Results from testing shall be recorded on the relevant form.

5. **Plant Storage and Handling**

- 5.1 Rolls of material are handled with equipment that will not damage the membrane. Fabric straps are attached to the rolls of material to be used for unloading at the job site.
- 5.2 The storage area shall be reasonably flat and free of sharp rocks or other objects that could damage the material.

Geomembrane Quality Control Program



ATTACHMENT B

METHOD 1030

IGNITABILITY OF SOLIDS

1.0 SCOPE AND APPLICATION

1.1 This method is suitable for the determination of the ignitability of solids and is appropriate for pastes, granular materials, solids that can be cut into strips, and powdery substances. This method may be used to meet certain regulatory applications; with respect to the characteristic of ignitability in CFR § 261.21, this method may be used, but is not required, to determine whether a solid waste "when ignited, burns so vigorously and persistently that it creates a hazard." If it is impractical to perform the test because of the physical form of the sample, generator knowledge should be used to determine the ignitability hazard posed by the material.

2.0 SUMMARY OF METHOD

2.1 In a preliminary test, the test material is formed into an unbroken strip or powder train 250 mm in length. An ignition source is applied to one end of the test material to determine whether combustion will propagate along 200 mm of the strip within a specified time period. Materials that propagate burning along a 200 mm strip within the specified time period are then subjected to a burning rate test. Materials that do not ignite or propagate combustion as described above do not require further testing. In the burning rate test, the burning time is measured over a distance of 100 mm and the rate of burning is determined. The test method described here is based on the test procedure adopted by the Department of Transportation from the United Nations regulations for the international transportation of dangerous goods and is contained in Appendix E to Part 173 of 49 CFR.

3.0 INTERFERENCES

3.1 In laboratory tests the burning rate of duplicate runs is usually repeatable to within 10%. However, large differences in burning rates may occur if experimental conditions are not held constant. Variation in airflow rates, particle size, and moisture content of the test material will affect test results. Therefore, at least triplicate determinations of the burning rate should be conducted.

3.2 Particle size of test material can affect not only the burning rate, but also the ignition of the material. Therefore, the particle size of the test material should be the same for each test run. The particle size of the test material should be reported in a simple descriptive format (e.g., fine powder, sand, coarse granular).

3.3 Temperature of some test material such as sulfur powder affects the burning rate. For reproducible results, all tests should be performed at approximately the same initial temperature (ambient room or laboratory temperature).

3.4 All tests must be carried out inside a fume hood with the test apparatus situated perpendicular (90°) to the direction of airflow. Airflow parallel (0°) to the test apparatus results in non-reproducible burning rates.

3.5 The rate of airflow through the fume hood affects the burning rate. Too high an airflow distorts the flame and retards its horizontal propagation. The optimum airflow appears to be in the range of 0.7-1 meter per second.

3.6 Materials that are moisture sensitive (i.e., readily absorb moisture from air) should be tested as quickly as possible after removal from the sample container. All materials should be tested as received by the laboratory.

4.0 APPARATUS AND MATERIALS

4.1 Low-heat conducting, non-combustible, impervious ceramic tile or equivalent material, of approximate dimension of 25 cm x 25 cm x 2.5 cm (the tile must be at least 25 cm in length to support a 250 mm test sample).

4.2 High temperature marker or equivalent marking device for marking ceramic plates.

4.3 Powder Train Mold (see Figure 1) for molding powdered and granular materials for the burn rate test. The material of construction can be aluminum, brass, stainless steel, or plastic. The mold is 250 mm in length and has a triangular cross-section, with a width of 20 mm, and a depth of 10 mm as measured from the bottom of the triangular opening to where the sides meet. On both sides of the mold, in the longitudinal direction, two sheets are mounted as lateral limitations which extend 2 mm beyond the upper edge of the triangular cross-section. This device can be fabricated by most machine shops. The complete burn rate apparatus is available from: Associated Design and Manufacturing Co.; 814 N. Henry Street; Alexandria, Virginia 22314.

4.4 A Bunsen (propane gas and air) burner with a minimum diameter of 5 mm capable of attaining a temperature of at least 1,000°C.

4.5 Stop watch.

4.6 Thermocouple to measure the temperature of the gas flame.

4.7 Thermometer to measure initial temperature of material (i.e., room temperature).

4.8 Anemometer to measure airflow in the fume hood.

5.0 REAGENTS

5.1 No special reagents are required to conduct this test.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

6.1 All samples are tested on as-received basis unless requested otherwise. No sample preservation is required, but sample containers should be completely filled and tightly sealed to preserve sample integrity.

6.2 Samples should be tested as soon as possible after removal from the sample container (i.e., samples should not be allowed to dry or absorb moisture for excessive periods or to

lose volatiles). Samples that are chilled or cooled upon receipt to the laboratory should be allowed to equilibrate to the ambient laboratory temperature in the sample container.

7.0 PROCEDURE

SAFETY: Prior to starting the preliminary test, all sample materials must be tested to determine if that material is explosive or extremely flammable. Use a very small portion of material (1 gram or less). If the sample displays explosivity or extreme flammability, do not conduct this test.

7.1 Preliminary Screening Test

7.1.1 The preliminary Ignitability test is conducted on all waste materials. On a clean, impervious ceramic tile (Section 4.1), clearly mark a 250 mm long test path. Make another mark at exactly 200 mm from the start of the sample path.

7.1.2 Prepare the test material in its "as received" form by forming an unbroken strip or powder train of sample 250 mm long by 20 mm wide by 10 mm high on the ceramic tile. Use the mold to form the material as in 7.2.3 if appropriate.

7.1.3 Place the ceramic tile with the loaded sample in a fume hood about 20 cm (~8 inches) from the front of the hood and in an area of laminar airflow. Position the sample perpendicular to the airflow. (See Figure 2) The airflow across the perpendicular axis of the sample should be sufficient to prevent fumes from escaping into the laboratory and should not be varied during the test. The air velocity should be approximately 0.7 meters/second. Measure the air velocity by an anemometer.

7.1.4 Light the Bunsen burner and adjust the height of the flame (6.5 to 7.5 cm) by adjusting the propane gas and air flows. Measure the temperature of the flame (tip of the flame) by a thermocouple. The temperature of the flame must be at least 1000°C.

7.1.5 Apply the tip of the flame to one end of the sample strip. The test period will depend on the sample matrix as follows:

7.1.6 If the waste is non-metallic, hold the flame tip on the sample strip until the sample ignites or for a maximum of 2 minutes. If combustion occurs, begin timing with a stop watch and note whether the combustion propagates up to the 200 mm mark within the 2 minute test period.

7.1.7 If the waste is a metal or metal-alloy powder, hold the flame tip on the sample strip until the sample ignites or for a maximum of 5 minutes. If combustion occurs, begin timing with a stop watch and note whether the combustion propagates up to the 200 mm mark within the 20 minute test period.

7.1.8 If the waste does not ignite and propagate combustion either by burning with open flame or by smoldering along 200 mm of sample strip within the 2 minute test period (or 20 minute test period for metal powders), the waste is not considered flammable and no further testing is required. If the waste propagates burning of 200 mm of the test strip within

the 2 minute test period (20 minute test period for metals), the material must be evaluated by the burning rate test (Section 7.2).

7.2 Burning Rate Test

7.2.1 The preparation of the test sample for the burning rate test will depend on the physical characteristics of the waste. Wastes that exist in a powdered or granular state are molded in a powder train mold shown in Figure 1. Pasty materials are formed into a rope 250 mm in length with a cross-section of 1 cm². All tests for the burn rate test are performed on clean, ambient temperature, ceramic plates.

7.2.2 On a clean, impervious ceramic tile (Section 4.1), clearly mark a 250 mm long test path. Make two additional timing marks at 80 mm and 180 mm from the start of the sample path. The distance between the two marks (100 mm) will be used to calculate the rate of burn in Section 7.2.9.

7.2.3 Tighten the side plates on the mold. For powdered or granular materials: Place the mold on the base plate. Pour the material to fill the triangular cross section of the mold loosely.

7.2.4 Drop the unit from a height of 2 cm onto a solid surface three times to settle the powder. Remove the side supports. Lift the mold off the base plate. Place a clean ceramic test plate with the appropriate timing marks (Section 7.2.2) face down on top of the mold. Invert the setup and remove the mold.

7.2.5 Pasty wastes are prepared by spreading the waste on a marked ceramic tile (Section 7.2.2) in the form of a rope 250 mm in length with a cross-section of 1 cm².

7.2.6 Place the ceramic tile with the loaded sample prepared in Sections 7.2.3 or 7.2.5 in a fume hood about 20 cm (~8 inches) from the front of the hood and in an area of laminar airflow. Position the sample perpendicular to the airflow. (See Figure 2) The airflow across the perpendicular axis of the sample should be sufficient to prevent fumes from escaping into the laboratory and should not be varied during the test. The air velocity should be approximately 0.7 meters/second. Measure the air velocity with an anemometer.

7.2.7 Light the Bunsen burner and adjust the height of the flame (6.5 to 7.5 cm) by adjusting the propane gas and air flows. Measure the temperature of the flame (tip of the flame) by a thermocouple. The temperature of the flame must be at least 1000°C.

7.2.8 Apply the tip of the flame to one end of the sample strip to ignite the test strip as described in Section 7.1.6 and 7.1.7.

7.2.9 When the test strip or powder train has burned up to the 80 mm time marker, begin timing the rate of combustion with a stop watch. Stop the timer when the burned strip reaches the 180 mm time marker. Record the amount of time (in seconds) required to burn the 100 mm test strip. Calculate the rate of burning by dividing the length of the burn test strip (100 mm) by the total time (seconds). Results of the burn rate test should be reported in mm/sec. Wastes that have a rate of burning of more than 2.2 mm/sec (or burn time of less than 45 seconds for 100 mm) are considered to have a positive result for ignitability.

according to DOT regulations. For metals, this time is 10 minutes or less for 100 mm (or a burn rate of more than 0.17 mm/sec).

7.2.10 Report and Calculation Section

Test Material Information

Source of Material: e.g., Company, operation or process

Description of material: e.g., powder or paste, metallic or non-metallic

Particle size: e.g., fine powder, granular, sand, etc.

Preliminary Burning Time: _____ seconds.

Test Conditions

Date of Test:

Temperature of test material (°C):

Air velocity through fume hood (m/s):

Ignitability Test Data				
Test Number	Time (sec) elapsed between application of flame and start of ignition	Burning time over 100 mm (sec)	Burning Rate (mm/sec)	Comments
1				
2				
3				

8.0 QUALITY CONTROL

8.1 All tests must be performed on a clean ceramic plate at room temperature. All samples must have been collected using a sampling plan that addresses the considerations discussed in Chapter Nine of this manual.

8.2 All replicate runs must be at the same initial temperature (ambient laboratory temperature).

8.3 All replicate tests must be run at approximately the same airflow through the fume hood.

8.4 Only materials of the same particle size distribution should be used for all replicate tests.

8.5 The burn rate test must be conducted in triplicate if the preliminary screening test is positive. Any burn rate for non-metallic samples that exceeds 2.2 mm/sec (or a burn time of less than 45 seconds for 100 mm) is considered to have a positive result. For metals, a burn rate of more than 0.17 mm/sec (or burn time of less than 10 minutes for 100 mm) is considered to have a positive result.

9.0 METHOD PERFORMANCE

9.1 An independent laboratory validation was conducted on the robustness of the burn rate test procedure. The materials selected for this evaluation included:

1. A 50/50 mixture of metallic silicon and lead dioxide (PbO_2)
2. Excelsior
3. Dextrin (yellow powder)
4. Sulfur (fine yellow powder)
5. Aluminum metal (coarse)
6. Magnesium metal (coarse)
7. Polyethylene high density (granular)
8. Polyethylene low density (fluffy white powder)
9. Scott fertilizer (32-3-10:N-P-K)
10. JP-4 contaminated soil (approximately 5000 ppm)

Of these materials, the 50/50 mixture of metallic silicon and lead dioxide (PbO_2), elemental sulfur, and excelsior were considered to give a positive ignitability result under the conditions of the test. The remaining materials gave negative (nonflammable) results under the conditions of the test. Several test variables including ignition source, ambient temperature, and apparatus orientation, were studied using these materials. Partial results of this study are summarized in Table 1.

9.2 In another evaluation of the DOT burn rate test, potentially ignitable finishing wastes from the furniture industry were collected and tested for burning rates. Each waste was tested in triplicate to establish a mean value for the burning rate. The results for the flammable wastes are summarized in Table 2.

9.3 In order to evaluate the ruggedness of the DOT burn rate test, select ignitable finishing wastes were split and tested by a state laboratory and an independent contract laboratory. The results of this comparison are summarized in Table 3.

10.0 REFERENCES

1. "Test Methods for Readily Combustible Solids. Burning Rate Test." (14.2.2.5). Recommendations on the Transport of Dangerous Goods. Fifth Revised Edition. United Nations, New York. 1988.
2. DOT Regulation. Appendix E to Part 173 of 49 CFR, Chapter 1 (12-31-91 Edition). pp. 597-598.
3. Flammability (solids). Method A.10. Official Journal of the European Communities. 9/19/84. No. L251/63.

4. **"Validation of Ignitability Method For Solids" Foster Wheeler Enviresponse, Inc., Edison NJ., Submitted to the Office of Solid Waste, US EPA, February 1994.**
5. **Internal Report, (AMFA Report) North Carolina Department of Environmental Health and Natural Resources. (Bill Hamner)**

TABLE 1
TEST VARIABLES FOR IGNITABILITY

Material Tested	Test Number	Variable combination ¹	Burn Time over 100 mm (sec)	Burn Rate (mm/sec)
50% Metallic Silicon and 50% Lead IV Oxide	1	ABC	0.84	119
	2	Abc	0.50	200
	3	aBc	0.69	145
	4	abC	0.65	154
Excelsior (wood shavings)	1	ABC	13.45	7.43
	2	Abc	8.14	10.9
	3	aBc	13.37	7.47
	4	abC	13.59	7.36
¹ where: A-flame ignition a-hot wire ignition source B-ambient temperature of 20°C b-ambient temperature of 100°C C-orientation of test apparatus of 80° to air flow c-orientation of test apparatus of 0° to air flow				

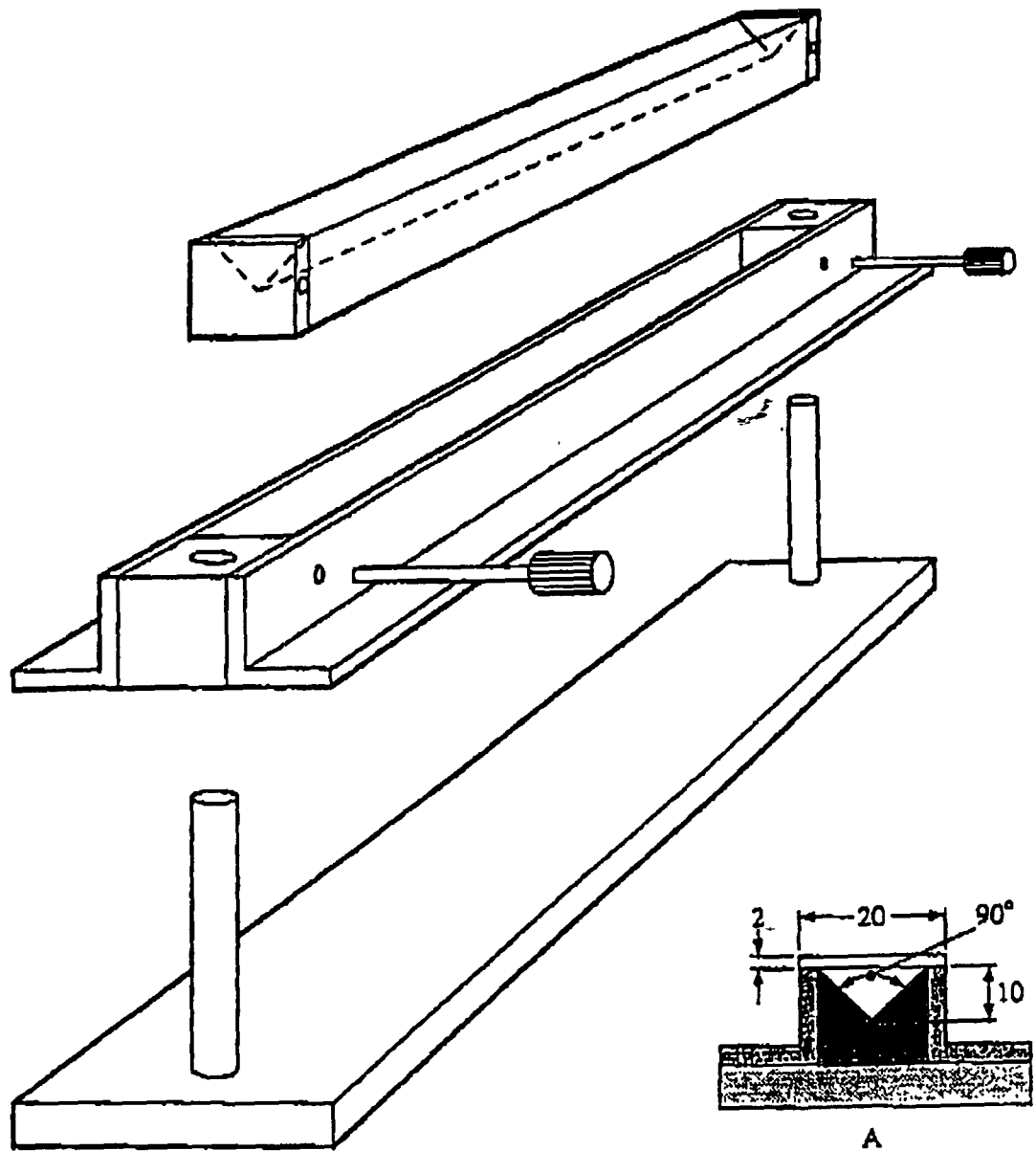
**TABLE 2
BURNING RATES FOR IGNITABLE WASTES**

Sample No.	Description of Waste	Burn Time over 100 mm (sec)	Burn Rate (mm/sec)
A2	Segregated Lacquer Dust	4.7	21.3
J2	Segregated Lacquer Dust	4.6	21.7
U	Segregated Lacquer Dust	8.6	11.6
K	Consolidated Lacquer Dust	6.0	16.7
H	Catalyzed Lacquer Dust	6.7	14.9
F	Water Based Lacquer Dust	19.4	5.15
P	Booth Coat-Stain Overspray	12.5	8.0
O	Pallet Covered Cardboard	11.1	9.0
Q	Pallet Covered Cardboard	12.3	8.13

**TABLE 3
COMPARISON OF BURN RATES**

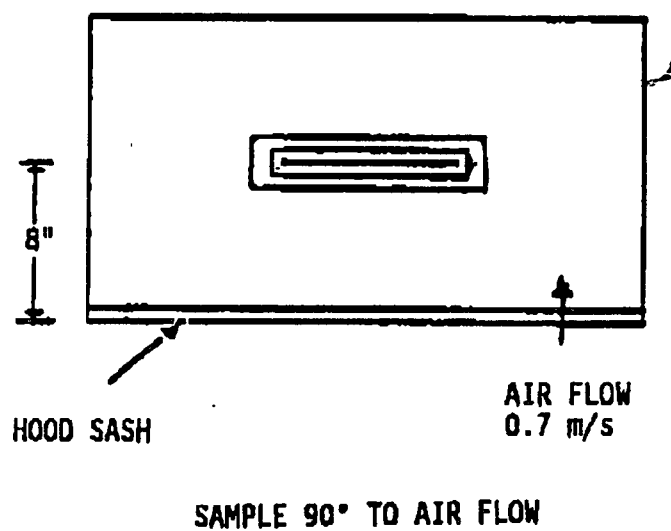
Sample No.	Description of Waste	Mean Burn Time Over 100 mm in Seconds	
		State Laboratory	Contract Laboratory
A1	Segregated Lacquer Dust	4.7	5
J1	Segregated Lacquer Dust	4.6	4.3
12	Booth Coat-Glaze Overspray	0 ¹	0 ¹
¹ Waste was found to be nonflammable under conditions of the test.			

Figure 1
Powder Train Mold

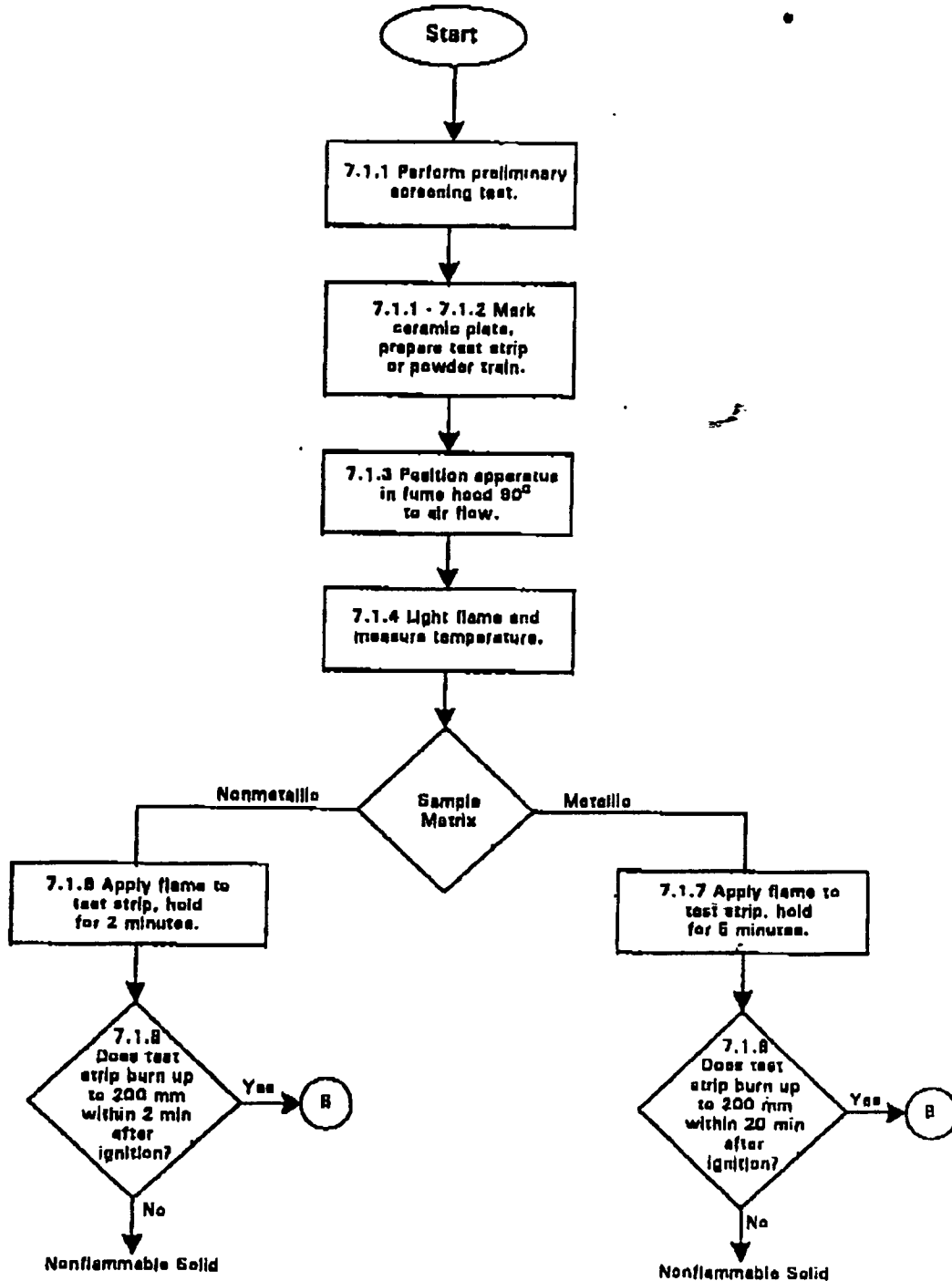


(A) Cross-section of 250 mm long mould

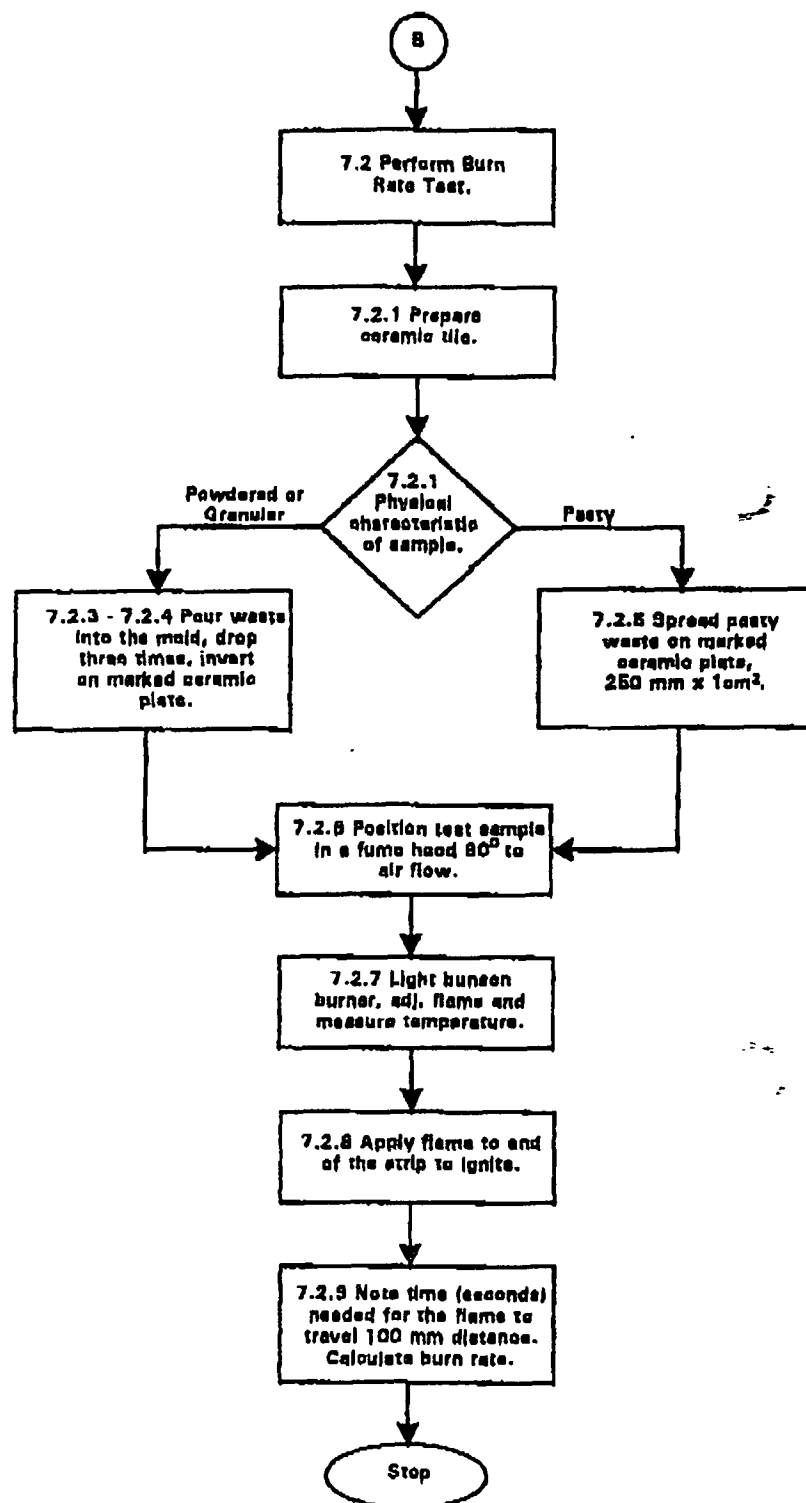
Figure 2
Test Apparatus Position In Fume Hood



METHOD 1030
IGNITABILITY OF SOLIDS



METHOD 1030
IGNITABILITY OF SOLIDS



ATTACHMENT C

ACL**ADVANCED CHEMISTRY LABS, INC.**

Phone: (770) 409-1444
Fax: (770) 409-1844
Outside GA: (800) 277-0520
e-mail: acl@mindspring.com

GOLDER ASSOCIATES	
RECVD	IPN
	FN
CC	RTE
APR 20 2001	

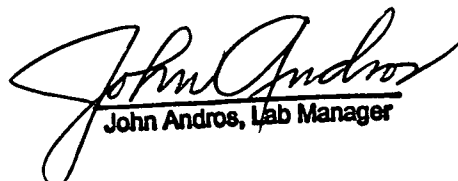
3039 Amwiler Road • Suite 100 • Atlanta, GA 30360
P.O. Box 88610 • Atlanta, GA 30356
www.advancedchemistrylabs.com

Client: Golder Associates
8933 Western Way
Suite 12
Jacksonville, FL 32250

Contact: Ms. Wendy Karably

Client Proj #: Trail Ridge Landfill
ACL Project #: 35249
Date Received: 04/09/2001
Date Reported: 04/23/2001

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
1912077	167898	Ignitability (1030)	Solid	Non-Flammable	2.2	mm/sec	04/20/2001


John Andros, Lab Manager

3039 Arnwiler Road • Suite 100 • Atlanta, GA 30360 • P. O. Box 88610 • Atlanta, GA 30356 • (770) 409-1444 • Fax (770) 409-1844

[illegible]

AREA: NED

Cash Receiving Application
Collection Point Log Remittance

CRAF006A
Tot: \$36,861.60

SYS\$REMT: 438616 Type: CP Recvd Date: 13-JUN-2001 Status: RECEIVED
SYS\$RCPT: 355515 PNR: Check #: 1804 Amount: 250.00
SSN/FEI#: Name: ENGLAND THIMS & MILLER INC
First: Middle: Title: Suf:
Address1: 14775 ST AUGUSTINE ROAD Short Comments:
Address2: TN/YH/SO0013493-008
City: JACKSONVILLE ST: FL Zip: 32258- Country:

P A Y M E N T (S)

Distr	Object	Payment	Applic/	S
CL	Code/Description.....	Amount.....	Fund	T
SYS\$PAYT	Area..	Reference#		A
467342	NED 002245 SOLID WASTE-OPE	\$250.00 SO0013493-	PA PFTF	CO

COMMIT FREQUENTLY

\$250.00 Payment total

Press <TAB> to accept Collection Point or enter F&A.

Count: *88

^ v

<Replace>

ENGLAND, THIMS & MILLER, INC.

14775 ST. AUGUSTINE ROAD
JACKSONVILLE, FL 32258
904-642-8990

DATE	INVOICE	AMOUNT
Minor Permit		
Modification for		
Initial Cover		
98-34-26		

DATE 6-11-2001

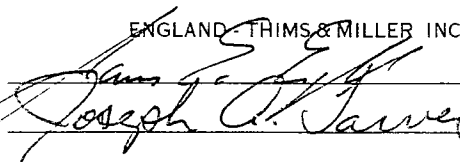
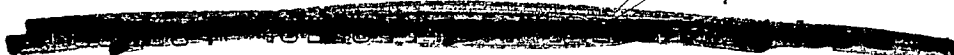
1804

3555.5

PAY TWO HUNDRED FIFTY AND 00/100 DOLLARSCHECK
AMOUNTTO
THE ORDER
OFDepartment of Environmental Protection\$ **250.00**

COMPASS BANK

ENGLAND, THIMS & MILLER, INC.


Joseph C. Sawyer

permits	Events	Payment	Site	Facility	party	Y	Reports
Permitting Application							
SITE Permit							
Site Name: TRAIL RIDGE LANDFILL LF1						Site #: 0013493	
County: DUVAL				Comments: Y RPAs: N # Cases: 0			
Project							
Permit #:		-		Project #:		008 Received: 12-JUN-2001 CRA#:	
Permit Office: NED (DISTRICT)				Agency Action: Pending			
Project Name: TRAIL RIDGE LANDFILL				Desc:			
Type/Sub/Des: SO /MM MINOR MODIFICATION				COE #:			
Logged: 21-JUN-2001 Issued:				Expires:		OGC:	
Fee: 250.00		Fee Recd:		Dele:		Override: NONE	
Related Party							
Role: APPLICANT		Begin: 21-JUN-2001		End:			
Name: MATHES, GREGORY				Company: TRAIL RIDGE LANDFILL, INC.			
Addr: 5110 U.S. HWY 301							
City: BALDWIN		State: FL		Zip: 32234-		Country: U.S.A.	
Phone: 904-289-9100		Fax:					
Processors							
Processor: BOGIN_M				Y Active: 12-JUN-2001 Inactive:			
Enter date application was received. DD-MON-YYYY							
Count: 1		v		<Replace>			



England-Thims & Miller, Inc.

ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

June 12, 2001

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
ETM Project No. E98-34-16

Principals

James E. England, P.E., CEO
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.
Scott A. Wild, P.E., P.S.M., V.P.

RECEIVED

JUN 12 2001

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

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 Trail Ridge Landfill be allowed to use 60-mil HDPE geomembrane as alternate initial cover material. Please find herein a demonstration of the use of HDPE geomembrane as alternate initial cover material.

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

Attachments: Application for Solid Waste Management Facility Permit
Narrative regarding Alternate Initial Cover Material
Permit Fee of \$250.00

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

ALTERNATE INITIAL COVER MATERIAL

General Product Description

The proposed alternate initial cover material is 60-mil HDPE geomembrane material. Attachment A contains the material specifications and manufacturing Quality Control for the HDPE geomembrane material. The material is provided in rolls which are 15' x 300'. To create a tarp, two-15' by 100' pieces of geomembrane will be bolted together. Steel pipes (30' long) will be installed at each end of the 100' long mat by folding the geomembrane over the pipe and bolting the loop. Chains will be fastened to the pipes so they can be connected to the compactor or dozer for dragging the geomembrane mat into place over the working face. The steel pipes on each end will provide end anchors for the mat. Sandbags or soil will be installed along the edges, as needed. Multiple mats will be placed over the working face and overlapped a minimum of 6" between mats.

Flammability Information

The HDPE geomembrane material was tested for ignitability using Ignitability of Solids Test Method 1030, which is described in Attachment B. The material was determined to be non-flammable. Attachment C contains the laboratory report for the ignitability testing performed on a sample of the HDPE geomembrane material.

Chemical Characterization

The geomembrane material is HDPE which is the same material approved for and installed in the liner system.

Leaching Potential

The solid HDPE geomembrane material has little to no leaching potential.

Product Performance

The HDPE geomembrane will essentially encapsulate the working face, thereby eliminating exposure to vectors, wind and infiltration. The panels will be laid so that seams are either parallel to the slope or overlapped in a shingled manner to reduce the infiltration of stormwater into the underlying waste.

Handwritten signature: Jonita Booker
Date: June 12, 2001



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 _____
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

RECEIVED

JUN 12 2001

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

REGfiles: 5/2001

Northwest District
160 Governmental Center
Pensacola, FL 32501-6794
850-696-6360

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

Central District
3319 McGuire 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. 384
Fort Myers, FL 33901-3881
941-332-6973

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

☐ Ash Monofill

☐ Class II Landfill

☐ Asbestos Monofill

☐ Class III Landfill

☐ Industrial Solid Waste

☒ Other Describe: Waste Tire Processing

☐ 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

☐ Substantial Modification

☐ Renewal

☐ Intermediate Modification

☒ Minor Modification

4. Facility name: Trail Ridge Landfill

5. DEP ID number: GMS3116P02787 County: Duval

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

Baldwin, Florida 32234

7. Location coordinates:

Section: 18, 19
20, 21 Township: 3S Range: 23E

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
gmathes@wm.com
E-Mail address (if available)
9. Authorized ~~agent~~/Consultant: England, Thims & Miller, Inc.
Mailing address: 14775 St. Augustine Road, Jacksonville, Florida 32258
Street or P. O. Box City State Zip
Contact person: Juanitta Clem Telephone: (904) 642-8990
Title: Vice President
clemj@etminc.com
E-Mail address (if available)
10. Landowner (if different than applicant): City of Jacksonville
Suite 200
Mailing address: 140 W. Monroe Street, Jacksonville, Florida 32202
Street or P. O. Box City State Zip
Contact person: Chris Pearson Telephone: (904) 630-4593
chrisp@coj.net
E-Mail address (if available)
11. Cities, towns and areas to be served: City of Jacksonville (Duval County) and
neighboring environs.
12. Population to be served:
Current: 759,900 (2000) Five-Year Projection: 793,500 (2005)
13. Date site will be ready to be inspected for completion: N/A
14. Expected life of the facility: 15± years
15. Estimated costs:
Total Construction: \$ 21.4 Million ± Closing Costs: \$ 12.43 Million ±
16. Anticipated construction starting and completion dates:
From: 2000 To: 2001
17. Expected volume or weight of waste to be received:
_____ yds³/day 5,000 * (peak) tons/day _____ gallons/day
3,900 Tons/day (monthly average)

B. DISPOSAL FACILITY GENERAL INFORMATION

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

Minor modification to add HDPE geomembrane liner material to the list of approved tarpaulin to be used in lieu of initial cover.

2. Facility site supervisor: Greg Mathes

Title: General Manager

Telephone: (904) 289-9100

gmathes@wm.com

E-Mail address (if available)

3. Disposal area: Total 153 acres; Used 153 acres; Available 0 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
☐ Agricultural
☐ Commercial

☐ Industrial
☐ None

☒ Other Describe: Silviculture

8. Types of waste received:

<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> C & D debris
<input checked="" type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Shredded/cut tires
<input type="checkbox"/> Incinerator/WTE ash	<input type="checkbox"/> Yard trash
<input checked="" type="checkbox"/> Treated biomedical	<input type="checkbox"/> Septic tank
<input checked="" type="checkbox"/> Water treatment sludge	<input checked="" type="checkbox"/> Industrial
<input type="checkbox"/> Air treatment sludge	<input checked="" type="checkbox"/> Industrial sludge
<input checked="" type="checkbox"/> Agricultural	<input checked="" type="checkbox"/> Domestic sludge
<input checked="" type="checkbox"/> Asbestos	

☒ Other Describe: Non-Hazardous Special Waste

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 Pines 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 1929)
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 ☒ Double geomembrane
☐ Single clay liner ☐ Geomembrane & composite
☐ Single geomembrane ☐ Double composite
☐ Single composite ☐ None
☐ Slurry wall
☐ Other Describe: With Bentonite Mat and 6" clay subgrade
22. Leachate collection method:
☒ Collection pipes ☐ Sand layer
☒ Geonets ☐ Gravel layer
☐ Well points ☐ Interceptor trench
☐ Perimeter ditch ☐ None
☐ Other Describe: _____
23. Leachate storage method:
☒ Tanks
☐ Surface impoundments
☐ Other Describe: _____
24. Leachate treatment method:
☐ Oxidation ☐ Chemical treatment
☐ Secondary ☐ Settling
☐ Advanced
☐ None
☒ Other off-site Treatment at a City Wastewater Treatment Facility

* May vary dependent upon waste receipt.

25. Leachate disposal method:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Recirculated | <input type="checkbox"/> Pumped to WWTP |
| <input checked="" type="checkbox"/> Transported to WWTP | <input type="checkbox"/> Discharged to surface water |
| <input type="checkbox"/> Injection well | <input type="checkbox"/> Percolation ponds |
| <input type="checkbox"/> Evaporation | |
| <input type="checkbox"/> Other _____ | |

26. For leachate discharged to surface waters:

Name and Class of receiving water: N/A

27. Storm Water:

Collected: ☒ Yes ☐ No

Type of treatment: wet detention

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

28. Environmental Resources Permit (ERP) number or status: Permitted as Solid

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

C. NON-DISPOSAL FACILITY GENERAL INFORMATION N/A

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

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: _____ yd³/day _____ tons/day _____ gal/day

12. Maximum processing rate: _____ yd³/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: _____

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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	—	<u>X</u>	1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
—	—	<u>X</u>	—	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).
—	—	<u>X</u>	—	3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
—	—	—	<u>X</u>	4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
—	—	—	<u>X</u>	5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
—	—	—	<u>X</u>	6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
—	—	<u>X</u>	—	7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
—	—	—	<u>X</u>	8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
—	—	—	<u>X</u>	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)
—	—	—	<u>X</u>	10. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
—	—	—	<u>X</u>	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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>X</u>	<u>Attached</u>	<u> </u>	<u> </u>	1. Four 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>	<u> </u>	<u> </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>	<u> </u>	<u> </u>	3. A letter of transmittal to the Department; (62-701.320(7) (a), FAC)
<u>X</u>	<u>Attached</u>	<u> </u>	<u> </u>	4. A completed application form dated and signed by the applicant; (62-701.320(7) (b), FAC)
<u>X</u>	<u>Attached</u>	<u> </u>	<u> </u>	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)
<u>X</u>	<u>An evaluation of HDPE geomembranes as use as initial cover.</u>	<u> </u>	<u> </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> </u>	<u> </u>	<u> </u>	<u>X</u>	7. Operation Plan and Closure Plan; (62-701.320(7) (e) 1, FAC)
<u> </u>	<u> </u>	<u> </u>	<u>X</u>	8. Contingency Plan; (62-701.320(7) (e) 2, FAC)
<u> </u>	<u> </u>	<u> </u>	<u> </u>	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)
<u> </u>	<u> </u>	<u> </u>	<u>X</u>	a. A regional map or plan with the project location;
<u> </u>	<u> </u>	<u> </u>	<u>X</u>	b. A vicinity map or aerial photograph no more than 1 year old;
<u> </u>	<u> </u>	<u> </u>	<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>
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PART E CONTINUED

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| | | | <u>X</u> | d. Other necessary details to support the engineering report. |
| | | | <u>X</u> | 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) |
| | | | <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 the waste reduction and 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; (62-702.320(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. If exempt, explain how the exemption applies; (62-701.320(13), FAC) |
| | | | <u>X</u> | 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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	_____	<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(3)(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(3)(b), FAC)
_____	_____	_____	<u>X</u>	3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(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(3)(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
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PART F CONTINUED

			X
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f. Special drainage devices if necessary;

			X
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g. Fencing;

			X
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h. Equipment facilities.

5. A report on the landfill describing the following;
(62-701.330(3)(e), FAC)

			X
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a. The current and projected population and area to be served by the proposed site;

			X
--	--	--	---

b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;

			X
--	--	--	---

c. The anticipated facility life;

			X
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d. The source and type of cover material used for the landfill.

			X
--	--	--	---

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)

			X
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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)

GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)

			X
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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)

			X
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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)

			X
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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)

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

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

PART B 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)

_____	_____	_____	<u>X</u>	(1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
_____	_____	_____	<u>X</u>	(2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;
_____	_____	_____	<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;
_____	_____	_____	<u>X</u>	(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;
_____	_____	_____	<u>X</u>	(5) Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
_____	_____	_____	<u>X</u>	(6) Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
_____	_____	_____	<u>X</u>	(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):

_____	_____	_____	<u>X</u>	(1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;
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S	LOCATION	N/A	N/C
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PART H CONTINUED

_____	_____	_____	<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) 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)

_____	_____	_____	<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;

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

PART B 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 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 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

5

PART H CONTINUED

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 a 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 or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ 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 vector and off-site odors.

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

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;

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

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 overflow prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overflowing 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;

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

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)

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

- 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)

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

- 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)

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

- 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;

- N/A 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)

<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	<u>X</u>	1. Submit a hydrogeological investigation and site report including at least the following information:
_____	_____	<u>X</u>	a. Regional and site specific geology and hydrogeology;
_____	_____	<u>X</u>	b. Direction and rate of ground water and surface water flow including seasonal variations;
_____	_____	<u>X</u>	c. Background quality of ground water and surface water;
_____	_____	<u>X</u>	d. Any on-site hydraulic connections between aquifers;
_____	_____	<u>X</u>	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;
_____	_____	<u>X</u>	f. Description of topography, soil types and surface water drainage systems;
_____	_____	<u>X</u>	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;
_____	_____	<u>X</u>	h. Identify and locate any existing contaminated areas on the site;
_____	_____	<u>X</u>	i. Include a map showing the locations of all potable wells within 500 feet, and all community water supply wells within 1000 feet, of the waste storage and disposal areas;
_____	_____	<u>X</u>	2. Report signed, sealed and dated by PE or PG.

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

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

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

<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	_____	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)

<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	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> </u>	<u> </u>	<u> </u>	<u> </u>		2.	Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	a.	Designating responsible operating and maintenance personnel;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	b.	Contingency operations for emergencies;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	c.	Controlling types of waste received at the landfill;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	d.	Weighing incoming waste;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	e.	Vehicle traffic control and unloading;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	f.	Method and sequence of filling waste;
X	See Attached	<u> </u>	<u> </u>		g.	Waste compaction and application of cover;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	h.	Operations of gas, leachate, and stormwater controls;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	i.	Water quality monitoring;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	j.	Maintaining and cleaning the leachate collection system;
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	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> </u>	<u> </u>	<u> </u>	<u> </u>	X	4.	Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), FAC)
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	5.	Describe methods of access control; (62-701.500(5), FAC)
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	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)
<u> </u>	<u> </u>	<u> </u>	<u> </u>		7.	Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)
<u> </u>	<u> </u>	<u> </u>	<u> </u>	X	a.	Waste layer thickness and compaction frequencies;

<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>See Attached</u>	—	—
<u>X</u>	<u>See Attached</u>	—	—
<u>X</u>	<u>See Attached</u>	—	—
<u>X</u>	<u>See Attached</u>	—	—
<u>X</u>	<u>See Attached</u>	—	—
<u>X</u>	<u>See Attached</u>	—	—
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

PART L CONTINUED

- b. Special considerations for first layer of waste placed above liner and leachate collection system;
 - c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;
 - d. Maximum width of working face;
 - 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. Procedures for controlling scavenging and salvaging;
 - j. Description of litter policing methods;
 - 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

- | | | | | | |
|---|---|---|----------|-----|---|
| — | — | — | <u>X</u> | f. | Procedures for recording quantities of leachate generated in gal/day and including this in the operating record; |
| — | — | — | <u>X</u> | g. | Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record; |
| — | — | — | <u>X</u> | h. | Procedures for water pressure cleaning or video inspecting leachate collection systems. |
| — | — | — | <u>X</u> | 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) |
| — | — | — | <u>X</u> | 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) |
| — | — | — | <u>X</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. | Dust control methods; |
| — | — | — | <u>X</u> | e. | Fire protection capabilities and procedures for notifying local fire department authorities in emergencies; |
| — | — | — | <u>X</u> | f. | Litter control devices; |
| — | — | — | <u>X</u> | g. | 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) |
| | | | | 13. | Additional record keeping and reporting requirements; (62-701.500(13), FAC) |

<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>

PART L CONTINUED

- 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. 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;
- 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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	_____	<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 in accordance with Chapter 62-160, FAC; (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.

<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>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	X	—	1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC)
—	—	—	X	2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC)
—	—	—	X	3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC)
—	—	—	X	4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
—	—	—	X	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):
—	—	—	X	a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
—	—	—	X	b. Be designed for site-specific conditions;
—	—	—	X	c. Be designed to reduce gas pressure in the interior of the landfill;
—	—	—	X	d. Be designed to not interfere with the liner, leachate control system or final cover.
—	—	—	X	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):
—	—	—	X	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):
—	—	—	X	a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
—	—	—	X	b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
—	—	—	X	c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;
<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART O CONTINUED
—	—	—	X	d. Description of procedures for condensate sampling, analyzing and data reporting provided;

_____X

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;

_____X

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)

_____X

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;

_____X

b. Notice to user requirements within 120 days of final receipt of wastes;

_____X

c. Notice to public requirements within 10 days of final receipt of wastes.

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

_____X

a. Application submitted to Department at least 90 days prior to final receipt of wastes;

b. Closure plan shall include the following:

_____X

(1) Closure report;

_____X

(2) Closure design plan;

_____X

(3) Closure operation plan;

_____X

(4) Closure procedures;

_____X

(5) Plan for long term care;

_____X

(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;

_____X

(1) Identification of landfill;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	<u>PART B CONTINUED</u>
		X		(2) Location, description and vicinity map;
		X		(3) Total acres of disposal areas and landfill property;
		X		(4) Legal property description;
		X		(5) History of landfill;
		X		(6) Identification of types of waste disposed of at the landfill.
		X		b. Geotechnical investigation report and water quality monitoring plan required by Rule 62-701.330(3), FAC;
		X		c. Land use information report indicating: identification of adjacent landowners; zoning; present land uses; and roads, highways right-of-way, or easements;
		X		d. Report on actual or potential gas migration at landfills containing degradable wastes which would allow migration of gas off the landfill property;
		X		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)
			X	a. Plan sheet showing phases of site closing;
			X	b. Drawings showing existing topography and proposed final grades;
			X	c. Provisions to close units when they reach approved design dimensions;
			X	d. Final elevations before settlement;
			X	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:
			X	(1) CQA plan for installing and testing final cover;

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

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)

Q. CLOSURE PROCEDURES (62-701.610,FAC)

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

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

<u> </u>	<u> </u>	<u>X</u>	1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
<u> </u>	<u> </u>	<u>X</u>	2. Right of property access requirements; (62-701.620(6),FAC)
<u> </u>	<u> </u>	<u>X</u>	3. Successors of interest requirements; (62-701.620(7),FAC)
<u> </u>	<u> </u>	<u>X</u>	4. Requirements for replacement of monitoring devices; (62-701.620(9),FAC)
<u> </u>	<u>X</u>	<u> </u>	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)

<u> </u>	<u> </u>	<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> </u>	<u> </u>	<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> </u>	<u> </u>	<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).

T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. 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 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

GREGORY W. MATHER
Name and Title (please type)

Name and Title (please type)

gm@wm.com

E-Mail address (if available)

5110 U.S. Hwy. 301

Mailing Address

Baldwin, Florida 32234

City, State, Zip Code

(904) 289-9100

Telephone Number

Date: 6/12/0

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

Juanitta Bader Clem, P.E., Vice President Jacksonville, Florida 32258

Name and Title (please type)

43245

Florida Registration Number
(please affix seal)

England, Thims & Miller, Inc.

14775 St. Augustine Road

Mailing Address

City, State, Zip Code

clemj@etminc.com

E-Mail address (if available)

(904) 642-8990

Telephone Number

Date: June 12 2001