

BROWARD COUNTY SOUTHWEST REGIONAL LANDFILL OPERATIONS PLAN

Revision No.1 - Version June 2011

Broward County Southwest Regional Landfill
7101 S.W. 205 Avenue
Ft. Lauderdale, FL

Prepared by:

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Southwest Regional Landfill (SRL)
Operations Plan Revision No. 1 – Version June 2011
Summary of Revisions

I. Global Revisions to the Landfill Operations Plan – Version 2009

- a. The name of the facility has been formally changed from the Broward County Interim Contingency Landfill to the Southwest Regional Landfill.
- b. All references to the Chapter 62-701 of the Florida Administrative Code (FAC) will reference the applicable portions of the current version of Chapter 62-701 FAC, dated January 6, 2010.
- c. The Class I Landfill Solid Waste Operations Permit (No. 0053055-008-SO) was renewed by FDEP on May 5, 2011.
- d. The Title V Air Operation Permit (No. 0112370-005-AV) was renewed by FDEP on September 8, 2008.

II. Specific Revisions to the Landfill Operations Plan – Version 2009

- a. Page iv, Revision Log, has been modified as attached.
- b. Page 2-1, Section 2.1, 1st paragraph, has been modified as follows:

The SRL, located in southwest Broward County, is owned and operated by Broward County (County). The SRL was designed, constructed, and permitted as a Class I Landfill in accordance with FDEP requirements to provide a backup disposal facility in case of a significant reduction in the availability of the South Broward waste-to-energy facility. Under normal circumstances, municipal waste is not accepted; instead, only non-putrescible waste that is deemed "Unprocessable" by the waste-to-energy facilities is accepted at the Site. The term Unprocessable Waste is defined in the Broward Solid Waste Disposal District Plan of Operations, as amended.

- c. Page 2-1, Section 2.1, the following paragraph is added to the end of the section as follows:

However, as the facility was used in the past (during an interim period from 1988 to 1991) to accept Class I waste, the facility may serve to accept Class I waste for interim periods in the future. Should this be the case, the facility will transition from normal to contingency operations as defined in Section 4.6 of this plan.

- d. Page 2-2, Section 2.5.1, has been modified as follows:

The Class I Landfill area consists of 52 acres of constructed cells 1 through 3 and approximately 158 acres of cleared land permitted for construction of future cells as shown on Figure 2.2. The planned filling sequence for the landfill is shown in the drawing set titled "Interim Contingency Landfill Final Grade and Phasing Plan, July 2001", prepared by Malcolm Pirnie Inc.

- e. Page 2-6, Table 2-1, has been modified as attached.
- f. Page 3-1, Section 3.2, 1st paragraph has been modified as follows:

A total of 14 full time staff is assigned to the SRL facility. Staffing assignments by their function for normal operating mode are summarized in Table 3-1. Any additional staff necessary to manage the incoming waste stream under contingency operations will be brought in through a contractor.

- g. Page 3-1, Table 3-1, has been modified as attached.

- h. Page 4-9, Section 4.5.3, 2nd paragraph, is replaced by the following:

Alternative to soil for initial cover may include the following:

- Tarps (hand or mechanically deployed)
- Spray on Materials such as 480TM and ConcoverTM
- Mixtures of 50% of wood chip and 50% of soil
- Recovered Screen materials (RSM) from C&D recycling facilities
- Street sweepings
- Shredded yard waste (not green in color)
- Ground up C&D debris

- i. Pages 4-11 and 4-12, Section 4.6, entire section replaced by the following:

In case of a significant loss of availability at the South Broward waste-to-energy facility or other reason deemed necessary by the County, the County may direct that the site convert to contingency operation mode to accept processable (Class I) waste initially anticipated to be disposed of by the waste-to-energy facilities. The change in operations will affect the Weigh Station operations, road maintenance and litter patrol operations, initial cover operations and waste disposal in the disposal facility.

The waste screening process will be the same as applied during normal operations except household waste will be accepted, and a much greater quantity of waste per day will be screened. Operations will be modified by temporarily reassigning current staff (per Section 3.2) as necessary and/or by providing additional resources through contracting. Any additional equipment necessary to manage the incoming waste stream under contingency operations will be acquired through lease, purchase and/or contractor.

The following combination of key equipment and personnel are sufficient to manage a waste disposal capacity of 2,000 tons per day for a short-term basis:

- Three dozers and one compactor will be used at an expanded working face;
- A frontend loader and one or two dump trucks will be required to haul initial cover to the active area;
- Two Spotters will be required at the expanded working face; and
- One to three workers will be required to collect litter depending on weather conditions.

The transition from normal to contingency modes of operation will require the following changes:

- Reassign personnel or contract out for additional resources to increase landfill disposal operation staff;
- Weigh Station Operators will have to enter information for many new vehicles on first day;
- Expand the active area working face to accommodate more disposal vehicles;
- Change from weekly to daily application of initial cover;
- Increase road maintenance and litter collection activity; and,
- Install litter fences to control the spread of litter as needed

During contingency operations, extra effort will be required to maintain the waste screening procedure, site maintenance, equipment maintenance, Leachate and Gas Management procedures, and routine inspections to the same level of quality performed during normal operations. The procedures for these activities are not affected by the change to contingency operations and designated personnel shall continue to perform the same procedures regardless of the increased disposal rate and increased requirement for cover application.

- j. Page 5-3, Section 5.2.3, last paragraph, has been modified as follows:

Leachate quality shall be monitored annually, with samples taken at the leachate storage tanks as required by the FDEP Solid Waste Operations Permit (No. 0053055-008-SO) Section 2 – Specific Conditions, Subsection D - Water Quality and Leachate Monitoring Requirements, Condition 27. Leachate sampling and testing shall be performed by the water quality sampling and testing contractor (see contact list in Appendix D).

- k. Page 5-4, Section 5.5, has been modified as follows:

A survey or inspection of the leachate collection system pipes shall be conducted by jet cleaning or video monitoring at five-year intervals to coincide with Permit renewal cycles as required by the FDEP Solid Waste Operations Permit (No. 0053055-008-SO) Section 2 – Specific Conditions, Subsection C – Landfill Operation Requirements, Condition 6. This survey shall demonstrate that the leachate collection system is operating as designed.

- l. Page 7-3, Section 7.7, 1st paragraph has been modified as follows:

The Water Quality Monitoring Program for the SRL is primarily defined by the FDEP Solid Waste Operations Permit (No. 0053055-008-SO) Section 2 – Specific Conditions, Subsection D - Water Quality and Leachate Monitoring Requirements. The Water Quality Monitoring Program addresses sampling and testing of groundwater, surface water and leachate and is designed to detect if leakage from the landfill affects groundwater or surface water. The Water Quality Monitoring Program is performed by the Water Quality Monitoring Consultant (see contact information in Appendix D). Landfill operations staff is responsible for inspecting and maintaining the sampling points and monitoring wells.

- m. Page 9-2 and 9-3, Section 9.3, 4th paragraph, has been modified as follows:

The leachate collection piping in the base of the landfill must be maintained to prevent clogging and poor collection efficiency. The leachate collection system pipes shall be inspected by jet cleaning or video monitoring at five-year intervals to coincide with Permit renewal cycles as required by the FDEP Solid Waste Operations Permit (No. 0053055-008-SO) Section 2 – Specific Conditions, Subsection C – Landfill Operation Requirements, Condition 6.

- n. Page 10-2, Section 10.3, 1st paragraph, has been replaced by the following:

The amount (in tons per day) of solid waste received at the facility shall be recorded, compiled monthly, and submitted to the FDEP annually as required by the FDEP Solid Waste Operations Permit (No. 0053055-008-SO) Section 2 – Specific Conditions, Subsection C – Landfill Operation Requirements, Condition 2. Tonnage shall be reported for the following categories

- Municipal Solid Waste
- Class III Waste
- Ash Residue
- Other Wastes

- o. Appendix A – Entire Appendix replaced by the following:

With the recent reorganization that occurred at the facility, current staff are in the process of being cross-trained. Staff responsibility will be commensurate with their current level of training. In accordance with 62.701.320(15), a trained operator shall be on duty at the facility at all times that the facility is operating. In addition, a sufficient number of spotters shall be on duty at the working face to inspect the incoming waste at all times waste is being accepted at the site.

- p. Appendix D – Contact List has been modified as follows:

Contact	Company Name	Contact Person	Phone Numbers
Additions			
Land Surveyor	Keith and Schnars, P.A.	Robert Krisak	(954) 776-1616
Water Quality Monitoring Consultant	URS	Vik Kamath	(305) 790-5829
Scrap Metal Contractor	Town of Ojus	Michael Wasserberg	(954) 972-3789
Deletions			
Wetland Mitigation	Aquagenix	Eric Malloy	(561) 881-1291
Temporary Flare Lease	Shaw Environmental	Neil Campbell	(305) 818-2617

- q. Appendix E – SRL Supervisors Daily Log has been replaced as attached.
- r. Figure 3.1 – Organization Chart has been replaced as attached.

Revision Log		
Revision No.	Date	Description
0	June 2009	Replace March 2002 Version
1	June 2011	Revisions to Address Interim Acceptance of Class I Waste

Table 2-1 Primary Landfill and Maintenance Equipment				
Equipment Category	Unit No.	Year	Make	Model
Waste Spreading Dozers	8540	2000	CAT	D8 Dozer
	8541	2000	CAT	D8 Dozer
	81379	2011	J DEER	Crawler Dozer 650J
Waste Compactor	81125	2007	BOMAG	Compactor
Cover Construction and Maintenance	8222	2006	STERL	Tractor
	81396	2011	FRIEGHTINER	Dump Truck
	8464	2004	STIRLING	Dump Truck
	8465	2004	STIRLING	Dump Truck
	8525	1996	STIRLING	Truck Tractor
	8535	1999	Holland	575E Backhoe
	8496	2003	J DEER	Wheel Loader
Dust Control and Road Cleanup	8532	1997	J DEER	Water Wagon
	81304	2009	PIRANDA	Trailer Sweeper
	81292	2009	PIONEER	Trailer mounted trash pump
	81293	2009	PIONEER	Trailer mounted trash pump
Waste Hauling	8221	2006	MACK	Roll-off Truck
	81345	2010	WARREN	Walking Floor Trailer
	81390	2011	WARREN	Walking Floor Trailer
Leachate Hauling and Temporary Pumping	81241	2009	INT'L	Semi Tractor
	81391	2011	TREMCAR	Tanker
	81323	2010	BRENNER	Tanker
Mowers (Also used for Davie Landfill)	8023	2006	TORO	Z587
	8405	2001	SCAG	Turf Tiger
	8443	2005	MASSEY	5455 Farm Tractor
	81361	2010	TORO	Z587
	81376	2010	TORO	Z587
	81300	2009	BUSH HOG	Rotary Mower
	81312	2009	KUBOTA	Tractor Mower
	8543	2001	SCAG	Turf Tiger 72" cut
	8510	1994	FORD	Motrim Mower
	81375	2010	COMMANDER	Batwing Mower
	81376	2001	BUSH	Batwing Mower
	81238	2008	BUSH	#3008
Light Towers	7018	2007	Baldor	PL6000K LT TWR
	7022	2007	Baldor	PL6000K LT TWR
	7023	2007	Baldor	PL6000K LT TWR
Utility Vehicles	81384	2011	Kubota ATV	4x4 16 HP RTV-900 #B0206
	81385	2011	Kubota ATV	4x4 16 HP RTV-900 #B0206
	81386	2011	Husqvarna ATV	4x4 20HP HUV-4421DXP
Trailer	7257	1988	Low Boy	50 Ton Trailer

Note: Any additional equipment necessary to manage the incoming waste steam under contingency operations will be acquired through lease, purchase and/or contractor.

Table 3-1 BIC Landfill Staffing				
Job Description	Management	Clerical or Administrative	Landfill Ops	Minimum Training Level
Landfill Superintendent	1			Operator
Supervisors			2	All Operators
Administrative/Clerical		2		NA
Weigh Station Operators			2	NA
Equipment Operators I			2	NA
Equipment Operators II			1	NA
Equipment Operators III			4	4 Trained Spotters
TOTAL	1	2	11	

SOUTHWEST REGIONAL LANDFILL SUPERVISORS DAILY LOG

May 2011

SUPERVISOR ON DUTY

NAME - PRINT:

SIGNATURE:

DATE:

RAIN GAUGE READING:

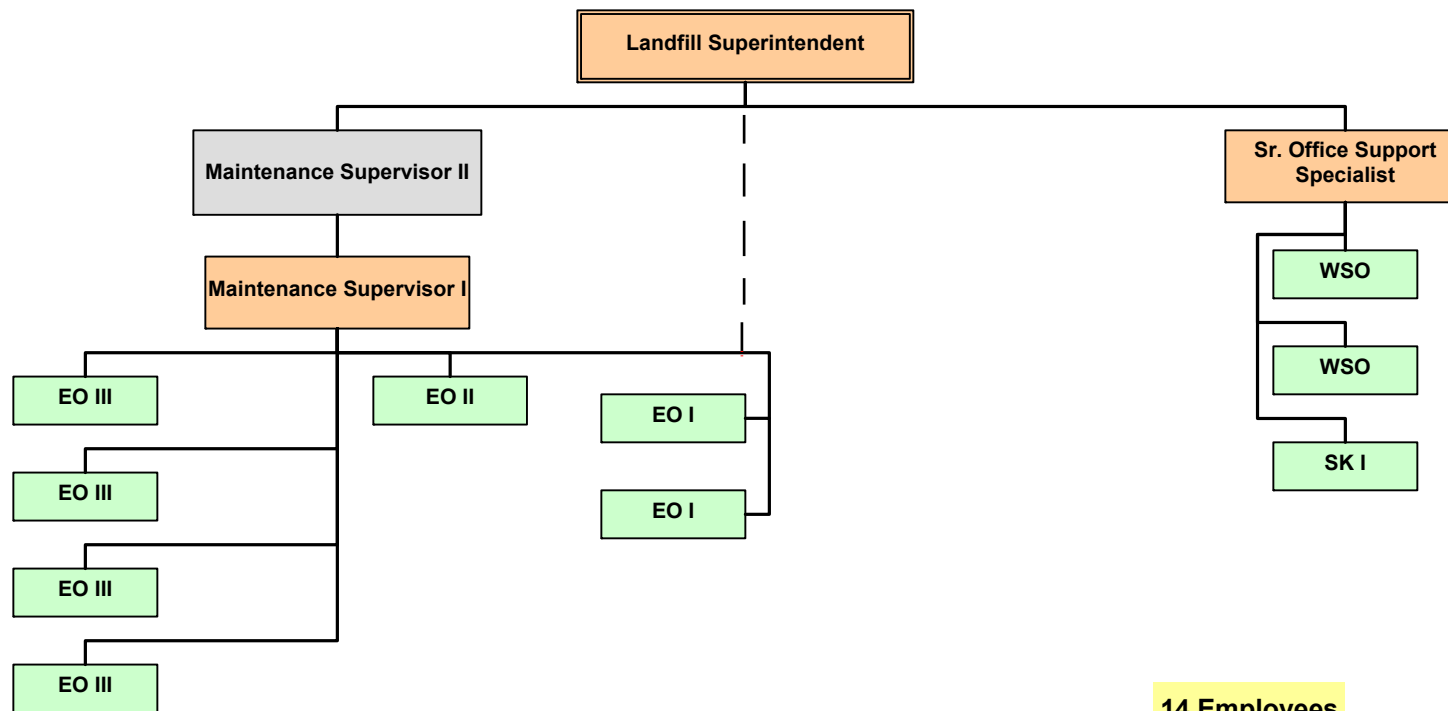
NAME	JOB ASSIGNMENT	EQUIP. #
EQUIPMENT OPERATORS		
SALTER III		
AZAEL III		
HOWARD	OUT ON WORKMEN'S COMPENSATION	
MARTIN II		
MAGANA I		
EQUIPMENT STATUS:		
WEIGH STATION OPERATORS		
CASTILLO		
RODRIGUEZ		
STORE KEEPER		
MONTICONE		

CONTRACTORS ON SITE:

SAFETY ISSUES (INJURIES/ACCIDENTS) NOTE: PLEASE USE APPROPRIATE FORMS IN CONJUNCTION TO DOCUMENT/REPORT ANY INCIDENTS

PERSON CONDUCTING RANDOM LOAD INSPECTIONS:
MEETINGS:
PROJECTS:
LOADS FROM CONTRACTOR (AICM) TAKEN TO LANDFILL:

Figure 3.1
**SOUTHWEST REGIONAL LANDFILL
Organization Chart**



14 Employees

KEY

EO = Equipment Operator SK = Store Keeper
WSO = Weigh Station Operator

6/01/2011

BROWARD COUNTY INTERIM CONTINGENCY LANDFILL OPERATIONS PLAN

Broward County Interim Contingency Landfill
7101 S.W. 205 Avenue
Ft. Lauderdale, FL

Prepared for:
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April 2009

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environmental and civil engineering

BROWN AND CALDWELL

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REVISION LOG

Revision No.	Date	Description
0	June 2009	Replace March 2002 Version

This section has been modified- see revised Landfill Operations Plan, Version June 2011.



BIC LANDFILL OPERATIONS PLAN

1. INTRODUCTION

1.1 Purpose of Operations Plan

This Broward Interim Contingency (BIC) Landfill Operations Plan (Operations Plan) provides detailed instructions for daily operation of the BIC Landfill for the purpose of ensuring consistent, effective and efficient facility operational procedures and as a tool for training personnel. This document meets the minimum requirements of Rule 62-701.500 FAC but also provides additional instructions related to the unique operations of the BIC Landfill for both normal and contingency operation modes, as these modes are described further herein. The Operations Plan does not contain all landfill related policies and procedures, and does not supersede such policies and procedures. Should there be a conflict between the Operations Plan and other policies, procedures, or management direction, the Landfill Superintendent will resolve such issues at the landfill, based on direction provided by the Solid Waste Operations Division Director.

1.2 Operations Plan Maintenance

This Operations Plan shall be maintained at the on-site BIC Landfill Administration Building and shall be accessible to the landfill staff. The Operations Plan includes the Operating Record described in Section 9, which shall be kept with the Operations Plan. The Operations Plan and Records shall be available for inspection by Florida Department of Environmental Protection (FDEP) personnel at reasonable times.

This version of the Operations Plan replaces the March, 2002 Operations Plan, and any other Operations Plan prepared for the BIC Landfill. The Operations Plan will be revised whenever operational procedures change and every time the Landfill Operation Permit is renewed (every five years). Each revision of the plan should be documented in the Revisions Log Located immediately following the Table of Contents.

1.3 Organization

The Operations Plan is organized as follows:

- A description of the BIC Landfill facility is presented in Section 2;
- The facility's staffing and organization plan, personnel responsibilities, and training requirements are described in Section 3;
- Instructions for waste disposal operations are presented in Section 4;
- Leachate management operations are presented in Section 5;
- Landfill gas management operations are presented in Section 6;

- Instructions for operation of the ancillary facilities such as the Weigh Station, special waste storage areas, stormwater management system, and water quality monitoring system are presented in Section 7;
- Fire Safety and Prevention is discussed in Section 8;
- The inspection and maintenance program is presented in Section 9;
- Record keeping requirements are discussed in Section 10;
- The Emergency Preparedness and Response Plan is presented in Section 11.



BIC LANDFILL OPERATIONS PLAN

2. FACILITY DESCRIPTION

2.1 Purpose of Facility

The BIC Landfill in southwest Broward County is owned and operated by Broward County (County). The BIC Landfill was designed, constructed, and permitted as a Class I Landfill in accordance with FDEP requirements to provide a backup disposal facility in case of a significant reduction in the availability of the South Broward waste-to-energy facility. However, under normal operations, municipal waste is not accepted; instead, only non-putrescible waste that is deemed “Unprocessable” by the waste-to-energy facilities is accepted at the Site. The term Unprocessable Waste is defined in the Broward Solid Waste Disposal District Plan of Operations, as amended.

This section has been modified- see revised Landfill Operations Plan, Version June 2011.

The definition for Unprocessable Waste is paraphrased:

“...Unprocessable Waste shall mean that portion of the solid waste stream that is predominantly noncombustible and therefore should not be processed in a mass burn resource recovery system. Unprocessable Waste shall include, but not be limited to metal furniture and appliances, concrete rubble, gravel and other earthen materials, equipment, wire and cable...”

2.2 Location

The BIC Landfill Site (Site) entrance is on the north side of Sheridan Street 0.8 miles east of US 27 in Broward County as shown on the Location Map of Figure 2.1. The Site occupies a total of 588 acres, with 263 acres designated to be within the disposal facility boundary.

2.3 Hours of Operation

For normal operations, the Site is open for disposal from 8:00 am through 5:00 pm Monday through Saturday, except for legal holidays. Staff work from 7:30 am to 5:30 pm. The hours of operation are effective year round. The facility is closed on pre-designated holidays.

Extended hours may be implemented during emergencies.

2.4 Overview

The layout of the on-site features is shown on Figure 2.2. The main features include:

- Lined Class I Landfill consisting of three constructed cells;
- Future Class I Landfill area;
- Roads;
- Administrative Building;
- Maintenance Facility;
- Weigh Station with two scales;

- Public Convenience Drop off Area;
- Scrap Metal and White Goods Storage;
- Wood and Yard Waste Storage;
- Waste Tire Storage;
- Leachate Collection, Transmission, and Storage System;
- Landfill Gas Collection and Flare System;
- Stormwater Management System;
- Water Quality Monitoring System; and
- Landfilling and Site Maintenance Equipment

These site features and operational systems are described in the following subsections.

2.5 Lined Disposal Facility

2.5.1 Cell Layout

The Class I Landfill area consists of 52 acres of constructed cells 1 through 3 and 211 acres of cleared land permitted for construction of future cells as shown on Figure 2.2. The planned filling sequence for the landfill is shown in the drawing set titled “Interim Contingency Landfill Final Grade and Phasing Plan, July 2001”, prepared by Malcolm Pirnie Inc.

This section has been modified-see revised Landfill Operations Plan, Version June 2011.

2.5.2 Liner and Leachate Collection

Stormwater that percolates through waste picks up contaminants and becomes leachate. The landfill cells are lined with a double liner system to collect the leachate at the bottom of the landfill and prevent it from leaking into the ground, potentially contaminating groundwater. The leachate collection system (LCS) is the part of the liner system that collects the leachate and allows it to flow through a pipe system out of the landfill cell and discharge to a perimeter leachate transmission system.

The perimeter leachate transmission system is shown in Figure 2.2 and consists of four lift stations (PS 1A, PS 1B, PS 2 and PS 3) feeding a force main to the leachate storage area. The leachate storage area consists of two 250,000 gallon double lined, vertical, cylindrical tanks with facilities to either pump leachate directly to the municipal sewer force main or load tanker trucks.

2.5.3 Gas Collection System

Landfill gas generated by decomposing waste is collected using vertical collection wells. These wells are visible and protrude through the top and side slopes around the landfill. The wells are connected to a gas header pipe which leads to a blower that applies a vacuum and feeds a flare station located southeast of Cell 1A where the gas is burned with a candlestick (utility) flare system.



2.6 Waste Storage and Handling Facilities

Certain materials may not be directly disposed of in the lined landfill for logistical, regulatory, or programmatic policy. Separate areas are designated on-site for temporary storage and handling of these special waste streams and are described below.

2.6.1 Public Convenience Drop Off Area

The public drop off area is designed for the public to unload waste and recyclable materials from small vehicles such as automobiles and other vehicles that would present a problem if unloaded at the landfill active face. It is located to the north of the scale house on the east side of the landfill access road as shown on Figure 2.2 and provides an elevated unloading platform that allows users to load their waste directly into 40 cubic yard roll off boxes. Smaller containers are available for electronic waste. The landfill staff periodically hauls the roll off boxes to the lined landfill for disposal or to one of the ancillary storage areas as appropriate.

2.6.2 Scrap Metal Storage Area

The scrap metal storage area provides storage for bulk quantities of clean scrap metal. No materials containing petroleum products (oils, grease, fuel) are acceptable in this area. The scrap metal is stored in piles and is periodically removed by a metals recycler under contract with the County.

2.6.3 White Goods Storage Area

White goods are defined as large household appliances such as stoves, washing machines, clothes dryers, refrigerators, and dishwashers. Freon containing appliances (refrigerators, freezers, air conditioners, water coolers, etc.) are kept separate from other white goods as they require special handling and processing to prevent emissions of Freon to the atmosphere. The white goods are stored in piles and are periodically removed by a metals recycler under contract with the County.

2.6.4 Yard Waste Storage Area

Yard Waste includes waste from vegetative sources (grass clippings, tree trimmings, land cleaning, etc.) and unpainted, untreated dimensional lumber and pallets from construction or commercial sources. The yard waste storage area is located in the western portion of the Phase I landfill future cells area as shown in Figure 2.2. The yard waste is processed for recycling purposes by a private firm under contract and hauled offsite for recycling or beneficial use.

2.6.5 Waste Tire Storage Area

Waste Tires may not be disposed of in the landfill unless they are cut into at least 8 equal pieces; therefore, customers with unprocessed tires in their loads are directed to segregate the tires from the load and unload them at the Waste Tire storage area located in the south central area of the Phase I landfill future cells. Waste Tires are hauled by landfill staff to one of the Broward Waste-to-energy Facilities for incineration.



2.6.6 Roads, Signs and Access Control

The BIC Landfill roads have been constructed and are maintained to meet the requirements of rule 62-701.500(12), FAC. The main roads located on the Site include the Entrance Road, Landfill Access Road, Haul Road, Western Loop Road (inside perimeter road), and Eastern Service Road as shown on Figure 2.2. The Entrance Road to the landfill provides controlled access to administrative facilities, and equipment maintenance facility. The Landfill Access road is secured by a gate, and provides all weather access to the Weigh Stations and disposal areas. The Western loop road provides access to the landfill gas collection wells, lift stations, and staging areas. The Eastern Service Road provides access to the lift stations, landfill gas collection wells, and flare station. The Haul Road provides access for landfill equipment from the equipment maintenance facility to the landfill area. The landfill perimeter berm is used to access groundwater monitoring wells.

Access to the Site is controlled by fences, gates, signs and personnel to prevent unauthorized dumping as required in rule 62-701.500(5), FAC. A locking gate and fence at the Entrance Road, prevents access to the Site when closed for business. The gate shall be kept locked at all times when the facility is closed for business. A separate locked gate is provided at the Disposal Access Road beyond the Weigh Station to control access to the disposal areas.

Signs at the entrance, Weigh Station, and along the roadway define the operating authority (Broward County), the operating hours for the site, tipping fee rates, the restrictions and conditions for disposal, and the general direction of traffic. Speed limit and traffic signs are posted along the Entrance Road. The signs shall be maintained in good legible condition and shall be updated as required by rule change or rate change.

2.6.7 Administrative Facilities

The administrative facilities on site provide office space for staff, as well as meeting rooms and break rooms for all site staff. Visitor parking is in the front of the building and service vehicles may be parked in the front or rear of the building.

Site records (except certain Weigh Station records and older records in the archival storage) are stored in the administrative building, for use by site staff and to be made available to regulatory inspectors as requested.

The time clock, rest rooms, and other employee facilities are located in the administrative building, and employees receive daily assignments at this location. The site rain gauge is maintained at Lift Station 3 for convenient documentation of daily rainfall.

2.6.8 Maintenance Facility

The equipment maintenance facility is located adjacent to the administrative building and provides a location and facilities to perform basic equipment maintenance and repairs on site. Vehicle and equipment maintenance is performed by Broward County Fleet Management.

2.6.9 Weigh Station

The Weigh Station provides the ability to weigh in-bound and out-bound vehicles, and to assess appropriate disposal fees. The Weigh Station is equipped with a computer-based waste tracking system that tracks waste by type and quantity to provide required management information.

Two 120,000 pound capacity truck scales are installed at the Weigh Station to weigh incoming and outgoing vehicles.

Weigh Station Operators report to work at the Weigh Station and log on to a time clock located in the Weigh Station. The Weigh Station Operators are responsible for assessing waste acceptability, processing disposal transactions, and directing vehicles to the appropriate disposal/storage/drop off area.

2.6.10 Stormwater Management System

The stormwater management system includes the swales, ditches, lake and other retention areas designed to collect, and retain stormwater runoff. The stormwater management system is designed to retain runoff from a 100 year design storm over a 72 hour period, and as such is generally not expected to discharge such runoff to any offsite waters. In the event of a storm that exceeds the design storm and duration, stormwater may be discharged to the El Rancho Canal at the north side of the disposal area site.

2.6.11 Water Quality Monitoring System

The water quality monitoring system includes six groundwater monitoring well clusters and a designated location for surface water quality monitoring. Groundwater monitoring shall be conducted semiannually. Surface water monitoring shall be conducted semiannually, and at a time of surface water discharge, if any, and results shall be submitted with groundwater monitoring results.

2.7 Equipment

Primary landfill equipment includes a 100 kW emergency generator located in the Administration Building and rolling stock. The emergency generator is wired to provide automatic backup power to the Weigh Station, the adjacent fleet services facility including the fuel station, and the Administration Building. Three light towers are also available to provide additional portable electric power and lighting.

Primary equipment required for landfill operation and maintenance is listed in Table 2-1 below. A complete list of equipment is maintained by the Landfill Superintendent.



Table 2-1. Primary Landfill and Maintenance Equipment

Equipment Category	Unit No.	Year	Make	Model
Waste Spreading Bulldozers	8539	2000	J DEER	859 C LGP Dozer
	8540	2000	CAT	D8 Dozer
	8541	2000	CAT	D8 Dozer
Waste Compactor	81125	2007	BOMAG	Compactor
Cover Construction and Maintenance	8222	2006	STERL	Tractor
	8464	2004	STERL	Dump Truck
	8465	2004	STERL	Dump Truck
	8530	1997	INT'L	20Yd Dump Truck
	8525	1996	FORD	L9000 Tandem Dump Truck
	8494	2003	VOLVO	Excavator
	8535	1999	Holland	575E Backhoe
	7463	1989	CAT	12G Grader
	8496	2003	J DEER	Wheel Loader
	8505	1993	J DEER	Wheel Loader
	8466	2004	GEHL	Skid Loader
	8532	1997	J DEER	Water Wagon
Dust Control and Road Cleanup	8227	2006	MADVAC	61D Towable Vacuum
	8416	2002	MB	Sweeper
	8429	2002	MAG	Magnet Sweeper
Waste Hauling	8221	2006	MACK	Rolloff Truck
	8468	2004	STECO	Live Floor Trailer
Leachate Hauling and Temporary Pumping	81241	2009	INT'L	Semi Tractor
	8533	1998	Fruehauf	Tanker
	8534	2000	HEIL	Tanker
	8500	2001	CH&E	2844 Water Pump
	8522	1995	CH&E	Water Pump
Mowers (Also used for Davie Landfill)	8023	2006	TORO	Z587
	8405	2001	SCAG	Turf Tiger
	8443	2005	MASSEY	5455 Frm Tractor
	8444	2005	TORO	Z587
	8445	2005	TORO	Z587
	8467	2004	HOLLAND	TS100A FRM TR
	8469	2004	KUTKWIK	Roadmaster
	8477	2004	BUSH	DECK MOWER
	8510	1994	FORD	Motrim Mower
	8550	2001	BUSH	Batwing Mower
	8599	2001	BUSH	Batwing Mower
	81238	2008	BUSH	#3008
Light Towers	7018	2007	Baldor	PL6000K LT TWR
	7022	2007	Baldor	PL6000K LT TWR
	7023	2007	Baldor	PL6000K LT TWR

This section has been modified- see revised Landfill Operations Plan, Version June 2011.



2.8 Landfill Monitoring Systems

The BIC Landfill is equipped with a surveillance system to assist with load inspection at the scale house and to provide site security. The surveillance system consists of 8 video cameras that continuously stream images to a website. The cameras sweep a pre-programmed pattern, but the main scale house camera can also be controlled remotely by the Weigh Station Operator. The surveillance camera images can be accessed via a password protected website and can therefore be monitored by authorized personnel from any computer with internet access.

The landfill compactor is equipped with a survey quality GPS instrument and is typically monitored whenever it is operating. The GPS system has been configured to track the compactor's path and is interfaced with a computer to calculate ground deflection from one compaction pass to the next. A computer displays a color coded map and the colors indicate where adequate compaction has been applied. The compactor's GPS tracks are used to calculate the volume of compacted waste placed over a defined period of time. The average waste density is then calculated based on the GPS measured volume and Weigh Station measurements of the weight of waste placed over the same time period.



BIC LANDFILL OPERATIONS PLAN

3. PERSONNEL

3.1 Overview

This section presents the staffing plan for the Site and the training requirements for key staff. The Site staff organization is presented in the Organizational Chart of Figure 3.1.

3.2 Staffing Plan

A total of 23 full time staff are assigned to the BIC Landfill Facility, but some of the staff have other responsibilities such as site maintenance at the closed Davie Landfill. Staffing assignments by function their function at BIC for normal operating mode are summarized in Table 3-1.

Table 3-1 BIC Landfill Staffing				
Job Description	Management	Clerical or Administrative	Landfill Ops	Minimum Training Level
Landfill Superintendent	1			Operator
Supervisors			3	All Operators
Administrative/Clerical		1		NA
Weigh Station Operators			3	NA
Equipment Operators II			1	NA
Equipment Operators III			6	4 Trained Spotters
Maintenance Mechanic I			2	NA
Maintenance Worker I			1	NA
Maintenance Worker II			5	NA
TOTAL	1	1	21	NA

This section has been modified- see revised Landfill Operations Plan, Version June 2011.

3.3 Responsibilities of Key Staff

3.3.1 Landfill Superintendent

The Landfill Superintendent is responsible for the day to day operations of the facility and to ensure compliance with all regulatory mandates, including the following:

- Assist with budget;
- Ensure compliance testing is scheduled and completed;
- Oversee regulatory compliance reporting and recordkeeping;
- Oversee, plan, and direct landfill operations;
- Plan for post closure care;



- Employee training;
- Oversee Weigh Station operations;
- Ensure consistent performance of random load checks;
- Inspect loads to determine the acceptability of loads (when necessary);
- Ensure compliance with Operations Plan;
- Implement safety programs and training;
- Supervise responses to emergency situations until relieved by emergency response experts (e.g. Fire Department); and
- Conduct system inspections

The Landfill Superintendent shall meet the criteria of a Operator as described in section 3.4.

3.3.2 Supervisors

The Supervisors assist the Landfill Superintendent with ~~direct~~ the day to day operations of the facility and ensure compliance with all regulatory mandates, including the following:

- Compliance testing;
- Regulatory compliance reporting and recordkeeping;
- Supervise landfill operations;
- Conduct Random Load checks;
- When Spotters identify Unauthorized Waste, supervise the removal process;
- Assign tasks and train employees; and
- Supervise Weigh Station operations as necessary

The Supervisors shall meet the criteria of a Operator as described in section 3.4.

3.3.3 Weigh Station Operator

The Weigh Station is the first point of contact for most customers entering the site. Weigh Station Operators perform the following duties:

- Obtain driver, hauler and load content information.
- Inform customers about acceptable wastes, unloading procedures, unloading locations, and tipping fees.
- Make initial decision about acceptability of materials being delivered.
- Classify the waste and the vehicle for entry into the computer database
- Weigh and re-weigh vehicles.
- Complete disposal transactions, including assessing the appropriate tipping fee and special handling fees, if applicable.



- Assist Operations Staff with back tracking detected prohibited materials from loads unloaded at the site.

3.3.4 Trained Spotter

A trained Spotter (see section 3.4) shall be present at each working face on the landfill to observe unloading of waste material. It should be noted that trained Spotters are not required full time at the temporary storage locations including the public/small vehicle drop off area, the yard trash storage area, scrap metal storage area, or Waste Tire storage area. Trained Spotters shall:

- Be stationed at strategic positions at each landfill working face to observe waste materials as they are unloaded from delivery vehicles during the periods when waste is received.
- Recognize, remove, and properly store or manage Unauthorized Waste.
- Notify the site Supervisor to determine if it is necessary to utilize other resources to remove prohibited waste.
- Work together with the Equipment Operator or Supervisor as appropriate to complete the waste screening process and maximize its effectiveness.

A person who has shown competency in his chosen profession through a combination of work experience, education and training, may be used as an Interim Spotter. The Interim Spotter must become a trained Spotter or trained Operator within three months of employment as an Interim Spotter [62-701.320(15)(h), FAC].

3.3.5 Equipment Operator

The Equipment Operator spreading and compacting waste has the last opportunity to remove prohibited materials before they are placed in the landfill, compacted and covered with other debris or waste material. Equipment Operator duties include the following:

- Inspecting and monitoring the condition of the equipment to ensure safety and minimize repair cost;
- Immediately alerting the Supervisor of Unauthorized Waste in the disposal area;
- Monitoring loads for Unauthorized Waste during spreading and compaction with special attention to materials like propane cylinders that might cause a hazardous situation if run over or compacted by heavy equipment. In the event Unauthorized Waste is discovered, it is to be reported to the Supervisor before operation of equipment;
- Spreading and compacting the waste to the minimum requirements of this operations plan;
- Following the waste disposal sequencing plans;
- Maintaining the proper thickness of lifts and slopes;
- Maintaining the stormwater runoff and runoff control berms and operational cover;
- Assist customers by referring their questions to a Supervisor;
- Direct customers to the proper disposal location after the Supervisor has been notified that a customer was about to unload in the wrong location.



3.4 Training Requirements

Rule 62-701.500(1), FAC specifies that the minimum staffing requirements for operation of a Class I landfill include one Operator on-site at all times the landfill receives waste and one trained Spotter at each working face. The Landfill Superintendent and at least one other landfill operations employee shall meet the requirements of Operator and at least four Equipment Operators shall meet the requirements of trained Spotter.

Minimum training requirements for Operators and Spotters are provided in rule 62-701.320(15) FAC. All Spotters shall be trained in accordance with this plan to identify Unauthorized Waste and shall be provided a minimum of 8 hours initial training and 4 hours additional training every 3 years thereafter. Operators shall be trained to properly operate the landfill and shall be provided a minimum of 24 hours initial training and 16 hours additional training every 3 years thereafter.

The Training Plan and training records for key staff shall be filed with the Operations Plan and shall be available for review by FDEP inspectors [62-701.320(15)(a), FAC]. The BIC Landfill's Training Plan, presented in Appendix A has been written to comply with these rules.



BIC LANDFILL OPERATIONS PLAN

4. WASTE DISPOSAL OPERATIONS

Waste disposal refers to permanent disposal of waste in the lined landfill. Certain waste material types like yard trash, whole tires, and white goods are accepted by the BIC Landfill facility but are temporarily stored for future off-site processing because they are unauthorized for disposal in the lined landfill. The waste disposal procedure includes routing, screening, unloading, spreading, compacting and covering waste. In general, the following steps shall be followed:

- The Weigh Station Operator shall inspect the load and direct the customer to the correct disposal or storage location;
- The customer will unload the waste;
- The Site personnel will conduct the proper waste spotting and screening process; Unauthorized Waste will be removed and accepted waste will be disposed of or stored.

This section is organized to present: (i) rules and restrictions for waste disposal customers; (ii) waste characterization; (iii) waste screening process; (iv) Weigh Station operation; (v) landfill disposal operation; (vi) leachate disposal operation; and (vii) gas collection operation.

4.1 Rules and Restrictions

Rules for customers include:

- No guns/weapons on site
- No Hazardous Waste on site
- No smoking on site
- No alcoholic beverages or drugs on site
- Personnel not involved in unloading remain inside vehicle
- Unload only when and where directed
- Follow signs to proper drop off area
- Enter at your own risk
- Observe speed limits
- Watch out for trucks and heavy equipment entering and leaving the roadway
- No pull-offs allowed (assistance by County employees/vehicles is prohibited).

4.2 Unauthorized Waste

This subsection provides information for characterizing waste materials to determine if they are authorized for disposal in the lined landfill or allowed for storage in the other special waste storage areas at the facility. From 62-701.200(121), “Unauthorized Waste” means any type of waste that is not allowed to be accepted or managed at a solid waste management facility in accordance with rule or statutory requirements or permit conditions. The materials that constitute “Unauthorized Waste” differ between the various disposal or storage areas.

The following materials are considered Unauthorized Waste for disposal in the lined landfill during normal operations:

- Garbage (municipal waste)
- Yard Waste
- Waste Tires in pieces larger than 1/8 of a tire
- White goods/appliances
- Automobiles/automobile parts
- Liquid saturated cardboard/rags/earthy soils
- Electronic wastes (i.e. picture tubes, computer monitors, and other electronic devices) - must be disposed of separately
- Regulated (Friable) Asbestos Containing Material
- Polychlorinated Biphenyl (PCB) containing devices
- Mercury containing devices
- Radioactive materials
- Hazardous Waste
- Fireworks/flares
- Ammunition
- Drugs
- Untreated biomedical waste
- Liquid wastes, including paint and oil
- Liquids in Small Consumer Sized Containers (Rule 62-701.300(10)(b))
- Fuel or fuel/petroleum contaminated materials
- Oil filters
- Fluorescent tubes, thermostats, or mercury devices
- Sludge
- Septic Tanks, Grease Traps, and Pumpings
- Automotive (Lead-Acid) Batteries



- Nickel-Cadmium (NiCad) and other rechargeable batteries
- Fertilizers
- Fuel Tanks
- 55 gallon Drums
- Animals/Animal Waste

During contingency operations, municipal waste will be accepted.

Yard Waste, Waste Tires, and White Goods are not authorized for disposal at the BIC Landfill but will be accepted at the facility for storage in the respective storage areas. These waste types shall be kept separate of all other waste types in separate storage areas.

4.3 Waste Screening Process

The Waste Screening process is conducted to identify Unauthorized Waste prior to disposal and consists of two separate components:

1. Visual inspection of all loads should be performed as they are weighed, discharged and processed. Visual inspection consists of a relatively quick visual inspection looking for prohibited materials, recoverable and reusable materials, or materials that may be hazardous to Operators, Spotters, customers, environment, or equipment..
2. Random load inspection of at least 3 randomly selected loads per week shall also be performed. A random load inspection is a detailed inspection of the selected loads, specifically looking for Hazardous Waste and prohibited materials. This type of inspection may take 15 minutes or more, depending on the load size and the prohibited materials detected.

4.3.1 Standard Screening Process

The visual load inspection process is a three-step process:

1. Initial evaluation of the load as it arrives in the vehicle by Weigh Station personnel.
2. Visual inspection of the load during the unloading process by Spotters.
3. Observation of materials as they are placed spread and compacted, by the Equipment Operators.

All loads are screened for Unauthorized Waste as they arrive at the disposal area, either prior to or during unloading. Spotters shall be positioned to be able to observe vehicles unloading at the working face(s) at all time periods that vehicles are unloaded. Any Unauthorized Waste materials detected shall be removed and managed properly on-site prior to off-site disposal or recycling.

Weigh Station Operators, Spotters, and Equipment Operators perform their respective roles in the process of routine waste screening. This visual screening process is conducted on every load arriving at the site prior to placement at the active face. Suspicious loads or loads determined to contain prohibited materials shall be reported to the site Supervisor immediately.



4.3.2 Random Load Checks

The regulations (Rule 62-701, F.A.C.) require landfill operators to examine at least three loads of solid waste delivered to the landfill each week. The loads, times of day, day of week, etc. for these inspections shall be selected randomly.

The waste collection vehicle drivers shall be directed to discharge their loads at a designated location within the landfill, near the active discharge area. The trained Operator or Spotter shall conduct a detailed inspection of the discharged material to identify any Unauthorized Wastes. If Unauthorized Wastes are found, the procedures described in section 4.3.3 shall be followed.

Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The following information shall be recorded for each random load inspection:

- The date and time of inspection
- The names of the hauling company and driver
- The vehicle license plate number
- The source of the waste as stated by the driver
- Any observations made by the inspector
- The inspector's signature and name

Supervisors or designated and appropriately trained landfill staff will perform random load inspections. Supervisors are responsible for assuring that three random load inspections are performed each operating week.

4.3.3 Dealing with Unauthorized Waste

This subsection provides information on how to identify and properly deal with many Unauthorized Waste materials.

4.3.3.1 Identifying Hazardous Waste

Hazardous Waste refers to a broad group of materials that have the potential to cause harm to human health or the environment. Hazardous Waste materials have one or more of the following characteristics: (i) ignitable (flammable), (ii) corrosive (caustic or acidic); (iii) reactive (results in unstable, spontaneous, potentially hazardous chemical reactions); or toxic. Disposal of Hazardous Waste at the BIC Landfill is strictly prohibited.

Many common items containing constituents that are regulated Hazardous Waste such as car batteries are easily identified and are discussed specifically in the following subsections. Hundreds of other Hazardous Waste materials may be non-descript solids, powders, sludges, or liquids. Common sources of Hazardous Waste include paints, solvents, pool chemicals, cleaning chemicals, construction adhesives, fuels, and lubricants. These materials may be identifiable if they are in containers with legible and proper labels. Examples of hazardous material placards and labels are presented in Appendix B.

Materials should be suspected of being Hazardous Waste if they have a suspicious odor (do not intentionally sniff suspect waste), look like paint solvents or pool chemicals, look like oil fuel or lubricant, look like powder that is not clean soil, smoke or catch fire when in contact with other materials, containerized liquids that cannot be readily identified as an innocuous substance.

4.3.3.2 Hazardous Waste Mitigation Process

If materials or containers suspected of being Hazardous Wastes are identified by the waste screening process, the following procedure shall be followed:

- Spotter shall detain the truck driver if possible and notify the Supervisor;
- Photograph the Unauthorized Waste;
- Notify the company responsible for the delivery of the Unauthorized Waste of all Unauthorized Waste their driver was attempting to dispose;
- Supervisor shall assess the situation and determine the appropriate response;
- If containers are not leaking, the driver shall remove the material from the site;
- If containers are leaking or the waste cannot be safely transported by the driver, the Supervisor shall:
 - Cordon off from public access the area where the wastes are deposited,
 - Limit the potential spread of contamination, for example park the vehicle on plastic tarps or move the containers to a sealed roll-off container if this can be done safely,
 - Unless the generator or hauler can be contacted and relied on to immediately, and properly collect the material and transport it off-site prior to additional spreading of contamination, the Spotter, Supervisor, or other available staff contact the Fire Department Hazardous Materials Team or a properly licensed commercial Hazardous Waste contractor to assist with the cleanup, transportation, and disposal of the waste at a permitted Hazardous Waste management facility.
- After inspection and initial identification of the type of Hazardous Waste, the Supervisor will notify the Landfill Superintendent with a description of the waste and hauler or generator of the waste.
- The Landfill Superintendent will notify the Florida Department of Environmental Protection, the person responsible for shipping the waste to the landfill, and the generator of the wastes, if known.

Any Hazardous Waste that cannot be returned to the hauler but can be safely moved shall be placed in sealed containers located in the incidental Hazardous Waste storage area located near the disposal area. Separate containers shall be maintained for the following material types:

- Lead acid batteries
- Other rechargeable batteries
- Liquid Acids
- Liquid Bases (liquid chlorine, cleaning solutions)

- Solid Oxidizers (chlorine tablets and powder)
- Containerized paints, solvents, and petroleum based products
- Fluorescent tubes
- Transformers, and Fluorescent light Ballasts
- Electronics and CRT's,

The Landfill Superintendent shall arrange transport of any household Hazardous Waste collected in the incidental Hazardous Waste storage containers to one of the County operated household Hazardous Waste collection centers for proper disposal or recycling. Household Hazardous Waste shall not be stored in the containers longer than 30 days.

4.3.3.3 Hazardous Waste Items with Special Criteria

Polychlorinated Biphenyls (PCB's) are toxic persistent organic pollutants which were banned in the 1970's. The most common PCB's look like amber colored oily liquid and were used as coolants, cleaning agents or lubricants in the production of electrical equipment and as insulators in transformers. PCB's may be contained in old transformers including fluorescent light ballasts manufactured prior to 1978. Old transformers and fluorescent light ballasts shall not knowingly be disposed of at the BIC Landfill. If the old transformers and fluorescent light ballasts are not leaking, they can be safely handled and moved. Personnel should wear gloves and should take care not to contaminate clothes or the site with PCB's.

Waste oils and filters shall not be accepted. If detected in the waste screening process the hauler should be required to remove these materials from the site. The operator of any vehicle that discharges oil because of an accident or mechanical failure shall be required to clean up and properly dispose of any fluids and contaminated soil resulting from the incident. All field personnel and especially Equipment Operators shall monitor the BIC Landfill equipment to detect and prevent a discharge of oil, hydraulic fluid or fuel.

Mercury Containing Devices include fluorescent lamps, mercury vapor lamps, metal halide lamps, high pressure sodium lamps, thermostats and thermometers, mercury switches and relays, and bilge pump float switches. Mercury is a toxic metal and these materials shall not be knowingly accepted. Only fluorescent tubes from residential sources are allowed for disposal. Regardless of the source, any in-tact fluorescent tubes should be collected and placed in the fluorescent tubes container in the incidental Hazardous Waste area. If more than ten fluorescent tubes are noted in a load of waste, the Spotter shall notify the Supervisor who shall try to identify the source of the tubes, notify the source of the disposal restrictions and require the source to pick up the tubes and properly dispose of them.

Rechargeable Batteries including Lead Acid, Nickel-Cadmium (NiCad), Nickel Metal Hydride (NiMH), and Lithium Ion batteries shall not knowingly be accepted. These batteries may be contained in devices such as toys, small electric vehicles, cell phones, computers and electric tools. If possible these batteries should be returned to the hauler. Otherwise, rechargeable batteries should be collected and placed in the corresponding container in the incidental Hazardous Waste area. Lead acid batteries shall be stored separately from other rechargeable batteries. Gloves, eye protection, and durable clothing should be worn when handling lead acid batteries.

Asbestos is a natural mineral fiber that is a carcinogen if inhaled. It is an inert material in a landfill and is allowed for disposal in Class I and Class III landfills. Disposal of regulated (friable) asbestos containing materials requires special operational and reporting criteria specified by Rule 62-701.520(3). According to site policy, regulated (friable) asbestos containing materials shall not be accepted at the BIC Landfill.

Non-friable or unregulated asbestos containing materials generated from demolition activities may be accepted in mixed loads of demolition debris. Examples of unregulated asbestos containing materials include resilient floor covering and tile, cement pipe and board containing asbestos, and asbestos containing asphalt shingles.

Lead Based Paint Debris consists of discarded building components or equipment painted with lead based paint. Only the painted objects are allowed for disposal. Dust from sanding or paint chips from scraping lead based painted objects or the paint itself is considered Hazardous Waste and shall not be accepted.

4.3.3.4 NonHazardous Waste Items with Special Criteria

Steel Drums or Containers exceeding 20 gallons may be accepted only if they are empty, one end is removed and they are punctured to prevent reuse [Rule 62-701.300(10)c FAC]. The containers shall be compacted to their smallest practical volume prior to covering with additional waste. Pesticide containers shall only be accepted if the hauler can demonstrate that the containers have been triple rinsed to remove pesticide residue.

Electronics and CRT's often contain significant amounts of lead shielding and other trace metals that can affect leachate quality. These materials are not prohibited but should be separated for recycling. Containers for these items shall be provided at the Public Drop off Area for customers to voluntarily separate these items.

Street Sweepings may be accepted for disposal in the lined landfill and shall not be allowed to unload in the wood and yard waste storage area.

Yard Waste shall not be accepted for disposal in the lined landfill. Customers disposing of yard waste and clean untreated unpainted wood and pallets shall be directed to the wood and yard waste storage area. Spotters shall tell customers that treated lumber shall be disposed of in the lined landfill and not allowed in the wood and yard waste storage area.

White Goods (large household appliances) shall not be disposed of in the lined landfill. Spotters shall require haulers to take white goods to the White Goods storage area. White goods found later in the screening process must be removed from the active face and taken to the white goods storage area.

Whole Tires shall not be disposed of in the lined landfill. Spotters shall require haulers to take whole tires to the Waste Tire storage area. Waste Tires found later in the screening process shall be removed from the active face and taken to the Waste Tire storage area.

4.4 Weigh Station Operation

All traffic entering the disposal site must be weighed at the Weigh Station for approval to enter the site and discharge their loads and to receive directions to the appropriate drop off area. Property line fence and gates are inspected periodically and as necessary for integrity.

Weigh Station personnel will have the first chance to inspect an arriving load. The attendant will ask the driver about the waste type(s) in the load in order to see if the waste is acceptable for disposal and direct the load to the proper location on site. Truck number, company name, and driver information are recorded for each transaction, along with the truck weight, material type and the waste origin. The transaction is then processed and payment collected.

Unusual odors, liquids leaking from the vehicle, and mixed loads, should be considered suspect and subject to closer evaluation by the Supervisor. Any suspicious loads should be examined more closely before admittance to the disposal area. Any loads refused will be noted in the Supervisor's Daily Log, including information regarding the delivering customer and the type of prohibited materials detected. Any time a load is rejected, the Supervisors will advise the customer where they might be able to dispose of the load or what they can do to make the load acceptable.

4.5 Landfill Disposal Operation

4.5.1 Spotting

Spotters shall be stationed at strategic positions in all disposal locations in order to observe waste materials during unloading of delivery vehicles during the periods when waste is received. Spotters are trained to recognize, remove, and properly store or manage prohibited materials as described in sections 4.3.

The Equipment Operator may have the last opportunity to identify Unauthorized Waste and report to a Supervisor before it is compacted and covered with other debris or waste material. Operators shall especially monitor loads for materials like propane cylinders and other materials that might cause a hazardous situation if run over or compacted by heavy equipment. In addition to materials posing a direct hazard, other prohibited materials should be detected as loads are broken up and placed in the fill area.

White goods and tires are examples of Unauthorized Waste that can “hide” in loads until the Equipment Operator begins to move it to the disposal area. The Spotter and the Equipment Operator will work together to complete the waste screening process and maximize its effectiveness.

An Equipment Operator who is also trained as a Spotter may serve as the Spotter position at a waste disposal area. In this case, the Equipment Operator / Spotter will be responsible for visually inspecting each load before it is compacted and if Unauthorized Waste is identified the Equipment Operator / Spotter must stop operations if required and initiate the Unauthorized Waste process described in section 4.3.3.2. The Equipment Operator / Spotter may remove the Unauthorized Waste from the active area to a safe location for proper processing later or notify another qualified person to come to the active area and conduct the Unauthorized Waste procedure. [Rule 62-701.500(15)(d)(2), FAC Draft]



4.5.2 Spreading and Compacting Waste

The first lift of waste placed above the cell's liner system protective cover shall be a four (4) foot minimum compacted thickness lift of select waste that is free of large rigid objects that could damage the liner system [62-701.500(7)(b), FAC]. This initial waste layer shall be placed in advance of normal disposal operations as loads of appropriate select wastes are delivered.

Above the first lift, waste shall be placed to form cells to construct horizontal lifts not to exceed 10 feet in thickness. The sequence of waste cell construction shall follow the "Interim Contingency Landfill Final Grade and Phasing Plan, July 2001", prepared by Malcolm Pirnie Inc.

The area of a cell under construction where waste is uncovered or covered only with initial cover is called the active area. The area where waste is unloaded spread and compacted is called the working face. Waste cell construction shall be configured and sequenced to minimize the size of the active area and working face. "The working face shall be only wide enough to accommodate vehicles discharging waste, and to minimize the exposed area and unnecessary use of cover material: [Rule 62-701.500(7)(d)].

The working face and other side slopes shall be maintained at a slope not steeper than 3 horizontal to 1 vertical. The compactor operator, with assistance from the dozer as needed, will spread the waste in layers to a thickness of 2 feet maximum and compact each layer to a thickness of 1-foot or as thin as practical before the next layer is applied [Rule 62-701.500(7)(a), FAC]. Typically, a 3 to 5 passes with the compactor is required to achieve compaction. Additionally, the GPS monitoring system in the compactor provides a better indication of when proper compaction is achieved by making an actual measurement of lift displacement with each pass of the compactor. The GPS system alerts the Operator when compaction is complete.

4.5.3 Initial Cover

Initial cover is applied to control litter, prevent birds and other animals from feeding in the waste, reduce odors, and minimize health, safety and environmental effects. Initial cover shall be a six (6) inch thick layer of compacted soil (or approved alternative). Cover requirements change between normal and contingency operations. During normal operation mode, initial cover is required weekly at a minimum or more frequently as decided by the Landfill Superintendent. During contingency operation mode, initial cover shall be applied at the end of each operating day. Stormwater that falls on initial cover shall be treated as leachate and shall not be allowed to flow into the stormwater management system. Therefore, soil berms shall be maintained around the active area that has not received intermediate or final cover to retain runoff within the active area where it will percolate through the initial cover and enter the leachate collection system with no discharge to the stormwater management system.

Alternatives to soil for initial cover will not be used without explicit approval from FDEP. In areas where waste will be placed again within 18 hours, tarps may be used without explicit approval from FDEP [Rule 62-701.500(7)(e)(1)]. There are no approved alternatives to soil as daily cover under the existing permit, but common alternatives that could be used after obtaining FDEP approval include but are not limited to:

- Tarps (hand or mechanically deployed)

This section has been modified-see revised Landfill Operations Plan, Version June 2011.



- Spray on materials such as 480 TM and Concover TM
- Mixtures of 50% wood chips and 50% soil
- Recovered Screened materials (RSM) from C&D recycling facilities
- Street sweepings
- Shredded yard waste (not green in color)
- Ground up C&D debris

4.5.4 Intermediate Cover

Intermediate cover consists of twelve (12) inches minimum of compacted soil and shall be applied to areas that will not receive additional waste for 180 days. Stormwater runoff from intermediate cover is considered separated from waste and is allowed to discharge into the surface water management system, thus minimizing leachate generation.

Intermediate cover shall be maintained to repair and prevent erosion that might expose wastes and result in excess leachate generation. After placement of intermediate cover, approximately four (4) inches of shredded yard waste or wood waste may also be placed over the compacted soil layer for erosion control.

4.5.5 Final Cover (Cap)

The final cover, or cap, shall be installed within 180 days of the last receipt of waste, during the site closure process. Portions of the cap may be installed sequentially as portions of the site reach design dimensions. Capping and closure is accomplished in accordance with the site's closure plan and closure permit, which shall be prepared by the County in accordance with FAC 62-701. Installing additional gas collection wells, if necessary, is considered a part of closure construction.

4.5.6 Cover Soil Sources

Sources of cover material include: (i) the on site stockpile of crushed limerock used for intermediate and final cover, (ii) muck stockpiles used for topsoil on intermediate and final cover, and (iii) RSM delivered to the site used for initial cover. The crushed limerock and muck stockpiles are shown on the site map of Figure 2.2. RSM stockpiles are made near the active area on the recently filled area that has been covered with initial cover whenever a load of RSM is delivered to the BIC Landfill for disposal.

4.5.7 Cover Erosion Control

As required by Rule 62-701.500(7)(j), “erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system. Such measures shall be implemented within three days of occurrence. If the erosion cannot be corrected within 7 days of occurrence the landfill operator shall notify the FDEP and propose a correction schedule.”

4.5.8 Litter Policing

As required by Rule 62-701.500(7)(i), a litter policing operation shall be maintained to collect litter beyond the limits of the working face within 24 hours. It is generally acceptable for some litter to be visible within the intermediate cover if it is in traffic areas, is stuck in the soil so it does not blow around, and if it is away from public view. Supervisors are responsible for assigning employees to pick up litter as necessary.

A litter fence will be installed near the work face to minimize litter beyond the limits of the work face in a minimum of two directions.

4.6 Transition from Normal to Contingency Operations

In case of a significant loss of availability at the South Broward waste-to-energy facility, the County may direct that the site convert to contingency operation mode to accept processable waste that would normally be disposed of by the waste-to-energy facilities. The change in operations will affect the Weigh Station operations, road maintenance and litter patrol operations, initial cover operations and waste disposal in the disposal facility.

This section has been modified- see revised Landfill Operations Plan, Version June 2011.

The waste screening process will be the same as applied during normal operations except household waste will be accepted, and a much greater quantity of waste per day will be screened. Operations will be modified by temporarily reassigning workers from management, enforcement, and post closure care duties to landfill operations as presented in Section 3.2. The following combination of key equipment and personnel are sufficient to manage a waste disposal capacity of 2,000 tons per day for a short-term basis:

- Three dozers and one compactor will be used at an expanded working face;
- A frontend loader and one or two dump trucks will be required to haul initial cover to the active area;
- Two Spotters will be required at the expanded working face; and
- One to three maintenance workers will be required to collect litter depending on weather conditions.

The transition from normal to contingency modes of operation will require the following changes:

- Reassign personnel to increase landfill disposal operation staff;
- Weigh Station Operators will have to enter information for many new vehicles on first day;
- Expand the active area working face to accommodate more disposal vehicles;
- Change from weekly to daily application of initial cover;
- Increase road maintenance and litter collection activity
- Install litter fences to control the spread of litter as needed



During contingency operations, extra effort will be required to maintain the waste screening procedure, site maintenance, equipment maintenance, Leachate and Gas Management procedures, and routine inspections to the same level of quality performed during normal operations. The procedures for these activities are not affected by the change to contingency operations and designated personnel shall continue to perform the same procedures regardless of the increased disposal rate and increased requirement for cover application.



BIC LANDFILL OPERATIONS PLAN

5. LEACHATE MANAGEMENT

Rainwater that filters through the waste in the lined landfill dissolves contaminants from the waste and byproducts of decomposition of the waste. Therefore, any water that comes into contact with waste is considered leachate and must be managed accordingly. The BIC Landfill disposal cells have a modern double liner system with primary and secondary leachate collection layers to collect and remove the leachate to prevent contamination of groundwater. Proper operation and management of the leachate collection and transmission system is crucial to maintaining and monitoring the performance of the leachate collection system to ensure protection of groundwater quality. This section presents a description of the Leachate Collection and Transmission System, Operation requirements, and maintenance requirements for managing leachate generated by the lined landfill.

5.1 Description of Leachate Collection and Transmission System

The landfill cells are lined with a double liner system consisting of the following layers (from bottom to top).

- Prepared subgrade of onsite soil;
- 40 mil thick HDPE secondary liner;
- Geonet secondary leachate collection system (SLCS) drainage layer;
- 80 mil HDPE primary; liner
- Geonet / sand primary leachate collection system (PLCS) drainage layer.

The leachate collection system (LCS) consists of the PLCS above the primary liner and the SLCS below the primary liner. Leachate collected in the PLCS flows through the PLCS drainage layer to a perforated HDPE pipe in the center low point of the cell. The leachate pipe passes through the liner system and discharges to the PLCS sump of the perimeter leachate transmission system pump station.

The SLCS collects any leachate that might leak through the primary liner. This leakage flows through the SLCS drainage layer to a perforated pipe in the central low point in the cell, and the leachate pipe passes through the liner system and discharges to the SLCS sump of the perimeter leachate transmission system pump station. Leachate collected in the SLCS sump is periodically pumped into the PLCS sump by an automatically actuated pump. Flow meters are provided in each SLCS Pump discharge line to measure the accumulated leakage pumped from the cell.

The perimeter leachate transmission system is shown in Figure 2.2 and consists of four lift stations (PS 1A, PS 1B, PS 2, and PS 3) feeding a force main to the leachate storage area. These pump stations are each composed of the SLCS sump and pump and the PLCS sump and pump.

The leachate storage area consists of two 250,000 gallon vertical, double-walled, cylindrical tanks with facilities to either pump leachate directly to the municipal sewer force main or to tanker trucks.

5.2 Leachate Collection System Operation

5.2.1 Leachate Collection System and Leachate Seeps

The leachate collection system within the landfill is a passive gravity flow system. The perforated collection pipes shall be cleaned and inspected every 5 years as discussed in section 5.3. Problems with the leachate collection system such as clogging of the drainage layers of perforated pipes, in extreme cases, would be evidenced by leachate seeping out of the sideslopes of the landfill.

Leachate seeps can also occur when leachate collects above low permeability layers of waste and flows laterally out to the surface.

Leachate seeps must be repaired quickly to prevent leachate from contaminating surface water. Therefore, the Supervisors shall inspect the landfill cover for leachate seeps daily. Any observed seeps shall be repaired by applying additional cover soil. If additional cover soil does not remedy a leachate seep, additional corrective measures may include:

- improving the cover in the area above the seep to minimize infiltration;
- using lower permeability cover soil (clayey soil);
- installing temporary membranes to cut off the flow to the surface and to reduce infiltration above the seep area.

5.2.2 Perimeter Leachate Transmission System

The Supervisors are also responsible for inspecting and monitoring the leachate transmission system daily. Inspection of the perimeter leachate transmission system shall be documented on the Supervisor's daily log described in Section 9 and shall include the following:

- Inspect the function of the lift stations;
- Check for high leachate levels in the pump station sumps;
- Look for evidence of leaks from the leachate force main pipes.

An example of the Supervisor's Daily Log is provided in Appendix A.

5.2.3 Leachate Storage Area

The leachate tank storage system shall be operated to ensure adequate available leachate storage volume, optimize the time and frequency of discharge to tanker trucks or directly to the sanitary sewer force main, and to allow mixing and homogenization of leachate from various landfill cells. In general, the leachate level in the two tanks shall not be allowed to exceed the 18-foot mark or go below the 5 foot mark. The Supervisors will schedule and direct discharge from the storage tanks. Procedures for startup, shut down, and daily operation of the leachate transmission system including discharging from the leachate storage tanks are presented in Appendix C.

The two 250,000 storage tanks are double-walled tanks so the secondary containment system is the outer wall of the tank. FDEP requirements associated with monitoring and handling precipitation

collected within the secondary containment system do not apply to this design, however the leakage detection sight gauges should be read daily to monitor for inner tank leakage. If leakage is detected, the Supervisor shall schedule inspection and repair of the tank. If the leachate level in the inner tank is pumped down below the level of the leachate in the leak detection space, severe damage could be caused to the tanks. The leachate storage tanks are normally interconnected and should, therefore track the same level. There are valves that allow for isolation of the two tanks for maintenance or other reasons if necessary. These valves shall be maintained in a normally open position.

The storage tanks are equipped with an overfill protection system. A trained Operator shall inspect this system and the exterior condition of the tanks weekly in accordance with Rule 62-701.400(6)(c)8 FAC. Furthermore, the interior of the tanks shall be inspected whenever the tanks are drained or at least every three years in accordance with Rule 62-701.400(6)(c)9 FAC. Records of these inspections shall be maintained and made available to FDEP upon request.

Leachate quality shall be monitored annually, with samples taken at the leachate storage tanks as required by specific condition 7 of the Landfill Permit. Leachate sampling and testing shall be performed by the water quality sampling and testing contractor (see contact list in Appendix D).

This section has been modified- see revised Landfill Operations Plan, Version June 2011.

5.2.4 Tracking Leachate Generation

The Supervisor shall measure and record in gallons per day the quantity of leachate collected by the leachate collection system prior to discharging leachate from the storage tanks [Rule 62-701.500(8)(f)]. The Supervisor shall also maintain the rain gauge located at Lift Station 3 and record daily precipitation for comparison to the leachate generation rate to comply with rule 62-701.500(8)(g) FAC. Precipitation and leachate generation records shall be included in the Operating Records. These statistics are recorded and maintained on the Log titled Leachate – Rainfall Data System presented in Appendix E.

5.3 Leachate Treatment/Disposal Facilities

The primary mode of discharge is pumping via force main to the Pembroke Pines WWTP. Should pumping to the Pembroke Pines WWTP not be possible, then leachate is pumped to a truck, and hauled to a properly licensed and permitted leachate processing or disposal location. Leachate sampling shall be conducted in accordance with the Interlocal Agreement Between the City of Pembroke Pines, Florida, and Broward County, Florida for Leachate Treatment and Disposal Services (Appendix F).

The Landfill Superintendent is responsible for maintaining a list of leachate treatment/disposal facilities that may be used to dispose of the leachate and notifying FDEP of the facility that is being used [Rule 62-701.500(8)(b) draft]. Contact information for this facility and two alternative leachate treatment/disposal facilities is listed in Appendix D.

5.4 Contingency Plan

The Landfill Superintendent is responsible for maintaining a contingency plan to handle leachate collection, removal and treatment problems such as interruption to discharges to treatment plant [Rule 62-701.500(8)(e)]. Responses for various problems are listed below:

- If there is a problem with the treatment plan that interrupts discharge, the Landfill Superintendent shall: (i) estimate the number of days of storage remaining in the storage tanks, (ii) contact alternative treatment/disposal facilities and attempt to arrange for discharge using tanker trucks, and (iii) leachate transmission pump stations shall be turned off as a last resort to prevent overtopping of the storage tanks;
- If there is a problem with the leachate discharge pump station to the Pembroke Pines WWTP, leachate shall be hauled using tanker trucks as necessary until the problem is repaired;
- If there is a problem with a leachate transmission system pump station, the Landfill Superintendent shall provide a temporary pump and tanker truck (or vacuum truck) to maintain the leachate head in the sump below the maximum allowable until the pump station can be repaired; and
- If there is a leak identified in the leachate transmission system force main, the tributary pump stations shall be shut off and temporary pumping to tanker trucks shall be carried out until the leachate force main is repaired.

Service and repair to lift stations will be performed by the Leachate Pump Station Repair Contractor (see contact list in Appendix D).

5.5 Maintenance

A survey or inspection of the leachate collection system pipes shall be conducted by jet cleaning or video monitoring at five-year intervals to coincide with Permit renewal cycles as required by specific condition 14 of the Landfill Permit. This survey shall demonstrate that the leachate collection system is operating as designed.

This section has been modified- see revised Landfill Operations Plan, Version June 2011.



BIC LANDFILL OPERATIONS PLAN

6. GAS COLLECTION OPERATION

The Landfill Gas Collection system is composed of a network of vertical gas collection wells connected to lateral and header pipes that convey collected landfill gas to a flare station for combustion. The flare station includes a blower to place the collection network under vacuum, a device that traps condensed water vapor from the gas in a leachate wet well, a propane fueled igniter system, a system for controlling the gas mixture to promote combustion (nitrogen cylinder actuated louvers, valves, and orifice), and a chart recorder to log flare operation. A landfill maintenance worker shall make a daily inspection of the Gas Collection System and document it on the Landfill Gas Collection System Daily Log (see Appendix E). This daily inspection log shall be reviewed and signed by a Supervisor each day. If these inspections indicate a problem with the system, the Supervisor shall contact the Landfill Gas Collection System consultant (see the contact list in Appendix D).

The Landfill Gas Collection System consultant shall perform monthly monitoring and reporting, quarterly surface emissions monitoring, and prepare a semi-annual report (every 6-months) in compliance with the parameters of the Title V Air Operation Permit. During the monthly monitoring, the consultant will measure the pressure, temperature, and oxygen concentrations at each wellhead and adjust the system controls to balance the system. The Landfill Superintendent shall maintain the monitoring, testing, and maintenance records as a part of the Operating Record for the Gas Collection System for five years.



BIC LANDFILL OPERATIONS PLAN

7. ANCILLARY FACILITY OPERATIONS

7.1 Public Convenience Drop-off Area

The public convenience drop-off area is located northeast of the Weigh Station and provides a typically unattended drop-off location for small vehicles entering the site. Small vehicles are directed to the public convenience drop-off area from the Weigh Station where they are allowed to unload materials into roll-off containers that are provided.

The Equipment Operator shall remove the roll-off containers from the public convenience drop-off area as they become full and unload them at the active disposal area or appropriate storage area. Contents of the roll-off containers shall be screened for Unauthorized Waste when unloaded at the main disposal area as described in Section 4.3.

Smaller containers are provided for electronic waste. These are emptied and removed for recycling by a private contractor under contract with the County.

7.2 Scrap Metal Storage Area

Segregated loads of scrap metal, scrap metal removed from containers at the public convenience drop off area, and scrap metal removed from loads arriving at the active disposal area shall be stored in piles at the scrap metal storage area.

Acceptable scrap metal includes ferrous and non-ferrous metal materials and devices that do not contain petroleum products or other potentially hazardous components. Lawnmowers and other devices containing small internal combustion engines must have all fuel and fluids removed before placement in the scrap metal storage area. No automotive, truck or heavy equipment parts are allowed in the scrap metal storage area.

7.3 White Goods Storage Area

The term “white goods” applies to household appliances such as stoves, refrigerators, freezers, hot water heaters, etc. White goods detected by the waste-screening program and removed from incoming waste loads shall be segregated from waste materials, and stored at the white goods storage area (part of the scrap metal storage area) for recycling. The white goods area shall be periodically visually inspected by a Spotter and any Unauthorized Waste shall be removed by Site staff for proper storage and management.

White goods potentially containing Freon (refrigerators, freezers, air conditioners, some dehumidifiers, and refrigerated drinking fountains) shall be stored separately from other white goods to facilitate the recycling process. Freon containing white goods shall be handled with care to prevent the venting of Freon to the atmosphere and shall be stored upright to minimize mixing of compressor lubricant with Freon. All vendors removing Freon containing white goods from the

sare required to verify that Freon is properly removed from all Freon containing devices prior to shredding for recycling purposes.

Scrap metal and white goods shall be removed from the site when the storage pile is large enough for the scrap metal vendor to load full trailers. But in no case shall metal or white goods be stored on site for more than 90 days. The weight station Operator shall record the weight of all exiting loads of scrap metal. When possible, weights of Freon containing devices shall be recorded separately from other scrap metal material.

7.4 Yard Waste Storage Area

Segregated loads of yard waste and untreated, unpainted lumber shall be directed to the yard waste storage area for unloading. Yard Waste and unpainted, untreated lumber or pallets from the public convenience drop off area or the main disposal areas may also be moved to the yard waste area by facility staff. Yard Waste is processed/removed from site by a contractor when directed by the Landfill Superintendent. The contractor is identified in Appendix D.

Treated lumber shall not be stored in the yard waste storage area. Treated lumber is typically used for outdoor wood construction. Fence posts, railroad cross ties, and wood poles are also treated lumber. The Supervisor, Operator, or designated Spotter shall make inspections of the daily disposal at the yard waste storage area and have treated lumber removed and disposed of in the lined landfill. All treated lumber removed from the Yard Waste area and disposed of in the lined landfill shall be logged in the treated lumber tracking log. The treated lumber tracking log shall be maintained with the Supervisor's site inspection logs.

The yard waste stockpiles shall be maintained in piles no greater than 100 feet in width with a minimum 20 foot wide perimeter access road and minimum 15 foot wide interior lanes to provide emergency access and to comply with guidelines of Rule 62-709.320 FAC. Separate piles are maintained for segregated unpainted untreated lumber scraps and pallets to facilitate processing by the removal contractor.

7.5 Waste Tire Storage Area

Waste Tires may not be disposed of in the landfill unless they are cut into at least 8 equal pieces. Customers with unprocessed Waste Tires in their loads are directed to segregate the tires from the load and unload them at the Waste Tire storage area located in the south central area of the Phase I landfill future cells. Tires removed from incoming loads as part of the waste screening process are also temporarily stored at the Waste Tire storage area.

Waste Tires shall be stored in piles and configured to comply with rule 62-711.540 FAC including: (i) 10 foot maximum pile height; (ii) 10,000 square foot maximum pile area; (iii) 50 foot maximum width; and (iv) surrounded by a 50 foot minimum width fire lane. Whole Waste Tires shall be stored for not more than 3 months before they are hauled off-site for processing or disposal [Rule 62-711.500(5) FAC]. Landfill staff hauls the Waste Tires to one of the Broward Waste-to-energy Facilities for incineration, when directed.

7.6 Stormwater Management System

The stormwater management system includes the swales, ditches and retention areas designed to collect convey and store stormwater runoff for quality treatment purposes prior to discharge to the El Rancho Canal at the north side of the disposal area site. The stormwater management system includes the runoff and runoff control berms surrounding the active landfill area that must be maintained to keep stormwater from coming in contact with waste. The stormwater management system was constructed under a Management and Storage of Surface Water (MSSW) permit issued by South Florida Water Management District (SFWMD). The system was designed to provide storage for a 100 year storm event over a 72 hour period. As such, it is not generally expected to overflow. The stormwater management system is a passive system; therefore, the only operational requirements include surface water quality sampling, inspection, and maintenance of the system. Inspection and maintenance schedules and procedures are presented in section 9.2.

7.7 Water Quality Monitoring Program

The Water Quality Monitoring Program for the BIC Landfill is primarily defined by Specific Conditions 1 through 7 and the referenced Exhibits A through F of the current FDEP Landfill Permit. The Water Quality Monitoring Program includes sampling and testing of groundwater, surface water and leachate and is designed to detect if leakage from the landfill affects groundwater or surface water. The Water Quality Monitoring Program is performed by the Water Quality Monitoring Consultant (see contact information in Appendix D). Landfill operations staff is responsible for inspecting and maintaining the sampling points and monitoring wells.

This section has been modified- see revised Landfill Operations Plan, Version June 2011.

There are six groundwater monitoring well clusters located around the site as shown on Figure 2.2. The surface water quality monitoring location is at the outfall weir as shown on Figure 2.2. Leachate samples shall be taken from the leachate storage tanks. Groundwater shall be sampled semiannually (twice per year). Surface water shall also be sampled semiannually, at a time of surface water discharge, if any.

Groundwater and surface water samples shall be tested for the constituents listed in the current landfill permit and the results issued to the FDEP. Leachate shall be sampled and tested annually and the test results should be submitted to FDEP concurrently with groundwater and surface water results. Data collected is used to determine if the site is causing undesirable groundwater contamination. If indicator parameters exceed regulatory requirements, follow-up sampling and testing procedures specified by the landfill permit shall be initiated.



BIC LANDFILL OPERATIONS PLAN

8. FIRE SAFETY PREVENTION AND RESPONSE

8.1 Introduction

The BIC Landfill shall “maintain fire-protection and fire-fighting capabilities adequate to control accidental burning of solid waste at the facility.” [Rule 62-701.320(16)(b)4, FAC Draft]. This section provides instructions for maintaining the fire protection capabilities of the facility, preventing, identifying and responding to fires.

8.2 Potential Sources of Fires

All personnel should be aware of the risks of fire and monitor the site for fire hazards or fire ignition at all times. Therefore, personnel should understand and be aware of the potential locations at risk of fires and the potential ways fires could get started at the BIC Landfill Facility.

Fires could potentially occur at the following locations:

- Structures (Administrative Building, Maintenance Building, Scale House)
- Vehicles or Equipment
- Waste fires within haul vehicles (Hot Loads)
- Yard Waste Storage Area
- Waste Tire Piles
- Landfill
- Lift Stations
- Pump Houses

Fires at these different locations vary in fire type and require different responses as described in subsection 8.4.

Fires could be started by the following types of ignition sources:

- Cigarettes
- Ashes from fireplaces or barbeque grills that are thrown in trash containers
- Chemical reactions within mixed waste (potentially caused by pool chemicals)
- Hot exhaust parts on trucks and vehicles
- Spontaneous combustion from decomposition within waste piles

- Lightning strikes
- Spreading of fires from neighboring sites
- Arson
- Tools and equipment

8.3 Preventive Measures

All personnel shall contribute to preventing and controlling fires by implementing and maintaining the following preventative measures:

- The security guard makes hourly inspections of the site after operating hours
- Post and maintain “No Smoking” signs and enforce no smoking policy in all smoking restricted areas
- Look for fire hazards during daily site inspections
- Compacted waste is less flammable than loose waste, so maintain good waste compaction using the landfill compactor and minimize the size of the active face and amount of uncompacted waste
- Apply initial and intermediate cover on schedule to minimize the area of uncovered waste
- Exercise the right to refuse any suspect loads and maintain the sign of disposal rules that displays this policy to customers
- Maintain the required fire lanes and maximum pile dimensions for Waste Tire storage and wood and yard waste storage areas
- Do not perform welding activities or other operations using flame within 100 feet of flammable waste including Waste Tire piles, wood and yard waste piles, lined landfill area, leachate manholes and pump stations and landfill gas pipes or flare station)
- Maintain operational (and inspected) fire extinguishers on all equipment, vehicles, buildings, and structures
- Maintain the water truck and the ability to routinely fill it at all times. During operating hours and when the water truck is not being used for dust control, it shall be kept full and parked near the active face.
- Maintain the ability to mobilize equipment to load, haul, and spread large quantities of soil to cover and smother landfill fires
- Control Litter
- Maintain communication equipment for emergency and routine communications
- Signs shall be posted for customers to shut off their vehicles while unloading to prevent hot exhaust from starting a fire



8.3.1 Fire Safety Inspections

Fire safety shall be considered during each daily inspection described in section 8. The Landfill Superintendent shall also designate personnel to check all fire extinguishers monthly. Fire extinguishers shall be maintained in accordance with 29 CFR 1910.157 and NFPA Standard 10 for Portable Fire Extinguishers. The fire extinguisher inspections shall use the following NFPA “quick check” guidelines:

- Is the extinguisher in the designated place?
- Is it accessible and visible?
- Are operating instructions on nameplate and facing forward, HMIS label in place?
- Are safety seals and tamper indicators present and intact?
- Does it feel full as determined by weight?
- Is there obvious physical damage, corrosion or clogged nozzle?
- Is the pressure gauge reading in operable range?

Data and results of this “quick check” shall be recorded on tags attached to extinguisher.

Refillable fire extinguishers shall be tested for container integrity as necessary. Qualified contractor service personnel shall perform maintenance and refilling of fire extinguishers. Copy of completed inspection forms to be supplied by contractor and filed in office records.

8.3.2 Coordination with Fire Department

The Landfill Superintendent or designee shall coordinate with the Fire Department quarterly to familiarize the department with the site, the materials and potential hazards on site, and to prepare a plan of action for emergencies on site. The fire department contact is reported in Appendix D.

8.4 Fire Response

The personnel who identify a fire shall immediately notify the nearest Supervisor who shall assess the situation and inform the Landfill Superintendent. The response depends on the type of fire as presented below. If the fire appears to present an emergency situation (trapped or injured victims or very large out of control fire), the available personnel should immediately call 911 on the nearest available phone prior to obtaining Supervisor input.

8.4.1 Fire within a Waste Pile

Waste piles at the BIC Landfill facility include Waste Tire piles, wood and yard waste piles and, the landfill. Regulatory reporting requirements are common to all these types of waste piles, but the response should be tailored to each type as presented below.

8.4.1.1 Reporting Requirements

As required by Rule 62-701.320(16)(c) Draft, FAC, if a fire occurs in a waste pile, all reasonable efforts shall be made to immediately extinguish or control the fire. If the fire cannot be controlled or extinguished within an hour, the Landfill Superintendent shall immediately:

- Implement the Emergency Preparedness And Response Plan (Section 11)
- Cease accepting waste in the areas of the facility affected by the fire
- Notify the FDEP and the Local Government with jurisdiction over the facility of the fire and of the fire control plan being implemented by the BIC Landfill Facility forces.

As required by Rule 62-701.320(16)(d) Draft, FAC, if the fire cannot be extinguished or controlled within 48 hours, the Landfill Superintendent shall notify the local fire protection agency and seek its assistance, and shall notify the local government and any neighbors likely to be affected by the fire. Contact information is provided in the Emergency Preparedness and Response Plan (Section 11).

8.4.1.2 Landfill Fire

Fires in the lined landfill waste pile are typically started when smoldering loads of waste catch fire after they are unloaded. Other sources of fire in the landfill are hot exhaust parts on vehicles and less frequently, lightening. Vehicles assigned to the Landfill shall be parked with engines shut off at a minimum of 75 feet away from the work face/unloading area or other areas as designated by Supervisor.

If a burning load or small area of burning waste is discovered quickly, Equipment Operators should push the burning waste onto an adjacent covered area where it can be extinguished. The burning pile of waste can be extinguished by the water truck or by smothering it with soil. Non organic soil should be used to extinguish fires. Muck may have a large organic content and may be flammable itself.

To extinguish a large surface or subsurface fire:

- deploy large quantities of soil all around the burning area starting well back from the visible burning
- spread a thick layer (approximately 2 feet) of non-organic soil over the burning area advancing from the outside in
- take extreme care to operate the equipment only on a thick layer of soil and advance in small increments because subsurface burning can cause voids that could collapse under the weight of the equipment and strand or even engulf the equipment in the fire
- it may be necessary to place several feet of soil over the fire to extinguish it
- monitor the fire to ensure it has been extinguished

After a fire is covered, it should be left undisturbed for as long as it takes to ensure the fire is totally out. The involved area should be left undisturbed a minimum of 72 hours. Prematurely breaching the cover will let air into the extinguished fire and may reignite a fire that is not totally extinguished.

Smoldering subsurface fires can burn deep within the waste pile for long periods of time. These fires can be identified by occasional smoke plumes. Smoke plumes may be hard to distinguish from normal water vapor fog emissions, but smoke plumes rise higher in the air than water vapor and have a distinctive smokey odor. The extent of subsurface fires can be evaluated by visual observation of smoke plumes, rapid subsidence, and temperature probes inserted in to the landfill. Persistent subsurface fires may have to be excavated so the fire can be extinguished with water, fire fighting foam, soil or other extinguishing agent.

8.4.1.3 Yard Waste Pile Fire

Piles of vegetation may catch fire spontaneously because of high heat generated by decomposition deep in the pile. The yard waste storage pile maximum allowable dimensions and access road requirements provided in Rule 62-709 FAC have been established to minimize the potential for this spontaneous combustion and ensure the ability to control and extinguish fires.

Fires from spontaneous combustion in the Wood and Yard Waste Storage Piles would generally originate near the center of the pile and generate a lot of smoke. These fires should be doused with water from the water truck if safe to do so. The response should also try to prevent the spread of the fire by wetting adjacent piles and cutting additional fire breaks. If a Wood and Yard Waste fire is identified:

- contact the Supervisor and call 911 if necessary;
- the Supervisor shall direct initial fire fighting activities and the fire department may take over upon arrival;
- mobilize the water truck and a bulldozer and work to contain and suppress the fire.

8.4.1.4 Waste Tire Pile Fire

Waste Tire Pile fires present additional hazards including: (i) very hot fires; (ii) dense, noxious, black smoke; (iii) liquid pollutants from melted tires and run off water. Waste Tire fires should be suppressed by the fire department, unless they are contained when they are very small and can be put out with a fire extinguisher. If a Waste Tire pile fire is identified:

- contact the Supervisor and call 911 if necessary;
- the Supervisor shall direct initial fire fighting activities and the fire department may take over upon arrival;
- if safe to do so, put out the fire with a fire extinguisher from the nearest vehicle; and
- if safe to do so, remove as many tires as possible from the burning area using a bulldozer if necessary.

8.4.2 Vehicle Fires and Hot Loads

If arriving vehicles or their contents are obviously on fire, Weigh Station personnel or other staff shall initiate the following process:

- Contact the Supervisor and call 911 if necessary;

- If the vehicle is on the scale with a hot load or vehicle fire, the driver is to be instructed to immediately move the vehicle away from buildings and other vehicles;
- The Supervisor shall direct initial fire fighting activities and the fire department may take over upon arrival;
- If the vehicle itself is on fire, call 911, clear the area around the vehicle fire for fire truck access, and the fire department will put out the fire
- If only the load is burning, direct the driver to drop the load on an open area away from combustible material and move the vehicle to a safe location, and the Supervisor will direct the firefighting activities. A designated area for dropping hot loads should be maintained.
- Put out the fire with fire extinguishers and the water truck as appropriate after the load has been dropped in the designated area
- Monitor the fire until it is completely out;
- Pick up the burned material and dispose of it at the proper on-site location;;
- The Supervisor shall document the incident and outcome in the Daily Log



BIC LANDFILL OPERATIONS PLAN

9. INSPECTION AND MAINTENANCE PROGRAM

9.1 Operator Daily Inspection

The Landfill Superintendent or designated Supervisor is responsible for performing a daily inspection of the BIC Landfill facility to identify operational compliance issues and items requiring repair or maintenance. The Landfill Superintendent is responsible for accomplishing the necessary repair or maintenance items identified during the daily inspection using County sources or outside consultants or contractors retained for specialty services as needed.

The daily inspection of the facility condition and operation shall be documented on the Supervisor's Daily Log and Site Condition Inspection Checklist presented in Appendix E. The inspection shall include observation and documentation of the daily operation including: (i) work assignments, (ii) special projects; and (iii) a summary of compliance issues, personnel issues, and customer service issues. These operational observations shall be reported on the Supervisor's Daily Log. The inspection shall also cover required daily measurements and facility condition including:

- The condition of the roads, cover, and drainage system as discussed in subsection 9.2;
- The condition and operation of the leachate management system as discussed in subsection 9.3;
- The condition and operation of the gas management system as discussed in subsection 9.4; and
- Inspection of the ancillary waste storage areas for Unauthorized Waste.

9.2 Roads, Cover, and Drainage System

The condition of the roads, cover, swales, ditches, ponds, culverts, and stormwater discharge structure shall be inspected daily by the Landfill Superintendent or designated Supervisor (Operator). Any issues observed shall be documented on the Site Condition Inspection Checklist (form presented in Appendix E). The Supervisor is responsible for initiating repairs and for having proper routine maintenance performed. The inspection shall include:

- Note the condition and cleanliness of the site roads;
- Look for erosion or vegetation distress on the landfill cover or within the drainage swales and ditches;
- Assess the condition of erosion control best management practices (i.e. Silt fences, mulch cover, and vegetation);
- Look for litter and schedule litter policing as needed;
- Look for evidence of blockage or damage in culverts;
- Inspect the condition of canal and lake banks; and

- Inspect the condition of the stormwater discharge structure.

System maintenance includes:

- Controlling erosion to prevent leachate from mixing with stormwater;
- Applying intermediate cover to allow stormwater to flow into swales and ditches;
- Periodically returning swales, ditches, and ponds to their designed width and depth;
- Periodic removal of aquatic vegetation; and
- Maintenance of culverts and pipes to ensure free flow of water.

Whenever possible, routine stormwater system maintenance will be scheduled for the driest period of the year, typically between the months of November and April.

Erosion problems that affect the performance of the stormwater management facilities (blocking ditches or re-directing stormwater flow) shall be repaired as soon as practical and as weather allows. Repairs will be implemented within 3 days of the storm event that resulted in the erosion as required by rule 62-701-500(7)(j).

9.3 Leachate Collection System

The leachate collection system consists of a liner system and collection piping that collects leachate that has filtered through the solid waste as described in Section 5.2. In order for the system to function properly, infiltrating water must travel to the base of the landfill where it flows into perforated piping and is conveyed to lift stations for pumping to storage tanks. Therefore, to assure proper operation, cover at the landfill must be managed to avoid perching water inside the landfill or directing leachate out laterally through the side slopes. Such leachate “seeps” can contaminate the stormwater system resulting in surface runoff contamination.

The Leachate collection system daily inspection shall include the following:

- Inspection of the landfill cover for leachate seeps or inadequate cover;
- Inspection of each lift station including the SLCRS and PLCRS sumps to ensure they are functioning;
- Inspection of the leachate transmission force main for evidence of a possible leak which may be indicated by wet ground, excess vegetation growth, or vegetation distress;
- Inspection of the exterior of the leachate storage tanks, primary tank liquid levels, secondary tank sight glasses and the overflow prevention system;
- Inspection of the recording rain gauge.

Any issues observed on the daily inspection shall be documented on the Site Condition Log presented in Appendix E and the designated Supervisor shall initiate maintenance work immediately. Documentation of rainfall and leachate collection statistics shall be recorded on the Leachate – Rainfall Data System log presented in Appendix E.

The leachate collection piping in the base of the landfill must be maintained to prevent clogging and poor collection efficiency. The leachate collection system pipes shall be inspected by jet cleaning or

This section has been modified-see revised Landfill Operations Plan, Version June 2011.

video monitoring at five-year intervals to coincide with Permit renewal cycles as required by specific condition 14 of the Landfill Operating Permit.

9.4 Gas Collection System

The Landfill Gas Collection System is inspected and maintained according to Title V Air Operation Permit No. 0112370-005-AV. The designated Supervisor shall make a daily inspection of the gas flare system and record the observations on the Landfill Gas Collection System Daily Log presented in Appendix E. The Landfill Superintendent is responsible for resolving any observed problems using County Staff or the Landfill Gas Collection System O&M contractor.

Certified contractor field technicians inspect and perform preventive maintenance of the Landfill Gas Collection System monthly and quarterly, in accordance with their contract requirements.

9.5 Equipment Pre-Start Inspection

Equipment Operators are responsible for inspecting the condition of the equipment they operate at startup using the Pre-Start Checklists presented in Appendix E. The Equipment Operators shall also monitor their equipment to minimize spillage of fuel and oil. The Pre-start Checklists and Equipment Operator monitoring observations shall be provided to the Supervisor; in turn the Supervisor will fill out a Repair Request form to present to equipment maintenance staff so that appropriate repairs and routine maintenance can be performed. Equipment Operators shall notify the Supervisor of any noted problems immediately.

9.6 Operations Monitoring

Once the Equipment Operators have inspected the condition of equipment, they will begin operating. During equipment operation, the Operators will monitor the gauges and the equipment and listen for signs of equipment problems. In the event an Operator suspects the equipment is not safe to operate or the equipment is malfunctioning, the Supervisor shall be notified immediately.



BIC LANDFILL OPERATIONS PROGRAM

10. RECORD KEEPING

10.1 Required Records

The Landfill Superintendent is responsible for maintaining the Operating Record of the BIC Landfill in accordance with the requirements of rule 62-701.500(3), FAC. The Operating Record is considered a part of the Operation Plan and shall be kept with the plan in the Administration Building. As required by rule 62-701.500(3), the Operating Record shall consist of:

- all records, reports, analytical results, demonstrations, and notifications required by chapter 62-701, FAC;
- any construction, operation, and closure permits, including all modifications to those permits, issued by the FDEP, along with the engineering drawings and supporting information; and
- Spotter and Operator training records required by subsection 62-701.320(15), FAC

The records, reports, analytical results, demonstrations, and notifications that shall be maintained in the Operating Record include:

- Daily Logs;
- Incident Reports (i.e. detection of prohibited materials including Hazardous Wastes and other wastes);
- Random Load Inspection Logs;
- Follow-up detection of prohibited wastes or Hazardous Waste;
- Annual Topographic Survey and Usage Estimates;
- Waste Tonnage Reports;
- Groundwater, surface water, and leachate quality monitoring test results and reports;
- Rainfall and leachate generation records;

10.2 Record Storage

The Landfill Superintendent is responsible for keeping the Operating Record in accordance with rule 62-701.500(13), FAC. The record storage standards are summarized below:

- Records of information used to develop or support the permits and construction of the landfill such as engineering reports, permit applications, CQA and CQC final reports and records pertaining to the operation of the landfill shall be kept for the design period of the landfill;

- Records of all monitoring information, including calibration and maintenance, original chart recordings for continuous monitoring instrumentation, and copies of all records required by permit shall be kept for at least 10 years. Records may be archived after 5 years;
- Background water quality records shall be kept for the design period of the landfill; and
- Records more than five years old may be archived, provided that they can be retrieved for inspection within 7 days.

10.3 Waste Received Database

Specific Condition #19 in Operating Permit 0053055-006-SO requires monthly compilation and quarterly reporting to FDEP of the weight of the following materials handled at the site:

- Household waste;
- Treated biohazardous or biochemical waste;
- Commercial Waste;
- Construction and demolition debris;
- Agricultural waste;
- Yard trash;
- Industrial sludge;
- Water/air treatment sludge;
- Ash residue;
- Incinerator by-pass waste;
- Industrial waste; and
- Sewage sludge.

Many of the types of waste listed above are not accepted by the BIC Landfill. Only the waste types actually accepted will be included in the database. The following waste descriptions/classifications are currently used:

- Household Waste (during contingency operations only);
- Commercial Waste (waste other than household waste, C&D, wood/yard waste, Waste Tires);
- Construction and demolition debris;

This section has been modified-see revised Landfill Operations Plan, Version June 2011.



- Clean wood waste from construction and demolition sites (unpainted, untreated lumber and pallets, sent to wood waste area);
- Yard trash (sent to yard waste area); and
- Waste Tires

All vehicles exiting the site transporting leachate, recyclable materials, tires, white goods, or other temporarily stored materials are also classified and weighed. This allows the development of a mass balance calculation of waste diversion and recycling rates.

The following waste descriptions/classifications are typically used for outgoing loads:

- Leachate hauled to wastewater treatment plant as backup measure;
- Scrap metal to recycler;
- White goods to recycler;
- Wood waste to recycler or off site use;
- Wood waste used on site;
- Waste Tires
- Prohibited materials and household Hazardous Waste transported off site; and
- Other materials shipped off site.

All vehicle classifications, waste classification, waste weights, recycled or recovered materials weights and tare weight information is integrated into a monthly and annual reporting system for the site.

Additional records from the Weigh Station provide the ability to use the database to produce specific reports to monitor trends in waste management at the site:

- Average waste tonnage and transaction count tracked by the day of the week (running averages);
- Average monthly waste tonnage and transaction count;
- Percentage of waste arriving in different vehicle types, on different days; and
- Traffic distribution by the time of day (transaction count per hour through the day) for different days of the week, at different times of the year.

Data from the Weigh Station computer will be collected daily and stored in a database for monthly compilation of data to be submitted to FDEP quarterly. The FDEP quarterly waste quantity report should be compiled monthly and included in a monthly Site Operations Report distributed to all management staff. Additional information from the Weigh Station for the monthly Site Operations Report includes:

- Tons of scrap metal/white goods removed from site;
- Tons of tires removed from site;
- Tons of wood removed from site



- Average daily vehicle count and average daily tonnage; and
- Average monthly tonnage and year to date tonnage compared to the previous year.

10.4 Remaining Life and Capacity

In accordance with rule 62-701.500(13)(c), an annual estimate of the remaining life and capacity in cubic yards of the of the existing, constructed landfill and remaining capacity and site life of other permitted areas not yet constructed shall be performed and reported to FDEP. The remaining capacity shall be based on an annual topographic survey and the permitted final cover grading plan with an adjustment for the thickness of the cover.

The annual topographic survey shall also be used for tracking the tons per cubic yard of waste disposal (utilization factor) on an annual basis. The annual surveys shall be used to calculate the volume of waste disposal each year. Using this statistic and the Weigh Station records, the utilization factor shall be calculated. The waste density calculated from the Compactor GPS tracks can be compared to this utilization factor to give some idea of the additional volume reduction that occurs as waste decomposes and settles under the weight of additional waste layers.



BIC LANDFILL OPERATIONS PLAN

11. EMERGENCY PREPAREDNESS AND RESPONSE

The BIC Landfill has an Emergency Preparedness and Response Plan to cover operational interruptions and emergencies such as fires, explosions, and natural disasters as required by Rule 62-701.320(16), FAC. The Emergency Preparedness and Response Plan is Appendix G of the Broward County Waste and Recycling Services Emergency Preparedness Plan. This document is kept at the facility at all times and accessible to facility Operators. The plan includes:

- Designation of the persons responsible for implementation of the contingency plan;
- Procedures for notification of appropriate emergency response persons, including the department, the local government, and local fire protection agencies;
- A description of emergency procedures to be followed, including the location of fire-fighting equipment and explanations of how to use the equipment;
- Provisions for the immediate shutting down of those parts of the facility affected by the emergency and notification to customers of the closure of the facility; and
- Procedures for notification of neighbors and local government officials of the potential impacts of the emergency, and provisions to minimize those impacts.



REFERENCES

Florida Administrative Code, *Solid Waste Management Facilities, Chapter 62-701*. 2005.

Florida Department of Environmental Protection, Operation Permit Number 00053055-005-SO, February 20, 2006, Modified June 7, 2006,
Expires February 19, 2011.

Florida Department of Environmental Protection, Title V Air Operation Permit, Permit No. 1002370-003-AV, August 6, 2003



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APPENDIX A

Spotter and Operator Training Plan



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BIC Landfill Operator and Spotter Training Plan

Rule 62-701.500(1), FAC specifies that the minimum staffing requirements for operation of a Class I landfill include one “Trained Operator” on-site at all times the landfill receives waste and one “Trained Spotter” at each working face. For the BIC Landfill, the Superintendent and all three Supervisors shall meet the requirements of Trained Operator and four of the Equipment Operators III shall meet the requirements of Trained Spotter.

Minimum training requirements for Operators and Spotters are provided in rule 62-701.320(15) FAC. All spotters shall be trained in accordance with this plan to identify unauthorized waste and shall be provided a minimum of 8 hours initial training and 4 hours additional training every 3 years thereafter. Operators shall be trained to properly operate the landfill and shall be provided a minimum of 24 hours initial training and 16 hours additional training every 3 years thereafter.

The BIC Landfill shall use public training courses that have been approved by FDEP in accordance with Section 403.716 Florida Statutes. The University of Florida TREEO Center offers FDEP approved Operator and Spotter initial training and refresher courses at various times and locations each year. Registration for the courses can be performed on-line at <http://www.treco.ufl.edu/sw/>.

The training status of the Operators and Spotters at the BIC Landfill is summarized below. This table shall be revised annually and the training information updated.

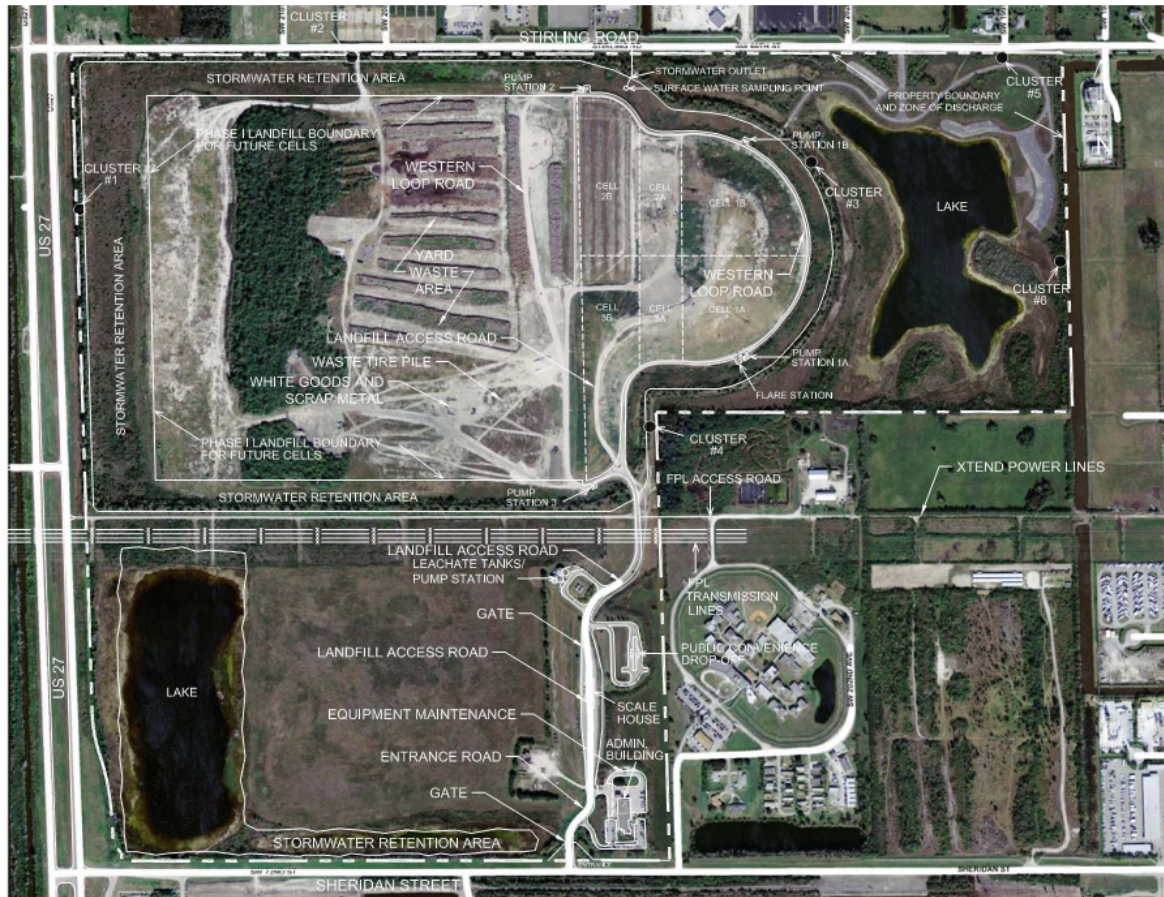
Job Title	Employee Name	Training Level	Date and Source of Initial Training	Last Refresher Date	Date Next Refresher Due
Superintendent	Richard Dennis	Operator			
Supervisor	Jerry Ives	Operator		3	
Supervisor	Mike Serra	Operator			
Supervisor	Larry Cassels	Operator		3	
Equipment Operator III	James Anderson	Spotter		1	
Equipment Operator III	Gilbert Azael	Spotter		6	
Equipment Operator III	Willie Howard	Spotter		2	
Equipment Operator III	Charlie Rodd	Spotter			

This section has been modified-see revised Landfill Operations Plan, Version June 2011.

This Training Plan and training records for key staff shall be filed with the Operations Plan and shall be available for review by FDEP inspectors [62-701.320(15)(a), FAC].

BROWARD COUNTY INTERIM CONTINGENCY LANDFILL OPERATIONS PLAN

Broward County Interim Contingency Landfill
7101 S.W. 205 Avenue
Ft. Lauderdale, FL



Prepared for:
Broward County Waste and Recycling Services
1 N. University Dr., Suite 400
Plantation, FL 33324
April 2009

ES Consultants
770 North Kendall Drive,
Suite 607
Miami, FL 33156



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Prepared by:

In Association With

Brown and Caldwell
Westside Plaza II
8200 N.W. 33rd Street, Suite
410
Miami, FL 33122

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APPENDIX B

Examples of Hazardous Material Placards



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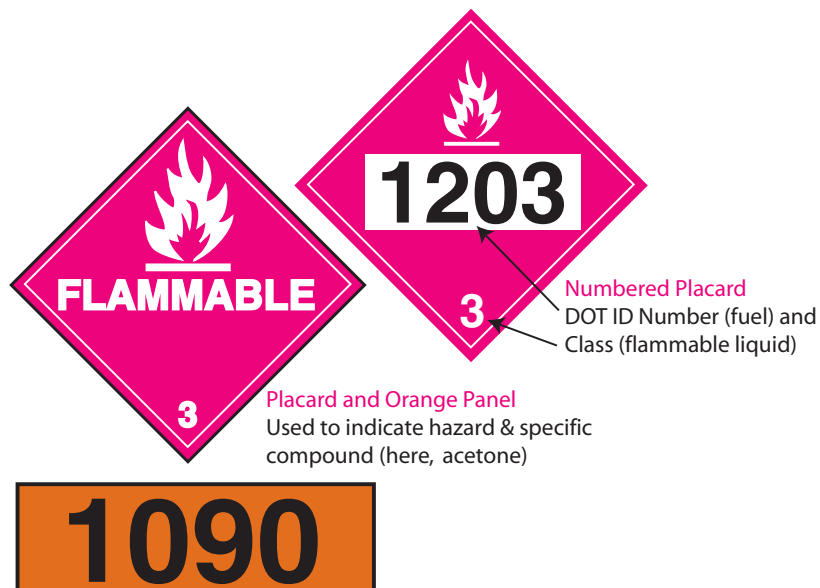
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HAZMAT Placards

NFPA 704 HazMat* Classification



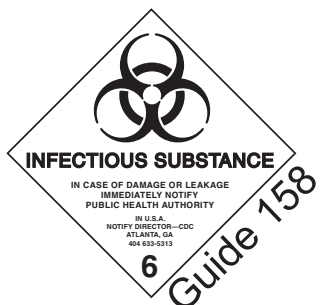
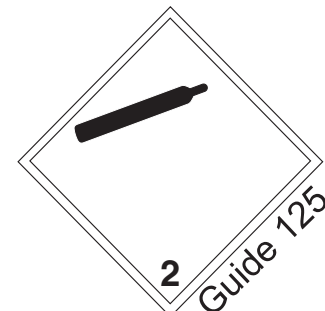
*** Not intended to identify non-emergency health hazards**



Hazmat Shipping Placards



Hazmat Shipping Placards



APPENDIX C

Leachate Transmission System Operation Procedures



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Leachate Transmission System Operation Procedures

General Conditions

- Opening and closing of valves (except valves at pumps) must be monitored by the Supervisor, except in an emergency.
- Valves connecting the two inner tanks are to remain normally open.
- Leachate storage tanks should be pumped as necessary at the beginning of each shift.
- Pumping shall normally be to the Pembroke Pines WWTP through the force main, unless directed by the Supervisor.

Beginning of Shift Startup

The following procedure should be used and the required information logged at the start of each shift.

Pre Startup Procedure

- Inspect condition of exterior of tanks.
- Check sight gauges for signs of liquid in the secondary containment.
- Confirm tanks are interconnected:
 - Confirm valves into and out of inner tanks are **OPEN**.
 - Check that leachate levels in both tanks are the same.
 - Record leachate level in tanks.
 - If tanks are isolated or levels are different, notify Supervisor.
- **Confirm** valves out of outer tanks are **CLOSED**.
- Inspect tanker loading pump house for leakage or visible damage. If there is damage, contact Supervisor, and do not take any further action until Supervisor arrives, except to respond to an emergency.

Startup Procedure

- Turn on power to control panel.
- Turn on power to PS-1A, 1B, and 2 and note if “**PUMP ON**” lights come on.
- Record leachate level in tanks.
- Inspect sewer discharge pump house for leaks or visible damage.
- Confirm that valves into and out of pumps are open.
- Start both pumps, one at a time
- Inspect lift stations (PS-1A, 1B, and 2, 3)
- Drive or walk to each lift station, looking for signs of leaking along force main alignment and perform the following at each lift station:
 - Inspect Secondary Leachate Collection System (SLCS) sump and ensure pump is on if liquid level is above low level of float. If under manual operation, turn on pump as required.
 - Record SLCS totalizing flow meter gallons.

- Inspect Primary Leachate Collection System (PLCS) sump and check that pump turns on if liquid level is above low level of float. Record lift station hours.
- Notify Supervisor of any leakage, malfunction, or items needing repair or maintenance.

End of Shift Shut-Down

The following procedure should be followed at the end of each shift.

- Inspect each lift station to ensure that pumps have been coming on and off as controlled by floats.
- Look for signs of leakage from the underground force main while driving or walking from lift station to lift station.
- Enter tanker loading pump house, inspect for leakage or damage and turn off power to control panel.
- Observe exterior of pump tanks and secondary containment sight glasses.
- Inspect sewer house for leakage or damage and turn off pumps.
- Turn off valves on discharge side of pumps.
- Notify Supervisor of any leakage, malfunction, or items needing repair or maintenance.
- Record storage tank level at end of shift.

Pumping to Tanker

The Supervisor will decide when leachate should be hauled to a treatment facility by tanker, instead of to the force main. The following procedure should be followed to load tankers.

- Position tanker truck opening under loading pipe.
- Lower truck loading pipe into tanker.
- Record the tanker's level before pumping.
- Inspect tanker loading pump house for leakage.
- Turn on power to control panel.
- Record the totalizing flow meter reading on the discharge pipe after the pumps and the digital flow meter reading on control panel.
- Open valves into and out of pumps.
- Start both pumps one at a time.
- Check tanker for spilling or leaks.
- If leaks or spilling is observed stop pumps, clean up spill, and fix the source of spilling or leaking prior to resuming discharge.
- Use the flow meters to gauge when tanker will be nearly full.
- Turn off both pumps prior to overfilling tanker.
- Monitor sight glass during fill-up of tanker.
- Fill tanker up to fill mark on sight glass.
- Raise truck loading pipe and close tanker fill port.

APPENDIX D

Contact List



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BIC Landfill External Parties Contact List For Serious Injury or Emergency Call 911			
Contact	Company Name and Address	Contact Person	Phone Numbers
Fire Department (Quarterly Inspection, Coordination, Fire fighting)			
Hazardous Materials Emergency Response			
Gas Collection System Operation, Maintenance and Monitoring Consultant			
Gas Collection System Maintenance and Repair Contractor			
Leachate Pump Station Repair Contractor			
Water Quality Monitoring Consultant			
Hazardous Waste Coordinator (to arrange Haz waste disposal)			
Scrap Metal Recycler			
Yard Waste Processor			
Waste Tire Hauler (county person used to arrange hauling tires to incinerator)			
Primary Leachate Disposal	Pembroke Pines Waste Water Treatment Plant		
Alternate Leachate Disposal 1			
Alternate Leachate Disposal 2			
GPS System Technical Support			
Security System Technical Support			
Land Surveyor			

This section has been modified-see revised Landfill Operations Plan, Version June 2011.



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Contact List

BIC Landfill External Parties Contact List For Serious Injury or Emergency Call 911			
Contact	Company Name and Address	Contact Person	Phone Numbers
Fire Department (Quarterly Inspection, Coordination, Fire fighting)	911		
Hazardous Materials Emergency Response	Broward County Hazardous & Household Waste Troy Robert	Troy Robert	954-553-4386
Gas Collection System Operation, Maintenance and Monitoring Consultant	Golder Associates 9428 Baymeadows Road, Ste 400 Jacksonville, FL 32256	Dave Knapp	770-331-4086
Gas Collection System Maintenance and Repair Contractor	Golder Associates 9428 Baymeadows Road, Ste 400 Jacksonville, FL 32256	Dave Knapp	770-331-4086
Leachate Pump Station Repair Contractor	Nugent Pump 8039 South Savannah Circle Davie, FL 33328	Tom McNamara	407-936-1139
Water Quality Monitoring Consultant	Genepure	William Deckelmann	888-862-5227
Hazardous Waste Coordinator (to arrange Haz waste disposal)	Broward County Hazardous & Household Waste Troy Robert	Troy Robert	954-553-4386
Scrap Metal Recycler	To be determined		
Yard Waste Processor	To be determined		
Waste Tire Hauler (county person used to arrange hauling tires to incinerator)	Broward County Landfill	Richard Dennis	954-680-0088
Primary Leachate Disposal	Pembroke Pines Waste Water Treatment Plant	Skip Keibler	954-437-1111
Alternate Leachate Disposal 1	Haul to Pembroke Pines		
Alternate Leachate Disposal 2	None		
GPS System Technical Support	Geologic Computer Systems 2505 Williams Drive Waterford, MI 48328	Chuck Julian	248-335-8863
After Hours Security Company	Wackenhut Corporation 6499 Powerline Road, Ste 300 Ft. Lauderdale, FL 33309	Captain Newman	954-275-6209
Security System Technical			

This section has
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Support			
Land Surveyor	Craven Thompson & Associates, Inc.	Doug Davie	954-739-6400
Nitrogen Supplier	Airgas South, Inc.	John Hernandez	954-772-1982
Generator Maintenance	All Power Generator	Juan Garcia	305-888-0059
Propane Supplier	Amerigas	Judy	954-476-5254
Wetland Mitigation (1 site)	Aquagenix	Eric Malloy	561-881-1291
Wetland Mitigation (5 sites)	C&N Consultants, Inc.	Cheryl Carpenter	561-744-7420
Boy Scout Camp (Davie)	Boy Scout Camp (Davie)	Ray Swift	954-473-0105
Janitorial Service	Chi-Ada Corporation	John Hernandez	305-948-5651
Fire Extinguisher Service	City Fire	Daniel	954-987-1338
Temporary Flare Lease (BIC)	Shaw Environmental	Neil Campbell	305-818-2617
Landfill Cover Material	Sun Recycling	Dan Domenico	954-914-0870
Truck Scale Maintenance	Cardinal Scale Mfg. Co. 3215 NW 10 th Terrace, #203 Oakland Park, FL 33309	Scott Adams	954-563-4120
Meter Calibration	Avanti Company	Mark Connor	863-453-5336
Uniform Rentals	To be determined		

This section has been modified- see revised Landfill Operations Plan, Version June 2011.



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APPENDIX E

Logs and Forms

This section has
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Landfill
Operations Plan,
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2011.



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BIC/DAVIE SUPERVISORS DAILY LOG

SUPERVISOR ON DUTY	DAILY READING	
NAME	BIC 1A Sump Level	
	Davie Main Sump Level	
DATE	BIC Rain Gauge:	
	Davie Rain Gauge:	
	BIC Leachate Meter Reading	
	Davie Leachate Meter Reading	

WORK LOCATIONS				
3000 MANDATORY COLLECTIONS		4110 BIC		4330 HAZARDOUS WASTE
8299 TRANSFER STATION		5201 SOUTH ASH LANDFILL		8301 DAVIE LANDFILL
JOB TITLE	NAME	JOB ASSIGNMENT	WORK LOCATION	EQUIP. #
EQUIPMENT OPERATORS	ANDERSON			
	AZAEAL			
	HOWARD			
	KILL			
	MARTIN			
	RODD			
	SALTER			
	SMITH			

SPECIAL PROJECTS	
BIC	
DAVIE	
OUTSIDE	

JOB TITLE	NAME	JOB ASSIGNMENT	WORK LOCATION	EQUIP. #
MAINT. MECHANICS	ORRICO			
	SOUBEL			
MAINTENANCE WORKERS	HINKLE			
	LIGHTBOURN			
	MILLER			
	MITCHELL			
	RENNER			
SCALE HOUSE	CASTILLO	INCOMING / OUTGOING		
	RODRIGUEZ	INCOMING / OUTGOING		
	SMART	INCOMING / OUTGOING		
STORE KEEPER	MONTICONE			

PERSONNEL ISSUES: _____

SAFETY ISSUES (INJURIES/ACCIDENT) NOTE: PLEASE USE APPROPRIATE FORMS IN CONJUNCTION TO DOCUMENT/REPORT ANY INCIDENTS

CUSTOMER SERVICE ISSUES: _____

OTHER SUPERVISOR COMMENTS: _____

SUPERVISOR SIGNATURE

DATE

11/7/2007

LEACHATE - RAINFALL DATA SYSTEM

Reading Date:

Main Leachate Tanks	Leachate Level (ft)				Pumps Loaded (Total hr.)		
	Tank # 1		Tank # 2		Pump # 1	Pump # 2	
	Inner	Outer	Inner	Outer			
Lift Stations	Leachate Level at Sump (ft)		Leachate Detection sump (total gal.)		Hour Meter (Total hr.)		DAY 4
					Pump # 1	Pump # 2	
1A							
1B							
2A							
#3							
Total Leachage pumped (gal)		Reading Time		Rainfall (in.)		B.I.C.	
Comments:							
Reader Signature:							

Reading Date:

Main Leachate Tanks	Leachate Level (ft)				Pumps Loaded (Total hr.)		
	Tank # 1		Tank # 2		Pump # 1	Pump # 2	
	Inner	Outer	Inner	Outer			
Lift Stations	Leachate Level at Sump (ft)		Leachate Detection sump (total gal.)		Hour Meter (Total hr.)		DAY 5
					Pump # 1	Pump # 2	
1A							
1B							
2A							
#3							
Total Leachage pumped (gal)		Reading Time		Rainfall (in.)		B.I.C.	
Comments:							
Reader Signature:							

Reading Date:

Main Leachate Tanks	Leachate Level (ft)				Pumps Loaded (Total hr.)		
	Tank # 1		Tank # 2		Pump # 1	Pump # 2	
	Inner	Outer	Inner	Outer			
Lift Stations	Leachate Level at Sump (ft)		Leachate Detection sump (total gal.)		Hour Meter (Total hr.)		DAY 6
					Pump # 1	Pump # 2	
1A							
1B							
2A							
#3							
Total Leachage pumped (gal)		Reading Time		Rainfall (in.)		B.I.C.	
Comments:							
Reader Signature:							

LANDFILL GAS RECOVERY SYSTEM

DAILY LOG (BIC / DAVIE) (circle one)

DATE

OPERATOR

SUPERVISOR

COMMENTS*

A. FLARE OPERATING?

YES / NO*

(circle one)

B. CHART RECORDER OPERATING?

YES / NO*

(circle one)

C. DAILY READINGS:

1. Leachate Wet Well Level:

2. Nitrogen Cylinder Pressure:

3. Propane Tank Pressure:

4. Blower Hour Meter:

5. Last Recorded Operating Temperature:

D. COMPONENT CHECK: (Integrity/Proper Operation) CIRCLE ONE:

1. Control Panel: SAT / UNSAT* / NA

2. Header Valve: SAT / UNSAT* / NA

3. Butterfly Valve: SAT / UNSAT* / NA

4. Orifice Plate: SAT / UNSAT* / NA

5. Flame Arrester/Drain: SAT / UNSAT* / NA

6. Transmitters: SAT / UNSAT* / NA

7. Blower: SAT / UNSAT* / NA

8. Purge Blower (s/u only) SAT / UNSAT* / NA

9. Louvers/actuators: SAT / UNSAT* / NA

10. Main Power Supply SAT / UNSAT* / NA

11. Blower Control Panel: SAT / UNSAT* / NA

12. Ports and Caps: SAT / UNSAT* / NA

COMMENTS:

(Additional comments on back)

Updated 12/07

DOZER PRE-START CHECKLIST

DATE:

Unit # _____ Hours/Miles: _____	SATISFACTORY (Initial)	UNSATISFACTORY (Initial)	NOT APPLICABLE
<u>Check handles on dozer</u>	_____	_____	_____
<u>Check fire extinguisher</u>	_____	_____	_____
<u>Check water in radiator and radiator cap</u>	_____	_____	_____
<u>Check door panels to motor. Adjust right or left side if necessary</u>	_____	_____	_____
<u>Check hydraulic fluid</u>	_____	_____	_____
<u>Check fan belts</u>	_____	_____	_____
<u>Check transmission fluid</u>	_____	_____	_____
<u>Check if battery needs water</u>	_____	_____	_____
<u>Check if battery terminals corroded or cables corroded</u>	_____	_____	_____
<u>Hydraulic leaks, cylinders, hoses, lines, etc.</u>	_____	_____	_____
<u>Final drive leaks inside or outside of tracks</u>	_____	_____	_____
<u>Check master link bolts. Adjust left or right if necessary</u>	_____	_____	_____
<u>Check track pads. Adjust left side or right side if necessary</u>	_____	_____	_____
<u>Tracks loose, left side or right side</u>	_____	_____	_____
<u>Rollers left side, defective, flat spots, won't spin</u>	_____	_____	_____
<u>Rollers right side, defective, flat spots, won't spin</u>	_____	_____	_____
<u>Check if towers are loose, left side or right side</u>	_____	_____	_____

	SATISFACTORY (Initial)	UNSATISFACTORY (Initial)	NOT APPLICABLE
Check if segments are cracked or loose, left side or right side			
Check if cutting edge is cracked or bolts missing			
Check spotlights			
Check instrument gauges			
Check operator's seat			
Check seat belt			
Check backup alarm			
Check radio operation			
General Comments:			
Operator Signature: _____		Date: _____	
Supervisor Review: _____			
Comments: _____			

Return completed form to Supervisor at **beginning** of shift. Supervisor turn in with Daily Log.

Broward County**WRS/Solid Waste Operations Division****Broward County Interim Contingency Landfill (BIC)****RANDOM LOAD INSPECTION**

(According to 62-701.500(6) F.A.C.)

Date**Time****Hauler****Name (Print):****Phone No.:****Address:****Driver****Name (Print):****Driver License No.:****Vehicle****Type:****License Plate No.:****Source of Waste:
(Generator)****Inspector Observations:**☐**No unauthorized/hazardous waste found****Action Taken:**☐**No action taken****Inspector Name (Print)/Signature:****Time:****Supervisor Name (Print)/Signature:****Date:**

MISCELLANEOUS HEAVY EQUIPMENT PRE-START CHECKLIST

(Loaders, Backhoe, Water Wagon, Motor Grader)

DATE:

Unit # _____ Hours/Miles: _____	SATISFACTORY (Initial)	UNSATISFACTORY (Initial)	NOT APPLICABLE
<u>Check fire extinguisher</u>	_____	_____	_____
<u>Check engine oil level</u>	_____	_____	_____
<u>Check hydraulic oil level (if applicable)</u>	_____	_____	_____
<u>Check coolant level</u>	_____	_____	_____
<u>Check fuel level</u>	_____	_____	_____
<u>Drain water from fuel pre-cleaner (if required)</u>	_____	_____	_____
<u>Check fuel tank and fuel lines for leaks</u>	_____	_____	_____
<u>Clean air conditioning filters (if applicable)</u>	_____	_____	_____
<u>Inspect batteries and connections</u>	_____	_____	_____
<u>Check condition of hoses, belts</u>	_____	_____	_____
<u>Check bolted connections for tight fit</u>	_____	_____	_____
<u>Visual inspection of engine and machine</u>	_____	_____	_____
<u>Visual inspection of all handholds and railings</u>	_____	_____	_____
<u>Check function of brakes</u>	_____	_____	_____
<u>Check cylinders for hydraulic leaks</u>	_____	_____	_____
<u>Check function of steering</u>	_____	_____	_____
<u>Check windshield washer system (if installed)</u>	_____	_____	_____

	SATISFACTORY (Initial)	UNSATISFACTORY (Initial)	NOT APPLICABLE
<u>Check radio operation</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check tire pressure (if applicable)</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check condition of bucket and coupler (if applicable)</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check condition of down riggers (if applicable)</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check and adjust mirrors</u>	<u> </u>	<u> </u>	<u> </u>
<u>Clean windshield if required</u>	<u> </u>	<u> </u>	<u> </u>
<u>Adjust seat (use seat belt)</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check proper pressure on all gages after start</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check all lights, warnings and alarms</u>	<u> </u>	<u> </u>	<u> </u>
<u>Check back-up alarm</u>	<u> </u>	<u> </u>	<u> </u>

General Comments:

Operator Signature: _____

Date: _____

Supervisor Review: _____

Comments: _____

Return completed form to Supervisor at **beginning** of shift. Supervisor turn in with Daily Log.

BIC LANDFILL SITE CONDITION INSPECTION CHECKLIST

Inspector: _____ Supervisor: _____

Date : _____ Weather: _____

Rainfall Recorded during Previous 2 Days: _____ inches _____ inches

Structure / Area	Observed Condition (i.e. good, excessive sediment, debris blockage, leachate seep, etc.)	Maintenance Required (briefly note required corrective action if any)
Entrance Road, Scale House and Swales		
Admin Building and Equipment Maintenance Area		
Leachate Storage Tanks and Pump Stations		
Leachate Storage Tanks interconnection valve position		
Leachate Pump Stations		
Leachate Transmission Line Alignment		
Western Loop Road and Perimeter Swale		
Landfill Access Road		
Landfill Cover (note location of any damage)		
Flare Station		
Small Vehicle Drop Off Area		
Stormwater Retention Areas and Lakes		
Stormwater Outfall Structure (document if there is flow) ⁽¹⁾		
Groundwater Monitoring Well Clusters		
Yard Waste Storage Area (Note material transferred to Landfill) ⁽²⁾		
Scrap Metal and White Goods Area		
Waste Tire Storage Area		
Landfill Active Face		
Incidental Hazardous Waste Storage Bins		

Notes

- (1) If there is surface water discharge and there has not been a surface water quality sample in the last 6 months, arrange for a surface water quality sampling event.
- (2) If any material is rejected from the yard waste storage area (i.e., pretreated lumber), the type and quantity of material must be recorded.

APPENDIX F

Leachate Treatment Facility Contract / Testing Requirements



ES CONSULTANTS, INC.
environmental and civil engineering

BROWN AND CALDWELL

INTERLOCAL AGREEMENT

BETWEEN

THE CITY OF PEMBROKE PINES, FLORIDA
A Florida Municipal Corporation

AND

BROWARD COUNTY, FLORIDA
A Political Subdivision of the State of Florida

FOR
LEACHATE TREATMENT AND DISPOSAL SERVICES

THIS AGREEMENT, dated the 18th day of June, ²⁰⁰²2001, by and between.

THE CITY OF PEMBROKE PINES, a municipal corporation organized and operating under the laws of the State of Florida, with a business address of 10100 PINES Boulevard, Pembroke Pines, Florida 33026, hereinafter referred to as "PINES,"

and

BROWARD COUNTY, a political subdivision of the State of Florida, whose address is Governmental Center, 115 South Andrews Avenue, Fort Lauderdale, Florida 33301, hereinafter referred to as "COUNTY." PINES and COUNTY may hereinafter collectively be referred to as "the Parties."

W I T N E S S E T H

WHEREAS, COUNTY desires to contract with the PINES for the treatment and disposal services for leachate generated from the Broward County Southwest Interim Contingency Sanitary Landfill ("Landfill") at the Pembroke Pines Wastewater Treatment Plant; and

WHEREAS, PINES determines that receipt of the portion of the leachate from the Landfill will have no significant impact on the Pembroke Pines Wastewater Treatment Plant based upon the review of the Broward County leachate quality data, and

WHEREAS, the COUNTY desires to utilize the Pembroke Pines Wastewater Treatment Plant for the treatment and disposal of such leachate; and

WHEREAS, the COUNTY agrees to compensate PINES for the provision of such treatment and disposal services; and

WHEREAS, Part I Chapter 163, Florida Statutes, as amended, ("the Interlocal Cooperation Act"), permits the Governmental Units, as public agencies under the Interlocal Cooperation Act, to enter into interlocal agreements with each other to authorize one governmental party to exercise, on behalf of the other governmental unit, currently held powers, privileges or authorities which each such Governmental Unit shares in common and which each might exercise separately, permitting the Governmental Units to make the most efficient use of their power by enabling them to cooperate on the basis mutual advantage and thereby provide services and facilities in a manner and pursuant to a form of Governmental operation that accords best with geography, economy, population and other factors influencing the needs and developments of such Governmental Units; and

WHEREAS, this Interlocal Agreement will become effective upon its being filed with the Records Division of Broward County in accordance with the provisions of the Interlocal Agreement Act; and

WHEREAS, the COUNTY hereby represents to PINES it has the authority, pursuant to the Interlocal Cooperation Act, to execute any and all documents necessary to effectuate and to implement the terms of this Agreement; and

WHEREAS, PINES hereby represents to COUNTY that it has the authority, pursuant to the Interlocal Cooperation Act, to execute any and all documents necessary to effectuate and to implement the terms of this Agreement; and

NOW, THEREFORE, for and in consideration of the terms, conditions, promises, mutual covenants and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows

ARTICLE 1

SCOPE OF SERVICES

1.1 The Parties hereby agree that the COUNTY shall transmit to the Pembroke Pines Wastewater Treatment Plant through the Pembroke Pines wastewater collection system, and PINES shall receive, approximately one million (1,000,000) gallons per month as an annual average of leachate from the Landfill with a maximum expected rate of leachate transmission of one million five hundred eighty one thousand six hundred (1,581,600) gallons recorded each month, or at the rate of fifty two thousand (52,000) gallons per day. If COUNTY knows that this rate shall be exceeded, COUNTY shall immediately notify PINES upon obtaining such information and prior to the transmission of leachate if possible. If COUNTY has no prior knowledge of exceeding this maximum rate of flow, COUNTY shall notify PINES within twenty-four (24) hours of discovering such information. If a permanent or extended increase in flow, above the maximum flow stated hereinabove, occurs for a period in excess of one (1) calendar month, the Parties acknowledge the need for renegotiation of the terms of this Agreement. Such renegotiation shall occur at PINES' sole discretion.

1.2 In exchange for PINES' acceptance, treatment and disposal of such leachate, COUNTY shall pay to PINES FOUR DOLLARS AND SEVENTY-FIVE CENTS per thousand gallons treated (\$4.75/1000 gallons treated) on a monthly basis. PINES may adjust this fee in accordance with any modifications of the PINES utility rates. PINES will notify COUNTY in writing in advance of any such modifications. Upon receipt of landfill leachate at the Pembroke Pines Wastewater Treatment Plant, PINES shall conduct sampling and analysis of resultant treated wastewater and wastewater residuals and assess the impact of receiving leachate by comparing new results with the past results

at the Pembroke Pines Wastewater Treatment Plant. It is understood that if the leachate does not adversely affect the Wastewater Treatment Plant operation as determined by PINES, then PINES should not be subject to pretreatment regulations of Chapter 62-625, Florida Administrative Code or Title 40 CFR Part 403. Should it be required by the Florida Department of Environmental Protection (FDEP) for PINES to implement an Industrial Pretreatment Program (IPP) as required by Chapter 62-625, Florida Administrative Code or Title 40 CFR Part 403, due to PINES accepting leachate from the Landfill, the COUNTY shall have the option either to take remedial steps or to agree to pay for any additional expenses incurred by PINES for the necessary treatment and IPP development and administration. The remedy may involve either limiting the daily flow rate or improving the quality to the required level or both. If either a mutually acceptable fee for IPP expenses or remedial steps can not be negotiated, either party may terminate this agreement. PINES hereby agrees to issue an industrial discharge permit to the COUNTY. The definitions contained in Title 40 CFR Part 403, as may be amended, are hereby incorporated by reference and shall be applied, if applicable, to this agreement. If other customers become subject to the pretreatment regulations stated above are issued Industrial Discharge Permits by PINES, PINES will refund to the COUNTY one half of the monies collected to defray the cost incurred by PINES and billed to the COUNTY to develop and implement the Industrial Pretreatment Program.

1.3 The COUNTY shall make available to PINES upon reasonable request all COUNTY permits for the Landfill and all reports and data generated to show compliance with the.

1.4 The COUNTY shall grant full, unimpeded and immediate access to the Landfill and the leachate pumping facilities as requested by PINES. PINES shall be granted access to perform sampling of any leachate stream, whether at the final pumping station or at any of the four (4) leachate collection pumping stations or any leachate collection pumping station the COUNTY may cause to be built, to assess compliance or assess the potential for adverse impact upon the Pembroke Pines Wastewater Treatment Plant.

1.5 Flow Meter. The COUNTY shall install and maintain at its own expense a flow meter at a point prior to connection of the leachate pumping system to PINES' wastewater collection pumping system. This flow meter will accurately meter the leachate transmitted to PINES for treatment and disposal. This meter shall be calibrated a minimum of once every twelve (12) months at the COUNTY's expense by a factory authorized representative. This certified calibration shall be provided to PINES within thirty (30) days of the calibration. The flow meter shall be equipped with a recording device that shall record the instantaneous flow rate. The flow rate shall be totaled once every twenty-four (24) hours for the proceeding twenty-four (24) hours. This flow meter shall be utilized to show compliance with the flow parameters of any permits to be issued by PINES.

1.5.1 Meter Accuracy. The parties hereto agree that should the metering equipment installed by the COUNTY be found to be inaccurate beyond the manufacturer's range of accuracy,

the meter will be assumed to be inaccurate since the last meter check or for a period of three (3) months, whichever time is less, and the following month's billing will be adjusted to show a credit or additional charge to the COUNTY for metered flow for that period. If PINES requests a meter report in addition to the annual reports, the COUNTY will comply. If the meter was malfunctioning or required calibration, the expense associated with PINES' request will be an operating expense to the COUNTY. If the meter report indicates the meter was operating properly within the manufacturer's guaranteed range of accuracy, PINES will be charged in the subsequent monthly bill for the expenses associated with the inspection.

1.5.2 Meter Failure. The parties agree that if at any time during this Agreement the metering device shall in any way fail to tabulate the flow into PINES's collection and treatment facilities, each successive monthly charge shall be based on the last available meter reading and adjusted to equal the same percent of total plant flow each month until the meter is once again fully operational. The meter shall be repaired within one month.

1.5.3 Registration of Meter. Registration of the meter, when maintained as above, shall be binding on both parties for all wastewater flow charges. Access to the meters shall be available to PINES upon request and in the presence of a representative of the COUNTY.

1.5.4 Meter Reading. Meter reading for billing purposes shall occur on a mutually agreed upon day of each month.

1.6 The COUNTY shall provide two (2) times per year (June and December) leachate sampling analytical results or more frequent sampling results if required by the Landfill's FDEP permit or any Pines permit, including monitoring of the following parameters: COD, BOD5, dioxin, gross alpha, radium 226, radium 228, and asbestos. PINES reserves the right to require further leachate sampling due to a change in regulations imposed by a regulating agency or if adverse impacts upon the Waste Water Treatment Plant are suspected, but will consult with the COUNTY prior to modifying this requirement. The analytical results of all such testing shall be provided to PINES whether or not required for permit compliance. At a minimum, one-day storage shall be provided to equalize the leachate quantity and quality. Thereafter, the leachate shall be pumped to PINES at an even rate to ensure consistent leachate quality.

1.7 COUNTY hereby agrees to construct a leachate pumping station at its sole cost and expense as deemed necessary by PINES in its sole discretion in order to accommodate leachate generated by the COUNTY at that landfill. Only leachate generated at that landfill is to be transmitted to Pembroke Pines for treatment and disposal. The pumping station project shall be reviewed by PINES to determine compliance with PINES's utility standards. After it has been determined that the project complies with all applicable PINES utility standards, PINES shall issue a construction permit for the leachate pumping station.

1.8 Should PINES be required by FDEP to implement a regulated Industrial Pretreatment Program, PINES hereby reserves the right to terminate this Agreement after consultation with the COUNTY if a mutually acceptable fee for program expenses or suitable remedial steps outlined in Section 1.2, can not be negotiated. PINES' authorization as provided herein to accept leachate from the COUNTY shall be reviewed on an annual basis on or before March 1st of each year and upon any significant change in operations at the Landfill as determined jointly by the COUNTY and PINES.

1.9 Points of Connection. The parties hereto agree that the collection points of connection of the Landfill leachate system to the PINES' wastewater collection system and meter locations shall be as set forth in Exhibit "A", attached hereto and made a specific part hereof. PINES shall own only that ductile iron pipe forcemain from those valves located within the Sheridan Street right-of-way.

1.10 Future Flow Projections. COUNTY agrees that it shall annually review its needs for wastewater transmission, treatment and disposal service and shall, with the advice and counsel of a professional engineer, project its future average daily flow needs to the best of its knowledge and ability for the next ensuing Fiscal Year on or before March 1st of each year. Said projections shall be provided in written form to PINES within thirty (30) calendar days of its compilation as notice is required to be provided herein and in such a format as may be requested by PINES from time to time. The projections shall further provide the following information:

- (1) Annual Average Daily Flow (AADF MGD) for the next ensuing Fiscal Year; and
- (2) Annual Maximum Average Daily Flow (AMADF MGD) anticipated during the month of greatest flow.

1.11 If at any time the leachate causes interference with Pembroke Pines Wastewater Treatment Plant operation, passes through the Pembroke Pines Wastewater Treatment Plant, or contaminates the Pembroke Pines Wastewater Treatment Plant wastewater residuals, or if PINES substantiates a suspected interference with Pembroke Pines Wastewater Treatment Plant operation, pass through or contamination of the wastewater residuals, PINES may instruct the COUNTY to immediately cease introduction of the leachate into the collection system of the Pembroke Pines Wastewater Treatment Plant. This instruction may be by telephone notification to the Landfill Superintendent or their designees charged with operation of the Landfill. After telephone notification, PINES may then close the valve connecting the leachate pumping facility to the PINES wastewater collection system or prohibit discharge of the leachate into any of the treatment facilities of PINES. PINES shall then notify the COUNTY in writing that discharge is prohibited until further notification by PINES as such written notice is required to be provided herein. Pines shall make available to the COUNTY all supporting data indicating interference, contamination, suspicion or pass through of the leachate. Should PINES demonstrate to COUNTY that the landfill leachate received from COUNTY has

caused PINES to violate the quality of standards of any regulatory agency, and such violation subjects PINES to any fines or penalty, then COUNTY shall indemnify and hold PINES harmless for such fines and penalties pursuant to Article 3 set forth hereinbelow.

ARTICLE II

FEES

2.1 Payment of all funds due hereunder as provided in Paragraph 1.2 shall be invoiced and paid by the COUNTY on a monthly basis upon receipt from PINES of detailed statement of charges referencing specific services detailed herein.

2.2 COUNTY shall pay to PINES all applicable sewer connection fees prior to the transmission of leachate to PINES. Based upon an estimated generation of 33,000 gallons/day of leachate to be transmitted to and treated by PINES, COUNTY shall pay connection fees to PINES of TWO HUNDRED THREE THOUSAND FOUR HUNDRED THIRTY ONE and 04/100 DOLLARS (\$203,431.04), calculated in accordance with the provisions of §50.01 of the Code of Ordinances of the City of Pembroke Pines.

2.3 COUNTY shall establish a sewer utility account with PINES in accordance with all applicable PINES regulations, including but not limited to the provision of all applicable security deposits.

ARTICLE III

INDEMNIFICATION

3.1 COUNTY is a state agency or political subdivision as defined in §768.28, Florida Statutes, and agrees to be fully responsible for the acts and omissions of its agents or employees to the extent permitted by law. Nothing herein is intended to serve as a waiver of sovereign immunity by any party to which sovereign immunity may be applicable. Nothing herein shall be construed as consent by a state agency or political subdivision of the State of Florida to be sued by third Parties in any matter arising out of this Agreement.

3.2 PINES is a municipal corporation or political subdivision as defined in §768.28, Florida Statutes, and agrees to be fully responsible for the acts and omissions of its agents or employees to the extent permitted by law. Nothing herein is intended to serve as a waiver of sovereign immunity by any party to which sovereign immunity may be applicable. Nothing herein shall be construed as consent by a state agency or political subdivision of the State of Florida to be sued by third Parties in any matter arising out of this Agreement.

3.3 The COUNTY and the CITY agree that the obligations set forth under this Article shall survive the expiration or termination of this Agreement and shall remain in full force and effect notwithstanding such expiration or termination.

ARTICLE IV **PROTECTION OF PINES'S PROPERTY**

4.1 At all times during the performance of this Interlocal Agreement, the COUNTY shall take all steps to necessary to protect PINES's property from all damage whatsoever on account of the services provided under this contract

4.2 During the term of this Agreement, COUNTY shall be liable for any loss or damage to PINES's property or liability resulting therefrom caused by COUNTY pursuant to the provisions of Article 3.

ARTICLE V **INDEPENDENT CONTRACTOR**

5 1 This Agreement does not create an employee/employer relationship between the parties. It is the intent of the parties that PINES and the COUNTY are independent under this Agreement and not employees of the other agency for all purposes, including, but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State Workers Compensation Act, and the State unemployment insurance law. The COUNTY and PINES shall each retain sole and absolute discretion in the judgment of the manner and means of carrying out their activities and responsibilities hereunder provided, further that administrative procedures applicable to services rendered under this Agreement shall be those of the COUNTY or PINES, as applicable, which policies shall not conflict with the policies of the other agency, the State of Florida or United States policies, rules or regulations relating to the use of the Funds provided for herein. The Parties agree that they are separate and independent enterprises, that they have each had full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This Agreement shall not be construed as creating any joint employment relationship between the COUNTY and PINES and neither Party will be liable for any obligation incurred by the other party, including, but not limited to, unpaid minimum wages and/or overtime premiums.

ARTICLE VI

TERM AND TERMINATION

6.1 The term of this Interlocal Agreement shall be for a period of five (5) years with an option to renew this Agreement for two (2) successive terms of five (5) years, upon mutual consent of the parties. This Agreement shall take effect on the date of approvals by the PINES City Commission and the COUNTY's Commission.

6.2 This Interlocal Agreement may be terminated for cause, by action of either party as the party in breach has not corrected any such breach through all reasonably necessary means within thirty (30) calendar days after written notice from the agreed party identifying the breach.

ARTICLE VII NONDISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY AND AMERICANS WITH DISABILITIES ACT

7.1 COUNTY and PINES agree they shall not unlawfully discriminate against any person in its operations and activities or in its use or expenditure of funds in fulfilling its obligations under this Agreement. COUNTY and PINES shall affirmatively comply with all applicable provisions of the Americans with Disabilities Act (ADA) in the course of providing any services funded by COUNTY, including Titles I and II of the ADA (regarding nondiscrimination on the basis of disability), and all applicable regulations, guidelines, and standards. In addition, COUNTY and PINES shall take affirmative steps to ensure nondiscrimination in the employment against disabled persons. Such actions shall include, but not be limited to, the following: employment upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay, other forms of compensation, terms and conditions of employment, training (including apprenticeship), and accessibility.

7.2 COUNTY's and PINES' decisions regarding the delivery of services under this Agreement shall be made without regard to or consideration of race, age, religion, color, gender, sexual orientation, national origin, marital status, physical or mental disability, political affiliation, or any other factor which cannot be lawfully used as a basis for service delivery.

7.3 COUNTY and PINES shall not engage in or commit any discriminatory practice in violation of the Broward County Human Rights Act (Broward County Code, Chapter 16 ½) in performing any services pursuant to this Agreement

ARTICLE VIII MISCELLANEOUS

8.1 Ownership of Documents Reports, surveys, studies and other data provided in connection with this Agreement are and shall remain the property of PINES whether or not the project for which they are generated or compiled is completed.

8.2 Insurance.

8.2.1 The parties hereto acknowledge that COUNTY is a self-insured governmental entity subject to the limitations of §768.28, Florida Statutes. The COUNTY shall institute and maintain a fiscally sound and prudent risk management program with regard to its obligations under this Agreement in accordance with the provisions of §768.28, Florida Statutes.

8.2.2 If COUNTY contracts with a third party to provide any services relating to this Agreement, any contract with such third party shall require such contractor to remain liable to PINES for any damage or injury sustained by PINES resulting from the services provided by such contractor pursuant to the terms and provisions of this Agreement. This requirement shall survive the termination of this Agreement

8.2.2.1 Insurance: COUNTY's contractor shall at all times during the term of this Agreement keep and maintain in full force and effect, at contractor's sole cost and expense, insurance of the types and amounts as set forth in Exhibit "B", a copy of which is attached hereto and incorporated herein by reference as if set forth in full, and shall name PINES as an additional insured.

8.2.3 Pollution and Liability Insurance shall be maintained by COUNTY as acceptable to PINES's Risk Manager. Coverage must be written on a Claims Made basis. COUNTY is required to maintain this coverage for at least two (2) years after the completion and termination of this Agreement.

8.3 Assignments, Amendments.

8.3.1 This Agreement, or any interest herein, shall not be assigned, transferred or otherwise encumbered, under any circumstances, by the COUNTY without the prior written consent of PINES. However, this Agreement shall run to PINES and its successors and assigns.

8.3.2 It is further agreed that no modification, amendment or alteration in the terms or conditions contained here shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith

8.4 No Contingent Fees. The COUNTY warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the COUNTY to solicit or secure this Agreement, and that it has not paid or agreed to pay any person, company, corporation,

individual or firm, other than a bona fide employee working solely for the COUNTY any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For the breach or violation of this provision, the PINES shall have the right to terminate the Agreement without liability at its discretion, to deduct from the contract price, or otherwise recover the full amount of such fee, commission, percentage, gift or consideration.

8.5 Notice. Whenever any party desires to give notice unto any other party, it must be given by written notice, sent by registered United States mail, with return receipt requested, addressed to the party for whom it is intended and the remaining party, at the places last specified, and the places for giving of notice shall remain such until they shall have been changed by written notice in compliance with the provisions of this section. For the present, the COUNTY and the PINES designate the following as the respective places for giving of notice:

PINES:	Charles F. Dodge, City Manager City of Pembroke Pines 10100 Pines Boulevard Pembroke Pines, Florida 33026 Telephone: (954) 431-4884 Facsimile: (954) 437-1149
COPY TO:	Samuel S. Goren, City Attorney Goren, Cherof, Doody & Ezrol, P.A. 3099 East Commercial Boulevard, Suite 200 Fort Lauderdale, Florida 33308 Telephone (954) 771-4500 Facsimile. (954) 771-4923
COUNTY:	Roger Desjarlais, County Administrator Broward County, Florida Governmental Center, Suite 423 115 South Andrews Avenue Fort Lauderdale, Florida 33301 Telephone: (954) 357-7362 Facsimile: (954) 357-8360
COPY TO:	Edward Dion, County Attorney Broward County, Florida Governmental Center, Suite 423 115 South Andrews Avenue Fort Lauderdale, Florida 33301

Telephone: (954) 357-7600
Facsimile: (954) 357-7641

8.6 Binding Authority. Each person signing this Agreement on behalf of either party individually warrants that he or she has full legal power to execute this Agreement on behalf of the party for whom he or she is signing, and to bind and obligate such party with respect to all provisions contained in this Agreement

8.7 Headings Headings herein are for convenience of reference only and shall not be considered on any interpretation of this Agreement

8.8 Exhibits. Each Exhibit referred to in this Agreement forms an essential part of this Agreement. The exhibits if not physically attached should be treated as part of this Agreement and are incorporated herein by reference.

8.9 Severability If any provision of this Agreement or application thereof to any person or situation shall to any extent, be held invalid or unenforceable, the remainder of this Agreement, and the application of such provisions to persons or situations other than those as to which it shall have been held invalid or unenforceable shall not be affected thereby, and shall continue in full force and effect, and be enforced to the fullest extent permitted by law

8.10 Governing Law. This Agreement shall be governed by the laws of the State of Florida with venue lying in Broward COUNTY, Florida.

8.11 Extent of Agreement. This Agreement represents the entire and integrated agreement between the PINES and the COUNTY and supersedes all prior negotiations, representations or agreements, either written or oral

8.12 Tax Exemption Program. The Parties reserve the right to implement, at their convenience, a tax exemption program to buy selected materials and place the tax savings in line item contingency, whereby the cost breakdown will have a contingency line item

8.13 Third Party Beneficiaries Neither party to this Agreement intends to directly or substantially benefit any third party by this Agreement. Therefore, the Parties agree that there are no third party beneficiaries to this Agreement and that no third party shall be entitled to assert a claim against either party based upon this Agreement. The Parties expressly acknowledge that it is not their intent to create any rights or obligations in any third persons or entity under this Agreement.

**THE REMAINDER OF THIS PAGE
HAS BEEN INTENTIONALLY LEFT BLANK.**

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first written above.


PINES

ATTEST:


EILEEN M. TESH, CITY CLERK

BY: 
CHARLES F. DODGE, CITY MANAGER

APPROVED AS TO FORM:


OFFICE OF THE CITY ATTORNEY

COUNTY

ATTEST:


BROWARD County by and through its
BOARD OF COUNTY COMMISSIONERS:


Broward COUNTY Administrator,
Ex-Officio Clerk of the Board of
County Commissioners of Broward
County, Florida


The seal is circular with "BROWARD COUNTY COMMISSIONERS" around the top and "BROWARD COUNTY FLORIDA" around the bottom. In the center, it says "CREATED OCT. 1ST 1915".


Chair 6/18/02

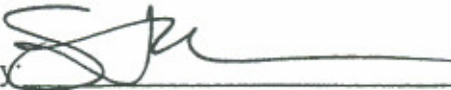
Approved as to Insurance
Requirements:

By 

Approved as to form by
Office of County Attorney
Broward County, Florida
EDWARD A DION, County Attorney
Governmental Center, Suite 423

Risk Management Division

115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: (954) 357-7600
Facsimile: (954) 357-7641

By 
Assistant County Attorney

**EXHIBIT “A”
METER LOCATIONS**

EXHIBIT "B"

PINES' INSURANCE REQUIRMENTS

CONTRACTOR shall not utilize the Facilities until he has obtained all insurance required under this paragraph and such insurance has been approved by the Risk Manager of PINES.

1. Certificates of Insurance. Reflecting evidence of the required insurance shall be filed with the PINES' Risk Manager prior to the commencement of this Agreement. These Certificates shall contain a provision that coverage's afforded under these policies will not be cancelled until at least forty-five days (45) prior written notice has been given to the PINES. Policies shall be issued by companies authorized to do business under the laws of the State of Florida. Financial Ratings must be not less than "A-VI" in the latest edition of "Best Key Rating Guide", published by A.M. Best Guide.

2. Insurance shall be in force until the obligations required to be fulfilled under the terms of the Contract are satisfied. In the event the insurance certificate provided indicated that the insurance shall terminate and lapse during the period of this contract, then in that event, the CONTRACTOR shall furnish, at least forty-five (45) days prior to the expiration of the date of such insurance, a renewed certificate of insurance as proof that equal and like coverage for the balance of the period of the contract and extension thereunder is in effect. The CONTRACTOR shall not utilize the Facilities pursuant to this contract unless all required insurance remains in full force and effect.

3. Commercial General Liability insurance to cover liability bodily injury and property damage. Exposures to be covered are: premises, operations, products/completed operations, and certain contracts. Coverage must be written on an occurrence basis, with the following limits of liability.

\$1,000,000	Combined Single Limit – each occurrence
\$1,000,000	Combined Single Limit – general aggregate
\$1,000,000	Personal Injury
\$1,000,000	Products/Completed Operations Aggregate

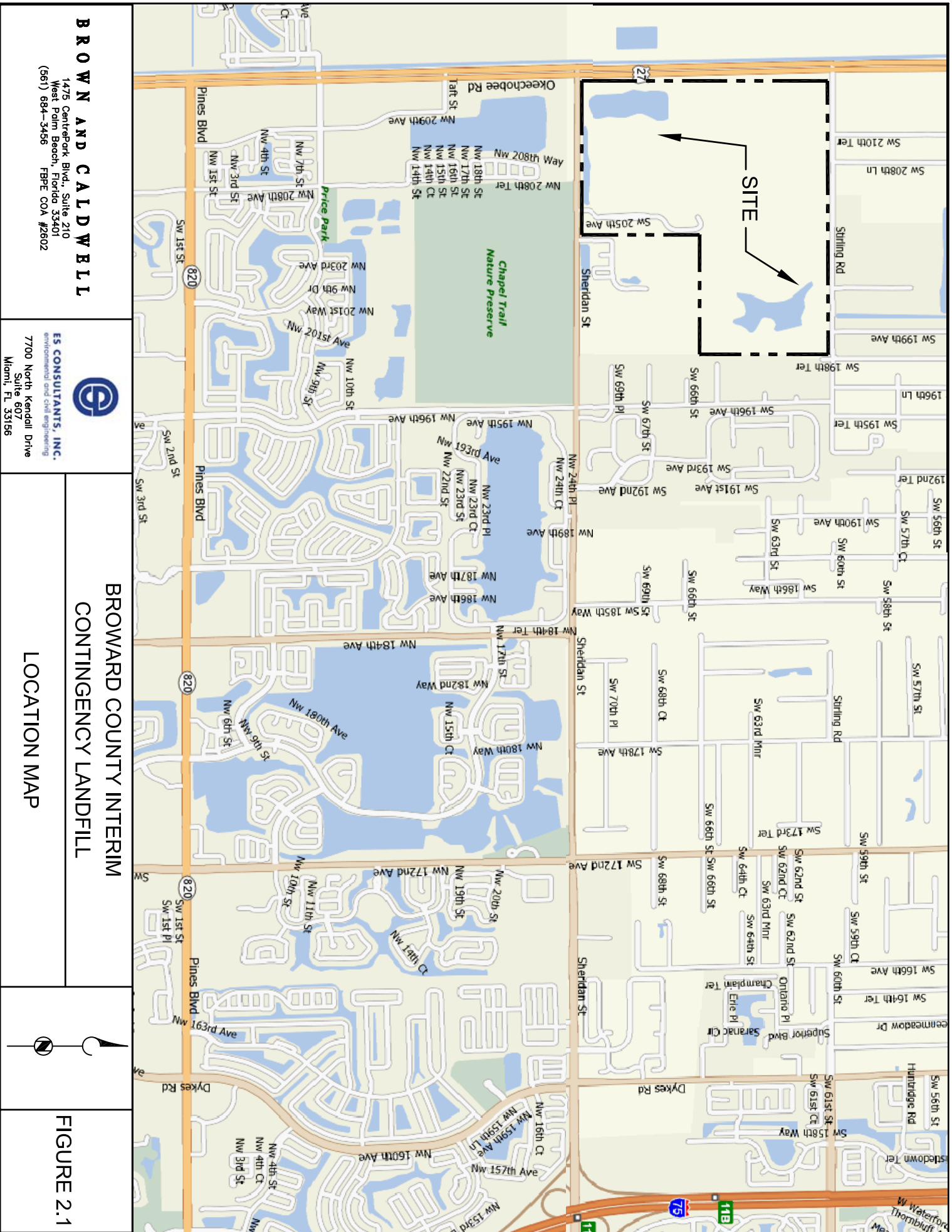
Lessee shall have its insurer name the City of Pembroke Pines as an additional insured on its General Liability policy

4. Worker's Compensation insurance shall be maintained during the life of this contract to comply with statutory limits for all employees, and in the case any work is sublet, the CONTRACTOR shall require the Subcontractors similarly to provide Workers Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. The CONTRACTOR and his subcontractors shall maintain during the life of this policy Employers Liability Insurance. The following limits must be maintained:

A.	Workers Compensation	Statutory
B.	Employer's Liability	\$100,000 each accident \$500,000 Disease-policy limit \$100,000 Disease-each employee



If CONTRACTOR claims to be exempt from this requirement, CONTRACTOR shall provide PINES proof of such exemption along with a written request for PINES to exempt CONTRACTOR, written on CONTRACTOR's Letterhead.

FIGURES



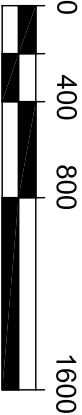


BROWARD INTERIM CONTINGENCY LANDFILL
7101 S.W. 205 AVENUE
FT. LAUDERDALE (UNINCORPORATED BROWARD COUNTY), FL



GROUNDWATER MONITORING
WELL CLUSTER

LEGEND



SCALE
(IN FEET)

BROWN AND CALDWELL

1475 CentrePark Blvd., Suite 210
West Palm Beach, Florida 33401
(561) 684-3456 FBPE COA #2502



ES CONSULTANTS, INC.

Environmental and Civil Engineering
7700 North Kendall Drive
Suite 607
Miami, FL 33156

**BROWARD COUNTY INTERIM
CONTINGENCY LANDFILL**

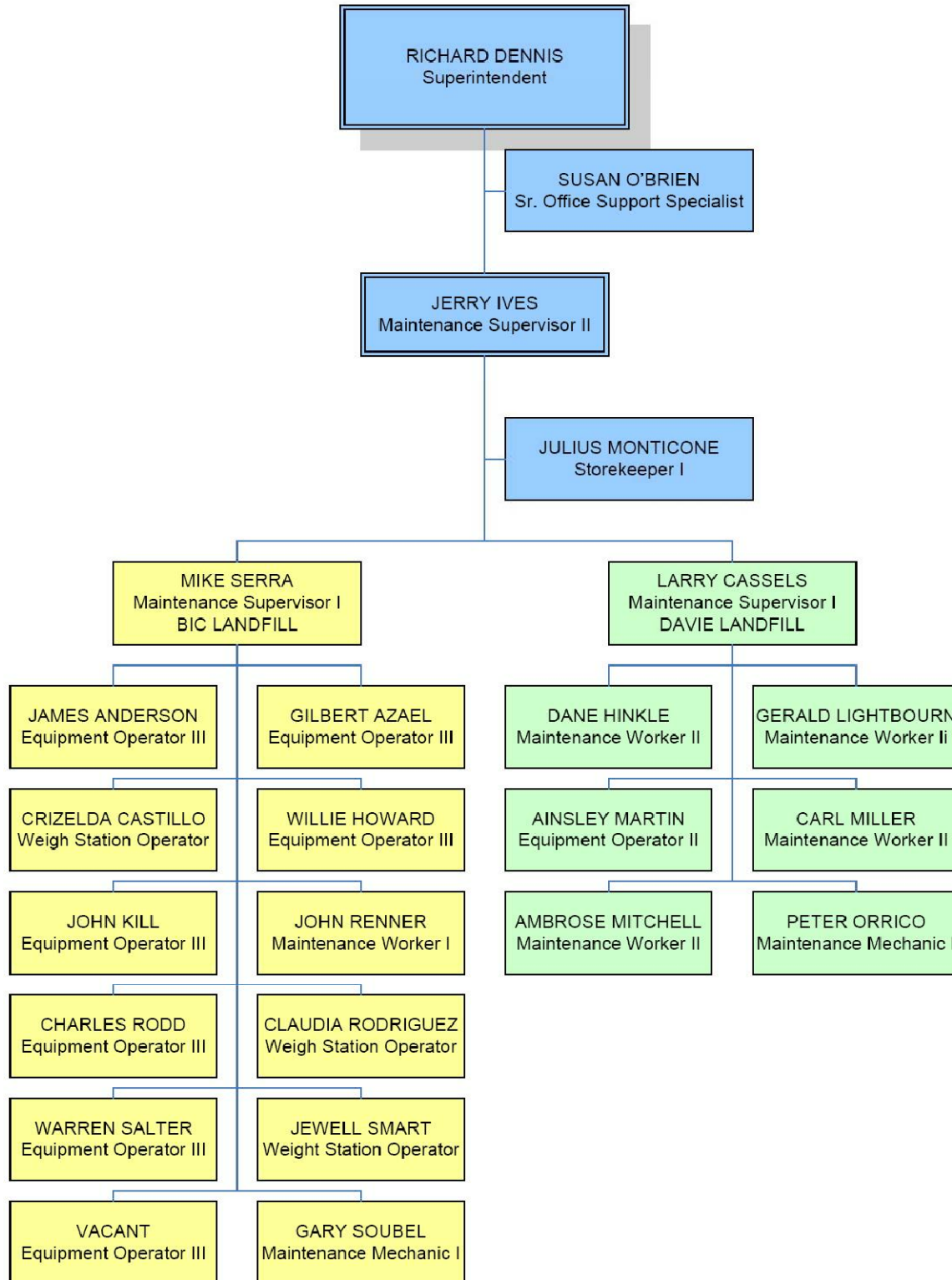
SITE MAP

FIGURE 2.2

BROWARD COUNTY INTERIM LANDFILL

ORGANIZATION CHART

This section has been modified- see revised Landfill Operations Plan, Version June 2011.



BROWN AND CALDWELL
1475 CentrePark Blvd., Suite 210
West Palm Beach, Florida 33401
(561) 684-3456 FBPE COA #2602


ES CONSULTANTS, INC.
environmental and civil engineering
7700 North Kendall Drive
Suite 607
Miami, FL 33156

BROWARD COUNTY INTERIM
CONTINGENCY LANDFILL
PERSONNEL ORGANIZATIONAL
CHART

FIGURE 3.1