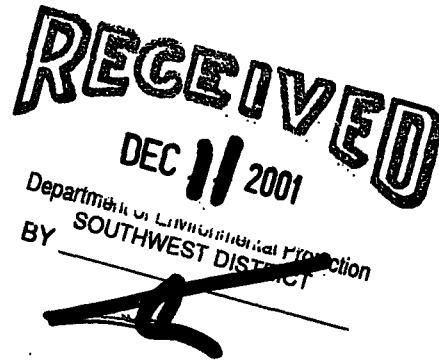




An employee-owned company

December 10, 2001

Kim Ford, P.E.
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619



RE: Lena Road Landfill – Operational Changes
Pending Modification No.: 39884-007
Permit No.: #39884-001-SO, Manatee County

Dear Mr. Ford:

PBS&J is providing four copies of this response to your November 9, 2001 letter requesting additional information in regards to the above referenced permit modification. The following numbered items are from your letter. Our response follows each item.

1. 62-701.320 (7) (b). Parts A and T (attached) completed and returned with three copies.

Response: Per our telephone conversation, the Parts A and T were completed and submitted with the original application.

2. 62-701.430 (1) (a). Description of all impacts from the proposed disposal on the currently designed and constructed storm water and gas control systems.

Response: The storm water collection terraces will be extended as the leachate pond is filled with solid waste. Storm water will flow off the soil cover to the terraces and the perimeter ditch, and from there to the storm water pond. The location of the storm water inlets and storm water pipes shown on the approved drawings for Lena Road Landfill Partial Closure #2 will be revised and submitted to FDEP for approval as part of the closure permit revision.

HDR has checked the landfill gas header and flare and determined there is adequate capacity to include the gas generated by the solid waste placed in the leachate pond. HDR's November 12, 2001 letter is included in Section 1. The existing exposed gas collection header pipe will be covered with two feet of sand prior to placing solid waste in the leachate pond. The location of this pipe is shown on Figure 1 in Section 1. The header pipe will continue to operate during the filling of the leachate pond. After completing the filling of the leachate pond, vertical gas collection wells and a new header will be installed as shown on Figure 2 in Section 1. This work will be done as part of Lena Road Landfill Partial Closure

#2. The revised drawings will be submitted to FDEP for approval with a modification to the closure permit.

3. 62-701.500 (2) (h). Description of changes to the operations of gas, leachate, and storm water controls due to the disposal area expansion.

Response: Gas – There will be no changes to the operation of the gas collection system during the filling of the leachate pond. The existing horizontal gas collection system installed on the landfill slope will be covered with two feet of sand and continue to collect gas from the landfill while solid waste is placed in the leachate pond.

Leachate – Leachate will be pumped directly to the storage tank at the wastewater treatment plant. Any leachate remaining in the leachate pond will be pumped to the wastewater treatment plant prior to placing solid waste in the leachate pond. The revised operations plan is included in Section 2.

Stormwater - The terraces will be extended as the leachate pond is filled with solid waste. Stormwater will flow off the soil cover to the terraces and the perimeter ditch, and from there to the stormwater pond. The location of the storm water inlets and storm water pipes to be installed with the closure will be modified to reflect the fill placed in the leachate pond. The approved drawings for Lena Road Landfill Partial Closure #2 will be revised and submitted to FDEP for approval.

4. 62-701.500 (8) (c). Copy of the written agreement for off-site acceptance, storage and treatment of expected quantities of leachate.

Response: The written agreement for the off-site acceptance, storage and treatment of expected quantities of leachate is included in Section 2.

5. 62-701.500 (8) (f). Description of procedures for recording the quantities of leachate, and a copy of the forms for record keeping and for comparing precipitation with leachate generation.

Response: Leachate pumped and precipitation will be recorded daily and submitted to FDEP monthly using the forms identified as Exhibit A and Exhibit B in Section 2.

6. 62-701.530. Design details for expansion of the gas management system due to the disposal area expansion.

Response: Vertical wells will be installed as shown on Figure 2 in Section 1. The design details are those shown on the construction drawing C-09 – Landfill Gas Details for Lena Road Landfill Partial Closure Number 2, prepared by HDR Engineering, Inc., dated July 24, 2000.

7. 62-701.600. Design details for closure of the expansion area.

Response: The design details for closure of the expansion area are the same as approved by FDEP, and shown on the construction drawings for Lena Road Landfill Partial Closure Number 2, prepared by HDR Engineering, Inc., dated July 24, 2000.

The reference drawings are:

- C-08 Liner Details
- C-09 Landfill Gas Details
- C-10 Landfill Gas Well Schedule
- C-11 Stormwater Details
- C-12 Stormwater Details
- C-13 Partial Closure #2 - Stormwater Details
- C-14 Partial Closure #2 - Stormwater Details
- C-15 Phase I Closure - Stormwater Details

8. 62-701.630. Cost estimates for closure and long-term care to include the new disposal area expansion, and proof of financial assurance.

Response: FDEP form #62-701.900 (28) Financial Assurance Cost Estimate Form has been revised to include the landfill expansion into the leachate pond. The revised form is included in Section 3.

9. Revisions to the Stormwater/Leachate Management Plan are requested. Pages 5, 6, 7, and 8 (provided on October 11th) are from an older version and should not be included. (a) Page 4 (dated November 1998) and page 5 (dated February 17, 2000) should be revised to describe the phasing-out of the leachate storage pond. (b) Pages 6 and 7 (date November 1998) should be revised to delete references to the leachate pond.

Response: The revised pages are included in Section 2.

10. Documents to demonstrate compliance with the conditions of construction permit #39884-005-SC as follows:

- a) Certification of construction completion, signed and sealed by a professional engineer, for the new leachate collection systems: and,
- b) A report assessing the effectiveness of the new leachate collection system, and associated pumps and piping.

Response: The certification of construction completion for the new leachate collection and pumping system will be submitted upon completion of the work. A report assessing the effectiveness of the new leachate collection system and associated pumps and piping will be submitted with the certification.

11. 62-701.410. A response to each of Mr. John Morris's comments and concerns expressed in his November 9, 2001 memorandum, attached. You may call Mr. Morris to discuss items in his memorandum at (813) 744-6100, extension 336.

Mr. Morris' comments are as follows:

It is my intention to take this opportunity to make changes to several specific conditions of the permit to provide clarification and to reflect the changes to the solid waste rule that became effective on May 27, 2001. These changes are summarized below:

Specific Condition No. 28 – Clarification shall be provided in this condition to indicate that dry or damaged monitor wells/piezometers shall require Department notification describing the occurrence, the remedial measures to be taken, and the time needed for repairs.

Response: We agree with this change to Specific Condition No. 28 for the operations permit.

Specific Condition No. 31 – Leachate sampling shall be changed to an annual frequency to reflect the modification in Rule 62-701.510 (6)(c), F.A.C.

Response: We agree with this change to Specific Condition No. 31 for the operations permit.

Specific Condition No. 38 – The time period for the permittee to conduct a resampling event shall be changed to 30 days to reflect the modifications in Rule 62-701.510(7), F.A.C.

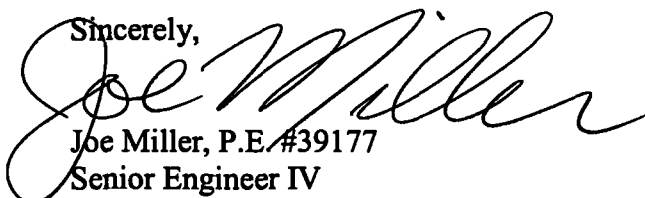
Response: We agree with this change to Specific Condition No. 38 for the operations permit.

Specific Condition No. 39 – The requirement to provide a copy of the water quality and leachate reports to the Solid Waste Section in Tallahassee shall be deleted.

Response: We agree with this change to Specific Condition No. 39 for the operations permit.

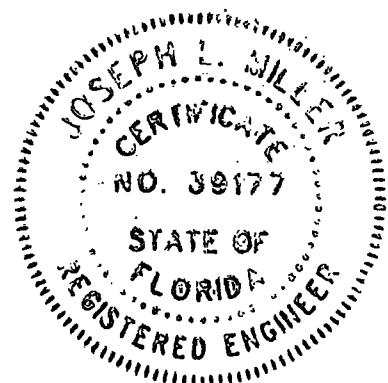
If you have any questions, please call me at 407-647-7275, ext. 153.

Sincerely,


Joe Miller, P.E. #39177
Senior Engineer IV

cc Gus DiFonzo, Manatee County
Mike Gore, Manatee County
Pete Putman, P.E., PBS&J
File 120498.01

G:\WASTEMAN\Manatee County\SW-1 Operation Plan\FDER Response.doc





November 12, 2001

Mr. Joe Miller
PBS&J
482 South Keller Road
Orlando, FL 32810

**RE: Lena Road Landfill
Second Partial Closure
HDR Project Number: 07982-029-096**

Dear Mr. Miller:

The enclosed CD contains the drawings pertaining to the Lena Road Landfill partial closure that you requested via telephone call to Bill Embree. In addition, we added two drawings showing revised landfill contours and drainage basins (both adjusted for landfilling in the leachate pond area) that we indicated we would provide when HDR met with Manatee County and PBS&J representatives to review the status of the project some time ago.

The drawings pertaining to the partial closure are in the closure directory. To eliminate confusion, additional drawings are in separate directories. All drawings are in AutoCAD release 14 format. If you have any questions or problems with the file, please do not hesitate to contact me.

At our status review meeting, we also agreed to review the design of the landfill gas system to determine if the header system as designed can accommodate the additional gas anticipated from landfilling in the leachate pond area. Our review indicates:

- The existing gas header should accommodate the additional gas generated from landfilling in the leachate pond area.
- At the present landfilling rate, the flare should handle landfill gas production until year 2012 or 2013. This includes any waste placed in the leachate pond area. This corresponds roughly to the anticipated combined waste capacity of Stage 1 (including the leachate pond area) and Stage 3.

Please let us know if further information is needed.

Sincerely,

HDR ENGINEERING, INC.

Fred W. Sebesta, P.E.
Senior Project Manager

Enclosure

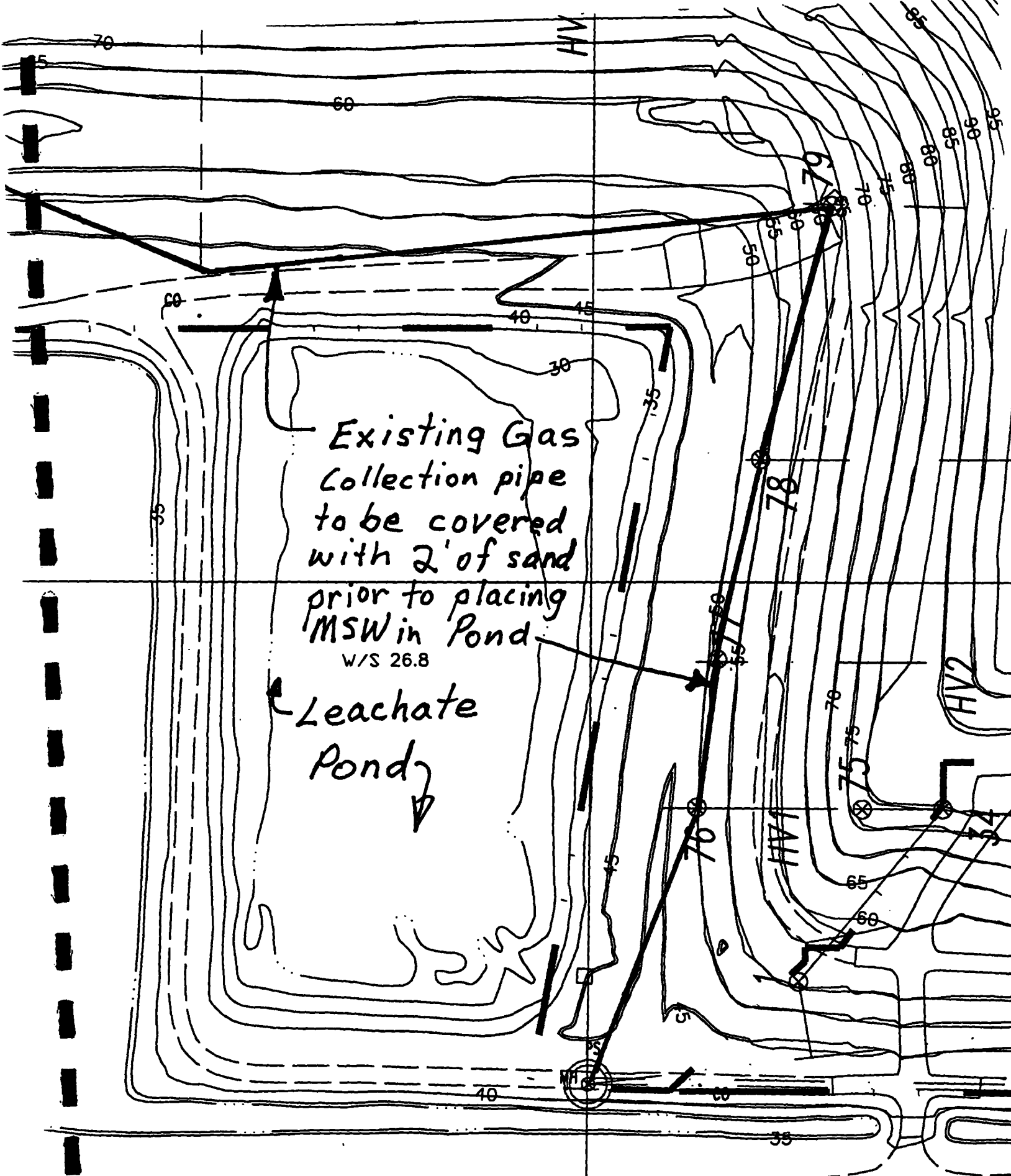
Y:\07982\029096\Partclos2\5137J170.doc

HDR Engineering, Inc.

Employee Owned

Suite 250
2202 North Westshore Blvd.
Tampa, Florida
33607-5755

Telephone
813 282-2300
Fax
813 282-2430

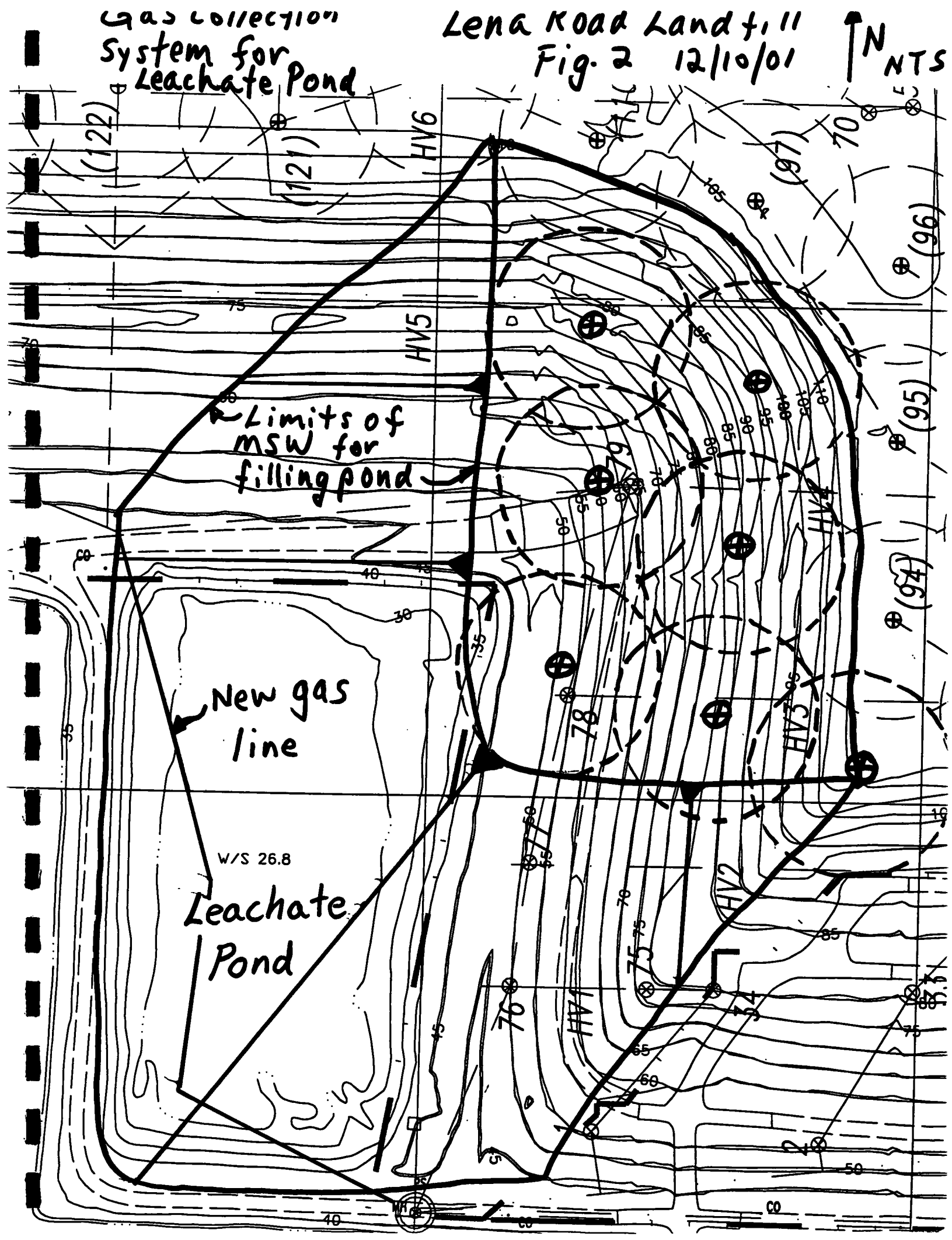


Lena Road
Landfill
NTS
Fig. 2
12/10/0

Gas collection
System for
Leachate Pond

Lena Road Landfill
Fig. 2 12/10/01

N
NTS





MANATEE COUNTY GOVERNMENT

Utility Operations Department

August 22, 2001

Kim Ford, P.E., Division of Waste Management
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

Re: Manatee County Lena Road Landfill - Application for
Construction Permit Related to Filling Leachate Storage Pond/
Leachate Management Agreement between Solid Waste Division and
Wastewater Division -- Permits No. 39884-001-SC and 39884-004-SF

Dear Mr. Ford:

Please accept this letter in regard to the operational changes related to the above referenced matter. The Manatee County Wastewater Division, Southeast Wastewater Treatment Plant, agrees to treat all leachate received from the Lena Road Landfill without a leachate storage pond. The Wastewater Treatment Plant expansion includes a 2.8 million gallon equalization tank which offers operational alternatives in the delivery and treatment of leachate from the Landfill. The Wastewater Treatment Plant expansion gives the Facility the available capacity to accept the maximum amount of leachate generated by rainfall during a worst case period of seven (7) days.

In the event of an extended plant shut down, as an alternate plan, leachate will be trucked to either the Southwest Wastewater Treatment Plant or the North Wastewater Treatment Plant until such time as normal operations have resumed at the Southeast Plant. My signature below certifies this Department's commitment to the above Agreement.

Sincerely,

Daniel T. Gray
Director

DTG/gbp

cc: Janet McAfee, Director, Project Management
Tim Hochuli, P.E., Projects and Engineering Division Manager
David Shulmister, Wastewater Manager
Gus DiFonzo, Solid Waste Manager

REPLACEMENT PAGES

For

**MANATEE COUNTY LENA ROAD LANDFILL
STORMWATER/LEACHATE MANAGEMENT PLAN**

December 5, 2001

REVISED PAGES 4, 5, 6, 7

REVISED EXHIBIT A AND EXHIBIT B

NEW PAGE 4A

NEW FIGURE 3 – METERING STATION DETAIL

**Prepared for:
Manatee County Government
Utilities Operations Department
Solid Waste Program
4410 66th Street West
Bradenton, FL. 34210**

**Prepared by:
PBS&J
482 South Keller Road
Orlando, FL. 32810
407-647-7275**

provide an inward gradient around the south and west portion of Stage III. Discharges to Cypress Strand Creek occur only when one or both weirs discharge over the design elevation.

- Outfall 004

Storm water discharging over the weir in the Stage III west perimeter ditch exits Stage III at outfall 004 via a underdrain and drop inlet. Cypress Strand Creek is the receiving body for all storm water discharges from Stage I and Stage III.

III. LEACHATE COLLECTION AND REMOVAL SYSTEM OVERVIEW

Stage I System

The Stage I LCRS is a perimeter underdrain around Stage I. The underdrain is approximately 10 feet inside the perimeter slurry wall and approximately 12 feet below grade. The underdrain is an 8-inch, perforated pipe surrounded by aggregate. The pipe and aggregate are wrapped in a geotextile. Manholes and cleanouts are constructed to provide access for cleaning and repairs.

The slurry wall and underlying clay confining unit is the containment/barrier system designed to prevent leachate movement to the outside surficial aquifer. The slurry wall and LCRS is the FDEP approved method designed and constructed to minimize impacts, due to landfill operations, to the surrounding environment. The slurry wall is keyed into the underlying natural clay unit. The depth of the slurry wall varies, depending on depth to the clay unit.

Two lift stations are used to pump collected leachate to the leachate storage pond. Lift station No. 1 is located in the northwest corner of Stage I. Lift station No. 2 is located at the south east corner of the leachate storage pond. Collected leachate enters the underdrain system and gravity flows back to either lift station. Both lift stations operate in the similar manner. Two submersible pumps deliver collected leachate from the lift station to the ~~leachate storage pond~~. The first pump is activated when the low level float senses leachate entering the lift station. The pump will operate until the float sensor deactivates. If leachate enters the lift station at a faster rate than the first pump can draw it down, the high level float will activate the second pump to turn on. Upon deactivation of the high level float, the second pump will shut off. Lift stations can operate in the hand or automatic setting. Both lift stations are set to operate in the automatic mode. Both pumps are 10HP 230/60 1735 RPM. From the lift station, leachate is pumped through a 6-inch solid wall pipe to the ~~leachate storage pond~~ Metering Station. WWTP

~~Leachate Storage Pond~~

~~Leachate stored in the pond is pumped to the adjacent WWTP for treatment. The leachate pond lift station is operated to automatically maintain an elevation of 28 NGVD or less. Refer to Figure 1 for the location of the LCRS, slurry wall and ancillary structures. Because of the location alignment,~~

Revised December 5, 2001

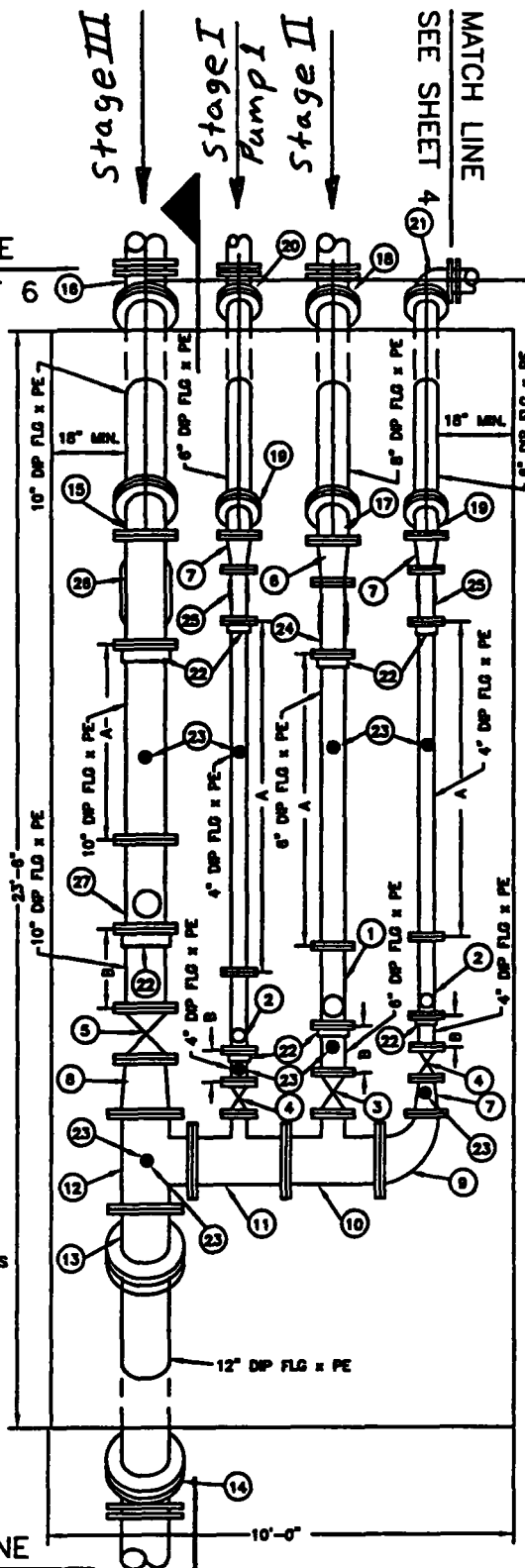
The Metering Station is shown on Figure 3. Four pipelines come to the Metering Station from the landfill, and one pipeline leaves the Metering Station. There are two pump stations for the Stage I landfill, one for Stage II and one for Stage III. The flow in each pipeline is individually metered at the Metering Station. After metering, the pipelines are manifolded into a single 12-inch pipeline for pumping the leachate to the storage tank at the adjacent wastewater treatment plant. The meters for Stage I – Pump 1 and Stage I – Pump 2 and Stage III will be recorded daily using Exhibit A (Revised December 5, 2001). The Stage II Landfill has no solid waste, and so the pipeline from the Stage II pump station is not used.

LEGEND

- A MINIMUM DISTANCE SHALL BE 5 PIPE DIA.'S
- B MINIMUM DISTANCE SHALL BE 2 PIPE DIA.'S
- ① 6" McCROMETER MODEL NO. MF100 W/ FLOW STRAIGHTENING VANES
- ② 4" McCROMETER MODEL NO. MF100 W/ FLOW STRAIGHTENING VANES
- ③ 6" OS & Y RESILIENT SEAT GATE VALVE
- ④ 4" OS & Y RESILIENT SEAT GATE VALVE
- ⑤ 10" OS & Y RESILIENT SEAT GATE VALVE
- ⑥ 8"x 6" DI FLANGE REDUCER
- ⑦ 6"x 4" DI FLANGE REDUCER
- ⑧ 12"x 10" DI FLANGE REDUCER
- ⑨ 12"x 6" DI FLANGE REDUCING ELBOW
- ⑩ 12"x 6" DI FLANGE REDUCING TEE
- ⑪ 12"x 4" DI FLANGE REDUCING TEE
- ⑫ 12" DI FLANGE TEE
- ⑬ 12" DI FLANGE 45° BEND
- ⑭ 12" DI MJ 45° BEND W/ RETAINING GLANDS
- ⑮ 10" DI FLANGE 45° BEND
- ⑯ 10" DI MJ 45° BEND W/ RETAINING GLANDS
- ⑰ 6" DI FLANGE 45° BEND
- ⑱ 6" DI MJ 45° BEND W/ RETAINING GLANDS
- ⑲ 6" DI FLANGE 45° BEND
- ⑳ 6" DI MJ 45° BEND W/ RETAINING GLANDS
- ㉑ 6" DI MJ 90° BEND W/ RETAINING GLANDS
- ㉒ UNIFLANGE
- ㉓ PIPE SUPPORT
- ㉔ 6" WYE STRAINER FEBCO MODEL 758 OR EQUAL
- ㉕ 4" WYE STRAINER FEBCO MODEL 758 OR EQUAL
- ㉖ 10" WYE STRAINER FEBCO MODEL 758 OR EQUAL
- ㉗ 10" McCROMETER MODEL NO. MF100 W/ FLOW STRAIGHTENING VANES

MATCH LINE

SEE SHEET 6



Stage I
Pump 2

MATCH LINE
SEE PLAN RIGHT

Leachate to WWTP

PLAN VIEW

METERING STATION DETAILS

NORTH



Figure 3
Dec. 5, 2001

PBS&J
330 SOUTH PINEAPPLE AVE.
SUITE 113
SARASOTA, FLORIDA 34236
PH. (941) 954-4036
FAX (941) 954-4037
WWW.PBSANDJ.COM

CLIENT
**MANATEE COUNTY
PROJECT MANAGEMENT
DEPARTMENT**
1026 26TH AVENUE EAST
BRADENTON, FLORIDA 34210

**MANATEE COUNTY
FLORIDA**

PROJECT
**LENA ROAD LANDFILL LEACHATE
POND FACILITIES**

~~the slurry wall separates the storm water pond from the leachate pond. The leachate storage pond is bounded on the south and west by the slurry wall. The pond is bounded on the north and east by Stage I. The north and east sides of the storm water pond are bounded by the slurry wall. The south and west are outside the footprint of the landfill. To maintain an inward gradient, storm water pond elevations levels are kept at least 1 foot greater than leachate pond elevations.~~

Stage II

The Stage II LCRS is similar in design to the Stage I and III LCRS. The underdrain is installed to collect leachate which gravity flows it to a lift station. The underdrain is located inside the slurry wall. The slurry wall is keyed into the underlying clay unit to prevent movement of leachate to the outside surficial aquifer. Unlike Stage I and III, Stage II has collection laterals, which run the entire width of Stage II, spaced on 200-foot centers. However, until refuse is buried in Stage II, no leachate is produced. Because no leachate is produced, the inward gradient requirement around Stage II is not required or maintained. Ground water and rainwater collected in the underdrain system is not pumped to the ~~leachate storage pond~~. Rather, in emergency situations the water within Stage II is pumped into the Stage II perimeter storm water ditch as described above.

Stage III

Waste Water Treatment Plant.

The Stage III LCRS is similar in design to the Stage I and II LCRS. The underdrain runs along the north, south and west sides of Stage III. The north and south segments are approximately 10 feet inside the slurry wall, and the system along the west side is located approximately 17 feet inside the slurry wall. The north and west segments are graded to drain to the northwest corner of Stage III to Lift Station No. 3. The lift station pumps have a rated capacity of 800 gpm. A temporary lift station is located in the southwest corner of the Stage III area. It collects the leachate from the LCRS along the southern side of Stage III. (See also insert page 4A)

IV. OPERATIONAL PERFORMANCE OBJECTIVES

Objectives

It is the County's intent to maintain an inward gradient by collection and removal of leachate, with subsequent discharge to the WWTP. Staff will evaluate the following conditions in an effort to maintain water levels lower inside the slurry wall compared to the levels outside the slurry wall, or to recover the inward gradient within thirty days:

Revised December 5, 2001

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 23 2000

SOUTHWEST DISTRICT
TAMPA

- Water Levels
- WWTP Availability
- Pumping Rates
- ~~• Leachate Pond Capacity~~
- Seasonal Variations
- Unexpected or Scheduled Downtime

~~The objective of pumping leachate from the leachate pond to the WWTP is to maintain the level in the pond at or below elevation 28 NGVD. On occasions when the level in the pond exceeds 28 NGVD staff will recover the level in the pond to elevation 28 NGVD within thirty days.~~

V. COMPLIANCE MONITORING AND EVALUATION

Monitoring Reports

Revised

Exhibit A is the ~~October 1998~~ Water Balance Report. This report is used to quantify the volume of leachate generated on a daily and per month basis from Stage I and III. Additional information includes:

- The volume of leachate pumped to the WWTP;
- The volume of leachate pumped from Stage I and III;
- ~~• The storm water pond level and the leachate pond level;~~
- Rainfall in gallons and inches;
- ~~• The available storage of the leachate pond;~~
- ~~• Leachate evaporation from the pond; and~~
- ~~• Monthly ending leachate balance.~~

Revised

The content and format of the report are approved by the FDEP. Exhibit B is the ~~October 1998~~ Monthly Leachate Summary Report. This report is used to summarize the following information:

- ~~• Total Leachate;~~
- Total rainfall;
- ~~• Available storage in the leachate pond;~~
- Total leachate treated by the WWTP;
- ~~• Total leachate evaporated from the leachate pond; and~~
- ~~• Total leachate recirculated.~~

Exhibit C is the October 1998 Ground Water Gradient Monitoring Report. This report presents ground water elevations recorded at selected monitoring locations and compares them to the ground water elevations recorded at the piezometers. These locations are shown on Figure 2 and listed on Table 2. An inward gradient is maintained when water elevations outside the slurry wall are higher than elevations recorded inside the slurry wall.

Revised December 5, 2001

Leachate Monitoring

and

Leachate samples are collected semi-annually from reported to FDEP. Samples are collected via grab, from each leachate lift station in Stage I and III and combined for one composite sample. The first event requires sampling for the following parameters:

Field Parameters

Specific Conductivity
pH
Dissolved Oxygen
Colors, Sheen

Laboratory Parameters

Total Ammonia
Bicarbonate
Chlorides
Iron
Mercury
Nitrate
Sodium
TDS
40 CFR Part 258 Appendix I

And

~~The second event is as given above with the additional~~ parameters given in 40 CFR Part 258 Appendix II. All sampling and testing is performed by a FDEP/FDH certified laboratory.

Ground Water Monitoring

Ground water samples are also collected semi-annually. Ground water samples are collected from all twenty seven (27) ground water monitoring wells shown on Figure 2 and listed on Table 1. Samples are analyzed for the following parameters:

Field Parameters

Static Water Level
Specific Conductivity
pH
Dissolved Oxygen
Turbidity
Temperature
Colors, Sheen

Laboratory Parameters

Total Ammonia -N
Chlorides
Iron
Mercury
Nitrate
Sodium
TDS
40 CFR Part 258 Appendix I

Gradient Monitoring

Ground water monitoring wells are installed around the perimeter of the landfill, outside the slurry wall, to monitor the shallow and deep artesian aquifers. Refer to Table 1 for the name, type and aquifer monitored for each monitoring well.

Piezometers are installed around the perimeter of the landfill to measure depth to ground water of the shallow aquifer only. No ground water samples are collected from the piezometers. Refer to

EXHIBIT A

(REVISED DECEMBER 5, 2001)

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY LENA ROAD LANDFILL MONTHLY WATER BALANCE REPORT

month

year

A	B	C	D	E	F
DATE	LEACHATE STAGE I PUMP 1	LEACHATE STAGE I PUMP 2	LEACHATE STAGE III	TOTAL LEACHATE PUMPED	RAINFALL INCHES
01-Jan-00				0	
02-Jan-00				0	
03-Jan-00				0	
04-Jan-00				0	
05-Jan-00				0	
06-Jan-00				0	
07-Jan-00				0	
08-Jan-00				0	
09-Jan-00				0	
10-Jan-00				0	
11-Jan-00				0	
12-Jan-00				0	
13-Jan-00				0	
14-Jan-00				0	
15-Jan-00				0	
16-Jan-00				0	
17-Jan-00				0	
18-Jan-00				0	
19-Jan-00				0	
20-Jan-00				0	
21-Jan-00				0	
22-Jan-00				0	
23-Jan-00				0	
24-Jan-00				0	
25-Jan-00				0	
26-Jan-00				0	
27-Jan-00				0	
28-Jan-00				0	
29-Jan-00				0	
30-Jan-00				0	
31-Jan-00				0	
TOTAL	0	0	0	0	0.00

Notes:

A - DATE OF READINGS.

B - LEACHATE PUMPED FROM STAGE 1 BY PUMP STATION 1 IN GALLONS SINCE PREVIOUS READING.

C - LEACHATE PUMPED FROM STAGE 1 BY PUMP STATION 2 IN GALLONS SINCE PREVIOUS READING.

D - LEACHATE PUMPED FROM STAGE III IN GALLONS SINCE PREVIOUS READING.

E - TOTAL LEACHATE PUMPED TO WWTP FOR TREATMENT, WHICH IS THE SUM OF COLUMNS B + C + D.

F - RAINFALL RECORDED ON THIS DATE IN INCHES.

EXHIBIT B

(REVISED DECEMBER 5, 2001)

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY

LENA ROAD LANDFILL

MONTHLY LEACHATE TRACKING SUMMARY -- _____
year

	A	B	C	D
MONTH	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE TREATED	RAINFALL INCHES
JANUARY			0	
FEBRUARY			0	
MARCH			0	
APRIL			0	
MAY			0	
JUNE			0	
JULY			0	
AUGUST			0	
SEPTEMBER			0	
OCTOBER			0	
NOVEMBER			0	
DECEMBER			0	
TOTAL	0	0	0	0.00

Notes:

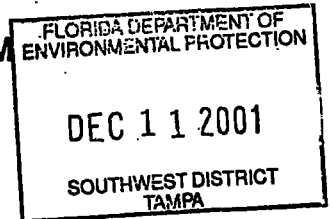
1. (A) Total leachate generated from Stage I.
2. (B) Total leachate generated from Stage III.
3. (C) Total leachate treated is the total amount of leachate pumped to the WWTP for treatment.
4. (D) Total rainfall in inches.



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

Effective Date 05-27-01
DEP Application No. _____
(Filed by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM



Date: 12/7/2001

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Manatee Co. Solid Waste Mgmt. Facility (Lena Road) WACS or GMSID #: 4041CO2025
Permit / Application No.: 39884-001-SO Expiration Date: 7/15/2004
Facility Address: 3333 Lena Road, Bradenton, FL 34202
Permittee: Manatee County ATTN: Mr. Dan Gray, Director of Utility Operations
Mailing Address: 4410 66th St. West, Bradenton, FL 34210

Latitude: 27° 28' 0"N Longitude: 82° 27' 0"W or UTM: _____

Solid Waste Disposal Units Included In Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
Stage I	131	1972	30
Stage III	75	2003	10
Stage II	110	2013	11
Total Landfill Acreage included in this estimate.		<u>286</u> Closure	<u>316</u> Long-Term Care
Type of landfill:	<u>316</u> Class I	<u>0</u> Class III	<u>0</u> C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

_____ Letter of Credit* _____ Insurance Certificate
_____ Performance Bond* _____ X _____ Escrow Account
_____ Guaranty Bond* _____ Trust Fund Agreement

III. ESTIMATE ADJUSTMENT

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

☐ (a) Inflation Factor Adjustment

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

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

Latest Department Approved
Closure Cost Estimate:

Current Year
Inflation Factor

Inflation Adjusted
Closure Cost Estimate:

X

=

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

Latest Department Approved
Annual Long-Term Care Cost
Estimate:

Current Year
Inflation Factor

Inflation Adjusted
Annual Long-Term Care
Cost Estimate:

X

=

Number of Years of Long Term Care Remaining:

X

Inflation Adjusted Long-Term Care Cost Estimate:

=

☒ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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

Signature of Engineer

Signature of Owner/Operator

Joseph L. Miller, P.E.

Name & Title (please type)

Name & Title (please type)

39177

Florida Registration Number (affix seal)

Telephone Number

482 S. Keller Road, Orlando, FL 32810

Mailing Address

407-647-7275

Telephone Number

V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing most expensive.

** Third Party Estimate / Quote must be provided for each item

** Costs must be for a third party providing all material and labor

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. Proposed Monitoring Wells	(Do not include wells already in existence.)			
	EA			0
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY	100,000	1.50	\$150,000
Placement and Spreading	CY	150,000	2.00	\$300,000
Compaction	CY	150,000	.50	\$75,000
Off-Site Material	CY	150,000	1.50	\$225,000
Delivery	CY	150,000	2.50	\$375,000
		Subtotal Slope & Fill		\$1,125,000
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY	0		
Synthetics - 40 mil	SY	1,384,240	\$3.00	4,152,720
Synthetics - GCL	SY	0		
Synthetics - Geonet	SY	1,384,240	\$3.60	\$4,983,264
Synthetics - Other	SY			
		Subtotal Barrier Layer Cover:		\$9,135,984
4. Top Soil Cover:				
Off-Site Material	CY	923,000	\$1.50	\$1,384,500
Delivery	CY	923,000	\$2.50	\$2,307,500
Spread	CY	923,000	\$2.00	\$1,846,000
		Subtotal Top Soil Cover:		\$5,538,000

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
5. Vegetative Layer				
Sodding	SY	<u>1,384,240</u>	<u>\$1.85</u>	<u>\$2,560,844.00</u>
Hydroseeding	AC	<u>0</u>	<u></u>	<u></u>
Fertilizer	AC	<u>0</u>	<u></u>	<u></u>
Mulch	AC	<u>0</u>	<u></u>	<u></u>
Other	SY	<u>0</u>	<u></u>	<u></u>
Subtotal Vegetative Layer:				<u>\$2,560,844.00</u>

6. Stormwater Control System:

Earthwork	CY	<u>6,000</u>	<u>\$1.75</u>	<u>\$10,500.00</u>
Grading	SY	<u>100,000</u>	<u>\$1.00</u>	<u>\$100,000.00</u>
Piping	LF	<u>4,000</u>	<u>\$25.00</u>	<u>\$100,000.00</u>
Ditches	LF	<u>6,000</u>	<u>\$5.00</u>	<u>\$30,000.00</u>
Berms	LF	<u>6,000</u>	<u>\$5.00</u>	<u>\$30,000.00</u>
Control Structures	EA	<u>65</u>	<u>\$4,000.00</u>	<u>\$260,000.00</u>
Other	LS	<u>1</u>	<u>\$150,000.00</u>	<u>\$150,000.00</u>
Subtotal Stormwater Controls:				<u>\$680,500.00</u>

7. Gas Controls: Passive

Wells	EA	<u>0</u>	<u> </u>	<u> </u>
Pipe and Fittings	LF	<u>0</u>	<u> </u>	<u> </u>
Monitoring Probes	EA	<u>0</u>	<u> </u>	<u> </u>
NSPS/Title V requirements	LS	<u>0</u>	<u> </u>	<u> </u>
Subtotal Passive Gas Control:				<u> </u>

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
8. Gas Control: Active Extraction				
Traps	EA	<u>2</u>	<u>\$2,300.00</u>	<u>\$4,600.00</u>
Sump	EA	<u> </u>	<u> </u>	<u> </u>
Flare Assembly	EA	<u> </u>	<u> </u>	<u> </u>
Flame Arrestor	EA	<u> </u>	<u> </u>	<u> </u>
Mist Eliminator	EA	<u> </u>	<u> </u>	<u> </u>
Flow Meter	EA	<u> </u>	<u> </u>	<u> </u>
Blowers	EA	<u> </u>	<u> </u>	<u> </u>
Collection System	LF	<u>15,000</u>	<u>\$25.00</u>	<u>\$375,000.00</u>
Other (describe)		<u>4,300</u>	<u>\$80.00</u>	<u>\$344,000.00</u>
Subtotal Active Gas Extraction:				<u>\$723,600.00</u>

9. Security System:

Fencing	LF	<u>0</u>	<u>\$0.00</u>	<u> </u>
Gate(s)	EA	<u>0</u>	<u>\$0.00</u>	<u> </u>
Sign(s)	EA	<u>0</u>	<u>\$0.00</u>	<u> </u>
Subtotal Security System:				<u> </u>

10. Engineering:

Closure Plan report	LS	<u>1</u>	<u>\$150,000.00</u>	<u>\$150,000.00</u>
Certified Enginee ring Drawing s (for constructio n)	LS	<u>1</u>	<u>\$20,000.00</u>	<u>\$20,000.00</u>
NSPS/Title V Air Permit	LS	<u>1</u>	<u>\$30,000.00</u>	<u>\$30,000.00</u>
Final Survey	LS	<u>1</u>	<u>\$20,000.00</u>	<u>\$20,000.00</u>
Certification of Closure	LS	<u>1</u>	<u>\$10,000.00</u>	<u>\$10,000.00</u>
Other (detail)		<u> </u>	<u> </u>	<u> </u>
Subtotal Engineering:				<u>\$230,000.00</u>

11. Professional Services

	Contract Management		Quality Assurance		Total
	Hours	LS	Hours	LS	
P.E. Supervisor	400	\$150.00	2000	\$130.00	\$320,000
On-Site Engineer	0				
Office Engineer	200	\$90.00	200	\$90.00	36,000
On-Site Technician	0		2,600	60	156,000
Directs					

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
Quality Assurance Testing	LS	1	\$80,000	\$80,000

Subtotal Professional Services: \$592,000

Subtotal of 1-11 Above: 20,585,928

12. Contingency 10 % of Total 2,058,593

Closing Cost Subtotal: 22,644,521

13. Site Specific Costs (explain)

Mobilization	500,000
Waste Tire Facility	48,000
Materials Recovery Facility	0
Special Wastes	0
Leachate Management System Modification	0
Other	0

Subtotal Site Specific Costs: 548,000

TOTAL CLOSING COSTS 23,192,521

VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

_____ 5 Years

_____ 20 Years

 X 30 Years

_____ Other

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

** Third Party Estimate / Quote must be provided for each item

** Costs must be for a third party providing all material and labor

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling Frequency (events/yr.)	Number of Wells	\$ / Well / Event	\$ / Year
1. Groundwater Monitoring (62-701.510(6), and (8)(a))				
Monthly	12	_____	_____	\$0.00
Quarterly	4	_____	_____	\$0.00
Semi-Annual	2	27	\$500.00	\$27,000.00
Annual	1	_____	_____	\$0.00
Subtotal Groundwater Monitoring:				\$27,000.00
2. Surface Water Monitoring (62-701.510(4), and (8)(b))				
Monthly	12	_____	_____	\$0.00
Quarterly	4	_____	_____	\$0.00
Semi-Annual	2	2	\$1000.00	\$4,000.00
Annual	1	_____	_____	\$0.00
Subtotal Surface Water Monitoring:				\$4,000.00
3. Gas Monitoring				
Monthly	12	_____	_____	\$0.00
Quarterly	4	20	\$90.00	\$7,200.00
Semi-Annual	2	_____	_____	\$0.00
Annual	1	_____	_____	\$0.00
Subtotal Gas Monitoring:				\$7,200.00

Description	Sampling Frequency (events/yr.)	Number of Locations	\$/Location/Event	\$/ Year
4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c))				
Monthly	12			\$0.00
Quarterly	4			\$0.00
Semi-Annual	2	1	\$700.00	\$1,400
Annual	1	1	\$1,500	\$1,500
Other				\$0.00
Subtotal Leachate Monitoring:				\$2,900

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
5. Leachate Collection/Treatment Systems Maintenance				
Maintenance				
Collection Pipes	LF	26,000	\$1.06	\$27,560
Sumps, Traps	EA			\$0.00
Lift Stations	EA	3	\$500	\$1,500
Cleaning	LS			\$0.00
Tanks	EA			\$0.00
Impoundments				
Liner Repair	SY			\$0.00
Sludge Removal	CY			\$0.00
Aeration Systems	CY			\$0.00
Floating Aerators	EA			\$0.00
Spray Aerators	EA			\$0.00
Disposal				
Off-site (Include Transportation and Disposal)	1000 gallon			\$0.00
				\$29,060

6. Leachate Collection/Treatment Systems Operation

Operation		Hours	\$/Hour	Total
P.E. Supervisor	HR	50	\$120.00	\$6,000.00
On-Site Engineer	HR	50	\$90.00	\$4,500.00
Office Engineer	HR			
OnSite Technician	HR	100	\$50.00	\$5,000.00
Materials	LS	1	\$5,000.00	\$5,000.00

Subtotal Leachate Collection/Treatment System Maintenance & Operation: \$20,500.00

7. Maintenance of Groundwater Monitoring Wells

Monitoring Wells	LF			
Replacement	EA	1	\$1,000.00	\$1,000.00
Abandonment	EA	1	\$500.00	\$500.00

Subtotal Groundwater Monitoring Well Maintenance: \$1,500.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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8. Gas System Maintenance

Piping, Vents	LF			
Blowers	EA	0		
Flaring Units	EA	0.1	\$150,000.00	\$15,000.00
Meters, Valves	EA	0		
Compressors	EA	0		
Flame Arrestors	EA	0		
Operation	LS	1	\$20,000.00	\$20,000.00

SubTotal Gas System: \$35,000.00

9. Landscape

Maintenance

Mowing	AC	<u>3,286</u>	<u>\$58.00</u>	<u>\$190,588.00</u>
Fertilizer	AC	<u></u>	<u></u>	<u></u>

Subtotal Landscape Maintenance: \$190,588.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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10. Erosion Control & Cover Maintenance

Sodding	SY	<u>316</u>	<u>\$50.00</u>	<u>\$15,800.00</u>
Regrading	AC	<u>316</u>	<u>\$8.00</u>	<u>\$2,528.00</u>
Liner Repair	SY	<u>25</u>	<u>\$120.00</u>	<u>\$3,000.00</u>
Clay	CY	<u></u>	<u></u>	<u></u>

Subtotal Erosion Control and Cover Maintenance: \$21,328.00

11. Storm Water Management System Maintenance

ance Maintenance	LS	<u>1</u>	<u>\$25,000.00</u>	<u>\$25,000.00</u>
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Subtotal Storm Water System Maintenance: \$25,000.00

12. Security System Maintenance

Fences	LF	<u>29,900</u>	<u>\$0.20</u>	<u>\$5,980.00</u>
Gate(s)	EA	<u>2</u>	<u>\$20.00</u>	<u>\$40.00</u>
Sign(s)	EA	<u>10</u>	<u>\$20.00</u>	<u>\$200.00</u>

Subtotal Security System: \$6,220.00

13. Utilities	LS			<u>\$5,000</u>
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14. Administrative

		<u>Hours</u>	<u>\$/Hour</u>	<u>Total</u>
P.E. Supervisor	HR	<u>100</u>	<u>\$120.00</u>	<u>\$12,000</u>
On-Site Engineer	HR	<u>400</u>	<u>\$90.00</u>	<u>\$36,000</u>
Office Engineer	HR	<u></u>	<u></u>	<u>\$0.00</u>
OnSite Technician	HR	<u>1000</u>	<u>\$50.00</u>	<u>\$50,000</u>
Other (explain)		<u></u>	<u></u>	<u>\$0.00</u>
Subtotal Administrative:				<u>\$98,000</u>

15. Contingency

% of Total

%1047,330\$47,330

\$0.00

Subtotal Contingency:

\$47,330**16. Site Specific Costs (explain)**UNIT COST

Permit Renewal every 5 years.

LS

\$10,000

Bi-Annual Report.

LS

\$10,000

LS

ANNUAL LONG-TERM CARE COST (\$/Year):

\$540,626

NUMBER OF YEARS OF LONG-TERM CARE

30

TOTAL LONG-TERM CARE COST (\$)

\$16,218,780