SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/26/95

Time

Subject SE leachate Testing

Permit No.

County Hills.

M Tom French

Telephone No. 401 277-4443 x224

Representing PBS+J Lab

[X] Phone Me [ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting

dichlorofluoromethane & other THM not on Priority Pollutant List, asbestos is. They didn't analyze leachate for asbestos

fax some info to Jim Clayton, Hills Co Solid Waste

(continue on another sheet, if necessary)

Signature Allison Amram

Title PGI

ADMINISTRATIVE OFFICES, LEGAL & WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960
FAX (813) 272-5157

AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

WETLANDS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

M E M O R A N D U M

DATE: April 23, 1995

TO: Kim Ford, P.E., FDEP SW-Permitting

FROM: Paul A. Schipfer, EPC SW-Permitting

SUBJECT: **HILLSBOROUGH COUNTY SOUTHEAST LANDFILL INCOMPLETENESS RESPONSE DATED MARCH 24, 1995, RECEIVED BY THE FDEP ON MARCH 27, 1995, PENDING OPERATING RENEWAL OF PERMIT # SO29-158504**

Per our conversation, this memo is to memorialize EPC's comments and concerns regarding the above subject facility incompleteness response report.

1) EPC's primary concern focuses around the leachate management plan, the HELP model, and Figure 2. Based on our meeting with the applicant on January 31, 1995, it was agreed that a leachate management plan that revealed a need for additional storage over peak rainfall periods would be provided. A maximum of approximately 2 to 2.5 feet was agreed to. However, it was also agreed that the leachate management plan would indicate that the landfill would be emptied to one foot of depth as much as possible. According to the text this should be the case; however, it is not my impression of what has been submitted based on Figure 2. For Figure 2. to represent what is envisioned, line B should reflect expected normal operations and line A represent worst case, then the figure and plan should be in the spirit of the agreement. It would appear now, that it is the applicant's intent to operate at in the worst case conditions or line A in Figure 2.

2) Also as we discussed and agreed, implementation of the proposed piezometer system prior to issuance of the permit may be beneficial to evaluate actual depth of leachate on the liner.

3) The applicant did not provide the as-built drawings requested for landfill leachate sumps existing per your request in your previous incompleteness letter as statement 9.

FAX COVER

TO:

DATE: 4/27/95
NAME: Mr. Kim Ford
COMPANY NAME: FDEP
FAX NUMBER: 744-6125
PHONE NUMBER: 744-6100, 382

SCS ENGINEERS

Environmental Consultants

3012 U.S. Highway 301 North
Suite 700
Tampa, Florida 33619

Phone 813 621-0080
FAX 813 623-6757

FROM: Larry Ruiz
JOB/OVERHEAD NUMBER: 09201B.35
NUMBER OF PAGES: 4

COMMENTS:

Please call if you have any questions
Thanks Jeff

Attached as requested:
Balance report for January, February, March
with modified values for column XV

LEACHATE WATER BALANCE REPORT FORM
JANUARY, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Day	Area (acres) closed	active	int.	Rainfall (in.)	Sump No. 3 (in.)	Est. Depth Over Liner (in.)	Est. Landfill Storage (gal.)	Leachate Pumped to LTRF (gal.)	Leachate in 500K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Recirculation (gal.)	Change in Effl. Pond Storage (gal.)	Effluent Sprayed (gal.)	Effluent Recirculation (gal.)	Landfill Evapor. (gal.)
1	23.2	5.0	92.2	0.0	51.6	NR	NR	NR	NR	NR	0	0	NR	0	0	0
2	23.2	5.0	92.2	0.0	67.2	NR	NR	0	409,000	NR	63,000	0	NR	0	0	0
3	23.2	5.0	92.2	0.0	70.8	NR	NR	85,000	345,000	NR	126,000	0	NR	0	0	0
4	23.2	5.0	92.2	0.3	75.6	NR	NR	108,000	305,000	NR	126,000	0	NR	0	0	0
5	23.2	5.0	92.2	0.0	69.6	NR	NR	96,000	288,000	NR	125,000	0	NR	0	0	0
6	23.2	5.0	92.2	0.0	64.8	NR	NR	308,000	259,000	NR	136,000	0	NR	0	0	0
7	23.2	5.0	92.2	1.7	64.8	NR	NR	NR	NR	NR	144,000	0	NR	0	0	0
8	23.2	5.0	92.2	0.0	64.8	NR	NR	NR	NR	NR	0	0	NR	0	0	0
9	23.2	5.0	92.2	0.0	66.0	NR	NR	97,000	288,000	NR	126,000	0	NR	0	0	0
10	23.2	5.0	92.2	0.0	62.4	NR	NR	126,000	259,000	NR	126,000	0	NR	0	0	0
11	23.2	5.0	92.2	0.0	64.8	NR	NR	97,000	259,000	NR	125,000	0	NR	0	0	0
12	23.2	5.0	92.2	0.0	63.6	NR	NR	234,000	230,000	NR	119,000	0	NR	0	0	0
13	23.2	5.0	92.2	0.4	60.0	NR	NR	154,000	345,000	NR	125,000	0	NR	0	0	0
14	23.2	5.0	92.2	1.1	60.0	NR	NR	85,000	374,000	NR	125,000	0	NR	0	0	0
15	23.2	5.0	92.2	0.2	58.8	NR	NR	NR	NR	NR	0	0	NR	0	0	0
16	23.2	5.0	92.2	0.0	67.2	NR	NR	103,000	334,000	NR	121,000	0	NR	0	0	0
17	23.2	5.0	92.2	0.0	68.4	NR	NR	93,000	317,000	NR	121,000	0	NR	0	0	0
18	23.2	5.0	92.2	0.0	63.6	NR	NR	104,000	288,000	NR	115,000	0	NR	0	0	0
19	23.2	5.0	92.2	0.0	63.6	NR	NR	162,000	276,000	NR	122,000	0	NR	0	0	0
20	23.2	5.0	92.2	0.0	58.8	NR	NR	165,000	317,000	NR	122,000	0	NR	0	0	0
21	23.2	5.0	92.2	0.0	57.6	NR	NR	23,000	360,000	NR	124,000	0	NR	0	0	0
22	23.2	5.0	92.2	0.0	63.6	NR	NR	NR	NR	NR	0	0	NR	0	0	0
23	23.2	5.0	92.2	0.0	69.6	NR	NR	109,000	253,000	NR	109,000	0	NR	0	0	0
24	23.2	5.0	92.2	0.0	58.8	NR	NR	166,000	253,000	NR	122,000	0	NR	0	0	0
25	23.2	5.0	92.2	0.0	58.8	NR	NR	162,000	302,000	NR	124,000	0	NR	0	0	0
26	23.2	5.0	92.2	0.0	56.4	NR	NR	130,000	340,000	NR	124,000	0	NR	0	0	0
27	23.2	5.0	92.2	0.0	56.4	NR	NR	125,000	345,000	NR	125,000	0	NR	0	0	0
28	23.2	5.0	92.2	0.0	55.2	NR	NR	210,000	345,000	NR	123,000	0	NR	0	0	0
29	23.2	5.0	92.2	0.0	56.4	NR	NR	NR	NR	NR	0	0	NR	0	0	0
30	23.2	5.0	92.2	0.1	54.0	NR	NR	39,000	432,000	NR	125,000	0	NR	0	0	0
31	23.2	5.0	92.2	0.8	54.0	NR	NR	123,000	345,000	NR	123,000	0	NR	0	0	0
Total				4.60	1927.2	0.0	0	3,104,000	7,880,000	0	3,166,000	0	0	0	0	0
Daily Avg				0.15	62.2	ERR	ERR	124,000	315,000	ERR	102,000	0	ERR	0	0	0

Notes
1. NR No Records
2. Column II total area with waste is 120.4 acres (Phases I-V).
3. Column V, estimated from depth in Phase IV Piezometer.
4. Column VI, estimated from column V and approximate volume with top of clay elevation at [illegible] feet.
5. Column VII, estimated from Column IX - Column X + Change in Storage of 500,000 gal tank.
6. Columns IX and XIII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, [illegible] of the daily values from Columns X [illegible] XIII and XIV.

LEACHATE WATER BALANCE REPORT FORM
FEBRUARY, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Day	Area (acres)			Rainfall (in.)	Sump No. 3 (in.)	Est. Depth Over Liner (in.)	Est. Landfill Storage (gal.)	Leachate Pumped to LTRF (gal.)	Leachate in 500K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Recir-culation (gal.)	Change in Effl. Pond Storage (gal.)	Effluent Sprayed (gal.)	Effluent Recir-culation (gal.)	Landfill Evapor. (gal.)
	closed	active	Int.													
1	23.2	5.0	92.2	0.0	56.4	NR	NR	124,000	345,000	0	124,000	0	0	0	0	0
2	23.2	5.0	92.2	0.0	56.4	NR	NR	114,000	345,000	0	129,000	0	0	0	0	0
3	23.2	5.0	92.2	0.0	51.6	NR	NR	134,000	331,000	51,000	140,000	0	27,000	24,000	0	19,000
4	23.2	5.0	92.2	0.1	51.6	NR	NR	302,000	274,000	45,000	135,000	0	45,000	0	0	0
5	23.2	5.0	92.2	0.2	50.4	NR	NR	NR	NR	50,000	0	0	50,000	0	0	0
6	23.2	5.0	92.2	0.0	50.4	NR	NR	192,000	345,000	41,000	151,000	0	(8,000)	49,000	0	40,000
7	23.2	5.0	92.2	0.0	49.2	NR	NR	119,000	345,000	53,000	153,000	0	51,000	2,000	0	2,000
8	23.2	5.0	92.2	0.0	51.6	NR	NR	124,000	259,000	29,000	153,000	0	(29,000)	58,000	0	47,000
9	23.2	5.0	92.2	0.0	46.8	NR	NR	30,000	202,000	29,000	116,000	0	(10,000)	39,000	0	32,000
10	23.2	5.0	92.2	0.0	45.6	NR	NR	242,000	86,000	44,000	140,000	0	39,000	5,000	0	4,000
11	23.2	5.0	92.2	0.0	21.6	NR	NR	371,000	144,000	44,000	109,000	0	44,000	0	0	0
12	23.2	5.0	92.2	0.4	19.2	NR	NR	NR	NR	45,000	0	0	45,000	0	0	0
13	23.2	5.0	92.2	0.5	12.0	NR	NR	139,000	317,000	40,000	128,000	0	40,000	0	0	0
14	23.2	5.0	92.2	0.3	21.6	NR	NR	143,000	288,000	44,000	128,000	0	44,000	0	0	0
15	23.2	5.0	92.2	0.0	24.0	NR	NR	252,000	259,000	49,000	117,000	0	(11,000)	60,000	0	48,000
16	23.2	5.0	92.2	0.0	12.0	NR	NR	99,000	345,000	41,000	116,000	0	(11,000)	52,000	0	42,000
17	23.2	5.0	92.2	0.0	15.6	NR	NR	80,000	288,000	44,000	122,000	0	(8,000)	52,000	0	42,000
18	23.2	5.0	92.2	0.0	22.8	NR	NR	300,000	202,000	46,000	152,000	0	46,000	0	0	0
19	23.2	5.0	92.2	0.0	21.6	NR	NR	NR	NR	44,000	0	0	44,000	0	0	0
20	23.2	5.0	92.2	0.0	22.8	NR	NR	168,000	259,000	45,000	152,000	0	45,000	0	0	0
21	23.2	5.0	92.2	0.9	14.4	NR	NR	140,000	230,000	45,000	152,000	0	(7,000)	52,000	0	42,000
22	23.2	5.0	92.2	0.0	22.8	NR	NR	110,000	173,000	45,000	152,000	0	(7,000)	52,000	0	42,000
23	23.2	5.0	92.2	0.0	22.8	NR	NR	153,000	86,000	30,000	37,000	0	(16,000)	46,000	0	37,000
24	23.2	5.0	92.2	0.0	15.6	NR	NR	134,000	173,000	37,000	58,000	0	(9,000)	46,000	0	37,000
25	23.2	5.0	92.2	0.0	12.0	NR	NR	229,000	202,000	45,000	97,000	0	45,000	0	0	0
26	23.2	5.0	92.2	0.0	8.4	NR	NR	107,000	288,000	49,000	0	0	49,000	0	0	0
27	23.2	5.0	92.2	0.0	10.8	NR	NR	145,000	345,000	41,000	104,000	0	(19,000)	60,000	0	48,000
28	23.2	5.0	92.2	0.0	12.0	NR	NR	112,000	345,000	44,000	67,000	0	(9,000)	53,000	0	43,000
Total				2.40	822.0	0.0	0	4,063,000	6,476,000	1,120,000	2,942,000	0	470,000	650,000	0	525,000
Daily Avg				0.09	29.4	ERR	ERR	163,000	259,000	40,000	105,000	0	17,000	23,000	0	19,000

Notes
1. NR: No Records
2. Column total area with waste is 120.4 acres (Phases V).
3. Column V, estimated from depth in Phase V Piezometer
4. Column VI, estimated from column V and approximate volume with top of clay elevation at 118.5 feet.
5. Column VII, estimated from Column IX + Column X + Change in Storage of 500,000 gal tank
6. Columns IX and XIII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, 80.8% of the daily values from Columns X, XIII, and XIV.

LEACHATE WATER BALANCE REPORT FORM
MARCH, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
	Area (acres)															
Day	final	active	int.	Rainfall (in.)	Sump No. 3 (in.)	Est. Depth Over Liner (in.)	Est. Landfill Storage (gal.)	Leachate Pumped to LTRF (gal.)	Leachate in 500K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leach./Effl. Hauled (gal.)	Leachate Recir-culation (gal.)	Change in Effl. Pond Storage (gal.)	Effluent Sprayed (gal.)	Effluent Recir-culation (gal.)	Landfill Evapor. (gal.)
1	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	138,000	345,000	45,000	122,000	0	9,000	36,000	0	29,000
2	23.2	5.0	92.2	Trace	12.0	16.8	1,249,000	109,000	317,000	44,000	122,000	0	(2,000)	46,000	0	37,000
3	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	129,000	259,000	42,000	116,000	0	(10,000)	52,000	0	42,000
4	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	229,000	230,000	49,000	123,000	0	49,000	0	0	0
5	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	75,000	288,000	46,000	0	0	46,000	0	0	0
6	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	95,000	317,000	43,000	109,000	0	(9,000)	52,000	0	42,000
7	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	130,000	259,000	49,000	110,000	0	(20,000)	52,000	17,000	56,000
8	23.2	5.0	92.2	0.7	12.0	16.8	1,249,000	138,000	230,000	40,000	98,000	0	40,000	0	0	0
9	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	97,000	230,000	45,000	109,000	0	5,000	39,000	0	32,000
10	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	97,000	173,000	46,000	109,000	0	4,000	42,000	0	34,000
11	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	241,000	115,000	36,000	103,000	0	36,000	0	0	0
12	23.2	5.0	92.2	0.0	12.0	NR	NR	NR	NR	45,000	0	0	45,000	0	0	0
13	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	125,000	173,000	45,000	79,000	0	6,000	39,000	0	32,000
14	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	123,000	173,000	45,000	79,000	0	(11,000)	39,000	17,000	45,000
15	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	123,000	173,000	45,000	78,000	0	(11,000)	39,000	17,000	45,000
16	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	124,000	173,000	45,000	79,000	0	(10,000)	46,000	9,000	44,000
17	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	90,000	173,000	45,000	74,000	0	5,000	40,000	0	32,000
18	23.2	5.0	92.2	0.9	12.0	16.8	1,249,000	146,000	144,000	47,000	98,000	0	47,000	0	0	0
19	23.2	5.0	92.2	0.2	12.0	16.8	1,249,000	232,000	144,000	45,000	0	0	45,000	0	0	0
20	23.2	5.0	92.2	0.0	12.0	NR	NR	NR	NR	49,000	80,000	0	(8,000)	57,000	0	46,000
21	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	103,000	202,000	53,000	80,000	0	(16,000)	60,000	9,000	56,000
22	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	38,000	173,000	NR	67,000	0	NR	0	0	0
23	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	61,000	144,000	NR	61,000	0	NR	0	9,000	7,000
24	23.2	5.0	92.2	0.0	25.2	30.0	3,486,000	46,000	144,000	39,000	37,000	0	27,000	12,000	0	10,000
25	23.2	5.0	92.2	0.0	12.0	20.4	1,424,000	104,000	115,000	47,000	0	0	47,000	0	0	0
26	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	129,000	173,000	43,000	0	0	43,000	0	0	0
27	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	120,000	259,000	45,000	75,000	0	(29,000)	57,000	17,000	60,000
28	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	98,000	259,000	46,000	81,000	0	(13,000)	59,000	0	48,000
29	23.2	5.0	92.2	0.1	12.0	16.8	1,249,000	91,000	230,000	45,000	75,000	0	(24,000)	60,000	9,000	56,000
30	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	64,000	202,000	46,000	75,000	0	(22,000)	59,000	9,000	55,000
31	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	90,000	144,000	43,000	81,000	0	(3,000)	46,000	0	37,000
Total				1.90	385.2	500.4	38,366,000	3,385,000	5,961,000	1,303,000	2,320,000	0	267,000	932,000	113,000	845,000
Daily Avg				0.06	12.4	17.3	1,323,000	117,000	206,000	45,000	75,000	0	9,000	30,000	4,000	27,000

Revised by BWP, 4/13/95.

Notes:

1. [illegible]
2. Column II, total area with waste is 120.4 acres (Phases I-IV).
3. Column V, estimated from depth in Phase IV riser.
4. Column VI, estimated from column V and approximate volume with top of liner elevation at 118.5 feet.
5. Column VII, estimated from Column IX + Column X + Change in Storage of 500,000 gal. tank.
6. Columns IX and XII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, 80.8% of the daily values from Columns X, XI, and XIV.

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

FAX TRANSMITTAL SHEET

FAXED 9:40 AM

4-26-95
Date

TO: Tim Clayton

DEPT.: HCDSW

FAX #: 276-2960

FROM: Alison Amram

DEPT.: D.E.P., Tampa Office Solid Waste

PHONE: 813-744-6100 or SunCom 542-6100 Ext. 336
FAX(local)744-6125 or (SunCom) 542-6125

SUBJECT: SE Leachate treatment plant permit

COMMENT: SC29-199393, pg 8 of 10
7 of 10
9 of 10
from 11/23/94 permit mod

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 4

RECEIVED BY: _____

PHONE: _____

SPECIFIC CONDITIONS:

5. The site shall continue to have a surface water management system operated and maintained to prevent surface water flow onto the treatment facility site. A stormwater runoff control system shall be operated and maintained to collect and control stormwater as indicated in the original operating permit submittal and any subsequent modifications approved by the Department. Any modifications of the approved stormwater design must be resubmitted to the Department for approval prior to implementation.

6. Stormwater or other surface water which comes into contact with the solid waste or mixed with leachate shall be considered leachate, and shall be treated to meet applicable standards of Florida Administrative Code Rules 17-3, 17-4 and 17-601 at the point of discharge.

7. The operating authority shall be responsible for the control of odors and fugitive particulates arising from this operation. Such control shall prevent the creation of nuisance conditions on adjoining property.

8. Sampling and analysis activities as required by this permit shall be conducted by parties in accordance with a Department approved Comprehensive Quality Assurance Plans (C.Q.A.P.). Prior to initiation of sampling and analysis activities, documentation of the parties possession of an approved C.Q.A.P. shall be submitted to the Solid Waste Section, Department of Environmental Protection, Southwest District Office, Tampa, Florida.

9. The permittee shall be allowed one (1) year for operating and testing of the leachate treatment and reclamation facility to determine compliance with the rules and regulations of the Department. Throughout the allowed one (1) year for operating and testing, the permittee shall submit the results of sampling and analysis as follows:

a. raw leachate from the landfill shall be sampled and analyzed initially within the first 30 days of facility use, and at 6 and 12 months after facility startup for the Primary and Secondary Drinking Water parameters, fecal coliform, and EPA Priority Pollutants.

b. treated leachate shall be sampled and analyzed for the Primary and Secondary Drinking Water parameters and EPA Priority Pollutants after the leachate treatment facility has achieved steady-state conditions with regard to its treatment capability or within 30 days, whichever is less, and at 6 and 12 months thereafter.

SPECIFIC CONDITIONS:

c. treated leachate shall be sampled by grab samples before discharge as follows:

Parameter	Frequency	Maximum Contaminant Level	Units
pH	weekly	6.5 - 8.5*	std. Units
TOC	monthly	**	mg/L
TDS	monthly	500	mg/L
BOD_5	monthly	60(1)	mg/L
COD	monthly	**	mg/L
TSS	monthly	60(1)	mg/L
NO_3-N	monthly	12	mg/L
Chlorides	monthly	250	mg/L
Fecal Coliform	monthly	200(2)	#/100 ml
Total Alkalinity	weekly	>12	~~m/L~~ mg/l
Arsenic	monthly	0.05	mg/L
Barium	monthly	1.0	mg/L
Cadmium	monthly	0.010	mg/L
Chromium	monthly	0.05	mg/L
Mercury	monthly	0.002	mg/L
Lead	monthly	0.05	mg/L
Selenium	monthly	0.01	mg/L
Silver	monthly	0.05	mg/L

(1) Maximum Grab Level = 60 mg/L
Maximum Monthly Average = 30 mg/L
Maximum Yearly Average = 20 mg/L
(2) Maximum Grab Level = 800 counts/100 ML: with a
Maximum Yearly Count Level = 200/100 ML

**Based on results of testing this parameter review by FDEP may require additional testing.

Within the submittal letter for sampling and analysis results, all parameters above maximum contaminant levels shall be identified including circling those parameters on the operating reports.

d. waste sludge shall be sampled and analyzed initially (within the first 6 months of facility use) and annually thereafter for EPA Priority Pollutants, TCLP and as follows:

Parameters	Units
Total Nitrogen	percent (dry weight)
Total Phosphorus	percent (dry weight)
Total Potassium	percent (dry weight)
Cadmium	mg/kg (dry weight)
Copper	mg/kg (dry weight)
Lead	mg/kg (dry weight
Nickel	mg/kg (dry weight)
Zinc	mg/kg (dry weight)
pH	std. units
Solids	percent

SPECIFIC CONDITIONS:

Sludge to be disposed of in conjunction with municipal solid waste shall be dewatered. Dewatered means a content of 12 percent or greater solids (by weight).

Based upon the results of the analysis during this 1 year test period, the Department may require further testing and alternative disposal in order to assure compliance with all Department rules and regulations. The results of each analysis required shall be submitted to the Solid Waste Section of the DEP Southwest District Office within sixty (60) days following the sampling. An evaluation report of the results and an assessment of the effectiveness of the leachate treatment and disposal facility design and operation shall be due within 60 days after the end of the first year of operation. Following the end of the one (1) year for operating and testing, the permittee shall request a modification of the landfill operation permit to include the operation of the leachate treatment and reclamation facility.

10. This permit allows spray irrigation of a maximum 60,000 gallons per day (24 hours) at an application rate of .13 inches per day of treated effluent from the associated treatment facility. Under no circumstances shall treated effluent be allowed to discharge as runoff to adjacent stormwater systems or conveyance ditches. Spraying shall take place only when runoff into the onsite retention areas downgradient from the spray areas has terminated for 24 hours. The aforementioned is based on daily inspections of the influent point to retention area, or as follows, whichever is more restrictive:

a. at least 4 hours after a rainfall of 1/4" or less, or
b. at least 24 hours after a day of rainfall of 1/4" to 1", or
c. at least 48 hours after a day of rainfall of 1" or greater

The following shall be recorded daily on the attached Water Balance Report Form:

· leachate treated	gal/day
· treated effluent stored	gal/day
· treated effluent sprayed	gal/day
· rainfall onsite	inches /day & time of day
· observed runoff influent to retention area	(yes/no) time of day of inspection

The time of day shall be reported immediately following the end of rainfall and the end of observed runoff in downgradient ponds and ditches.

The first year of the data collected above will be reviewed by the Department, at the request of the applicant, to determine if the application rate guidelines should be adjusted based on the actual rainfall/effluent and runoff relationship.

Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

FAXED

FAX TRANSMITTAL SHEET

4-26-95
Date

TO: Tom French

DEPT.: PBS&J Lab

FAX #: 407/380-8794

FROM: Allison Amram

DEPT.: D.E.P., Tampa Office Solid Waste

PHONE: 813-744-6100 or SunCom 542-6100 Ext. 338
FAX(local)744-6125 or (SunCom) 542-6125

SUBJECT: Priority Pollutant List

COMMENT: - Included Nielsen list, intro
- 40 CFR Part 131 lists the Priority Pollutants; latest version is 12/22/92.

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 6

RECEIVED BY: _____

PHONE: _____

Requirements Under Clean Water Act (CWA)

In general, the Clean Water Act focuses upon surface water quality and discharges into the surface waters of the United States. The discharge regulations were established under the National Pollutant Discharge Elimination System (NPDES). This program has resulted in the construction of a number of industrial and municipal wastewater treatment plants that treat wastewater prior to discharge into surface-water bodies.

Under the CWA, a Consent Decree signed by the U.S. EPA required the identification of pollutant chemical classes (or groups of similar types of chemicals) that may be of concern if found in surface water or ground water—the Priority Pollutant List of compounds and elements resulted. This list, shown in Table 12.3, is the most applicable part of the CWA to ground water. Priority pollutant analyses, or parts thereof, have been applied to many ground-water investigations under state and federal regulatory purview. This list of compounds is useful because it includes the organic compounds that are frequently used as raw materials or stored as hazardous waste by industry. The list of inorganic constituents is not all-inclusive, but adds a few toxic elements to the drinking water list of parameters and to a general water-quality analysis.

The national primary and secondary drinking water regulations are also cited under the CWA. Many states have adopted the drinking water regulations or have modified them in part to become more stringent and applied them to ground-water investigations within the state. Although ground water may not meet the drinking water standards in all places, the objective of applying drinking water standards is to provide a goal to which ground water should be treated if, in fact, contaminants have been introduced into them.

Table 12.3. 129 Environmental Protection Agency Priority Pollutants.

Base-Neutral Extractable Organics	Volatile Organics	Pesticides/PCB
Acenaphthene	Acrolein	Aldrin
Acenaphthylene	Acrylonitrile	alpha-BHC
Anthracene	Benzene	beta-BHC
Benzidine	bis(Chloromethyl) ether	gamma-BHC
Benzo(a)anthracene	Bromoform	delta-BHC
Benzo(a)pyrene	Carbon tetrachloride	Chlordane
3,4-Benzofluoranthene	Chlorobenzene	4,4′-DDT
Benzo(ghi)perylene	Chlorodibromomethane	4,4′-DDE
Benzo(k)fluoranthene	Chloroethane	4,4′-DDD
bis(2-Chloroethoxy) methane	2-Chloroethyl vinyl ether	Dieldrin
bis(2-Chloroethyl) ether	Chloroform	alpha-Endo
bis(2-Chlorisopropyl) ether	Dichlorobromomethane	beta-Endo
bis(2-Ethylhexyl) phthalate	Dichlorodifluoromethane	Endosulfa
4-Bromophenyl phenyl ether	1,1-Dichloroethane	Endrin
Butyl benzyl phthalate	1,2-Dichloroethane	Endrin al

ing water standards in all places, the objective of applying drinking water standards is to provide a goal which ground water should be treated if, in fact, contaminants have been introduced into them.

From: Nielsen, David M. Practical Handbook of Ground-Water Monitoring, 1991. Lewis Publishers, Chelsea, Michegan, pp 506-507.

Table 12.3. 129 Environmental Protection Agency Priority Pollutants.

Base-Neutral Extractable Organics

Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
3,4-Benzofluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
bis(2-Chloroethoxy) methane
bis(2-Chloroethyl) ether
bis(2-Chlorisopropyl) ether
bis(2-Ethylhexyl) phthalate
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
2-Chloronaphthalene
4-Chlorophenyl phenyl ether
Chrysene
Dibenzo(a,h)anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3′-Dichlorobenzidine
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
1,2-Diphenylhydrazine
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-c,d)pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodi-n-propylamine
N-Nitrosodiphenylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Volatile Organics

Acrolein
Acrylonitrile
Benzene
bis(Chloromethyl) ether
Bromoform
Carbon tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
2-Chloroethyl vinyl ether
Chloroform
Dichlorobromomethane
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
1,3-Dichloropropylene
Ethylbenzene
Methyl bromide
Methyl chloride
Methylene chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-trans-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
Vinyl chloride

Acid Extractable Organics

2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-o-cresol
2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
p-Chloro-m-cresol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Pesticides/PCBs

Aldrin
alpha-BHC
beta-BHC
gamma-BHC
delta-BHC
Chlordane
4,4′-DDT
4,4′-DDE
4,4′-DDD
Dieldrin
alpha-Endosulfan
beta-Endlosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
Toxaphene

Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Miscellaneous

Total cyanides
Total phenols
Asbestos

SECTION VII.

LIST OF PRIORITY POLLUTANTS

40 CFR Pt 131
12/22/92
p1/3

2,4-dinitrotoluene
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Ethylbenzene
Flouranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethoxy) methane)
Methylene chloride (dichloromethane)
Methyl chloride (dichloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Hexachlorobutadiene
Chlorodibromomethane
Hexachloromyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamin
Pentachlorophenol
Phenol
Bis(2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-N-Butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-benzanthracene (benzo(a) anthracene
Benzo(a)pyrene (3,4-benzo-pyrene)
3,4-Benzofluoranthene (benzo(b) fluoranthene)
11,12-benzofluoranthene (benzo(b) fluoranthene)
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene (benzo(ghi) perylene)
Fluorene
Phenanthrene

1,2,5,6-dibenzanthracene (dibenzo(,h)anthracene)
Indeno (,1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloreothane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Bis(2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,2-dichloropropylene (1,3-dichloropropene)
2,4-dimethylphenol
Beta-endosulfan
Endosulfan sulfate

p 3/3

Endrin
Endrin aldehyde
Heptachlor
Heptachlor exopide (BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC (PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
Toxaphene
Antimony
Arsenic
Asbestos
Beryllium
Cadmium
Chromium
Copper
Cyanide, Total
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Silver
Zinc
2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

Transmit Confirmation Report

No.	:	004
Receiver	:	84073828794
Transmitter	:	WASTE MGT TAMPA SWDIST
Date	:	Apr 26 95 12:51
Time	:	04'38
Mode	:	Fine
Pages	:	06
Result	:	OK

I N T E R O F F I C E M E M O R A N D U M

Date: 26-Apr-1995 10:19am EST
From: Kent Edwards TPA
EDWARDS_K
Dept: Southwest District Offi
Tel No: 813/744-6100 Ext. 442
SUNCOM: 542-6100 Ext. 442

TO: Allison Amram TPA (AMRAM_A)

Subject: RE: Priority Pollutant List

The CWA priority pollutant list is published in 40 CFR part 131. My latest version is from 12/22/92. I have a reference from EPA that is much easier to read though: Introduction to Water Quality Standards, EPA 440/5 88-089, September 1988. If you want to copy or look at either one, just let me know.

KE

131.36(b)(1)

SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/26/95

Time 8:55

Subject SE Hill, Leachate Treat Plant Test Params

Permit No.

County Hillsborough

Telephone No. 407/ 277-4443 x224

M Tom French

Representing PBS&J

[X] Phone Me [ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting

Priority pollutant list - his appears to be different

He will fax me his list - 1980 + 1987 (40 CFR Pt 122 App D NPDES)

cl will fax him my list

↳ 407/382-8794

+ look for 40 CFR reference

(continue on another sheet, if necessary)

Signature Alison Aman

Title PGI

I N T E R O F F I C E M E M O R A N D U M

Date: 26-Apr-1995 07:41am EST
From: Kim Ford TPA
FORD_K
Dept: Southwest District Offi
Tel No: 813/620-6100
SUNCOM: 542-6100 Ext. 382

TO: Robert Butera TPA (BUTERA_R)

Subject: SE LANDFILL / NONCOMPLIANCE & PERMIT RENEWAL

On April 26th I spoke with Larry Ruiz of SCS Engineers about existing noncompliance and permit renewal. The following issues were discussed:

1. Column XV shown on the leachate data spreadsheet will be changed to represent only leachate evaporated, not rainfall. This is to allow the four key elements of leachate management to balance, namely - leachate stored in the landfill, leachate removed from the landfill, leachate hauled to wwtps, and leachate evaporated by the spray system and recirculation.

2. Hauling to wwtps has decreased from 105,000 gpd in February to 75,000 gpd in March. This decrease was attributed to the limited rate that leachate can be removed from the landfill by gravity flow through a submerged pipe into the existing pump station. All that can be removed from the landfill is either treated on-site and sprayed, or hauled to an off-site wwtp.

3. The depth of leachate over the liner is shown to be 12 inches. This is because the pump is now operating continuously. The depth of leachate measured in the pump station no longer represents the depth of leachate over the liner. A piezometer is proposed for measuring the depth of leachate in Phase IV. This piezometer should be designed, reviewed, and installed ASAP. Without this piezometer neither DEP nor the County knows what the depth of leachate is over the liner.

4. Figure 2. presented in SCS's recent response shows a maximum depth of 1.7 feet to start with at the time the new permit is issued and no more than 2.3 feet at any time over the next 5 years. DEP has agreed that a constant 1 foot depth would not be required for this landfill and would allow 2 feet for a limited time to recover from the wet season each year. Figure 2. shows that if the landfill starts with the proposed 1.7 feet, the depth of 1 foot would never be reached. I may be willing to accept a starting depth of 1.7 feet, but no more. It appears unreasonable to issue a new permit for the SE Landfill with current site conditions that do not comply with SCS's performance criteria.

kbf

SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 4/25/95

Time 10:10

Subject CTP Testing

Permit No. SC29-179393

County Hillsborough

M Jim Clayton

Telephone No.

Representing Hills Co Solid Waste

[X] Phone Me [ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting

fecal coliform - } want to do monthly
alkalinity - } because it's required on a tip to the lab. When they have sufficient data, they can apply for a mod. to go to monthly sampling.
What is standard?

Discussed leachate sampling parameters - gave him a copy of the EPA Priority Pollutant list w/ the letter that went out w/ the leachate results last week Params. not analyzed are all on the Priority Pollutant list.

I will let him know what the alkalinity standard is - sampl m/l in the permit (mg/l

fecals are required monthly.

(continue on another sheet, if necessary)

Signature Alison Ayram

Title PG

Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

April 25, 1995

Mr. Daryl Smith, Director
Hillsborough County
Department of Solid Waste
Post Office Box 1110
Tampa, FL 33601

Re: Southeast Landfill, Hillsborough County
Operation Permit Renewal
Pending Permit No.: SO29-256427

Dear Mr. Smith:

This is to acknowledge receipt of the additional information in support of your permit application received March 27, 1995 to operate the solid waste management facility referred to as Southeast Class I Sanitary Landfill.

This letter constitutes notice that a permit will be required for your project pursuant to Chapter(s) 403, Florida Statutes.

Your application for a permit remains incomplete. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed in support of the solid waste application [Chapter 17-701, Florida Administrative Code (F.A.C.)]:

1. Please provide a revised comprehensive Leachate Management Plan (LMP) to include the complete description and sequence of the leachate management system presented in previous sections of the application. Please update these previously submitted sections as necessary. Please include Table 1 and Figure 2 as part of the LMP along with an explanation of the relationship between the two, and describe their use for future compliance. Does Table 1 and Figure 2 indicate leachate will be removed as it is generated? Why is Line B shown on Figure 2 and why does it indicate less hydraulic head without spray irrigation?

2. Please provide equations and/or a chart for the quantity of leachate stored for each recorded depth of leachate. Please describe how this equation/chart changes as the top of clay settles. Please identify at least four locations for measuring the top of clay settlement in the vicinity of the future Phase VI sump, three of which may include the two existing sumps and the proposed piezometer location. Please include this information in the revised LMP.

3. Please provide the design details for all depth of leachate and top of clay monitoring devices. Please describe the methods and frequencies of all monitoring for the elevations at the top of clay as it settles and the depth of leachate throughout the landfill. Please include this information in the revised LMP.

4. Please explain how rainfall is recorded at the landfill. Are past rainfall records at the landfill similar to those valves used in the HELP model? Was recirculation included in the HELP model? What impact will leachate recirculation have on leachate management?

Please be advised that a separate construction permit is required for the review and approval of permanent site improvements such as the future downchutes, leachate collection gallery in Phase VI, and closure.

"NOTICE! Pursuant to the provisions of Section 120.600, F.S. and Chapter 17-12.070(5), F.A.C., if the Department does not receive a complete response to this request for information within 30 days of the date of this letter, the Department may issue a final order denying your application. You need to respond within 30 days after you received this letter, responding to all of the information requests and indicating when a response to any unanswered questions will be submitted. If the response will require longer than 30 days to develop, you should develop a specific time table for the submission of the requested information for Department review and consideration. Failure to comply with a time table accepted by the Department will be grounds for the Department to issue a Final Order of Denial for lack of a timely response. A denial for lack of information or response will be unbiased as to the merits of the application. The applicant may reapply as soon as the requested information is available."

You are requested to submit your response to this letter as one complete package. On all future correspondence to the Department, please include Robert Butera on distribution. If there are points which must be discussed and resolved, please contact me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment
cc: Patricia V. Berry, Hillsborough County DSW
Paul Schipfer, HCEPC
Robert Gardner, P.E., SCS Engineers
William Kutash, Program Administrator, Waste Management
Robert Butera, P.E., FDEP Tampa
Allison Amram, P.G., FDEP Tampa
Steve Morgan, FDEP Tampa
Richard Tedder, P.E., FDEP Tallahassee

SCS Engineers

3012 U.S. Highway 301 North
Suite 700
Tampa, FL 33619

813 621-0080
FAX 813 623-6757

LETTER OF TRANSMITTAL

TO Kim Ford, P.E
FDEP

DATE 4/24/95

JOB NO. 0990018.35

ATTENTION

Re: SWF permit renewal Application

D.E.P.

APR 24 1995

SOUTHWEST DISTRICT
TAMPA

WE ARE SENDING YOU

☒ Attached ☐ Under separate cover via

☐ Shop drawings ☐ Prints

☐ Copy of letter ☐ Change order

the following items: ☐ Plans ☐ Samples

☐ Specifications ☐

COPIES	DATE	DESCRIPTION
1	—	March Balance Report (leachate)
1	—	March " " Data entry (leachate/Effluent)
2	—	February Field Data form (Effluent)
2	—	March Field Data form (Effluent)

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐

☐ FOR BIDS DUE _____ 19 ____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Please call if you have any questions, thanks.

Larry Kiss

COPY TO file

SIGNED:

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

FIELD DATA ENTRY FORM
MARCH, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
								Leachate/Effluent Hauled						
Day	Active Area (ac.)	Sump No. 3 (in.)	Sump No. 4 (in.)	Phase III Riser (in.)	Phase IV Riser (in.)	Phase IV Piezometer (in.)	Rainfall (in.)	Contractor (gal.)	County (gal.)	Leachate Recirc. (gal.)	Effluent Recirc. (gal.)	Leachate Treated at LTRF (gal.)	Effluent Sprayed (gal.)	Depth in 500K Tank (ft.)
1	5.0	12.0	69.6	4.8	16.8	NR	0.0	71,983	50,127	0	0	44,690	35,888	12.0
2	5.0	12.0	64.8	4.8	16.8	NR	Trace	71,942	49,896	0	0	44,289	45,675	11.0
3	5.0	12.0	63.6	4.8	16.8	NR	0.0	66,228	49,776	0	0	41,876	52,200	9.0
4	5.0	12.0	64.8	4.8	16.8	NR	0.0	72,492	50,269	0	0	48,540	0	8.0
5	5.0	12.0	66	4.8	16.8	NR	0.0	0	0	0	0	45,858	0	10.0
6	5.0	12.0	61.2	4.8	16.8	NR	0.0	72,176	37,126	0	0	43,460	52,200	11.0
7	5.0	12.0	63.6	4.8	16.8	NR	0.0	71,837	37,683	0	17,000	48,824	52,200	9.0
8	5.0	12.0	63.6	4.8	16.8	NR	0.7	66,277	31,741	0	0	39,997	0	8.0
9	5.0	12.0	64.8	4.8	16.8	NR	0.0	71,929	37,295	0	0	45,000	39,150	8.0
10	5.0	12.0	62.4	3.6	15.6	NR	0.0	71,979	37,428	0	0	45,504	42,413	6.0
11	5.0	12.0	64.8	4.8	15.6	NR	0.0	72,260	30,916	0	0	35,723	0	4.0
12	5.0	12.0	NR	NR	NR	NR	0.0	0	0	0	0	44,761	0	NR
13	5.0	12.0	66	4.8	16.8	NR	0.0	60,762	18,627	0	0	45,259	39,150	6.0
14	5.0	12.0	62.4	4.8	16.8	NR	0.0	60,034	18,657	0	17,000	44,702	39,150	6.0
15	5.0	12.0	60	4.8	16.8	NR	0.0	59,753	18,685	0	17,000	44,820	39,150	6.0
16	5.0	12.0	63.6	4.8	16.8	NR	0.0	60,134	18,645	0	8,500	44,820	46,070	6.0
17	5.0	12.0	63.6	4.8	16.8	NR	0.0	35,938	37,780	0	0	45,150	39,690	6.0
18	5.0	12.0	62.4	4.8	16.8	NR	0.9	61,240	36,980	0	0	47,352	0	5.0
19	5.0	12.0	66	3.6	16.8	NR	0.2	0	0	0	0	44,948	0	5.0
20	5.0	12.0	NR	NR	NR	NR	0.0	61,523	18,688	0	0	49,103	56,784	NR
21	5.0	12.0	67.2	4.8	16.8	NR	0.0	61,118	18,552	0	8,500	52,616	59,956	7.0
22	5.0	12.0	63.6	4.8	16.8	NR	0.0	60,605	6,300	0	0	NR	0	6.0
23	5.0	12.0	62.4	4.8	16.8	NR	0.0	60,971	0	0	8,500	NR	0	5.0
24	5.0	25.2	62.4	8.4	30.0	NR	0.0	36,526	0	0	0	38,585	12,000	5.0
25	5.0	12.0	64.8	6.0	20.4	NR	0.0	0	0	0	0	46,559	0	4.0
26	5.0	12.0	66	4.8	16.8	NR	0.0	0	0	0	0	42,552	0	6.0
27	5.0	12.0	64.8	4.8	16.8	NR	0.0	62,157	12,565	0	17,000	45,367	57,415	9.0
28	5.0	12.0	62.4	4.8	16.8	NR	0.0	62,470	18,730	0	0	45,540	58,600	9.0
29	5.0	12.0	61.2	4.8	16.8	NR	0.1	62,161	12,478	0	8,500	45,080	59,815	8.0
30	5.0	12.0	60	4.8	16.8	NR	0.0	62,356	12,430	0	8,500	46,342	59,300	7.0
31	5.0	12.0	60	3.6	15.6	NR	0.0	62,516	18,752	0	0	43,108	45,570	5.0
1	First day of next month. Record depth in 500,000 gal tank only.													3.8

Notes:
1. NR, No Records.
2. Column VI, if level exceeds 27.6 inches (2.3 ft.), leachate withdrawal from landfill must increase.
3. Columns IX and X, quantities calculated from truck weight.
4. Columns XIII and XIV, quantities from flow meters.

LEACHATE WATER BALANCE REPORT FORM
MARCH, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Day	Area (acres) final	active	int.	Rainfall (in.)	Sump No. 3 (in.)	Est. Depth Over Liner (in.)	Est. Landfill Storage (gal.)	Leachate Pumped to LTRF (gal.)	Leachate in 500K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leach./Effl. Hauled (gal.)	Leachate Recir-culation (gal.)	Change in Effl. Pond Storage (gal.)	Effluent Sprayed (gal.)	Effluent Recir-culation (gal.)	Landfill Evapor. (gal.)
1	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	138,000	345,000	45,000	122,000	0	9,000	36,000	0	186,000
2	23.2	5.0	92.2	Trace	12.0	16.8	1,249,000	109,000	317,000	44,000	122,000	0	(2,000)	46,000	0	186,000
3	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	129,000	259,000	42,000	116,000	0	(10,000)	52,000	0	186,000
4	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	229,000	230,000	49,000	123,000	0	49,000	0	0	186,000
5	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	75,000	288,000	46,000	0	0	46,000	0	0	186,000
6	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	95,000	317,000	43,000	109,000	0	(9,000)	52,000	0	186,000
7	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	130,000	259,000	49,000	110,000	0	(20,000)	52,000	17,000	186,000
8	23.2	5.0	92.2	0.7	12.0	16.8	1,249,000	138,000	230,000	40,000	98,000	0	40,000	0	0	186,000
9	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	97,000	230,000	45,000	109,000	0	6,000	39,000	0	186,000
10	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	97,000	173,000	46,000	109,000	0	4,000	42,000	0	186,000
11	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	241,000	115,000	36,000	103,000	0	36,000	0	0	186,000
12	23.2	5.0	92.2	0.0	12.0	NR	NR	NR	NR	45,000	0	0	45,000	0	0	186,000
13	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	125,000	173,000	45,000	79,000	0	6,000	39,000	0	186,000
14	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	123,000	173,000	45,000	79,000	0	(11,000)	39,000	17,000	186,000
15	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	123,000	173,000	45,000	78,000	0	(11,000)	39,000	17,000	186,000
16	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	124,000	173,000	45,000	79,000	0	(10,000)	46,000	9,000	186,000
17	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	90,000	173,000	45,000	74,000	0	5,000	40,000	0	186,000
18	23.2	5.0	92.2	0.9	12.0	16.8	1,249,000	146,000	144,000	47,000	98,000	0	47,000	0	0	186,000
19	23.2	5.0	92.2	0.2	12.0	16.8	1,249,000	232,000	144,000	45,000	0	0	45,000	0	0	186,000
20	23.2	5.0	92.2	0.0	12.0	NR	NR	NR	NR	49,000	80,000	0	(8,000)	57,000	0	186,000
21	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	103,000	202,000	53,000	80,000	0	(16,000)	60,000	9,000	186,000
22	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	38,000	173,000	NR	67,000	0	NR	0	0	186,000
23	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	61,000	144,000	NR	61,000	0	NR	0	9,000	186,000
24	23.2	5.0	92.2	0.0	25.2	30.0	3,486,000	46,000	144,000	39,000	37,000	0	27,000	12,000	0	186,000
25	23.2	5.0	92.2	0.0	12.0	20.4	1,424,000	104,000	115,000	47,000	0	0	47,000	0	0	186,000
26	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	129,000	173,000	43,000	0	0	43,000	0	0	186,000
27	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	120,000	259,000	45,000	75,000	0	(29,000)	57,000	17,000	186,000
28	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	98,000	259,000	46,000	81,000	0	(13,000)	59,000	0	186,000
29	23.2	5.0	92.2	0.1	12.0	16.8	1,249,000	91,000	230,000	45,000	75,000	0	(24,000)	60,000	9,000	186,000
30	23.2	5.0	92.2	0.0	12.0	16.8	1,249,000	64,000	202,000	46,000	75,000	0	(22,000)	59,000	9,000	186,000
31	23.2	5.0	92.2	0.0	12.0	15.6	1,160,000	90,000	144,000	43,000	81,000	0	(3,000)	46,000	0	186,000
Total				1.90	385.2	500.4	38,366,000	3,385,000	5,961,000	1,303,000	2,320,000	0	267,000	932,000	113,000	5,766,000
Daily Avg				0.06	12.4	17.3	1,323,000	117,000	206,000	45,000	75,000	0	9,000	30,000	4,000	186,000

Revised by Beres Powell, 4/13/95.

Notes:

1. NR, No Records.
2. Column II, total area with waste is 120.4 acres (Phases I-IV).
3. Column V, estimated from depth in Phase IV riser.
4. Column VI, estimated from column V and approximate volume with top of clay elevation at 118.5 feet.
5. Column VII, estimated from Column IX + Column X + Change in Storage of 500,000 gal. tank.
6. Columns IX and XIII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, 80.8% of the average daily from Columns III and XIII.

LEACHATE WATER BALANCE REPORT FORM
FEBRUARY, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
	Area (acres)															
Day	closed	active	int.	Rainfall (in.)	Sump No. 3 (in.)	Est. Depth Over Liner (in.)	Est. Landfill Storage (gal.)	Leachate Pumped to LTRF (gal.)	Leachate in 500K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Recir-culation (gal.)	Change in Effl. Pond Storage (gal.)	Effluent Sprayed (gal.)	Effluent Recir-culation (gal.)	Landfill Evapor. (gal.)
1	23.2	5.0	92.2	0.0	56.4	NR	NR	124,000	345,000	0	124,000	0	0	0	0	245,000
2	23.2	5.0	92.2	0.0	56.4	NR	NR	114,000	345,000	0	129,000	0	0	0	0	245,000
3	23.2	5.0	92.2	0.0	51.6	NR	NR	133,000	331,000	51,000	140,000	0	27,000	24,000	0	245,000
4	23.2	5.0	92.2	0.1	51.6	NR	NR	302,000	274,000	45,000	135,000	0	45,000	0	0	245,000
5	23.2	5.0	92.2	0.2	50.4	NR	NR	NR	NR	50,000	0	0	50,000	0	0	245,000
6	23.2	5.0	92.2	0.0	50.4	NR	NR	192,000	345,000	41,000	151,000	0	(8,000)	49,000	0	245,000
7	23.2	5.0	92.2	0.0	49.2	NR	NR	119,000	345,000	53,000	153,000	0	51,000	2,000	0	245,000
8	23.2	5.0	92.2	0.0	51.6	NR	NR	124,000	259,000	29,000	153,000	0	(29,000)	58,000	0	245,000
9	23.2	5.0	92.2	0.0	46.8	NR	NR	30,000	202,000	29,000	116,000	0	(10,000)	39,000	0	245,000
10	23.2	5.0	92.2	0.0	45.6	NR	NR	242,000	86,000	44,000	140,000	0	39,000	5,000	0	245,000
11	23.2	5.0	92.2	0.0	21.6	NR	NR	371,000	144,000	44,000	109,000	0	44,000	0	0	245,000
12	23.2	5.0	92.2	0.4	19.2	NR	NR	NR	NR	45,000	0	0	45,000	0	0	245,000
13	23.2	5.0	92.2	0.5	12.0	NR	NR	139,000	317,000	40,000	128,000	0	40,000	0	0	245,000
14	23.2	5.0	92.2	0.3	21.6	NR	NR	143,000	288,000	44,000	128,000	0	44,000	0	0	245,000
15	23.2	5.0	92.2	0.0	24.0	NR	NR	252,000	259,000	49,000	117,000	0	(11,000)	60,000	0	245,000
16	23.2	5.0	92.2	0.0	12.0	NR	NR	99,000	345,000	41,000	116,000	0	(11,000)	52,000	0	245,000
17	23.2	5.0	92.2	0.0	15.6	NR	NR	80,000	288,000	44,000	122,000	0	(8,000)	52,000	0	245,000
18	23.2	5.0	92.2	0.0	22.8	NR	NR	300,000	202,000	46,000	152,000	0	46,000	0	0	245,000
19	23.2	5.0	92.2	0.0	21.6	NR	NR	NR	NR	44,000	0	0	44,000	0	0	245,000
20	23.2	5.0	92.2	0.0	22.8	NR	NR	168,000	259,000	45,000	152,000	0	45,000	0	0	245,000
21	23.2	5.0	92.2	0.9	14.4	NR	NR	140,000	230,000	45,000	152,000	0	(7,000)	52,000	0	245,000
22	23.2	5.0	92.2	0.0	22.8	NR	NR	110,000	173,000	45,000	152,000	0	(7,000)	52,000	0	245,000
23	23.2	5.0	92.2	0.0	22.8	NR	NR	153,000	86,000	30,000	37,000	0	(16,000)	46,000	0	245,000
24	23.2	5.0	92.2	0.0	15.6	NR	NR	134,000	173,000	37,000	68,000	0	(9,000)	46,000	0	245,000
25	23.2	5.0	92.2	0.0	12.0	NR	NR	229,000	202,000	45,000	97,000	0	45,000	0	0	245,000
26	23.2	5.0	92.2	0.0	8.4	NR	NR	107,000	288,000	49,000	0	0	49,000	0	0	245,000
27	23.2	5.0	92.2	0.0	10.8	NR	NR	145,000	345,000	41,000	104,000	0	(19,000)	60,000	0	245,000
28	23.2	5.0	92.2	0.0	12.0	NR	NR	112,000	345,000	44,000	67,000	0	(9,000)	53,000	0	245,000
Total				2.40	822.0	0.0	0	4,062,000	6,476,000	1,120,000	2,942,000	0	470,000	650,000	0	6,860,000
Daily Avg				0.09	29.4	ERR	ERR	162,000	259,000	40,000	105,000	0	17,000	23,000	0	245,000

Notes:

1. NR, No Records.
2. Column II, total area with waste is 120.4 acres (Phases IIV).
3. Column V, estimated from depth in Phase IV Piezometer.
4. Column VI, estimated from column V and approximate volume with top of clay elevation at 118.5 feet.
5. Column VII, estimated from Column IX + Column X + Change in Storage of 500,000 gal. tank.
6. Columns IX and XIII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, 80.8% of the average daily from Columns III and XIII.

LEACHATE WATER BALANCE REPORT FORM
JANUARY, 1995
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

I	II			III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
	Area (acres)					Est. Depth Over	Est. Landfill	Leachate Pumped	Leachate in 500K	Leachate Treated	Total Leachate	Leachate Recir-	Change in Effl. Pond		Effluent Recir-	Landfill
Day	closed	active	int.	Rainfall (in.)	Sump No. 3 (in.)	Liner (in.)	Storage (gal.)	to LTRF (gal.)	Tank (gal.)	at LTRF (gal.)	Hauled (gal.)	culation (gal.)	Storage (gal.)	Effluent Sprayed (gal.)	culation (gal.)	Evapor. (gal.)
1	23.2	5.0	92.2	0.0	51.6	NR	NR	NR	NR	NR	0	0	NR	0	0	392,000
2	23.2	5.0	92.2	0.0	67.2	NR	NR	0	409,000	NR	63,000	0	NR	0	0	392,000
3	23.2	5.0	92.2	0.0	70.8	NR	NR	85,000	345,000	NR	126,000	0	NR	0	0	392,000
4	23.2	5.0	92.2	0.3	75.6	NR	NR	108,000	305,000	NR	126,000	0	NR	0	0	392,000
5	23.2	5.0	92.2	0.0	69.6	NR	NR	96,000	288,000	NR	125,000	0	NR	0	0	392,000
6	23.2	5.0	92.2	0.0	64.8	NR	NR	308,000	259,000	NR	136,000	0	NR	0	0	392,000
7	23.2	5.0	92.2	1.7	64.8	NR	NR	NR	NR	NR	144,000	0	NR	0	0	392,000
8	23.2	5.0	92.2	0.0	64.8	NR	NR	NR	NR	NR	0	0	NR	0	0	392,000
9	23.2	5.0	92.2	0.0	66.0	NR	NR	97,000	288,000	NR	126,000	0	NR	0	0	392,000
10	23.2	5.0	92.2	0.0	62.4	NR	NR	126,000	259,000	NR	126,000	0	NR	0	0	392,000
11	23.2	5.0	92.2	0.0	64.8	NR	NR	97,000	259,000	NR	125,000	0	NR	0	0	392,000
12	23.2	5.0	92.2	0.0	63.6	NR	NR	234,000	230,000	NR	119,000	0	NR	0	0	392,000
13	23.2	5.0	92.2	0.4	60.0	NR	NR	154,000	345,000	NR	125,000	0	NR	0	0	392,000
14	23.2	5.0	92.2	1.1	60.0	NR	NR	85,000	374,000	NR	125,000	0	NR	0	0	392,000
15	23.2	5.0	92.2	0.2	58.8	NR	NR	NR	NR	NR	0	0	NR	0	0	392,000
16	23.2	5.0	92.2	0.0	67.2	NR	NR	103,000	334,000	NR	121,000	0	NR	0	0	392,000
17	23.2	5.0	92.2	0.0	68.4	NR	NR	93,000	317,000	NR	121,000	0	NR	0	0	392,000
18	23.2	5.0	92.2	0.0	63.6	NR	NR	104,000	288,000	NR	115,000	0	NR	0	0	392,000
19	23.2	5.0	92.2	0.0	63.6	NR	NR	162,000	276,000	NR	122,000	0	NR	0	0	392,000
20	23.2	5.0	92.2	0.0	58.8	NR	NR	165,000	317,000	NR	122,000	0	NR	0	0	392,000
21	23.2	5.0	92.2	0.0	57.6	NR	NR	23,000	360,000	NR	124,000	0	NR	0	0	392,000
22	23.2	5.0	92.2	0.0	63.6	NR	NR	NR	NR	NR	0	0	NR	0	0	392,000
23	23.2	5.0	92.2	0.0	69.6	NR	NR	109,000	259,000	NR	109,000	0	NR	0	0	392,000
24	23.2	5.0	92.2	0.0	58.8	NR	NR	166,000	259,000	NR	122,000	0	NR	0	0	392,000
25	23.2	5.0	92.2	0.0	58.8	NR	NR	162,000	302,000	NR	124,000	0	NR	0	0	392,000
26	23.2	5.0	92.2	0.0	56.4	NR	NR	130,000	340,000	NR	124,000	0	NR	0	0	392,000
27	23.2	5.0	92.2	0.0	56.4	NR	NR	125,000	345,000	NR	125,000	0	NR	0	0	392,000
28	23.2	5.0	92.2	0.0	55.2	NR	NR	210,000	345,000	NR	123,000	0	NR	0	0	392,000
29	23.2	5.0	92.2	0.0	56.4	NR	NR	NR	NR	NR	0	0	NR	0	0	392,000
30	23.2	5.0	92.2	0.1	54.0	NR	NR	39,000	432,000	NR	125,000	0	NR	0	0	392,000
31	23.2	5.0	92.2	0.8	54.0	NR	NR	123,000	345,000	NR	123,000	0	NR	0	0	392,000
Total				4.60	1927.2	0.0	0	3,104,000	7,880,000	0	3,166,000	0	0	0	0	12,152,000
Daily Avg				0.15	62.2	ERR	ERR	124,000	315,000	ERR	102,000	0	ERR	0	0	392,000

Notes:

1. NR, No Records.
2. Column II, total area with waste is 120.4 acres (Phases IIV).
3. Column V, estimated from depth in Phase IV Piezometer.
4. Column VI, estimated from column V and approximate volume with top of clay elevation at 118.5 feet.
5. Column VII, estimated from Column IX + Column X + Change in Storage of 500,000 gal. tank.
6. Columns IX and XIII, quantities from flow meters.
7. Column X, quantity calculated from truck weight.
8. Column XV, 80.8% of the average daily from Columns III and XIII.

EFFLUENT DEPTH/QUANTITIES DATA FORM
SOUTHEAST COUNTY LANDFILL

(Month/Year) March 1995

Date	Depth in Effluent Pond (inches)	Leachate Treated (gallons)	Treated Effluent Sprayed (gallons)	Treated Effluent Hauled		Treated Effluent Recirculation (gallons)	Treated Effluent Stored (gallons)	Time at End of Rainfall	(1) Effluent Runoff to Retention Area (Y/N)	Initials
				Contractor (gallons)	County (gallons)					
1		44,690	35,887.5				8,802.5		N	
2		44,289	45,675				1,386		N	
3		41,876	52,200				10,324		N	
4		48,540	—				48,540		—	
5		45,858	—				45,858		—	
6		43,460	52,200				8,740		N	
7		48,824	52,200			17,000	3,376		N	
8		39,997	—				39,997	10:45	—	
9		est. 45,000	39,150				5,850		N	
10		45,504	42,412.5				3,091.5		N	
11		35,723	—				35,723		—	
12		44,761	—				44,761		—	
13		45,259	39,150				6,109		N	
14		44,702	39,150			17,000	5,552		N	
15		44,820	39,150			17,000	5,670		N	
16		44,820	46,010			8,500			N	

(1) If yes: Contact Supervisor immediately and stop spray irrigation. Complete Evaluation Report Form.

Comments: _____

EFFLUENT DEPTH/QUANTITIES DATA FORM
SOUTHEAST COUNTY LANDFILL
(Month/Year) March

Date	Depth in Effluent Pond (inches)	Leachate Treated (gallons)	Treated Effluent Sprayed (gallons)	Treated Effluent Hauled		Treated Effluent Recirculation (gallons)	Treated Effluent Stored (gallons)	Time at End of Rainfall	(1) Effluent Runoff to Retention Area (Y/N)	Initials
				Contractor (gallons)	County (gallons)					
17		45,150	39,690				5,460	—	N	
18		47,352	—				47,352	4pm	—	
19		44,948	—				44,948	6am	—	
20		49,103	56,784				—	—	N	
21		52,616	59,956			8,500	—	—	N	
22		No Report	—					—	—	
23		No Report	>			8,500		—	—	
24		38,585	12,000				26,581	—	N	
25		46,559	—				46,559	—	—	
26		42,552	—				42,552	—	—	
27		45,367	57,415			17,000	—	—	N	
28		45,540	58,600				—	—	N	
29		45,080	59,815			9,500	—	AM	N	
30		46,342	59,300			8,500	—	—	N	
31		43,108	45,570				2,462	—	N	

(1) If yes: Contact Supervisor immediately and stop spray irrigation. Complete Evaluation Report Form.

Comments: _____

EFFLUENT DEPTH/QUANTITIES DATA FORM
SOUTHEAST COUNTY LANDFILL

(Month/Year) Feb 1995

Date	Depth in Effluent Pond (inches)	Leachate Treated (gallons)	Treated Effluent Sprayed (gallons)	Treated Effluent Hauled		Treated Effluent Recirculation (gallons)	Treated Effluent Stored (gallons)	Time at End of Rainfall	(1) Effluent Runoff to Retention Area (Y/N)	Initials
				Contractor (gallons)	County (gallons)					
1		—				—	—	—	—	
2		—				—	—	—	—	
3		51,230	24,266				26,964		N	
4		44,800	—				44,800		—	
5		50,080	—				50,080		—	
6		41,020	49,158				-8,138		N	
7		52,570	2,373				50,197		N	
8		28,730	57,672				-28,942		N	
9		28,730	38,610				-9,880		N	
10		44,470	5,180				39,290		N	
11		44,470	—				44,470		—	
12		44,638	—				44,638		—	
13		40,497	—					0900	—	
14		44,008	—						—	
15		48,714	59,887				-11,173		N	
16		41,236	52,237				-11,001		N	

(1) If yes: Contact Supervisor immediately and stop spray irrigation. Complete Evaluation Report Form.

Comments: _____

EFFLUENT DEPTH/QUANTITIES DATA FORM
SOUTHEAST COUNTY LANDFILL
(Month/Year) Feb. 1995

Date	Depth in Effluent Pond (inches)	Leachate Treated (gallons)	Treated Effluent Sprayed (gallons)	Treated Effluent Hauled		Treated Effluent Recirculation (gallons)	Treated Effluent Stored (gallons)	Time at End of Rainfall	(1) Effluent Runoff to Retention Area (Y/N)	Initials
				Contractor (gallons)	County (gallons)					
17		44,001	52,237				-8,236		N	
18		46,302	0				46,302		—	
19		43,632	0				43,632		—	
20		45,327	0				45,327	10:30	—	
21		45,327	52,200				-6,873		N	
22		44,511	52,200				-7,689		N	
23		29,882	45,675				-15,793		N	
24		37,292	45,675				-8,383		N	
25		45,425	0				45,425		—	
26		49,269	0				49,269		—	
27		40,974	59,850				-18,876		N	
28		44,400	53,150				-8,750		N	
29										
30										
31										

(1) If yes: Contact Supervisor immediately and stop spray irrigation. Complete Evaluation Report Form.

Comments: _____

Environmental Consultants

3012 U.S. Highway 1 North
Suite 700
Tampa, FL 33619-2242

813 621-0080
813 623-6757 FAX

SCS ENGINEERS

Offices Nationwide

April 4, 1995
File No. 0990018.45

Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: Leachate Treatment and Reclamation Facility
Hillsborough County Southeast Landfill Facility
Hillsborough County, Florida
Permit Number SC29-199393

Dear Kim:

On behalf of the Hillsborough County Department of Solid Waste (HCDSW) and as the Engineer of Record for Phase I construction of the Leachate Treatment and Reclamation Facility (LTRF), Southeast County Landfill, Hillsborough County, Florida, SCS Engineers (SCS) is pleased to submit to the Florida Department of Environmental Protection (FDEP) Record Drawings for Phase I construction of the LTRF, signed and sealed by the Engineer of Record. Please be reminded that SCS previously submitted the completed "Certification of Construction Completion of a Solid Waste Management Facility" form on January 11, 1995 (see attached letter from SCS to FDEP dated January 11, 1995).

SCS is available to accompany you at the LTRF for your construction completion inspection. Please call Mr. Richard Siemering at SCS to schedule a site visit at your earliest convenience.

Please call if you have any questions or if we can be of any assistance.

Very truly yours,

Richard A. Siemering
Project Engineer
SCS ENGINEERS

For Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

Attachment

RBG/RAS:rs

cc: John Johnson, HCDSW

25
1970-1995

Environmental Consultants

3012 U.S. Highway North
Suite 700
Tampa, FL 33619-2242

813 621-0080
FAX 813 623-6757

KF

SCS ENGINEERS

File No. 0990018.45
January 11, 1995

Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: Leachate Treatment and Reclamation Facility
Hillsborough County Southeast Landfill Facility
Hillsborough County, Florida
Permit Number SC29-199393

Dear Kim:

On behalf of the Hillsborough County Department of Solid Waste (HCDSW) and as the Engineer of Record for Phase I construction of the Leachate Treatment and Reclamation Facility (LTRF), Southeast County Landfill, Hillsborough County, Florida, SCS Engineers (SCS) is pleased to notify the Florida Department of Environmental Protection that Substantial Completion was achieved for the subject construction project on December 22, 1994. Enclosed is the completed "Certification of Construction Completion of a Solid Waste Management Facility" form.

The Contractor has not submitted all required information to complete the Record Drawings. SCS anticipates that the Contractor will submit the completed As-Built information on or before February 6, 1995. Once SCS receives and reviews this information, we will forward to you a complete set of certified Record Drawings as required.

Please call if you have any questions or if we can be of any assistance.

Very truly yours,

Richard A. Siemering
Project Engineer
SCS ENGINEERS

Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

Enclosure

RBG/RAS:rs

cc: John Johnson, HCDSW

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

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994

DEP Application No. _____
(Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SC29-199303 County: Hillsborough

Name of Project: Leachate Treatment and Reclamation Facility

Name of Owner: Hillsborough County

Name of Engineer: SCS Engineers

Type of Project: Leachate treatment and reclamation

Cost: Estimate $ 3,600,000 Actual $ 3,650,105.39

Site Design: Quantity: 60,000 gpd ton/day Site Acreage: @22 Acres

Deviations from Plans and Application Approved by DEP: See attached table.

Address and Telephone No. of Site: 15960 C.R. 672, Picnic, FL 33503
(813) 671-7707

Name(s) of Site Supervisor: Matt Matthews

Date Site inspection is requested: 2-6-95

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction Permit No.: SC29-199393 Dated: 1/11/95

Date: _____

_____
Signature of Professional Engineer

Leachate Treatment and Reclamation Facility
Southeast County Landfill Facility
Hillsborough County, Florida
Florida Permit Number SC29-199393

Minor Deviation	Reason for Deviation
Revised location for a portion of the leachate forcemain within the limits of the landfill.	Field decision based on site observations and landfill/cover characteristics.
Leachate forcemain connected outside of existing Phase I-IV sump.	Ease of construction.
Extended limits of clay excavation at plant area	Encountered more clay than anticipated.
Portion of access road elevated slightly	Phosphatic clay slimes observed under this portion of access road.
Geotextile added under portion of Access road.	Phosphatic clay slimes observed under this portion of access road. Geotextile was added to improve subgrade performance.
Fire hydrant strainer facing down instead of up.	To ensure that strainer is in water at all times.
Moved air conditioning condenser unit.	To resolve conflict with electrical panels.
Moved/deleted windows in process building.	To resolve conflicts with equipment.
2 ridge vents installed on roof instead of 1 ridge vent.	Contractor error. Additional unit added to place in correct position.
Effluent tank slab is round, not rectangular.	Manufacturer's recommendation.
Deleted 3' high masonry unit.	Added HDPE drum storage and containment unit.
Deleted flow meter/recorder at by-pass pump.	Items not needed.
Process piping layout revised.	Process piping on drawings only schematic.
Location of methanol pumps revised.	Manufacturer's recommendations.
Locations of floor drains revised.	Manufacturer's recommendations.

SCS Engineers
3012 U.S. Highway North
Suite 700
Tampa, FL 33619
813 621-0080
FAX 813 623-6757

S/W
KIM FORD

LETTER OF TRANSMITTAL

TO FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
3804 COCONUT PALM DR.
TAMPA, FL 33619

DATE 4-4-95
JOB NO. 0990618.45
ATTENTION MR. KIM FORD
Re: PERMIT NUMBER SC29-199393 SELF-LTRF

WE ARE SENDING YOU

☐ Attached ☐ Under separate cover via _____
☐ Shop drawings ☐ Prints
☐ Copy of letter ☐ Change order
the following items: ☐ Plans ☐ Samples
☐ Specifications ☑ RECORD DRAWINGS

COPIES	DATE	DESCRIPTION
2	4-4-95	RECORD DRAWINGS FOR LEACHATE FACILITY
1	4-4-95	SPARE SET OF PRINTS FOR

RECEIVED
APR 04 1995
Dept. of Environmental Prot.
SOUTHWEST DISTRICT
BY

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19 ____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO _____ SIGNED: _____

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

Flor Department of

Memorandum Environmental Protection

TO: Kim Ford, P.E.

FROM: Allison Amram, P.G. AAmram

DATE: March 28, 1995

SUBJECT: Southeast Hillsborough Landfill Operating Permit Renewal
Pending Permit No. SO29-256427

CC: Bob Butera, P.E.
Steve Morgan

==========

I have reviewed the March 24, 1995 Southeast Hillsborough Landfill operating permit renewal application responses, submitted by SCS Engineers for the Hillsborough County Department of Solid Waste. This report adequately addressed the remaining comments on the water quality monitoring review. Please let me know when the application is complete, so that I may draft the necessary permit conditions.

aa

11. EDEP Statement 11 - Please explain the condition of Basin "D". Is this basin performing as designed?

    Response - Sediment removal in Basin D was completed on December 16, 1994. During recent rainfall events, Basin D was observed by HCDSW personnel and SCS to have drained within 72 hours. Therefore, it is performing satisfactorily.

12. EDEP Statement 12 - Please provide your response to Ms. Allison Amram's concerns in her January 25, 1995 memorandum attached. You may contact Ms. Amram at (813) 744-6100, extension 336.

    Response - The following responses address the questions raised by Ms. Allison Amram, P.G. Please note, only those comments that require a response are reproduced and addressed below.

    6.3.1 Proposed Surficial and Floridan Aquifer Monitoring System

    3. The response states that wells TH-33, TH-34A and TH-38 are assumed to be abandoned by Camp, Dresser and McKee. Please provide documentation of proper well abandonment (water management district form, field notes).

       Please revise Drawing 1 from Appendix U of the permit application to include all site monitoring wells, piezometers and all other wells, including the location of abandoned wells and piezometers. A survey with these locations would be useful but is not required. This will clarify the TH-38 and TH-38A locations, as well as other well designation confusion.

       Response - On March 10, 1995, SCS conducted a site visual inspection of the wells on site and the field designation of the existing wells are as shown on the drawing in Exhibit E of this document. Further investigation of existing documentation showed that wells 24, 38, and 56, are the same wells in the reports referenced to as wells 24A, 38A, and 56A. Since so many reports exist with reference to the later, the HCDSW will continue to use the designations 24A, 38A, and 56A on all future reports and the wells will be marked accordingly in the field.

       AB-14 was not a well and it has been removed from the drawings. According to the 1983 Ardaman report the piezometers in question were installed to monitor the surficial aquifer. The HCDSW assumes that the wells were properly abandoned or removed during construction of the Landfill. The HCDSW could not obtain documentation of proper abandonment for any other wells or piezometers that are shown on Figure 3.1 of the 1983 Ardaman's Hydrogeological Investigation.

SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 3-21-95

Time 8:35

Subject SE Hillsborough

Permit No.

County Hills

M Jim Clayton

Telephone No.

Representing SE

[X] Phone Me [ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting

-SE Hills LF -

Lab forgot to include bottles for annual sampling for wells TH-28, TH-30. They will do the annual sampling for these wells in May. (wells were sampled in Feb -- just caught the mistake)

Jim will also be sending me leachate results - raw + treated. NO_3^-/NO_2^- is 38.4 mg/l. Told Jim that this doesn't look good.

(continue on another sheet, if necessary)

Signature Allison Amram

Title PGI

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

March 20, 1995

Ms. Patricia Berry
Landfill Services Section Manager
Department of Solid Waste
Hillsborough County
Post Office Box 1110
Tampa, FL 33601

Re: Tarpaulin used as Initial Cover
Southeast Landfill, Permit No.: SO29-158504

Dear Ms. Berry:

In response to your March 10, 1995 letter, the Department has no objection to the use of a tarpaulin for initial cover at the Southeast Landfill in accordance with FAC Rule 62-701.500(7)(e)1. The tarpaulin used as initial cover is limited to the bermed working area as described in Specific Condition #2 of your operating permit. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Program
Division of Waste Management

KBF/ab

cc: Paul Schipfer, HCEPC
Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

March 10, 1995

Mr. Kim Ford, P.E.
Solid Waste Permitting
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

RE: Southeast County Landfill - Alternate Initial Cover

Dear Mr. Ford:

The Hillsborough County Department of Solid Waste (DSW) is writing to inform the Florida Department of Environmental Protection (DEP) that the DSW's landfill operator, Waste Management Inc. of Florida (WMI), has requested that the County permit the utilization of a tarpaulin as initial cover for the Southeast County Landfill (Landfill) when other approved alternate cover materials may not be available.

WMI is requesting authorization to be able to utilize a tarpaulin as an alternative initial cover for the Landfill in accordance with Rule 62-701.500 (7) (E), F.A.C. WMI proposes to use whole waste tires to secure the tarpaulin during its use.

The DSW is requesting that the DEP provide correspondence acknowledging the acceptability of this alternative initial cover for the Landfill. Should the DEP desire a demonstration of the tarpaulin's use, the DSW and WMI would be pleased to accommodate DEP's request.

Please advise should you have any questions concerning this correspondence.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager
Department of Solid Waste

xc: Matt Matthews, DSW
Steve Hamilton, SCS
Greg Walk, WMI

Environmental Consultants

3012 U.S. Highw 01 North 813 621-0080
Suite 700 813 623-6757 FAX
Tampa, FL 33619-2242

SCS ENGINEERS

Offices Nationwide

D.E.P.

MAR 16 1995

TAMPA

March 15, 1995
File No. 0990018.34

Mr. Kim Ford, P.E.
Florida Department of Environmental Regulation, Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: Response to the Florida Department of Environmental Protection's letter dated February 7, 1995, Regarding the Operation Permit Renewal for the Southeast County Landfill, Hillsborough County, Florida
Pending Permit No. S029-256427

Dear Kim:

On behalf of the Hillsborough County Department of Solid Waste (HCDSW), SCS Engineers (SCS) is confirming that we requested, and you subsequently approved a postponement of our response submittal to March 24, 1995. As agreed, SCS will provide to the FDEP the responses for the referenced letter no later than March 24, 1995.

We thank you for your attention to this matter. Should you have any questions or comments, please do not hesitate to call.

Very truly yours,

Larry E. Ruiz
Project Engineer

For Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

RBG/LER:lr

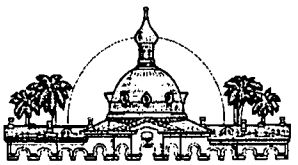
cc: Patricia V. Berry, HCDSW

25 1970-1995

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman



D.E.P.

March 6, 1995

MAR - 8 1995

SOUTHWEST DISTRICT
TAMPA

Mr. Kim Ford, P.E.
Solid Waste Permitting
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

RE: Southeast County Landfill - Leachate Management

Dear Mr. Ford:

The Hillsborough County Department of Solid Waste (DSW) is providing the February 1995 status report of the leachate levels and leachate removal rates for the County's Southeast County Landfill (Landfill). This information is being provided to keep the Florida Department of Environmental Protection (DEP) informed of the DSW's leachate management efforts for the Landfill. The DSW will be responding to the DEP's request for additional information on the permit renewal under separate cover.

As can be seen by the February summary report, the leachate levels within the Landfill continue to lower. In response, the DSW has again altered the sump float levels and has had to reduce the off-site leachate removal to accommodate the leachate flow rate within the collection system.

Concurrently, the Public Utilities Department (PUD) requested that the DSW reduce the amount of leachate disposed at the Falkenburg Wastewater Treatment Facility (Falkenburg) for a three week period. Specifically, on February 21, 1995, the PUD verbally requested and followed up with a February 23, 1995 written request to have the DSW reduce the leachate disposal rate at Falkenburg to 70,000 gallons per day for a three week period to allow adjustments to be made to the plant. To accommodate the PUD's request, the DSW reduced the flow to Falkenburg on February 23, 1995.

Since the beginning of March 1995, the leachate level in Sump No. 3 (which is controlled by the floats) is ranging from 6 inches to 1 foot. The leachate levels in Phase III and IV are stabilizing at approximately 4 inches and 1.4 feet, respectively.

Should you have any questions concerning the information provided, please call at 276-2908.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager
Department of Solid Waste

Attachments

xc: Matt Matthews, DSW
Steve Hamilton, SCS
Steve Morgan, DEP
Paul Schipfer, EPC

MONTH: February 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
1	4.7	3.3	4.11	12	360,000	6.1	0.0	67,562	56,333	ZM ZM
2	4.7	3.1	4.9	12	360,000	6.1	0.0	72,774	56,121	ZM ZM
3	4.3	2.5	3.6	11.5	345,000	6.0	0.0	90,743	49,209	ZM ZM
4	4.3	3.0	4.9	9.5	285,000	6.1	0.1	79,379	55,825	ZM ZM
5	4.2	—	—	—	—	—	0.2	—	—	ZM ZM
6	4.2	2.9	4.5	12	360,000	5.11	0.0	95,892	55,511	ZM ZM
7	4.1	2.9	4.5	12	360,000	5.11	0.0	96,984	55,944	ZM ZM
8	4.3	2.9	4.4	9	270,000	5.11	0.0	96,987	56,026	ZM ZM
9	3.9	2.6	4.2	7	210,000	5.11	0.0	59,821	56,158	ZM ZM
10	3.8	2.8	4.3	3	90,000	5.11	0.0	83,953	55,671	ZM ZM
11	1.8	0.10	2.3	5	150,000	6.0	0.0	96,440	12,400	ZM ZM
12	1.6	—	—	—	—	—	0.4	—	—	ZM ZM
13	1.0	0.8	2.2	11	330,000	6.1	0.5	96,641	30,931	ZM ZM
14	1.8	0.9	1.11	10	300,000	6.0	0.3	71,943	55,970	ZM ZM
15	2.0	0.8	1.10	9	270,000	6.0	0.0	59,963	56,642	ZM ZM
16	1.0	0.7	1.9	12	360,000	5.7	0.0	59,984	55,836	ZM ZM

Comments: 2/10 - Sump 3 Pump on 24 Hr. Cycle

2/11 - County Tanker down

2/13 - County Tanker down

Leachate Subtotal County: 708,577 Leachate Subtotal Contractor: 1,129,066

MONTH: February 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
17	1.3	0.6	1.9	10	300,000	5.6	0.0	59,974	62,043	ZH ZH
18	1.9	0.5	2.0	7	210,000	5.5	0.0	96,586	55,802	ZH ZH
19	1.8	—	—	—	—	—	0.0	—	—	ZH ZH
20	1.9	0.8	1.10	9	270,000	5.10	0.0	96,121	55,565	ZH ZH
21	1.2	0.6	2.2	8	240,000	5.11	0.9	96,079	55,871	ZH ZH
22	1.9	0.6	2.1	6	180,000	5.9	0.0	96,177	55,892	ZH ZH
23	1.9	0.5	1.11	3	90,000	5.8	0.0	12,000	24,888	ZH ZH
24	1.3	0.3	1.6	6	180,000	5.0	0.0	30,022	37,989	ZH ZH
25	1.0	0.3	1.3	7	210,000	5.4	0.0	66,009	30,903	ZH ZH
26	0.7	0.4	1.3	10	300,000	5.0	0.0	—	—	ZH ZH
27	0.9	0.4	1.4	12	360,000	5.8	0.0	72,492	31,339	ZH ZH
28	1.0	0.4	1.4	12	360,000	5.8	0.0	35,868	31,273	ZH ZH
29										
30										
31										

Comments: 2/23 Pump down at LTP

2/24 Larry Ruiz (SCS) on site, we set Sump 3 floats

at 6" off - 12" on - Pump cycle Approx. 5 min.

Leachate Subtotal County: 441,565 Leachate Subtotal Contractor: 661,328

Leachate Total County: 1,150,142 Leachate Total Contractor: 1,790,394

Leachate Total Gallons: 2,940,536

From: VICTOR HERNANDEZ (HERNANDE)
To: CTYCTR3:BERRY
Date: Thursday, February 23, 1995 6:08 pm
Subject: LEACHATE VOLUME DECREASE TO FALKENBURG

Comparing the Falkenburg AWT nitrogen data with the increase in leachate volume, and discussions with plant operators reveal that the increase in leachate rate, from 60,000 gpd (October, 94) to 100,000 gpd (current flow), has drastically affected the treatability of nitrogen at the WWTP.

To try to accomodate future increases of leachate to the predetermined rate of 160,000 gpd we have added a third treatment train and require approximately three weeks of decreased leachate rate (to 70,000 gpd) to balance the system.

Please decrease the leachate rate going to Falkenburg AWT to 70,000 gpd as soon as possible, and maintain it for the next three weeks. This interim rate will keep the acclimation already obtained by the microorganisms, and allows the time required to balance the expanded system. After the system has been balanced, we anticipate a steady increase of leachate at a rate of 10,000 gpd per week until we safely reach 160,000 gpd.

This quick notice is to solicit immediate help. A letter showing conclusive data and asking the same assistance will follow.

Thank you for your assistance.

CC: DPU_LAB:COZATT, VENA, GARDNER, FRESHCOR, BERRY

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

FAX TRANSMITTAL SHEET

FAXED

3-3-95
Date

TO: Braden / Carey

DEPT.: SCS

FAX #: 623-6757

FROM: Allison Amram

DEPT.: D.E.P., Tampa Office Solid Waste

PHONE: 813-744-6100 or SunCom 542-6100 Ext. 336
FAX(local)744-6125 or (SunCom) 542-6125

SUBJECT: SE Hills wells

COMMENT: Braden + Carey -
I quickly reviewed the SE Hills site maps + have a list of what I could find. You + the County may know of other wells. I'm also faxing the map that the Co. sends w/ the gw reports -- is this one incorrect?
Hope this helps.
Allison

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 3

RECEIVED BY: _____

PHONE: _____

SOUTHEAST HILLSBOROUGH LANDFILL - WELL STATUS

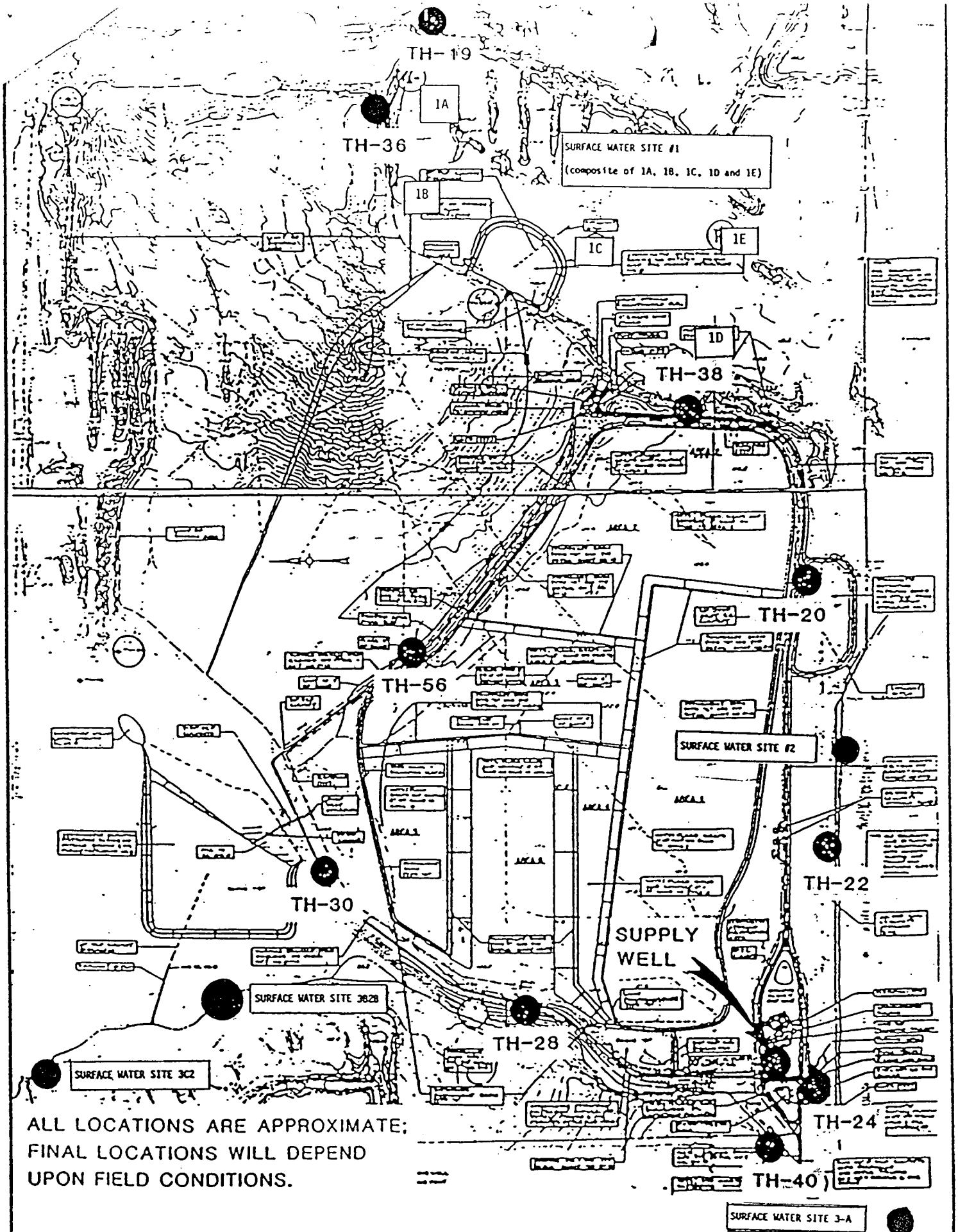
Existing - TH-19, 19A, 20B, 22, 24A, 26, 28, 30, 32, 36, 38A, 40, 41, 42, 56A, AB-14, supply well

What is the status of TH-38/TH-38A? Which one is a boring or abandoned?

Is AB-14 the only AB-series well?

Abandoned - Not known.

Unknown status - TH-20, 24. 24A, 33 34A, 35, 35A



ALL LOCATIONS ARE APPROXIMATE; FINAL LOCATIONS WILL DEPEND UPON FIELD CONDITIONS.

MONITOR WELLS SOUTHEAST COUNTY LANDFILL

CH2M HILL

Florida Department of

Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

FAX TRANSMITTAL SHEET

FAXED 8:45 ft

2/10/95
Date

TO: Larry Ruiz

DEPT.: DCS

FAX #: 6236757

FROM: Kim Ford

DEPT.: D.E.P., Tampa Office

PHONE: 813-744-6100 or SunCom 542-6100 Ext. 382

FAX(local)744-6125 or (SunCom) 542-6125

SUBJECT: REL 2/7/95

COMMENT: As you Requested

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 7

RECEIVED BY: ____________________

PHONE: ____________________

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

February 2, 1994

Florida Department of
Environmental Protection
ATTN: Kim Ford, Professional Engineer I
3804 Coconut Palm Dr.
Tampa, Fl 33619

Dear Mr Ford,

On behalf of the Hillsborough County Department of Solid Waste, I would like to take this opportunity to invite a representative from your agency to attend our next monthly information and progress meeting at the Southeast County Landfill. We hope to have representatives from Waste Management of Florida, SCS Engineers, The Hillsborough County Environmental Protection Commission, The Southeast Hillsborough Civic Association, and any citizens who would like to attend. An agenda will be provided and the next meeting will be held on February 16, 1994 at 9:00 a.m.

Please call me at 671-7707 if you have any questions. I look forward to our meeting.

Sincerely,

Meredith Matthews
Hillsborough County
Dept. of Solid Waste

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

January 5,1995

Florida Department of
Environmental Protection
ATTN: Kim Ford, Professional Engineer I
3804 Coconut Palm Dr.
Tampa, Fl 33619

Dear Mr Ford,

On behalf of the Hillsborough County Department of Solid Waste, I would like to take this opportunity to invite a representative from your agency to attend our next monthly information and progress meeting at the Southeast County Landfill. We hope to have representatives from Waste Management of Florida, SCS Engineers, The Hillsborough County Environmental Protection Commission, The Southeast Hillsborough Civic Association, and any citizens who would like to attend. An agenda will be provided and the next meeting will be held on January 19, 1995 at 9:00 a.m.

Please call me at 671-7707 if you have any questions. I look forward to our meeting.

Sincerely,

Meredith Matthews
Hillsborough County
Dept. of Solid Waste

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Frederick B. Karl

December 2, 1994

Florida Department of
Environmental Protection
ATTN: Kim Ford, Professional Engineer I
3804 Coconut Palm Dr.
Tampa, Fl 33619

Dear Mr Ford,

On behalf of the Hillsborough County Department of Solid Waste, I would like to take this opportunity to invite a representative from your agency to attend our next monthly information and progress meeting at the Southeast County Landfill. We hope to have representatives from Waste Management of Florida, SCS Engineers, The Hillsborough County Environmental Protection Commission, The Southeast Hillsborough Civic Association, and any citizens who would like to attend. An agenda will be provided and the next meeting will be held on December 15, 1994 at 9:00 a.m.

Please call me at 671-7707 if you have any questions. I look forward to our meeting.

Sincerely,

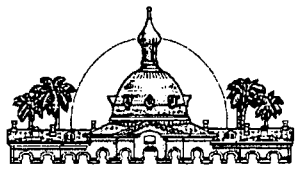
Meredith Matthews

Meredith Matthews
Hillsborough County
Dept. of Solid Waste

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Frederick B. Karl



November 2, 1994

Florida Department of
Environmental Protection
ATTN: Kim Ford, Professional Engineer I
3804 Coconut Palm Dr.
Tampa, Fl 33619

Dear Mr Ford,

On behalf of the Hillsborough County Department of Solid Waste, I would like to take this opportunity to invite a representative from your agency to attend our next monthly information and progress meeting at the Southeast County Landfill. We hope to have representatives from Waste Management of Florida, SCS Engineers, The Hillsborough County Environmental Protection Commission, The Southeast Hillsborough Civic Association, and any citizens who would like to attend. An agenda will be provided and the next meeting will be held on November 18, 1994 at 9:00 a.m.

Please call me at 671-7707 if you have any questions. I look forward to our meeting.

Sincerely,

Meredith Matthews
Hillsborough County
Dept. of Solid Waste

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

February 7, 1995

Mr. Daryl Smith, Director
Hillsborough County
Department of Solid Waste
Post Office Box 1110
Tampa, FL 33601

Re: Southeast Landfill, Hillsborough County
Operation Permit Renewal
Pending Permit No.: SO29-256427

Dear Mr. Smith:

This is to acknowledge receipt of the additional information in support of your permit application received January 13, 1995 to operate the solid waste management facility referred to as Southeast Class I Sanitary Landfill.

This letter constitutes notice that a permit will be required for your project pursuant to Chapter(s) 403, Florida Statutes.

Your application for a permit remains incomplete. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed in support of the solid waste application [Chapter 17-701, Florida Administrative Code (F.A.C.)]:

1. Please provide a comprehensive Leachate Management Plan that addresses all elements of the landfill's design and operation as described in our meeting on January 31, 1995. This plan should include but not be limited to the following items previously discussed:

   a. maximum and normal storage of leachate within the landfill throughout the year, not to exceed one foot of hydraulic head;
   b. methods that will measure leachate depth and hydraulic head;
   c. the projected annual leachate/water balance for the entire site including quantities of leachate to be stored, hauled and sprayed each month for a wet year and dry year;
   d. leachate removal rate, pump rates, and pump control settings;
   e. limiting factors that may affect the performance of any component of the leachate management plan and a contingency plan for corrective actions; and
   f. record keeping and performance evaluations.

2. According to SCS's January 13, 1995 letter, calculations indicate temporary drainage ditches and swales are designed for a maximum flow of 50 cfs with a maximum velocity not greater than 6 ft/sec. Are the designs shown in Exhibit "H" for both the existing and proposed temporary conveyances? Are all existing drainage ditches and swales constructed as shown in Exhibit "H", and are they handling a maximum flow of 50 cfs with a maximum velocity not greater than 6 ft/sec?

3. Please provide revised plans showing the location of future sprinkler heads and anticipated dates for installation. Will the future sprinkler heads be installed and operated in the same manner as the existing sprinkler heads? SCS's January 13, 1995 letter states that "the sprinkler system will be expanded into the inactive areas of Phases III and IV". Sheet C3 does not include such expansion.

4. Please explain how the 3.6 feet head was derived from Ardaman's Figures 12 and 13. Ardaman's reports do not explain how the static pore pressure line was estimated as shown in Figures 12 and 13 or why the leachate level was assumed to be 2 feet rather than the actual depth of leachate observed at the time of testing. Did Ardaman measure and record the actual depth of leachate at each test location? Figures 12 and 13 represent conditions that exist at two specific locations, but neither represents the worst case. Will the proposed equilibrium datum still balance at 3.6 feet in Phase I, where consolidation has significantly reduced pore pressure due to 95 percent consolidation, thus reducing the upward gradient? Will it still balance on the portions of the exterior synthetic sideliner in Phase I and Phase IV that are not in contact with groundwater and are not balanced by an inward gradient? The test location in Phase I has not been reloaded for more than 8 years, has a clay thickness of only 3.5 feet, and represents the existing worst case condition for hydraulic head over the liner. Please provide an additional figure such as Figures 12 and 13 that represents the expected worst case condition for hydraulic head at the test location in Phase I, or explain why this information is not needed. Since loading in Phase I has been delayed for more than the recommended "7 year waiting period", the additional figure is requested to represent conditions that would exist at the latest time of placing an additional lift in Phase I. The additional figure should be supported by the equations used for calculating the hydraulic head over the liner as a result of depth of leachate.

5. Please describe all methods and frequencies of reporting the depth of leachate throughout the landfill, and procedures the County will implement for corrective action to bring the landfill into compliance. Daily logs provided by Waste Management indicate that leachate has been impounded within most of the waste-filled disposal areas since 1990. Recent measurements have shown the depth of leachate to be greater than six feet.

6. Please provide the established minimum and maximum waiting period to ensure sufficient consolidation and a hydraulic head not greater than 12 inches over the liner. SCS states "the lapsed time in Phase I is over 8 years. According to current projections, the time interval between successive lifts should not exceed 7 years again". Ardaman's March 7 and October 25, 1994 reports recommend a "minimum" waiting period for loading Phase I of 7 years. The waiting period can "not exceed 7 years" and be a "minimum" of 7 years.

7. Please describe methods and frequencies of all monitoring for the elevations at the top of clay as it settles and the depth of leachate throughout the landfill to ensure that all leachate is conveyed to points of removal. Ardaman's February 22, 1983 report Figure 6.12 shows the clays are thicker in Phases IV and VI and should settle more than Phase I. SCS's November 18, 1994 report Figure 2 shows that the top of clay is lower in Phase I than Phases IV or VI. FAC Rule 17-701.400(4) requires that the LCRS convey leachate to collection points for removal. Could the top of clay in portions of Phase I settle more than other portions of the landfill and prevent some leachate from being conveyed for removal? SCS has indicated that HCDSW intends to maintain landfill leachate levels as low as possible. What is the depth to which leachate impounded in the landfill will be removed?

8. Please provide a copy of the long-term agreement with HCPUD for the disposal of leachate at its off-site WWTPs. How many gallons of leachate may be accepted at each WWTP included in the agreement?

9. Please provide a copy of the previously approved designs for each temporary sump in Phase VI, the permanent sump design north of the landfill, a record drawing for the actual construction of each, and current survey to show the elevations of the piping, structure, and top of clay bottom liner at each location. SCS's January 13, 1995 letter explains that the reason for ignoring Waste Management's daily logs that indicated excess leachate over the liner was because "HCDSW and SCS believed the temporary sump had been installed as designed".

10. What were the elevations of the tear and liner toe at top of clay along the anchor trench in Phase II as observed during the recent liner repair?

11. Please explain the condition of Basin "D". Is this basin performing as designed?

12. Please provide your response to Ms. Allison Amram's concerns in her January 25, 1995 memorandum attached. You may contact Ms. Amram at (813) 744-6100, extension 336.

Please be advised that a separate construction permit is required for the review and approval of permanent site improvements such as the future downchutes, leachate collection gallery in Phase VI, and closure.

"NOTICE! Pursuant to the provisions of Section 120.600, F.S. and Chapter 17-12.070(5), F.A.C., if the Department does not receive a complete response to this request for information within 30 days of the date of this letter, the Department may issue a final order denying your application. You need to respond within 30 days after you received this letter, responding to all of the information requests and indicating when a response to any unanswered questions will be submitted. If the response will require longer than 30 days to develop, you should develop a specific time table for the submission of the requested information for Department review and consideration. Failure to comply with a time table accepted by the Department will be grounds for the Department to issue a Final Order of Denial for lack of a timely response. A denial for lack of information or response will be unbiased as to the merits of the application. The applicant may reapply as soon as the requested information is available."

You are requested to submit your response to this letter as one complete package. On all future correspondence to the Department, please include Robert Butera on distribution. If there are points which must be discussed and resolved, please contact me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: Patricia V. Berry, Hillsborough County DSW
Robert Gardner, P.E., SCS Engineers
Paul Schipfer, HCEPC
William Kutash, Program Administrator, Waste Management
Robert Butera, P.E., FDEP Tampa
Allison Amram, P.G., FDEP Tampa
Steve Morgan, FDEP Tampa
Richard Tedder, P.E., FDEP Tallahassee

Flori Department of

Memorandum **Environmental Protection**

TO: Kim Ford, P.E.

FROM: Allison Amram, P.G.

DATE: January 25, 1995

SUBJECT: Southeast Hillsborough Landfill Operating Permit Renewal
Pending Permit No. SO29-256427

CC: Bob Butera, P.E.
Steve Morgan

==========

I have reviewed the January 13, 1995 Southeast Hillsborough Landfill operating permit renewal application responses, submitted by SCS Engineers for the Hillsborough County Department of Solid Waste. This memorandum includes the remaining comments on the water quality monitoring sections of the engineering report.

General Comments

The proposed well construction depth of 31 feet for surficial aquifer monitoring wells TH-57 and TH-58 are acceptable. If field conditions show that the water table elevations are deeper than anticipated, the depth of the well should be adjusted so that the screened portion of the well encounters enough water to collect representative groundwater samples.

The comments below are numbered by section of the engineering report.

6.2.1. Groundwater Findings

2. This comment has been adequately addressed.

6.3.1 Proposed Surficial and Floridan Aquifer Monitoring System

2. This comment has been adequately addressed.

3. The response states that wells TH-33, TH-34A and TH-38 are assumed to be abandoned by Camp, Dresser and McKee. Please provide documentation of proper well abandonment (water management district form, field notes).

   Please revise Drawing 1 from Appendix U of the permit application to include all site monitoring wells, piezometers and all other wells, including the location of abandoned wells and piezometers. A survey with these locations would be useful,

but is not required. This will clarify the TH-38 and TH-38A locations, as well as other well designation confusion.

6. This comment has been adequately addressed.

New Item: Monitoring well TH-36

The proposed depth of 48 feet is acceptable for this well. This comment has been adequately addressed.

If the permit applicant should have any questions concerning the content of this memorandum, they may contact me directly at 813/744-6100, ext. 336.

aa

COMMISSION
PHYLLIS BUSANSKY
JOE CHILLURA
LYDIA MILLER
JIM NORMAN
JAN KAMINIS PLATT
ED TURANCHIK
SANDRA WILSON

FAX (813) 272-5157

ENVIRONMENTAL PROTECTION COMMISSION
HILLSBOROUGH COUNTY

ROGER P. STEWART
EXECUTIVE DIRECTOR
ADMINISTRATIVE OFFICES
AND
WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960

AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

ECOSYSTEMS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

M E M O R A N D U M

DATE: February 3, 1995

TO: Kim Ford, P.E., FDEP SW-Permitting

FROM: Paul A. Schipfer, EPC SW-Permitting

SUBJECT: HILLSBOROUGH COUNTY SOUTHEAST LANDFILL INCOMPLETENESS RESPONSE DATED JANUARY 13, 1995, PENDING OPERATING RENEWAL OF PERMIT # SO29-158504

EPC has reviewed the above referenced document. Based on this review, EPC request that the following issues be addressed in your incompleteness response as well:

Note: Questions and issues are numbered to coincide with the applicant's responses in their January 13, 1995 submittal.

#4 In the response the applicant discusses hydraulic head over the liner. EPC is unaware that any of the existing permit conditions allow for hydraulic head;but rather, one foot depth of leachate over the liner. As we are all aware, the issue of one foot of hydraulic head over the liner is a design standard for composite liners presented in 62-701.400(3)(b) 2. This concept is also presented in 62-701.400(3)(c), double liners; however, only one inch of head is allowed on the leak detection liner, that may potentially discharge pollutants to the environment. In no case is a soil only liner presented where hydraulic head of only one foot is discussed. Therefore, I am unable to note an immediate equivalency.

Further, the clay liner system at the Southeast Landfill is in direct hydraulic contact with groundwater. According to Fetter (1988), "(i)t is possible for solutes to move through porous medium by diffusion, even though groundwater is not flowing. Thus, even if the hydraulic gradient is zero, a

solute could still move. In rock and soil with very low permeability, the water may be moving very slowly. Under these conditions, diffusion might cause a solute to travel faster than the groundwater is flowing."[1]

In our meeting on January 31, 1995, with the applicant, SCS and represenatives from FDEP Tallahasse these issues were discussed. Agreement was reached by all parties that the applicant will propose a best management plan. Inclusive in the plan will be a water balance, where by, leachate levels will be maintanied for a majority of the year well below the one foot of hyraulic head level. In addition, a simplistic and reasonable approach will be proposed for the determination of depth of leachate and hydraulic head on the liner.

#5 I still am unsure if the proposed equilibrium datum of 3.6 feet is accurate for all portions of the landfill. Will it still balance at 3.6 feet in phase I, where consolidation has significantly reduced pore pressure due to 95 percent consolidation, thus reducing the upward gradient? Will it still balance on the portions of the exterior synthetic sideliner in phase I and phase IV that are not in contact with groundwater and are not balanced by an inward gradient? These issues should also be addressed in the best management plan (BMP) for leachate.

#6 Based on response #6 the applicant states it is their intention not to permanently store leachate in the landfill. This issue should also be addressed in the BMP.

#7 Since the exterior perimeter berm is built above the 4-foot thick layer of phosphatic clay, how will the pore pressure of the underlying clay maintain a hydraulic gradient in the constructed berm? It is my opinion that lechate should not be allowed to accumate so deep that the side liner should be subjected to any constant leachate head for any significant period of time.

#13 Again, I am not clear for the basis of why SCS concluded that "(b)ased on the observed leachate levels within the landfill, it would have been unlikely for leachate to reach the elevation of the damaged geomembrane." What was the elevation

of the bottom of the tear of the geomembrane? Please provide methodology and data used to arrive at the expressed conclusions. If this data can not be provided, this issue may need to addressed outside of the permit renewal process.

Reference:

1. Fetter, C. W., Applied Hydrogeology, 2nd. ed., Macmillan Publishing Company, New York, (1988), p. 391.

HILLSBOROUGH COUNTY D.E.P.

Florida

Office of the County Administrator
Daniel A. Kleman

FEB - 6 1995
SOUTHWEST DISTRICT
TAMPA

January 30, 1995

Mr. Kim Ford
Florida Department of Environmental Protection
3804 Coconut Palm
Tampa, Florida 33619

RE: Southeast Landfill
Permit No. SO29-158504
Quantity Report

Dear Mr. Ford:

In accordance with your request dated March 30, 1993, the Department of Solid Waste (DSW) is submitting the quarterly report for quantities of leachate disposed of at the Southeast County Landfill. A summary sheet for each day is provided with the quantities of leachate that were disposed of by the County and the Contractor. The leachate was disposed of at a wastewater treatment facility.

Should you have any questions concerning this information, please contact Sarah Hill at 276-2926.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager

PVB/sh

Attachments
xc: Robert Butera, FDEP Tampa
Steve Morgan, FDEP Tampa
Kathy Anderson, FDEP Tallahassee
Paul Schipfer, HCEPC
Steve Hamilton, SCS Engineers

DATE 1994	COUNTY HAULED	CONTRACTOR HAULED	RECIRCULATION	DAILY AMT
OCT 1	0	0	0	0
OCT 2	0	0	0	0
OCT 3	0	0	0	0
OCT 4	0	0	0	0
OCT 5	0	0	0	0
OCT 6	0	0	0	0
OCT 7	0	0	0	0
OCT 8	0	0	0	0
OCT 9	0	0	0	0
OCT 10	0	0	0	0
OCT 11	6,357	37,265	0	43,622
OCT 12	12,630	37,409	0	50,039
OCT 13	18,932	37,400	0	56,332
OCT 14	18,970	37,456	0	56,426
OCT 15	0	37,558	0	37,558
OCT 16	0	0	0	0
OCT 17	12,388	0	0	12,388
OCT 18	19,026	12,540	0	31,566
OCT 19	18,910	50,153	8,500	77,563
OCT 20	12,890	73,879	0	86,769
OCT 21	19,446	61,968	0	81,414
OCT 22	0	61,702	0	61,702
OCT 23	0	0	0	0
OCT 24	19,328	49,513	0	68,841
OCT 25	25,678	49,581	0	75,259
OCT 26	6,446	61,738	0	68,184
OCT 27	19,348	61,919	0	81,267
OCT 28	19,244	61,887	8,000	89,131
OCT 29	0	56,649	0	56,649
OCT 30	0	0	0	0
OCT 31	12,898	62,175	0	75,073
MTHLY TOTAL	242,491	850,792	16,500	1,109,783

DATE 1994	COUNTY HAULED	CONTRACTOR HAULED	RECIRCULATION	DAILY AMT
NOV 1	19,229	31,137	0	50,366
NOV 2	6,381	57,458	0	63,839
NOV 3	13,131	61,570	0	74,701
NOV 4	18,975	55,573	8,500	83,048
NOV 5	0	61,931	0	61,931
NOV 6	0	0	0	0
NOV 7	12,675	54,192	8,500	75,367
NOV 8	19,140	59,804	0	78,944
NOV 9	6,477	60,052	0	66,529
NOV 10	19,154	60,799	8,500	88,453
NOV 11	0	59,046	0	59,046
NOV 12	0	59,803	0	59,803
NOV 13	0	0	0	0
NOV 14	13,023	60,020	0	73,043
NOV 15	12,930	60,200	0	73,130
NOV 16	6,407	60,589	0	66,996
NOV 17	19,420	60,499	0	79,919
NOV 18	6,482	60,462	0	66,944
NOV 19	0	60,413	8,500	68,913
NOV 20	0	0	0	0
NOV 21	19,301	60,471	0	79,772
NOV 22	18,964	60,525	8,500	87,989
NOV 23	6,344	60,628	8,500	75,472
NOV 24	0	0	0	0
NOV 25	0	60,591	8,500	69,091
NOV 26	0	60,622	8,500	69,122
NOV 27	0	0	0	0
NOV 28	19,137	60,918	8,500	88,555
NOV 29	12,875	60,352	8,500	81,727
NOV 30	6,484	60,720	8,500	75,704
NOV 31				0
MTHLY TOTAL	256,529	1,468,375	93,500	1,818,404

DATE 1994	COUNTY HAULED	CONTRATOR HAULED	RECIRCULATION	DAILY AMT
DEC 1	19,354	60,422	8,500	88,276
DEC 2	12,796	60,509	8,500	81,805
DEC 3	0	60,582	8,500	69,082
DEC 4	0	0	0	0
DEC 5	19,162	60,493	0	79,655
DEC 6	19,487	60,433	0	79,920
DEC 7	6,534	60,333	8,500	75,367
DEC 8	19,533	54,306	17,000	90,839
DEC 9	19,384	60,157	8,500	88,041
DEC 10	0	61,224	8,500	69,724
DEC 11	0	0	0	0
DEC 12	19,505	60,658	0	80,163
DEC 13	19,368	60,635	8,500	88,503
DEC 14	6,455	60,359	0	66,814
DEC 15	0	60,431	8,500	68,931
DEC 16	0	60,240	8,500	68,740
DEC 17	0	60,477	8,500	68,977
DEC 18	0	0	0	0
DEC 19	57,037	62,468	8,500	128,005
DEC 20	56,946	62,296	8,500	127,742
DEC 21	56,762	62,403	0	119,165
DEC 22	56,826	68,519	0	125,345
DEC 23	56,879	62,124	0	119,003
DEC 24	56,971	0	0	56,971
DEC 25	0	0	0	0
DEC 26	56,700	68,200	0	124,900
DEC 27	56,592	68,620	0	125,212
DEC 28	57,299	68,654	0	125,953
DEC 29	56,876	68,658	8,500	134,034
DEC 30	56,805	68,646	8,500	133,951
DEC 31	56,483	68,693	8,500	133,676
	==========	=========	=========	=========
	843,754	1,630,540	144,500	2,618,794

ADMINISTRATIVE OFFICES, LEGAL & WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813)272-5960
FAX (813)272-5157

AIR MANAGEMENT DIVISION
TELEPHONE (813)272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813)272-5788

ECOSYSTEMS MANAGEMENT DIVISION
TELEPHONE (813)272-7104

ENVIRONMENTAL PROTECTION COMMISSION
of Hillsborough County

FAX Transmittal Sheet

DATE: 2/6/95

TO: Kim Ford, P.E.

FAX Phone: 744-8432 Voice Phone: ext. 382

TOTAL NUMBER OF PAGES INCLUDING THIS COVER PAGE: 8

EPC FAX Transmission Line: (813) 272-7144 For retransmission or any FAX problems, call: (813) 272-7104

FROM: Paul Schipfer (circle applicable phone number and organization below)

(813) 272-5530
Air Division
- Special Programs
- Air Engineering

(813) 272-5788
Waste Management
- UST Clean-Up
- Solid/Hazardous Waste
- UST Compliance

(813) 272-7104
Ecosystems Management
- Environmental Engineering
- Environmental Assessment
- Compliance & Enforcement

SPECIAL INSTRUCTIONS:

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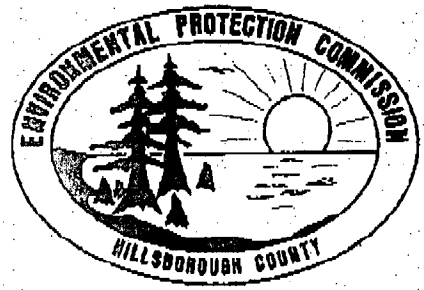

ROGER P. STEWART
EXECUTIVE DIRECTOR
ADMINISTRATIVE OFFICES AND WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960

AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

ECOSYSTEMS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

M E M O R A N D U M

DATE: February 3, 1995

TO: Kim Ford, P. E., FDEP SW-Permitting

FROM: Paul A. Schipfer, EPC SW-Permitting

SUBJECT: **DAVID J. JOSEPH LANDFILL PERMIT RENEWAL RESPONSE DATED JANUARY 4, 1995, SO29-240410**

EPC has reviewed the above referenced document and has no additional comments related to their response. However, EPC does remain very concerned about the issue of allowing leachate to be disposed of at a facility that is unregulated and that has not been specifically approved for leachate disposal. All of my comments previously submitted to you on August 12, 1994, regarding the subject of leachate disposal at the Hooker's Point Auto Shredder facility, are still applicable in my opinion. This issue needs to be resolved prior to issuance of the permit renewal.

ROGER P. STEWART
EXECUTIVE DIRECTOR
ADMINISTRATIVE OFFICES
AND
WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960

AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

ECOSYSTEMS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

M E M O R A N D U M

DATE: February 3, 1995

TO: Kim Ford, P.E., FDEP SW-Permitting

FROM: Paul A. Schipfer, EPC SW-Permitting

SUBJECT: **HILLSBOROUGH COUNTY SOUTHEAST LANDFILL INCOMPLETENESS RESPONSE DATED JANUARY 13, 1995, PENDING OPERATING RENEWAL OF PERMIT # SO29-158504**

EPC has reviewed the above referenced document. Based on this review, EPC request that the following issues be addressed in your incompleteness response as well:

Note: Questions and issues are numbered to coincide with the applicant's responses in their January 13, 1995 submittal.

#4 In the response the applicant discusses hydraulic head over the liner. EPC is unaware that any of the existing permit conditions allow for hydraulic head;but rather, one foot depth of leachate over the liner. As we are all aware, the issue of one foot of hydraulic head over the liner is a design standard for composite liners presented in 62-701.400(3)(b) 2. This concept is also presented in 62-701.400(3)(c), double liners; however, only one inch of head is allowed on the leak detection liner, that may potentially discharge pollutants to the environment. In no case is a soil only liner presented where hydraulic head of only one foot is discussed. Therefore, I am unable to note an immediate equivalency.

Further, the clay liner system at the Southeast Landfill is in direct hydraulic contact with groundwater. According to Fetter (1988), "(i)t is possible for solutes to move through porous medium by diffusion, even though groundwater is not flowing. Thus, even if the hydraulic gradient is zero, a

solute could still move. In rock and soil with very low permeability, the water may be moving very slowly. Under these conditions, diffusion might cause a solute to travel faster than the groundwater is flowing."[1]

In our meeting on January 31, 1995, with the applicant, SCS and represenatives from FDEP Tallahasse these issues were discussed. Agreement was reached by all parties that the applicant will propose a best management plan. Inclusive in the plan will be a water balance, where by, leachate levels will be maintanied for a majority of the year well below the one foot of hyraulic head level. In addition, a simplistic and reasonable approach will be proposed for the determination of depth of leachate and hydraulic head on the liner.

#5 I still am unsure if the proposed equilibrium datum of 3.6 feet is accurate for all portions of the landfill. Will it still balance at 3.6 feet in phase I, where consolidation has significantly reduced pore pressure due to 95 percent consolidation, thus reducing the upward gradient? Will it still balance on the portions of the exterior synthetic sideliner in phase I and phase IV that are not in contact with groundwater and are not balanced by an inward gradient? These issues should also be addressed in the best management plan (BMP) for leachate.

#6 Based on response #6 the applicant states it is their intention not to permanently store leachate in the landfill. This issue should also be addressed in the BMP.

#7 Since the exterior perimeter berm is built above the 4-foot thick layer of phosphatic clay, how will the pore pressure of the underlying clay maintain a hydraulic gradient in the constructed berm? It is my opinion that lechate should not be allowed to accumulate so deep that the side liner should be subjected to any constant leachate head for any significant period of time.

#13 Again, I am not clear for the basis of why SCS concluded that "(b)ased on the observed leachate levels within the landfill, it would have been unlikely for leachate to reach the elevation of the damaged geomembrane." What was the elevation

of the bottom of the tear of the geomembrane? Please provide methodology and data used to arrive at the expressed conclusions. If this data can not be provided, this issue may need to addressed outside of the permit renewal process.

Reference:

1. Fetter, C. W., Applied Hydrogeology, 2nd. ed., Macmillan Publishing Company, New York, (1988), p. 391.

Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

January 26, 1995

Mr. Daryl Smith, Director
Hillsborough County
Department of Solid Waste
Post Office Box 1110
Tampa, FL 33601

DRAFT

Re: Southeast Landfill, Hillsborough County
Operation Permit Renewal
Pending Permit No.: SO29-256427

Dear Mr. Smith:

This is to acknowledge receipt of the additional information in support of your permit application received January 13, 1995 to operate the solid waste management facility referred to as Southeast Class I Sanitary Landfill.

This letter constitutes notice that a permit will be required for your project pursuant to Chapter(s) 403, Florida Statutes.

Your application for a permit remains incomplete. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

The following information is needed in support of the solid waste application [Chapter 17-701, Florida Administrative Code (F.A.C.)]:

1. Please provide a comprehensive Leachate Management Plan that addresses all elements of the landfill's design and operation as described in our meeting on January 31, 1995. This plan should include but not be limited to the following items previously discussed: throughout the year At no time shall
   a. maximum and normal storage of leachate within the landfill, ~~not to~~ exceed one foot of hydraulic head;
   b. leachate the projected annual leachate/water balance for the entire site including quantities of leachate to be stored, hauled and sprayed each month for a wet year and dry year;
   c. leachate removal rate, pump rates, and pump control settings;
   d. limiting factors that may affect the performance of any component of the leachate management plan and a contingency plan for corrective actions; and
   e. record keeping and performance evaluations.

method used that will to measure leachate depth and hydraulic head.

2. According to SCS's January 13, 1995 letter, calculations indicate temporary drainage ditches and swales are designed for a maximum flow of 50 cfs with a maximum velocity not greater than 6 ft/sec. Are the designs shown in Exhibit "H" for both the existing and proposed temporary conveyances? Are all existing drainage ditches and swales constructed as shown in Exhibit "H", and are they handling a maximum flow of 50 cfs with a maximum velocity not greater than 6 ft/sec?

3. Please provide revised plans showing the location of future sprinkler heads and anticipated dates for installation. Will the future sprinkler heads be installed and operated in the same manner as the existing sprinkler heads? SCS's January 13, 1995 letter states that "the sprinkler system will be expanded into the inactive areas of Phases III and IV". Sheet C3 does not include such expansion.

4. Please explain how the 3.6 feet head was derived from Ardaman's Figures 12 and 13. Ardaman's reports do not explain how the static pore pressure line was estimated as shown in Figures 12 and 13 or why the leachate level was assumed to be 2 feet rather than the actual depth of leachate observed at the time of testing. Did Ardaman measure and record the actual depth of leachate at each test location? Figures 12 and 13 represent conditions that exists at two specific locations, but neither represents the worst case. Will the proposed equilibrium datum still balance at 3.6 feet in Phase I, where consolidation has significantly reduced pore pressure due to 95 percent consolidation, thus reducing the upward gradient? Will it still balance on the portions of the exterior synthetic sideliner in Phase I and Phase IV that are not in contact with groundwater and are not balanced by an inward gradient? Since the exterior perimeter berm is built above the 4-foot thick layer of phosphatic clay, how will the pore pressure of the underlying clay maintain a hydraulic gradient in the constructed berm? The test location in Phase I has not been loaded for more than 8 years, has a clay thickness of only 3.5 feet, and represents the existing worst case condition for hydraulic head over the liner. Please provide an additional figure such as Figures 12 and 13 that represents the expected worst case condition for hydraulic head at the test location in Phase I, or explain why this information is not needed. Since loading in Phase I has been delayed for more than the recommended "7 year waiting period", the additional figure is requested to represent conditions that would exist at the latest time of placing an additional lift in Phase I. The additional figure should be supported by the equations used for calculating the hydraulic head over the liner as a result of depth of leachate.

5. Please describe all methods and frequencies of reporting the depth of leachate throughout the landfill, and procedures the County will implement for corrective action to bring the landfill into compliance. Daily logs provided by Waste Management indicate that leachate has been impounded within most of the waste-filled disposal areas since 1990. Recent measurements have shown the depth of leachate to be greater than six feet.

6. Please provide the established minimum and maximum waiting period to ensure sufficient consolidation and a hydraulic head not greater than 12 inches over the liner. SCS states "the lapsed time in Phase I is over 8 years. According to current projections, the time interval between successive lifts should not exceed 7 years again". Ardaman's March 7 and October 25, 1994 reports recommend a "minimum" waiting period for loading Phase I of 7 years. The waiting period can "not exceed 7 years" and be a "minimum" of 7 years.

7. Please describe methods and frequencies of all monitoring for the elevations at the top of clay as it settles and the depth of leachate throughout the landfill to ensure that all leachate is conveyed to points of removal. Ardaman's February 22, 1983 report Figure 6.12 shows the clays are thicker in Phases IV and VI and should settle more than Phase I. SCS's November 18, 1994 report Figure 2 shows that the top of clay is lower in Phase I than Phases IV or VI. FAC Rule 17-701.400(4) requires that the LCRS convey leachate to collection points for removal. Could the top of clay in portions of Phase I settle more than other portions of the landfill and prevent some leachate from being conveyed for removal? SCS has indicated that HCDSW intends to maintain landfill leachate levels as low as possible. What is the lowest depth to which leachate may possibly be removed?

8. Please provide a copy of the long-term agreement with HCPUD for the disposal of leachate at its off-site WWTPs. How many gallons of leachate may be accepted at each WWTP included in the agreement?

9. Please provide a copy of the previously approved designs for each temporary sump in Phase VI, the permanent sump design north of the landfill, and a record drawing for the actual construction of each. If record drawings are not available, please explain why not and provide a current survey to show the elevations of the piping, structure, and top of clay bottom liner at each location. SCS's January 13, 1995 letter explains that the reason for ignoring Waste Management's daily logs that indicated excess leachate over the liner was because "HCDSW and SCS believed the temporary sump had been installed as designed".

10. What were the elevations of the tear and liner toe at top of clay along the anchor trench in Phase II as observed during the recent liner report?

I N T E R O F F I C E M E M O R A N D U M

Date: 01-Feb-1995 09:49am EST
From: Kim Ford TPA
FORD_K
Dept: Southwest District Offi
Tel No: 813/620-6100
SUNCOM: 542-6100 Ext. 382

TO: Mary Jean Yon TAL (YON_MJ @ A1 @ DER)
TO: Richard Tedder TAL (TEDDER_R @ A1 @ DER)

CC: William Kutash TPA (KUTASH_W)
CC: Robert Butera TPA (BUTERA_R)
CC: Chris McGuire TAL (MCGUIRE_C @ A1 @ DER)

Subject: SE LANDFILL / JANUARY 31ST MEETING

Thank you for attending. I thought the meeting went quite well. The RFI letter has been revised and will be forwarded to you for your review. The letter as revised addresses the issues related to leachate management as discussed at the meeting. Their proposed concept of establishing one foot of hydraulic head as their new regulatory limit as long as it does not exceed the maximum amount of leachate that can be managed in each year appears to be a reasonable approach. I expect the permit process to move more smoothly with a compliance standard that prevents excessive hauling and is easily acheivable. If you have any further comments or suggestions feel free to share them with us.

RECEIVED
FEB 01 1995
Department of Environmental Protection
SOUTHWEST DISTRICT

LETTER OF TRANSMITTAL

HILLSBOROUGH COUNTY
Dept . of Solid Waste
P. O.Box 1110
Tampa, Florida 33601
Phone (813) 272-5860 276-2908

Date: _____ BY _____ Job No.: _____

Attention: _____

TO: **Kim Ford**
Dept. of Environmental Protection
Solid Waste Section

RE: **SELF Leachate Management**

WE ARE SENDING YOU ___ Attached ___ Under separate cover via _____ the following items:

__ Shop drawings ___ Prints ___ Plans ___ Samples ___ Specifications

__ Copy of letter ___ Change order ___ Permit _____

Copies	Date	No.	
1			Updated leachate levels and pumping through January 27th
1			Memo from Utilities Dept. concerning a long-term disposal commitment.

THESE ARE TRANSMITTED as checked below:

__ For approval __ No exceptions noted __ Resubmit ___copies for review

_X_ For your use __ Exceptions noted as shown __ Submit ___ copies for distribution

_X_ As requested __ Returned for revisions __ Return ___ revised prints

__ For review and comment __ _____

__ FOR BIDS DUE _____ 19__ __ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Kim, the attached information is being provided as a followup to the DSW's January 13, 1995 letter to Steve Morgan, DEP. Also, the information from the Utilities Dept. is being provided as a followup to the DSW's January 13, 1995 permit renewal response No. 9. I would appreciate it if you would please provide a copy of this information to Steve Morgan for his files.

Please call should you have any questions concerning this submittal.

COPY TO Paul Schipfer

SIGNED: Patricia V. Berry

MONTH: January 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk Phase VI feet	gal	Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
1	4.3			Holiday			0.0	Holiday		
2	5.6			Tank	Full		0.0	—	63,000	
3	5.9			12	360,000		0.0	68,582	57,086	
4	6.3			10.6	315,000		0.3	68,599	57,148	
5	5.8			10	300,000		0.0	68,291	56,808	
6	5.4			9	270,000		0.0	68,537	66,999	
7	5.4			—	—		1.7	86,522	57,007	
8	5.4			—	—		0.0	—	—	
9	5.5			10	300,000		0.0	68,386	57,387	
10	5.2			9	270,000		0.0	68,546	57,244	
11	5.4			9	270,000		0.0	68,428	56,975	
12	5.3			8	240,000		0.0	68,528	50,632	
13	5.0	4.0	5.5	12	360,000		0.4	68,514	56,868	
14	5.0	4.0	5.0	13	390,000		1.1	68,466	56,957	
15	4.9			—	—		0.2	—	—	

Comments: 1/12 County tanker down, lost 1 load

Subtotal County - 684,111

Subtotal Contractor - 771,399

MONTH: _____

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
16	5.6	Holiday		11.6	345,000	Holiday	0.0	63,800	56,928	
17	5.7	4.4	6.0	11	330,000	4.3	0.0	64,490	56,919	
18	5.3	3.4	5.8	10	300,000	4.2	0.0	64,675	50,546	
19	5.3	3.1	5.6	9.6	288,000	4.2	0.0	64,818	57,073	
20	4.9	3.7	5.3	11	330,000	4.0	0.0	65,504	56,321	
21	4.8	3.5	5.2	12.5	375,000	4.0	0.0	67,492	56,622	
22	5.3	—	—	—	—	—	0.0	—	—	
23	5.8	4.3	6	9	270,000	4.1	0.0	53,061	56,134	
24	4.9	3.7	4.8	9	270,000	4.0	0.0	80,150	42,250	
25	4.9	3.5	5	10.5	315,000	4.0	0.0	68,018	56,186	
26	4.7	3.4	4.9	11.8	354,000	4.0	0.0	67,774	56,145	
27	4.7	3.3	4.11	12	360,000	3.11	0.0			
28										
29										
30										
31										

Comments: 1/18 County truck down 4½ hrs.; 1/24 Bogan using Public Utilities tanker.

HILLSBOROUGH COUNTY

Florida

MEMORANDUM

DATE: January 23, 1995

TO: Patricia Berry, Section Manager
Landfill Services Section
Department of Solid Waste

FROM: Fred Freshcorn, Section Manager
Technical Support Section
Public Utilities Department

SUBJECT: LEACHATE DISPOSAL

The Hillsborough County Department of Solid Waste (HCDSW) Wastewater Discharge Permit No. 0022 is being revised to allow disposal of up to 200,000 gallons per day of leachate from the Southeast Landfill. The current permitted leachate volumes from the Hillsborough Heights Landfill and South County Transfer Station remain the same. Though the permit allows disposal of leachate at the County wastewater treatment facilities, it does not reserve capacity for same. However, provided capacity exists, regulations are met, and barring unforeseen conditions that would restrict the acceptance of leachate, the Hillsborough County Public Utilities Department will continue to accept leachate until July 19, 2000, and beyond, if required by HCDSW.

If you require additional information/assistance, please contact Victor Hernandez, Senior Engineer, at telephone 272-5977.

FLF/JM/sjr

I:\groups\engfiles\secretar\landleac

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

DATE: 1/31/95

TIME: 2:15

SUBJECT: SE LANDFILL

ATTENDEES

Name	Affiliation	Telephone
Kim Ford	FDEP	7446100 X 382
Paul Schipfer	EPC	272 5788
Mary Jean Yon	DEP - Tallahassee	904/488-0300
Steve Hamilton	SCS Engineers	621-0080
Bob Gardner	SCS	621-0080
Patricia Berry	H.C. Dept. of Solid Waste	276-2908
Gary H Smith	HC Dept of Solid Waste	276-2900
Larry Ruiz	SCS	621-0080
Richard B. Tedder	DEP - Tallahassee	(904) 488-0300

TPA-02
06/93

AGENDA

1. Major Issues
   - A. Leachate Management
     1. Plan
     2. Current Disposal Rates
     3. Status Leachate Treatment and Reclamation Facility
   - B. "Head" vs "Depth"
     1. Applicability
     2. Performance
     3. Conveyance System
   - C. Permit Specific Conditions
   - D. Regulatory Management and Compliance
2. Schedule
   - A. Prepare Draft Permit
   - B. Notice, Public Comment
   - C. Issue Permit

MONTH: January 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	500,000Gal Tnk gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	Leachate Hauled County	Init.
1	4.3			Holiday			0.0	Holiday		
2	5.6			Tank	Full		0.0	–	63,000	
3	5.9			12	360,000		0.0	68,582	57,086	
4	6.3			10.6	315,000		0.3	68,599	57,178	
5	5.8			10	300,000		0.0	68,291	56,808	
6	5.4			9	270,000		0.0	68,537	66,999	
7	5.4			–	–		1.7	86,522	57,007	
8	5.4			–	–		0.0	–	–	
9	5.5			10	300,000		0.0	68,386	57,387	
10	5.2			9	270,000		0.0	68,546	57,244	
11	5.4			9	270,000		0.0	68,428	56,975	
12	5.8			8	240,000		0.0	68,528	50,682	
13	5.0	4.0	5.5	12	360,000		0.4	68,514	56,868	
14	5.0	4.0	5.0	13	390,000		1.1	68,466	58,957	
15	4.9			–	–		0.2	–	–	

Comments: 1/12 County tanker down, lost 1 load

Subtotal County - 684,111

Subtotal Contractor - 771,399

MONTH: January 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
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17	5.7	4.4	6.0	11	330,000	4.3	0.0	64,490	56,919	
18	5.3	3.4	5.8	10	300,000	4.2	0.0	64,675	50,546	
19	5.3	3.1	5.6	9.6	288,000	4.2	0.0	64,818	57,073	
20	4.9	3.7	5.3	11	330,000	4.0	0.0	65,504	56,327	
21	4.8	3.5	5.2	12.5	375,000	4.0	0.0	67,492	56,622	
22	5.3	—	—	—	—	—	0.0	—	—	
23	5.8	4.3	6	9	270,000	4.1	0.0	53,061	56,134	
24	4.9	3.7	4.8	9	270,000	4.0	0.0	80,150	42,250	
25	4.9	3.5	5	10.5	315,000	4.0	0.0	68,018	56,186	
26	4.7	3.4	4.9	11.8	354,000	4.0	0.0	67,774	56,145	
27	4.7	3.3	4.11	12	360,000	3.11	0.0	67,975	56,608	
28	4.6	3.3	4.11	12	360,000	3.11	0.0	67,585	55,900	
29	4.8	—	—	—	—	—	0.0	—	—	
30	4.5	3.1	3.7	15	450,000	4.6	0.1	68,589	56,592	
31	4.5	3.3	5.0	12	360,000	4.2	0.8			

Comments: 1/18 County truck down 4½ hrs; 1/24 Bagan using Public Utilities tanker.

Sub Total Contractor - 863,901

Sub Total County - 714,224

Contractor Total 1,635,300

County Total 1,398,335

Total 3,033,635

NOTICE OF MEETING

Today's date: 1/20/95 Writer: K FORD

Date of meeting: JAN 31, 1995

Time: 2 pm

Place: WATER CONDITION

Subject: SE LANDFILL, PERMITT ISSUES, EXISTING VIOLATIONS & CORRECTIVE ACTIONS.

Explanation: RENEWAL APPL RECEIVED 6/94 LEACHATE >1' FOUND 8/94

Requested by: P. BERRY Ph.# 2762908

Names of attendees other than DER: DAMES & MOORE - HELSEL, SCS ENGINEERS EPC, MAYBE TALLAHASSEE SW STAFF

Local Program notified: ☑ yes ☐ no Attending? PAUL, RANDY.

Copies to anticipated in-house attendees:

Bill K
Bob B
Steve M
Kim H
Allison A

Information copies to:

Rich Garrity

TPA-04
07/88

Environmental Consultants

3012 U.S. Highway 301 North
Suite 700
Tampa, FL 33619-2242

813 621-0080
813 623-6757 FAX

SCS ENGINEERS

Offices Nationwide

January 26, 1995
File No. 0990018.45

D.E.P.
JAN 31 1995
SOUTHWEST DISTRICT
TAMPA

Mr. John W. Johnson
Hillsborough County Department of Solid Waste
P.O. Box 1110
Tampa, Florida 33601

Subject: Leachate Treatment and Reclamation Facility
Hillsborough County Southeast Landfill
Addendum to SCS Engineers Letter Dated January 13, 1995, Subject: Leachate Treatment and Reclamation Facility, Hillsborough County Southeast Landfill, Spray Irrigation

Dear J.J.:

SCS Engineers (SCS) provides below an addendum to SCS's letter to the Hillsborough County Department of Solid Waste (HCDSW) dated January 13, 1995, Subject: Leachate Treatment and Reclamation Facility, Hillsborough County Southeast Landfill, Spray Irrigation.

Spray Irrigation Procedures:

2. Upon receiving instructions from the HCDSW representative to spray irrigate, GMCC's facility operator shall set the irrigation controller at the main pump station whereby each zone (8 in all) will irrigate for 30 minutes (8 zones at 30 minutes per zone equals 4 hours maximum of spray irrigation per day). During initial spray irrigation, the temporary sprinkler heads shall be utilized only unless otherwise directed by SCS and/or the HCDSW.

Shall be revised to read:

Spray Irrigation Procedures:

2. Upon receiving instructions from the HCDSW representative to spray irrigate, GMCC's facility operator shall set the irrigation timer inside of the main leachate/irrigation control panel as per the HCDSW's representative instructions. In addition, GMCC's facility operator shall initially set irrigation the controller timer whereby one zone is always open (controller operates 24 hours a day, 7 days a week). In addition, GMCC's facility operator shall set the irrigation controller at the main pump station whereby each zone (8 in all) will

irrigate for 30 minutes (8 zones at 30 minutes per zone equals 4 hours maximum of spray irrigation per day). The facility operator shall not alter the irrigation controller timer unless otherwise directed by the HCDSW representative. During initial spray irrigation, the temporary sprinkler heads shall be utilized only unless otherwise directed by SCS and/or the HCDSW.

Spray Irrigation Procedures:

4. Once the irrigation controller is set, GMCC's facility operator shall activate one irrigation pump. GMCC's facility operator shall alternate the use of irrigation pumps each day (i.e., first day - pump No. 1, second day - pump No. 2, third day - pump No. 1, etc.).

Shall be revised to read:

Spray Irrigation Procedures:

4. GMCC's facility operator shall ensure that the irrigation pumps alternate each day (i.e., first day - pump No. 1, second day - pump No. 2, third day - pump No. 1, etc.).

Spray Irrigation Procedures:

6. GMCC's facility operator shall discontinue spray irrigation (turn off irrigation pump) in the event of one and/or all of the following:

   - Spray irrigation has continued for the allowed maximum duration of 4 hours.
   - A stormwater event (rain) begins.
   - The HCDSW representative directs GMCC's facility operator to cease spray irrigation.
   - The amount of stored effluent in the effluent basin is at a level whereby activating the irrigation sump's low level alarm.

Shall be revised to read:

Spray Irrigation Procedures:

6. GMCC's facility operator shall discontinue spray irrigation (disable timer inside of the main leachate/irrigation control panel) in the event of one and/or all of the following:

    - A stormwater event (rain) begins.
    - The HCDSW representative directs GMCC's facility operator to cease spray irrigation.

Spray Irrigation Procedures:

7. GMCC's facility operator shall mark the irrigation strip chart recorder tape located at the main pump station with the current date and time immediately following turning the irrigation pump off.

Shall be revise to read:

Spray Irrigation Procedures:

7. GMCC's facility operator shall mark the irrigation strip chart recorder tape located at the main pump station with the current date and time immediately following the end of irrigation for that day.

Upon review and approval of this addendum by the HCDSW, SCS requests that you forward a copy to GMCC.

Please call if you have any questions or comments.

Very truly yours,

Richard A. Siemering
Project Engineer
SCS ENGINEERS

Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

RBG/RAS:rs

0990018.45
COR.

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

January 20, 1995

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 6

To RICH S.	From J. JOHNSON
Co. SCS	Co. SOLID WASTE
Dept.	Phone # 276-2927
Fax # 623-6757	Fax # 276-2960

Mr. Larry A. King
Project Manager
Great Monument Construction Company
4520 West Linebaugh Avenue
Tampa, Florida 33624

RE: Leachate Treatment and Reclamation Facility; Spray Irrigation

Dear Mr. King:

On January 12, 1995, the Hillsborough County Department of Solid Waste (HCDSW) issued Great Monument Construction Company (GMCC) the Certificate of Substantial Completion for Phase I of the Construction and Operation of Southeast County Leachate Treatment and Reclamation Facility, establishing December 22, 1994 as the date of Substantial Completion.

Per the Contract Documents, beginning on the date of Substantial Completion, operation of the Facility under Phase II shall begin. The spray irrigation system is a part of the Facility and, therefore, is included in the operation (Phase II) of the Facility.

SCS Engineers (SCS) has recommended to the HCDSW (see attached SCS letter) that GMCC begin spray irrigation operations. The HCDSW concurs with SCS's recommendations and the enclosed spray irrigation procedures.

Therefore, the HCDSW is directing GMCC to begin spray irrigation operations in accordance with the procedures outlined in the attached SCS letter. The date to begin the spray irrigation operations shall be January 27, 1995, rather than the January 16, 1995 date referenced in SCS's letter.

Should you have any questions concerning this matter, please contact me at 276-2927.

Sincerely,

John W. Johnson, Engineer I
Project Manager,
Department of Solid Waste

JJ

c: Patricia V. Berry, DSW
Steve Hamilton, SCS

Environmental Consultants

3012 U.S. Highway 301 North
Suite 700
Tampa, FL 33619-2242

813 621-0080
813 623-6757 FAX

SCS ENGINEERS

Offices Nationwide

January 13, 1995
File No. 0990018.45

Mr. John W. Johnson
Hillsborough County Department of Solid Waste
P.O. Box 1110
Tampa, Florida 33601

Subject: Leachate Treatment and Reclamation Facility
Hillsborough County Southeast Landfill
Spray Irrigation

Dear John:

On December 22, 1994, Great Monument Construction Company submitted the certification of analysis by Zimpro's lab (Enviroscan) for treated effluent sampled on December 7, 1994. The treated effluent analysis results indicated that GMCC and it's subcontractor have met the treated effluent requirements as set forth in the Contract Documents. Therefore, SCS Engineers (SCS) recommends to the Hillsborough County Department of Solid Waste (HCDSW) that GMCC begin spray irrigation operations on January 16, 1995.

As you are aware, there are certain restrictions and requirements in the Leachate Treatment and Reclamation Facility's (LTRF) operating permit in regard to time restrictions and/or the amount of spray irrigation that can occur based on the current weather. In addition, a form must be filled out on a daily basis which includes information required by the LTRF's operating permit. Below, SCS provides procedures GMCC must follow for spray irrigation operations as well as restrictions/requirements as set forth in the LTRF's operating permit.

Spray Irrigation Procedures:

1. GMCC's facility operator shall coordinate with Mr. Matt Matthews of the HCDSW or the appointed HCDSW representative at the beginning of each work day. The HCDSW representative will instruct GMCC's facility operator if and at what time spray irrigation may begin for that day.

2. Upon receiving instructions from the HCDSW representative to spray irrigate, GMCC's facility operator shall set the irrigation controller at the main pump station whereby each zone (8 in all) will irrigate for 30 minutes (8 zones at 30 minutes per zone equals 4 hours maximum of spray irrigation per day) During

initial spray irrigation, the temporary sprinkler heads shall be utilized only unless otherwise directed by SCS and/or the HCDSW.

3. GMCC's facility operator shall mark the irrigation strip chart recorder tape located at the main pump station with the current date and time prior to beginning spray irrigation.

4. Once the irrigation controller is set, GMCC's facility operator shall activate one irrigation pump. GMCC's facility operator shall alternate the use of irrigation pumps each day (i.e., first day - pump No. 1, second day - pump No. 2, third day - pump No. 1, etc.).

5. GMCC's facility operator shall check the irrigation flow meter and the temporary sprinkler heads to ensure that spray irrigation is occurring on the landfill. In addition, GMCC's facility operator shall ensure that the sprinkler heads are not clogged whereby restricting flow.

6. GMCC's facility operator shall discontinue spray irrigation (turn off irrigation pump) in the event of one and/or all of the following:

   - Spray irrigation has continued for the allowed maximum duration of 4 hours.
   - A stormwater event (rain) begins.
   - The HCDSW representative directs GMCC's facility operator to cease spray irrigation.
   - The amount of stored effluent in the effluent basin is at a level whereby activating the irrigation sump's low level alarm.

7. GMCC's facility operator shall mark the irrigation strip chart recorder tape located at the main pump station with the current date and time immediately following turning the irrigation pump off.

8. At the end of each work day, GMCC's facility operator shall note the following and provide this information to the HCDSW representative on the following morning:

- Leachate treated (gal/day).
- Treated effluent stored (gal/day).
- Treated effluent sprayed (gal/day).
- In the event of rainfall during the work day, GMCC's facility operator shall note the time of day when the rainfall began and when the rainfall ended (if during normal working hours).

LTRF Permit Restrictions/Requirements:

For your information, SCS provides below an excerpt from the LTRF's operating permit in regard to spray irrigation.

"10. This permit allows spray irrigation of a maximum 60,000 gallons per day (24 hours) at an application rate of .13 inches per day of treated effluent from the associated treatment facility. Under no circumstances shall treated effluent be allowed to discharge as runoff to adjacent stormwater systems or conveyance ditches. Spraying shall take place only when runoff into the onsite retention areas downgradient from the spray areas has terminated for 24 hours. The aforementioned is based on daily inspections of the influent point to retention area, or as follows, whichever is more restrictive:

a. at least 4 hours after a rainfall of 1/4" or less, or
b. at least 24 hours after a day of rainfall of 1/4" to 1", or
c. at least 48 hours after a day of rainfall of 1" or greater

The following shall be recorded daily on the attached Water Balance Report Form:

• leachate treated	gal/day
• treated effluent stored	gal/day
• treated effluent sprayed	gal/day
• rainfall onsite	inches/day & time of day
• observed runoff influent to retention area	(yes/no) time of day of inspection

The time of day shall be reported immediately following the end of rainfall and the end of observed runoff in downgradient ponds and ditches".

Based on the HCDSW daily observations and information from GMCC's facility operator, the HCDSW representative shall complete the Water Balance Report Form on a daily basis.

As described above, the effort required for spray irrigation operations by GMCC's facility operator is minimal. Should the HCDSW have questions in regard to the above information, please contact Rich Siemering at SCS's office.

Very truly yours,

Richard A. Siemering
Project Engineer

Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

RBG/RAS:rs

Environmental Consultants

3012 U.S. Highw 01 North 813 621-0080
Suite 700 813 623-6757 FAX
Tampa, FL 33619-2242

SCS ENGINEERS

Offices Nationwide

January 30, 1995
File No. 0990018.35

Mr. Kim Ford, P.E.
Solid Waste Permitting
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Fl 33619

Subject: Southeast County Landfill Permit Renewal - Responses to Additional Information Request

Dear Mr. Ford,

As indicated in correspondence dated January 13, 1995, on behalf of the Hillsborough County Department of Solid Waste (HCDSW), SCS Engineers (SCS) would like to present the following information.

FDEP Request 1 - **Based on the performance of the leachate collection system and current pumping data, reevaluate the amount of leachate over the liner, the amount of time required to lower the leachate head, and the sump area.**

Response - The current withdrawal rate and levels are monitored daily and are shown in Attachment 1. The flow into pump station No. 3 will vary as leachate levels are lowered. SCS anticipates that once leachate levels in the sump reach approximately 15 inches or lower, a disposal rate of 150,000 gpd will not be obtainable (See Attachment 2). SCS estimates that at a disposal rate of 150,000 gpd it will take approximately 6 months to reach the condition described above.

FDEP Request 2 - **Evaluate and implement a system to record the actual flow rate of leachate being removed from the Landfill.**

Response - The HCDSW is tentatively planning to install, within the next 30 days, a flow meter at pump station No. 3 to record the rate of leachate being removed directly from the landfill. In the interim the HCDSW will continue to monitor the rates as shown in Attachment 1.

FDEP Request 3 - **Evaluate expanding the Landfill monitoring program to include Phases III and IV leachate levels, raw leachate storage tank, and stormwater levels within Phases V and VI.**

Response - The leachate monitoring program was expanded to monitor leachate levels in the existing clean outs in Phases III and IV (See Note 5, Figure 1), and the leachate storage tank at the on-site Leachate Treatment Facility on daily basis. In addition, the water levels are monitored in the temporary pump station No. 4 to maintain the water levels in Phases V and VI at least equal to leachate levels in Phases III and IV so that the 12-inch hydraulic head is not exceeded on the synthetic liner along the interior berms of Phases III and IV. The water depth in the temporary Pump Station No. 4 will be monitored and maintained to a level at least 6 inches higher than the leachate level depth in Pump Station No. 3 (See Figures 2 and 3).

If you have any additional questions, please call.

Very truly yours,

Larry E. Ruiz

Larry E. Ruiz
Project Engineer

Robert B. Gardner, P.E.
Vice President
SCS Engineers

LR/RBG:lr

Attachment 1
Leachate Monitoring Form for January

MONTH: January 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	500,000Gal Tnk gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	Leachate Hauled County	Init.
1	4.3			Holiday			0.0	Holiday		
2	5.6			Tank	Full		0.0	—	63,000	
3	5.9			12	360,000		0.0	68,582	57,086	
4	6.3			10.6	315,000		0.3	68,599	57,148	
5	5.8			10	300,000		0.0	68,291	56,808	
6	5.4			9	270,000		0.0	68,537	66,999	
7	5.4			—	—		1.7	86,522	57,007	
8	5.4			—	—		0.0	—	—	
9	5.5			10	300,000		0.0	68,386	57,387	
10	5.2			9	270,000		0.0	68,546	57,244	
11	5.4			9	270,000		0.0	68,428	56,975	
12	5.3			8	240,000		0.0	68,528	50,632	
13	5.0	4.0	5.5	12	360,000		0.4	68,514	56,868	
14	5.0	4.0	5.0	13	390,000		1.1	68,466	56,957	
15	4.9			—	—		0.2	—	—	

Comments: 1/12 County tanker down, lost 1 load

Subtotal County - 684,111

Subtotal Contractor - 771,399

MONTH: _____

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
16	5.6	Holiday		11.6	345,000	Holiday	0.0	63,800	56,928	
17	5.7	4.4	6.0	11	330,000	4.3	0.0	64,490	56,919	
18	5.3	3.4	5.8	10	300,000	4.2	0.0	64,675	50,546	
19	5.3	3.1	5.6	9.6	288,000	4.2	0.0	64,818	57,073	
20	4.9	3.7	5.3	11	330,000	4.0	0.0	65,504	56,321	
21	4.8	3.5	5.2	12.5	375,000	4.0	0.0	67,492	56,622	
22	5.3	—	—	—	—	—	0.0	—	—	
23	5.8	4.3	6	9	270,000	4.1	0.0	53,061	56,134	
24	4.9	3.7	4.8	9	270,000	4.0	0.0	80,150	42,250	
25	4.9	3.5	5	10.5	315,000	4.0	0.0	68,018	56,184	
26	4.7	3.4	4.9	11.8	354,000	4.0	0.0	67,774	56,145	
27	4.7	3.3	4.11	12	360,000	3.11	0.0			
28										
29										
30										
31										

Comments: 1/18 County truck down 4½ hrs.; 1/24 Began using Public Utilities tanker.

Attachment 2
Leachate Disposal Rates Calculations

CLIENT	PROJECT	JOB NO.
Hillsb. Co.	SELF	0990018.35
SUBJECT	BY	DATE
leachate withdrawal	JAK	1/25/95
	CHECKED FJ	DATE 1-26-96

Assumptions:

- Disposal rate 150,000 gpd ≅ 104 gpm
- Exist. disposal area 120.4 ac.
- Estimated leachate generation = 48,000 gpd = 33 gpm ✓
- Exist Pump Rate > 125 gpm
- Sand layer permeability 1×10^{-3} cm/sec
- Trench Permeability ≅ 49 cm/sec ✓
- Average Exist. level in sump 5.5 feet. ✓
- Trench assumption as attached table 1.

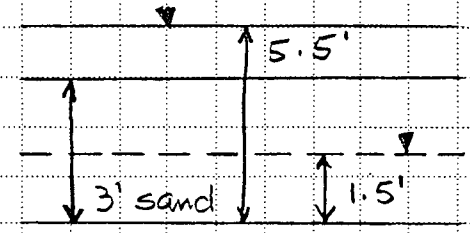
Goal:

Determine when the disposal rate will be controled by the amount at which the trench can convey leachate to the sump.

Conclusion:

As shown on table 1 an approximate flow of 104 gpm through the trench will occur approx. at 15" leachate level, Say 1.5 feet.

CLIENT	PROJECT	JOB NO.
Hillsb. Co.	SELF	09900018.35
SUBJECT	BY	DATE
leachate w. thdrawal	JER	1/25/95
	CHECKED FHJ	DATE 1-26-95



Leachate volume to 5.5 = 25 mill gal.
Leachate volume to 1.5 = 1.3 mill gal.
(Table 2 attached)

Difference to dispose :.

25 − 1.3 = 23.7 mill. gallons

23.7 mill gal / 150,000 gpd = 158 days ✓

@ 6 days per week ≈ 26 day/mon

158/26 = 6 months ✓

TABLE 1.

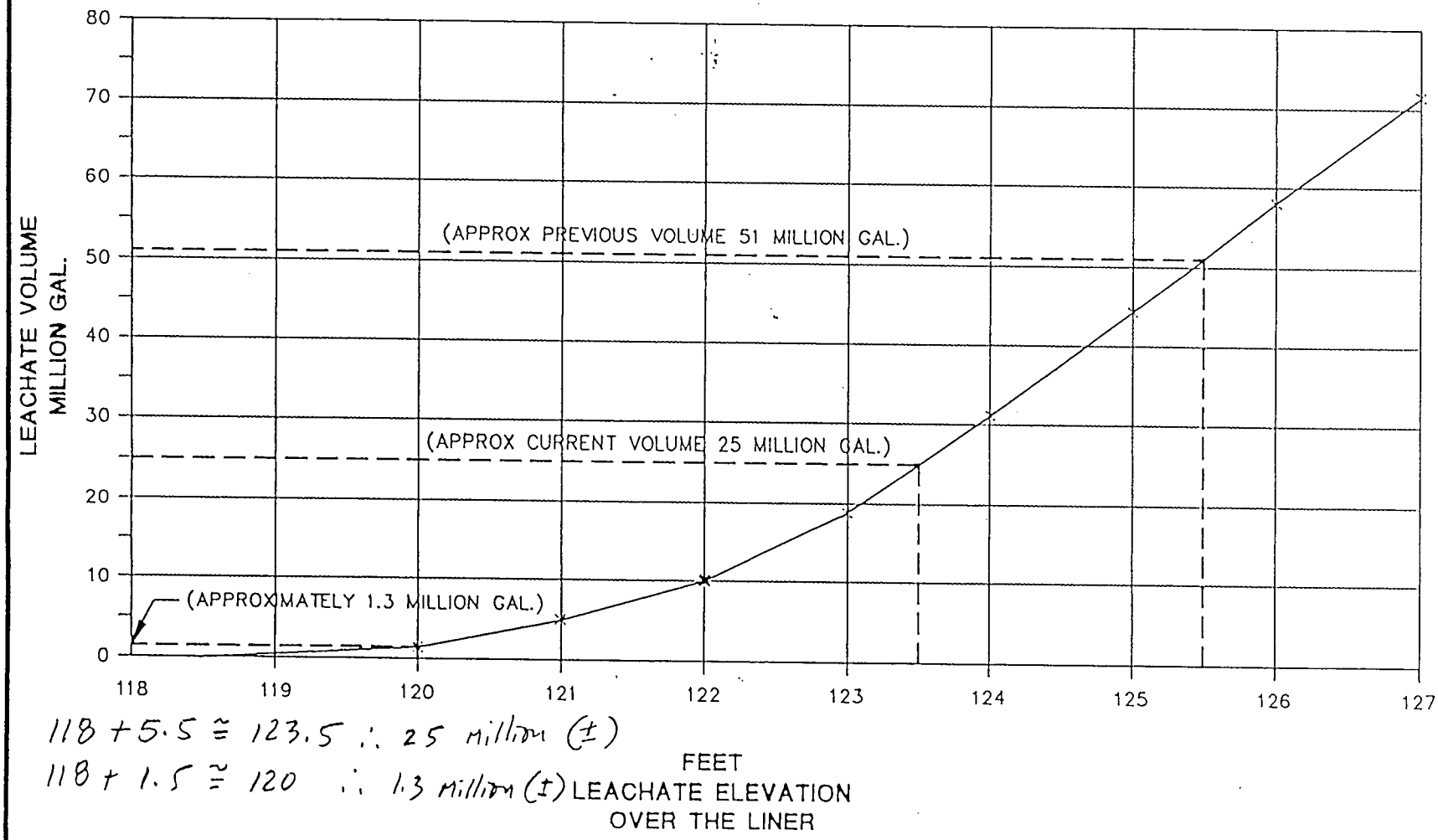
LEACHATE DEPTH IN TRENCH VS. MAXIMUM HEAD IN DRAINAGE SAND

ASSUMPTIONS:

PERMEABILITY OF CRUSHED GRANITIC ROCK =	140,000	FT/DAY
TRENCH GRADE =	0.18	PERCENT
TRENCH COLLECTION AREA =	3.72	AC
TRENCH SPACE =	200	FT
PERMEABILITY OF DRAINAGE SAND =	0.001	CM/S
LEACHATE GENERATED FROM CLAY BOTTOM =	50	GAL/DAY/AC

LEACHATE DEEPTH IN TRENCH (INCH)	FLOW RATE IN TRENCH (CF/S)	INFILTRATION RATE (CM/S)	LEACHATE GENERATE RATE (GAL./D/AC)	MAXIMUM LEACHATE HEAD IN SAND (FT)	FLOW RATE TO SUMP (GPM)
1	4.86E-04	9.14E-08	84	0.88	7
2	9.72E-04	1.83E-07	169	1.20	14
3	1.46E-03	2.74E-07	253	1.42	21
4	1.94E-03	3.66E-07	338	1.61	28
5	2.43E-03	4.57E-07	422	1.76	35
6	2.92E-03	5.49E-07	507	1.90	42
7	3.40E-03	6.40E-07	591	2.01	49
8	3.89E-03	7.31E-07	676	2.12	56
9	4.38E-03	8.23E-07	760	2.22	64
10	4.86E-03	9.14E-07	845	2.30	71
11	5.35E-03	1.01E-06	929	2.38	78
12	5.83E-03	1.10E-06	1,013	2.46	85
13	6.32E-03	1.19E-06	1,098	2.53	92
14	6.81E-03	1.28E-06	1,182	2.60	99
15	7.29E-03	1.37E-06	1,267	2.66	106
16	7.78E-03	1.46E-06	1,351	2.72	113
17	8.26E-03	1.55E-06	1,436	2.77	120
18	8.75E-03	1.65E-06	1,520	2.83	127
19	9.24E-03	1.74E-06	1,605	2.88	134
20	9.72E-03	1.83E-06	1,689	2.92	141
21	1.02E-02	1.92E-06	1,773	2.97	148
22	1.07E-02	2.01E-06	1,858	3.01	155
23	1.12E-02	2.10E-06	1,942	3.05	162
24	1.17E-02	2.19E-06	2,027	3.09	169

0990018.35\LEVOEL2



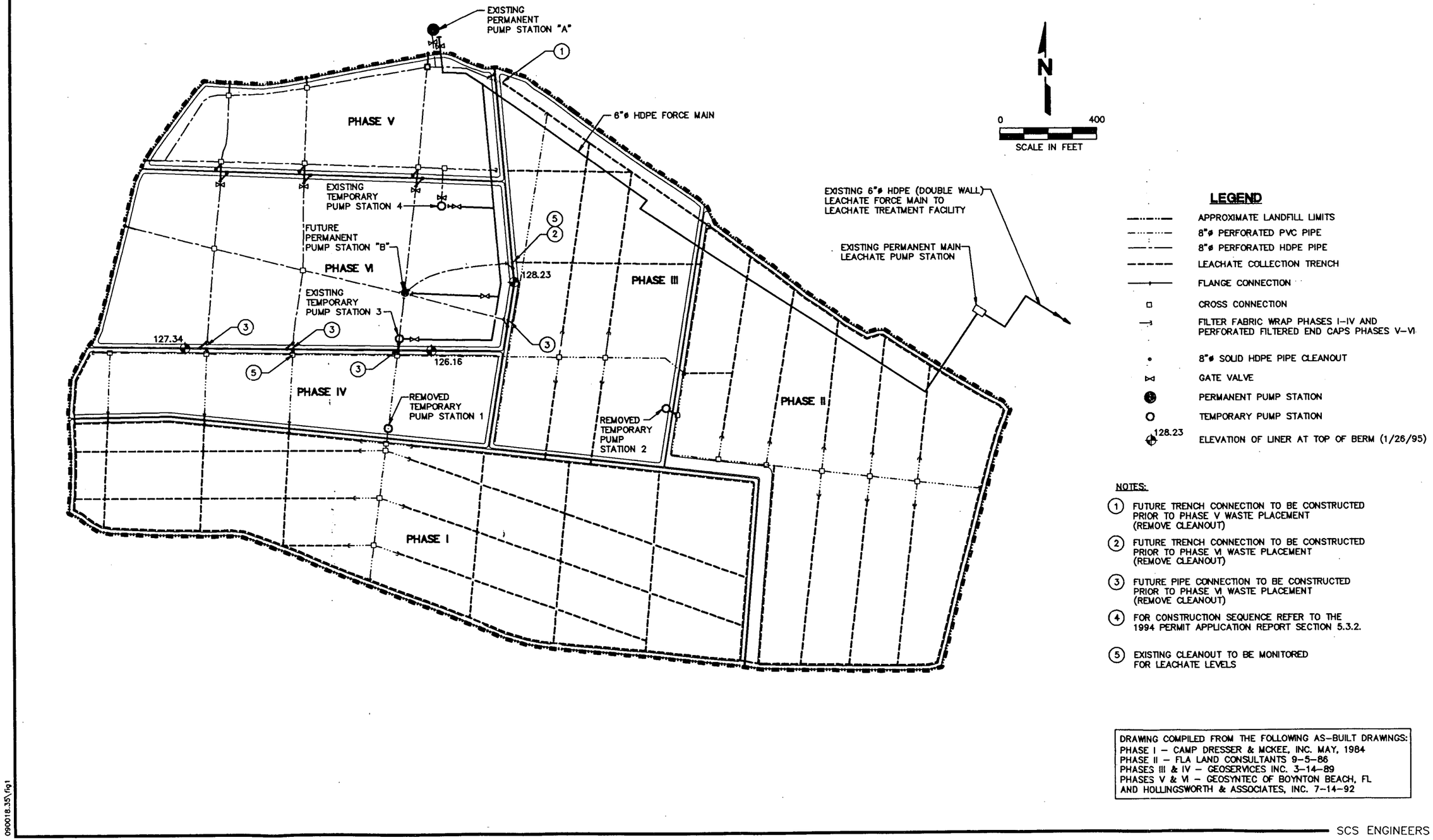
118 + 5.5 ≅ 123.5 ∴ 25 million (±)

118 + 1.5 ≅ 120 ∴ 1.3 million (±)

SCS ENGINEERS

TABLE 2.

Leachate Volume Vs. Elevation,
Southeast Landfill, Hillsborough County.



LEGEND

- APPROXIMATE LANDFILL LIMITS
- 8"ø PERFORATED PVC PIPE
- 8"ø PERFORATED HDPE PIPE
- LEACHATE COLLECTION TRENCH
- FLANGE CONNECTION
- CROSS CONNECTION
- FILTER FABRIC WRAP PHASES I–IV AND PERFORATED FILTERED END CAPS PHASES V–VI
- 8"ø SOLID HDPE PIPE CLEANOUT
- GATE VALVE
- PERMANENT PUMP STATION
- TEMPORARY PUMP STATION
- 128.23 ELEVATION OF LINER AT TOP OF BERM (1/26/95)

NOTES:

1. FUTURE TRENCH CONNECTION TO BE CONSTRUCTED PRIOR TO PHASE V WASTE PLACEMENT (REMOVE CLEANOUT)
2. FUTURE TRENCH CONNECTION TO BE CONSTRUCTED PRIOR TO PHASE VI WASTE PLACEMENT (REMOVE CLEANOUT)
3. FUTURE PIPE CONNECTION TO BE CONSTRUCTED PRIOR TO PHASE VI WASTE PLACEMENT (REMOVE CLEANOUT)
4. FOR CONSTRUCTION SEQUENCE REFER TO THE 1994 PERMIT APPLICATION REPORT SECTION 5.3.2.
5. EXISTING CLEANOUT TO BE MONITORED FOR LEACHATE LEVELS

DRAWING COMPILED FROM THE FOLLOWING AS–BUILT DRAWINGS:
PHASE I – CAMP DRESSER & MCKEE, INC. MAY, 1984
PHASE II – FLA LAND CONSULTANTS 9–5–86
PHASES III & IV – GEOSERVICES INC. 3–14–89
PHASES V & VI – GEOSYNTEC OF BOYNTON BEACH, FL AND HOLLINGSWORTH & ASSOCIATES, INC. 7–14–92

090018.35\fig1

SCS ENGINEERS

Figure 1. Leachate Collection System, Southeast Landfill.

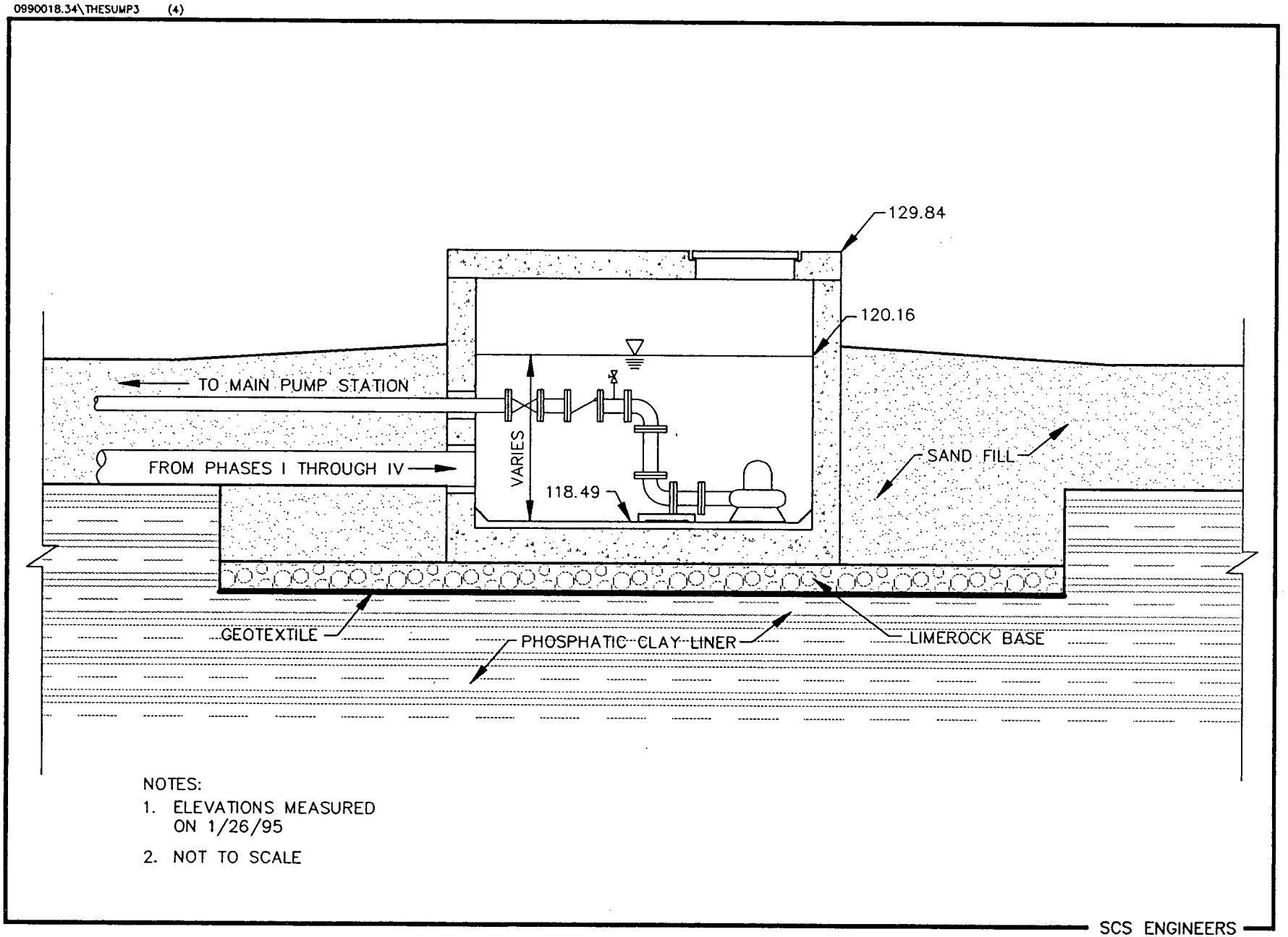


Figure 2. Existing Temporary Pump Station No. 3 (Phase VI).

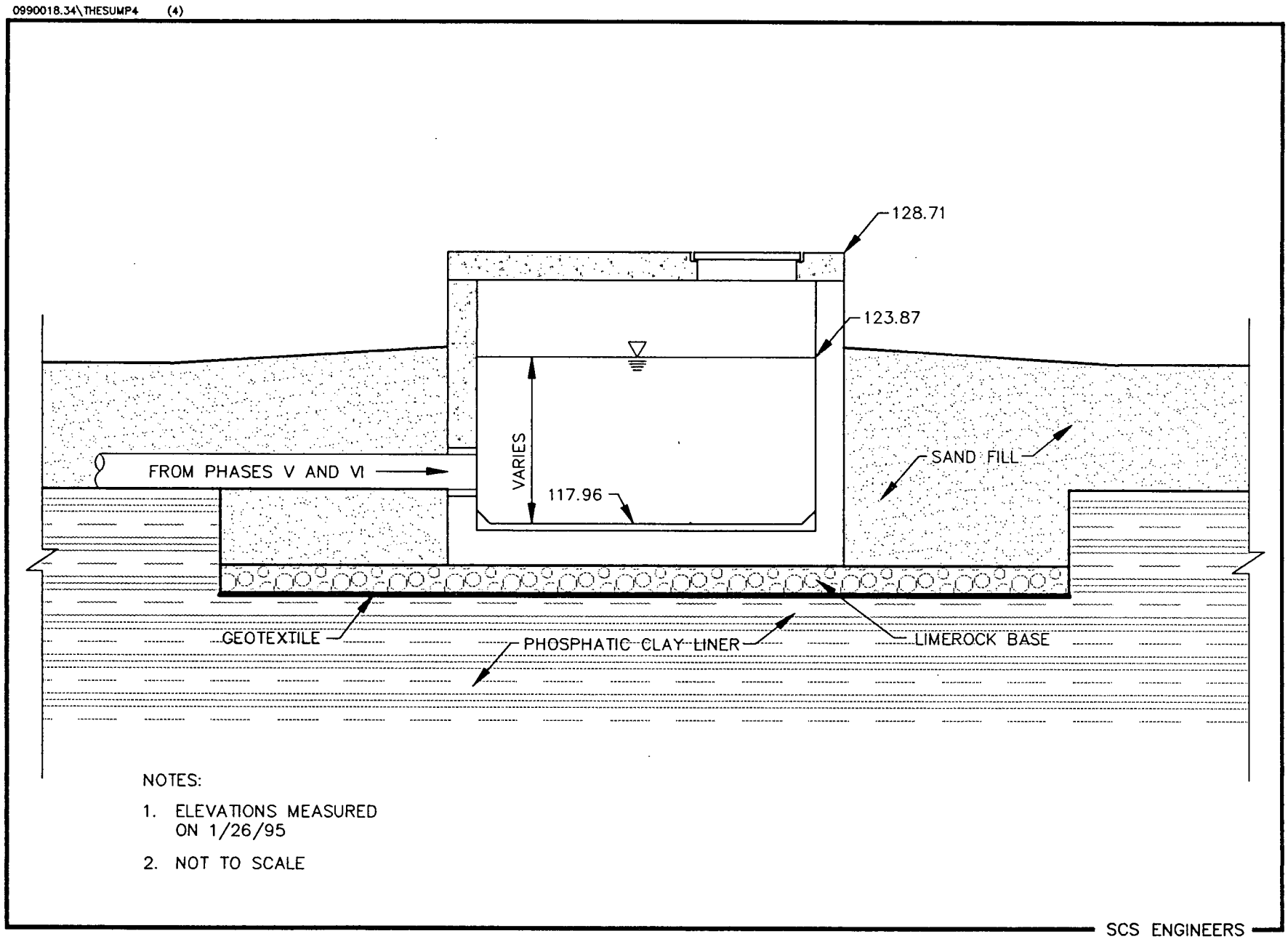


Figure 3. Existing Temporary Pump Station No. 4 (Phase VI).

FAX COVER

TO:

DATE: 1/30/95
NAME: Kim Ford
COMPANY NAME: FDEP
FAX NUMBER: 744-6125
PHONE NUMBER: 744-6100 (382)

SCS ENGINEERS

Environmental Consultants
3012 U.S. Highway 301 North
Suite 700
Tampa, Florida 33619
Phone 813 621-0080
FAX 813 623-6757

FROM: Larry Ruiz
JOB/OVERHEAD NUMBER: 09900018.35
NUMBER OF PAGES: 15

COMMENTS:

Please attached find the proposed agenda for tomorrow's meeting and the information requested.
Please call if you have any questions. The original letter will be deliver to your office first thing in the morning.

Thanks
Larry.

AGENDA

1. Major Issues
   - A. Leachate Management
     1. Plan
     2. Current Disposal Rates
     3. Status Leachate Treatment and Reclamation Facility
   - B. "Head" vs "Depth"
     1. Applicability
     2. Performance
     3. Conveyance System
   - C. Permit Specific Conditions
   - D. Regulatory Management and Compliance
2. Schedule
   - A. Prepare Draft Permit
   - B. Notice, Public Comment
   - C. Issue Permit

Environmental Consultants

3012 U.S. Highway 301 North 813 621-0080
Suite 700 813 623-6757 FAX
Tampa, FL 33619-2242

SCS ENGINEERS

Offices Nationwide

January 30, 1995
File No. 0990018.35

Mr. Kim Ford, P.E.
Solid Waste Permitting
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Fl 33619

Subject: Southeast County Landfill Permit Renewal - Responses to Additional Information Request

Dear Mr. Ford,

As indicated in correspondence dated January 13, 1995, on behalf of the Hillsborough County Department of Solid Waste (HCDSW), SCS Engineers (SCS) would like to present the following information.

FDEP Request 1 - **Based on the performance of the leachate collection system and current pumping data, reevaluate the amount of leachate over the liner, the amount of time required to lower the leachate head, and the sump area.**

Response - The current withdrawal rate and levels are monitored daily and are shown in Attachment 1. The flow into pump station No. 3 will vary as leachate levels are lowered. SCS anticipates that once leachate levels in the sump reach approximately 15 inches or lower, a disposal rate of 150,000 gpd will not be obtainable (See Attachment 2). SCS estimates that at a disposal rate of 150,000 gpd it will take approximately 6 months to reach the condition described above.

FDEP Request 2 - **Evaluate and implement a system to record the actual flow rate of leachate being removed from the Landfill.**

Response - The HCDSW is tentatively planning to install, within the next 30 days, a flow meter at pump station No. 3 to record the rate of leachate being removed directly from the landfill. In the interim the HCDSW will continue to monitor the rates as shown in Attachment 1.

FDEP Request 3 - **Evaluate expanding the Landfill monitoring program to include Phases III and IV leachate levels, raw leachate storage tank, and stormwater levels within Phases V and VI.**

Response - The leachate monitoring program was expanded to monitor leachate levels in the existing clean outs in Phases III and IV (See Note 5, Figure 1), and the leachate storage tank at the on-site Leachate Treatment Facility on daily basis. In addition, the water levels are monitored in the temporary pump station No. 4 to maintain the water levels in Phases V and VI at least equal to leachate levels in Phases III and IV so that the 12-inch hydraulic head is not exceeded on the synthetic liner along the interior berms of Phases III and IV. The water depth in the temporary Pump Station No. 4 will be monitored and maintained to a level at least 6 inches higher than the leachate level depth in Pump Station No. 3 (See Figures 2 and 3).

If you have any additional questions, please call.

Very truly yours,

Larry E. Ruiz

Larry E. Ruiz
Project Engineer

Robert B. Gardner, P.E.
Vice President
SCS Engineers

LR/RBG:lr

Attachment 1
Leachate Monitoring Form for January

MONTH: January 1995

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk Phase VI feet	gal	Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
1	4.3			Holiday			0.0	Holiday		
2	5.6			Tank Full			0.0	—	63,000	
3	5.9			12	360,000		0.0	68,582	57,086	
4	6.3			10.6	315,000		0.3	68,599	57,148	
5	5.8			10	300,000		0.0	68,291	56,808	
6	5.4			9	270,000		0.0	68,537	66,999	
7	5.4			—	—		1.7	86,522	57,007	
8	5.4			—	—		0.0	—	—	
9	5.5			10	300,000		0.0	68,386	57,387	
10	5.2			9	270,000		0.0	68,546	57,244	
11	5.4			9	270,000		0.0	68,428	56,975	
12	5.3			8	240,000		0.0	68,528	50,632	
13	5.0	4.0	5.5	12	360,000		0.4	68,514	56,868	
14	5.0	4.0	5.0	13	390,000		1.1	68,466	56,957	
15	4.9			—	—		0.2	—	—	

Comments: 1/12 County tanker down, lost 1 load Subtotal County- 684,111

Subtotal Contractor - 77,377

MONTH: ______________________

Day	Sump 3	Phase III	Phase IV	500,000Gal Tnk feet	gal	Phase VI Stormwater	Rain Fall	Leachate Hauled Contr.	County	Init.
16	5.6	Holiday		11.6	345,000	Holiday	0.0	63,800	56,928	MM
17	5.7	4.4	6.0	11	330,000	4.3	0.0	64,490	56,919	MM
18	5.3	3.4	5.8	10	300,000	4.2	0.0	64,675	50,546	MM
19	5.3	3.1	5.6	9.6	288,000	4.2	0.0	64,818	57,073	MM
20	4.9	3.7	5.3	11	330,000	4.0	0.0	65,504	56,321	MM
21	4.8	3.5	5.2	12.5	375,000	4.0	0.0	67,492	56,622	MM
22	5.3	—	—	—	—	—	0.0	—	—	MM
23	5.8	4.3	6	9	270,000	4.1	0.0	53,061	56,134	MM
24	4.9	3.7	4.8	9	270,000	4.0	0.0	80,150	42,250	MM
25	4.9	3.5	5	10.5	315,000	4.0	0.0	68,018	56,186	MM
26	4.7	3.4	4.9	11.8	354,000	4.0	0.0	67,774	56,145	MM
27	4.7	3.3	4.11	12	360,000	3.11	0.0			MM
28										
29										
30										
31										

Comments: 1/18 County truck down 4½ hrs, 1/24 Roger King Public Utilities tanker

01-30-95 07:15PM FROM SCS ENGINEERS TAMPA TO 7446125 P007/015

Attachment 2
Leachate Disposal Rates Calculations

SCS ENGINEERS

SHEET 1 OF 2

CLIENT Hillsb. Co.	PROJECT SEUF		JOB NO 09900018.35
SUBJECT Leachate Withdrawal		BY JAF	DAT 1/26/95
		CHECKED FHJ	DAT 1-26-95

Assumptions:

- Disposal rate 150,000 gpd ≅ 104 gpm
- Exist. disposal area 120.4 ac.
- Estimated leachate generation = 48,000 gpd = 33 gpm ✓
- Exist Pump Rate > 125 gpm
- Sand layer permeability 1×10^{-3} cm/sec ✓
- Trench Permeability ≅ 49 cm/sec ✓
- Average Exist. level in sump 5.5 feet. ✓
- Trench assumption as attached table 1.

Goal:

Determine when the disposal rate will be controled by the amount at which the trench can convey leachate to the sump.

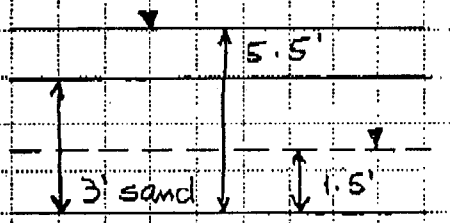
Conclusion:

As shown on table 1 an approximate flow of 104 gpm through the trench will occur approx. at 1.5" leachate level, Say 1.5 feet.

SCS ENGINEERS

SHEET 2 OF 2

CLIENT Hillsb. co.	PROJECT SELF		JOB NO. 09900018.35
SUBJECT leachate w. thdrawal		BY JEL CHECKED FJ	DATE 1/25/95 DATE 1-1-95



Leachate volume to 5.5 = 25 mill gal.
Leachate volume to 1.5 = 1.3 mill gal.
(Table 2 attached)

Difference to dispose:

25 − 1.3 = 23.7 mill. gallons

23.7 mill gal / 150,000 gpd = 158 days ✓

@ 6 days per week = 26 day/mon

158/26 = 6 months ✓

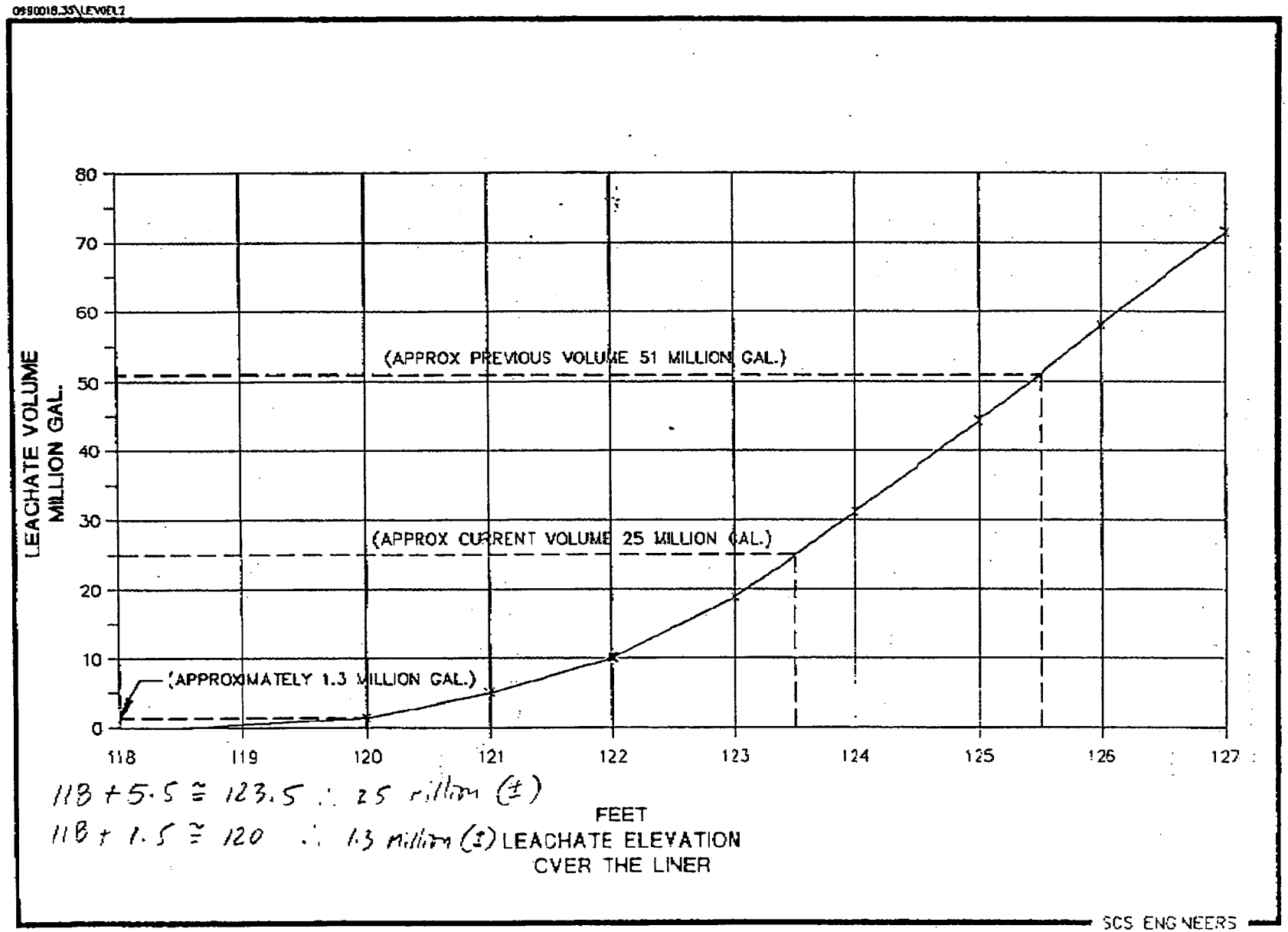
TABLE 1.

LEACHATE DEPTH IN TRENCH VS. MAXIMUM HEAD IN DRAINAGE SAND

ASSUMPTIONS:

PERMEABILITY OF CRUSHED GRANITIC ROCK =	140,000 FT/DAY
TRENCH GRADE =	0.18 PERCENT
TRENCH COLLECTION AREA =	3.72 AC
TRENCH SPACE =	200 FT
PERMEABILITY OF DRAINAGE SAND =	0.001 CM/S
LEACHATE GENERATED FROM CLAY BOTTOM =	50 GAL/DAY/AC

LEACHATE DEEPTH IN TRENCH (INCH)	FLOW RATE IN TRENCH (CF/S)	INFILTRATION RATE (CM/S)	LEACHATE GENERATE RATE (GAL./D/AC)	MAXIMUM LEACHATE HEAD IN SAND (FT)	FLOW RATE TO SUMP (GPM)
1	4.86E-04	9.14E-08	84	0.88	7
2	9.72E-04	1.83E-07	169	1.20	14
3	1.46E-03	2.74E-07	253	1.42	21
4	1.94E-03	3.66E-07	338	1.61	28
5	2.43E-03	4.57E-07	422	1.76	35
6	2.92E-03	5.49E-07	507	1.90	42
7	3.40E-03	6.40E-07	591	2.01	49
8	3.89E-03	7.31E-07	676	2.12	56
9	4.38E-03	8.23E-07	760	2.22	64
10	4.86E-03	9.14E-07	845	2.30	71
11	5.35E-03	1.01E-06	929	2.38	78
12	5.83E-03	1.10E-06	1,013	2.46	85
13	6.32E-03	1.19E-06	1,098	2.53	92
14	6.81E-03	1.28E-06	1,182	2.60	99
15	7.29E-03	1.37E-06	1,267	2.66	106
16	7.78E-03	1.46E-06	1,351	2.72	113
17	8.26E-03	1.55E-06	1,436	2.77	120
18	8.75E-03	1.65E-06	1,520	2.83	127
19	9.24E-03	1.74E-06	1,605	2.88	134
20	9.72E-03	1.83E-06	1,689	2.92	141
21	1.02E-02	1.92E-06	1,773	2.97	148
22	1.07E-02	2.01E-06	1,858	3.01	155
23	1.12E-02	2.10E-06	1,942	3.05	162
24	1.17E-02	2.19E-06	2,027	3.09	169



118 + 5.5 ≅ 123.5 ∴ 25 million (±)

118 + 1.5 ≅ 120 ∴ 1.3 million (±)

TABLE 2.

Leachate Volume Vs. Elevation,
Southeast Landfill, Hillsborough County.

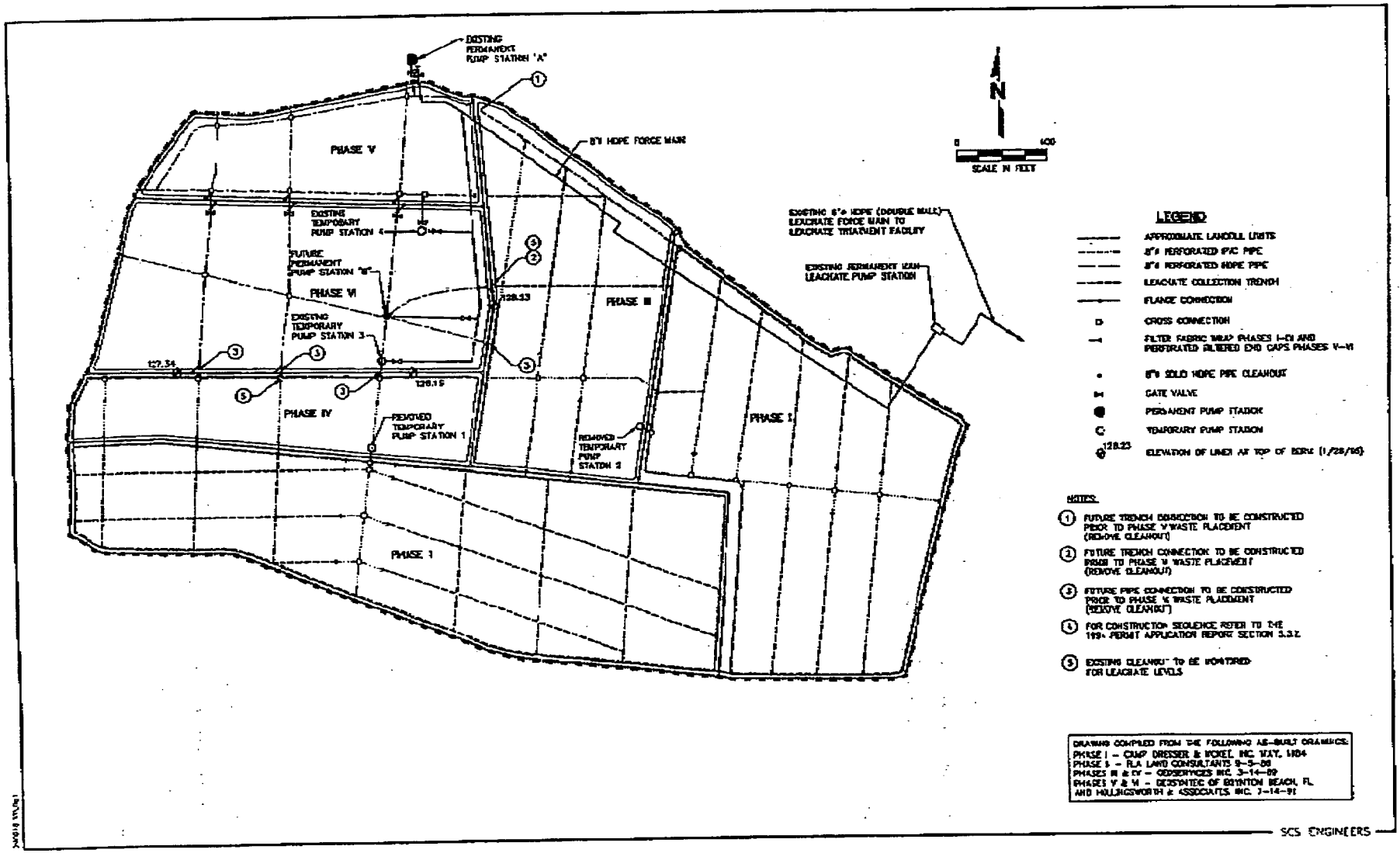


Figure 1. Leachate Collection System, Southeast Landfill

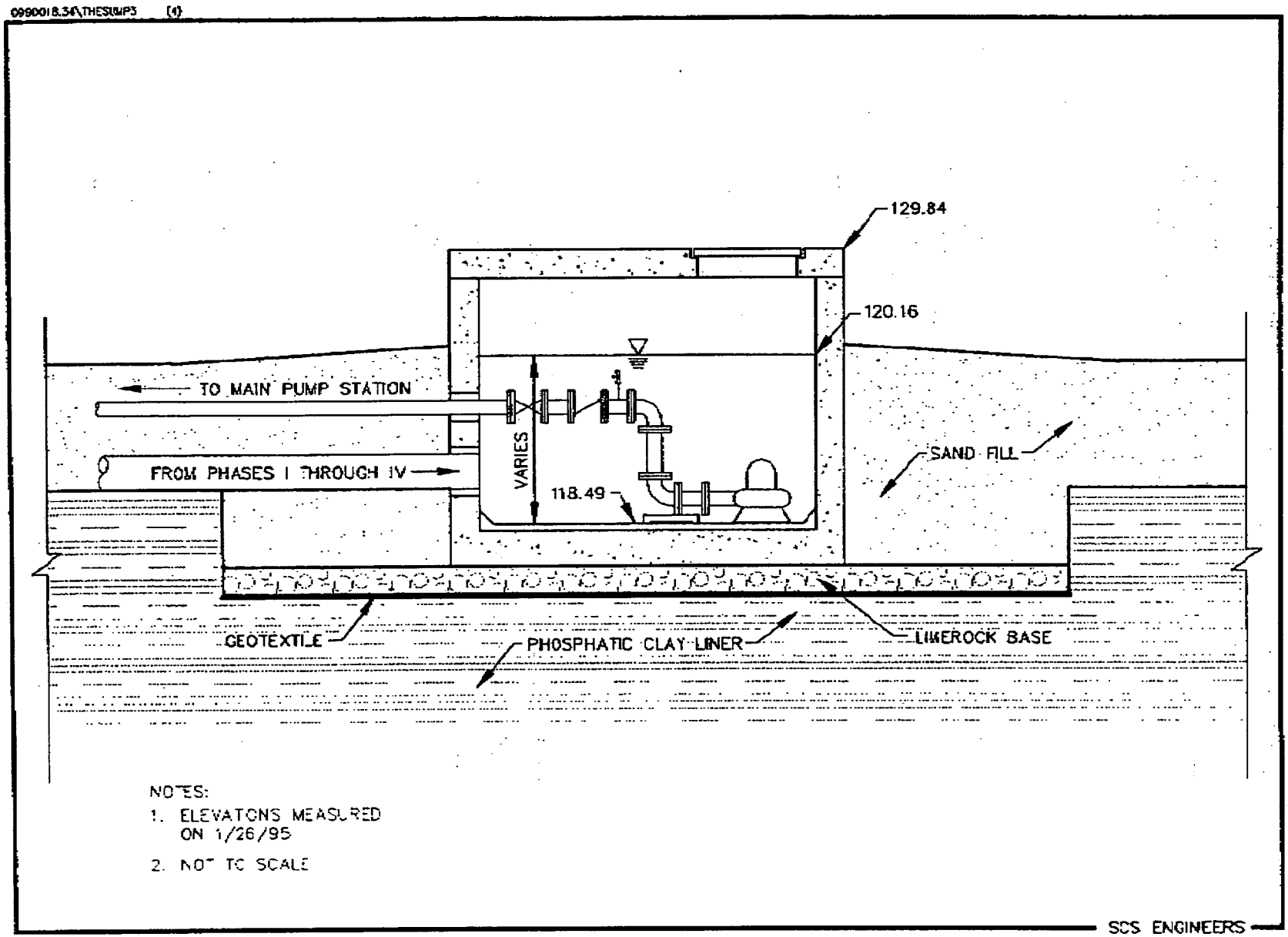


Figure 2. Existing Temporary Pump Station No. 3 (Phase VI).

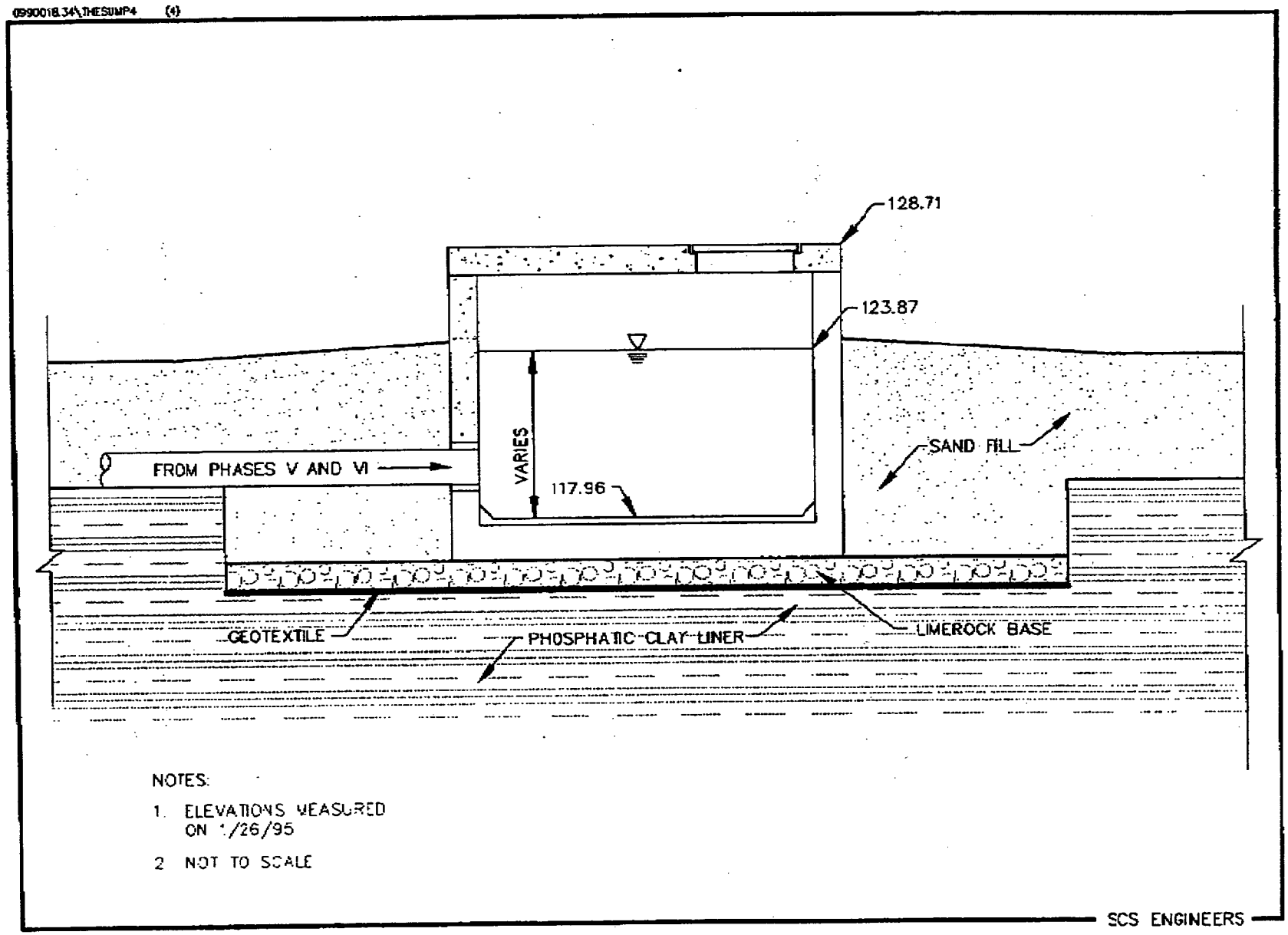


Figure 3. Existing Temporary Pump Station No. 4 (Phase VI).

I N T E R O F F I C E M E M O R A N D U M

Date: 27-Jan-1995 02:21pm EST
From: Robert Butera TPA
BUTERA_R
Dept: Southwest District Offi
Tel No: 813/744-6100
SUNCOM: 542-6100 Ext. 451

TO: See Below

Subject: Southeast Landfill Meeting - Jan. 31, 1995 - 2:00 P.M.

We tried to discourage the need for your attendance from the scheduled meeting on Tuesday in this office but Steve Hamilton of SCS called to tell me that HCDSW (Pat Berry) insists that someone from Tallahassee attend. I convinced Steve that only one technical person be required. I guess that's you, Richard.

Kim and I had a lengthy conversation with SCS (Bob Gardner, Steve Hamilton and Lary Ruiz) today and get the feeling that HCDSW (Pat Berry), not SCS, is pushing for the increased head as a method of avoiding current and future enforcement. I clearly explained to them that if their records indicate aggressive hauling or treating of leachate on site in the future that the Department was not going to site the County due a temporary leachate head over one foot due to an extreme rain event or series of rain events. I do not want to add a permit condition that specifically allows a head over one foot.

Bottom Line: The issue is not equivalency as we thought, but a margin to minimize future violations.

The County has not recently been operating most of their facilities in compliance with current regulations. As a result the Department has cited them for violations at other solid waste facilities.

Distribution:

TO:	Richard Tedder TAL	(TEDDER_R @ A1 @ DER)
CC:	Mary Jean Yon TAL	(YON_MJ @ A1 @ DER)
CC:	Allison Amram TPA	(AMRAM_A)
CC:	Kim Ford TPA	(FORD_K)
CC:	Steve Morgan TPA	(MORGAN_S)
CC:	William Kutash TPA	(KUTASH_W)

I N T E R O F F I C E M E M O R A N D U M

Date: 26-Jan-1995 10:23am EST
From: Gnanamony Thabaraj TPA
THABARAJ_G
Dept: Southwest District Offi
Tel No: 813/744-6100
SUNCOM: 542-6100 Ext. 304

TO: Allison Amram TPA (AMRAM_A)

CC: Kim Ford TPA (FORD_K)
CC: Robert Butera TPA (BUTERA_R)

Subject: RE: SE Hills Leachate Quality

Allison, the SE Landfill data show that there is a lot of non-biodegradable organics in the effluent.It would be interesting to analyse this further and find out what this is made of.Thanks.

Jay.

I N T E R O F F I C E M E M O R A N D U M

Date: 25-Jan-1995 05:46pm EST
From: Robert Butera TPA
BUTERA_R
Dept: Southwest District Offi
Tel No: 813/744-6100
SUNCOM: 542-6100 Ext. 451

TO: Kim Ford TPA (FORD_K)

Subject: Southeast Landfill

Please inform me of your discussions with Lary Ruiz which have you believing there is no sump issue. Bill Kutash has informed me that based on discussions with you are of the opinion there appears to be no need for Mary Jean Yon and Richard Tedder to attend the meeting on Jan. 31, 1995.

Since this meeting was scheduled and requested through Tallahassee, after you discuss with me in the morning, I suggest we contact HCDSW and determine if they still request that Tallahassee personnel attend the meeting. If they agree MJY and RT attendance is not required I will request you contact them or send them an E-mail to notify them.

Please touch base with me prior to any discussions in the future with WK.

I N T E R O F F I C E M E M O R A N D U M

Date: 24-Jan-1995 04:45pm EST
From: Allison Amram TPA
AMRAM_A
Dept: Southwest District Offi
Tel No: 813/744-6100
SUNCOM: 542-6100

TO: Gnanamony Thabaraj TPA (THABARAJ_G)

CC: Kim Ford TPA (FORD_K)
CC: Robert Butera TPA (BUTERA_R)

Subject: SE Hills Leachate Quality

Jay-

I just reviewed some raw leachate data from SE Hillsborough landfill-- interesting results to me, based on our conversation today.

BOD	16 mg/l
COD	490 mg/l
Total N	.12 mg/l
Total P	.78 mg/l

BOD/COD is ~ 3%

Hmmmmmmmm. I hope they can effectively treat this leachate with their ZIMPRO plant!

FYI

Allison

FAX COVER

TO:

DATE: 1-19-95
NAME: KIM FORD
COMPANY NAME: FDEP
FAX NUMBER: 744-6084
PHONE NUMBER:

SCS ENGINEERS

Environmental Consultants
3012 U.S. Highway 301 North
Suite 700
Tampa, Florida 33619
Phone 813 621-0080
FAX 813 623 6757

FROM: RICH SIEMERING
JOB/OVERHEAD NUMBER: 09900018.35
NUMBER OF PAGES: 5

COMMENTS:

KIM,

AS REQUESTED, ATTACHED ARE TEST RESULTS FOR INF/EFF AND WATER BALANCE FORM.

THANKS.

2.0 SUMMARY OF RESULTS

TABLE 2.0
ANALYTICAL RESULTS

	Influent		Effluent	
	Design	Test Results (12-7-94)	Design	Test Results (12-7-94)
Leachate Flow				
Average, gpd	60,000	62,341	---	---
Peak, gpd	120,000	—	---	---
COD, mg/L	5,000	684	300	294
SS, mg/L	75	24	< 20	14
TKN, mg/L	200	354	< 5	5
NO_3-N, mg/L	< 1	4.84	< 5	X
pH, (Field/Lab)	7.0-7.2	7.22/7.54	6.5-8.5	8.24/8.42

X = Analyzed but not detected.

ENVIROSCAN

ANALYTICAL REPORT

Kent Depuydt

CUST NUMBER: 21-2481
SAMPLED BY: Client
DATE REC'D: 12/08/94
REPORT DATE: 12/21/94
PREPARED BY: JRS
REVIEWED BY:

Attn: Kent Depuydt

	Units	Detection Limit	2481-341-011450 12/07/94	Qualifiers	Date Analyzed
EPA 150.1 pH - Laboratory		-	7.54		12/09/94
EPA 160.2 Susp. Solids	mg/l	20.	24.		12/08/94
EPA 350.1 Ammonia N	mg/l	8.4	294.		12/12/94
EPA 351.2 Total Kjeldahl Nitrogen	mg/l	250.	354.		12/20/94
EPA 353.1 Nitrate N	mg/l	0.5	4.84		12/09/94
EPA 410.1 COD	mg/l	80.	684.		12/09/94
Analytical No.:			27915		

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

ENVIROSCAN

ANALYTICAL REPORT

Kent Depuydt

CUST NUMBER: 21-2481
SAMPLED BY: Client
DATE REC'D: 12/08/94
REPORT DATE: 12/21/94
PREPARED BY: JRS
REVIEWED BY:

~~Attn: Kent Depuydt~~

	Units	Detection Limit	2481-341-021500 12/07/94	Qualifiers	Date Analyzed
EPA 150.1 pH - Laboratory		-	8.42		12/09/94
EPA 160.2 Susp. Solids	mg/l	10.	14.		12/08/94
EPA 350.1 Ammonia N	mg/l	0.084	X		12/12/94
EPA 351.2 Total Kjeldahl Nitrogen	mg/l	0.63	5.47		12/20/94
EPA 353.1 Nitrate N	mg/l	0.5	X		12/09/94
EPA 410.1 COD	mg/l	80.	294.		12/09/94
Analytical No.:			27916		

X = Analyzed but not detected.

TABLE 1. WATER BALANCE REPORT FORM
FOR SPRAY IRRIGATION AT THE
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA
MONTH_____, YEAR_____

Date	Leachate Treated (gal/day)	Treated Effluent Stored (gal/day)	Treated Effluent Sprayed (gal/day)	Rainfall Onsite (inches/day)	Time of Day At End of Rainfall	Observed Runoff Influent to Retention Area (yes/no)	Time of Day At End of Runoff	Comments
1								
2								
3								
4								
5								
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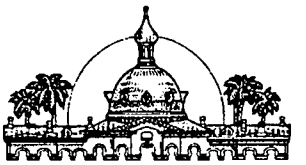
HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman



January 13, 1995

Mr. Steven G. Morgan
Section Supervisor
Solid Waste Compliance/Enforcement
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

RE: Southeast County Landfill - Leachate Management Plan Status Report

Dear Mr. Morgan:

The Hillsborough County Department of Solid Waste (DSW) is providing the following information to the Florida Department of Environmental Protection (DEP) as a status report on our December 15, 1994 proposed Leachate Management Plan (Plan), including the December 16, 1994 supplemental information on the Plan, for the County's Southeast County Landfill (Landfill).

A status of the key points of the Plan are outlined below in the order presented in the DSW's December 15, 1994 letter.

1. **Increased leachate removal**

   Since December 19, 1994, the DSW has increased its own leachate hauling from 3 loads per day, 5 days per week to 9 loads per day, 6 days per week. The total quantity of leachate removed by the DSW from December 19, 1994 through January 12, 1995 is 1,233,459 gallons. On December 19, 1994, contract hauling was increased from 10 to 11 loads per day, 6 days per week. The Contractor removed 1,363,700 gallons from December 19, 1994 through January 12, 1995. Over the 22 day period, the total leachate removed from the Landfill was 2,597,159 gallons.

Although the DSW's proposed Plan anticipated increasing the contract hauling to 15 loads per day, the Contractor has been unable to secure a second vehicle to perform the additional four loads per day. While the DSW continues to pursue having the Contractor commit to providing 15 loads per day, monitoring of the leachate collection and pump system have indicated that collection of the additional loads may not be achievable. This issue is further addressed in the discussion of the sump levels.

2. **Operation of the Leachate Treatment and Reclamation Facility (LTRF)**

On December 22, 1994, the LTRF contractor, Great Monument Construction Company (GMCC), submitted analytical data to the DSW demonstrating that the LTRF has met the effluent standards as outlined in the Contract Documents between the DSW and GMCC. SCS Engineers has completed the Certification of Construction Completion and has submitted the information to Kim Ford of the DEP to schedule an inspection of the LTRF with the DSW and SCS Engineers. On January 12, 1995, the DSW issued the Certification of Substantial Completion to GMCC. The DSW anticipates that effluent spray irrigation will be initiated during the week of January 16, 1995.

3. **Landfill stormwater management**

The Landfill contractor, Waste Management Inc. of Florida (WMI) continues to maintain the Landfill systems so as to minimize the amount of stormwater which must be managed as leachate.

4. **Aggressive leachate level monitoring**

As discussed in the DSW's proposed plan, the DSW has improved the monitoring of the leachate level at the Landfill sump by reporting a daily reading of Pump Station No. 3 to the administrative office. For your information, the daily readings from December 19, 1994 through January 12, 1995 are provided as Attachment I. As can be seen from the data, the leachate level within the sump has been reduced. Based on the leachate sump levels, the DSW has determined that the leachate removal rate is greater than the flow rate from the Landfill into the sump.

In addition, the DSW has monitored the cycling of the pump to determine the need to alter the pump floats to maximize the leachate removal rate from Pump Station No. 3. Based on this monitoring, the DSW has positioned the pump off float to approximately 12 inches above the bottom of the sump. The on float was positioned 12 inches above the pump off float. This float adjustment should allow continuous operation of the pump without cycling (on and off).

On January 2, 1995, the DSW also began monitoring GMCC's records on the leachate level within the 500,000 leachate storage tank. This information is provided as Attachment II. In addition, as requested by the DEP, on January 13, 1995 the DSW initiated the monitoring of leachate levels within Phases III and IV. The monitoring is performed in the locations identified by the DEP during the January 11, 1995 site visit. The DSW will provide this information, along with an update of the other leachate readings, to the DEP prior to the January 31, 1995 meeting.

With reference to the DSW's December 16, 1994 correspondence regarding supplemental information for the proposed Leachate Management Plan, the following update is provided.

The DSW has submitted its request to the County's Budget Department for authorization to purchase a new pump for Pump Station No. 3 and a direct-read leachate level meter for the Pump Station. Once this authorization is received, the DSW will be presenting a budget amendment to the Board of County Commissioners for authorization to procure the pump and the meter.

Should you have any additional questions concerning this matter at this time, please call at 276-2908.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager
Department of Solid Waste

Attachments

xc: Daryl H. Smith, DSW
Kim Ford, DEP
Steve Hamilton, SCS
Paul Schipfer, EPC

ATTACHMENT I

SOUTHEAST COUNTY LANDFILL
PUMP STATION NO. 3
LEACHATE LEVELS

December 1994 Sump Readings		January 1995 Sump Readings	
12/19	6.9	1	4.3
12/20	6.5	2	5.6
12/21	8.3	3	5.9
12/22	7.9	4	6.3
12/23	6.4	5	5.8
12/24	6.2	6	5.4
12/25	Holiday	7	5.4
12/26	Holiday	8	5.4
12/27	5.8	9	5.5
12/28	5.8	10	5.2
12/29	5.7	11	5.4
12/30	5.6	12	5.3
12/31	4.6		

ATTACHMENT II

SOUTHEAST COUNTY LANDFILL
500,000 GALLON LEACHATE STORAGE TANK
RAW LEACHATE FLUID LEVELS

Date	Feet	Gallons
1/1/95	Sunday	Sunday
1/2/95	High level overflow	500,000 +
1/3/95	12	360,000
1/4/95	10.5	315,000
1/5/95	10	300,000
1/6/95	9	270,000
1/7/95	Saturday	
1/8/95	Sunday	
1/9/95	10	300,000
1/10/95	9	270,000
1/11/95	9	270,000
1/12/95	8	240,000

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

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Patricia Bean

Assistant County Administrators
Edwin Hunzeker
Cynthia Johnson
Janice Keel
Robert Taylor

January 13, 1995

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 5

To Steve Morgan	From Pam Bean
Co. (Please cc: Kim Ford)	Co. DSW
Dept. FDEP	Phone # 276-2908
Fax # 744-6125	Fax #

HARD COPY TO FOLLOW

Mr. Steven G. Morgan
Section Supervisor
Solid Waste Compliance/Enforcement
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

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The Landfill contractor, Waste Management Inc. of Florida (WMI) continues to maintain the Landfill systems so as to minimize the amount of stormwater which must be managed as leachate.

4. **Aggressive leachate level monitoring**

As discussed in the DSW's proposed plan, the DSW has improved the monitoring of the leachate level at the Landfill sump by reporting a daily reading of Pump Station No. 3 to the administrative office. For your information, the daily readings from December 19, 1994 through January 12, 1995 are provided as Attachment I. As can be seen from the data, the leachate level within the sump has been reduced. Based on the leachate sump levels, the DSW has determined that the leachate removal rate is greater than the flow rate from the Landfill into the sump.

In addition, the DSW has monitored the cycling of the pump to determine the need to alter the pump floats to maximize the leachate removal rate from Pump Station No. 3. Based on this monitoring, the DSW has positioned the pump off float to approximately 12 inches above the bottom of the sump. The on float was positioned 12 inches above the pump off float. This float adjustment should allow continuous operation of the pump without cycling (on and off).

On January 2, 1995, the DSW also began monitoring GMCC's records on the leachate level within the 500,000 leachate storage tank. This information is provided as Attachment II. In addition, as requested by the DEP, on January 13, 1995 the DSW initiated the monitoring of leachate levels within Phases III and IV. The monitoring is performed in the locations identified by the DEP during the January 11, 1995 site visit. The DSW will provide this information, along with an update of the other leachate readings, to the DEP prior to the January 31, 1995 meeting.

With reference to the DSW's December 16, 1994 correspondence regarding supplemental information for the proposed Leachate Management Plan, the following update is provided.

The DSW has submitted its request to the County's Budget Department for authorization to purchase a new pump for Pump Station No. 3 and a direct-read leachate level meter for the Pump Station. Once this authorization is received, the DSW will be presenting a budget amendment to the Board of County Commissioners for authorization to procure the pump and the meter.

Should you have any additional questions concerning this matter at this time, please call at 276-2908.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager
Department of Solid Waste

Attachments

xc: Daryl H. Smith, DSW
Kim Ford, DEP
Steve Hamilton, SCS
Paul Schipfer, EPC

ATTACHMENT I

SOUTHEAST COUNTY LANDFILL
PUMP STATION NO. 3
LEACHATE LEVELS

December 1994 Sump Readings		January 1995 Sump Readings	
12/19	6.9	1	4.3
12/20	6.5	2	5.6
12/21	8.3	3	5.9
12/22	7.9	4	6.3
12/23	6.4	5	5.8
12/24	6.2	6	5.4
12/25	Holiday	7	5.4
12/26	Holiday	8	5.4
12/27	5.8	9	5.5
12/28	5.8	10	5.2
12/29	5.7	11	5.4
12/30	5.6	12	5.3
12/31	4.6		

ATTACHMENT II

SOUTHEAST COUNTY LANDFILL
500,000 GALLON LEACHATE STORAGE TANK
RAW LEACHATE FLUID LEVELS

Date	Feet	Gallons
1/1/95	Sunday	Sunday
1/2/95	High level overflow	500,000 +
1/3/95	12	360,000
1/4/95	10.5	315,000
1/5/95	10	300,000
1/6/95	9	270,000
1/7/95	Saturday	
1/8/95	Sunday	
1/9/95	10	300,000
1/10/95	9	270,000
1/11/95	9	270,000
1/12/95	8	240,000

SCS Engineers

3012 U.S. Highway 301 North
Suite 700
Tampa, FL 33619

813 621-0080
FAX 813 623-6757

LETTER OF TRANSMITTAL

TO Kim Ford
FDEP

DATE 1/13/95

JOB NO. 0190018.35

ATTENTION

Re: SWF permit renewal responses

WE ARE SENDING YOU

☐ Attached ☐ Under separate cover via

☐ Shop drawings ☐ Prints

☒ Copy of letter ☐ Change order

the following items: ☐ Plans ☐ Samples

☐ Specifications ☐

RECEIVED
JAN 13 1995
Department of Environmental Protection
BY SOUTHWEST DISTRICT

COPIES	DATE	DESCRIPTION
3	1/13/95	For your use
1	1/13/95	for Steve Morgan

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☒ For review and comment ☐

☐ FOR BIDS DUE _____ 19 ____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

COPY TO

SIGNED: Larry E. Key

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

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

January 13, 1995

Mr. Kim Ford, P.E.
Solid Waste Permitting
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

RE: Southeast County Landfill Permit Renewal - Responses to Additional Information Request

Dear Mr. Ford:

The Hillsborough County Department of Solid Waste (DSW) response to the Florida Department of Environmental Protection (DEP) December 15, 1994 request for additional information concerning the permit renewal for the County's Southeast County Landfill (Landfill) is enclosed. The responses were prepared by SCS Engineers in coordination with DSW staff.

However, based on our conversation of January 12, 1995, the DEP is now requesting that the DSW provide additional information concerning the following issues:

- based on the performance of the leachate collection system and current pumping data, reevaluate the amount of leachate over the liner, the amount of time required to lower the leachate head, and the sump area;

- evaluate and implement a system to record the actual flow rate of leachate being removed from the Landfill; and,

- evaluate expanding the Landfill monitoring program to include Phases III and IV leachate levels, raw leachate storage tank, and stormwater levels within Phases V and VI.

The DSW and SCS Engineers intend to evaluate the issues and provide responses to the DEP by January 27, 1995. This will enable the DEP to have an opportunity to review the responses prior to our scheduled meeting of January 31, 1995. Should the DEP have additional questions concerning the permit renewal responses, the DSW and SCS Engineers will also be prepared to discuss these issues at the meeting.

Please advise should you have any questions concerning this correspondence.

Sincerely,

Patricia V. Berry
Landfill Services Section Manager
Department of Solid Waste

xc: Daryl H. Smith, DSW
Steve Morgan, DEP
Steve Hamilton, SCS
Paul Schipfer, EPC

Environmental Consultants

3012 U.S. Highv 301 North 813 621-0080
Suite 700 813 623-6757 FAX
Tampa, FL 33619-2242

SCS ENGINEERS

Offices Nationwide

January 13, 1995
File No. 0990018.35

Ms. Patricia V. Berry
Hillsborough County
Department of Solid Waste
P. O. Box 1110
Tampa, Florida 33601

Subject: Response to the Florida Department of Environmental Protection's letter dated December 15, 1994, regarding the Operation Permit Renewal for the Southeast County Landfill, Hillsborough County, Florida, Pending Permit No. S029-256427

Dear Patty:

As requested, SCS Engineers (SCS) has reviewed the referenced letter from the Florida Department of Environmental Protection (FDEP). We believe the following responses address the questions raised by the FDEP. Each of the FDEP's comments is restated in bold below, and followed by our response.

1. **FDEP Statement 1 - The cross-sections on Sheet 16B show increments of time other than 6 months. Are these correct? If not, please provide this corrected plan sheet.**

   Response - As agreed in a meeting between SCS and FDEP on September 16, 1994, the additional cross-section beyond the 5-year permit period were moved to practical locations where the sections show the sequence operation intent for Lift 7. As discussed, Lift 7 is a large lift, therefore 2 more years of 6-month sections were not sufficient to show the intent of all the areas in Lift 7.

   The location of these sections are approximate because the actual location will vary depending on the actual disposal rates. SCS presented the sections at sufficient intervals to show the sequence intent of the entire lift with sections that are a good representation of the layout for the different areas of Lift 7. Section "M" at 84 months, is a good representation of the layout for sections at 72 months, 78 months, and 90 months. Section "O" at 108 months is a good representation of the layout for sections at 102 months and 114 months.

2. **FDEP Statement 2 - Please describe the use of each type of temporary drainage device shown in Exhibit H, and provide the details for the existing "rip-rap velocity dissipators". The use of each should be based on the quantity and velocity of runoff conveyed. What is the maximum quantity and velocity for each type of conveyance? Provide calculations that verify the appropriate type of device has been used for each existing runoff conveyance.**

Response - Landfilling is a dynamic construction activity, therefore the runoff quantities to each conveyance will vary depending on the size of the areas that are active. The stormwater drainage devices were designed to accommodate the peak runoff conditions that are expected to occur after final closure.

Downchute calculations were presented in the permit application in Section 3.6 and calculations for the ditches are presented in Exhibit A of this letter. Landfill sideslopes with 4H:1V slopes will use the sideslope ditch detail, all other areas with slopes flatter than 4H:1V will use the topslope ditch detail. Calculations indicate that the sideslope ditches will be subject to a maximum flow of 42 cubic feet per second (cfs), the existing configuration can handle up 50 cfs with an approximate 3-inch freeboard. The topslope will be subject to a maximum flow of approximately 49 cfs, the existing configuration can handle up 50 cfs with an approximate 6-inch freeboard.

(3.) FDEP Statement 3 - **Sheet C3 shows temporary sprinkler heads located on proposed Lifts 5 and 6. Are these sprinkler heads needed during the period of filling for Lifts 5 and 6, and if so, how will leachate be managed while these heads are removed for filling?**

Response - Spray irrigation will only occur in those lifts that have been completed and not in the active cell of the landfill. When landfilling operations move into a new area, the sprinkler heads in that area will be turned off and extended vertically for future use when the area becomes inactive again. At the same time that sprinkler heads are turned off in newly active areas, the sprinkler system in newly inactive areas will be turned on to maximize the available spray field area. This operation of the sprinkler system will continue in all lifts following the sequence described in the pending Permit Application Section 5.3.

Therefore, when filling begins in Lifts 5 and 6, the sprinkler system will be turned off in the active areas of Phase I and II, respectively. Simultaneously the sprinkler system will be expanded into the inactive areas of Phases III and IV.

(4.) FDEP Statement 4 - **Maintaining an inward gradient is a critical element of this landfill's design. Ardaman's October 25, 1994 report concludes that higher leachate levels have no effect on the clay consolidation and recommended 7-year waiting period; and fluctuations of the groundwater table have no impact as long as the average water table remains the same. SCS's June 24, 1994 report concludes that up to 3.6 feet of leachate will not affect the gradient based on Figure 2 of the report. These reports appear to conflict with one concluding no effects from increased leachate levels above 3.6 feet. Please provide all equations, tables and figures necessary to establish the condition that adversely impact the gradient as the result of increased leachate levels, fluctuations of the groundwater table, and variable waiting periods.**

Response - This information was submitted in the pending Permit application Section 3.3.4. SCS believes that the information provided therein concerning this issue is sufficient. There is not a conflict, these are two separate issues which are described below.

- Consolidation: Ardaman & Associates, Inc. (Ardaman) indicates that leachate levels will have no effect on clay consolidation. SCS concurs.

- Hydraulic head over the liner: The leachate level that will induce 12 inches of hydraulic head over the liner will vary throughout the landfill over time based on the loading history and the consolidation characteristics of the clay. The lowest leachate level that will provide 12 inches or less of hydraulic head over the liner is 4.6 feet (3.6 feet being equilibrium), which may occur near the seventh year of loading. The 7-year snap shot was selected for this analysis, because the Phases will be reloaded near that time frame thereby again increasing the pore pressure within the phosphatic clays.

5 FDEP Statement 5 - **SCS states that Ardaman's boring PP-2 was at the worst case location because it had been 6.7 years since that area was last filled. At the time of Ardaman's investigation, how long had it been since Phase I was last filled? Did Ardaman test the worst case location?**

Response - Ardaman performed test PC-1 in Phase I; however, the lapsed time in Phase I is over 8 years. According to current projections, the time interval between successive lifts should not exceed 7 years again. In addition, 7 years is the interval at which 95 percent consolidation is expected; therefore, SCS believes that PP-2 in Phase II is a closer representation of the sequence conditions planned for the Southeast Landfill (SELF).

We should have used the term "best case" scenario for calculating leachate levels that would induce a hydraulic head of 12 inches or less (i.e., 12 inches for year 7 and less for any year prior to the seventh). For example, piezoprobe PP-6 in Phase VI indicates that after 1.3 year preloading period, it would require 9 feet of liquid head to reach hydraulic equilibrium (see Exhibit B).

6 FDEP Statement 6 - **SCS's proposal to allow up to 3.6 feet of leachate within the Southeast Landfill appears to be beyond the intent of DEP's rule and entirely unnecessary. DEP estimates the maximum one foot depth requirement in the current operating permit allows one million gallons to be stored within the landfill. A depth of 3.6 feet would allow 9 million gallons to be stored within the landfill. Why is SCS and the County interested in allowing more leachate to be stored within its landfill?**

Response - The intention of SCS and the Hillsborough County Department of Solid Waste (HCDSW) is not to permanently store leachate in the landfill. The HCDSW intends to maintain landfill leachate levels as low as possible. The intent is to establish a regulatory benchmark (i.e., 3.6 feet) by which the FDEP and HCDSW can monitor and establish equivalency leachate level in accordance to Section 62-701.400 (3) (b) Florida Administrative Code (FAC), and provide reasonable flexibility to operate the leachate treatment and spray irrigation system. The HCDSW intends to manage leachate at the rate it is collected in the landfill, and not to allow leachate levels to remain at the 3.6-foot depth.

In correspondence to the FDEP dated December 15, 1994, the HCDSW presented a detailed plan to lower leachate levels in the site. SCS's and the HCDSW's position is that a leachate level of 3.6 in the SELF feet represents a hydraulic head equilibrium condition which provides better protection than the 12-inches hydraulic head allowed by Chapter 62-701 FAC.

7. FDEP Statement 7 - **SCS indicates the proposed sump will be extended into all Phases of the landfill and that the "leachate levels should be maintained at less than 12 inches in the vicinity of the berms". Phases V and VI are not scheduled to be used for disposal until 1998. How will less than 12 inches be maintained along the interior berms between those Phases that have received waste and those that have not? Please describe methods that will be implemented to ensure that the depth of leachate will be continuously maintained at less than 12 inches along all berms.**

Response - As indicated in the response to FDEP Statement 9 dated November 18, 1994, "The upward gradient is created as the landfill induced stresses consolidate the phosphatic clay deposits, expressing pore water upward into the sand leachate drainage layer. Therefore the upward gradient exists where there are phosphatic clay deposits within the landfill footprint and not under the synthetic liner along the perimeter berm". That statement actually represents a conservative approach, because the perimeter berm was built over a minimum 4-foot thick layer of phosphatic clays; therefore, there also will be pore pressures under the perimeter berm.

The interior berms are within the landfill footprint where an upward gradient exists. Therefore, 12 inches of hydraulic head over the synthetic liner in the interior berms will not occur until leachate levels in the temporary sump (i.e., Pump Station No. 3) exceed approximately 4.6 feet (3.6 feet being equilibrium in the temporary sump). However, to maintain a hydraulic head equilibrium at the internal berms, the water level in Phases V and VI will be monitored relative to the leachate level in Phases III and IV. The water level will be monitored weekly at the current stormwater sump in the northeast corner of Phase VI.

8. **FDEP Statement 8 - The top of clay contour map shows most settlement has occurred in Phases I and IV. Since Phase II will be filled in 1995, it appears that the top of clay will be lowest under Phase I for the next several years. Did the original design account for this shifting sump? If the sump moves to Phase I, how will the depth of leachate be reduced to no more than one foot?**

Response - The top of clay contours show that the most settlement has occurred between Phases IV and VI. As the current lift (Lift 4) continues, SCS estimates that settlement will continue to be greater in this area thereby allowing leachate to flow into Pump Station No. 3. The locations of Pump Stations 1, 2, 3, and "B" were designed to be in areas that were expected to settle the most, based on the fill sequence. Greater settlement is estimated to continue in the areas were the phosphatic clays are thickest. For further information, see Section 3.5 of the original permit application for the construction and operation of the SELF, prepared by Camp Dresser McKee Inc. (CDM) in February 1983.

9. **FDEP Statement 9 - The June 21, 1994 agreement with the Public Utilities Department for disposal of leachate at Falkenburg WWTP allows up to 76,000 gpd. Is this a daily average for the month or a daily maximum? This agreement is only valid until July 19, 1995. Please provide an amended agreement to cover the next five year duration of the pending landfill operation permit.**

Response - The agreement as well as the allowed disposal quantities is currently being modified by the Hillsborough County Public Utilities Department (PUD), and will be provided to the FDEP once it is completed. The revised agreement will allow the disposal of up to 200,000 gallons per day (gpd) of leachate from the HCDSW's facilities. A letter of confirmation is attached (Exhibit C). The PUD permits disposal capacity on an annual basis. However, the HCDSW has requested that the PUD provide a long-term commitment letter reserving capacity through the indefinite future. The PUD has indicated that this is acceptable with the provision of an annual review. A copy of the PUD's response will be provided to the FDEP upon receipt by the HCDSW.

10. **FDEP Statement 10 - 62-701.500(8) (e) requires a contingency plan for interruptions of discharges to a treatment plant. Please provide a contingency plan to be implemented in event of interruptions of discharges to the Falkenburg WWTP.**

Response - The HCDSW intends to use the on-site treatment plant as the primary leachate treatment and disposal facility; therefore, the Falkenburg Waste Water Treatment Plant (WWTP) is the contingency facility. In addition the agreement with the PUD allows for disposal at the Valrico WWTP.

11 **FDEP Statement 11** - **SCS states "HCDSW will continue to operate and maintain the SELF in compliance with all the applicable criteria of 62-701 F.A.C. rules". F.A.C. rules 62-701.400 (3) (b) and (c) limits the leachate head to one foot above the liner. The lined berms are considered part of the bottom liner system. SCS has provided information that shows up to 8 feet of leachate exists in the current disposal area. Please explain why this current condition at the SELF is in compliance with DEP's rules according to SCS.**

Response - The statement was made within the context of the response to FDEP Statement 20b dated September 20, 1994 in reference to Sections 62-701.400(3)(a), 62-701.400(4)(a), and 62-701.500(8) FAC, which refer to the construction and monitoring of the SELF's leachate collection and removal system (LCRS). The statement should state "the HCDSW will continue to operate and maintain the SELF in compliance with the above mentioned rules". SCS stands behind its statement that the HCDSW will continue to operate and maintain the LCRS at the SELF in compliance with Sections 62-701.400(4)(a) and 62-701.500(8) FAC (i.e., the construction and monitoring of the LCRS). The statement was not made to establish compliance with Section 62-701.400(3)(b) and (c). The HCDSW has demonstrated to SCS that they intend to comply with all the applicable criteria of Chapter 62-701 FAC.

With respect to the FDEP's comment regarding up to 8 feet of leachate having been observed in the temporary sump (i.e., Pump Station No. 3), please see the response to FDEP Statement 12 below.

12 **FDEP Statement 12** - **Specific Condition No. 12 states in part that "The leachate depth on top of the liner shall not exceed one foot depth of leachate". Daily logs provided by Waste Management on December 14, 1994 show leachate levels in excess of four feet over the liner for the past 5 years. These records also not for the past 5 years "PROBLEMS OBSERVED: LEACHATE LEVEL IN PHASE IV SUMP" and "CORRECTIVE ACTION: COUNTY NEEDS TO INCREASE REMOVAL AND OFF-SITE TREATMENT OF LEACHATE". These logs are signed by Hillsborough County's staff. Why did the County allow its landfill to be operated in violation of its current permit for the past 5 years?**

Response - The Waste Management, Inc. of Florida (WMI) records referred to above indicate leachate levels in the temporary sump (i.e., Pump Station No. 3). Pump Station No.3 is in the vicinity of the landfill liner area that will have the most settlement. In addition, until recently, the HCDSW and SCS believed that the temporary sump had been installed as designed (i.e., was set into the clay liner). Therefore, the HCDSW was under the impression that the levels in Pump Station No. 3 were not an accurate representation of leachate levels in the landfill.

Regardless, based on WMI's records, in December 1993, the HCDSW requested that SCS analyze the high level condition in the temporary sump and its relationship to leachate levels over the liner. During SCS's investigation it was discovered that the degree of settlement of the clay liner in Phase VI (i.e., the location of the temporary sump) was less than expected due to the delay in pre-loading the liner in Phases V and VI. In addition, the bottom of Pump Station No. 3 was not installed as designed, and that the existing bottom is approximately equal to the elevation of the top of the clay liner in that area. This accounts for the discrepancy in our understanding of leachate levels in the site.

Upon completion of the analysis, SCS concluded that leachate levels in some areas of the landfill had exceeded the 12-inch limit in the current permit. Until that time, the HCDSW did not know that this potential violation condition existed. This information was formally communicated to the FDEP in correspondence to the FDEP dated March 11, 1994. Therefore, once the condition became known, the HCDSW immediately notified the FDEP, increased hauling of leachate to an off-site waste water treatment facility, and continued to expedite completion of the on-site leachate treatment facility. On December 15, 1994, the HCDSW submitted a plan to the FDEP to increase leachate hauling to 150,000 gpd.

Since the completion of this analysis, the bottom elevation of the sump has continued to settle. Therefore, it is likely that leachate levels observed in the sump now reflect a lower leachate level over the liner than at the time of the investigation.

13. <u>FDEP Statement 13</u> - **Based on the leachate depth data provided, could leachate have discharged through the damaged liner in Phase II? Could groundwater have flowed into Phase II through the damaged liner due to an inward ingradient? It remained damaged for at least four months during the rainy season. Please quantify the flow and discharge through the damaged liner. What techniques were used to minimize the flow and subsequent discharge? Was a preliminary contamination assessment done? If the answer is no, why not?**

<u>Response</u> - The information requested in this statement was submitted to the FDEP in the Geomembrane Repair Certification Documentation by SCS dated November 8, 1994, and correspondence dated August 9, 1994.

In the geomembrane certification report, SCS concluded that "Based on the observed leachate levels within the landfill, it would have been unlikely for leachate to reach the elevation of the damaged geomembrane. Therefore, SCS believes the water encountered in the trench during the repair work was from excess moisture in the subgrade soils and the soil backfill materials, and not leachate from the landfill". The flow quantity and prevention techniques also are discussed in the report.

A contamination assessment was not conducted because there was no evidence of contamination caused by the damaged liner section (Also discussed in the geomembrane certification report). Correspondence dated August 9, 1994 indicates that the Environmental Protection Commission of Hillsborough County (EPC) and the FDEP were in agreement to proceed with the repair plan.

14. FDEP Statement 14 - **It appears, based on the applicant's submission, the discharges from the 30,000 gallon tank resulted in release of contaminants into the environment. Aside from failing to report this discharge, it appears that some remedial action in the form of pump and treat was performed. Why wasn't a more detailed preliminary assessment performed? What was the basis of ceasing the treatment while analytical data still reflected contamination? Please address and evaluate this issue in more detail.**

Response - The quantity of leachate released from the 30,000-gallon tank is unknown. Numerous monitoring wells surround the area; none showed contamination. Therefore a detailed assessment was deemed not to be necessary. Remedial work was done as a precautionary measure. The remedial work was ceased when soil samples taken on August 4, 1993 showed values within the limits published in Section 62-701.550, FAC for primary and secondary standards. On December 19, 1994, the 30,000-gallon tank was removed. Soil samples were collected after removal. The analyses will be submitted to the FDEP as soon as they are available.

15. FDEP Statement 15 - **Are the stormwater basins performing adequately? Do all the basins drain completely in three days?**

Response - The stormwater basins are performing adequately. Basin "D" was observed not to have drained completely in 3 days. In December 1994, the site operator removed the sediment in Basin "D" as described in the pending permit application Section 5.4.1.6. The HCDSW will continue to observe Basin "D" during future storm events to assess the basin's performance.

16. FDEP Statement 16 - **Please provide your response to resolve Ms. Allison Amram's concerns in her December 14, 1994 memorandum attached. You may contact Ms. Amram at (813) 744-6100, extension 336.**

Response - The following responses address the questions raised by Ms. Allison Amram, P.G. Please note, only those comments which require a response are reproduced and addressed below.

General Comments - **Are the proposed depths for these wells 23 feet? Other wells in the area are deeper. Other than the depths, the proposed well construction for surficial aquifer monitoring wells TH-57 and TH-58 are acceptable.**

Response - The referenced wells will be 31 feet deep.

6.2.1 Groundwater Findings

2. **Please provide the water elevations for the May 1994 groundwater sampling; this data was not legible on the Groundwater Reporting Forms in Appendix I.**

Response - Please see Table 1 below.

TABLE 1. MAY 1994 GROUND WATER ELEVATIONS

Well No.	Groundwater Elevation (above MSL)	Water Level
TH-19	16.33'	113.60'
TH-20B	123.79'	9.97'
TH-22	123.97'	5.57'
TH-24A	123.61'	5.70'
TH-28	105.22'	26.86'
TH-30	105.44'	24.00'
TH-36	123.16'	31.27'
TH-38A	123.10'	9.65'
TH-40	12.13'	113.10'
TH-56A	118.93'	14.32'

6.3.1 Proposed Surficial and Floridan Aquifer Monitoring System

2. **Please state which wells are in good condition for measuring Floridan aquifer water elevations. Those wells not in good condition should be remediated, or abandoned to prevent contaminants from entering these wells, and to prevent mixing of waters from the Floridan and surficial aquifers.**

Response - The Floridan Aquifer monitoring wells listed in the 1994 SELF Permit Renewal include all Floridan aquifer wells. These wells are in good condition for measuring Floridan aquifer elevations.

3. **The Ardaman & Associates February 1983 report, "Hydrogeological Investigation, Southeast County Landfill" documents the installation of TH-33, TH-34A, and TH-38 as surficial aquifer piezometers in Section 3.4 of the report. This report also documents TH-49 as a boring only. Piezometer (well) construction described in the text of Section 3.4, and the boring log and well screened interval is shown in Figure A.3-8. No mention is made of abandonment of these wells. It appears that wells TH-33, TH-34A, and TH-38 were installed, but are no longer present. Were these wells abandoned? If so, please provide documentation of proper well abandonment.**

   Also, the land surface elevation and total depth for well TH-38 in the Ardaman report are different from well TH-38A given in the permit renewal application. Why are you proposing to change the well designation from TH-38A to TH-38? It appears that TH-38A and TH-38 are two different wells. Please clarify.

   Response - The three piezometers referred to were not actually used as wells due to their locations. TH-34A was located in what became the borrow area, TH-38 was located in the center of what became the paved service road on the eastern side of the landfill, and TH-33 was located on the northern side of the landfill where excavating was performed. The HCDSW assumes that the wells were properly abandoned in accordance with the requirements of Hillsborough County's contract with Camp Dresser & McKee Inc.

   TH-38 in the Ardaman report refers to a piezometer and is not the same as well TH-38A. The HCDSW does not want to change designations but rather remove TH-38 from the list of well.

6. **Please provide the correct surveyed elevation for well TH-36, and revise all water elevation tables and figures to reflect the correct elevation.**

   Response - TH-36 has not been surveyed since the damage was incurred. The HCDSW does not plan on having a survey performed as TH-36 is proposed for replacement.

New Item: Monitoring well TH-36

As requested in the December 1, 1994 letter from Hillsborough County Department of Solid Waste, the abandonment of well TH-36 can be incude with the permit renewal activities. The installation of a new well should be conducted with the installation of proposed wells TH-57 and TH-58. As stated in the General Comments, well construction is acceptable, but a specific total depth for the well is required prior to approval.

Response - The specific total depth of the proposed replacement well for well TH-36 will be 48.0 feet BLS.

Please do not hesitate to call if you have any questions.

Very truly yours,

Larry E. Ruiz
Project Engineer

Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

RBG/SMH/LER:lr
Attachments

EXHIBITS

A Temporary Structures Calculation
B Piezoprobe PP-6 Graph
C Public Utilities Department Letter of Confirmation

EXHIBIT A

TEMPORARY STRUCTURES CALCULATIONS

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: Sideslope Swale

Description: Sideslope Temporary Swale (Sodded)

Solve For Depth

Given Constant Data;

Z-Left.....	3.00
Z-Right.....	4.00
Mannings 'n'.....	0.042
Channel Slope.....	0.0200

Variable Input Data	Minimum	Maximum	Increment By
Channel Discharge	10.00	50.00	10.00

Z-Left (H:V)	Z-Right (H:V)	Mannings 'n'	Channel Slope ft/ft	COMPUTED VARIABLE Channel Depth ft	COMPUTED Channel Discharge cfs	Velocity (fps)
3.00	4.00	0.042	0.0200	0.97	10.00	3.01
3.00	4.00	0.042	0.0200	1.26	20.00	3.59
3.00	4.00	0.042	0.0200	1.47	30.00	3.97
3.00	4.00	0.042	0.0200	1.64	40.00	4.26
3.00	4.00	0.042	0.0200	1.78	50.00	4.51

Trapezoidal Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: SELF

Description: Topslope Temporary Ditch (sodded)

Solve For Depth

Given Constant Data;

Bottom Width.....	3.00
Z-Left.....	3.00
Z-Right.....	3.00
Mannings 'n'.....	0.042
Channel Slope.....	0.0200

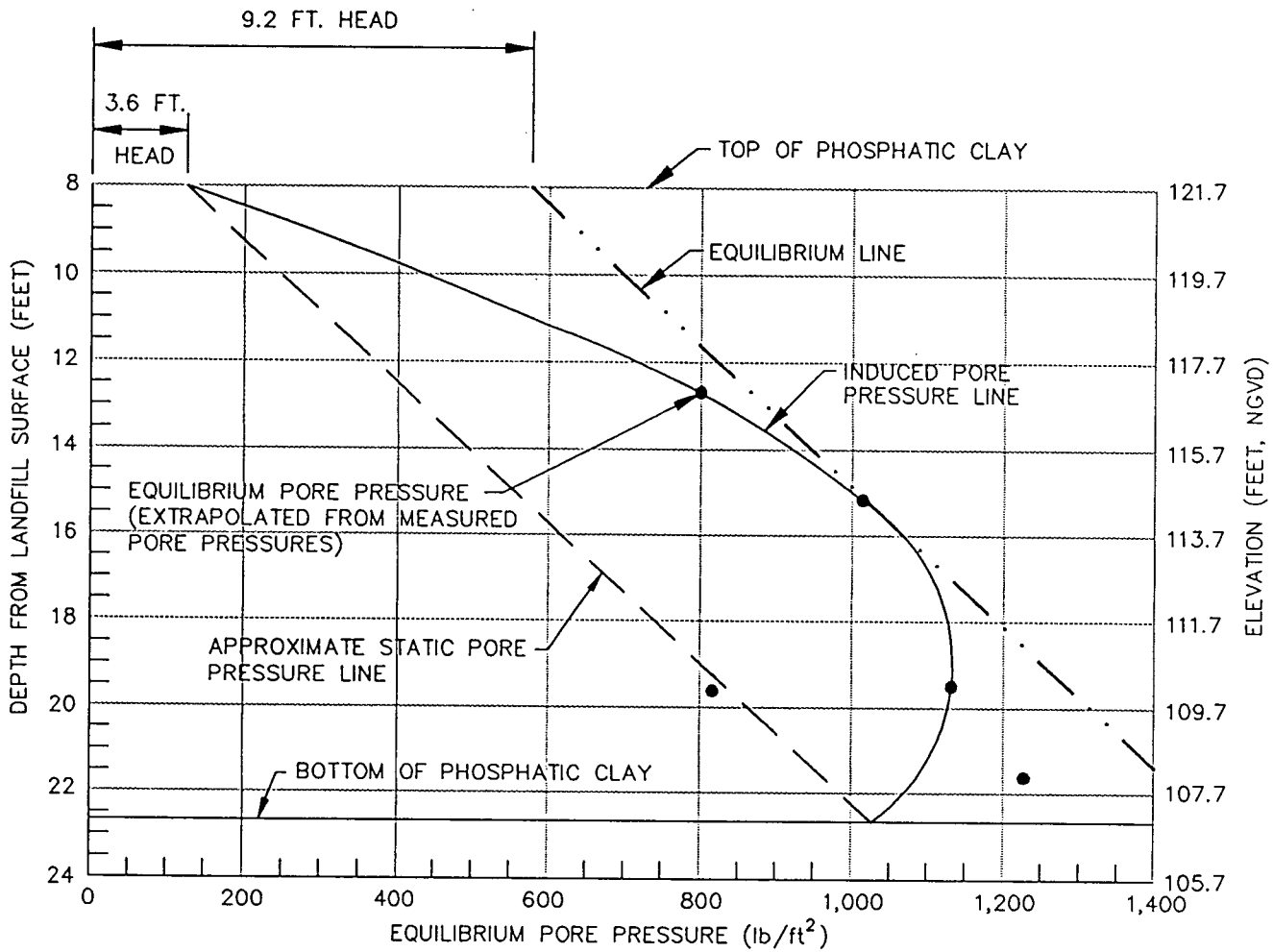
Variable Input Data	Minimum	Maximum	Increment By
Channel Discharge	10.00	50.00	10.00

Bottom Width ft	Z-Left (H:V)	Z-Right (H:V)	Mannings 'n'	Channel Slope ft/ft	COMPUTED VARIABLE Channel Depth ft	COMPUTED Channel Discharge cfs	Velocity fps
3.00	3.00	3.00	0.042	0.0200	0.67	10.00	2.99
3.00	3.00	3.00	0.042	0.0200	0.95	20.00	3.62
3.00	3.00	3.00	0.042	0.0200	1.15	30.00	4.03
3.00	3.00	3.00	0.042	0.0200	1.32	40.00	4.35
3.00	3.00	3.00	0.042	0.0200	1.47	50.00	4.61

EXHIBIT B

PIEZOPROBE PP-6 GRAPH

0990018.35\PP_VS_D6 (1)



SOURCE: GEOTECHNICAL INVESTIGATION BY ARDAMAN & ASSOCIATES, INC.
DATED MARCH 7, 1994.

SCS ENGINEERS

Pore Pressure Versus Depth Relationship From Piezoprobe Test Results at PP–6.

EXHIBIT C

PUBLIC UTILITIES DEPARTMENT
LETTER OF CONFIRMATION

EXHIBIT C

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

Senior Assistant County Administrator
Patricia Bean

Assistant County Administrators
Edwin Hunzeker

MEMORANDUM

RECEIVED
DEC 12 1994
by Solid Waste Department

DATE: December 12, 1994

TO: Patricia Berry, Section Manager
Department of Solid Waste

FROM: Fred Freshcorn, Section Manager
Technical Support Section
Public Utilities Department

SUBJECT: **LEACHATE DISCHARGE ASSESSMENT**

In accordance with the existing Hillsborough County Public Utilities Department (HCPUD) Discharge Permit No. 0022, the Hillsborough County Department of Solid Waste (HCDSW) is currently permitted to dispose of 76,000 gallons per day (gpd) of leachate from the Southeast County Landfill (SELF). As requested by HCDSW, the maximum disposal capacity available for the SELF's leachate has been evaluated and is presented, as follows, along with related items:

1. The maximum disposal capacity available for the SELF leachate is 160,000 gpd at the Falkenburg Advanced Wastewater Treatment (AWT) facility and, 40,000 gpd at the Valrico AWT. The limiting factors employed to derive these amounts are Total Kjeldhal Nitrogen (TKN), which can affect treatability and is present in the SELF leachate at an average concentration of 276 milligrams per liter (mg/l), and Total Toxic Organics (TTO), which can affect biomonitoring.

2. The frequency for sampling all parameters listed in HCDSW's Leachate Discharge Permit No. 0022 will be increased to once per month, when the total volume of leachate (combined leachate from all HCDSW sources) discharged into the HCPUD facilities exceeds 130,000 gpd. The increased monitoring provides the added protection required when handling greater amounts of leachate.

3. In addition to the basic user fees ($5.25 per 1,000 gallons), effective October 1, 1994, the High-strength Waste charge (cost to treat higher than normal conventional pollutant concentration discharges) and Industrial Pretreatment Special Project charge (prorated capacity fee) will be included in HCDSW's monthly wastewater bill. The

following figures portray the expected charges to HCDSW for discharging 200,000 gpd of leachate:

High-strength Surcharge (TKN)	=	$ 4,256
User Fee ($5.25 / 1,000 gal)	=	$31,500
Special Project Charge	=	$ 5,650
Total Monthly Bill	=	$41,406

4. To better accommodate the expected increase of trucks hauling leachate to the HCPUD facilities, HCDSW will be afforded 24 hour access to both Falkenburg AWT and Valrico AWT.

If you require additional information/assistance, please contact Victor Hernandez, Senior Engineer, at telephone 272-5977.

FLF/VMH/sjr

cc: Joe Cozatt, Public Utilities Department
Harry Householder, Public Utilities Department
Gil Gardner, Public Utilities Department
Ken Stanczykowski, Public Utilities Department

I:\GROUPS\ENGFILES\SECRETAR\LEACHATE

Environmental Consultants

3012 U.S. Highway North
Suite 700
Tampa, FL 33619-2242

813 621-0080
FAX 813 623-6757

SCS ENGINEERS

File No. 0990018.45
January 11, 1995

Mr. Kim Ford
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: Leachate Treatment and Reclamation Facility
Hillsborough County Southeast Landfill Facility
Hillsborough County, Florida
Permit Number SC29-199393

Dear Kim:

On behalf of the Hillsborough County Department of Solid Waste (HCDSW) and as the Engineer of Record for Phase I construction of the Leachate Treatment and Reclamation Facility (LTRF), Southeast County Landfill, Hillsborough County, Florida, SCS Engineers (SCS) is pleased to notify the Florida Department of Environmental Protection that Substantial Completion was achieved for the subject construction project on December 22, 1994. Enclosed is the completed "Certification of Construction Completion of a Solid Waste Management Facility" form.

The Contractor has not submitted all required information to complete the Record Drawings. SCS anticipates that the Contractor will submit the completed As-Built information on or before February 6, 1995. Once SCS receives and reviews this information, we will forward to you a complete set of certified Record Drawings as required.

Please call if you have any questions or if we can be of any assistance.

Very truly yours,

Richard A. Siemering
Project Engineer
SCS ENGINEERS

Robert B. Gardner, P.E.
Vice President
SCS ENGINEERS

Enclosure

RBG/RAS:rs

cc: John Johnson, HCDSW

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

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994
DEP Application No. _____ (Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SC29-199303 County: Hillsborough

Name of Project: Leachate Treatment and Reclamation Facility

Name of Owner: Hillsborough County

Name of Engineer: SCS Engineers

Type of Project: Leachate treatment and reclamation

Cost: Estimate $ 3,600,000 Actual $ 3,650,105.39

Site Design: Quantity: 60,000 gpd ton/day Site Acreage: @22 Acres

Deviations from Plans and Application Approved by DEP: See attached table.

Address and Telephone No. of Site: 15960 C.R. 672, Picnic, FL 33503
(813) 671-7707

Name(s) of Site Supervisor: Matt Matthews

Date Site inspection is requested: 2-6-95

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: SC29-199393 Dated: Robert O. Sarge 1/11/95

ROBERT O. SARGE CERTIFICATE NO. 36223 STATE OF FLORIDA REGISTERED ENGINEER

Date: _____ _____
Signature of Professional Engineer

Leachate Treatment and Reclamation Facility
Southeast County Landfill Facility
Hillsborough County, Florida
Florida Permit Number SC29-199393

Minor Deviation	Reason for Deviation
Revised location for a portion of the leachate forcemain within the limits of the landfill.	Field decision based on site observations and landfill/cover characteristics.
Leachate forcemain connected outside of existing Phase I-IV sump.	Ease of construction.
Extended limits of clay excavation at plant area	Encountered more clay than anticipated.
Portion of access road elevated slightly	Phosphatic clay slimes observed under this portion of access road.
Geotextile added under portion of Access road.	Phosphatic clay slimes observed under this portion of access road. Geotextile was added to improve subgrade performance.
Fire hydrant strainer facing down instead of up.	To ensure that strainer is in water at all times.
Moved air conditioning condenser unit.	To resolve conflict with electrical panels.
Moved/deleted windows in process building.	To resolve conflicts with equipment.
2 ridge vents installed on roof instead of 1 ridge vent.	Contractor error. Additional unit added to place in correct position.
Effluent tank slab is round, not rectangular.	Manufacturer's recommendation.
Deleted 3' high masonry unit.	Added HDPE drum storage and containment unit.
Deleted flow meter/recorder at by-pass pump.	Items not needed.
Process piping layout revised.	Process piping on drawings only schematic.
Location of methanol pumps revised.	Manufacturer's recommendations.
Locations of floor drains revised.	Manufacturer's recommendations.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/12/95 Subject SE Landfill

Time 3:30 Permit No. _____

County Hills.

M Patricia Berry Telephone No. 2762908

Representing Hills Co

[ ] Phoned Me [✓] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting _____

Summary of Conversation/Meeting

I told Patty our meeting room is scheduled for Jan 31st. We would like readings from the cleanouts & pumps daily & and flow rate of leachate out of landfill daily & and Larry said phase 5 & 6 groundwater readings also. Patty said ok and that an update is coming on corrective actions & also response for renewal this week. We want estimate to lower level completely as soon as possible & We want all hauling records before the meeting. Patty said ok will be sent w/ update this week.

(continue on another sheet, if necessary)

Signature [signature]

Title _____

PA-01
1/93
hjs

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 1/9/95 Subject SE. Co

Time 3pm Permit No.

County Hills

M S Patty Berry Telephone No.

Representing Hills Co

[✓] Phoned Me [ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting

Summary of Conversation/Meeting

Patty said she has advised R. Tedder of the possible Request for Act procedures and wants to meet Jan 31st.

I asked Patty to update us on progress of Corrective Action in a letter. She said ok I suggested Jan 31st may be to soon to know if the "sump" concept is not possible due to Limits between phases IV & VI She said she will check with SCS.

End

(continue on another sheet, if necessary)

Signature

Title

PA-01
1/93
hjs