



# LETTER OF TRANSMITTAL

TO:	Susan Pelz Florida Department of Environmental Protection – Southwest District Office 13051 North Telecom Parkway Temple Terrace, Florida 33637	DATE	March 31, 2010
		JOB. NO.	08449-030-04 Task 2100
		RE:	Southeast County Landfill Minor Permit Modification Application - Leachate Management Plan Updates – Response to FDEP Request for Additional Information

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4	3/31/10	Minor Permit Modification Application -Leachate Management Plan Updates – Response to FDEP Request for Additional Information

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MAR 31 2010

SOUTHWEST DISTRICT TAMPA

### REMARKS:

Ms. Pelz,

Please find attached the Southeast County Landfill Minor Permit Modification Application -Leachate Management Plan Updates Response to Request for Additional Information for your use. Thank you.

Copies to: Ron Cope, EPC  
Patricia Berry, SWMD  
Larry Ruiz, SWMD

Signed

Jason E. Timmons

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

T:\08449 - Hillsborough\030-04 SCLF General Services\2100 - Leachate Management\LMP Revisions\JE Transmittal Final DEP.doc

730 NE Waldo Road, Gainesville, Florida 32641 - 352-377-5821 / FAX 352-377-3166  
 324 S. Hyde Park Avenue, Suite 250, Tampa, Florida 33606 - 813-258-0703 / FAX 813-254-6860  
 1100 Cesery Boulevard, Jacksonville, Florida 32211 - 904-744-5401 / FAX 904-744-6267  
 3910 S. Washington Avenue, Suite 210, Titusville, Florida 32796 - 321-269-2950 / FAX 321-269-2951

**LEACHATE MANAGEMENT PLAN UPDATES  
RESPONSE TO FDEP REQUEST  
FOR ADDITIONAL INFORMATION  
PHASES I-VI AND THE  
CAPACITY EXPANSION AREA  
(SECTIONS 7, 8, AND 9)  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
MAR 31 2010  
SOUTHWEST DISTRICT  
TAMPA

*Prepared for:*

**HILLSBOROUGH COUNTY  
SOLID WASTE MANAGEMENT DEPARTMENT**  
601 E. Kennedy Blvd., 24th Floor  
Tampa, Florida 33601



*Prepared by:*

**JONES EDMUNDS & ASSOCIATES, INC.**  
*324 S. Hyde Park Avenue, Suite 250  
Tampa, Florida 33606*

**JONES  
EDMUNDS**  
ENGINEERS | ARCHITECTS | SCIENTISTS

March 2010

MAR 31 2010

March 31, 2010

Southwest District

Ms. Melissa Madden  
Environmental Specialist II, Solid Waste Section  
Florida Department of Environmental Protection – Southwest District  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926

RE: Hillsborough County Southeast County Landfill  
Leachate Management Plan, Phases I-VI and Sections 7, 8 and 9  
Pending Permit Modification No. 35435-017-SO/MM to Permit No. 35435-014-SO/01  
Jones Edmunds Project No.: 08449-030-04 Task 2100

Dear Ms. Madden:

This letter addresses comments received from the Florida Department of Environmental Protection dated **February 25, 2010**. Each of the Department's comments is presented below in *italics*, followed by the response in **bold** type.

*Comment 1: Section 3.2.1.2. Please define the use of the term, "standard practices," as it appears in this section and throughout the document, and explain how this is different than the "normal operation conditions" previously identified.*

**Response 1: The term "standard practice" is equivalent to "normal operation conditions". The revision was made to clarify that the equipment conditions and operations described in the Leachate Management Plan (LMP) are the standard. The term "normal operation conditions" implies that only the equipment conditions are normal.**

*Comment 2: Section 3.2.1.2. Please clarify if the reference to the use of a submersible pump to evacuate the leachate detection sump is correct. Section 4.2.1 appears to indicate that the leachate detection sump is pumped via an above-grade pump.*

**Response 2: Section 3.2.1.2 has been revised to indicate that leachate is removed from the Section 7 leachate detection sump by an above-grade pump via the riser pipe. The revised LMP page is provided in Attachment 1.**

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Tampa, FL 33606

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813.254.6860 Fax  
www.jonesedmunds.com

*Comment 3: Section 4.0. Please include containment structure details for each of the pump stations described in this section.*

**Response 3:** The containment structure as-built drawings for each pump station are provided in separate documents from the LMP included as part of record drawings and construction completion correspondence. For the Department's convenience, the as-built drawings for the containment structures at Pump Station A/B, Section 7, Section 9, the Main Leachate Pump Station (MLPS), and the Temporary Pump Station 6 are provided in Attachment 2, but have not been included in the LMP because the details are not necessary for operation.

*Comment 4: Section 4.2.1, Appendix B, Section 7 Pump Station Schematic. Please verify that leachate from the Section 7 leachate detection sump is currently being discharged to the Section 7 collection sump as described in this section. A review of Department files appears to indicate that the configuration explained in this section does not reflect the permitted design of leachate removal in Section 7/8. Please explain why the facility has deviated from the previously approved design which indicated that both discharge lines flowed into a single force main. Please clarify when the Facility began this method of leachate removal from Section 7/8 and the date of Department approval for the modified configuration. Based on the Section 7 Schematic, it does not appear that leachate from the primary collection is being metered prior to combination with the detection system. Please clarify if the collection and detection flows are being metered individually.*

**Response 4:** The Section 7 pump station was constructed to pump from the leachate detection sump with an above-grade pump. The leachate is then pumped by submersible pump located in the leachate collection sump to the MLPS. This configuration has been in place since leachate operations began from Section 7 in January 2004. The January 2004 leachate water balance report provided to FDEP is provided in Attachment 3. This report included on Pages 2 and 3 a brief description of the leachate operations in Section 7 reflecting the pumping configuration above.

As shown on the Section 7 Pump Station Schematic provided in Appendix B of the LMP, the leachate from the Section 7 leachate detection pump is metered before entering the Section 7 leachate collection sump. The leachate pumped from the leachate collection sump is metered before entering the MLPS. The quantity of leachate collected from the Section 7 leachate collection system is determined by subtracting these metered values on the leachate balance report.

*Comment 5: Section 6.0. Please include details about the recently installed spray curtain and procedures for ensuring the appropriate handling of leachate process foam should spills or overspray occur outside of containment.*

**Response 5:** Section 6.0 of the LMP has been updated to include information regarding the spray curtain and the process for handling foam if it is found outside of containment. The revised LMP page is provided in Attachment 4.

*Comment 6: Appendix B, Leachate and Effluent/Leachate Storage Tank Schematic. Please include leachate from Section 9 on this schematic.*

**Response 6:** The Leachate and Effluent/Leachate Storage Tank Schematic has been revised to indicate that leachate from Section 9 is included in the same force main as the Main Leachate Pump Station to the LTRF. The revised schematic is provided in Attachment 5.

If you have any questions or need clarification regarding the enclosed information, please contact Don Hullings at 352-377-5821.

Sincerely,

Jason E. Timmons, P.E.

Project Engineer

Florida P.E. No. 65869

Jones Edmunds Certification of Authorization #1841

xc: Patricia Berry, SWMD  
Larry Ruiz, SWMD  
Ron Cope, EPC

ATTACHMENT 1

REVISED LMP SECTION 3.2.1.2

HDPE geomembranes to convey leachate toward collection trenches. Twelve (12) inches of drainage sand and 12 inches of chipped tires were placed above the primary collection system to provide additional drainage collection and provide puncture protection of the underlying HDPE liners.

Leachate travels through the primary geocomposite and sand/tire-chip drainage layer and is collected in the leachate collection trench. This trench consists of 8-inch perforated HDPE leachate collection pipes and gravel wrapped in a geotextile to minimize migration of sand into the pipes. Leachate that collects in the trench flows to a collection header and then toward a collection sump in the southwest corner of Section 7. The sump was designed as the lowest point in Section 7 and was filled with gravel. A riser pipe was installed in the gravel fill of the sump and contains a submersible pump for leachate removal.

### 3.2.1.2 Leachate Detection System

The leachate detection system of Section 7 consists of a bi-planar geocomposite between the primary and secondary geomembranes. The geocomposite drains leachate toward an 8-inch perforated HDPE pipe in a gravel-filled trench. The lateral pipes drain to a main header on the southwest end of Section 7. The main header drains to the low point of Section 7 containing a sump with gravel fill and a riser pipe. ~~The riser pipe contains a submersible pump for leachate removal from the detection system.~~ Leachate is removed from the Section 7 leachate detection system via the riser pipe using an above-grade pump.

During standard practices, the detection system is expected to collect a small volume of leachate. Leakage rates collected in the detection system will be used to monitor the performance of the collection system. The action leakage rate for the CEA is discussed in Section 9.3.3.

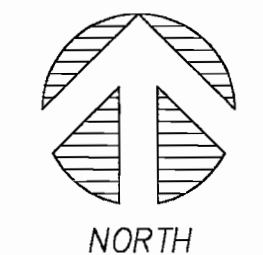
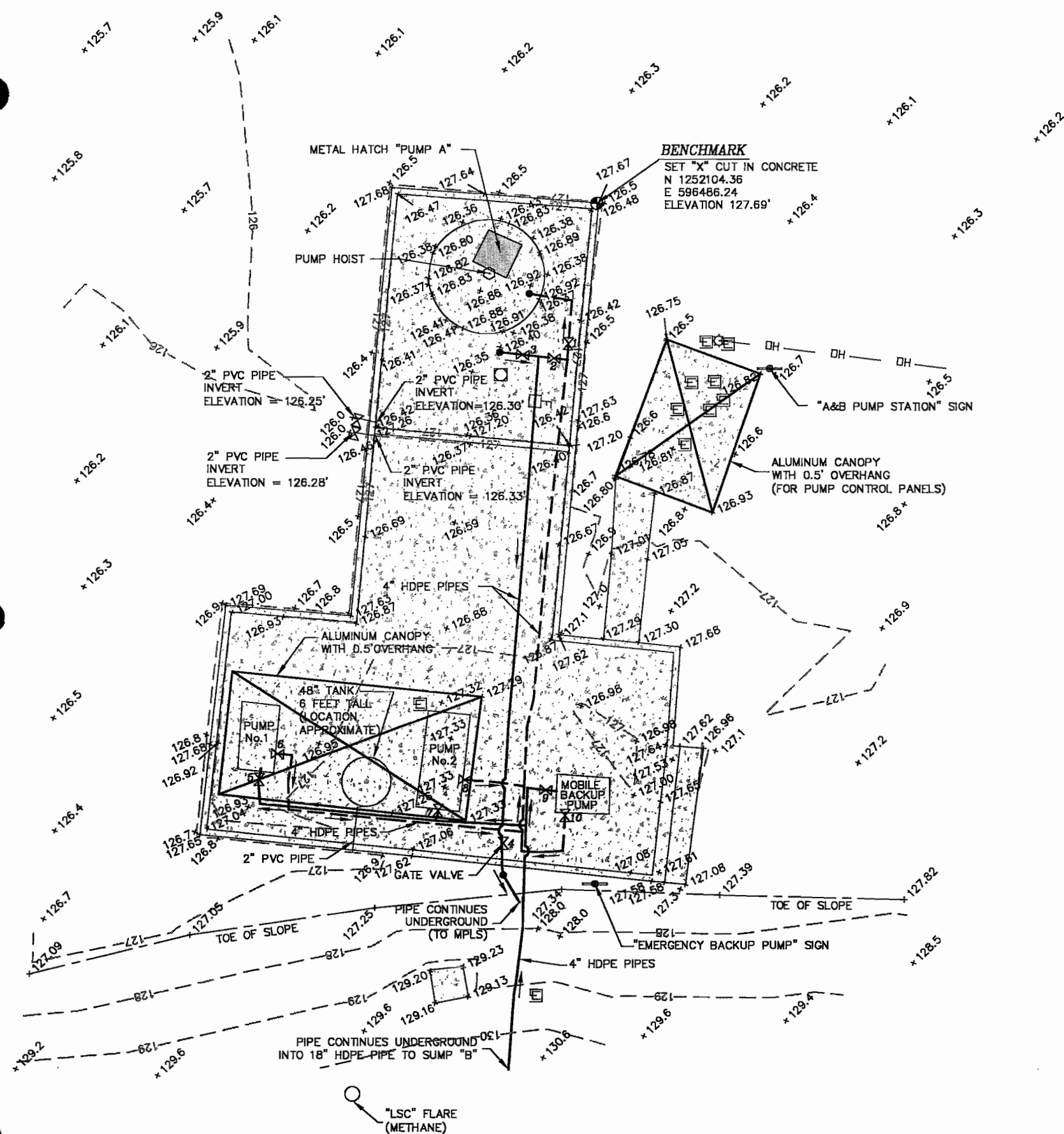
## 3.2.2 Section 8

### 3.2.2.1 Leachate Collection System

Section 8 of the CEA is approximately 6.8 acres. The dimensions of Section 8 are approximately 500 feet long (southwest to northeast) and 660 feet wide (northwest to southeast). Section 8 was designed with a double-liner system—one for leachate collection (primary liner) and the other (secondary liner) for detection of any leachate that may leak through the collection liner. A 300-mil tri-planar geocomposite was installed on the top of each of the 60-mil HDPE geomembranes to convey leachate toward leachate collection trenches. Twelve (12) inches of drainage sand and 12 inches of chipped tires were placed above the primary collection system to provide additional drainage collection and provide puncture protection of the underlying HDPE liners.

ATTACHMENT 2  
CONTAINMENT AREA DRAWINGS





FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
MAR 31 2010  
SOUTHWEST DISTRICT  
TAMPA



GRAPHIC SCALE  
( IN FEET )  
1 inch = 10 ft.

**LEGEND:**

- HDPE HIGH DENSITY POLYETHYLENE
- PVC POLYVINYL CHLORIDE
- MPLS MAIN LEACHATE PUMP STATION
- SHUT OFF VALVE
- ELECTRIC RISER
- FLOW METER
- UTILITY POLE
- VALVE BOX
- INDICATES THE PIPE CONTINUES DOWN
- OVERHEAD LINE
- INFLOW PIPE
- OUTFLOW PIPE
- CONCRETE
- METAL

**SURVEYOR'S NOTES:**

- 1.) This as-built survey was prepared for the specific purpose of recording the constructed features of Pump Station B as directed by the client.
- 2.) North and the Coordinates shown hereon are based on the West Zone of the Florida State Plane Coordinate System, and are based upon provided control referenced to Hillsborough County Horizontal Control Monument LW-H (PID AG8963) and BY-E (PID AG8747), the published values used for this survey are NAD 83 1990 adjustment.
- 3.) Elevations are to National Geodetic Vertical Datum of 1929 and are based upon provided control referenced to Hillsborough County Horizontal Control Monument VR-B (PID AG9078), elevation is 103.08'.
- 4.) Underground improvements, encroachments, foundations and/or utilities were not located as a part of this survey.
- 5.) Site benchmark not shown is a nail & disc in a powerpole with the following coordinates: N 1252159.49, E 596458.70, Elevation 127.26'

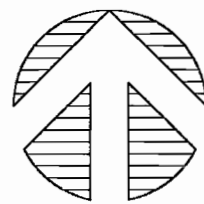
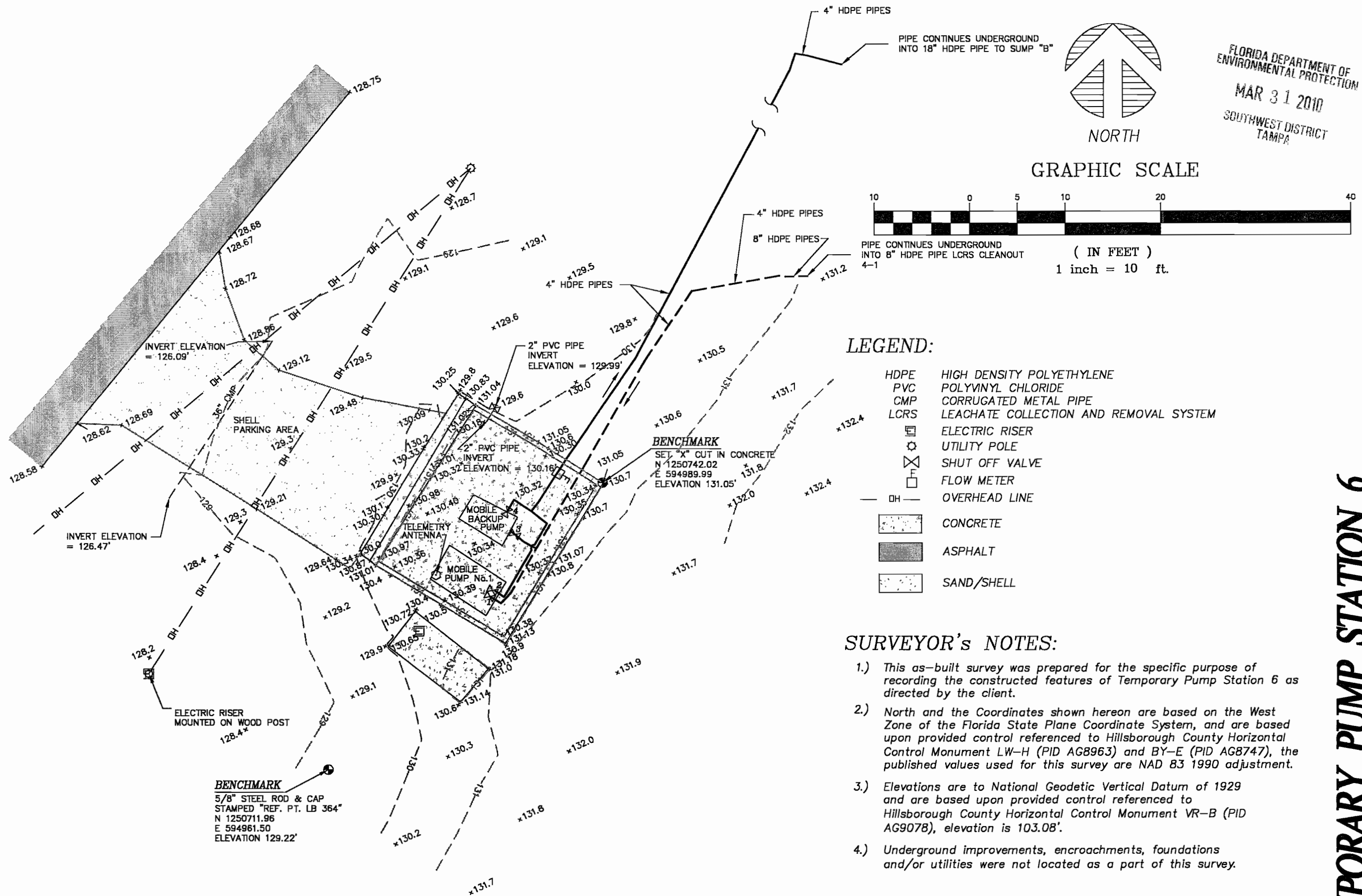
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

475 SOUTH FIRST AVENUE BARTOW, FLORIDA 33530 PHONE: (889)-583-8065 FAX: (889)-584-1664		Drawing Name: 12131-5-ASB
<b>PICKETT</b> SURVEYING & PHOTOGRAMMETRY PICKETT & ASSOCIATES, INC. LICENSED BUSINESS IN FLORIDA		Horiz. Scale: 1" = 10'
Project No.: 12131-5	Sheet No.: 1 of 1	Field Book 724, Page 35-40
Drawn by: SAK	Drawing No.: SD 2847	

**PUMP STATIONS "A" & "B"**

**AS-BUILT SURVEY**

LOCATED IN SECTION 14,  
TOWNSHIP 31 SOUTH, RANGE 21 EAST,  
PREPARED FOR: WASTE MANAGEMENT



NORTH

GRAPHIC SCALE



( IN FEET )  
1 inch = 10 ft.

**LEGEND:**

- HDPE HIGH DENSITY POLYETHYLENE
- PVC POLYVINYL CHLORIDE
- CMP CORRUGATED METAL PIPE
- LCRS LEACHATE COLLECTION AND REMOVAL SYSTEM
- ELECTRIC RISER
- UTILITY POLE
- SHUT OFF VALVE
- FLOW METER
- OVERHEAD LINE
- CONCRETE
- ASPHALT
- SAND/SHELL

**SURVEYOR'S NOTES:**

- 1.) This as-built survey was prepared for the specific purpose of recording the constructed features of Temporary Pump Station 6 as directed by the client.
- 2.) North and the Coordinates shown hereon are based on the West Zone of the Florida State Plane Coordinate System, and are based upon provided control referenced to Hillsborough County Horizontal Control Monument LW-H (PID AG8963) and BY-E (PID AG8747), the published values used for this survey are NAD 83 1990 adjustment.
- 3.) Elevations are to National Geodetic Vertical Datum of 1929 and are based upon provided control referenced to Hillsborough County Horizontal Control Monument VR-B (PID AG9078), elevation is 103.08'.
- 4.) Underground improvements, encroachments, foundations and/or utilities were not located as a part of this survey.

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
MAR 31 2010  
SOUTHWEST DISTRICT  
TAMPA

476 SOUTH FIRST AVENUE  
GAITHER, FLORIDA 33650  
PHONE: (813) 555-5655  
FAC: (813) 554-1164

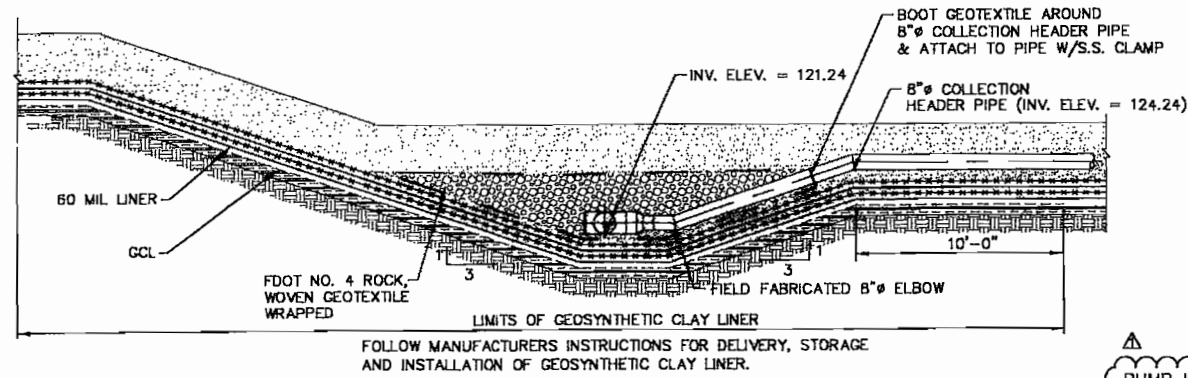


Project No:	12131-4	Drawing Name:	12131-4-ASB
Sheet No:	1 of 1	Horiz. Scale:	1" = 10'
Drawn by:	SAK	Drawing No.:	SD 2848
		Field Book	724, Page 35-40

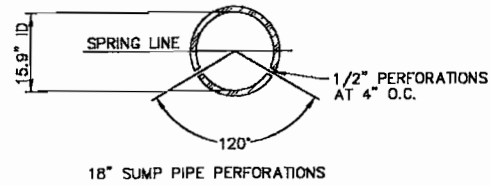
**TEMPORARY PUMP STATION 6**

**AS-BUILT SURVEY**

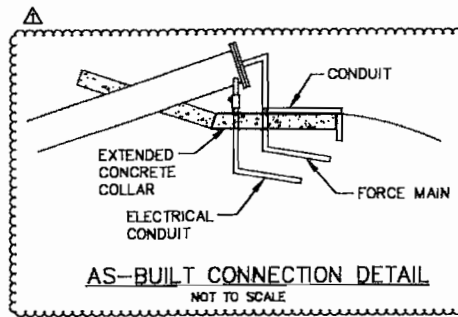
LOCATED IN SECTION 22,  
TOWNSHIP 31 SOUTH, RANGE 21 EAST,  
PREPARED FOR: WASTE MANAGEMENT



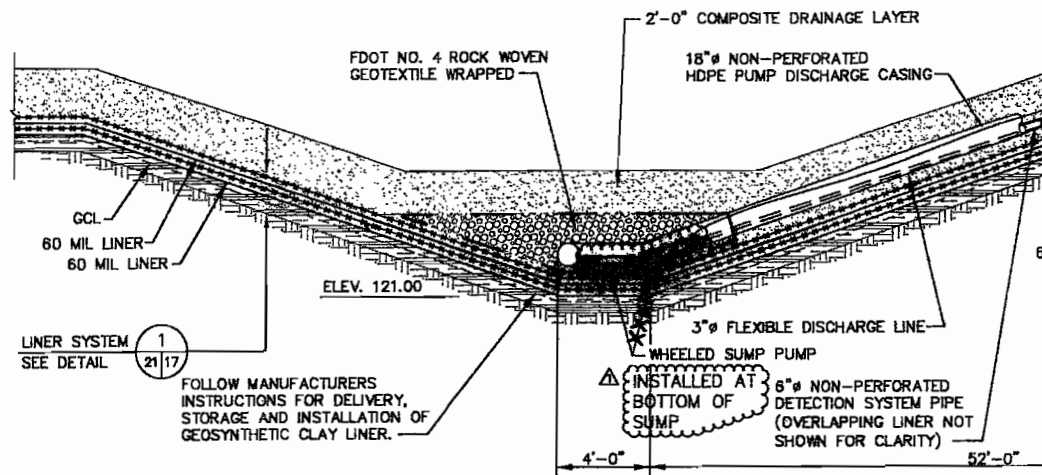
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NOT TO SCALE



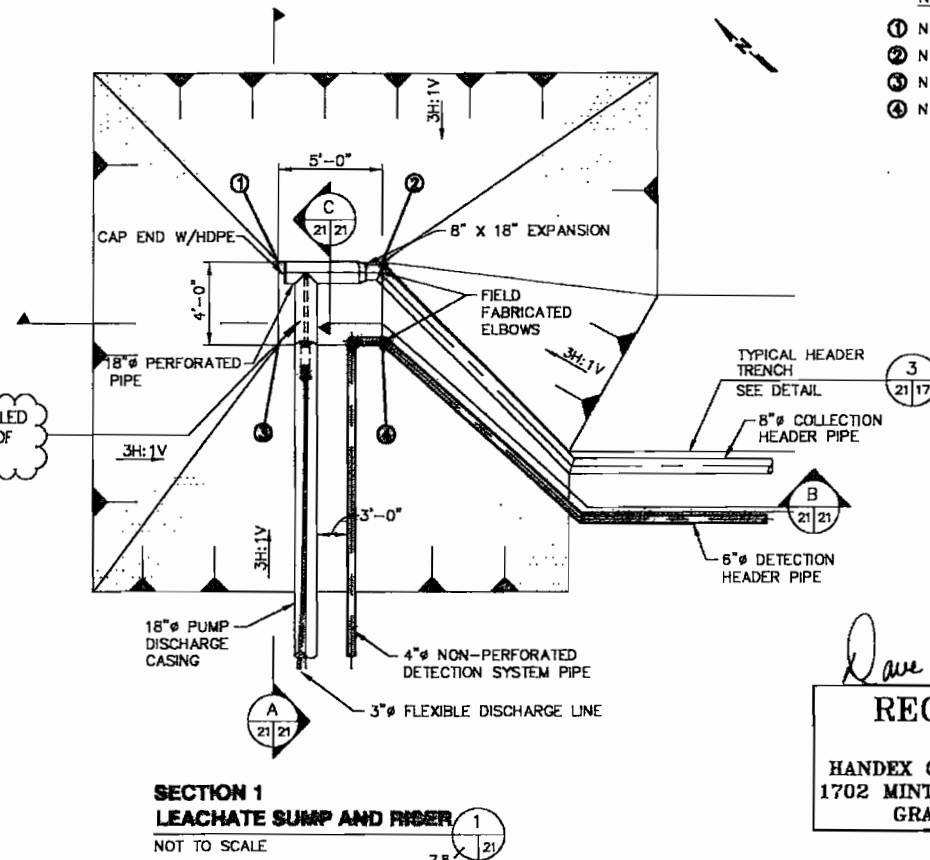
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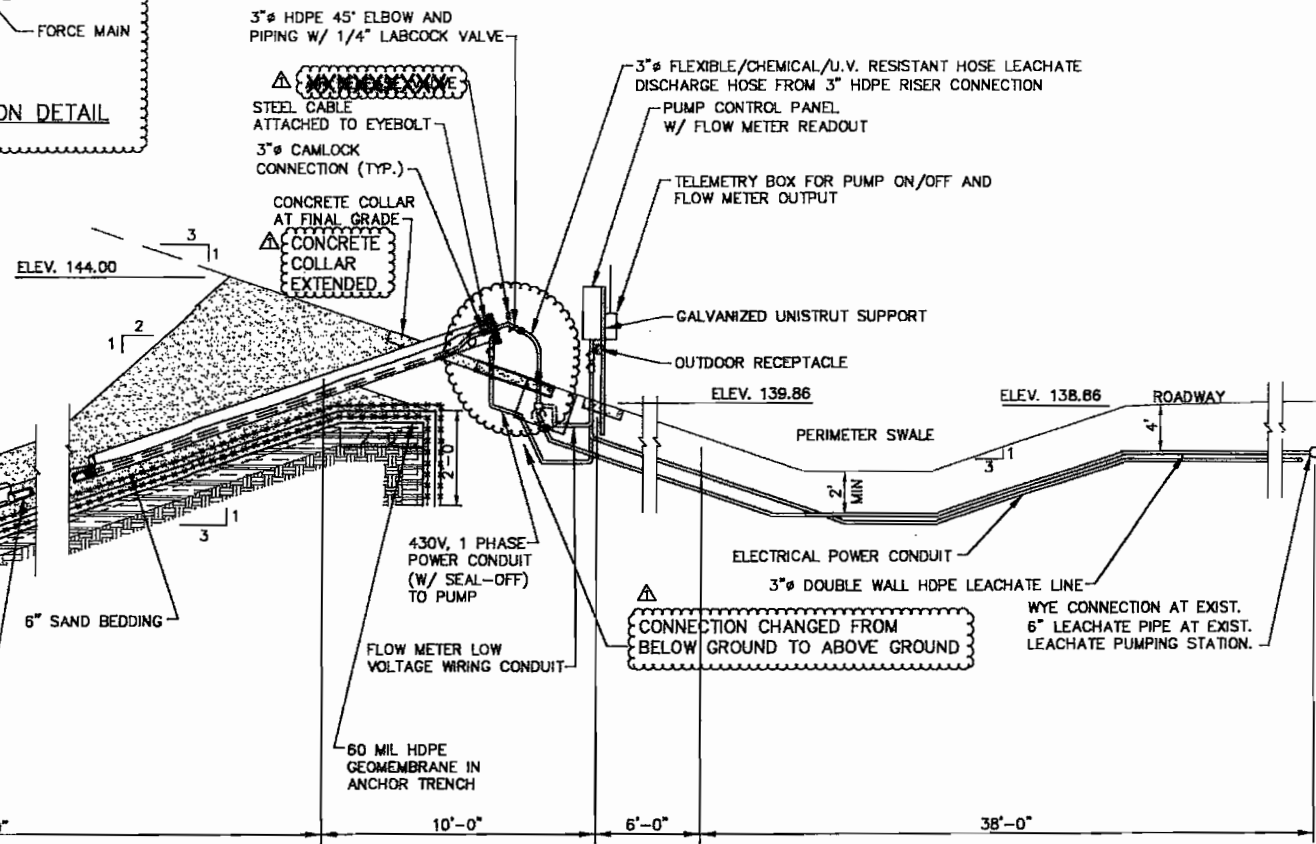
**AS-BUILT CONNECTION DETAIL**  
NOT TO SCALE



**LEACHATE PUMPING SYSTEM PROFILE**  
NOT TO SCALE



**SECTION 1 LEACHATE SUMP AND RISER**  
NOT TO SCALE



	NORTHING	EASTING	ELEVATION
1	N 1251264.82	E 598522.12	121.10
2	N 1251261.79	E 598526.39	121.10
3	N 1251261.82	E 598519.47	121.10
4	N 1251258.78	E 598523.46	121.10

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MAR 31 2010  
SOUTHWEST DISTRICT TAMPA

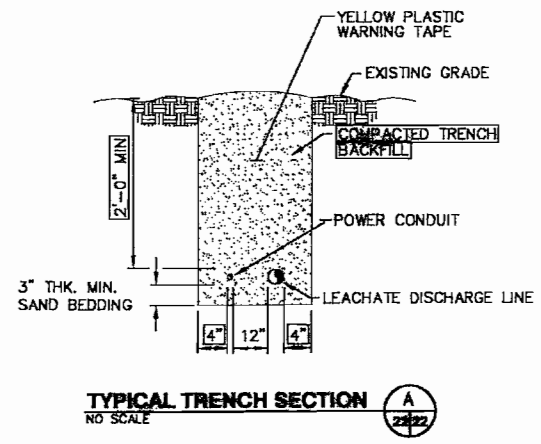
*Dave Whalen*  
**RECORD DRAWINGS**  
PREPARED FOR:  
HANDEX CONSTRUCTION SERVICES, INC.  
1702 MINTERS CHAPEL ROAD, SUITE 214  
GRAPEVINE, TEXAS 76051

REV.	DATE	DESCRIPTION
1	08/08/03	RECORD DRAWINGS
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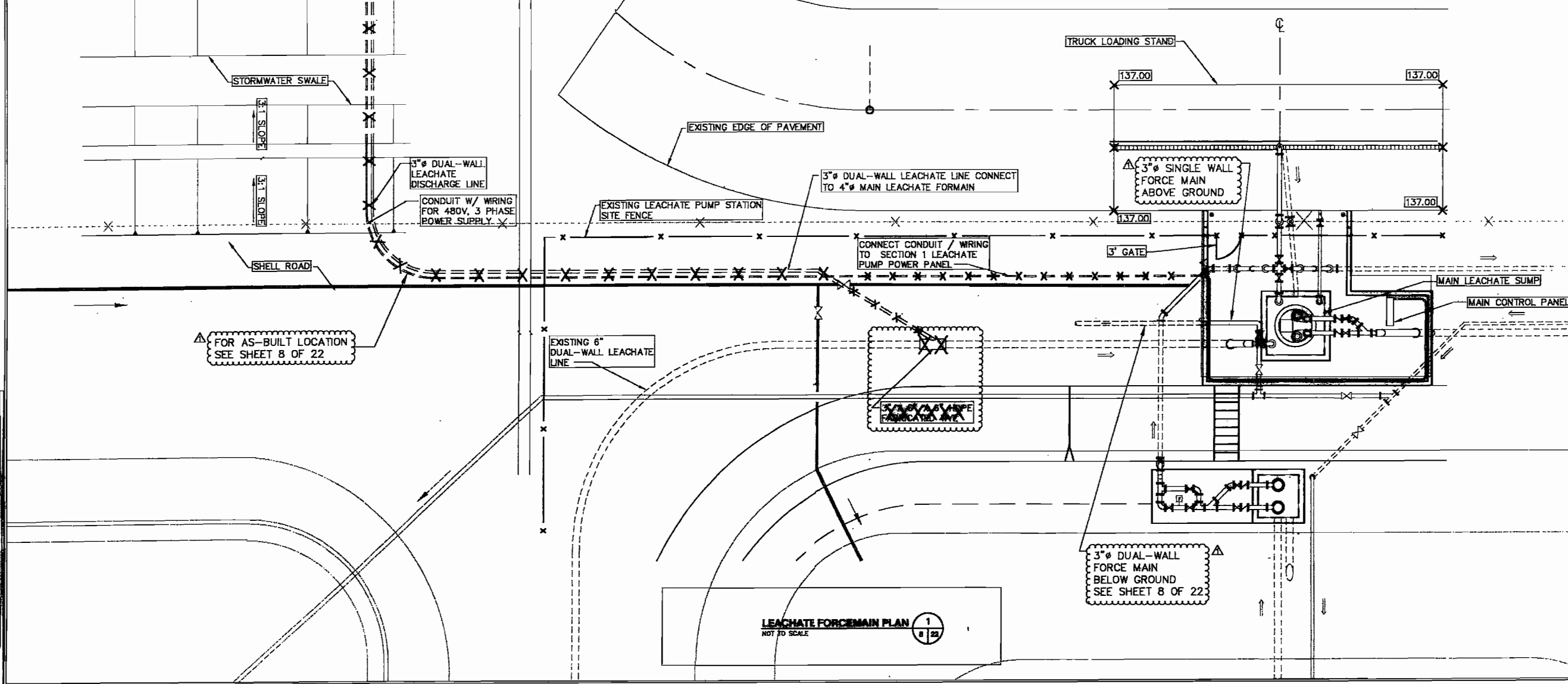
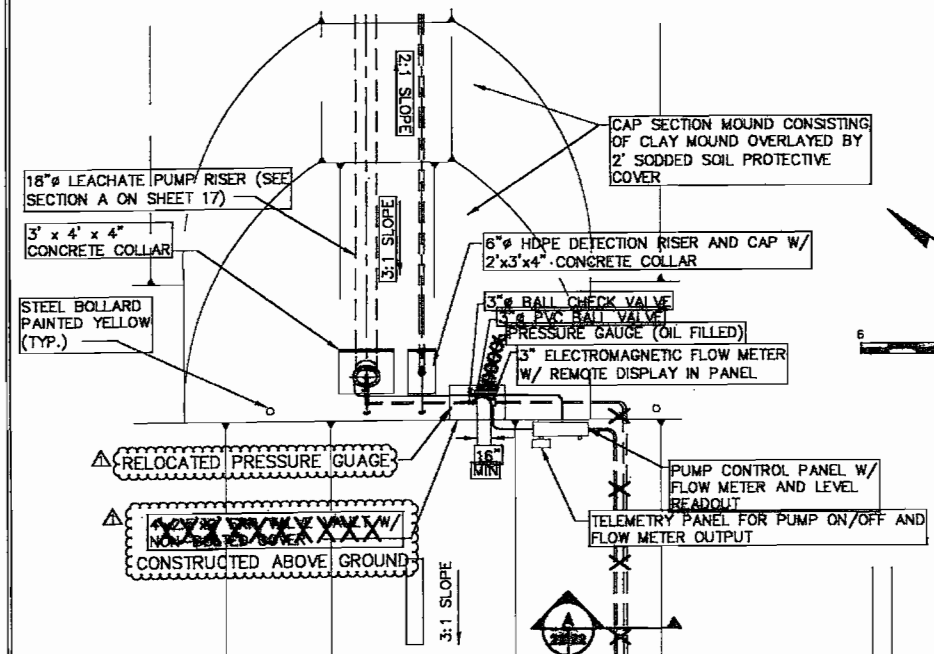
  

DRAWING TITLE	SUMP DETAILS - 1
PROJECT TITLE	SOUTHEAST COUNTY LANDFILL CAPACITY EXPANSION SECTION 1 CONSTRUCTION SET
CLIENT	HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT
DESIGNER	SCS ENGINEERS
DRAWN BY	CONRAD AND SCHMITZ
CHECKED BY	CONRAD AND SCHMITZ
DATE	APRIL 27, 2001
SCALE	AS SHOWN
DRAWING NO.	21 of 22

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 MAR 31 2010  
 SOUTHWEST DISTRICT TAMPA



*Dave Whalen*  
**RECORD DRAWINGS**  
 PREPARED FOR:  
 HANDEX CONSTRUCTION SERVICES, INC.  
 1702 MINTERS CHAPEL ROAD, SUITE 214  
 GRAPEVINE, TEXAS 76051



REV.	DATE	DESCRIPTION	BY
1	08/08/03	RECORD DRAWINGS	MJR

DRAWING TITLE: **SUMP DETAILS - 2**  
 PROJECT TITLE: **SOUTHEAST COUNTY LANDFILL CAPACITY EXPANSION SECTION 1 CONSTRUCTION SET**

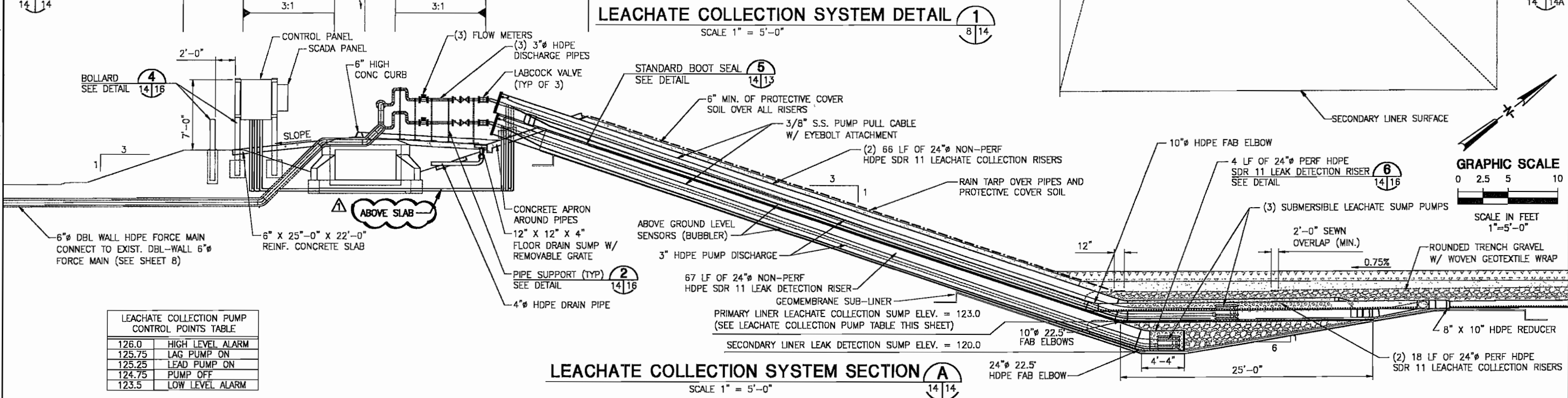
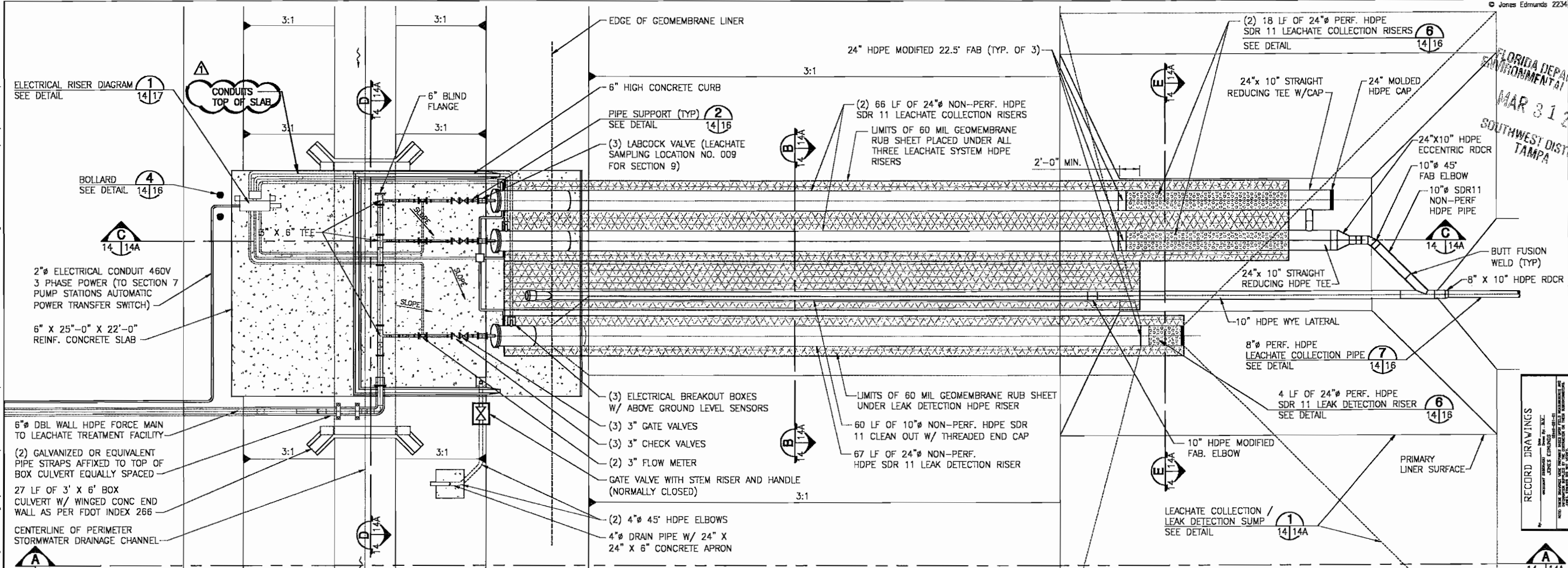
CLIENT: **HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT**

**SCS ENGINEERS**  
 STEPHEN, CORNAD AND COMPANY  
 CONSULTING ENGINEERS  
 3015 U.S. HWY. 90, SUITE 100, TAMPA, FL 33610  
 PH: 813-888-1111 FAX: 813-888-1112

CADD FILE: section\leachdet  
 DATE: APRIL 27, 2001  
 SCALE: AS SHOWN  
 DRAWING NO.

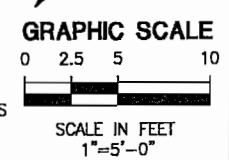
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 Plotted: 6/12/08 6:00pm dwhite

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 MAR 31 2010  
 SOUTHWEST DISTRICT TAMPA



126.0	HIGH LEVEL ALARM
125.75	LAG PUMP ON
125.25	LEAD PUMP ON
124.75	PUMP OFF
123.5	LOW LEVEL ALARM

RECORD DRAWINGS  
 INDEXED  
 DATE: 05/27/08  
 DRAWN BY: JONES EDMUNDS  
 CHECKED BY: JONES EDMUNDS



LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED: JHO/RAS  
 DRAWN: GRD  
 CHECKED: JHO

**JONES EDMUNDS**  
 750 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 977-9821  
 324 S HYDE PARK AVE, TAMPA, FLORIDA 33609 / (813) 288-0703

**HILLSBOROUGH COUNTY  
 SOLID WASTE MANAGEMENT DEPARTMENT  
 SOUTHEAST COUNTY LANDFILL**

**SECTION 9 CAPACITY EXPANSION  
 DETAILS - 2 (LEACHATE SUMP)**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY JOSEPH H. O'NEILL, P.E. P.E. # 052049	DATE 01/2007	PROJECT NO. 08449-021-01
	SCALE AS SHOWN	DWG. NO. 14

ATTACHMENT 3

JANUARY 2004  
LEACHATE WATER BALANCE REPORT

## SCS ENGINEERS

February 9, 2004  
File No. 09200020.24

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

Subject: Leachate Water Balance Report Forms for January 2004  
Southeast County Landfill, Hillsborough County, Florida

Dear Patty:

SCS Engineers (SCS) has compiled and reviewed the leachate management operational data from the Southeast County Landfill (SCLF) for January 2004. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2004 Summary (Table 3). Also attached is a graph showing leachate levels in the Pump Station B sump and rainfall at the site for January (Figure 1). The leachate water balance forms were compiled from data provided by Mr. Matt Matthews from the Hillsborough County Solid Waste Management Department (SWMD). SCS provides commentary on the data, and includes recommendations for modifications to the leachate pumping, treatment, and disposal systems for the SCLF operations where appropriate.

### TABLE 1

#### Day (Column I)

Column I presents the calendar days for the month of January.

#### Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. There was 4.10 inches of rainfall at the SCLF in January.

#### Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in the existing effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. In January, no effluent was stored in Pond A.



**Depth in Pond B (Column IV)**

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. In January no effluent or leachate was stored in Pond B.

**Estimated Depth at Pump Station B Sump (PS-B) (Column V)**

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. In January, PS-B was below the normal operation level of 24 inches except for one day due to a power outage. The average depth of leachate in the PS-B sump for the recorded days in January was 19.0 inches.

**Leachate Pumped to PS-B from TPS-6 (Column VI)**

Column VI presents the quantity of leachate from Phase IV pumped to PS-B by Temporary Pump Station-6 (TPS-6). The quantity of leachate removed by TPS-6 is measured in gallons by an in-line flow meter and is included in the amount of leachate pumped to the MLPS from Phases I-VI (Column VII). The average daily amount of leachate pumped from TPS-6 in January was 24,655 gallons. A total of 764,310 gallons was pumped from TPS-6 to PS-B in January.

**Leachate Pumped to MLPS from Phases I-VI (Column VII)**

Column VII presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The quantity also includes the daily amount of leachate, in gallons, pumped from TPS-6. The average daily amount of leachate pumped from PS-A in January was 38,350 gallons. A total of 1,188,837 gallons of leachate was pumped to the storage tank in January.

**Leachate Pumped from Section 7 Leak Detection System (Column VIII)**

Section 7 at the Capacity Expansion became active to receive waste on January 5 and Column VIII presents the quantity of leachate removed from the leak detection system of Section 7.



The quantity is measured by a flow meter before being pumped back into the Section 7 sump for removal with Section 7 leachate. In January, a total of 6,186 gallons of leachate was removed from the leak detection system of Section 7.

**Leachate Pumped to MLPS from Section 7 (Column IX)**

Column IX presents the quantity of leachate collected at Section 7 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Section 7 (Column VIII). In January, 255,259 gallons of leachate was pumped to the MLPS from Section 7.

**Total Leachate Pumped to LTRF (Column X)**

Column X presents the total quantity of leachate pumped to the LTRF through the MLPS from Phases I-VI and from Section 7. In January, 1,444,096 gallons of leachate was pumped to the LTRF from Phases I-VI and Section 7.

**Leachate in 575,000-Gallon Tank (Column XI)**

Column XI presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank at the LTRF. The amount of leachate stored in the tank is calculated based on the circumference of the tank and the daily level reading. The average daily amount of leachate stored in the tank in January, based on recorded days, was estimated at 400,700 gallons.

**Leachate Treated at LTRF (Column XII)**

Column XII presents the daily amount of leachate, in gallons, treated at the LTRF. The LTRF operations were suspended in early December and the facility is now being readied for its three-year inspection and tank testing. After the inspections are completed, the LTRF will resume full operation. In January, no leachate was treated at the LTRF.

**Total Leachate Hauled (Column XIII)**

Column XIII presents the daily amount of leachate, in gallons, hauled off site. During the month of January, a total of 1,413,342 gallons of leachate was hauled off site.

#### **Leachate Dust Control (Sprayed) (Column XIV)**

Column XIV presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the SCLF. In January, 123,926 gallons of leachate was used for dust control.

#### **Pond A Storage (Column XV)**

Column XV presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column IV). The volume is estimated using AutoCAD software and is based on the cross-sectional area of the pond at varying depths. Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation on the SCLF. The daily average of 800 gallons stored in Pond A in January is stormwater in the sump.

#### **Pond B Storage (Column XVI)**

Column XVI presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of effluent in Pond B (Column IV). The volume of the pond at varying depths is estimated using AutoCAD software and calculations based on the conic method for reservoir volumes. Under normal operating conditions, the daily amount of effluent stored in the pond will vary depending upon the daily amount of effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated on the SCLF. In January, no effluent was stored in Pond B.

#### **Effluent Sprayed at Pond B (Column XVII)**

Column XVII presents the daily amount of effluent, in gallons, sprayed at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B. No effluent was sprayed at Pond B in January.

#### **Effluent Irrigation (Column XVIII)**

Column XVIII presents the daily amount of effluent, in gallons, used for spray irrigation on top of the SCLF. The daily amount of effluent irrigation on the SCLF is measured from the

flow meter at the irrigation pump station. In January, no effluent was used as spray irrigation.

**Effluent Dust Control (Sprayed) (Column XIX)**

Column XIX presents the daily amount of effluent, in gallons, sprayed for dust control in the active area of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. In January, no effluent was sprayed as dust control.

**Total Effluent Hauled (Column XX)**

Column XX presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. In January, no effluent was hauled off site.

**Total Evaporation (Column XXI)**

Column XXI presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or require treatment. The landfill evaporation rate includes 80 percent of the daily values from Columns XIV, XVIII, and XIX plus 5 percent of the daily values from Column XVII. Evaporation rates of 80 percent (based on the HELP model water balance analysis for the site) and 5 percent evaporation rate for spray in Pond B were assumed. The total evaporation for January was 98,900 gallons.

**TABLE 2**

Table 2 presents data assembled from daily logs provided by Mr. Matt Matthews of the SWMD.

**TABLE 3**

**Leachate Balance Summary**

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF (leachate pumped from the SCLF) in January was 1,444,096 gallons. Total outflow quantity from the LTRF (hauled and evaporated) was 1,537,268 gallons. The balance for the month of January decreased by 93,172 gallons.

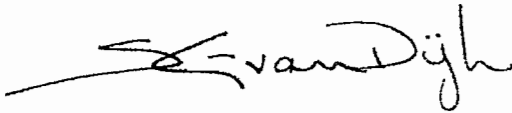
Ms. Patricia V. Berry

February 9, 2004

Page 6

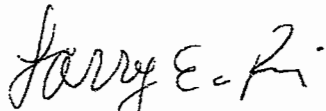
If you have any questions, please do not hesitate to call.

Very truly yours,



Sheila Carpenter-van Dijk, E.I.

Project Engineer



Larry E. Ruiz, Assoc. AIA

Project Manager

SCS ENGINEERS

cc: Matt Matthews

SCV/LER:scv

Attachments

**ATTACHMENT 4**  
**REVISED LMP SECTION 6.0**

## 6.0 LEACHATE TREATMENT AND RECLAMATION FACILITY (LTRF)

In December 1994, the SWMD constructed an on-site LTRF. The LTRF system and operation are described in detail in the *General Process and Operation Manual for the Powder Activated Carbon Treatment (PACT) system*, Volume III, prepared by Zimpro Environmental, Inc dated March 1994.

Process tanks and equipment are maintained in accordance with *General Process and Operation manual for the Powder Activated Carbon Treatment (PACT) PACT System*, dated March 1994.

The treatment system of the LTRF includes biological treatment components. The LTRF is operated according to the operation manual listed above provided by the manufacturer with the exception that the powder-activated carbon is no longer used. The maximum treatment capacity of the LTRF is 60,000 gallons per day.

After treatment the leachate is pumped through a 4-inch-diameter single-walled HDPE pipe to the effluent storage pond (Pond A) or the effluent/leachate storage tank (T6) described in Section 7.0.

The effluent from the LTRF must meet pre-treatment standards before being pumped to a tanker truck for transport to Hillsborough County's wastewater treatment facilities.

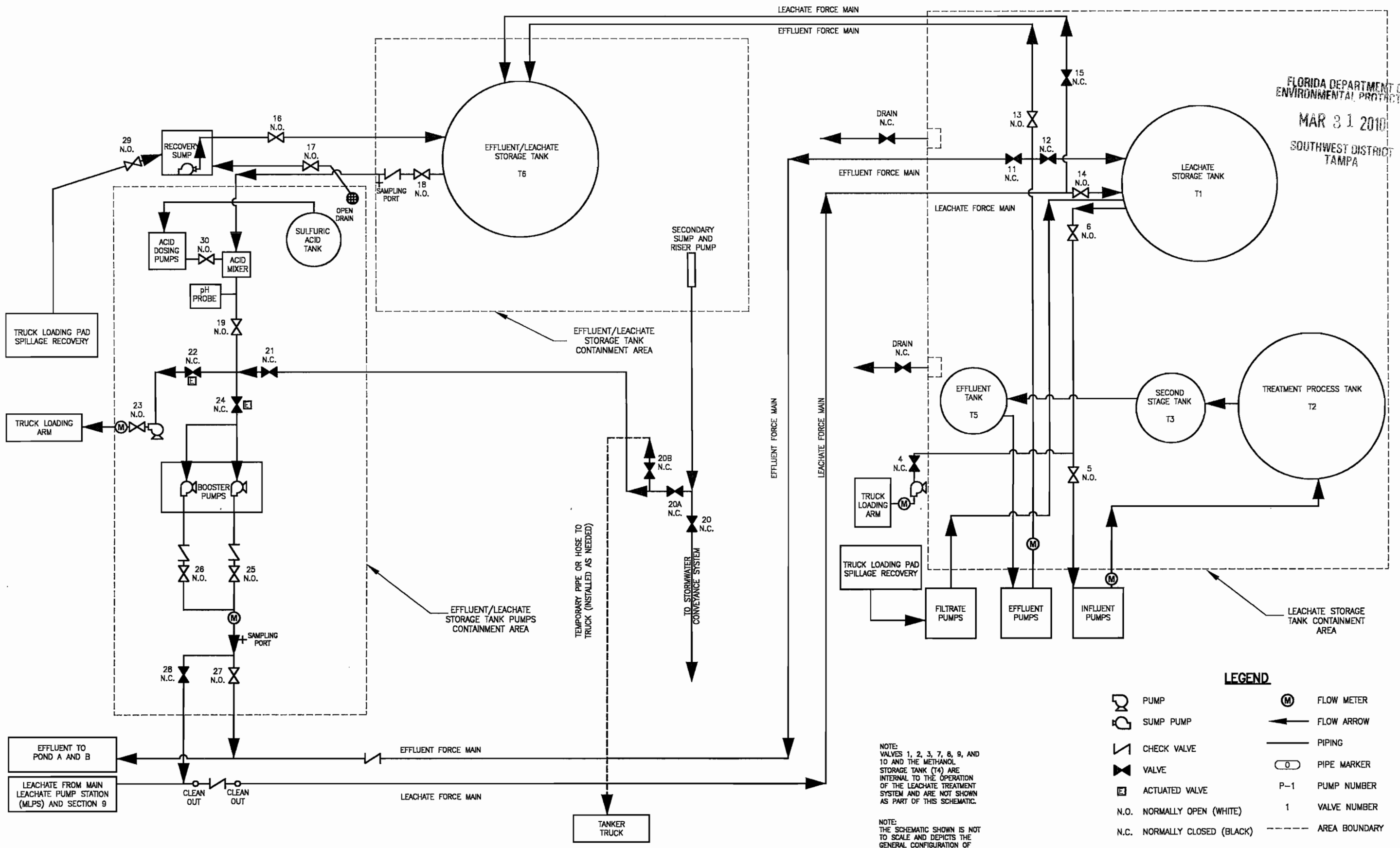
The primary process tank at the LTRF includes a skirt on the southeast quadrant at the top perimeter of the tank intended to minimize process foam from the tank from blowing outside the tank to the containment area. In the event the foam is found outside the tank in the containment area the following cleaning process should be followed:

1. Pressure wash the affected areas.
2. The wash water will be collected and placed in the leachate storage tank.

ATTACHMENT 5

REVISED LEACHATE AND EFFLUENT/LEACHATE  
STORAGE TANK SCHEMATIC

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
MAR 31 2010  
SOUTHWEST DISTRICT TAMPA



NOTE: VALVES 1, 2, 3, 7, 8, 9, AND 10 AND THE METHANOL STORAGE TANK (T4) ARE INTERNAL TO THE OPERATION OF THE LEACHATE TREATMENT SYSTEM AND ARE NOT SHOWN AS PART OF THIS SCHEMATIC.

NOTE: THE SCHEMATIC SHOWN IS NOT TO SCALE AND DEPICTS THE GENERAL CONFIGURATION OF THE PUMP STATION AND DOES NOT REPRESENT THE ACTUAL PIPE SPACING OR LAYOUT.

**LEGEND**

- PUMP
- SUMP PUMP
- CHECK VALVE
- VALVE
- ACTUATED VALVE
- N.O. NORMALLY OPEN (WHITE)
- N.C. NORMALLY CLOSED (BLACK)
- FLOW METER
- FLOW ARROW
- PIPING
- PIPE MARKER
- P-1 PUMP NUMBER
- 1 VALVE NUMBER
- AREA BOUNDARY

**LEACHATE AND EFFLUENT/LEACHATE STORAGE TANK SCHEMATIC**

08/10-01  
 Plotted: 3/11/10 5:55pm JTimmons  
 N:\06448 Hillborough County\_030-04\_2100\Leachate Storage Tank.dwg  
 1:58 PM JTIMMONS  
 LAST SAVED: 12/21

