130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

VOLUME 5 OF 5

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews, Inc.
Firm Registration No. F-834

Prepared by

BIGGS & MATHEWS ENVIRONMENTAL
1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-256

TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

And

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TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-834

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

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VOLUME 5 OF 5

CONTENTS

11/6/14

Biggs & Mathews, Inc.
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130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT NO. MSW 2383

TYPE I PERMIT APPLICATION

PART III – FACILITY INVESTIGATION AND DESIGN
ATTACHMENT G
LANDFILL GAS MANAGEMENT PLAN

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

J. Heath Parker
11/6/14

Prepared by

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CONTENTS

CONTENTS (Continued)

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

J. Heath Parker
11/6/14

1 INTRODUCTION

30 TAC §§330.63(g), 330.371

1.1 Scope

This landfill gas (LFG) management plan has been developed for 130 Environmental Park as required by 30 TAC §330.63(g). This LFG management plan is consistent with the requirements set forth in §330.371. The LFG management plan provides a site-specific approach to implementing LFG monitoring. This plan describes the proposed LFG monitoring network, the operation and monitoring of this network, notification procedures, and possible remediation activities, if required.

130 Environmental Park will comply with all applicable federal and state regulations. These include the Environmental Protection Agency's (EPA) – Clean Air Act, Section 111(b), New Source Performance Standards (NSPS) for municipal solid waste (MSW) landfills, and the applicable requirements of the TCEQ Office of Air Quality, including standard permit requirements and 30 TAC Chapter 330, Subchapter U.

The NSPS for MSW landfills applies to landfills with design capacities greater than 2.5 million megagrams (2.75 million tons) and 2.5 million cubic meters. Since the design capacity of 130 Environmental Park is 24 million megagrams and 22.8 million cubic meters, and the nonmethane organic compound (NMOC) emissions at the site may eventually exceed 50 megagrams per year, the installation of an active landfill gas collection and control system (GCCS) may be required in the future per NSPS. If required per NSPS, the GCCS will be operated and monitored per NSPS requirements.

Refer to Section 6 of this attachment for discussion of the GCCS.

1.2 Purpose

§330.371 requires landfills to implement a routine LFG monitoring program to verify that (1) the concentration of methane does not exceed 1.25 percent methane by volume in facility structures (excluding LFG collection and control system components), and that (2) the concentration of methane does not exceed five percent methane by volume in monitoring points, probes, subsurface soils, or other matrices at the facility boundary.

The purpose of this LFG management plan is to provide guidance for management of LFG at the site. These guidelines cover the evaluation of methane concentrations at the facility boundary and in structures on the permitted site.

1.3 General

Consistent with §330.371(d), the executive director may establish alternative schedules for demonstrating compliance with methane monitoring as required by §330.371(b), and with action plan activities as required by §330.371(c).

Consistent with §330.371(e), the landfill gas monitoring and control program will continue for a period of 30 years after certification of final closure of the facility, or until 130 Environmental Park, LLC receives written authorization to reduce the program. Authorization to reduce gas monitoring and control shall be based on a demonstration by the owner or operator that there is no potential for gas migration beyond the facility boundary or into on-site structures. The demonstration will be supported by data collected and additional studies, as required.

Consistent with §330.371(f), gas monitoring and control systems will be revised as needed to maintain current and effective gas monitoring and control systems. Postclosure land use of the facility will not interfere with the function of gas monitoring and control systems. Any underground utility trenches that cross the facility boundary will be vented and monitored regularly, contingent on approval from the utility easement owner.

2 SITE CHARACTERISTICS

30 TAC §330.371

2.1 Introduction

Thirty-three permanent LFG monitoring probes will be installed outside the perimeter of the waste fill area, near the facility boundary, to detect potential LFG migration. The LFG monitoring probes will be located such that the maximum spacing between the LFG monitoring probes does not exceed approximately 600 feet, with closer spacing on the north side of the site where nearby residences are located. Structures within ¼ mile of the facility boundary are shown on Drawing G1.3. Each proposed monitoring probe location is designed to monitor soil strata above the lowest current or planned future elevation of waste within 1,000 feet of the monitoring point. The proposed LFG monitoring probe locations are shown on Drawing G1.1 in Appendix G1.

2.2 Soil Conditions

The site geologic conditions present at 130 Environmental Park are discussed in Part III, Attachment E – Geology Report.

2.3 Hydrogeologic Conditions

The hydrogeologic conditions present at 130 Environmental Park are discussed in Part III, Attachment E – Geology Report.

2.4 Hydraulic Conditions

Hydraulic conditions at 130 Environmental Park are discussed in Part III, Attachment C1 – Drainage Analysis and Design.

2.5 Facility Structures Within the Facility Boundary

130 Environmental Park has a facility boundary encompassing approximately 520 acres, of which 202 acres will be available for waste placement. There are three proposed structures within the 130 Environmental Park facility boundary, a gatehouse, a maintenance building, and a transfer station. These structures will be enclosed and will have continuous methane monitors. All enclosed structures will be monitored for the presence of LFG as described in Section 3.2.1 of this attachment. Refer to Drawing G1.1 for the location of the proposed structures.

2.6 Underground Utilities

There are no underground utility lines or easements that enter or exit the 130 Environmental Park facility boundary.

2.7 Summary

The factors discussed in Sections 2.2 through 2.6 above, and the provisions of 30 TAC §330.371 were considered in determining the type and frequency of LFG monitoring. Consideration of the soil conditions (clay that extends to depths well below the proposed waste fill depths and that has a permeability of approximately 5 x 10^{-8} cm/sec and an absence of secondary structures that would provide pathways for gas migration) and the absence of utility lines or pipelines near the proposed landfill unit (or anywhere within the facility boundary) support the conclusion that there is a very low probability of subsurface LFG migration from the proposed landfill unit (which will include composite liner systems fully compliant with 30 TAC §330.331(b)) to facility structures or the facility boundary; this conclusion is not affected by hydrogeologic or hydraulic conditions. The location of the facility structures (all more than 1,200 feet from the proposed landfill unit) further supports the conclusion that there is limited potential for LFG migration to affect these structures. Nevertheless, as described in Section 3.2 below, the facility LFG monitoring program will include locating in each facility structure a continuous monitor/alarm that will provide an audible alarm if methane concentrations exceed 1.25 percent methane by volume. The location of the property boundaries (which vary from approximately 300 feet to more than 4,000 feet from the proposed landfill unit) further supports the conclusion that there is limited potential for LFG to affect other properties. However, as described in Section 3.1 below, LFG monitoring at the facility will also include a perimeter network of 33 permanent gas probes located near the facility boundary and spaced a maximum of 600 feet apart (300 feet on the north side of the site where several nearby residences are located). The factors discussed above in support of the conclusion that there is limited potential for migration of LFG to reach the facility boundary also support a monitoring frequency consistent with the quarterly minimum set out in 30 TAC §330.371, subject to more frequent monitoring (a) if required by the executive director and (b) at any location where monitoring results indicate that landfill gas migration is occurring.

3 MONITORING

30 TAC §330.371

3.1 Perimeter Monitoring

3.1.1 Perimeter Monitoring Network

The LFG monitoring probe network at the landfill will include a total of thirty-three LFG monitoring probes located outside the perimeter of the waste fill area near the facility boundary. Proposed locations of the LFG monitoring probes are shown on Drawing G1.1 in Appendix G1. The landfill gas monitoring probes will be installed in phases as the waste footprint develops, beginning with probes 7 through 21 prior to placing waste in Phase 1. The following table shows the probe installation schedule:

Gas Probe Installation Schedule	
Prior to Accepting Waste in Sector	**Gas Probes to be Installed**
Phase 1	GP-7 Through GP-21
Phase 2	GP-22 Through GP-24
Phase 3	GP-25 Through GP-31
Phase 4	GP-32, GP-33, and GP-1 Through GP-6

Should the sequence of development or sector designations change, the probe phasing will be modified accordingly.

3.1.2 Landfill Gas Monitoring Probes

LFG monitoring probes will be installed in accordance with the detail shown on Drawing G1.2. Once installation is completed, boring logs and completion logs will be submitted to TCEQ and added to Appendix G5.

Each proposed gas monitoring probe is designed to monitor the soil strata above the lowest planned future elevation of waste within 1,000 feet of the probe. The interprobe spacing for the proposed gas monitoring probes will be a maximum of 600 feet. The following table presents the design depths and elevations for each of the proposed gas monitoring probes:

Gas Probe Design Information			
Probe Name	Ground Elevation (ft-MSL)	Bottom of Probe Elevation (ft-MSL)	Probe Depth (ft)
GP-1	591	536	55
GP-2	592	533	59
GP-3	585	525	60
GP-4	560	518	42
GP-5	552	518	34
GP-6	544	518	26
GP-7	539	518	21
GP-8	529	508	21
GP-9	515	498	17
GP-10	520	503	17
GP-11	520	503	17
GP-12	518	501	17
GP-13	514	497	17
GP-14	519	502	17
GP-15	534	514	20
GP-16	535	514	21
GP-17	524	507	17
GP-18	544	518	26
GP-19	564	531	33
GP-20	534	517	17
GP-21	533	516	17
GP-22	539	522	17
GP-23	546	517	29
GP-24	543	517	26
GP-25	547	518	29
GP-26	557	520	37
GP-27	562	520	42
GP-28	570	520	50
GP-29	580	520	60
GP-30	586	522	64
GP-31	588	527	61
GP-32	581	532	49
GP-33	584	540	44

3.1.3 Utility Vents

Currently there are no underground utility lines or easements that enter or exit the 130 Environmental Park facility boundary. Should a future underground utility line or easement be established across the facility boundary, utility vents will be installed in accordance with the detail shown on Drawing G1.2.

3.1.4 Monitoring Procedures

Monitoring will be conducted by a qualified landfill representative or a qualified consultant. To avoid artificially impacting the probe static pressure during the induction of the gas sample into the instrument, the static pressure will be measured and recorded prior to measuring gas composition. Static gas pressure will be measured and recorded in inches of water column. The calibration and operation of the monitoring equipment will be as recommended by the instrument manufacturer.

During each monitoring event, the probes will be monitored for the following parameters:

- Methane concentration, as measured in percent by volume
- Oxygen concentration (optional), as measured in percent by volume
- Static pressure, as measured in inches of water column, gauge
- Depth to groundwater, as measured in feet

Monitoring for gas composition and gas pressure will be performed using a portable Landtec® GEM-2000, or equivalent instrument, capable of measuring the required parameters. The monitoring equipment will be calibrated and maintained in accordance with the manufacturer's recommended procedures. Manufacturer's maintenance and calibration requirements for the monitoring instruments will be maintained on site with the LFG monitoring records described in Section 3.3.

The monitoring device will have a suction sampling line equipped with a quick-disconnect fitting. This fitting will match up with a corresponding quick-disconnect fitting on the top of each probe to enable gas samples to be drawn directly into the monitoring instrument without diluting the sample. The indicator will give a direct reading of the methane concentration in one of two scales, percent of the LEL or percent by volume.

After these parameters are measured, the probe of a liquid level indicator will be lowered into the LFG probe through an opening located at the top of the LFG probe to measure water level (if any) inside the LFG probe. If no water is present, the level indicator will be used to verify and report total depth of the probe to assure that the probe is not obstructed.

3.1.5 Maintenance Procedures

Each time LFG monitoring is conducted, the sampler will inspect the integrity of the LFG monitoring probes. The sampler will record pertinent information on the Quarterly Landfill Gas Monitoring Report (see Appendix G2) or similar forms. The Quarterly Landfill Gas Monitoring Report will be kept in the site operating record. The sampler will perform the following at each monitoring event:

- Verify that the LFG monitoring probe is clearly labeled on the outer casing or lid.
- Verify that the protective casing is intact and is not bent or excessively corroded.
- Verify that the concrete pad is intact (no evidence of cracking or heaving).
- Verify that the padlock is functional.
- Verify that the inner casing is intact.

If damage to the LFG monitoring probe is observed, it will be reported to the site manager. If it is not possible to repair the LFG monitoring probe and the damage can potentially affect the accuracy of future monitoring results, the LFG monitoring probe will be decommissioned and replaced with a new LFG monitoring probe in accordance with Sections 3.1.2 and 3.4 of this attachment.

3.2 Facility Structures Monitoring

3.2.1 Monitoring Procedures

On-site buildings and structures designed for human occupation will be monitored with a continuous LFG monitor/alarm that will provide an audible alarm if methane concentrations exceed 1.25 percent methane by volume.

If allowable methane concentration limits are exceeded within structures, the building will be immediately evacuated and ventilated by opening doors and windows. Notification consistent with procedures in Section 4.2 of this attachment will be implemented immediately.

3.2.2 Maintenance Procedures

Continuous LFG monitors/alarms will be calibrated and maintained in accordance with the manufacturer's recommendations. Continuous LFG monitors/alarms will be tested following the manufacturer's testing specifications.

3.3 Recordkeeping/Reporting

Field monitoring data records will be maintained for the methane monitoring and kept in the site operating record. Field data will be recorded on the Quarterly Landfill Gas Monitoring Report form (or similar form) as shown in Appendix G2.

Quarterly monitoring results will be placed in the site operating record. LFG monitoring points, probes, subsurface soils, or other matrices will be monitored quarterly. The LFG monitoring program will continue for a period of 30 years after the final closure of the facility or until the owner or operator receives written authorization from the TCEQ to revise or discontinue the program. Gas monitoring records will be maintained in the site operating record.

3.4 Backup Plan for Monitoring Probes and Continuous Monitors

The following is a back-up plan to be used if any installed LFG monitoring probes or continuous monitoring devices become unusable or inoperative.

Stationary Perimeter Probes

1. Damaged or inoperative perimeter probes will be repaired within 30 days of the date of damage or replaced within 60 days from the TCEQ approval date of the permit modification requesting replacement.

2. Upon completion of the replacement probe, an installation report including boring logs and construction details will be submitted to the TCEQ.

3. Should a monitoring event occur prior to replacement of a damaged probe, a bar-hole will be placed next to the damaged probe and a portable gas monitor used until the probe is replaced.

Stationary Combustible Gas Monitor

1. Damaged or inoperative stationary combustible gas monitors will be repaired within 30 days of the date of damage or replaced within 60 days.

2. A portable gas indicator will be used until the damaged or inoperative stationary unit is replaced.

3.5 Monitoring Frequency

LFG monitoring points, probes, subsurface soils, or other matrices will be monitored quarterly, at a minimum. Facility structures will be monitored using continuous LFG monitors. The facility will monitor more frequently those locations where monitoring results indicate that LFG migration is occurring or is accumulating in structures.

4 ACTION PLAN

30 TAC §330.371

4.1 Initial Response Measures

As required under 30 TAC §330.371, this action plan has been prepared for the protection of human health in the event concentrations of methane exceed allowable limits either within on-site buildings or at the facility boundary of the site. The appropriate emergency response is different for each situation; therefore, this plan addresses buildings and facility boundaries separately.

4.1.1 Emergency Action

The initial action in the event methane is detected at levels above regulatory limits is to protect human health. The specific response depends on the circumstances of the situation.

Buildings/Structures. If the monitoring device in a facility building/structure is triggered, or if gas monitoring equipment indicates that the methane concentration has exceeded the regulatory limit, the building/structure is to be evacuated of all personnel immediately and the site manager will be notified. Personnel (except for authorized monitoring personnel) will not be allowed to re-enter the affected building/structure until additional measures are taken. Notification consistent with procedures in Section 4.2 of this attachment will be conducted immediately.

Facility Boundary. If methane levels above the regulatory limit are detected at the facility boundary in the LFG monitoring points, probes, subsurface soils, or other matrices, the site manager will be notified. The immediate emergency response measure will be for the site manager to determine if any nearby buildings or structures (including off-site) are at risk and if evacuation of the buildings or structures should be requested.

Once immediate actions have been completed to protect human health, notification consistent with procedures in Section 4.2 of this attachment will be conducted immediately.

4.2 Notification Procedures

When methane concentrations above the regulatory limit have been detected in the monitoring points, probes, subsurface soils, or other matrices, or within any on-site structures, the monitoring personnel will notify the site manager, who in turn will immediately take steps to ensure the protection of human health. Notification will be made immediately in accordance with §330.371. Notification will be made to the executive director of the TCEQ; the TCEQ Region 11 office; appropriate city, county,

and local government and emergency officials; and any residents, tenants, and owners of property within 1/4 mile (1,320 feet) of the reading.

When methane levels above the regulatory limit have been detected (refer to Section 4.1.1 of this attachment), the site manager will place in the site operating record documentation of the methane gas levels detected and a description of the steps taken to ensure protection of human health within seven days of detection in accordance with §330.371. Written notification will also be sent to the TCEQ Region 11 Office within seven days outlining the steps taken.

5 REMEDIATION PLAN

30 TAC §330.371

5.1 Remediation Plan

If methane levels above regulatory limits are encountered in the buildings/structures or in one or more LFG monitoring points, probes, subsurface soils, or other matrices, remediation actions will be implemented within 60 days. The first action will be an investigation of the cause of the methane levels. The investigation may include some or all of the following elements, depending on the circumstances:

- Bar-hole probe or hydropunch testing in the vicinity of the impacted monitoring probe
- Sampling and laboratory analysis of LFG monitoring probe samples to determine concentration of methane and trace compounds
- Additional LFG probe monitoring
- Installation of additional monitoring probes

Using accumulated data, an assessment will be made to determine an appropriate course of action to manage and control the migration of LFG. Such actions will vary with the specific incident. An incident-specific remediation plan, based on results of the investigation, will be submitted within 60 days of detection. Copies of the remediation plan will be placed in the site operating record and provided to the executive director of the TCEQ along with notification that the plan has been implemented. The executive director may establish an alternative schedule for demonstrating compliance.

6 LFG CONTROL SYSTEM

30 TAC §330.371

6.1 LFG Collection and Control System

As the site develops, extraction wells will be installed as needed to control landfill gas and meet regulatory requirements. The locations of the anticipated future vertical LFG extraction wells are shown on Drawing G3.1 in Appendix G3.

The LFG extraction wells will be constructed as shown on Drawing G3.2. Each extraction well will consist of a perforated pipe within a gravel backfill. The LFG extraction wells will be installed in phases as needed based on waste placement patterns. In addition, perforated piping will be installed above the liner (as shown on Drawing D3.2) and connected to the GCCS as necessary. The exact number and location of extraction points, piping, and proposed future LFG facilities will be determined based on field conditions at the time of installation. Upon completion of each phase of the GCCS installation, as-built record drawings suitable for inclusion in this permit will be submitted to the TCEQ and a copy placed in the site operating record.

Blowers, flares, and piping will be installed as needed to provide the vacuum and capacity to handle the predicted maximum flow rate of LFG. In addition, each extraction well will be equipped with a control valve and monitoring port, as shown on Drawing G3.2. These control valves and monitoring ports, used in conjunction with controls on the blower, will allow the site to regulate vacuum and LFG levels at each individual extraction well. This will allow the site to make adjustments in order to effectively collect LFG.

The operation and maintenance of the proposed LFG system will be performed consistent with industry guidelines and practices. Wellhead and system monitoring will be performed on a routine basis to monitor overall system performance. As needed, system adjustments will be made to optimize the extraction of LFG from the landfill to control LFG migration, odors, and greenhouse gases. In addition, the system will be routinely visually inspected for any evidence of needed repairs or other maintenance. General maintenance procedures will include the following:

- Each wellhead will be monitored and adjusted as needed to control LFG while limiting oxygen intrusion into the landfill.
- Condensate sumps will be checked for proper operation.
- Blowers and flares will be inspected for proper operation.

The GCCS will include isolation valves and a looped piping network to allow the system to be adjusted, maintained, and quickly repaired.

6.2 LFG Generation Model

Table G4-1 in Appendix G4 presents the results of a LFG generation estimate prepared for 130 Environmental Park. The estimate was generated using the U.S. Environmental Protection Agency (EPA) Landfill Gas Emissions Model (LandGEM), Version 3.02. The modeling results reflect the estimated waste quantities accepted over the operating life of the site.

Gas generation parameters used in the model were those established by the EPA in AP 42, Compilation of Air Pollutant Emission Factors, including a methane generation potential (Lo) of 100 cubic meters per megagram of solid waste, and a methane generation constant (k) of 0.04 $year^{-1}$. For converting methane to LFG, a methane content of 50 percent was assumed.

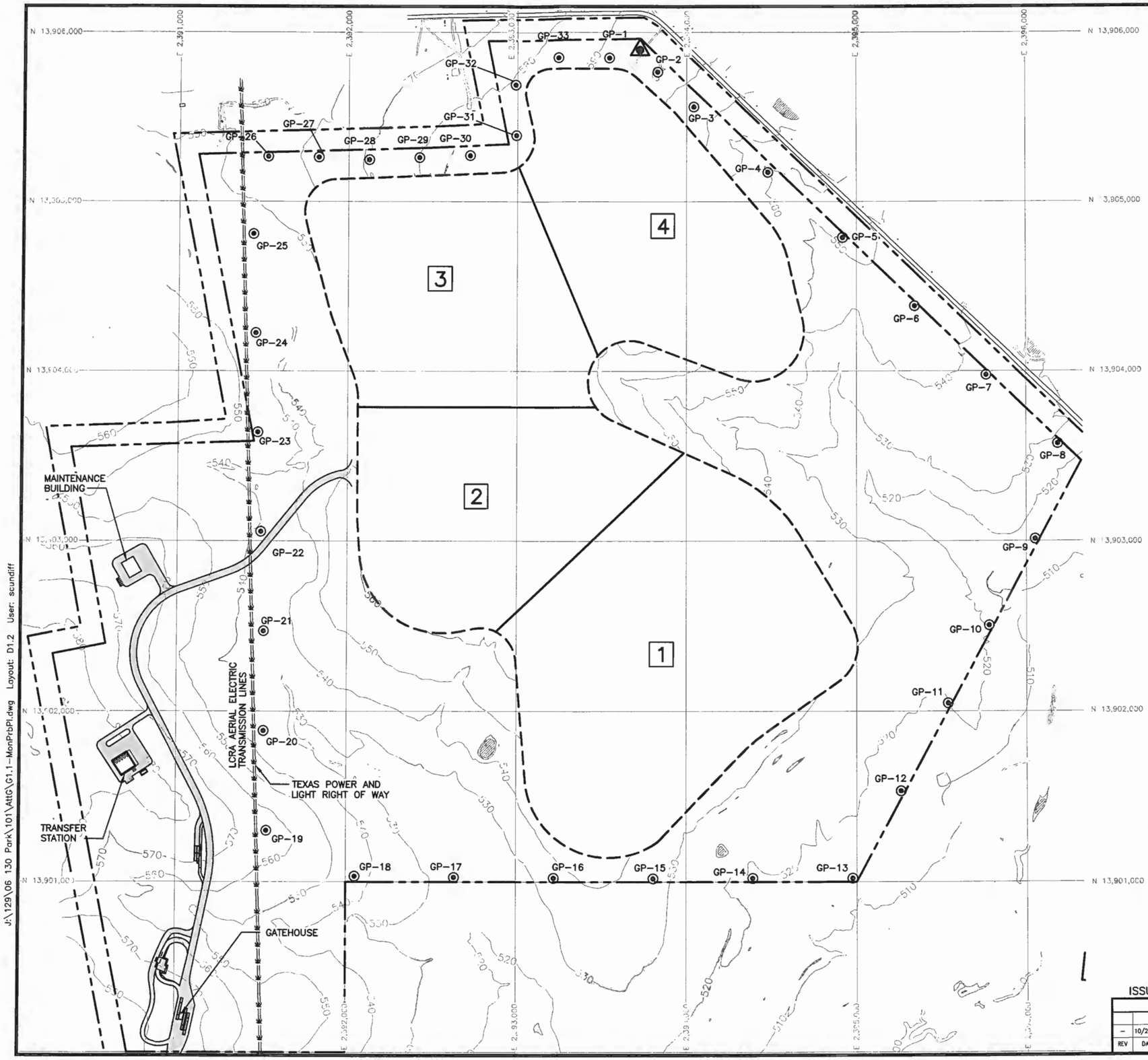
Peak LFG generation is expected to be achieved prior to site closure with a maximum generation rate of approximately 6,659 standard cubic feet per minute in Year 44. The proposed LFG system will be designed to collect generated gas to protect the integrity of the cover system and control landfill gas emissions.

130 ENVIRONMENTAL PARK

APPENDIX G1

LANDFILL GAS MONITORING PROBE PLAN

Technically Complete October 28, 2014



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- PHASE BOUNDARY
- 510 EXISTING 10' CONTOUR
- N 13,904,000 STATE PLANE GRID
- 1 PHASE DESIGNATION
- SITE BENCHMARK
- GP-7 PROPOSED LFG MONITORING PROBE

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 – GEOID 12A.
2. REFER TO DRAWING G1.2 FOR LANDFILL GAS MONITORING PROBE DETAIL.
3. ENCLOSED STRUCTURES INCLUDE GATEHOUSE, MAINTENANCE BUILDING AND TRANSFER STATION.

STATE OF TEXAS
J. HEATH PARKER
94764
LICENSED
PROFESSIONAL ENGINEER
11/6/14

ISSUED FOR PERMITTING PURPOSES ONLY

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	JHP	JHP	JHP

GAS MONITORING PROBE PLAN

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. JHP DATE : 2/14
DWN. GLW SCALE : GRAPHIC
CHK. JHP DWG : G1.1–MonPrbPl.dwg

DRAWING G1.1

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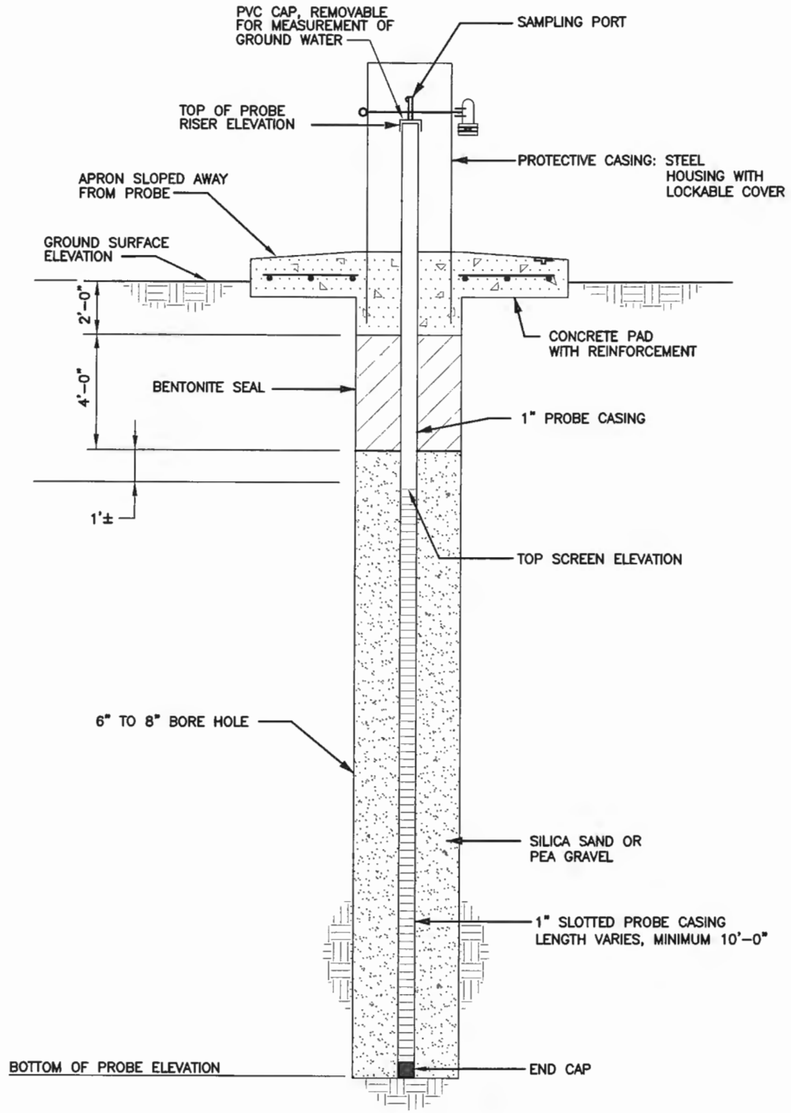
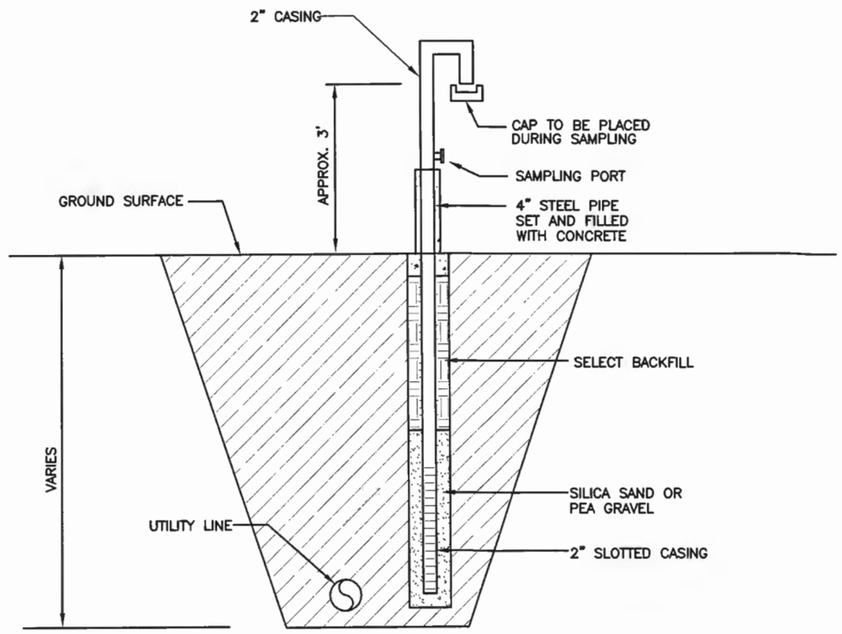


MONITORING PROBE DETAILS (MP-1)

NTS G1.2

NOTES

1. PROBES WILL BE INSTALLED TO MONITOR THE SOIL STRATA ABOVE THE HIGHER OF THE SEASONAL LOW WATER LEVEL AT THE MONITORING POINT OR THE LOWEST CURRENT OR PLANNED FUTURE ELEVATION OF WASTE WITHIN 1,000 FEET OF THE MONITORING PROBE.
2. ALL SIZES AND DIMENSIONS ARE APPROXIMATE.



UTILITY VENT (MP-2)

NTS G1.2

NOTE

1. ALL SIZES AND DIMENSIONS ARE APPROXIMATE.

STATE OF TEXAS
J. HEATH PARKER
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11/6/14

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REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	JHP	JHP	JHP

MONITORING PROBE/ VENT DETAILS

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
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TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. JHP	DATE : 2/12	DRAWING	
DWN. GLW	SCALE : GRAPHIC	G1.2	
CHK. JHP	DWG : G1.2_ProbeDetail.dwg		

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97°40'

97°37'30"

29°59'

29°57'30"

0 1000 2000

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- HABITABLE STRUCTURE

NOTES:

1. AERIAL PHOTOGRAPH OF SITE PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. AERIAL PHOTOGRAPH OF AREA SURROUNDING THE SITE FROM GOOGLE MAP IMAGERY DATE 8-1-12.

STATE OF TEXAS
J. HEATH PARKER
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LICENSED
PROFESSIONAL ENGINEER

J. Heath Parker
11/6/14

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REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
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STRUCTURES WITHIN 1/4 MILE OF FACILITY BOUNDARY

130 ENVIRONMENTAL PARK, LLC
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DSN. JHP	DATE : 2/14	DRAWING	
DWN. GLW	SCALE : GRAPHIC	G1.3	
CHK. JHP	DWG : G1.3-AerialPho.dwg		

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130 ENVIRONMENTAL PARK

APPENDIX G2

REPORTING AND RECORDING FORMS

Technically Complete October 28, 2014

130 ENVIRONMENTAL PARK
QUARTERLY LANDFILL GAS MONITORING REPORT

Sampled by:_____Date:_____
Time Start: _____Time Finish: _____ Temperature: _____
Weather: _____ Bar. Pressure (Optional): _____
Monitoring Equipment: _____ Date of Calibration: _____
Field Calibration:
Date: _____ Time: _____CH4:_____CO2:_____O2:_____Balance:_____

GAS MONITORING PROBES

Probe Name	Ground Surface Elevation (ft-MSL)	Bottom of Probe Elevation (ft-MSL)	% Methane	% LEL	% O_2 (Optional)	Static Pressure (in-W.C)	Depth to Water (ft)	Probe Integrity Verified (Yes/No)

ON-SITE STRUCTURES

Structure	Verify if Continuous LFG Alarm is Operational (Circle One)		Continuous LFG Alarm Activated (LEL > 25%) Since Last Monitoring Event (Circle One)	
	Yes	No	Yes	No
	Yes	No	Yes	No

GENERAL COMMENTS:

_____

_____

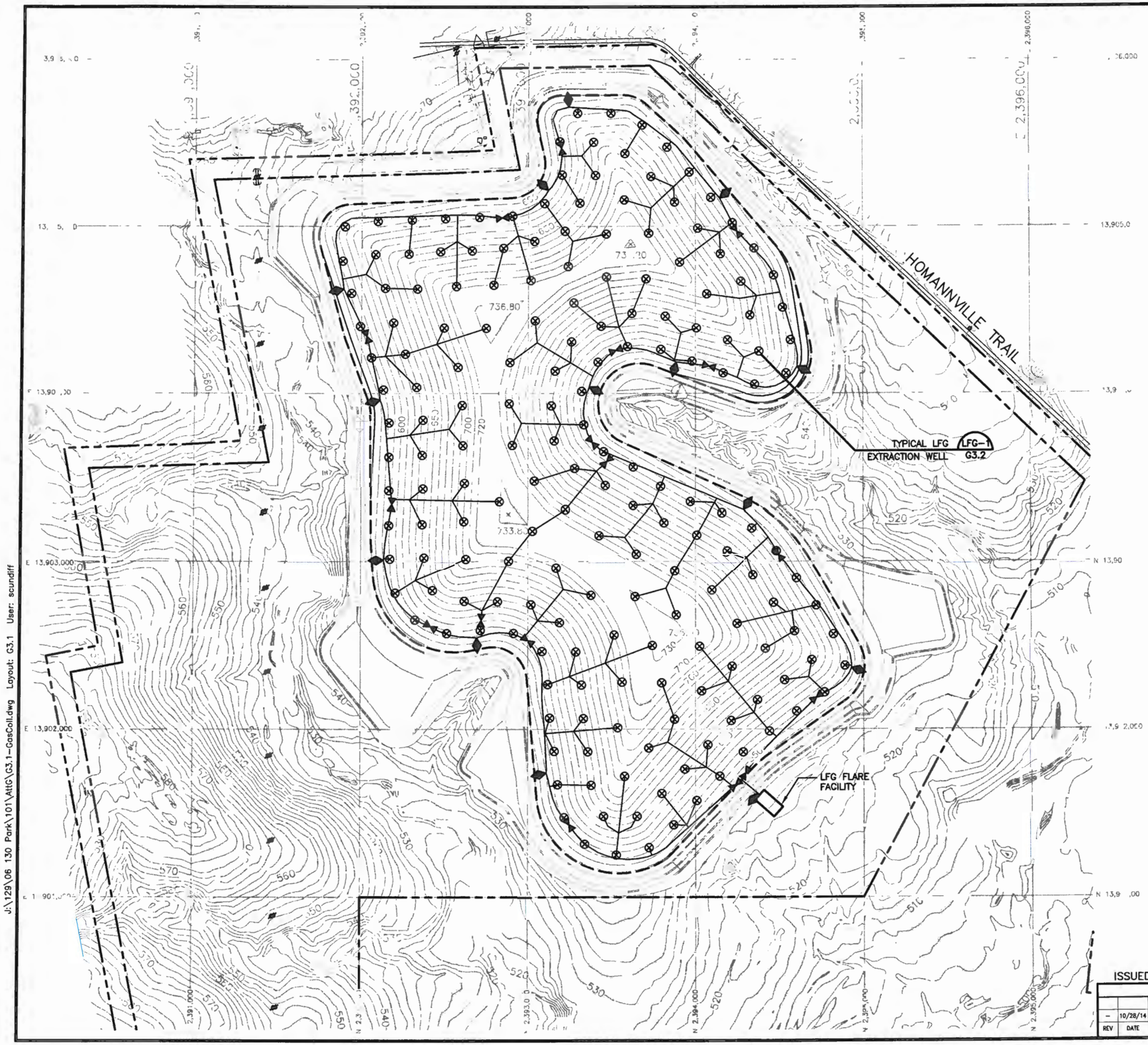
_____

130 ENVIRONMENTAL PARK

APPENDIX G3

LANDFILL GAS COLLECTION AND CONTROL SYSTEM PLAN

Technically Complete October 28, 2014



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- 510 EXISTING 2' CONTOUR
- 1,904,000 STATE PLANE GRID
- PROPOSED LFG EXTRACTION WELL
- PROPOSED LFG COLLECTION PIPING
- PROPOSED CONDENSATE SUMP
- PROPOSED LFG ISOLATION VALVE

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 – GEOID 12A.
2. THE LOCATION AND NUMBER OF PROPOSED FUTURE EXTRACTION WELLS AND GCCS COMPONENTS ARE APPROXIMATE. EXACT NUMBER AND LOCATION WILL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME OF INSTALLATION.

STATE OF TEXAS
J. HEATH PARKER
94764
LICENSED
PROFESSIONAL ENGINEER
11/6/14

ISSUED FOR PERMITTING PURPOSES ONLY

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	JHP	JHP	JHP

LANDFILL GAS COLLECTION SYSTEM PLAN

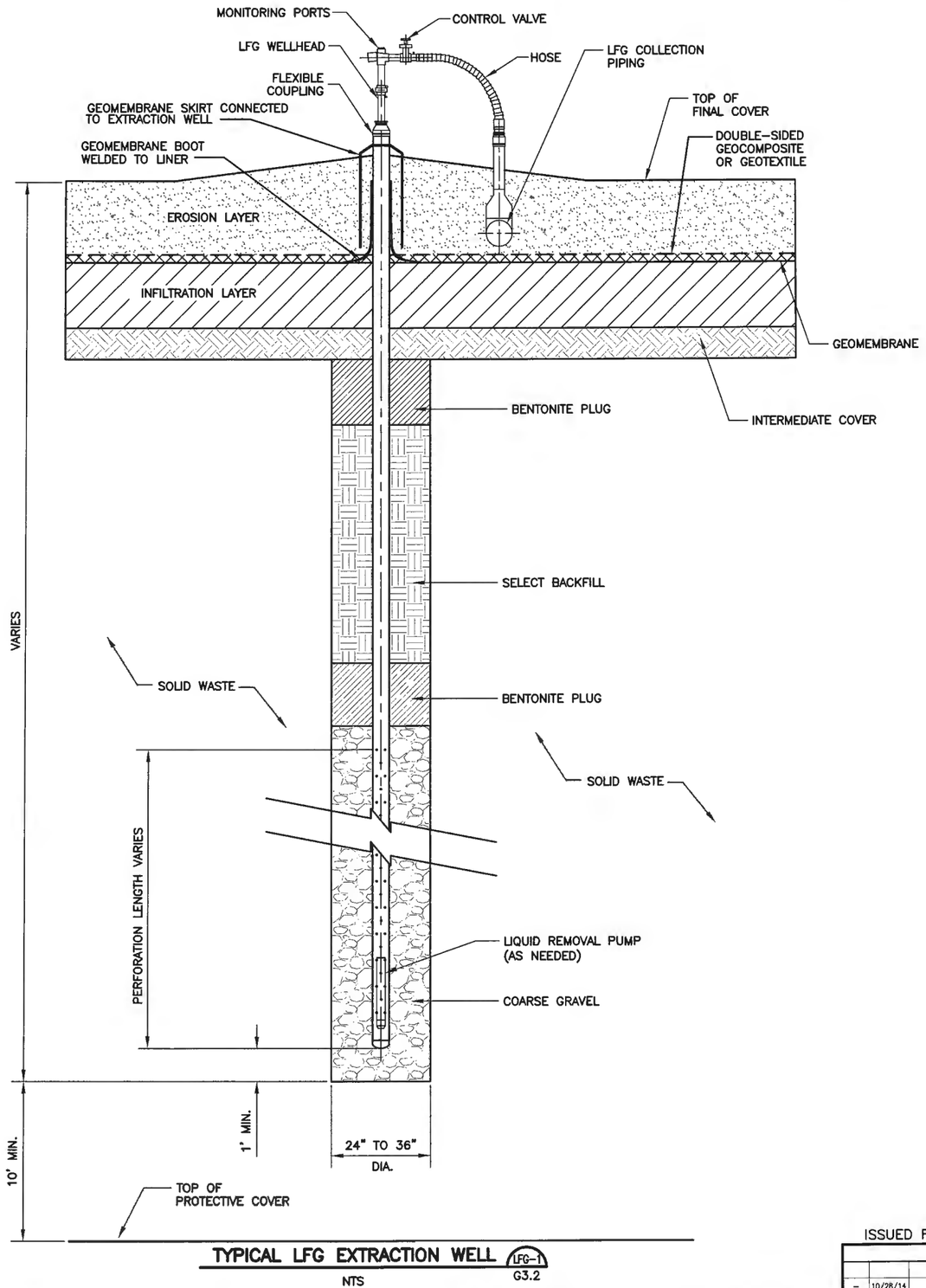
130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. CRH DATE : 2/14
DWN. GLW SCALE : GRAPHIC
CHK. JHP DWG : G3.1-GasColl.dwg

DRAWING G3.1

J:\129\06 130 Park\101\Attc\G3.1-GasColl.dwg Layout: G3.1 User: scundiff



TYPICAL LFG EXTRACTION WELL (LFG-1) G3.2

NTS

DETAIL NOTES:

1. ALL SIZES AND DIMENSIONS ARE APPROXIMATE.
2. THE EXACT WELLHEAD CONFIGURATION DEPENDS ON MANUFACTURER.
3. ACTUAL LOCATION OF LFG PIPING WILL BE DETERMINED AT TIME OF CONSTRUCTION.
4. THE ELEVATION OF THE EXISTING LINER SYSTEM WILL BE VERIFIED PRIOR TO CONSTRUCTION. THE VERIFICATION PROCESS WILL INCLUDE THE REVIEW OF EXISTING AS-BUILT LINER CERTIFICATION INFORMATION.

STATE OF TEXAS
J. HEATH PARKER
94764
LICENSED
PROFESSIONAL ENGINEER
J. Heath Parker
11/6/14

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	JHP	JHP	JHP

TYPICAL EXTRACTION WELL DETAIL

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. GRH	DATE : 2/14	DRAWING	
DWN. GLW	SCALE : GRAPHIC	G3.2	
CHK. JHP	DWG : G3.2-ExtWellDtl.dwg		

130 ENVIRONMENTAL PARK

APPENDIX G4

LANDFILL GAS GENERATION MODEL

Technically Complete October 28, 2014

TABLE G4-1
130 ENVIRONMENTAL PARK
Estimated Landfill Gas Generation Rate

Year	Waste In Place (Mg)	Landfill Gas Generation	
		m^3/year	scfm
1	0	0	0
2	389,103	3,057,496	205
3	784,354	6,043,415	406
4	1,185,850	8,961,325	602
5	1,593,689	11,814,670	794
6	2,007,972	14,606,768	981
7	2,428,801	17,340,822	1,165
8	2,856,279	20,019,918	1,345
9	3,290,512	22,647,039	1,522
10	3,731,605	25,225,060	1,695
11	4,179,667	27,756,759	1,865
12	4,634,809	30,244,817	2,032
13	5,097,142	32,691,824	2,197
14	5,566,780	35,100,282	2,358
15	6,043,838	37,472,611	2,518
16	6,528,433	39,811,148	2,675
17	7,020,686	42,118,153	2,830
18	7,520,715	44,395,815	2,983
19	8,028,646	46,646,248	3,134
20	8,544,601	48,871,502	3,284
21	9,068,709	51,073,560	3,432
22	9,601,098	53,254,344	3,578
23	10,141,898	55,415,716	3,723
24	10,691,243	57,559,482	3,867
25	11,249,268	59,687,392	4,010
26	11,816,109	61,801,146	4,152
27	12,391,907	63,902,394	4,294
28	12,976,802	65,992,738	4,434
29	13,570,938	68,073,736	4,574
30	14,174,462	70,146,900	4,713
31	14,787,521	72,213,704	4,852
32	15,410,267	74,275,581	4,991
33	16,042,852	76,333,926	5,129

TABLE G4-1
130 ENVIRONMENTAL PARK
Estimated Landfill Gas Generation Rate
(Continued)

Year	Waste In Place (Mg)	Landfill Gas Generation	
		m^3/year	scfm
34	16,685,433	78,390,100	5,267
35	17,338,165	80,445,429	5,405
36	18,001,211	82,501,206	5,543
37	18,674,734	84,558,694	5,681
38	19,358,897	86,619,127	5,820
39	20,053,871	88,683,711	5,959
40	20,759,825	90,753,624	6,098
41	21,476,933	92,830,022	6,237
42	22,205,372	94,914,034	6,377
43	22,945,320	97,006,769	6,518
44	23,696,959	99,109,314	6,659
45	24,027,518	97,820,655	6,573
46	24,027,518	93,985,053	6,315
47	24,027,518	90,299,846	6,067
48	24,027,518	86,759,138	5,829
49	24,027,518	83,357,264	5,601
50	24,027,518	80,088,779	5,381

130 ENVIRONMENTAL PARK

APPENDIX G5

LANDFILL GAS MONITORING PROBE BORING/COMPLETION LOGS

Technically Complete October 28, 2014

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

PART III – FACILITY INVESTIGATION AND DESIGN

ATTACHMENT H
CLOSURE PLAN

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256
11/6/2014

Prepared by

BIGGS & MATHEWS ENVIRONMENTAL
1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-256

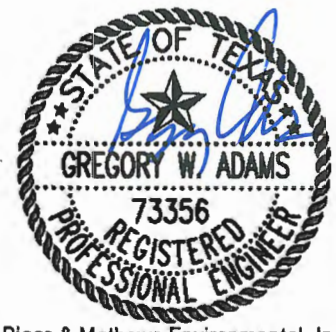
TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

And

BIGGS & MATHEWS, INC.
2500 Brook Avenue • Wichita Falls, Texas 76301 • 940-766-0156

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-834

CONTENTS



Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256
11/6/2014

1 INTRODUCTION

30 TAC §330.63(h) and §330.457

This closure plan provides the information required by 30 TAC §330.63(h) and §330.457. In accordance with 30 TAC §330.457(f)(1), a copy of the closure plan will be placed in the site operating record. The closure plan includes drawings that depict the final cover details and final contour plan of the entire landfill including internal drainage and side slopes plus accommodation of surface drainage entering and exiting the completed fill area plus the location of the 100-year floodplain. Cross sections are provided in Part III, Attachment D2 – Cross Sections. The closure plan also includes the procedures to be taken for sequential closure as areas are completed to design grades and final closure following final acceptance of waste.

2 FINAL COVER SYSTEM

30 TAC §330.457

2.1 Final Cover System Design

The final cover system will consist of an infiltration layer, a flexible membrane cover (FMC), a drainage layer on sideslopes, a cushion layer on topslopes, and an erosion control layer. The infiltration layer will be a minimum of 18 inches of compacted soil with a coefficient of permeability less than or equal to 1×10^{-5} cm/sec. The flexible membrane cover will be a 40-mil LLDPE geomembrane placed over the infiltration layer. The drainage layer will be a double-sided geocomposite and the cushion layer will be a nonwoven geotextile. The erosion control layer will consist of a minimum of 24 inches of soil, of which the top six inches is capable of sustaining native plant growth. The erosion control layer will be placed over the drainage layer. The final cover will be seeded or sodded immediately following the installation of the final cover system in order to minimize erosion. Final cover system details are shown in Appendix H2 – Final Cover System Details.

The vegetation may include both native and introduced grasses. Temporary cold weather vegetation will be established as required. Irrigation will be employed as needed until vegetation is established. Erosion control measures such as silt fences and straw bales will be used to minimize erosion until the vegetation is established. Areas that experience erosion or do not readily vegetate will be repaired and reseeded or sodded until vegetation is established, or the soil will be amended or replaced with soil that will support the grasses.

The final cover system will be maintained consistent with the procedures defined by Part III, Attachment C – Facility Surface Water Drainage Report, Section 6.2, on areas of constructed final cover prior to facility closure. Following facility closure, the final cover system will be maintained consistent with the procedures defined in Part III, Attachment I – Postclosure Plan, Section 2.

2.2 Installation Methods and Procedures

The final cover system will be constructed in accordance with the construction details provided in Appendix H-2 and specifications provided in Part III, Attachment D8 – Final Cover Quality Control Plan (FCQCP). Testing and evaluation of the final cover system during construction will be in accordance with 30 TAC §330.457 and Attachment D8.

3 CLOSURE PROCEDURES

30 TAC §330.457

3.1 Closure Sequence

130 Environmental Park will conduct sequential closure as areas are completed to design grades of the landfill throughout the life of the landfill. The procedure allows for successive closure of fill areas by placement of final cover, construction of drainage and erosion control features, and establishment of vegetative cover. This procedure will be followed until all cells have been closed. All areas, regardless of the time of closure, will be closed in accordance with the applicable regulations and the closure plan, and a Final Cover Evaluation Report (FCER) will be submitted to TCEQ documenting closure activities.

3.2 Closure During Active Life

As described above, the final cover will be constructed as fill areas achieve the design contours. Should closure of the landfill become necessary at any time during the active life of the landfill, the following steps shall be taken:

- The final waste received will be placed and properly compacted.
- The Large Items Storage Area, Used/Scrap Tire Storage Area, Citizen's Convenience Center, Wood Waste Processing Area, Leachate Storage Area, Reusable Materials Staging Area, and Truck Wheel Wash will be closed and dismantled as described in Section 4.2. All waste, waste residue and demolition materials from these facilities will be disposed in the landfill.
- Cell excavations will be filled with suitable material, and the site will be graded to promote runoff and prevent ponding.
- The top of the landfill will be regraded and reshaped as needed to provide the appropriate slope for positive drainage.
- The final cover system will be constructed consistent with the details included in Appendix H2 – Final Cover System Details.
- During the first growing season following application of final cover, the site will be vegetated with appropriate grasses to minimize erosion.
- A surface water management system will be constructed to minimize erosion.
- A closure certification will be prepared by a registered professional engineer and submitted to the TCEQ for approval.
- All proper notices and documentations will be filed with the appropriate agencies.

3.2.1 Estimate of Largest Area Requiring Final Cover

The largest area requiring final cover during the active life of the landfill is approximately 75 acres. The largest area requiring closure for the purposes of determining final closure construction cost is addressed in Part III, Attachment J – Cost Estimates for Closure and Postclosure Care.

3.2.2 Estimate of Maximum Inventory of Waste On-Site

The estimate of maximum inventory of waste and operational cover on site over the active life of the facility is approximately 33.1 million cubic yards, which is the total volume available through this permit application. The site life calculations are provided in Part III, Attachment D4 – Site Life.

4 CLOSURE SCHEDULE

30 TAC §330.457, §330.461

4.1 Final Cover Construction

Final cover will be placed in separate construction phases as areas reach the design top of waste grades. Generally, the final cover will be placed in phases of 10 to 30 acres. Final cover placement over completed portions of the site will consist of the following steps:

- Survey controls will be implemented to control the filling of solid waste to the bottom level of the daily/intermediate cover layer elevation.
- The final cover system layers will be constructed. Testing of the various components of the final cover system will be performed in accordance with Attachment D8.
- A final cover certification report and an as-built survey will be prepared by an independent registered professional engineer and submitted to the TCEQ for approval.
- The TCEQ-approved final cover certification report will be maintained in the site operating record and the final cover log will be updated to reflect the area where final cover has been placed. The TCEQ region office will also be notified where final cover has been placed.

4.2 Closure of Storage and Transfer Units

The Large Item Storage Area, Citizen's Convenience Center, Used/scrap Tire Storage Area, Wood Waste Processing Area, Leachate Storage Facility, Reusable Materials Staging Area, and Truck Wheel Wash will be closed in accordance with 30 TAC §330.459. The storage and transfer units may be closed during the active life of the landfill or upon final closure, except for the leachate storage facility which will remain operational throughout the post-closure care period. Closure of the leachate storage facility is addressed in Attachment I – Postclosure Plan. Closure activities for the storage and transfer units will be accomplished as outlined below.

- 130 Environmental Park, LLC will remove all waste, waste residues, and any recovered materials from the transfer and storage unit.
- The transfer and storage unit will be dismantled and removed offsite or disposed onsite.
- 130 Environmental Park, LLC will evacuate all materials to an authorized facility.

4.3 Final Closure Activities

Once the facility has received its final waste, the facility will be closed consistent with 30 TAC §330.457. The final closure activities will be accomplished as outlined below.

- No later than 90 days prior to initiation of final facility closure, a public notice of facility closure that contains the name, address, and physical location of the facility, the permit number, and the last date of intended receipt of waste will be placed in the newspaper of the largest circulation in the vicinity of the facility. 130 Environmental Park, LLC will also make available an adequate number of copies of the approved final closure and postclosure plan for public access and review.

- No later than 45 days prior to initiation of final closure activities for a landfill unit, 130 Environmental Park, LLC will provide written notification to the executive director of the TCEQ of the intent to close and place this notice in the operating record.

- Following notification of the executive director of the TCEQ of final facility closure, a minimum of one sign will be posted at the main entrance and all other frequently used points of access notifying all persons utilizing the facility of the closure date or date on which further receipt of waste is prohibited. In addition, barriers or gates will be installed at all access points following the closure date to adequately prevent unauthorized dumping of solid waste at the closed facility.

- Final closure activities will commence within 30 days after known final receipt of wastes, except as provided in Section 4.3.

- Final closure activities will be completed within 180 days of initiation of final closure activities, except as provided in Section 4.3. Within 10 days after completion of final closure activities, a certification signed by an independent licensed professional engineer will be submitted by registered mail to the TCEQ for review and approval. This certification will verify that final closure has been completed in accordance with the closure plan and will include all applicable documentation necessary for certification of final closure. Once approved, this certification will be placed in the operating record.

- Within 10 days after completion of final closure activities of all landfill units at the facility, a certified copy of an Affidavit to the Public in a form provided by the Executive Director (see Figure H1.2 for a sample) will be submitted by registered mail to the TCEQ in accordance with §330.19 and a copy placed in the operating record. In addition, a certified notation will be recorded on the deed to the facility or some other instrument that will in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and the use of the land is restricted according to the provisions specified in the Postclosure Care Plan and 30 TAC §330, Subchapter T. Within 10 days after completion of final closure activities of the facility, a certified copy of the modified deed or other

instrument will be submitted to the TCEQ and a copy placed in the operating record.

In accordance with 30 TAC §330.171(c)(3)(C), if the facility has accepted RACM, a specific notation that the facility accepted RACM will be placed in the deed records for the facility with a diagram identifying the RACM disposal area. Concurrently, a notice of the deed recordation and a copy of the diagram identifying the asbestos disposal areas will be submitted to the executive director.These steps in the closure process are depicted on Figure H1.1. Following receipt of the required final closure documents and an inspection report from the TCEQ region office verifying proper closure of the MSWLF facility, according to the approved closure plan, the executive director may acknowledge the termination of operation and closure of the facility and deem it properly closed. Postclosure care maintenance will begin immediately upon the date of final closure as approved by the TCEQ.

4.4 Provisions for Extending Closure Period

If 130 Environmental Park has remaining capacity in a landfill unit at the time of its closure, final closure activities will begin no later than one year after the most recent receipt of wastes. Any request for an extension beyond the one year deadline for the initiation of final closure will be submitted to the executive director for review and approval and will include all applicable documentation to demonstrate that the unit or site has the capacity to receive additional waste and that 130 Environmental Park, LLC has taken, and will continue to take, all steps necessary to prevent threats to human health and the environment.

If necessary, a request for an extension of the completion of final closure activities will be submitted to the executive director for approval. This request will include all applicable documentation necessary to demonstrate that final closure will, of necessity, take longer than 180 days and all steps have been taken and will continue to be taken to prevent threats to human health and the environment.

5 CLOSURE COST ESTIMATE

30 TAC §330.503(a)

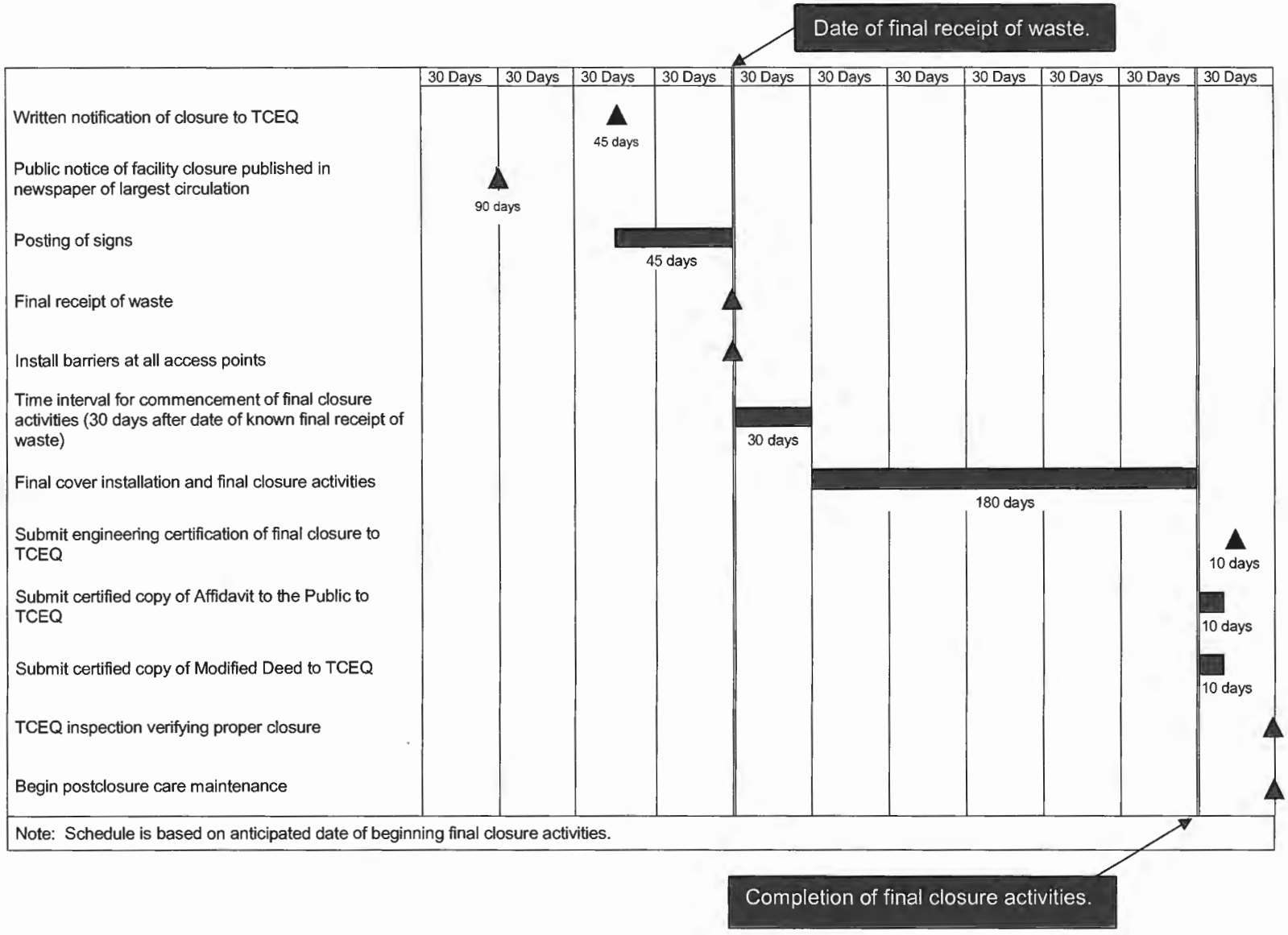
The estimated cost of hiring a third party to close the largest area of the landfill requiring final closure at any time during the active life of the unit is $10,121,410.00. The detailed cost estimate is included in Part III, Attachment J – Cost Estimates for Closure and Post Closure Care.

130 ENVIRONMENTAL PARK

APPENDIX H1
FIGURES

Technically Complete October 28, 2014

Figure H1.1
Final Closure Schedule



MSW Permit No.: _____

Facility Name: _____

Affidavit to the Public
(30 TAC §330.19 Deed Recordation)

State of Texas
County of _____

Before me, the undersigned authority, on this day personally appeared _____ who, after being by me duly sworn, under oath states that he is the owner of record of that certain tract or parcel of land lying and being situated in _____ County, Texas, and being more particularly described as follows:

(Insert metes and bounds legal description of property)

The undersigned further states that from the year _____ to the year _____ there was operated on the aforesaid tract of land a Municipal Solid Waste Disposal Site. Specifically, such operation was conducted on that portion of the aforesaid tract described as follows:

(Insert metes and bounds legal description of the portion of the tract used for solid waste disposal. Indicate if entire tract was used. Attach site plan as required.)

Further, the undersigned, _____ was the operator of such Municipal Solid Waste Disposal Site.

Notice is hereby provided to any future owner or user of the site to consult with the Texas Commission on Environmental Quality or successor agency prior to planning or initiating any activity involving the disturbance of the landfill cover or monitoring system.

Witness my/our hand(s) on this the _____ day of _____, 20____.

_____
Owner

_____
Operator

Sworn to and subscribed before me on this the _____ day of _____, 20____.

_____
Notary Public, State of Texas

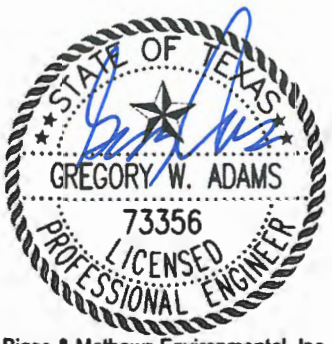
(SEAL)

_____ County, Texas

Affidavit to the Public (rev. 09/14/11)

130 ENVIRONMENTAL PARK

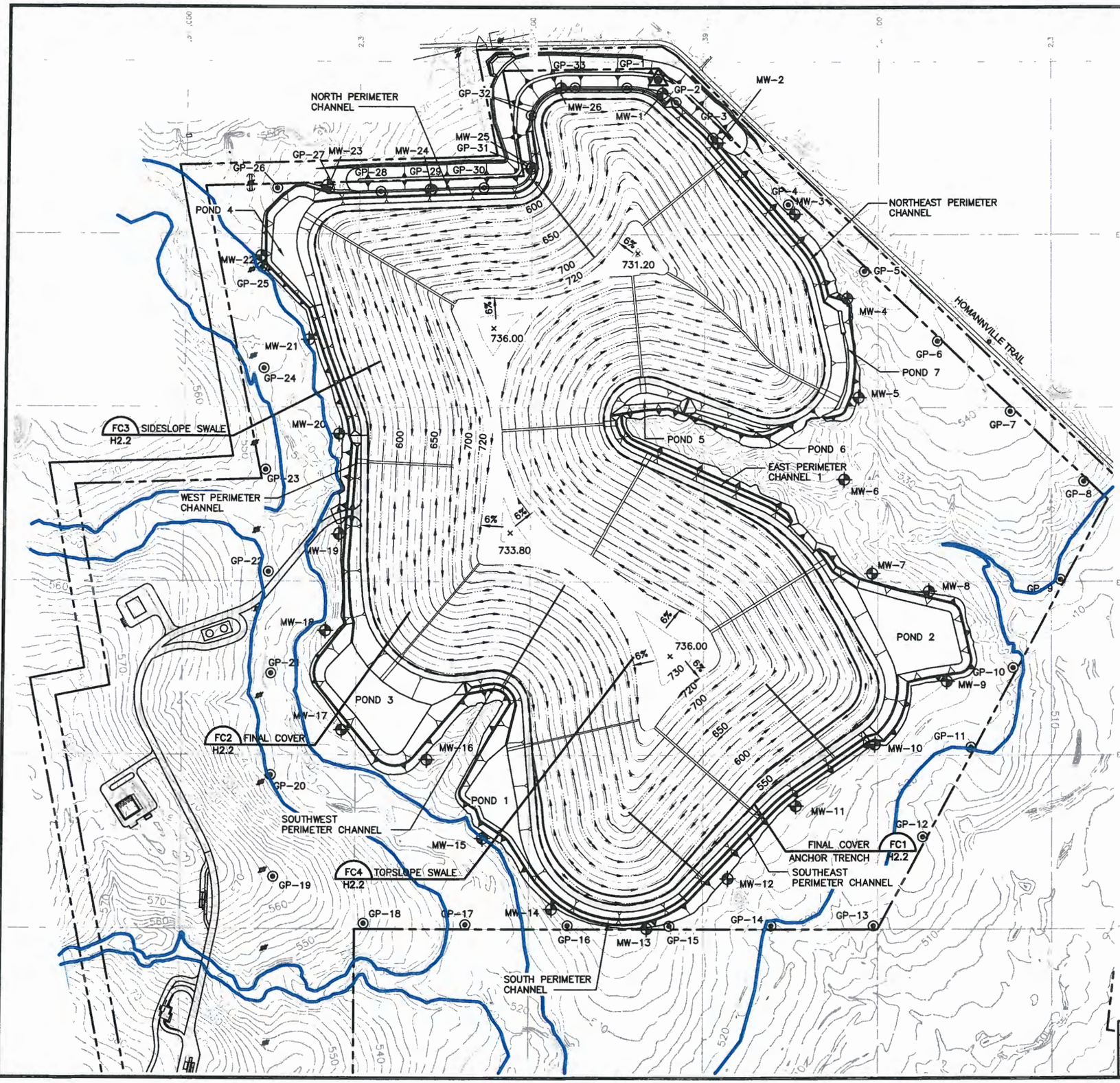
APPENDIX H2
FINAL COVER SYSTEM DETAILS



Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

11/6/2014

Technically Complete October 28, 2014



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- 250 EXISTING CONTOUR
- 100 YEAR FLOODPLAIN
- N 6753000 STATE PLANE GRID
- MW-4 MONITORING WELL
- GP-1 LFG MONITORING PROBE
- 600 TOP OF FINAL COVER 10' CONTOUR

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 – GEOID 12A.
2. PROPERTY BOUNDARY, FACILITY BOUNDARY, EASEMENT LOCATIONS, AND PERMANENT BENCHMARK PROVIDED BY HODDE & HODDE LAND SURVEYING, INC.
3. PROPOSED CONTOURS DEPICT TOP OF FINAL COVER.

STATE OF TEXAS
GREGORY W. ADAMS
73356
LICENSED
PROFESSIONAL ENGINEER
11/6/2014

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	GWA	GWA	GWA

FINAL COVER PLAN

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144

TBPE FIRM NO. F-256 | TBPG FIRM NO. 50222

DSN. GWA | DATE : 12/13 | DRAWING H2.1
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CHK. GWA | DWG : H2.1-FinCovPl.dwg

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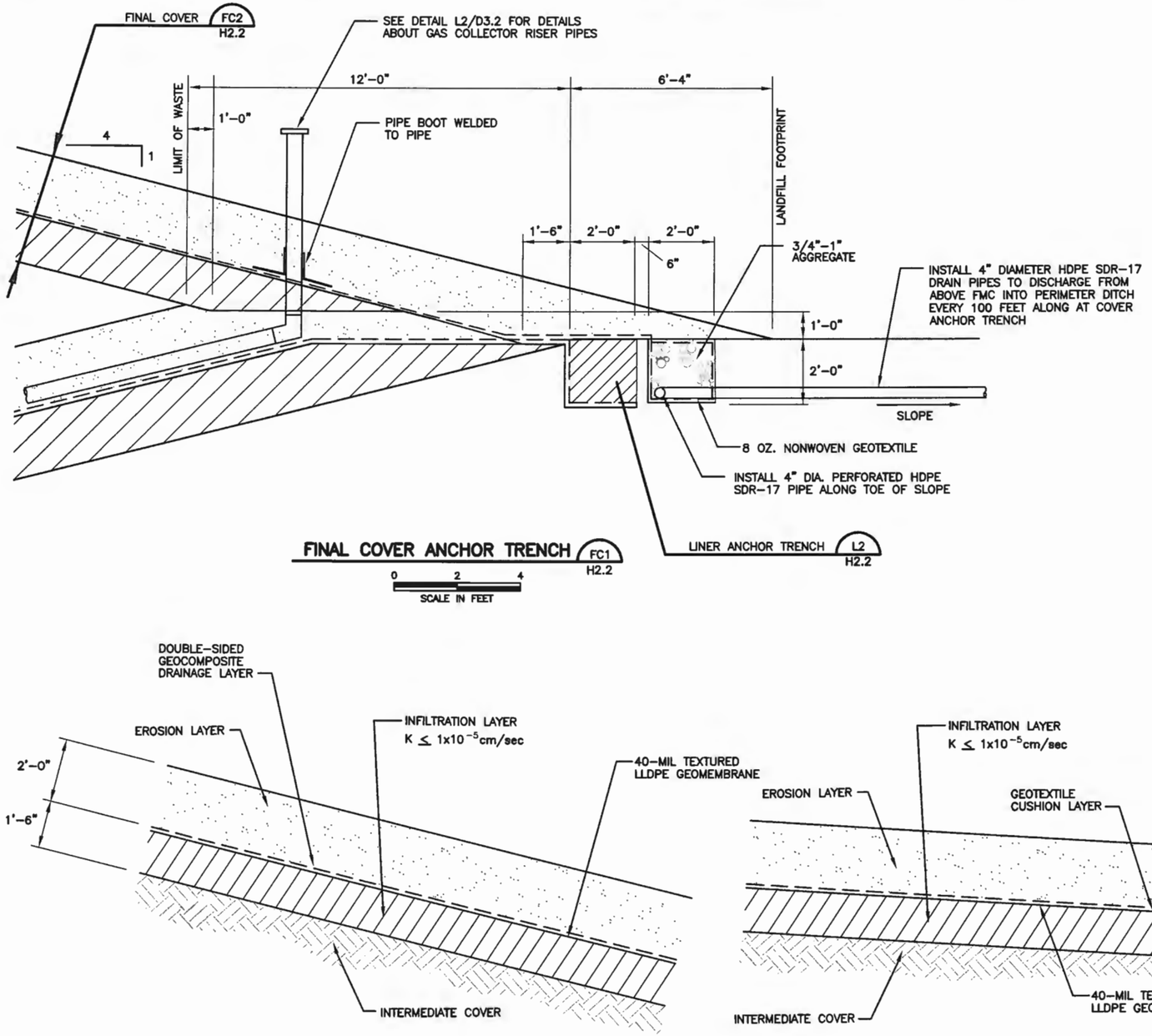

FINAL COVER ANCHOR TRENCH FC1 H2.2

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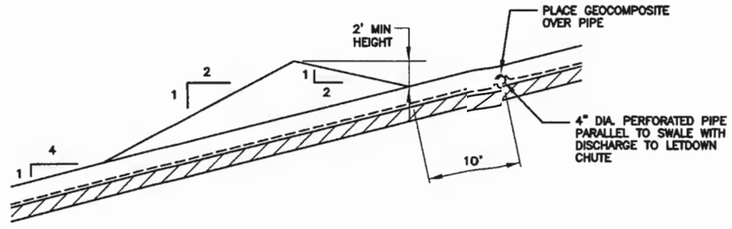

SIDESLOPE SWALE FC3 H2.2

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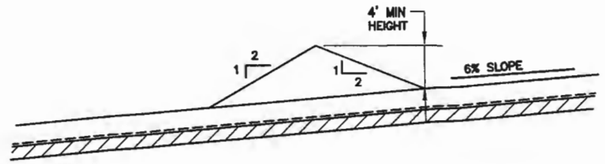
SCALE IN FEET

SIDESLOPE

TOPSLOPE



TOPSLOPE SWALE FC4 H2.2

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SCALE IN FEET

FINAL COVER FC2 H2.2

0 2 4
SCALE IN FEET

STATE OF TEXAS
GREGORY W. ADAMS
73356
LICENSED
PROFESSIONAL ENGINEER
11/6/2014

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FINAL COVER DETAILS

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
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REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	GWA	GWA	GWA

DSN. GWA	DATE : 10/13	DRAWING H2.2
DWN. GLW	SCALE : GRAPHIC	
CHK. GWA	DWG : D3.8-FCDet.dwg	

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

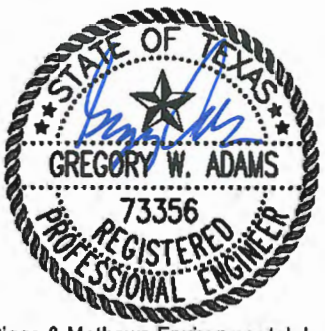
PART III – FACILITY INVESTIGATION AND DESIGN

ATTACHMENT I
POSTCLOSURE PLAN

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014



Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256
11/6/2014

Prepared by

BIGGS & MATHEWS ENVIRONMENTAL
1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-256

TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

And

BIGGS & MATHEWS, INC.
2500 Brook Avenue • Wichita Falls, Texas 76301 • 940-766-0156

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-834

CONTENTS

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256
11/6/2014

1 INTRODUCTION

30 TAC §330.63(i), 330.463(b), and 330.465

Consistent with 30 TAC §330.63(i), this facility postclosure care plan provides the information required by §330.463(b) and §330.465. In accordance with 30 TAC §330.463(b)(3), a copy of the postclosure plan will be placed in the site operating record. The postclosure care plan includes the provisions for continued groundwater monitoring, landfill gas monitoring, leachate collection, and maintenance of the constructed final cover and drainage facilities for the duration of the 30-year postclosure period. The postclosure care plan also provides procedures to decrease or increase the postclosure care period, identifies the office responsible for postclosure care, and includes the provisions for certification at the completion of the postclosure care period.

2 POSTCLOSURE CARE ACTIVITIES

30 TAC §330.463(b) and §330.465

2.1 Monitoring and Maintenance

In accordance with 30 TAC §330.463(b), postclosure care maintenance will commence immediately upon completion of final closure requirements set forth in Part III, Attachment H – Closure Plan. Postclosure care maintenance will continue for a period of 30 years unless the TCEQ approves or requires a postclosure care period of a different duration. Postclosure care maintenance will consist, at a minimum, of the following requirements, to be carried out by 130 Environmental Park, LLC.

- Retain the right of entry and maintain all rights-of-way to the closed landfill.
- Conduct quarterly site inspections.
- Conduct maintenance or remediation activities, as needed, to maintain the integrity and effectiveness of the final cover, site vegetation, and stormwater drainage appurtenances. These activities may include regrading, placement of additional soil, seeding, and repair of erosion control features.
- Control surface runon and runoff in order to minimize the erosion of the final cover system. Maintenance may include regrading and cleaning of ditches and swales.
- Correct the effects of settlement, subsidence, ponded water, erosion, or other events or failures as these situations are detrimental to the integrity of the closed landfill. Corrective measures may include regrading, placement of additional soil, and seeding.
- Maintain the groundwater monitoring system and monitor groundwater in accordance with the requirements of §§330.401 – 330.421. In accordance with 30 TAC §330.407, the monitoring frequency will be semiannual. Parameters to be monitored will be those constituents listed in 30 TAC §330.419. However, 130 Environmental Park, LLC reserves the right to request TCEQ approval of (1) an alternative monitoring frequency, and (2) an alternative list of parameters to be monitored. Such requests will be based on supporting data available at the time of the request.
- Maintain and operate the leachate collection system in accordance with 30 TAC §330.331 and §330.333. However, 130 Environmental Park, LLC reserves the right to request the approval of the executive director to allow 130 Environmental Park, LLC to stop managing leachate if 130 Environmental Park, LLC can demonstrate to the satisfaction of the executive director that leachate does not pose a threat to human health and the environment.

- Maintain and operate the landfill gas monitoring system in accordance with the requirements of §330.371. In accordance with 30 TAC §330.371, the minimum frequency of landfill gas monitoring will be quarterly. However, 130 Environmental Park, LLC reserves the right to request TCEQ approval of an alternate monitoring frequency. Such a request will be based on supporting data available at the time of the request.

2.2 Decreasing Postclosure Care Period

The length of the postclosure care maintenance period may be decreased by the TCEQ if 130 Environmental Park, LLC submits a documented certification, signed by an independent registered professional engineer and including all applicable documentation necessary to support the certification, which demonstrates that the reduced period is sufficient to protect human health and the environment. Applicable documentation may include data from monitoring of groundwater, surface water, leachate levels, and landfill gas. The certified documentation must be reviewed and approved by the TCEQ prior to decreasing the length of the postclosure care maintenance period.

2.3 Increasing Postclosure Care Period

The length of the postclosure care maintenance period may be increased by the TCEQ if it is determined that the increased duration is necessary to protect human health and the environment. It is understood that 130 Environmental Park, LLC will receive appropriate notification of any such proposed changes prior to the TCEQ's final determination.

2.4 Completion of Postclosure Care

At the completion of the postclosure care maintenance period, 130 Environmental Park, LLC will close the leachate storage facility in accordance with 30 TAC §330.459. Closure activities for the leachate storage facility will be accomplished as outlined below:

- 130 Environmental Park, LLC will remove all waste, waste residues, and any recovered materials from the leachate storage facility.

- The leachate storage facility and equipment will be dismantled and removed offsite.

- 130 Environmental Park, LLC will evacuate all materials to an authorized facility and disinfect all leachate handling equipment and appurtenances.

Upon completion of the postclosure care maintenance period, 130 Environmental Park, LLC will submit to the TCEQ documented certification signed by an independent licensed professional engineer and verifying that postclosure care maintenance has been completed in accordance with the approved postclosure plan. The submittal will include all documentation necessary for certification of completion of postclosure care maintenance. The certification will be placed in the site operating record upon approval. Certification of completion of the postclosure care maintenance period and voluntary permit revocation will be conducted in accordance with §330.465.

3 PERSON RESPONSIBLE FOR CONDUCTING POSTCLOSURE CARE ACTIVITIES

30 TAC §330.463(b)

The office overseeing and/or conducting postclosure care is:

134 Riverstone Terrace
Suite 203
Canton, GA 30114
770-720-2717

4 POSTCLOSURE LAND USE

30 TAC §330.957

4.1 Intended Use

There are no current planned postclosure uses for 130 Environmental Park. Should use of the closed landfill not associated with solid waste activities be considered, plans will be prepared and submitted to the TCEQ for review and approval.

4.2 Constraints on Postclosure Construction

There are no plans to construct buildings or other structures on the closed 130 Environmental Park property. Nevertheless, any future construction activities on the closed landfill will be subject to the provisions of 30 TAC §§330.951 – 964, which require, among other things, prior approval of the TCEQ.

5 POSTCLOSURE CARE COST ESTIMATE

30 TAC §330.463(b)

The estimated cost of hiring a third party to conduct postclosure care activities in accordance with the postclosure plan is $6,794,348. The detailed cost estimate provided in Part III, Attachment J – Cost Estimates for Closure and Postclosure Care.

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

PART III – FACILITY INVESTIGATION AND DESIGN

ATTACHMENT J
COST ESTIMATES FOR CLOSURE AND POSTCLOSURE CARE

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256
11/6/2014

Prepared by

BIGGS & MATHEWS ENVIRONMENTAL
1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

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FIRM REGISTRATION NO. F-834

CONTENTS

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

11/6/2014

LIST OF TABLES AND FIGURES

TABLES

DRAWINGS

Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

11/6/2014

1 INTRODUCTION

30 TAC §330.63(j)

This cost estimate for closure and postclosure care has been prepared for 130 Environmental Park and is consistent with 30 TAC §§330.501 – 330.507.

2 CLOSURE COST ESTIMATE

30 TAC §330.503

This cost estimate shows the cost of hiring a third party to close the largest area of the landfill ever requiring closure at any time during the active life of the facility. The largest area ever requiring final cover is shown on Drawing J.1 – Largest Area Requiring Final Closure. Cells 1 through 11 will have been developed with Cells12 through 14 active. Final cover will be required over all or part of Cells 9 through 14. After the final cover is placed, general earthfill will be placed to fill the excavated portion of Cell 15 and internal ditches to provide positive drainage into the perimeter channel. The closure cost estimate includes the cost for evaluation, design, construction, contract administration, bonds, and legal fees.

Closure activities are outlined in Part III, Attachment H – Closure Plan. This cost estimate, in current dollars, generally follows the outline presented in the TCEQ "Cost Estimate Handbook for Closure and Postclosure Care," Version 1. A summary of the estimated closure costs is presented on Table J-1. Calculations and supporting data for the closure cost estimate are included in Appendix J1. The cost will be adjusted annually as indicated in Section 4.

3 POSTCLOSURE CARE COST ESTIMATE

30 TAC §330.507

The postclosure care period is 30 years for a Type I municipal solid waste facility. During this period, maintenance is required to assure the integrity and effectiveness of the final cover system and monitoring systems, erosion protection, and the stormwater drainage systems. The estimated postclosure care cost is presented on Table J-2.

The postclosure care cost estimates are based on Part III, Attachment I – Postclosure Plan and provide a cost for the routine operation, maintenance and monitoring of the final cover system, gas monitoring system, groundwater monitoring system, and stormwater drainage systems. This estimate for routine maintenance and monitoring predicts the cumulative cost throughout the 30-year postclosure care period. Calculations and supporting data for the postclosure care cost estimate are included in Appendix J2. The costs will be adjusted annually as indicated in Section 4.

4 COST ESTIMATE ADJUSTMENTS

30 TAC §330.503 and §330.507

During the active life of the unit, 130 Environmental Park, LLC will annually adjust the cost estimates for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent *Implicit Price Deflator for Gross National Product* published by the United States Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year. The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate. Subsequent adjustments are made by multiplying the latest adjusted closure estimate by the latest inflation factor.

An increase in the closure or postclosure care cost estimate and the amount of financial assurance will be made if changes to the final closure or postclosure care plan or the landfill conditions increase the maximum cost. A request for an increase in the cost estimates and financial assurance will be submitted as a permit modification. The closure and postclosure care cost will be evaluated annually, to determine if an increase in the closure or postclosure care cost is required as a result of continued landfill development.

A reduction in the closure or postclosure care cost estimate and the amount of financial assurance may be requested if the cost estimate exceeds the maximum costs of closure at any time during the remaining life of the unit or postclosure care remaining over the postclosure care period. 130 Environmental Park, LLC will submit written notice to the executive director of the detailed justification for the reduction of the cost estimates and the amount of financial assurance. A request for reduction in the cost estimates and financial assurance will be submitted as a permit modification.

5 FINANCIAL ASSURANCE

§§330.503 and 330.507

Financial assurance for closure and postclosure care for the facility will be established in accordance with 30 TAC Chapter 37, Subchapter R as related to Financial Assurance for Municipal Solid Waste Facilities. In accordance with §330.63(j), 130 Environmental Park, LLC will submit a copy of the documentation required to demonstrate financial assurance as specified in Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities) at least 60 days prior to the initial receipt of waste. Information regarding evidence of financial assurance for the facility is provided in Appendix J3 – Evidence of Financial Assurance.

TABLES

Table J-1
Closure Cost Estimate

No.	ITEM		COST
1.0	**Engineering Costs**		
1.1	Topographic Survey	$	16,640.00
1.2	Boundary Survey	$	9,360.00
1.3	Site Evaluation	$	15,600.00
1.4	Development of Plans	$	75,000.00
1.5	Administration	$	12,000.00
1.6	Inspection and Testing	$	412,500.00
1.7	Groundwater Consultant	$	-
1.8	Permit Compliance Package	$	12,000.00
	Engineering Total	$	553,100.00
2.0	**Construction Costs**		
2.1	Final Cover System		
2.1.1	Infiltration Layer	$	810,000.00
2.1.2	Flexible Membrane Cover	$	1,275,000.00
2.1.3	Drainage Layer	$	990,000.00
2.1.4	Cushion Layer	$	140,000.00
2.1.5	Erosion Layer	$	1,012,500.00
2.1.6	General Fill	$	1,692,900.00
2.2	LFG Control System	$	1,837,500.00
2.3	Vegetation	$	225,000.00
2.4	Site Grading and Drainage	$	375,000.00
2.5	Site Fencing and Security	$	-
2.6	Leachate Collection System	$	-
2.7	Monitor Wells	$	-
2.8	Gas Probes	$	-
2.9	Storage and Transfer Units		
2.9.1	Cleaning, Dismantling and Disposal	$	25,000.00
2.9.2	Large Item Storage Area Materials	$	7,200.00
2.9.3	Citizen's Convenience Center Materials	$	800.00
2.9.4	Used/Scrap Tire Storage Area Materials	$	1,000.00
2.9.5	Wood Waste Processing Area Materials	$	4,000.00
2.9.6	Truck Wheel Wash Materials	$	4,000.00
2.9.7	Reusable Materials Staging Materials	$	4,000.00
	Construction Total	$	8,403,900.00
	Engineering and Construction Total	$	8,957,000.00
	Contingency	$	895,700.00
3.0	**Administrative Costs**		
3.1	Contract Performance Bond	$	179,140.00
3.2	TCEQ Contract Admin/Legal Fees	$	89,570.00
	Total	$	10,121,410.00

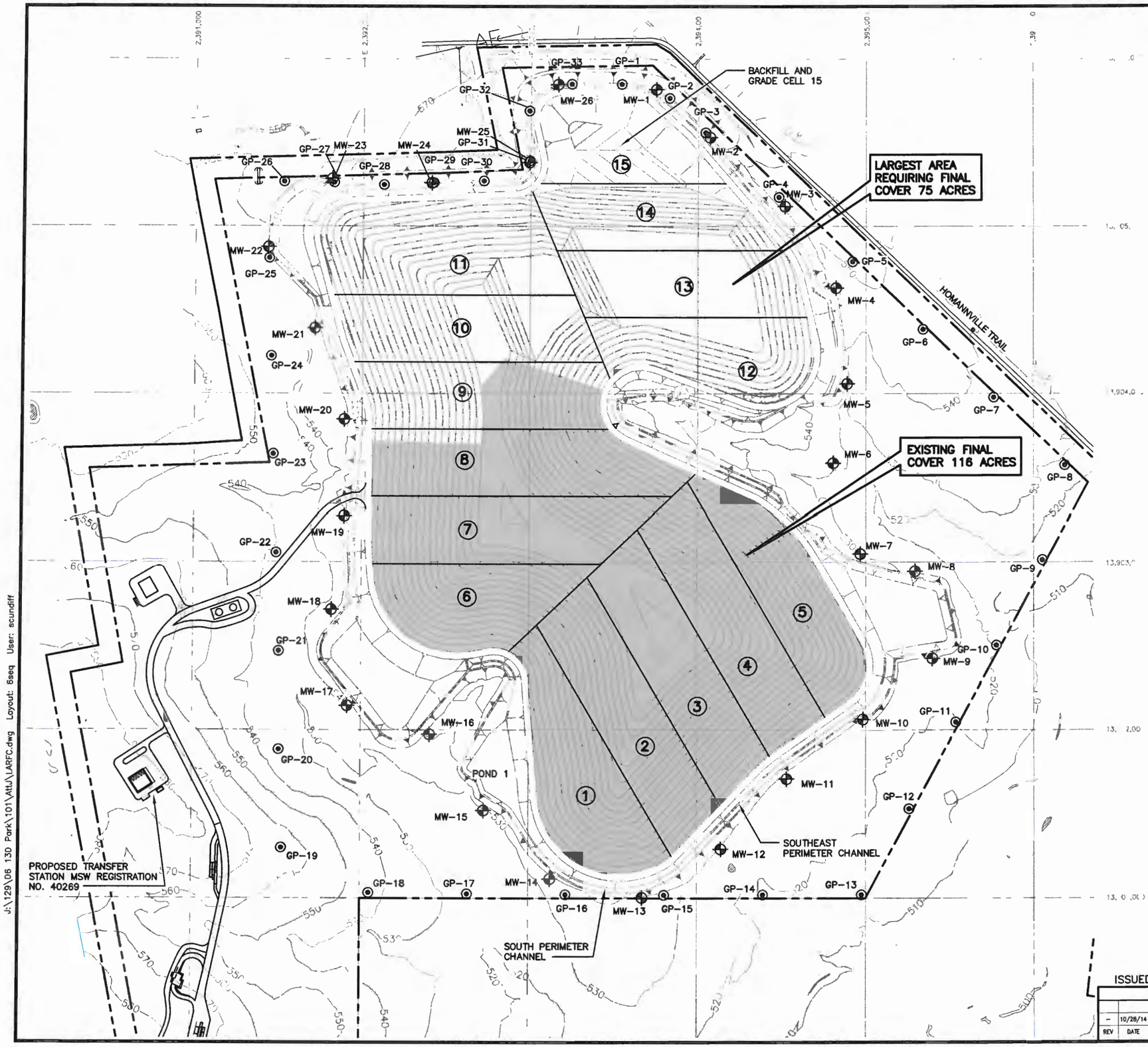
***This closure cost estimate was developed in 2014 dollars.**

Table J-2
Postclosure Care Cost Estimate

No.	ITEM	ANNUAL COST
1.0	Engineering Costs	$ 95,840.00
2.0	Construction / Maintenance Costs	$ 30,178.00
3.0	Leachate Disposal Costs	$ 13,575.00
4.0	Landfill Gas Management Costs	$ 47,750.00
	Subtotal	$ 187,343.00
	10% Contingency	$ 18,734.30
5.0	Administration	$ 18,734.30
	Annual Postclosure Costs	**$ 224,811.60**
	Closure of Leachate Storage Facility	**$ 50,000.00**
	Total Postclosure Costs	**$ 6,794,348.00**

***This postclosure cost estimate was developed in 2014 dollars.**

DRAWINGS



LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- 250 EXISTING 10' CONTOUR
- N 6753000 STATE PLANE GRID
- EXISTING FINAL COVER
- LARGEST AREA REQUIRING FINAL COVER
- (15) CELL DESIGNATION

0 300 600
SCALE IN FEET

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 – GEOID 12A.
2. PROPERTY BOUNDARY, FACILITY BOUNDARY, EASEMENT LOCATIONS, AND PERMANENT BENCHMARK PROVIDED BY HODDE & HODDE LAND SURVEYING, INC

STATE OF TEXAS
GREGORY W. ADAMS
73356
LICENSED
PROFESSIONAL ENGINEER
11-6-2014

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
–	10/28/14	TECHNICALLY COMPLETE	GLW	GWA	GWA	GWA

LARGEST AREA REQUIRING FINAL CLOSURE

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. GWA	DATE : 12/13	DRAWING
DWN. GLW	SCALE : GRAPHIC	J.1
CHK. GWA	DWG : LARFC.dwg	

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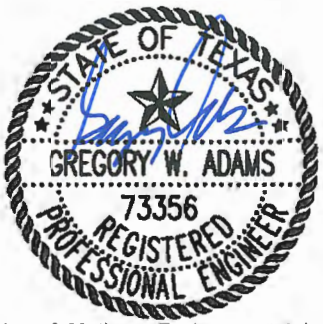
130 ENVIRONMENTAL PARK

APPENDIX J1
CLOSURE COST ESTIMATE CALCULATIONS



Biggs & Mathews Environmental, Inc.
Firm Registration No. F-2356

11/6/2014

Includes pages J1-1 through J1-5

Technically Complete October 28, 2014

CLOSURE COST ESTIMATE CALCULATIONS

30 TAC §330.503

The largest area ever requiring final cover is illustrated on Drawing J.1 – Largest Area Requiring Final Closure. Cells 1 through 11 will have been developed with Cells 12 through 15 active. Final cover will be required over Cells 9 through 14. After the final cover is placed, general earthfill will be placed to fill the excavated portion of Cell 15 and internal ditches to provide positive drainage into the perimeter channel. The closure cost estimate is based on Attachment H – Closure Plan. The following sections describe the line items in the cost estimate calculations.

1.0 ENGINEERING COSTS

The engineering costs include surveying and evaluation of the entire permit area. However, the development of construction plans and construction quality assurance testing is limited to the area requiring final cover construction, as indicated by Drawing J.1.

1.1 Topographic Survey

A topographic survey will be required to determine the existing grades of the landfill. The topographic survey will be used to evaluate permit compliance and to design the grading, final cover system, and drainage system. The cost of the topographic survey is calculated on a per acre basis.

1.2 Boundary Survey

A boundary survey is required for the filing of the affidavit of closure and deed record of any area of the site that has received waste. Other activities include publication of the public notice of closing activities. The cost of the boundary survey is calculated on a per acre basis.

1.3 Site Evaluation

A site evaluation will be performed to identify waste disposal areas, analyze drainage and erosion protection, and to determine other site operational features that are not in compliance with the permit. The site evaluation also includes analysis of groundwater samples, gas probes, and review of site operating record. The cost of the site evaluation is based on the entire permit area.

1.4 Development of Plans

The final closure plan will be revised to reflect the changes to the final grading and drainage plans, specifications for vegetation, and design of any other improvements to bring the site into compliance with the permit. Construction plans, specifications, and contract documents will be prepared in suitable detail to allow the project to be

competitively bid. The cost of development of plans is based on the largest area requiring closure.

1.5 Administration

The consultant will advertise the project, receive the bids, evaluate the bids, award the closure construction contract and administer the contract during construction. The cost of administration is calculated based on the lump sum basis.

1.6 Closure Inspection and Testing

Closure inspection and testing includes observations by the professional of record during closure construction, thickness and permeability verifications, and preparation of a closure certification report. The cost of inspection and testing is based on the largest area requiring closure.

1.7 Groundwater Consultant

The groundwater monitoring well system has been developed in Part III, Attachment F – Groundwater Sampling and Analysis Plan. It is not anticipated that revisions will be necessary. The cost of a groundwater consultant is not required.

1.8 Permits

The consultant will prepare plans, specifications, and other documents necessary for compliance with applicable federal and state laws and requirements for the proper closure of the site (i.e., Stormwater Pollution Prevention Plan). The cost of permits is calculated based on the lump sum basis.

2.0 CONSTRUCTION COSTS

The largest area ever requiring closure during the active life of the facility is shown on Drawing J.1. Construction costs include construction of final cover over 75 acres encompassing all or part of Cells 9 through 14.

2.1 Final Cover System

The final cover system will consist of an 18-inch-thick infiltration layer, a flexible membrane cover, a double sided geocomposite drainage layer on sideslopes, a geotextile cushion on topslopes, and a 24-inch-thick erosion layer with a minimum of six inches of earthen material capable of sustaining vegetative growth. The quantity of materials required for the final cover system is based on the largest area requiring closure.

2.1.1 Infiltration Layer

An 18-inch-thick infiltration layer, consisting of a clay material with a permeability of 1×10^{-5} cm/sec or less, will be constructed over the intermediate cover.

2.1.2 Flexible Membrane Cover

A 40-mil textured LLDPE geomembrane will be installed over the infiltration layer.

2.1.3 Drainage Layer

A double-sided geocomposite drainage layer will be installed over the geomembrane on sideslopes.

2.1.4 Cushion Layer

A geotextile cushion will be installed over the geomembrane on the top slopes.

2.1.5 Erosion Layer

A 24-inch-thick erosion layer, consisting of earthen material with the top six inches capable of sustaining plant growth, will be placed over the geocomposite drainage layer or geotextile cushion.

2.1.6 General Fill

General fill will be placed as needed to provide positive drainage.

2.2 Landfill Gas Control System

An active LFG control system and LFG flare system will be constructed. The quantity of materials required for the landfill gas control system is based on the largest area requiring closure.

2.3 Vegetation

Vegetation will be established over the final cover and general fill. The costs are based on two seeding events. The quantity for vegetation requirements is based on the largest area requiring closure.

2.4 Site Grading and Drainage

Site grading and drainage includes final grading, drainage structures on the landfill cover and in the perimeter drainage channel, and sedimentation controls. The quantity of grading and drainage is based on the largest area requiring closure.

2.5 Site Fencing and Security

Site fencing and security for the entire landfill will have been installed during site development. No additional expenses will be incurred for this item.

2.6 Leachate Collection System Completion

At the time of closure, the leachate collection system will have been installed in existing cells. No additional expenses will be incurred for this item.

2.7 Groundwater Monitoring Well Installation

Groundwater monitoring wells will have been installed during site development. No additional expenses will be incurred for this item.

2.8 Landfill Gas Probe Installation

Landfill gas probes will have been installed during site development. No additional expenses will be incurred for this item.

2.9 Storage and Transfer Units

Materials from the large item storage area, citizen's convenience center, used/scrap tire storage area, wood waste processing area, reusable materials staging area, and truck wheel wash will be disposed at an authorized facility. The citizen's convenience center containers will be cleaned. The leachate storage facility will remain on site to collect generated leachate during postclosure conditions.

3.0 ADMINISTRATIVE COSTS

3.1 Contract Performance Bond

The cost of a performance bond is two percent of the total cost of engineering and construction.

3.2 TCEQ Administration of Contracts and Legal Fees

One percent of the total cost of engineering and construction has been included to account for TCEQ administration of contracts and legal fees.

130 Environmental Park
CLOSURE COST ESTIMATE

Required: Estimate the cost to hire a third party to conduct final closure activities.

References:
1. Texas Natural Resources Conservation Commmission, *Cost Estimate Handbook for Closure and Postclosure Care,* Version 1, August 1993.
2. *2012 RS Means Heavy Construction Cost Data,* 26th Annual Edition.
3. Construction costs from recent similar construction projects and cost estimates from heavy construction contractors.

Solution:

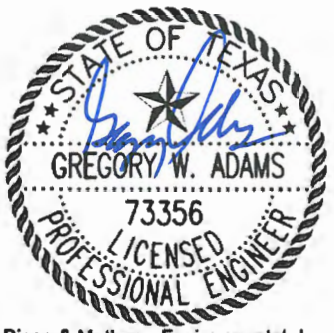
Final closure will require construction of final cover over	75	total acres
Final closure will require administrative closure of	520	acres
Final closure will require the installation of	0	monitor wells
Final closure will require the installation of	0	gas probes
Final closure will require the installation of	75	acres of LFG Control System

No.	ITEM	QTY	UNIT	UNIT COST	TOTAL COST
1.0	**Engineering Costs**				
1.1	Topographic Survey	520	ac	$ 32.00	$ 16,640.00
1.2	Boundary Survey	520	ac	$ 18.00	$ 9,360.00
1.3	Site Evaluation	520	ac	$ 30.00	$ 15,600.00
1.4	Development of Plans	75	ac	$ 1,000.00	$ 75,000.00
1.5	Administration	1	LS	$ 12,000.00	$ 12,000.00
1.6	Inspection and Testing	75	ac	$ 5,500.00	$ 412,500.00
1.7	Groundwater Consultant	0	LS	NA	$ -
1.8	Permit Compliance Package	1	LS	$ 12,000.00	$ 12,000.00
	Engineering Total				$ 553,100.00
2.0	**Construction Costs**				
2.1	Final Cover System				
2.1.1	Infiltration Layer	75	ac	$ 10,800.00	$ 810,000.00
2.1.2	Flexible Membrane Cover	75	ac	$ 17,000.00	$ 1,275,000.00
2.1.3	Drainage Layer	55	ac	$ 18,000.00	$ 990,000.00
2.1.4	Cushion Layer	20	ac	$ 7,000.00	$ 140,000.00
2.1.5	Erosion Layer	75	ac	$ 13,500.00	$ 1,012,500.00
2.1.6	General Fill	594,000	cy	$ 2.85	$ 1,692,900.00
2.2	LFG Control System	75	ac	$ 24,500.00	$ 1,837,500.00
2.3	Vegetation	75	ac	$ 3,000.00	$ 225,000.00
2.4	Site Grading and Drainage	75	ac	$ 5,000.00	$ 375,000.00
2.5	Site Fencing and Security	0	ac	NA	$ -
2.6	Leachate Collection System	0	lf	NA	$ -
2.7	Monitor Wells	0	ea	NA	$ -
2.8	Gas Probes	0	ea	NA	$ -
2.9	Storage and Transfer Units				
2.9.1	Cleaning, Dismantling and Disposal	1	ls	$ 25,000.00	$ 25,000.00
2.9.2	Large Item Storage Area Materials	180	tn	$ 40.00	$ 7,200.00
2.9.3	Citizen's Convenience Center Materials	20	tn	$ 40.00	$ 800.00
2.9.4	Used/Scrap Tire Storage Area Materials	25	tn	$ 40.00	$ 1,000.00
2.9.5	Wood Waste Processing Area Materials	100	tn	$ 40.00	$ 4,000.00
2.9.6	Truck Wheel Wash Materials	100	tn	$ 40.00	$ 4,000.00
2.9.7	Reausable Materials Staging Materials	100	tn	$ 40.00	$ 4,000.00
	Construction Total				$ 8,403,900.00
	Engineering and Construction Total				$ 8,957,000.00
	Contingency	10	%		$ 895,700.00
3.0	**Administrative Costs**				
3.1	Contract Performance Bond	2.0	%		$ 179,140.00
3.2	TCEQ Contract Admin/Legal Fees	1.0	%		$ 89,570.00

***This closure cost estimate was developed in 2014 dollars.**

130 ENVIRONMENTAL PARK

APPENDIX J2
POSTCLOSURE CARE COST ESTIMATE CALCULATIONS



Biggs & Mathews Environmental, Inc.
Firm Registration No. F-256

11/6/2014

Includes pages J2-1 through J2-3

Technically Complete October 28, 2014

POSTCLOSURE CARE COST ESTIMATE CALCULATIONS

30 TAC §330.63(j) and §330.507

The postclosure care period is 30 years for a Type I municipal solid waste facility. Postclosure cost estimates were developed for the combined areas with final cover in place and largest area ever requiring closure as shown on Drawing J.1. The postclosure care cost estimate is based on Part III, Attachment I – Postclosure Plan. The following sections describe the line items in the cost estimate calculations.

1.0 ENGINEERING COSTS

1.1 Postclosure Plan

The postclosure plan provides a schedule for routine maintenance of the final cover system, the LCS, and the gas and groundwater monitoring systems. The Postclosure Plan is presented in Part III, Attachment I – Postclosure Plan. Additional expenses should not be incurred for this item.

1.2 Site Inspections

Quarterly site inspections will be performed to identify areas experiencing settlement or subsidence, erosion or other drainage related problems, and the condition of the LCS, gas control, gas monitoring system, and groundwater monitoring system.

1.3 Correctional Plans and Specifications

Correctional plans and specifications will be prepared when required to correct problems identified during the site inspections. This cost is dependent upon the quality of care taken during the closure of the site and ongoing maintenance during previous postclosure care years. The cost may be significantly higher during earlier postclosure care years and be near zero cost during the end of the postclosure care period. The cost estimate is based on an average annual value.

1.4 Site Monitoring

Semiannual groundwater sampling and analysis will be performed for the groundwater monitoring wells. Quarterly gas monitoring will be performed for the landfill gas monitoring probes and on-site buildings.

2.0 CONSTRUCTION/MAINTENANCE COSTS

Postclosure construction/maintenance will be required to correct problems identified during the site inspections and as specified by the correctional plans and specifications. This item includes site maintenance, cover and drainage maintenance, annual seeding

and mowing. This item also Includes plugging groundwater monitoring wells and gas monitoring probes and cleaning and removal of the leachate storage tanks at the end of the postclosure care period.

3.0 LEACHATE DISPOSAL

During the postclosure care period, the volume of leachate being generated should decrease substantially due to the completion of the final cover system. From Part III, Attachment D6 – Leachate and Contaminated Water Management Plan, Appendix D6-B, an average leachate generation rate of 190 gallons per acre per year was used to determine the volume of leachate generated during the period. This amounts to 271,500 gallons per year with a disposal rate of $0.05 per gallon for disposal costs. A one-time cost to address the closure of the leachate storage facility at the end of the postclosure period is included in the total postclosure cost.

4.0 LANDFILL GAS MANAGEMENT SYSTEM

The installed active LFG control system will require routine O&M. The annual O&M cost for the active system is assumed to be $250.00 per acre. This item includes correcting problems identified during site inspections, maintenance and repair of the system as necessary. The cost estimate is based on an average annual value.

5.0 ADMINISTRATION

The cost for a third party to administer postclosure care activities is assumed at 10 percent of the annual postclosure costs.

130 Environmental Park
POSTCLOSURE COST ESTIMATE

Required: Estimate the cost to hire a third party to conduct postclosure care activities.

References: 1. Texas Natural Resources Conservation Commmission, *Cost Estimate Handbook for Closure and Postclosure Care*, Version 1, August 1993.

Solution:

Postclosure care period =	**30**	years
Permit area =	**520**	acres
Waste footprint[1] =	**191**	acres
Number of monitor wells =	**26**	wells
Number of gas probes and buildings =	**36**	probes

No.	ITEM	ANNUAL QTY	UNIT				TOTAL COST
1.0	**Engineering Costs**						
1.1	Postclosure Plan	NA	LS	NA		$	-
1.2	Site Inspections	520	ac	$	25.00	$	13,000.00
1.3	Correctional Plan and Specifications	191	ac	$	40.00	$	7,640.00
1.4.1	Groundwater Monitoring	52	event	$	1,100.00	$	57,200.00
1.4.2	Landfill Gas Monitoring	144	event	$	125.00	$	18,000.00
2.0	**Construction / Maintenance Costs**	191	ac	$	158.00	$	30,178.00
3.0	**Leachate Disposal**	271,500	gal	$	0.05	$	13,575.00
4.0	**Landfill Gas Management**	191	ac	$	250.00	$	47,750.00
	Subtotal					$	187,343.00
	Contingency	10	%			$	18,734.30
5.0	**Administration**	10	%			$	18,734.30
	Annual Postclosure Cost					$	224,811.60
	Closure of Leachate Storage Facility	1	LS	$	50,000.00	$	50,000.00
	Total Postclosure Cost					**$**	**6,794,348.00**

***This postclosure cost estimate was developed in 2014 dollars.**

[1]The waste footprint includes the final cover in place and largest area requiring final closure.

130 ENVIRONMENTAL PARK

APPENDIX J3
EVIDENCE OF FINANCIAL ASSURANCE

Technically Complete October 28, 2014

In accordance with §330.63(j), 130 Environmental Park, LLC will submit a copy of the documentation required to demonstrate financial assurance as specified in Chapter 37, Subchapter R of this title (relating to Financial Assurance for Municipal Solid Waste Facilities) at least 60 days prior to the initial receipt of waste.

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

TYPE I PERMIT APPLICATION

PART IV

SITE OPERATING PLAN

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews, Inc.
Firm Registration No. F-834

Prepared by

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1700 Robert Road, Suite 100 • Mansfield, Texas 76063 • 817-563-1144

TEXAS BOARD OF PROFESSIONAL ENGINEERS
FIRM REGISTRATION NO. F-256

TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS
FIRM REGISTRATION NO. 50222

And

BIGGS & MATHEWS, INC.
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TEXAS BOARD OF PROFESSIONAL ENGINEERS
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Biggs & Mathews, Inc.
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CONTENTS

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Firm Registration No. F-834

CONTENTS (Continued)

Biggs & Mathews, Inc.
Firm Registration No. F-834

CONTENTS (Continued)

LIST OF ACRONYMS

ADC – Alternative Daily Cover

ADCOP – Alternative Daily Cover Operating Plan

CFR – Code of Federal Regulations

EPA – U.S. Environmental Protection Agency

GLER – geosynthetics liner evaluation report

LCS – leachate collection system

LFG – landfill gas

MSW – municipal solid waste

non-RACM – nonregulated asbestos-containing material

OSHA – Occupational Safety and Health Administration

PCB – polychlorinated biphenyls

RACM – regulated asbestos-containing material

SLER – soil liner evaluation report

SOP – site operating plan

SPCC – Spill Prevention, Control, and Countermeasures Plan

SWPPP – Stormwater Pollution Prevention Plan

TAC – Texas Administrative Code

TCEQ – Texas Commission on Environmental Quality

TxDOT – Texas Department of Transportation

TPWD – Texas Parks and Wildlife Department

WMTX – Waste Management of Texas, Inc.

WWTP – wastewater treatment plant

TABLES AND FIGURES

Tables

Figures

1 INTRODUCTION

30 TAC §§330.65, 330.121, 330.123, 330.127

1.1 Introduction

This Site Operating Plan (SOP) has been prepared for 130 Environmental Park in Caldwell County, Texas. This SOP is consistent with 30 Texas Administrative Code (TAC) §330.65 and contains the information required by §330.127. This SOP includes provisions for site management and site operating personnel to meet the general and site-specific requirements included in Subchapter D, §§330.121 through 330.179, relating to Operational Standards for Municipal Solid Waste Landfill Facilities, and applicable sections of Subchapter E, §§330.201 through 330.249, relating to Operational Standards for Municipal Solid Waste Storage and Processing Units, for the day-to-day operation of the facility. This SOP will be retained on site throughout the active life of the facility and throughout the postclosure care maintenance period.

130 Environmental Park is a proposed Type I Municipal Solid Waste Disposal Facility located in northern Caldwell County east of State Highway 130 (SH130). The site entrance will be located about 1/4 mile north of the intersection of US Highway 183 (US183) and Farm to Market Road 1185 (FM1185), on the east side of SH130. US183 serves as the frontage road for SH130 in the general vicinity of the facility. The proposed facility is intended to provide waste disposal for residences and businesses in Caldwell County and surrounding Texas counties.

The primary function of the facility will be municipal solid waste disposal. The major classifications of solid waste to be accepted at the facility include municipal solid waste and Class 2 and 3 industrial wastes. Support facilities include a site entrance road, gatehouse, equipment maintenance and storage area, large item storage area, reusable materials staging area, citizen's convenience center, used/scrap tire storage area, wood waste processing area, leachate storage facility, and truck wheel wash.

130 Environmental Park will serve individuals, businesses, and communities in Caldwell County, and surrounding Texas counties. The facility will receive waste from public and private haulers. It is estimated that the facility will receive approximately 429,000 tons of waste in the initial year, about 1,500 tons per day, following construction of the facility. Based on projected waste acceptance rates, 130 Environmental Park estimates that the maximum waste acceptance rate will reach 841,803 tons per year or about 2,943 tons per day. This SOP includes provisions for accommodating waste receipts up to the estimated maximum waste acceptance rate of 841,803 tons per year.

This SOP provides guidance for site management and site operating personnel for the daily operation of 130 Environmental Park. This SOP also includes provisions for site management and site operating personnel to meet the general and site-specific requirements for the waste acceptance rate established in the permit.

1.2 General

The operational requirements for 130 Environmental Park are defined in Part III, Facility Investigation and Design and Part IV, Site Operating Plan (SOP). The following documents are operational requirements and are part of the site operating record of 130 Environmental Park.

Operational requirements are included in the following:

- Municipal Solid Waste Disposal Permit No. 2383
- Part III – Facility Investigation and Design
- Attachment A – Site Development Plan Narrative
- Attachment B – General Facility Design
- Attachment C – Facility Surface Water Drainage Report
- Attachment D – Waste Management Unit Design
- Attachment E – Geology Report
- Attachment F – Groundwater Monitoring Plan
- Attachment G – Landfill Gas Management Plan
- Attachment H – Closure Plan
- Attachment I – Postclosure Plan
- Attachment J – Cost Estimate for Closure and Postclosure Care
- Part IV – Site Operating Plan

1.3 Pre-Operation Notice

The facility, in accordance with §330.123, will provide notice of construction of a new waste disposal area or cell in the form of a Soil Liner Evaluation Report (SLER) and a Geosynthetics Liner Evaluation Report (GLER), to the executive director for review 14 days prior to the placement of waste. The executive director has 14 days to provide a verbal or written response. If no response has been received by the end of the fourteenth day following the executive director's receipt of the report, the operator may begin placing waste.

2 RECORDKEEPING REQUIREMENTS

30 TAC §330.125

2.1 Documents

130 Environmental Park will maintain the operating record for the facility on site. Consistent with §330.125(a), copies of documents that are considered part of the site operating record are listed in Table 2-1.

2.2 Analytical Data

130 Environmental Park, in accordance with §330.125(b), will record and retain in the site operating record those items listed in Table 2-1 within seven working days following completion or receipt of analytical data.

2.3 Operating Record

130 Environmental Park, in accordance with §330.125(c), will place the items included in Table 2-1 into the site operating record within the specified time period. 130 Environmental Park will maintain the site operating record in an organized format, where information is easily locatable and retrievable. The site operating record will be furnished to the executive director upon request, and will be made available on site for inspection by the executive director.

2.4 Record Retention

130 Environmental Park, in accordance with §330.125(d), will retain all information contained within the site operating record of the facility and all plans required for the facility for the life of the facility including the postclosure care period.

2.5 Personnel Training Records and Licenses

In accordance with §330.125(e), 130 Environmental Park will maintain personnel training records in accordance with §335.586(d) and (e). Personnel training requirements will be consistent with Section 3 – Personnel and Training of this SOP. Personnel training records for currently employed facility personnel will be maintained until closure of the facility. Records of former employees will be maintained for three years from the date the employee last worked at the facility. Records for each facility employee will include name, job title, job description, introductory training, continuing training, and documentation of training. In accordance with §330.125(f), the facility will maintain personnel operator licenses issued in accordance with Chapter 30, Subchapter F, relating to municipal solid waste facility supervisors. Personnel training records and personnel operator licenses will be maintained in the site operating record as listed in Table 2-1.

2.6 Alternative Schedules

The executive director, in accordance with §330.125(g), may set alternative schedules for recordkeeping and notification requirements as specified in §330.125(a)-(f), except for notification requirements contained in §330.545.

2.7 Annual Waste Acceptance Rate

As listed in Table 2-1, 130 Environmental Park will maintain as part of the site operating record documentation of the annual waste acceptance rate for the facility in accordance with §330.125(h). Records will include maintaining the quarterly solid waste summary reports and the annual solid waste summary report as required by §330.675. The annual waste acceptance rate, as established by the sum of the previous four quarterly summary reports, will be evaluated by 130 Environmental Park to determine if the waste acceptance rate exceeds the rate estimated in the permit application. Should an increase in waste acceptance be established, the facility will determine if the increase is due to a temporary occurrence. Should the waste acceptance rate exceed that established in the permit application, and not be due to a temporary occurrence, a permit modification would be prepared in accordance with then applicable TCEQ regulations to propose changes, if necessary, to manage the increased waste acceptance rate to protect human health and the environment. An increase in the waste acceptance rate that is determined to be a temporary occurrence does not require the submittal of a permit modification. This section is not intended to make an estimated waste acceptance rate a limiting parameter of the permit.

130 Environmental Park anticipates that the waste acceptance rate for the facility will increase during the site life. Based on projected waste acceptance rates, 130 Environmental Park estimates that the maximum waste acceptance rate will reach 841,803 tons per year or about 2,943 tons per day. This SOP includes provisions for accommodating waste receipts up to the estimated maximum waste acceptance rate of 841,803 tons per year.

Table 2-1
130 Environmental Park
Records to be Maintained in the Site Operating Record

Records to be Maintained in the Site Operating Record	Frequency	Rule Citation
Municipal Solid Waste Disposal Permit No. 2383	Submittal of Permit Amendment Application	§330.125(a)
Part I – Site and Applicant Information	Submittal of Permit Amendment Application	§330.125(a)
Part II – Existing Conditions and Character of the Facility and Surrounding Area	Submittal of Permit Amendment Application	§330.125(a) and §330.125(b)(1)
Part III – Facility Investigation and Design	Submittal of Permit Amendment Application	§330.125(a)
Attachment A – Site Development Plan Narrative	Submittal of Permit Amendment Application	§330.125(a)
Attachment B – General Facility Design	Submittal of Permit Amendment Application	§330.125(a)
Attachment C – Facility Surface Water Drainage Report	Submittal of Permit Amendment Application	§330.125(a)
Attachment D – Waste Management Unit Design	Submittal of Permit Amendment Application	§330.125(a)
Attachment E – Geology Report	Submittal of Permit Amendment Application	§330.125(a)
Attachment F – Groundwater Monitoring Plan	Submittal of Permit Amendment Application	§330.125(a)
Attachment G – Landfill Gas Management Plan	Submittal of Permit Amendment Application	§§330.125(a) and 330.159
Attachment H – Closure Plan	Submittal of Permit Amendment Application	§§330.125(a) and 330.125(b)(6)
Attachment I – Postclosure Plan	Submittal of Permit Amendment Application	§§330.125(a) and 330.125(b)(6)
Attachment J – Cost Estimate for Closure and Postclosure Care	Submittal of Permit Amendment Application	§§330.125(a) and 330.125(b)(7)
Part IV – Site Operating Plan	Submittal of Permit Amendment Application	§330.125(a)
State and Federal Regulations	Submittal of Permit Amendment Application	§330.125(a)
Location Restriction Demonstrations	Submittal of Permit Amendment Application	§330.125(b)(1)
Inspection records, training procedures and notification procedures related to excluding the receipt of prohibited waste	Per occurrence	§330.125(b)(2)
Results from gas monitoring events	Quarterly	§§330.125(b)(3) and 330.159
Remediation plans relating to explosive and other gases	Per occurrence	§§330.125(b)(3) and 330.159
Unit design documentation for the placement of leachate or gas condensate in the landfill	Per occurrence	§330.125(b)(4)
Groundwater monitoring and corrective action demonstrations, certifications, findings, monitoring, testing and analytical data	As required	§330.125(b)(5)
Closure and postclosure monitoring, testing, and analytical data	As required	§330.125(b)(6)
Cost estimates and financial assurance documentation for closure and postclosure	Annually	§330.125(b)(7)

Table 2-1
130 Environmental Park
Records to be Maintained in the Site Operating Record
(Continued)

Records to be Maintained in the Site Operating Record	Frequency	Rule Citation
Facility operation, permit modification, approvals, and technical assistance correspondence and responses	Per occurrence	§330.125(b)(9)
Special waste manifests, shipping documents, trip tickets, and all other documents relating to special waste	Per occurrence	§330.125(b)(10)
Other documents specified in the permit or by the executive director	As required	§330.125(b)(12)
Personnel training records in accordance with §335.586(d)-(e)	As needed	§330.125(e)
Personnel operator licenses	As needed	§330.125(f)
Records to document the annual waste acceptance rate including quarterly solid waste summary reports and annual solid waste summary reports	Quarterly and annually	§330.125(h)
Load inspection records	Per occurrence	§330.127(5)(B)
Fire occurrence notices	Per occurrence	§330.129
Inspection records and training procedures relating to fire prevention and site safety	As needed	§330.129
Access control breach and repair notices	Per occurrence	§330.131
All site inspection and maintenance documentation noted in Section 8.26 – Site Inspection and Maintenance Schedule	As required	N/A
A record of each unauthorized material removal event	Per occurrence	§330.133(b)
A record of alternate operating hours	As required	§330.135(d)
Water, crude oil and/or natural gas well location and plugging reports	Within 30 days of discovery	§330.161(a)-(c)
Cover inspection records	As required	§330.165(h)
Current site plan of RACM disposal area	As required	§330.171(c)(3)(B)
RACM acceptance records including the location, depth and volume of each load	Per occurrence	§330.171(c)(3)(B)
RACM contingency plan compliance documentation	Prior to the acceptance of RACM	§330.171(c)(3)(H)
Leachate and contaminated water off-site disposal records	Per occurrence	N/A

3 PERSONNEL AND TRAINING

30 TAC §§330.127(1), (3), (4)

3.1 Personnel

130 Environmental Park will be staffed with qualified individuals experienced with municipal solid waste disposal operations and earthmoving construction projects. See Figure 3.1 – Organizational Chart for the personnel organization. Refer to Table 3-1 for a summary of job descriptions, minimum qualifications, and required training for landfill personnel.

The landfill general manager (individual having managerial oversight of the facility, actual title may vary from the title stated in this SOP) is responsible for overall facility management and is designated as the contact person for regulatory compliance matters. The landfill general manager is responsible for assuring that adequate personnel and equipment are available to provide facility operation in accordance with the Facility Investigation and Design, SOP, and the TCEQ regulations. The landfill general manager, at a minimum, will have seven years of experience in landfill operations and experience in municipal solid waste disposal operations and earthmoving operations. The landfill general manager will obtain and maintain the applicable required municipal solid waste operator license consistent with the requirements of §§30.201, 30.207, and 30.210 through 30.214. The landfill general manager may obtain the applicable required license as a provisional license, consistent with the requirements of §30.211.

Under the general direction of the landfill general manager, the landfill operations manager (site manager) is responsible for actual daily landfill operations, administers the facility's SOP, and also serves as the emergency coordinator. The site manager may designate other personnel to assist with the daily site operating requirements. The equipment operators receive direction from the site manager on a daily basis regarding waste disposal operations including the active working face, excavation operations, and placement of daily and intermediate cover. The site manager, at a minimum, will have one year of experience in landfill operations and experience in municipal solid waste disposal operations and earthmoving operations. The site manager will obtain and maintain the applicable municipal solid waste operator license, consistent with the requirements of §§30.201, 30.207, and 30.210 through 30.214. The site manager may obtain the applicable required license as a provisional license, consistent with the requirements of §30.211.

The gate attendant(s), stationed at the site entrance, is primarily responsible for maintaining complete and accurate records of vehicles and solid waste entering the facility. The gate attendant will be trained in site safety procedures, to visually check for unauthorized wastes, to weigh vehicles, measure waste volumes if necessary, and to collect waste disposal fees. The gate attendant will be present during the hours that 130 Environmental Park is open to receive waste. The gate attendant will report

to the site manager. The gate attendant, at a minimum, will have a basic understanding of accounting principles and basic communication skills.

Equipment operators are responsible for the safe operation of the equipment. As the personnel most closely involved with the actual landfill operations, these employees are responsible for being alert for potentially dangerous conditions, or careless and improper actions on the part of non-employees and other persons while on the premises. Equipment operators will monitor and direct unloading vehicles, perform random load inspections, and are responsible for maintenance, construction, litter abatement, and general site cleanup. The equipment operators will intervene as necessary to prevent accidents and report unsafe conditions immediately to the landfill general manager or site manager. Equipment operators report to the site manager. Equipment operators, at a minimum, must be experienced in the operation of heavy equipment, experienced in earthmoving operations, and demonstrate the ability to be trained in municipal solid waste disposal operations. Equipment operators will have a minimum of six months of experience in heavy equipment operation or on the job training by the site manager and training by the site manager in SOP requirements relating to daily cover and unauthorized waste.

Other site personnel or laborers may be employed from time to time in categories such as maintenance, construction, litter abatement, and general site cleanup. Site personnel may be permanent or part-time.

3.2 General Instruction

130 Environmental Park personnel should have a basic understanding of the contents of this SOP. The landfill general manager and site manager should have a basic knowledge of the approved Part III – Facility Investigation and Design. 130 Environmental Park personnel will follow the general instructions provided in the SOP and the Facility Investigation and Design. Refer to Section 8.26 – Site Inspection and Maintenance Schedule for a listing of operational tasks required.

3.3 Training

3.3.1 Personnel Training Program

A comprehensive personnel training program has been developed and will be employed throughout the operating life of the landfill. This training program will provide solid waste management procedures and operations training to employees who are assigned to, or have responsibility for, the landfill operation. Training records will be maintained as indicated in Section 2 – Recordkeeping Requirements.

Training will consist of both initial and continuing courses, and/or safety/training meetings that will provide instruction on current state and federal laws, TCEQ rules regarding solid waste management, facility operation and maintenance, environmental monitoring, public health and environmental protection, and facility design and construction. Table 3-1 – Site Personnel summary indicates the training required for on-site personnel associated with 130 Environmental Park.

The two major objectives of the personnel training program at 130 Environmental Park are:

1. To thoroughly train appropriate employees in the proper performance of their individual job duties, which pertain to solid waste management;

2. To prepare appropriate employees to implement the proper emergency procedures effectively, if necessary.

To accomplish these objectives, both on-the-job training and formal instruction in solid waste management procedures, safety, emergency procedures, and facility operations procedures are provided to personnel involved with the handling, transportation, and disposal of solid waste. Personnel will receive training appropriate to individual needs as well as specific job duties and responsibilities. These personnel will be trained to perform their duties safely and in accordance with the applicable requirements for solid waste management. The training program will be designed to enable facility personnel to respond effectively to emergencies by familiarizing personnel with emergency procedures and equipment. Personnel must successfully complete the in-house training program within six months of employment or assignment to this facility. Additional supervision will be provided to personnel during training, and personnel activities will be limited during the training period.

The personnel training program includes familiarization with regulations applying to generators of unauthorized, regulated hazardous, and prohibited PCB wastes and provides general descriptive characteristics of unauthorized, regulated hazardous, and prohibited PCB wastes. Appropriate 130 Environmental Park personnel will be trained to recognize unauthorized, regulated hazardous and prohibited PCB wastes in the incoming loads and to help prevent their disposal at the landfill. Personnel training will be performed by individuals experienced in solid waste management procedures and operations, safety, and related subjects.

The training program will also ensure that personnel, as appropriate for their position, are familiar with emergency procedures, emergency equipment, and emergency systems, including:

- Using, inspecting, repairing and replacing facility emergency and monitoring equipment
- Communications or alarm systems
- Response to fires or explosions
- Response to groundwater contamination incidents
- Shutdown of operations

The training will be specific to the duties, tasks, and responsibilities of each employee's position as indicated in Table 3-1. Experienced employees, or supervisors, who are knowledgeable of the requirements for satisfactory job

performance, will provide on-the-job training and monitor the employee's progress. On-the-job training is progressive, typically beginning with demonstrations, and then followed by closely supervised practice. When the employee has demonstrated the ability to understand and perform the job and its related safety and emergency response functions, the supervisor acknowledges the satisfactory completion of the employee's on-the-job training by making an appropriate entry in the training records.

In addition to formal training, successful completion of the appropriate on-the-job training activities by an employee is required to fill an operator position. When an existing employee is transferred or promoted to a new position with training requirements that differ from the previous position, that employee will receive the additional training required.

Training will include both introductory and continuing training. Introductory training (four hours minimum) provided to the site manager, gate attendant, and equipment operator will include safety training, emergency training, and training required to perform specific personnel assigned tasks. The frequency of continuing education and training activities will vary according to job title and position. Landfill personnel will be provided an annual review (two hours minimum) of the initial training required for the position. Proof of training, including continuing training, will be maintained at the landfill and will be available for inspection by TCEQ personnel. Training records will be maintained as part of the Site Operating Record as described in Section 2.5.

Figure 3.1

Organizational Chart

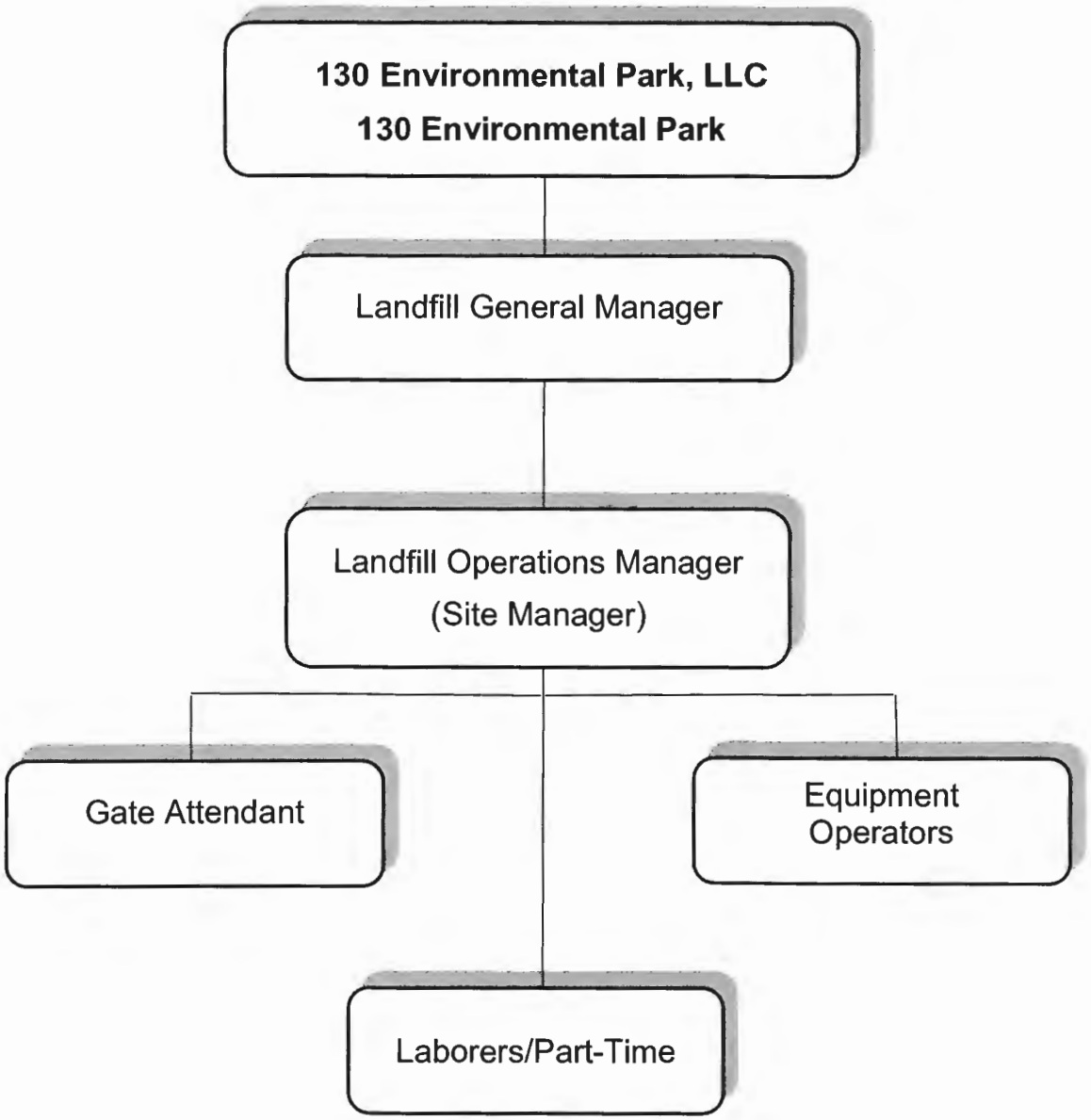

Table 3-1
130 Environmental Park
Site Personnel Summary

Position	Summary of Job Description	Minimum Qualifications	Required Training
Landfill General Manager	The landfill general manager is responsible for: • Overall facility management and is the designated contact person for regulatory compliance matters • Assuring that adequate personnel and equipment are available to provide facility operation in accordance with this SOP, the SDP, TCEQ regulations, and other applicable local, state or federal regulations • The hiring and terminating of other facility personnel	• Seven years of landfill operation experience • Experience in earthmoving operations • Experience in MSW disposal operations • Maintains a license consistent with the requirements of §§30.201, 30.207, and 30.210 through 30.214	• Site Orientation • Site Operations • Endangered Species • Hazardous Waste Identification • Safety • Fire Prevention • Load Inspection • Prohibited Wastes • Emergency Response • SPCC • SWPPP • Litter Control • Random Inspections
Site Manager	The site manager is responsible for: • Daily operations, administration of facility's SDP, SOP, and serving as the emergency coordinator • Maintaining the site operating record and required logs • Actual landfill operations • Directing the equipment operators on a daily basis regarding waste disposal operations including the working face, excavation operations, and placement of daily and intermediate cover • Personnel safety during waste and cover constructions • Designating other personnel to assist with the daily site operating requirements • Other tasks as required by the landfill general manager	• One year of landfill operation experience • Experience in earthmoving operations • Experience in MSW disposal operations • Maintains a license consistent with the requirements of §§30.201, 30.207, and 30.210 through 30.214	• Site Orientation • Site Operations • Endangered Species • Hazardous Waste Identification • Safety • Fire Prevention • Load Inspection • Prohibited Wastes • Emergency Response • SPCC • SWPPP • Litter Control • Random Inspections

Table 3-1
130 Environmental Park
Site Personnel Summary
(Continued)

Office Clerk/Gate Attendant	The gate attendant is responsible for: • Being stationed at the site entrance • Maintaining complete and accurate records of vehicles and solid waste entering the facility • Visually checking for unauthorized wastes • Weighing vehicles or measuring waste volumes (if necessary) • Collecting waste disposal fees • Directing vehicles to the working face • Controlling site access • Providing general customer direction and information • Reviewing manifests and other shipping documents • Reviewing and confirming special waste documents • Other tasks as required by the site manager	• Basic understanding of accounting principles • Basic communication skills	• Site Orientation • Endangered Species • Hazardous Waste Identification • Safety • Fire Prevention • Load Inspection • Prohibited Wastes • Emergency Response • SPCC • Random Inspections
Equipment Operator	The equipment operator is responsible for: • The safe operation of equipment • Being alert for potentially dangerous conditions, or careless and improper actions on the part of non-employees and other persons while on the premises • Monitoring and directing unloading vehicles • Performing random load inspections • Maintenance, construction, litter abatement, and general site cleanup • Intervening as necessary to prevent accidents and report unsafe conditions immediately to the site manager or landfill general manager • Other tasks as required by the site manager	• Minimum six months experience in heavy equipment operation • Training by the site manager in SOP requirements for daily cover and unauthorized waste	• Site Orientation • Endangered Species • Hazardous Waste Identification • Safety • Fire Prevention • Load Inspection • Prohibited Wastes • Emergency Response • Random Inspections

Table 3-1
130 Environmental Park
Site Personnel Summary
(Continued)

Laborers/Part-time Laborers	The laborers are responsible for: • Collecting litter • Directing vehicles at the working face • Other tasks as needed including but not limited to maintenance, construction, litter abatement, and general site cleanup	• Ability to be trained in completing the assigned tasks	• Site Orientation • Endangered Species • Safety • Fire Prevention • Emergency Response • Litter Control

[1] More detailed job descriptions along with written descriptions of the type and amount of introductory and continued training provided to each employee will be maintained in the site operating record.

4 EQUIPMENT

30 TAC §330.127(2)

Sufficient equipment will be provided to conduct site operations in accordance with the landfill design and permit conditions.

The following list of equipment is expected to be routinely available for use at the facility. Equipment requirements may vary in accordance with the method of landfill operations or the waste acceptance rate at any given time. Additional equipment will be provided as required for increasing volumes of incoming solid waste. Other equivalent types of equipment by other manufacturers may be substituted on an as-needed basis. The minimum number of pieces of equipment to be provided for daily operations is listed in Table 4-1, Equipment Dedicated to 130 Environmental Park.

The estimated waste acceptance rate for 130 Environmental Park is described in Section 2.7 of this SOP. Based on projected waste acceptance rates, 130 Environmental Park estimates that the maximum waste acceptance rate will reach 841,803 tons per year or about 2,943 tons per day. The size, number, types, and equipment manufacturers will vary during site operations based on operational practices and on the annual waste acceptance rate. The equipment table identifies equipment required for the operational provisions of the landfill for accommodating waste receipts up to the estimated maximum waste acceptance rate of 841,803 tons per year.

Compactors are typically used for spreading and compacting the refuse and also for compacting the cover material. Dozers are typically used for soil movement and placement, and for emergency waste compaction. Scrapers or excavators and haul trucks are typically used for excavating and moving both the cover material used in site operations and soil from the future disposal areas. The landfill will use either scrapers or an excavator and haul trucks for soil excavation and movement. The motor grader is typically used for road maintenance, ditching, surface water control, and final grading of the completed fill areas. The water truck will be used for fire control, dust control, and moisture conditioning of soil materials as necessary. A farm tractor and pickup truck(s) will be used as needed for miscellaneous maintenance, litter control, and personnel use. Backup equipment will be provided from contractors or local rental companies in the event of a breakdown or maintenance to avoid interruption of waste services.

In addition to the equipment listed in Table 4-1, miscellaneous pickups, vans, or other light utilities, as well as various portable pumps, instruments, and safety and training equipment will be on site as needed for operational efficiency.

Equipment operators may perform routine cleaning of landfill equipment using spray equipment at the active disposal area of the landfill over Subtitle D lined areas. Equipment cleaning is limited to the landfill equipment working at the active working face. The equipment spraying consists of blowing landfill equipment radiators clean

of dust and debris – a manufacturer's recommendation – allowing the equipment to continue operating through the day without accumulated dust and material creating overheating problems. Equipment cleaning will be conducted at the working face over areas that are compliant with Subtitle D requirements, but not in areas covered with daily or alternative daily cover. Liquids containing refuse will be handled in the same manner as contaminated water is handled (see Section 8.24).

Table 4-1
Equipment Dedicated to 130 Environmental Park[1]

Equipment[3]		Typical Size[4]	Number[5]	Function
		Less than 750,000 tons per year	750,001 to 841,803 tons per year	
Compactor(s)	CAT 836	1	2	Waste compaction and fire protection
Dozer(s)	CAT D7, D8	1	2	Soil movement and placement, waste spreading, and fire protection
Scraper(s)[2]	CAT 621E	1	2	Soil excavation and hauling, and fire protection
Excavator[2]	CAT 330BL	1	1	Soil excavation
Haul Truck(s)[2]	10 to 40 ton	1	2	Soil hauling and fire protection
Motor Grader	CAT 120	1	1	Roadway maintenance
Farm Tractor	35 HP	1	1	Miscellaneous maintenance
Pickup Truck(s)	½ ton	1	1	Personnel use, litter control, maintenance
Water Truck(s)	1,000 to 4,000 gallons	1	1	Fire control, dust control, earthfill compaction
Pump(s)	10 to 500 gpm	1	1	Stormwater pumping
Rotary Broom	3 to 6-foot broom width	1	1	Sweeping and cleaning of paved roads

[1]The manufacturers of heavy equipment and miscellaneous vehicles and equipment may vary.
[2]Soil excavation will be conducted with scraper(s) or with an excavator and haul truck(s). The landfill will determine appropriate excavation equipment as the landfill is developed.
[3]Backup equipment will be provided from contractors or local rental companies in the event of an equipment breakdown or maintenance to avoid interruption of waste services.
[4]Typical size is minimum size to be provided.
[5]The number stated for each piece of equipment is the minimum number for each piece of equipment to be provided.

5 DETECTION AND PREVENTION OF DISPOSAL OF PROHIBITED WASTES

30 TAC §330.127(5)

5.1 General

130 Environmental Park, in accordance with §330.127(5), has established procedures for the detection and prevention of the disposal of prohibited wastes, including prohibited waste as defined in §330.15(e), regulated hazardous waste as defined in 40 CFR Part 261, and polychlorinated biphenyls (PCB) waste as defined in 40 CFR Part 761 unless authorized by the United States Environmental Protection Agency (EPA). The detection and prevention program will include training site personnel to know in detail what the regulated wastes are, how to perform a random inspection, how to control site access, what training will be provided for site personnel, and what procedures are required in the event of identification of prohibited wastes. The detection and prevention program includes the following steps:

- Random inspections of incoming loads.
- Records of all inspections.
- Training for appropriate facility personnel to recognize prohibited waste, regulated hazardous waste and PCB waste.
- Notification to TCEQ of any incident involving the receipt or disposal of regulated hazardous waste or PCB waste at the landfill.
- Provisions for remediation of the incident.
- Identification and sampling to ensure no free liquids, including unstabilized sludges, will be accepted (as determined by the paint filter test).

5.2 Load Inspection Procedure

A properly trained and qualified staff person (equipment operator or site manager) at the working face will visually observe all incoming waste loads. All vehicles, including compactor vehicles, will be visually observed as waste is discharged at the working face. Should any indication of prohibited waste be detected, or as directed by the site manager, appropriate facility personnel will attempt to stop vehicle unloading to allow facility personnel to conduct a thorough evaluation of the load. The driver will be directed to an area located near the working face over an approved lined area, where the balance of the load will be discharged from the vehicle. Facility personnel will break up the waste pile and inspect the material for any prohibited waste. Known prohibited waste will be placed back into the vehicle and the driver will be instructed

to depart the site. Should any regulated hazardous waste be detected, the entire load will be refused and recoverable materials will be loaded back into the waste hauling vehicle.

In addition to the above procedure, all incoming loads will be inspected on a random basis or as identified by the site manager, who will be responsible for determining the random inspection schedule. The average number of random loads to be inspected is one or more per operating day averaged over a monthly period. The driver of the randomly selected load will be notified at the gatehouse and instructed to proceed to an area located over an approved lined area for the load inspection. Additional waste screening will take place as described in Section 8.22 of this SOP.

5.3 Recordkeeping

The site manager is required to maintain and include in the site operating record the following:

Load inspection reports for randomly inspected loads and load inspections as directed by the site manager

Records of regulated hazardous or PCB waste notifications

Personnel training records

Load inspection reports, recorded on standardized forms, will be completed for each inspected load. The reports will include, at a minimum, the date and time of inspection, the name of the hauling company and driver, the type of vehicle, the size and source of the load, contents of the load, indicators of prohibited waste, and results of the inspection. A copy of a sample load inspection report form is included in Appendix IVA of the SOP.

The TCEQ will be notified whenever regulated hazardous or PCB waste is detected. Records of the notification will be kept in the site operating record and will include the date and time of notification, the individual contacted, and the information reported.

Personal training records will be maintained in the site operating record and will include evidence of successful completion of the training, type of training received, and the name of the instructor.

5.4 Training

The landfill general manager, site manager, equipment operators, and gate attendant will maintain a thorough understanding of this SOP and will be trained in the following areas:

- Customer notification and load inspection procedures
- Identification of regulated hazardous, PCB, and prohibited waste

- Waste handling procedures
- Health and safety procedures
- Recordkeeping

Documentation of training will be placed in the site operating record.

5.5 Notification

The TCEQ executive director and any local pollution agency with jurisdiction that has requested to be notified will be notified of any incident involving the receipt or disposal of regulated hazardous waste or PCB waste at the landfill. Records of notifications will be maintained in the site operating record including date and time of notification, the individual contacted, and the information reported.

5.6 Managing Prohibited Wastes

In accordance with §330.15(e), the following wastes are prohibited and will not be accepted at this facility:

(1) A lead acid storage battery shall not be intentionally or knowingly offered by a generator or transporter for disposal at a municipal solid waste landfill or incinerator, and/or shall not be intentionally or knowingly accepted for disposal.

(2) Do-it-Yourself (DIY) used motor vehicle oil shall not be intentionally or knowingly offered by a generator or transporter for disposal at a municipal solid waste landfill, either by itself or mixed with other solid waste, and/or will not be intentionally or knowingly be accepted for disposal. It is an exception to this subsection if the mixing or commingling of used oil with solid waste that is to be disposed of in a landfill is incidental to, and the unavoidable result of, the mechanical shredding of motor vehicles, appliances, or other items of scrap, used, or obsolete metals.

(3) Used oil filters from internal combustion engines will not be intentionally or knowingly accepted for disposal at this facility except as provided in 30 TAC §330.171 (relating to Disposal of Special Wastes).

(4) Whole used or scrap tires will not be intentionally or knowingly accepted for disposal unless processed prior to disposal in a manner acceptable to the executive director. Scrap tires identified during landfill operations and generated through maintenance will be accumulated on site by placing them in containers or trailers prior to shipment. The total quantity of tires will not exceed 500 scrap tires (or weight equivalent tire pieces) on the ground, or 2,000 scrap tires in containers. Tire containers will be kept on landfill property, but the location of the containers will vary to allow operational flexibility, ease of access, and safe landfill operations. Also, from time to time, chipped tires will be brought to the site and stored temporarily for use in construction projects. Tires and tire pieces

stored outside of buildings at the site will be monitored for vectors at least once every two weeks. Manifests will be used for shipment of scrap tires offsite.

(5) Refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbons (CFC) will not be knowingly accepted for disposal unless all the CFC contained in that item is captured and sent to an approved CFC disposal site or recycling facility. If the CFC is not removed from the item, then the whole item must be sent to an approved CFC disposal site. Such items that enter the facility with ruptured lines or holes in the CFC unit will not be accepted unless the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere.

(6) Liquids Restrictions. The following wastes are prohibited from disposal:

(a) Bulk or noncontainerized liquid waste will not be accepted for disposal unless the waste is household waste other than septic waste.

(b) Containers holding liquid waste shall not be accepted for disposal unless:

(i) The container is a small container similar in size to that normally found in household waste.

(ii) The container is designated to hold liquids for use other than storage.

(iii) The waste is household waste.

(7) Regulated hazardous waste as defined in 30 TAC §330.3.

(8) Polychlorinated biphenyls (PCB) wastes, except as permitted under 40 CFR Part 761.

(9) Radioactive substances as defined in Chapter 336, except as authorized in Chapter 336 or that are subject to an exemption of the Department of Health Services.

In addition, this facility will not accept for disposal medical waste, sewage, dead animals and/or slaughterhouse waste, sludge, grease trap waste, grit trap waste, liquid waste from municipal sources, municipal hazardous waste from conditionally exempt small quantity generators, or out-of-state wastes. The facility will not accept contaminated soil that exceeds 1,500 parts per million (ppm) or a constituent of concern exceeding levels in §335.521(a)(1), Table 1. The facility will not accept Class 1 industrial solid wastes, except for wastes that are Class 1 only because of asbestos content.

Known prohibited wastes detected during the inspection will be returned immediately to the hauler. If the hauler is not available, the waste will be safely stored until provisions for removal can be arranged.

If prohibited wastes are received and/or disposed of in the landfill, the TCEQ will be notified. As soon as is practical, the prohibited waste will be removed from the site and arrangements made for its proper management at an approved facility.

If hazardous waste or PCB wastes are discovered at the active working face, the landfill office and site manager will be immediately notified. The prohibited waste will be separated or isolated from other municipal solid waste, if practical, by facility personnel trained in proper handling of hazardous waste or PCB wastes. TCEQ will be notified if hazardous waste or PCB wastes is discovered at the active working face. The waste will be manifested and transported to an approved facility for disposal. Should an incident occur at the facility involving the removal of hazardous waste or PCB wastes requiring clean-up, a remediation plan will be developed and submitted to TCEQ for approval.

6 GENERAL INSTRUCTIONS

30 TAC §330.127(6)

6.1 General Site Safety

Site safety will be promoted by properly trained personnel using well-maintained equipment to perform standard work procedures. Site safety will be enhanced by limiting access to the active areas to only authorized personnel. In the event of an emergency, planned emergency response procedures will be followed.

Well-maintained equipment is vital to the safe conduct of daily landfilling operations. Therefore, all site equipment will be maintained in proper working order and all safety guards, backup alarms, and engine kill switches will be operational. The facility will perform an equipment check at the beginning of each workday. The facility will inspect the fire extinguishers and first aid kits monthly. Records of all inspections will be maintained as part of the site operating record.

Access to the site is limited to authorized personnel as described in Section 8 of this SOP. Access is controlled by a combination of signs and physical barriers. Site personnel are responsible to be alert for the entrance of unauthorized personnel.

In the event of an emergency, site personnel will assess the situation, notify the site manager or designated supervisor, and take appropriate actions such as rendering aid, calling for assistance, and closing access to the emergency scene. Emergency numbers will be posted beside the telephone in the gatehouse.

These include:

OFFICE	PHONE
Caldwell County EMS	911 or 512-398-7320
Lockhart Fire and Rescue Department	911 or 512-398-2321
Chisholm Trail Fire Rescue	911 or 512-213-0323
Lockhart Police Department	911 or 512-398-4401
Caldwell County Sheriff Department	911 or 512-398-6777

6.2 Preparedness and Prevention Measures

Preparedness and prevention measures have been developed to minimize both the frequency and severity of accidents and emergency situations threatening human health. Preparedness and prevention measures depend largely on the attentiveness and state of readiness of facility personnel. Preparedness and prevention measures have been developed for one general category and two specific areas of the site: the gatehouse and the on-site access routes. These preparedness and prevention measures are detailed in the following sections.

6.2.1 General

General preparedness and prevention measures that will be followed are:

- Employee breaks or rest periods will be provided to minimize fatigue, improve alertness, and thereby reduce accident potential.
- Access controls will provide for the safety of non-landfill personnel.
- Routine preventive maintenance of equipment will be provided.
- Site inspections of the working areas will be performed by a management representative.
- Appropriate personal safety equipment will be kept on site and maintained in good repair.
- Adequate turning areas for hauling vehicles will be provided.
- Scavenging and unauthorized salvaging will not be allowed.
- Waste unloading will be restricted to designated areas only.
- Site personnel will be alert for possible hazardous or other unauthorized wastes.
- Non-approved wastes will be controlled or contained and removed as necessary.
- Smoking is not allowed on the active areas of the landfill.

6.2.2 Gatehouse

Preventative measures that will be followed in the gatehouse include the following:

- Visually screen all incoming waste loads for unauthorized wastes.

- Monitor to see that all waste loads are adequately covered, or otherwise protected or contained.

- Visually observe incoming vehicles for evidence of improper operation, faulty equipment, or other conditions that could be hazardous to personnel or other persons on site.

- Maintain access to appropriate emergency equipment and first-aid materials.

- Provide emergency telephone numbers that are conspicuously posted in the gatehouse.

- Display signs warning transporters that particular wastes, including regulated hazardous wastes and other nonallowable special wastes, are prohibited.

6.2.3 Landfill Entrance Road, Haul Road, and Access Road

Landfill entrance road, haul road, and access road preventative measures include the following:

- Display speed limit, directional, and other precautionary signs.

- Provide road passable for two-way traffic.

- Maintain roadway free from obstructions.

- Enforce requirements for safe operation of vehicles on site.

7 FIRE PROTECTION PLAN

30 TAC §330.129

7.1 Fire Prevention Procedures

The following steps will be taken regularly by designated landfill personnel to prevent fires:

- Open burning of waste is prohibited at all times.
- Incoming loads with burning waste will not be dumped in the active working face of the landfill. The gate attendant and equipment operators will be alert for signs of burning waste such as smoke, steam, or heat being released from incoming waste loads.
- Should an incoming load with burning waste be observed at the gatehouse or active working face, the gate attendant or equipment operator will direct the driver to a designated area away from the active working face to unload. The burning waste will then be extinguished with water, fire extinguishers, or will be covered with soil to smother the fire.
- Fuel spills will be contained and cleaned up immediately.
- Dead trees, brush, or vegetation adjacent to the active working face will be removed immediately and grass and weeds mowed so that forest, grass, or brush fires cannot spread to the landfill.
- Smoking is not allowed on the active working face, refueling area, and other fire sensitive areas of the landfill. Smoking will be allowed by the site manager in designated areas only.
- The site will be equipped with fire extinguishers in appropriate locations. Each fire extinguisher will be fully charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged as necessary. These inspections will be performed by a qualified service company, and all extinguishers will display a current inspection tag. Inspection and recharging will be performed following each use. At a minimum, the gatehouse, maintenance building, citizen disposal facility, and all landfill heavy equipment will be equipped with fire extinguishers.
- A common firefighting technique that can be quickly employed to fight a landfill fire is smothering with soil. The faster that soil can be placed over the fire, the more effective this method will be in controlling and extinguishing the fire. The stockpiled daily cover may be used for firefighting purposes.

- A stockpile of earthen material will be maintained so that it is available at all times to extinguish a fire. A soil stockpile will be provided in the vicinity of the active working face. The soil stockpile will be provided within 1,000 feet of the active working face. The landfill equipment conducting daily waste filling operations will be suitable for placement of additional soil from the earthen stockpile for fire control.

- The total volume of earthen material available from the stockpile will be sized to cover the working face with a minimum six-inch layer of earthen material. The earthen material stockpile shall be provided consistent with the size of the active working face based on the following table:

Size of Working Face		Volume of Soil to Cover Working Face			Total Size of Stockpile
		Sq Ft	Cu Ft	Cu Yd	
L	W	L x W	Sq Ft x 0.5	Cu Ft/27	Cu Yd x 1.15
100	100	10,000	5,000	185	213
100	150	15,000	7,500	278	319
100	200	20,000	10,000	370	426
110	200	22,000	11,000	407	468

- The landfill equipment identified in Table 4-1 is sufficient to cover the active working face with a minimum six-inch soil layer from the earthen material stockpile, within one hour of detecting a fire.

- The soil stockpile located within 1,000 feet of the active working face will be maintained to provide a minimum of 468 cy of soil for an active working face size of 0.5 acres.

- The dozer and compacter operating at the active working face will cover the active working face with 6-inches of soil in one hour. The achievable production rates for each are as follows:

    - Dozer Capacity (3.5 cy/load) x Production Rate (150 load/hr) = Material Rate (525 cy/hr)

    - Compactor Capacity (3.5 cy/hr) x Production Rate (150 load/hr) = Material Rate (525 cy/hr)

- The excavator, haul trucks, and/or scraper operating at the soil stockpile or soil borrow area will provide the required volume of soil to supply the active working face soil stockpile in one hour. The required volume of soil to be delivered for a 0.5 acre active working face soil stockpile is 468 cy. The production rate for the haul truck and scraper is based on an average of 12 mph. The achievable production rates for each are as follows:

    - Excavator Capacity (3 cy/load) x Production Rate (240 load/hr) = Material Rate (720 cy/hr)

    - Haul Trucks Capacity (16 cy/load) x Production Rate (30 load/hr) = Material Rate (480 cy/hr)

    - Scraper Capacity (20 cy/load) x Production Rate (30 load/hr) = Material Rate (600cy/hr)

- A separate soil stockpile of at least 60 cy will be maintained adjacent to the RACM disposal area only on days when RACM is being accepted. This stockpile will cover the 50-foot by 50-foot maximum disposal area with 6-inches of soil in one hour.

- A separate soil stockpile of at least 468 cy of soil will be maintained adjacent to the non-inert reusable materials staging area. This stockpile will cover the 0.5-acre maximum non-inert materials stockpile area with 6-inches of soil in one hour.

- A separate soil stockpile of at least 275 cy of soil will be maintained adjacent to the wood waste processing area. This stockpile will cover the 125-feet by 100-feet wood waste processing area with 6-inches of soil in one hour.

- Dedicated fire extinguishers will be located at the citizen's convenience center.

- An adequate supply of water under pressure is available for firefighting purposes for the storage and processing facilities located within the landfill footprint. These facilities include the Reusable Materials Staging Area for non-inert materials, Large Item Storage Area, Used / Scrap Tire Processing Area, and the Wood Waste Processing Area. The supply of water under pressure is provided by the water truck as identified in Table 4-1.

- A supply of water under pressure for the Reusable Materials Staging Area inert materials is not required.

- An adequate supply of water under pressure is available for firefighting purposes for the storage and entrance facilities located within the facility entrance area. These facilities include the Citizen's Convenience Center, Large Item Storage Area, and the Used / Scrap Tire Storage Area. The supply of water under pressure is provided from the above ground water storage tank located adjacent the Transfer Station as provided under Registration No. 40269.

7.2 Specific Firefighting Procedures

The following procedures will be followed in the event of a fire:

- If a fire occurs on a vehicle or piece of equipment, the equipment operator should bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, uncovered solid wastes, and other vehicles. The engine should be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment. Fire extinguishers should be used to extinguish the fire if possible, without risk to the equipment operator.

- Incoming loads with burning waste will be prevented from being unloaded in the active working face of the landfill. The gate attendant and equipment operators will be alert for signs of these loads, such as smoke, steam, or heat being released from incoming waste loads. Should a load with burning waste be observed at the gate or active working face, the gate attendant or equipment operator will direct the driver to a designated area away from the active working face to unload. The load will be covered with soil to smother the fire.

- If a fire is in the working face, the burning area should be isolated or pushed away from the active working face before the fire can spread to other areas of the working face. If isolating or pushing the fire is not feasible or is unsafe, the working face should immediately be covered with earthen material from the stockpile to smother the fire.

- If a fire occurs at the citizen's convenience center, landfill personnel should use fire extinguishers to extinguish the fire, if possible. The general rules for fires will be implemented as included in Section 7.3 to protect landfill personnel or visitors.

- Firefighting methods include smothering with soil, separating burning material from other waste, and spraying with water from the water truck or water pumped

from nearby ponds or streams. Water under pressure is available from the above ground water storage tank and the water truck for firefighting purposes. If detected soon enough, a small fire may be fought with a hand-held fire extinguisher. Fire extinguishers will be located at the gatehouse, maintenance building, citizen's convenience center, and all landfill heavy equipment. Under this circumstance, the fire area should also be watered or otherwise controlled to ensure that the fire is out.

7.3 General Rules for Fires

The following rules will be implemented in the event of a fire at 130 Environmental Park:

- Immediately contact the gatehouse and site manager. Equipment operators will be equipped with two-way radios or cell phones.
- Alert other facility personnel. Equipment operators will be equipped with two-way radios or cell phones.
- Assess extent of fire, possibilities for the fire to spread, and options for extinguishing the fire.
- If it appears that the fire can be safely fought with available fire-fighting devices, attempt to contain or extinguish the fire.
- If landfill personnel cannot extinguish the fire, contact the Fire Department by calling 911.
- Upon arrival of the Fire Department personnel, direct them to the fire and provide assistance as appropriate.
- Do not attempt to fight the fire alone.
- Do not attempt to fight the fire without adequate personal protective equipment.
- Be familiar with the use and limitations of fire-fighting equipment available on site.

7.4 Fire Protection Training

Landfill personnel will be trained in the contents of Section 7 – Fire Protection Plan in accordance with Section 3.3 – Training. Landfill personnel will maintain a thorough understanding of this SOP and will be trained in fire prevention and fire control as defined in this section. The following topics will be addressed:

- Identification of burning waste, smoke, steam, or heat being released from incoming waste loads
- Procedures to prevent and contain fuel spills

- Fire prevention
- Fire safety
- Firefighting procedures with fire extinguishers, soil, and water as appropriate
- Notification procedures should a landfill fire be observed

In addition, information will be provided to the local fire department regarding waste disposal operations, fire sources, and firefighting techniques related to landfills. Documentation of training will be placed in the site operating record in accordance with Section 3.3.

7.5 TCEQ Notification

In the event of a fire that is not extinguished within 10 minutes of detection, the TCEQ region office will be contacted immediately after detection, but no later than four hours by phone and in writing within 14 days. The notification will include a description of the fire and resulting response.

8 OPERATIONAL PROCEDURES

30 TAC §§330.131-330.175

8.1 Access Control

Public access to the landfill will be controlled by a perimeter fence located along the facility boundary. Access to the landfill from US183 is limited to the entrance road through the gatehouse area. The gate attendant controls access and monitors all vehicles entering and exiting the site.

8.1.1 Site Security

Site security measures are designed to prevent unauthorized persons from entering the site, to protect the facility and its equipment from possible damage caused by trespassers, and to prevent disruption of facility operations caused by unauthorized site entry.

Unauthorized entry into the site is minimized by controlling access to the landfill site with the perimeter fence and entrance gate. A perimeter fence will be located along all sides of the facility boundary. Perimeter fencing consisting of barbed wire, woven wire, wooden fencing, plastic fencing, pipe fencing, or other suitable material will be provided. A gate constructed of suitable fencing materials will be located on the entrance road. The gate will be locked when the landfill is not accepting waste.

Entrance to the landfill is monitored by the gate attendant during waste acceptance hours. Outside operating hours, the gate to the site will be locked.

Entry to the active portion of the site will be restricted to designated personnel, approved waste haulers, and properly identified persons whose entry is authorized by site management. Visitors may be allowed on the active area only when accompanied by a site representative.

8.1.2 Traffic Control

Public access to the facility will be provided via the entrance road from US183. Signs will be located along the entrance road directing traffic to the gatehouse. The gate attendant will restrict site access to authorized vehicles and direct these vehicles appropriately. Waste hauling vehicles will be directed to appropriate fill areas by signs located along the landfill haul road and access road. These vehicles will deposit their loads and depart the site. Private, commercial, or public solid waste vehicles will not be allowed access to any areas other than the active portion of the landfill. Site personnel will provide traffic directions as necessary to facilitate safe movement of vehicles.

Within the site, signs will be placed along the landfill haul road and access road at a frequency adequate for users to be able to understand where disposal areas are and

which roads are to be used. Roads not being used for access to disposal areas will be blocked or otherwise marked for no entry.

8.1.3 Inspection and Maintenance

The perimeter fence and gates will be inspected weekly. Refer to Section 8.26 of this SOP for a site inspection and maintenance schedule. Maintenance will be performed as necessary. Should a breach be detected during inspection or at any other time, every effort will be made to make repairs within eight hours of detection. Notification is not required if permanent repair is made within eight hours. Should repair require more than eight hours, the TCEQ region office and any local pollution agency with jurisdiction that has requested to be notified will be notified of the breach within 24 hours of detection. Temporary repair will be performed within 24 hours of detection and permanently repaired within the time specified to the region office following notification.

8.2 Unloading of Waste

The landfill is authorized to receive municipal solid waste, special wastes allowable under §330.171, and industrial wastes allowable under §330.173. The categories of wastes that are prohibited at this site by state and federal regulations are discussed in Section 5 of this SOP. Special wastes will be handled at this landfill in accordance with TCEQ regulations and with Section 8.20 – Disposal of Special Wastes, Section 8.21 – Disposal of Industrial Waste, and Appendix IVB – Regulated Asbestos-Containing Material Plan of this SOP. Various unloading and processing areas are shown in Part III, Attachment B, Drawing B.2 and Drawing B.3.

Trained personnel will monitor the incoming waste on the trucks at the gatehouse, at the active working face, and all other waste unloading areas. Trained personnel at the active working face will be on duty during waste acceptance hours to observe waste unloading. Trained personnel will be on duty at the RACM working face, large item storage area, reusable materials staging area, citizen's convenience center, used/scrap tire storage area, and wood waste processing area when waste is unloaded in these areas.

Trained personnel at the active working face will have the authority and responsibility to reject loads which contain prohibited wastes with approval of the site manager. These personnel will also have the authority to require the hauler or transporter to remove prohibited waste immediately upon discovery. Should suspected prohibited waste be identified, the working face personnel will immediately notify the site manager. The site manager may direct staff to remove or manage prohibited waste appropriately, should the responsible hauler or transporter not be identified.

Solid waste unloading will be controlled to prevent disposal in locations other than those specified by site management. Any waste deposited in an unauthorized area will be promptly removed and disposed of properly at the active working face. Control will also be used to confine the working face to a minimum width consistent with the rate of incoming waste while allowing for safe and efficient operation. The maximum size of the unloading area will be 0.5 acres with a maximum width of approximately 200 feet.

A maximum of three working faces may be used during any specific time period, but typically one working face will be used except during inclement weather. The three active working faces include two working faces for disposal of municipal solid waste and one for RACM. The size of the working faces will be limited by the availability and capacity of site equipment to place cover soil, and the location of soil stockpiles, including those adjacent to the working face.

On days when RACM is accepted, the RACM unloading and disposal area will be a width consistent with the rate of incoming RACM while allowing for safe and efficient operation. The RACM unloading and disposal area will not be larger than 50-feet by 50-feet. The RACM unloading area is further discussed in Appendix IVB – Regulated Asbestos-Containing Material Plan.

The large item storage area for large items and white goods may be provided near the active working face or may be provided near the citizen's convenience center. Control will be used to confine the large item storage area to an area consistent with the rate of incoming large items and white goods while allowing for safe and efficient operation. The large item storage area is further discussed in Section 8.9 and Section 8.25.1.

The citizen's convenience center for waste drop-off will be located within the site entrance facilities. The citizen's convenience area will include roll-off containers for waste and recycled goods and may include an area for large item storage. Control will be used to confine this area to a minimum area consistent with the rate of incoming waste while allowing for safe and efficient operation. The citizen convenience area is further discussed in Section 8.25.3

Any prohibited waste that is not discovered until after it is unloaded shall be returned to the vehicle that delivered the waste. The generator shall be responsible for the proper transportation and disposal of this rejected waste. In the event the unauthorized waste is not discovered until after the vehicle that delivered it has departed the site, the waste shall be segregated and controlled as necessary. An effort shall first be made to identify the entity that deposited the prohibited waste and have them return to the site and properly transport and dispose of the waste. A record of unauthorized waste removal will be maintained in the site operating record.

Signs with directional arrows and portable traffic barricades will help to restrict traffic to designated disposal locations. Signs will be placed along the access route to the current disposal area or other designated disposal areas that may be established. In addition, rules for waste disposal and prohibited waste will be prominently displayed on signs at the site entrance. Refer to Section 5 of this SOP for additional waste handling procedures.

8.3 Hours of Operation

130 Environmental Park is authorized to accept waste from public and private haulers from 3:00 a.m. to 5:00 p.m. (14 hours) on Monday through Friday and from 5:00 a.m. to 12:00 p.m. (7 hours) on Saturday. 130 Environmental Park will post the hours for waste acceptance from private and public waste haulers on the site entrance sign. 130 Environmental Park may be open other hours, as may be required to provide solid waste

disposal services for special events, inclement weather, emergencies and other circumstances. 130 Environmental Park will notify the TCEQ regional office and will record waste acceptance hours outside of posted hours in the site operating record.

130 Environmental Park is authorized for site operations 24 hours per day, seven days per week. Site operations include construction, earthmoving, monitoring, transportation of construction materials, heavy equipment operation, and other non-waste acceptance operations.

130 Environmental Park will be closed to waste acceptance on Sunday.

8.4 Site Signs

A sign will be displayed at the gated entrance to the site. This sign will measure at least four feet by four feet, and have lettering of at least three inches in height. The sign will state the name of the site, type of site, hours and days of waste acceptance, hours and days of site operation, and the TCEQ permit number. An emergency 24-hour contact phone number and the local emergency fire department phone number will also be included. The emergency contact phone number will reach an individual with the authority to obligate the facility at all times the facility is closed. The site sign will be readable from the facility entrance.

8.5 Control of Windblown Solid Waste and Litter

The working face will be maintained and operated in a manner to control windblown solid waste. Windblown material and litter will be collected and properly managed to control unhealthy, unsafe, or unsightly conditions by the following methods:

- Waste transportation vehicles using this facility will be required to use adequate covers or other means of containment. The adequacy of covers or containment of incoming wastes will be checked at the gatehouse. A sign will be prominently displayed at the gatehouse stating that all loads shall be properly covered.

- The active working face will be limited to as small an area as practical for the safe operation of the incoming waste hauling vehicles, operation of compaction equipment, and delivery and placement of daily cover soils, and alternative daily cover.

- Daily cover or alternative daily cover will be applied to assist with the control of windblown waste.

- The facility will provide litter control fences, as necessary, at appropriate locations near the working face and elsewhere. The litter control fences will be constructed of wire or plastic mesh screens attached to portable or permanent frames or temporary fences. The litter control fence will be of sufficient height and will be located as close as practical to the active area to control windblown waste and litter.

- Windblown waste and litter along the entrance road, the gatehouse area, within the permit boundary, and that has accumulated along the permit boundary will be collected once a day during facility operations and delivered to the active working face.

- Windblown waste or litter may occasionally escape the facility control measures and cross the permit boundary onto adjacent property. The facility will contact the adjacent property owners to seek permission for litter pick-up.

- Screening barriers such as temporary berms, trees, and visual screening berms may also serve as additional wind breaks.

8.6 Easements and Buffer Zones

8.6.1 Easements

In accordance with §330.141(a) and §330.543(a), solid waste unloading, storage, disposal, or facility operations will not occur within any easement, buffer zone, or right-of-way that crosses the site. No solid waste disposal will occur within 25 feet of the centerline of any utility line or pipeline easement, unless otherwise authorized by the TCEQ. All easements will be clearly marked as specified in Section 8.7 of this SOP. Pipelines and utility easements will be marked with posts extending a minimum of six feet above ground surface at intervals that do not exceed 300 feet. Easements are shown in Part I, Appendix IA, Drawing IA.6; and Appendix IC, Drawing IC.1.

8.6.2 Buffer Zones

The buffer zone is defined as the area between the permit boundary and the limit of waste disposal activities and solid waste processing activities, unless otherwise authorized. In accordance with §330.543(a), no solid waste unloading, storage, disposal, or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the facility, including the 125-foot buffer zone of the landfill. The buffer zones will provide for safe passage of fire-fighting and other emergency vehicles. Landfill buffer zones are a minimum distance of 125 feet for waste disposal operations. These buffer zones are shown on Part II, Appendix IIA, Drawing IIA.12 and Drawing IIA.14. Buffer zones for all solid waste processing activities will be a minimum of 125 feet. All buffer zones will be clearly marked as specified in Section 8.7 of this SOP.

8.7 Landfill Markers and Benchmark

Landfill markers will be installed to clearly mark significant features as described in §330.143(b). The markers will be posts (or other TCEQ approved material) and will extend at least six feet above the ground surface. The markers will not be obscured by vegetation and will be placed in sufficient numbers to clearly show the required boundaries. Markers that are removed or destroyed will be replaced within 15 days of their removal or destruction or 15 days following completion of construction activities within the affected area. Landfill markers will be inspected monthly and will be maintained and repaired or replaced within 15 days of discovering a marker does not

meet regulatory requirements. The landfill markers will be maintained so that they are visible. Refer to Section 8.26 of this SOP for the site inspection and maintenance schedule. Inspection records will be maintained in the site operating record. Markers will be repainted as needed to retain visibility.

The required landfill markers are:

Landfill Markers

Marker	Color	Descriptions
Site Boundary	Black	The boundary markers will be placed at each corner of the site and along each boundary line at intervals no greater than 300 feet. Fencing may be placed within these markers as required.
Buffer Zone	Yellow	The buffer zone markers will be placed along each buffer zone boundary at all corners and between corners at intervals of 300 feet.
Easements	Green	Easement and right-of-way markers will be placed along the centerline of an easement and along the boundary of a right-of-way at each corner within the site and at the intersection of the site boundary.
Grid System	White	The landfill grid system will encompass at least the area expected to be filled within the next three-year period. Markers will be spaced no greater than 100 feet apart measured along perpendicular lines. Intermediate markers will be installed if necessary to allow visibility from opposite boundaries.
SLER/GLER	Red	The SLER markers will be placed so that all areas for which a SLER has been submitted and approved by the Commission are readily determinable. These markers will be located so that they are not destroyed during operations or until operations extend into the next area and will provide site workers immediate knowledge of the extent of approved disposal areas. The location of the markers will be tied into the landfill grid system and reported on each SLER submitted.
Floodplain	Blue	Flood protection markers will be placed a maximum of 300 feet apart or closer if necessary to retain visual continuity. The markers will be installed for any area within a solid waste disposal facility that is subject to flooding prior to the construction of a flood protection levee.

A permanent benchmark is established within the permit boundary in an area that is readily accessible and will not be used for disposal. The benchmark is a United States Coast and Geodetic Survey benchmark consisting of a bronze survey marker stamped with the elevation and survey date and set in concrete. The location of the permanent benchmark is identified in Part III, Attachment B, Drawing B.2. The benchmark will be maintained so that it is visible during operating hours.

8.8 Materials Along the Route to the Site

Consistent with §330.145, 130 Environmental Park will take steps to encourage that vehicles hauling waste to the site are enclosed or provided with a tarpaulin, net, or other means to properly secure the load. These steps are necessary to prevent the escape of any part of the load by blowing or spilling. The landfill will post signs at the entrance gate and gatehouse notifying haulers of this requirement and will enforce this rule by applying surcharges or other similar measures. The site manager may report habitual offenders to local law enforcement officers. 130 Environmental Park will provide for the cleanup of waste materials spilled along and within the right-of-way of the regular delivery routes within two miles of the entrance on US183 when the facility is in operation. Cleanup of the spilled materials will be performed once per day for the following regular delivery routes:

- US183 and TX 130 – two miles north of the site entrance and two miles south of the site entrance
- FM1185 and Schuelke Road – between southbound and northbound US183

130 Environmental Park will consult with officials of TxDOT concerning the cleanup of state highways and right-of-ways consistent with §330.145.

Refer to Part II, Appendix IIA, Drawing IIA.1 for location of the roadway segments that cleanup of spilled materials will be performed once a day.

8.9 Disposal of Large Items

A storage area for large items and white goods may be provided, should these items be accepted. The large items and white goods include items such as ovens, dishwashers, freezers, air conditioners, and other large items. These items will be recycled to prevent a nuisance and to preclude discharge of fluids, but will not be stored in excess of 180 days.

Large items that are not recycled will be disposed of at the working face. Care will be taken during disposal of large items to ensure that: (1) large items are excluded from the initial five feet of waste placed above the protective cover of a liner; (2) large items are placed such that they do not interfere with continued waste filling; and (3) that smaller municipal solid waste is placed and compacted around the large items.

Refrigerators, freezers, air conditioning units, or other items containing chlorinated fluorocarbon (CFC) refrigerant will be handled in accordance with 40 Code of Federal Regulations (CFR) §82.156(f), as amended. Refrigerators, freezers, air conditioning units, or other items containing CFC will not be accepted unless the CFC contained in the item has been captured and sent to an approved CFC disposal site or recycling facility and the generator or transporter provides written certification that the CFC has been evacuated from the unit. The generator, transporter, or customer may also contract with the landfill to have the CFC removed prior to disposal.

8.10 Odor Management Plan

130 Environmental Park will manage odors associated with waste acceptance and disposal operations, and operation of the storage and processing areas consistent with this Odor Management Plan. This plan addresses sources of odors and includes general instructions to control odors or sources of odors.

Measures to control odors and sources of odors may include, but are not limited to, the following items:

- Sources of odors may include ponded water, decomposition of wastes, leachate, contaminated water, and landfill gas (LFG).

- Wastes that are considered to generate significant odors are usually classified as special wastes. Refer to Section 8.20 – Disposal of Special Wastes for waste disposal procedures for odorous wastes.

- Unloading of these wastes at the active working face will be consistent with procedures established in Section 8.2 – Unloading of Waste, which limits the active working face to a minimum width, allowing prompt placement of daily cover or alternative daily cover over wastes that may produce odors.

- Upon unloading of these wastes at the Citizen's Convenience Center, they will be placed promptly into steel roll-off containers as established in Section 8.2 – Unloading of Waste. Wastes collected in these containers will be transported to the active working face for disposal daily.

- Spills of these odor producing wastes will be managed by collecting and transporting these wastes to the active working face for prompt disposal.

- Daily cover consisting of a minimum of six inches of soil or approved alternative daily cover will be placed over these wastes at the end of the working day consistent with procedures established in Section 8.18 – Landfill Cover.

- Waste that is determined to require additional procedures will be isolated within the active working face and immediately covered with a minimum of three feet of other solid waste or a minimum of one foot of earthen material upon receipt. Additional daily cover soil will be placed if needed.

- Ponded water at the site will be controlled as detailed in Section 8.19 of this SOP. Odors will be controlled through regrading of areas consistent with Section 8.18 – Landfill Cover.

- Leachate and contaminated water will be managed in accordance with Part III, Attachment D6 – Leachate and Contaminated Water Management Plan. Leachate will be transferred from the leachate collection system either directly to an enclosed liquid transfer vehicle or an on-site enclosed leachate storage tank(s).

- Odor reduction may be achieved by adjustments to the existing gas extraction system or by the installation of additional gas extraction wells within the landfill footprint.

- Refer to Part III, Attachment B, Section 3 for additional requirements related to cleaning of the storage and processing facilities to eliminate the potential for contaminated water.

- The facility incorporates on-site buffers for odor control related to the storage and processing facilities. The minimum buffer distance from the storage and processing facilities to the facility boundary is 267 feet.

8.11 Disease Vector Control

The need for vector control (control of rodents, flies, mosquitoes, etc.) will be minimized through daily site operations. Activities designed to control on-site populations of disease vectors include minimization of the size of the active working face; placement of daily, intermediate, and final cover; adherence to the ponded water plan; and following the detailed procedures described in this SOP. 130 Environmental Park will conduct inspections of the daily cover as required by Section 8.26 – Site Inspection and Maintenance Schedule to observe waste disposal operations and to remediate areas that may be conducive to insects and rodents. These areas will be promptly addressed in accordance with procedures established in this SOP. Should daily operations not control vectors, a licensed professional will apply pesticides to ensure that proper chemicals are used and that they are properly applied.

8.12 Site Access Roads

The entrance road provides access from US183 to the gatehouse and other entrance facilities for waste hauling vehicles, operating personnel, and visitors. The entrance road will transition to an all-weather, crushed stone, gravel, concrete rubble, masonry rubble, wood chips, or other similar materials surface beyond the gatehouse and entrance facility area. Other internal landfill roads will be constructed with crushed stone, gravel, concrete rubble, masonry rubble, wood chips, or other similar materials. The all-weather surface entrance, access, and internal roads will provide mud control for the waste hauling vehicles prior to exiting the site and returning to public access roads. During wet weather conditions the site manager will routinely inspect the site and implement measures to further minimize mud tracking onto public access roads, as necessary. Speed bumps along the main access roads between the fill areas and the gatehouse will help jar mud from vehicles. Should mud or other associated debris be tracked onto US183, the material will be removed daily.

A truck wheel wash station may be used to further minimize tracking onto public roads, as necessary. Water from the wheel wash will be collected and stored in a concrete settlement basin for reuse in the wheel wash. Periodically, the settlement basin will be drained and the sediment will be removed from the basin, or the sediments within the settlement basin will be solidified in place and then removed from the basin. The periodic removal of mud and contaminated water will provide odor control. The wash

water will be hauled to an authorized off-site facility for treatment and disposal. The sediment, following solidification and passing the paint filter test, will be disposed of in the landfill.

Dust on the landfill haul roads and access roads will be controlled by periodic spraying from a water truck. During dry weather conditions the site manager will routinely inspect the site and establish a frequency, if necessary, to spray the access roads with water to prevent nuisance conditions from developing. Grading equipment will be used weekly to control or remove mud accumulations on internal roads, including the entrance road, as needed. Stockpiles of crushed stone, concrete rubble, masonry demolition debris, or other similar material will be available for use in maintaining passable internal access roads, including regrading to minimize depressions, ruts, and potholes. Refer to Section 8.26 of this SOP for the site inspection and maintenance schedule. The site entrance road, landfill haul road, and access roads will be maintained in a clean and safe condition. Litter and debris will be picked up daily and returned to the active working face.

8.13 Salvaging and Scavenging

Salvaging will not be allowed to interfere with prompt sanitary disposal of solid waste or to create public health nuisances. Salvaged materials will be considered as potential recycled materials. Salvaged items will be removed from the site on an as-needed basis, but will not be stored in excess of 180 days, to prevent the items from becoming a nuisance, to preclude the discharge of pollutants from the area, and to prevent an excessive accumulation of the material at the site. Special wastes received at the site will not be salvaged. Pesticide, fungicide, rodenticide, or herbicide containers will not be salvaged unless they are salvaged through a state-supported recycling program. Scavenging will be prohibited at all times and not allowed.

8.14 Endangered Species Protection

Development of the landfill shall be conducted to avoid and minimize potential impacts to endangered or threatened species. The facility and the operation of the facility will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

A detailed threatened and endangered species survey and assessment was conducted by a qualified biologist at Halff Associates. The survey, assessment, and coordination with the United States Fish and Wildlife Service (USFWS) and the Texas Parks and Wildlife Department (TPWD) regarding endangered and threatened species is provided in Part II, Appendix IIE – Endangered or Threatened Species Documentation.

A species protection plan is included as Appendix IVC and shall be followed during facility development and operation. No adverse impacts to threatened or endangered species are anticipated as a result of construction or operation of 130 Environmental Park.

8.15 Landfill Gas Control

The control and monitoring of landfill gas for 130 Environmental Park will be in accordance with the Landfill Gas Management Plan (LFGMP) included in Part III, Attachment G. The LFGMP was developed in accordance with §330.371. The LFGMP provides for inclusion of applicable documentation, including monitoring records for landfill gas monitoring probes, in the site operating record, and for submittal to the executive director. Gas monitoring records will be maintained in the site operating record.

8.16 Oil, Gas, and Water Wells

There are no known wells within the waste footprint or within the permit boundary. Should any unknown abandoned water, crude oil, or natural gas wells, or other well associated with mineral recovery, be discovered, 130 Environmental Park will provide written notification to the TCEQ executive director as described below. Plugging and abandonment of any well within the waste footprint will be completed as depicted in the plugged well completion detail provided in Part III, Attachment D3 – Construction Design Details, Drawing D3.2 – Liner Details.

8.16.1 Water Wells

A copy of the well plugging report for any water well found during facility development will be submitted to the appropriate state agency and to the executive director within 30 days after the well is discovered. A permit modification will be submitted to the executive director if revisions to the liner installation plan are required as the result of well abandonment.

8.16.2 Oil and Gas Wells

There are no known existing or abandoned crude oil or natural gas wells (see Part II, Appendix IIA, Drawing IIA.5) within the 130 Environmental Park permit boundary.

If any abandoned crude oil or natural gas wells or other wells associated with mineral recovery are located during site development, the operator will provide the executive director of the TCEQ with written notification of the well's location within 30 days after its discovery. Within 30 days after plugging of any such well, the facility operator shall provide the executive director with written certification that such wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas. A copy of the well plugging report to be submitted to the appropriate state agency will also be submitted to the executive director of the TCEQ within 30 days after the well has been plugged. Any producing crude oil or natural gas well that does not affect or hamper landfill operations may be operated within the site if identified in the permit for the landfill or in a written notification to the executive director.

8.17 Compaction

Compaction of incoming waste provides more efficient use of available space and reduces the amount of settling after the fill is complete. Compaction of the waste will be accomplished by a landfill compactor weighing in excess of 40,000 pounds. The site dozer will be used to compact waste should the compactor be temporarily out of service for repairs. Adequate compaction will be accomplished to minimize future consolidation and settlement, and provide for the proper application of intermediate and final cover. The incoming waste will be spread in layers and thoroughly compacted by repeated passages of compaction equipment.

The site manager or designee will be present during the placement of the first five feet of waste over the liner system. The site manager or designee will verify and document that the initial five feet of waste does not contain large bulky items that could damage the liner system or that cannot be adequately compacted.

8.18 Landfill Cover

8.18.1 Soil Management

Management of soil for use in and around the landfill area will be an ongoing process at 130 Environmental Park. In general, soil for use as daily cover, intermediate cover, final cover, and other uses will be available from areas within the permit boundary. Soil will be obtained from excavation that is ongoing as part of the development of future landfill cells or from other suitable sources. This material may be available near the working face (the exact distance varying daily, weekly, etc., depending on the exact stage of development).

In addition to the available material located within the site, stockpiles of material will be kept available on site. Stockpiles will consist of soil that has not previously come in contact with waste, and will be of sufficient volume to provide at least one day's application of six inches of daily cover over the working face. As this stockpile is used, it will be replenished. The soil may also be used in emergency situations for fire control, as discussed in Section 7.

8.18.2 Daily Cover

Daily cover of waste controls disease vectors, windblown waste, odors, fires, scavenging, and promotes runoff from the covered fill area. At least six inches of well-compacted soil cover material that has not been previously mixed with garbage, rubbish, or other solid waste will be placed over all solid waste at the end of each operating day, if alternative daily cover is not used. Refer to Section 8.18.4 for authorized alternative daily cover materials and placement procedures.

To ensure that the daily cover soil will be adequate (i.e., minimize vectors, contaminated stormwater runoff, odors, etc.) the following procedures will be followed:

- The daily cover will be sloped to drain.
- The daily cover will be well compacted with the dozer tracks to minimize infiltration of stormwater, graded to drain, and will not have any waste visibly protruding through it.
- The site manager or his designee will document where daily cover has been placed and visually inspect during placement that a minimum of six inches (compacted thickness) of daily cover soil has been placed and that no waste is exposed through it. The site manager or his designee shall document, on a daily basis, the daily cover placement area and indicate that he has visually verified the thickness and condition in the Cover Inspection Record, as discussed in Section 8.18.8.
- Runoff from areas that have intact daily cover is not considered to have come into contact with the working face or leachate and is considered uncontaminated stormwater runoff.
- After each rainfall event, the site manager or his designee will inspect all daily cover areas for erosion, exposed waste, or other damage and repair as necessary. Runoff from damaged or eroded areas will be handled as contaminated water until repairs are completed.

Areas with six inches of daily cover must be inspected daily for erosion, ponded water, seeps, protruding waste, or other detrimental conditions. Once the area becomes active again, the daily cover may be stripped off prior to additional waste placement and used as daily cover in other areas.

8.18.3 Intermediate Cover

All areas that receive waste and then become inactive for longer than 180 days will be covered with well-compacted earthen material, for a total cover thickness of at least 12 inches. The intermediate cover will be graded to prevent erosion and ponding of water. Six inches of earthen material will be capable of sustaining native plant growth and will be seeded or sodded following its application for erosion control. Plant growth and other erosion control features placed as part of the intermediate cover will be maintained. Runoff from areas that have received intermediate cover is not considered to have come into contact with the active working face or leachate, and is considered uncontaminated stormwater runoff.

8.18.4 Alternative Daily Cover

130 Environmental Park plans to use alternate daily cover material (ADC) in the future. There are no ADC materials included in the application; the operator may propose ADC in the future. Before a specific ADC is used at the site, the operator will seek authorization from the TCEQ. The ADC, if authorized, will be limited to a 24-hour period

after which either waste or daily cover as defined in §330.165(a), and applied as described in Section 8.18.2 of this SOP, must be placed.

8.18.5 Temporary Waiver

130 Environmental Park does not anticipate requesting a waiver from the cover requirements of §330.165(a), (c), and (d) due to extreme climatic conditions. Should the landfill decide to request a temporary waiver due to extreme seasonal climatic conditions, the landfill will request a temporary waiver in accordance with §330.165(e).

8.18.6 Final Cover

Final cover placement over individual areas will be in accordance with Part III, Attachment H – Closure Plan and will permit ongoing landfilling operations to continue until the time of final closure. Surface water will be managed throughout the active life of the site to minimize infiltration into the filled areas and to minimize contact with solid waste. Erosion of final cover will be repaired promptly by restoring the cover material, grading, compacting, and seeding it as necessary. Such periodic inspections and restorations are required during the entire operational life and for the postclosure maintenance period. Refer to Section 8.26 for a site inspection and maintenance schedule.

In general, final cover placement over completed portions of the site will consist of the following steps:

- Survey controls will be implemented to control the filling of solid waste to the bottom level of the final cover layer elevation.

- The final cover system layers will be constructed. Testing of the various components of the final cover system will be performed in accordance with Part III, Attachment D8 – Final Cover Quality Control Plan.

- A final cover certification report complete with an as-built survey will be prepared by an independent registered professional engineer and submitted to the TCEQ for approval.

- The TCEQ-approved final cover certification report will be maintained in the site operating record, and the cover inspection record, as described in Section 8.18.8, will be updated to reflect the area where final cover has been placed. The TCEQ region office will also be notified that final cover placement has occurred at the site.

8.18.7 Erosion of Cover

Intermediate cover will be inspected on a weekly basis. The final cover system, including the erosion control structures, will be maintained during and after construction. During the active life of the site, the final cover system will be inspected on a weekly basis. Erosion gullies or washed out areas of the intermediate or final cover, which are deep enough to jeopardize the intermediate or final cover, will be repaired within five days of detection. Repair of final cover includes restoring cover, grading, compacting,

and seeding as required. An eroded area is considered to be deep enough to jeopardize the intermediate or final cover if it exceeds four inches in depth as measured perpendicular from the slope face or surface. Should additional time be required for repairs due to weather related delays, the landfill will notify the TCEQ region office of an alternate schedule. Documentation of weather delays for the repairs will be included in the cover inspection record. Weekly inspections and restorations are required for the active life of the landfill. Refer to Section 8.26 for the site inspection and maintenance schedule. Documentation of inspections, detection of erosion, and completion of repairs are required in accordance with Section 8.18.8 – Cover Inspection Record.

Postclosure care inspection and repair procedures of the final cover are outlined in Part III, Attachment I – Postclosure Plan.

8.18.8 Cover Inspection Record

Throughout the landfill operation, a cover inspection record will be maintained and be readily available for inspection in accordance with §330.165(h). For daily cover, intermediate cover, and alternative daily cover, the record will specify the date cover was accomplished (no exposed waste), area covered (by use of the grid system), how it was placed, and when it was completed. For final cover, the record will show the final cover area completed, date cover was applied, and thickness of final cover. The final cover certification report for each area will be referenced in the record. Each entry in the record will be certified by the signature of the site manager or designee that the work was accomplished as stated in the record. The cover inspection record will document inspections required under Section 8.18.7 – Erosion of Cover, §330.165(g) including findings, and corrective action taken.

8.19 Ponded Water

130 Environmental Park will prevent ponding of water over areas that have received waste through site operations including grading and maintenance. The facility will prevent ponding of water within the storage and processing facilities through operational requirements for each of these facilities. The Ponded Water Plan provides direction to the landfill operations for the prevention and elimination of ponded water. The Ponded Water Plan follows:

- Daily cover, intermediate cover, and final cover will be placed in accordance with requirements established in Section 8.18 – Landfill Cover.

- The surface of areas that have received waste and landfill cover will be inspected consistent with Section 8.18 – Landfill Cover and Section 8.26 – Site Inspection and Maintenance Schedule.

- Site grading and maintenance as required by Section 8.18 will minimize the ponding of water over areas containing waste.

- Should ponding of water occur, the depressions will be filled in and regraded within seven days of the occurrence, weather permitting. Landfill cover will be repaired consistent with procedures specified in Section 8.18.

- Diversion berms and containment berms are constructed and maintained at the active working face to minimize contaminated water within the active working face in accordance with Part III, Attachment D6 – Leachate and Contaminated Water Plan.

- Ponded water will be minimized and removed from within the storage and processing facilities in accordance with the design and operational procedures provided in Part III, Attachment B for each of these facilities.

- If the ponded water has come into contact with waste, or waste contaminated soils, it will be treated as contaminated water and handled in accordance with Part III, Attachment D6 – Leachate and Contaminated Water Management Plan.

8.20 Disposal of Special Wastes

Special wastes, as defined in §330.3, may be accepted for disposal at the facility in accordance with §330.171(b) and (c).

As specified in §330.171(b)(2), requests for approval to accept special wastes must be submitted by the generator to the TCEQ executive director or 130 Environmental Park. The request must include the following:

- A complete description of the chemical and physical characteristics of each waste and the quantity and rate at which each waste is produced and/or the expected frequency of disposal, including a statement if waste is or is not a Class I industrial waste as defined in §330.3.

- An operational plan containing the proposed procedures for handling each waste and listing required protective equipment for operating personnel and onsite emergency equipment.

- A contingency plan outlining responsibility for containment and cleanup of any accidental spills occurring during the delivery and/or disposal operation.

The approval for acceptance and disposal of special wastes at 130 Environmental Park will be waste-specific consistent with §330.171(b)(1). The executive director may authorize the receipt of special waste. The landfill is not required to accept the waste.

130 Environmental Park will not accept the following special wastes: untreated medical waste, dead animals, slaughterhouse waste, municipal hazardous waste from a conditionally exempt small quantity generator, sewage sludge, grease trap waste, grit trap waste, or liquid wastes from municipal sources. The facility will not accept contaminated soil that exceeds 1,500 parts per million (ppm) or a constituent of concern exceeding levels in §335.521(a)(1), Table 1.

The following special wastes may be accepted at the facility without prior written authorization in accordance with §330.171(c).

8.20.1 Empty Containers

Empty containers, which have been used for pesticides, herbicides, fungicides, or rodenticides, will be accepted and disposed of in accordance with 30 TAC §330.171(c)(5). Empty containers will be disposed if they have been triple rinsed prior to receipt, rendered unusable prior to receipt, and covered by the end of the same working day with solid waste or daily cover.

8.20.2 Nonregulated Asbestos-Containing Materials

Non-regulated asbestos-containing materials (non-RACM) may be accepted for disposal provided the wastes are placed on the active working face and covered in accordance with §330.171(c)(4) and Section 8.18 of this SOP. Under no circumstances shall any material containing non-RACM be placed on any surface or roadway which is subject to vehicular traffic or disposed of by any other means by which the material could be crumbled into a friable state.

8.20.3 Regulated Asbestos-Containing Materials

Regulated Asbestos Containing Material (RACM) may be accepted for disposal in accordance with §330.171(c)(3) and will be handled in accordance with the procedures in Appendix IVB – Regulated Asbestos-Containing Material Plan.

8.21 Disposal of Industrial Waste

Industrial waste is defined by §330.3 as solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations. Class 2 and Class 3 industrial solid wastes may be accepted at the facility, provided disposal of these wastes does not interfere with proper operation of the facility.

Class 1 industrial solid waste requiring executive director approval pursuant to §330.173 will not be accepted, except RACM that has been designated Class 1 industrial solid waste due to its asbestos content, which will be accepted in accordance with the procedures in Section 8.20.3. Refer to Section 5 – Detection and Prevention of Disposal of Prohibited Wastes and Section 8.2 – Unloading of Waste for waste screening procedures. Refer to Appendix IVB – Regulated Asbestos-Containing Material Plan for handling practices of RACM during disposal operations.

8.22 Visual Screening of Deposited Waste

Existing topography and vegetation provide natural screening of deposited waste. Visual screening of deposited waste is provided as part of normal waste disposal and cover placement operations and sequence of development. Final cover will be placed as the landfill reaches final contours. As the site is developed, the visual effect of the disposal activities will be minimized through the use of screening provided by fencing, constructed berms, planted vegetation, and natural vegetation located within the buffer zone.

8.23 Leachate and Gas Condensate Recirculation

130 Environmental Park will not recirculate leachate and landfill gas condensate. Refer to Part III, Attachment D6 – Leachate and Contaminated Water Management Plan.

8.24 Contaminated Water Discharge

130 Environmental Park will not discharge contaminated water from the facility without the specific written authorization from TCEQ. All water coming in contact with waste or contaminated soils will be treated as contaminated water and managed following the procedures set forth in Part III, Attachment D6 – Leachate and Contaminated Water Management Plan. The landfill will be operated consistent with §330.15(h)(1)-(4) regarding discharge of solid wastes or pollutants.

8.25 Storage and Transfer Unit Operations

8.25.1 Large Item Storage Area

A storage area for large items and white goods may be provided within the waste disposal footprint or may be provided near the citizen's convenience center. Large items and white goods include ovens, dishwashers, freezers, air conditioners, and other large items. The large item storage area will receive approximately one ton of large items and white goods per day and have a maximum amount of 180 tons of material stored at one time. These items may be recycled to prevent a nuisance and to preclude discharge, but will not be stored in excess of 180 days. The average length of time these items will be stored at the facility before recycling is 90 days. Large items that are not recycled will be disposed of at the working face. The procedures for the acceptance, storage, processing, and disposal of large items are addressed in Section 8.9.

The large item storage area, when located within the waste disposal footprint, will be placed only over areas that have received intermediate cover. The intermediate cover will be maintained as required by Section 8.18.3 – Intermediate Cover, and Section 8.18.7 – Erosion of Cover. Surface water runoff will be diverted around the large item storage area by placement of earth diversion berms. Surface water runoff from the large item storage area will be contained by placement of earth containment berms to preclude discharge from this area. Containment and diversion berms will be placed, and runoff from the area managed, consistent with Part III, Attachment D6 – Leachate and Contaminated Water Plan.

A storage area for large items and white goods may be provided near the citizen's convenience area. The large items and white goods are transferred into steel roll-off containers for storing until transport to an off-site recycler or disposed of. The containers will be covered with tarps during a rainfall event to prevent contaminated water from being generated.

8.25.2 Reusable Materials Staging Area

Inert materials such as brick, concrete, etc., and non-inert materials such as asphalt may be received and staged at the facility for use as roadbase materials for facility access

roads and staging areas or erosion control in drainage structures. Asphalt pavement will not be used for erosion control in drainage structures. The size of the stockpiles may vary depending on the amount of inert materials received at any given time. Since the brick and concrete materials are inert, runon and runoff from rainfall will not be controlled in a special manner for these materials. Since asphalt pavement or asphaltic concrete is not an inert material, it will be managed in a manner that will prevent runoff of contaminated water, discharge of waste, or creation of nuisance conditions. These inert and non-inert materials will continuously be reused for site operations, and there is no time limit on the storage of these materials. The reusable materials staging area will receive approximately 250 tons of inert materials per day and have a maximum amount of 2,000 tons of material stored at one time. The reusable materials staging area will receive approximately 50 tons of non-inert material per day and have a maximum of 500 tons of material stored at one time.

A recyclable materials storage and staging area is provided for source-separated recyclable materials, including asphalt and other materials.

8.25.3 Citizen's Convenience Center

A citizen's convenience center for waste drop-off will be located within the site entrance facilities. The unloading area will include a minimum of two (2) 30 to 40-cubic yard roll-off containers for collection of solid waste. The citizen's convenience center will receive approximately 20 tons of municipal solid waste per day and have a maximum amount of 20 tons of municipal solid waste stored at one time. 130 Environmental Park will transport full containers to the active working face for disposal. Waste in the containers will be disposed of by the end of each working day. The average length of time waste will be stored at the Citizen's Convenience Center is 7 hours, the maximum amount of time waste will be stored is 14 hours. The containers will be covered with tarps during a rainfall event to prevent contaminated water from being generated.

The roll-off containers will be steel containers that are leak-proof, durable, and designed for safe handling and easy cleaning. The containers will be reusable and maintained in a clean condition so they will not constitute a nuisance and will retard the harborage, feeding, and propagation of vectors. The containers will be mechanically handled and will be designed to prevent spillage or leakage during storage handling, or transport.

The citizen's convenience center will have a sign posted at the entrance to the center stating the rules governing the use of the citizen's convenience center including authorized users and types of waste accepted.

An area for citizen recyclables drop-off boxes may be provided outside the citizen disposal facility for drop-off of source-separated recyclable materials. Recyclable materials will be collected and stored in closed containers. The storage of source-separated recyclable materials will be in accordance with §330.209.

8.25.4 Used/Scrap Tire Storage Area

130 Environmental Park will not intentionally or knowingly accept whole used or scrap tires for disposal unless processed prior to disposal in a manner acceptable to the

executive director. Scrap tires will be accepted from the public or from community clean-up efforts and stored in containers or trailers prior to shipment. Scrap tires identified during landfill operations and generated through maintenance will be accumulated on site by placing them in containers or trailers prior to shipment. The total quantity of tires will not exceed 500 scrap tires (or weight equivalent tire pieces) on the ground, or 2,000 scrap tires in containers. Tires will not be stored in excess of 90 days. The average amount of time that tires will be stored is 45 days. Tire containers will be kept within the facility boundary, near the active working face, or citizen's convenience center. Manifests will be used for shipment of scrap tires offsite.

8.25.5 Wood Waste Processing Area

Source separated yard trimmings, clean wood materials, and vegetative material will be directed to the wood waste processing area. The wood waste processing area will receive approximately three tons of material per day for processing and have a maximum amount of approximately 100 tons of material stored for processing at one time. The wood waste processing area will be located over existing lined areas and will process all incoming yard trimmings, clean wood materials and vegetative materials, which will include trees and brush, into mulch after visual inspection. The resulting wood chips and mulch will only be used on-site and will be stored in the processing area for a maximum time of 60 days after being processed. The average length of time that wood chips and mulch will be stored is 30 days after being processed. The resulting wood chips and mulch will be stored in small piles within the processing area so as not to result in litter and will be managed to prevent fire, safety, or health hazards in accordance with 30 TAC §330.209(a). The wood waste processing area will not be larger than approximately 50 feet by 100 feet.

8.25.6 Leachate Storage Facility

Leachate and landfill gas condensate will be pumped from the leachate sumps directly to transport trucks or to an existing on-site leachate storage facility through a leachate forcemain. 130 Environmental Park will continually evaluate the leachate production rate to determine if and when the existing leachate storage tank will be used.

The leachate storage facility will be located near the landfill footprint. The storage facility consists of two 250,000-gallon steel storage tanks, which will be installed individually as needed based on leachate generation. The calculations in Part III, Attachment D6, Appendix D6-D demonstrate that the secondary containment area, consisting of reinforced concrete slab and walls, provides containment volume for 110 percent of the volume of one leachate storage tank and precipitation from the 25-year, 24-hour storm event with 12 inches of freeboard.

The maximum amount of leachate that can be stored on site at any time is 500,000 gallons. The maximum amount of time leachate will be stored during the postclosure condition is 12 months. The average amount of time is 6 months.

8.25.7 Truck Wheel Wash

The truck wheel wash station is a drive through structure that may be used to further minimize tracking onto public roads, as necessary. Water from the wheel wash will be collected and stored in a concrete settlement basin for reuse in the wheel wash. Periodically, the settlement basin will be drained and the sediment will be removed from the basin, or the sediments within the settlement basin will be solidified in place and then removed from the basin. The wash water may be hauled to an authorized off-site facility for treatment and disposal if not solidified in place. The sediment, following solidification and passing the paint filter test, will be disposed of in the landfill. The sediment will have no free liquids as confirmed by the paint filter liquids test. The truck wheel wash is located in the entrance facility area.

The maximum amount of sediment stored in the truck wheel wash is approximately 100 cubic yards. The sediment will not be stored in excess of 90 days. The average length of time sediment will be stored is 30 days.

8.26 Site Inspection and Maintenance Schedule

Item	Task	Schedule	Inspector	Type of Inspection
Fence/Gate	Inspect perimeter fence and gate for damage, gaps, intrusions, and the like. Make repairs if necessary.	Weekly	Site manager or Designee	Document in the Site Operating Record
Windblown Waste	Police working face area, wind fences, access roads, entrance area, and perimeter fence for loose trash. Clean up as necessary.	Daily	Site manager or Designee	Document in the Site Operating Record
Waste Spilled on Route to the Site	Police entrance area and all roads for at least 2 miles in either direction of site entrance for loose trash. Clean up as necessary.	Daily when site is in operation	Site manager or Designee	Document in the Site Operating Record
Landfill Markers	Inspect all landfill markers for damage, color coding and general location. Correct or replace damaged markers within 15 days of discovery.	Monthly	Site manager or Designee	Document in the Site Operating Record
Site Access Road	Inspect site access road for damage from vehicle traffic, erosion, or excessive mud accumulation. Maintain as needed with crushed rock or stone. Grading equipment will be used at least once per week to control or remove mud accumulations on roads as well as minimize depressions, ruts, and potholes.	Weekly – more often during wet weather or extended dry weather periods.	Site manager or Designee	Document in the Site Operating Record
Daily Cover	Inspect for proper placement, thickness, and compaction. Correct problems as needed.	Daily at the active face. All daily cover areas will be inspected daily and after each rainfall event.	Site manager or Designee	Document in the Site Operating Record
Intermediate Cover	Inspect for proper placement, thickness, erosion, compaction, and for presence of waste or other contamination. Correct problems as needed.	Weekly and within 24 hours of a rainfall event of 0.5 inch or more. Repair erosion within five days of detection.	Site manager or Designee	Document in the Site Operating Record

8.26 Site Inspection and Maintenance Schedule – Continued

Item	Task	Schedule	Inspector	Type of Inspection
Final Cover	Inspect for proper placement, thickness, compaction, slope, settlement, and erosion. Maintenance will be ongoing throughout postclosure care period. Correct problems as needed.	Weekly and within 24 hours of a rainfall event of 0.5 inch or more. Repair erosion within five days of detection.	Site manager or Designee	Document in the Site Operating Record
Leachate	Record depth of leachate in sump, as required.	Monthly	Site manager or Designee	Document in the Site Operating Record
Ponded Water	Inspect daily cover, intermediate cover, and final cover areas for potential areas that may pond water. Regrade as required. Remove ponded water over intermediate and final cover areas. Contaminated ponded water removed in accordance with Attachment D6 – Leachate and Contaminated Water Management Plan.	Daily at active face and daily cover areas. Weekly for intermediate and final cover areas. Remove ponded water within seven days of occurrence, weather permitting.	Site manager or Designee	Document in the Site Operating Record

8.27 Ventilation and Air Pollution Control – Storage and Processing Facilities

This section provides for ventilation and air pollution control as required by §330.245 for the large item storage area, reusable materials staging area, citizen's convenience center, used/scrap tire storage area, and the wood waste processing area.

These storage and processing facilities are not enclosed structures and will be operated to provide adequate ventilation for odor control and employee safety. Ventilation is not an issue; however, dust control will be in accordance with current TCEQ MSW Air Permitting rules and regulations applicable to municipal solid waste facilities.

The facility manager will ensure that the municipal solid waste processing facilities do not violate any applicable requirement of the approved State Implementation Plan developed under the Federal Clean Air Act §110, as amended.

The facility, including the storage and processing facilities, will obtain authorization under Chapter 116 or Chapter 330, Subchapter U, as applicable, prior to commencing construction of the facility, as required by §330.245(b).

Reporting of emissions events will be made in accordance with §101.201 (relating to Emissions Event Reporting and Recordkeeping Requirements) and reporting of scheduled maintenance will be made in accordance with §101.211 (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements), as required by §330.245(f).

No significant air pollution emissions are expected as a result from the operation of these facilities. If air pollution emission capture and abatement equipment is utilized, it will be properly maintained and operated consistent with §330.245(e).

8.28 Health and Safety

Facility personnel will be trained in the appropriate sections of the facility health and safety plan in accordance with Section 3 – Personnel and Training.

8.29 Employee Sanitation Facilities

Potable water and sanitary facilities will be provided for all employees and visitors at/near the scale house and/or maintenance building. Bottled water will be provided for potable water. Sanitary facilities, consisting of portable sanitary facilities and/or constructed restrooms, will be provided. A private contractor will remove and properly dispose of all wastewater from sanitary facilities not managed in a properly permitted on-site sewage facility; wastewater from sanitary facilities will not be placed in the facility's contaminated water storage tank.

130 ENVIRONMENTAL PARK

APPENDIX IVA
LOAD INSPECTION REPORT

Technically Complete October 28, 2014

APPENDIX IVA

LOAD INSPECTION REPORT

Date and Time of Inspection: _____

Inspector's Name: _____

Name of Hauling Company: _____ **Phone Number:** _____

Address: _____ **City:** _____ **State:** _____ **Zip:** _____

Driver's Name: _____ **Vehicle License Number:** _____

Type of Vehicle: _____ **(e.g., roll-off, front loader, dump truck)**

Size of Load, yards: _____ **Sources of Wastes:** _____

LOAD CONTENTS

Waste	Est. % by Vol.	Waste	Est. % by Vol.
Household wastes		Yard waste, brush, stumps	
Wood		Containers	
Metal		Bulk liquids	
Paper, cardboard		Powders, dusts	
Plastic, rubber, glass		Soil	

PROHIBITED WASTE INDICATORS

	YES	NO
Labeled hazardous waste		
Batteries		
Oil		
Medical		
Radioactive		
Ashes		
Soils		
Odors, unusual		
Colors, unusual		
Heat, excessive		
Smoke		

INSPECTION RESULTS

Prohibited wastes identified? _____

Further action required? (e.g., none, lab tests, notification) _____

Samples sent to lab? _____ Lab Name: _____ Phone: _____

Tests requested: _____

Actual form may vary.

_____ _____

Driver Signature **Load Inspector Signature**

130 ENVIRONMENTAL PARK
CALDWELL COUNTY, TEXAS
TCEQ PERMIT APPLICATION NO. MSW 2383

PERMIT APPLICATION

PART IV – SITE OPERATING PLAN

APPENDIX IVB
REGULATED ASBESTOS-CONTAINING MATERIAL PLAN

Prepared for

130 ENVIRONMENTAL PARK, LLC

Technically Complete October 28, 2014

Biggs & Mathews, Inc.
Firm Registration No. F-834

Prepared by

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CONTENTS

1 INTRODUCTION

The primary objective in handling asbestos waste is the prevention of the release of asbestos fibers during disposal operations. Proper management practices can prevent exposure to asbestos fibers.

This plan has been prepared to identify proper handling practices of regulated asbestos-containing material (RACM) during disposal operations at 130 Environmental Park. The plan has been prepared to meet all federal, state, and local requirements. These include Code of Federal Regulations Title 40 Part 61, Title 29 Parts 1910.1001 and 1926.57, Title 49 Parts 171–173; and 30 TAC §330.171(c)(3).

2 NOTIFICATION

The transporter should notify the site manager in advance of the delivery so that the load will arrive at a time to be properly handled and covered.

3 LANDFILL DISPOSAL

A. Notification and Recordkeeping

(1) When a load of RACM arrives at the gatehouse, the gate attendant shall notify the site manager, or his designated representative, who will oversee the disposal operations.

(2) The gate attendant shall check the accompanying manifest (required for RACM) to ensure that necessary information is properly recorded.

(3) If the manifest is properly completed, the gate attendant will direct the driver to the proper disposal location.

(4) A disposal log will be maintained on site documenting the location, depth, and volume of disposal of all RACM.

B. Initial Inspection

(1) When the load of RACM arrives at the disposal area it will be inspected prior to unloading. The visual inspection by landfill personnel will be to determine if the waste was properly wetted and double-bagged or otherwise packaged as required. RACM may only be accepted at the facility in tightly closed and unruptured containers or bags, or must be wrapped with at least six-mil polyethylene. If not, it will be rejected for disposal at this time. TCEQ will be notified by the following working day of any such rejections.

(2) In an effort to minimize the potential hazard posed to the public that sending an improperly wetted and bagged load back onto public roadways presents, the rejected load will be held in a discreet area on site. The generator must then make arrangements to have the waste properly bagged within 24 hours. After that time, the landfill will make arrangements to have the load rewetted and bagged at the sole expense of the generator.

C. Place of Unloading

(1) The entire permitted waste disposal footprint of the facility will be considered a potential RACM disposal area. The site maintains a record of each load of RACM accepted as to its location, depth, or elevation, and volume of material. This information is maintained at the facility. The boundary locations of these fillable areas will be marked in the field.

(2) RACM is to be placed in a disposal area separate from (but possibly immediately adjacent to) the active working face. A separate cell is not required. A minor depression (i.e., three to five feet deep) shall be made with a dozer or compactor prior to unloading. As an alternative, a dozer or compactor may make a cut into the refuse working face, which is deep enough to contain the volume of RACM anticipated (this does not necessarily mean going below grade). Depressions or cuts will not be made if there is potential to cut into previously placed asbestos.

(3) Below natural grade fill areas for placement of RACM is preferred. A minimum separation of three feet of other solid waste is required between the bottom and/or sidewall liner and RACM. However, should this below natural grade disposal not be possible or practical, the following precautions will be taken for above natural grade fill areas to ensure the waste is not subject to future exposure through erosion or weathering of the intermediate and/or final cover. RACM disposal in above natural grade fill areas will be at least 20 feet interior of any design finished side slope of the unit. In addition, RACM disposal will be at least 10 feet below the design finished top final surface elevations of the unit.

D. Methods of Unloading

Transporter shall use either Method 1 or Method 2, as described below to unload RACM at the landfill.

(1) Bags or containers holding RACM must be carefully unloaded and placed in their disposal location rather than thrown to the ground. Employees of the generator or transporter will perform the task of unloading the material.

(2) Unloading of roll-off containers is permitted when performed in accordance with the following procedures:

a. The truck and roll-off box are positioned to unload in a location prepared in advance for disposal of the waste.

b. With the opened roll-off box tailgate above the edge of the excavation, the bed of the truck and the roll-off box are gradually elevated until the entire load slowly slides out of the roll-off box and into the excavation. Bags that do not land in the excavation shall be hand placed by the transporter personnel.

E. Covering the Asbestos Waste

Asbestos waste will not be compacted directly. After unloading, the asbestos waste should be covered with a minimum of 3 feet of other solid waste or 1 foot of earthen material. Care should be exercised in the application of the cover to ensure that the bags or containers will not be ruptured.

F. Grid System Control

A grid system will be utilized to identify where the waste will be disposed of. The site grid system (i.e., 100-foot markers) and a temporary elevation benchmark will be used in identifying the disposal locations in a log book or spreadsheet. The date of disposal, the approximate depth or elevation and grid coordinates, and the volume of waste will be recorded.

4 RECORDKEEPING

Recordkeeping for RACM disposal is in the form of manifests, Waste Shipment Records (WSR), and a disposal location log (which includes location, depth or elevation, and volume). The gate attendant normally processes the manifests, WSR, and receipt log. The site manager or his designee maintains the disposal location logbook indicating RACM disposal locations. Each month a Monthly Waste Receipt Summary is submitted using the STEERS reporting system provided by TCEQ. In the future, if TCEQ designates another reporting process the facility will follow the revised procedures.

A. Manifests

(1) All shipments of RACM must be accompanied by a Texas Uniform Hazardous Waste Manifest, which includes:

a. Name, address, and telephone number of the generator.

b. Name, address, and telephone number of any transporter.

c. Description and quantity of RACM (including Class 3 Designation).

d. Date of receipt and signature of disposal facility representative.

e. In the "Supplemental Information" section, include the name, address, and telephone number of the asbestos remover (or abatement company). Also include a 24-hour emergency response team and telephone number.

(2) The white original copy of the signed manifest is to be sent by the disposal facility to the waste generator within 30 days of disposal.

(3) A copy of each manifest will be retained in the site operating record for the life of the facility including the post-closure care period.

B. Waste Shipment Records

Waste Shipment Records for each RACM load will be maintained with the minimum following information:

(1) Name of the generator

(2) Manifest number

(3) Date of receipt

(4) Volume of asbestos waste

(5) Transporter name

C. Disposal Location Log or Site Map

A RACM disposal log for the landfill must be maintained. The following information should be recorded for each load of RACM accepted:

(1) The horizontal location of disposal (using the existing site grid system)

(2) The depth or elevation of disposal

(3) The volume of waste

(4) The date of disposal

D. Monthly Waste Receipt Summary

A Monthly Waste Receipt Summary will be prepared and submitted using the STEERS reporting system provided by TCEQ. In the future, if TCEQ designates another reporting process the facility will follow the revised procedures. The report will be submitted no later than the 25th day of the month following the receipt of any RACM received during the preceding calendar month.

E. Deed Recordation

Upon closure of the landfill, a specific notation that the landfill accepted RACM will be placed in the deed records of the property, which will include a site diagram or other information identifying the disposal locations of RACM. In addition, a notice of deed recordation and copies of the site diagram or other information identifying the RACM disposal locations will be submitted to the TCEQ.

5 PERSONAL PROTECTIVE EQUIPMENT

Minimizing contact with waste controls potential for exposure to asbestos. Landfill personnel will remain inside equipment while the transporter unloads the material. Should a spill occur during the disposal operation, workers involved in the cleanup should wear a respirator, disposable coveralls, gloves, and foot coverings.

6 EMPLOYEE TRAINING

A. All employees involved in the receipt and disposal of RACM are given training annually on the proper procedures of managing RACM. This training includes:

(1) Asbestos and its health effects

(2) Regulations on transportation, disposal, and worker protection

(3) Paperwork, manifesting and notification requirements

(4) Personal protection and protective equipment (including respirator fit tests)

(5) Transportation requirements

(6) RACM receipt procedures

(7) RACM disposal procedures

(8) Location logging and recordkeeping

(9) Spill response actions

Training of employees will be completely documented and the documentation maintained on site.

B. Contractors and others working around the RACM disposal areas are informed of the RACM disposal practices at the site. Should any excavation work be necessary in areas of previous RACM disposal, a written notification to the TCEQ or EPA Administrator will be made 45 days prior to excavating or otherwise disturbing any RACM. Excavated or exposed RACM will be handled in the same manner as if the waste had just been brought to the site for disposal.

7 CONTINGENCY PLAN

This contingency plan has been developed in the event that a spill of RACM occurs during unloading operations. Personnel involved in the response are to be kept to a minimum to reduce the risk to employees. The site manager or his designated representative shall be in charge of the landfill's spill response for RACM. The following procedures will be followed in the event of a spill of RACM at the landfill:

A. Personal Protection

(1) Get upwind of the RACM.

(2) Employees involved in cleanup should make use of their spill control kits, including:

a. Respirator

b. Disposable coveralls

c. Shoe covers

d. Gloves

e. Safety glasses or goggles

(3) Keep others away until cleanup is complete.

B. Notification

(1) Notify the landfill office/site manager.

(2) Should the spill involve one pound or more, the site manager or his designated representative will notify the National Response Center (NRC).

C. Emergency Cleanup Actions

(1) Summon water truck, wet down waste with a misting spray of water.

(2) Scoop the waste and put it into a properly labeled bag or a closed container and dispose of it with the other RACM.

(3) Wash any contaminated equipment or machinery.

(4) Dispose of gloves, coveralls, and shoe covers in a tightly sealed 6-mil plastic bag.

(5) Wash all other personal protective equipment with soap and water.

(6) Check respirator and refit with new filter cartridges, and place into a resealable, airtight container for future use.

D. Spill Response Equipment

(1) An OSHA approved respirator with the proper prefilters

(2) A disposable, Tyvek or similar coverall suit

(3) Disposable gloves

(4) Rubber boots

(5) 6-mil plastic bags with asbestos warning

(6) Water spray tank

(7) Roll of duct tape

(8) Broom and shovel

E. Emergency Response Contractor

The site manager may contract with an outside contractor to conduct the landfill's spill response for RACM.

130 ENVIRONMENTAL PARK

APPENDIX IVC
SPECIES PROTECTION PLAN

Technically Complete October 28, 2014

SPECIES PROTECTION PLAN

For:
130 Environmental Park

Prepared by:

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AVO 29520

August 2013

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Figures

1.0 INTRODUCTION

130 Environmental Park, LLC plans to develop a new municipal solid waste facility, including a Type I municipal solid waste landfill and a Type V municipal solid waste transfer station, within a facility boundary area of 520 acres located on a tract of land totaling approximately 1,229 acres in Caldwell County (the study area). The location of the study area is on the east side of State Highway (SH) 130/US 183 north of the City of Lockhart, Texas, extending from the intersection of US 183 and FM 1185 east to Homannville Trail. **Figure 1** shows the general project location with respect to larger metropolitan areas. **Figure 2** shows the location within Caldwell County and in relation to the City of Lockhart. The facility will be accessed from northbound US 183 through an entrance road. A gatehouse and scales will be provided within the facility boundary. The landfill footprint will cover approximately 208 acres located within the facility boundary area.

The facility will be permitted/registered in accordance with 30 TAC Chapter 330 Municipal Solid Waste Management Regulations. The Texas Commission on Environmental Quality (TCEQ) is the agency responsible for permitting and regulating municipal solid waste facilities. The TCEQ requires an applicant to address endangered and threatened species. Halff Associates, Inc. (Halff) has identified five threatened or endangered species that have the potential to occur within the study area: the wood stork, the golden orb mussel, the Texas pimpleback mussel, the Texas horned lizard, and the timber rattlesnake. All are state-listed threatened species; no critical habitat has been designated for any of these species. Those portions of the study area that may provide suitable habitat for the wood stork, golden orb, and Texas pimpleback are located away from areas that will be impacted by construction and operation of the facility. Within the study area, the forested areas near permanent water sources may provide suitable habitat for the Texas horned lizard and timber rattlesnake.

2.0 PRESENCE OF POTENTIALLY SUITABLE HABITAT

2.1 Wood Stork

The potential for occurrence of the wood stork within the study area is conditional on the basis that this species migrates and its migratory range may happen to overlap water features in the study area (the south central pond/wetland complex shown on **Figure 3**) that may be suitable as a temporary stopover site. Because no critical habitat has been designated for this species,

because of the incidental chance for occurrence, and because the suitable habitat occurs in an area that will not be impacted by the proposed facility, the project will not result in the destruction or adverse modification of critical habitat of or cause or contribute to takings of this species.

2.2 Golden Orb and Texas Pimpleback

The golden orb and Texas pimpleback are mussel species whose range includes the Guadalupe River tributary system. Recorded observations are known to include impoundments of larger stream systems, and it is reasonable to conclude that these species could be found in the south central pond. Because no critical habitat has been designated for these species, and because the suitable habitat occurs in areas that will not be impacted by the proposed facilities, the project will not result in the destruction or adverse modification of critical habitat of, or cause or contribute to takings of, these mussels.

2.3 Timber Rattlesnake

The study area represents the western edge of the timber rattlesnake's range, and includes conditions that may be suitable for this snake. Timber rattlesnakes are found in upland woods, rocky ridges, and moist lowland forests or thickets near permanent water sources such as rivers, lakes, ponds, streams and swamps where tree stumps, logs and branches provide refuge. Within the study area, the areas that may provide suitable habitat for the timber rattlesnake are the forested areas in close proximity to stream corridors. A conservative (overly-inclusive) depiction of these areas is shown on **Figure 3.**

2.4 Texas Horned Lizard

The historical range of the Texas horned lizard included the entire state in areas of flat, open terrain with scattered vegetation and sandy or loamy soils. Grassland areas in the study area are dominated by dense cover species such as Texas wintergrass and threeawn which would provide significant ground cover compared to clump species. However, forested areas along the western portion of the study area have rockier soils with less cover in the herbaceous layer and would be considered the more suitable habitat for this species within the study area. A conservative (overly-inclusive) depiction of these areas is shown on **Figure 3**.

3.0 AVOIDANCE, MINIMIZATION, AND MITIGATION

No wood stork, Texas horned lizard, or timber rattlesnake was observed by Halff personnel during the hundreds of man-hours spent investigating the study area in June and July 2013; because the potentially suitable habitat for the mussel species within the study area (the large impoundment in the southern portion) is away from area that would be impacted by the project, surveys to determine the presence of the mussel species were not conducted. Suitable habitat within the study area for these species is depicted on **Figure 3**. Facility construction and operation activities will occur away from areas that include potentially suitable habitat for the wood stork and the two mussel species. A linear forested area (less than 14.8 acres) along the western edge of the study area will be cleared during construction of the entrance road; this area includes habitat that is potentially suitable for both the Texas horned lizard and timber rattlesnake. Additional forested areas (totaling 118.0 acres) will be cleared as part of the landfill development; this area has limited potential to include the timber rattlesnake. Each of these areas depicted in **Figure 3**; not depicted on the figure is perimeter fencing which will be placed along the edge of the facility boundary.

The avoidance, minimization, and mitigation measures to be implemented pursuant to this species protection plan include:

1. Clearing of the forested areas shown on **Figure 3**, and the clearing for the perimeter fencing, will not occur between September and May to avoid the hibernation periods for the Texas horned lizard and timber rattlesnake.

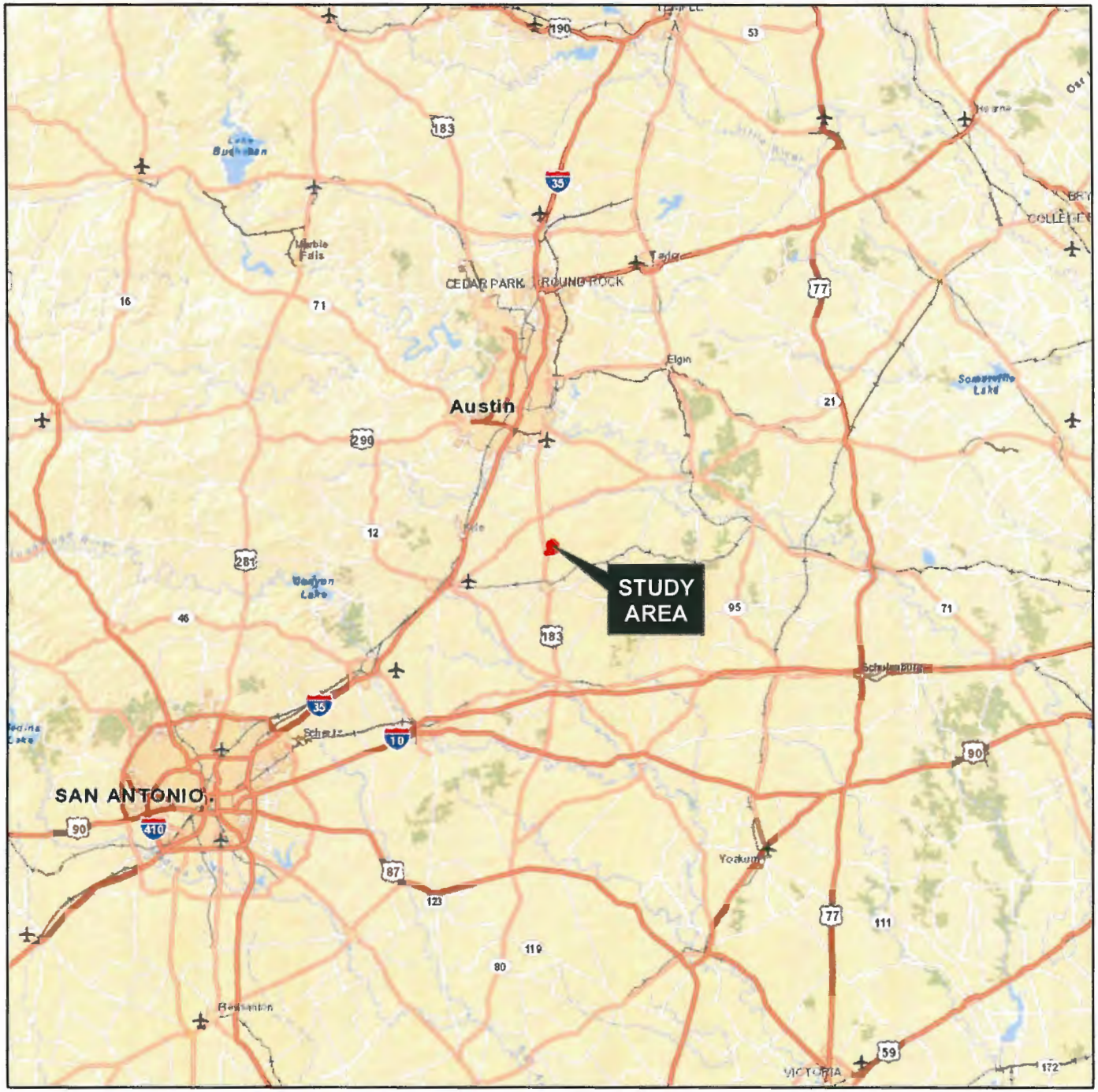
2. Immediately prior to clearing to facilitate construction of the access road, landfill area, transfer station, and perimeter fencing, a survey of the area will be conducted by a biologist with a Texas Parks & Wildlife Department (TPWD) scientific collection permit. If a Texas horned lizard or timber rattlesnake is observed during this survey, the specimen(s) will be relocated by the biologist to suitable habitat in the forested riparian corridor area in the western part of the study area.

3. During the clearing operations, a biologist with a TPWD scientific collection permit will conduct surveys around construction equipment prior to start-up of the equipment and in the area where clearing or fencing will occur in advance of operations. If a Texas

horned lizard or timber rattlesnake is observed during these surveys, work will be stopped and the specimen(s) will be relocated by the biologist to suitable habitat in the forested riparian corridor area in the western part of the study area.

4. Although unexpected, a limited potential exists that the Texas horned lizard or timber rattlesnake may be encountered in marginal habitat in other parts of the site. If specimens are observed during construction in any such area, work will be stopped and a biologist with a TPWD scientific collection permit will be contacted to determine and implement any appropriate actions, including pre-construction surveys and/or the possible relocation (by a biologist with a TPWD scientific collection permit) of specimens to suitable habitat in the forested riparian corridor area in the western part of the study area.

5. Employees and construction crews working on the site will receive pocket identification cards with color photographs and species information for the wood stork, Texas horned lizard, and timber rattlesnake. These will allow for identification of the species and provide instructions on how to respond to a sighting: avoid disturbance of the animal and notify the facility general manager of the sighting location and species. Signage will also be posted at the Gate House with similar information. Following a reported sighting of any of these species, the facility general manager will contact a biologist with a TPWD scientific collection permit to determine and implement any appropriate action, including the possible relocation (by a biologist with a TPWD scientific collection permit) of a Texas horned lizard or timber rattlesnake to suitable habitat in the forested riparian corridor area in the western part of the study area.



N

0 10 20 40

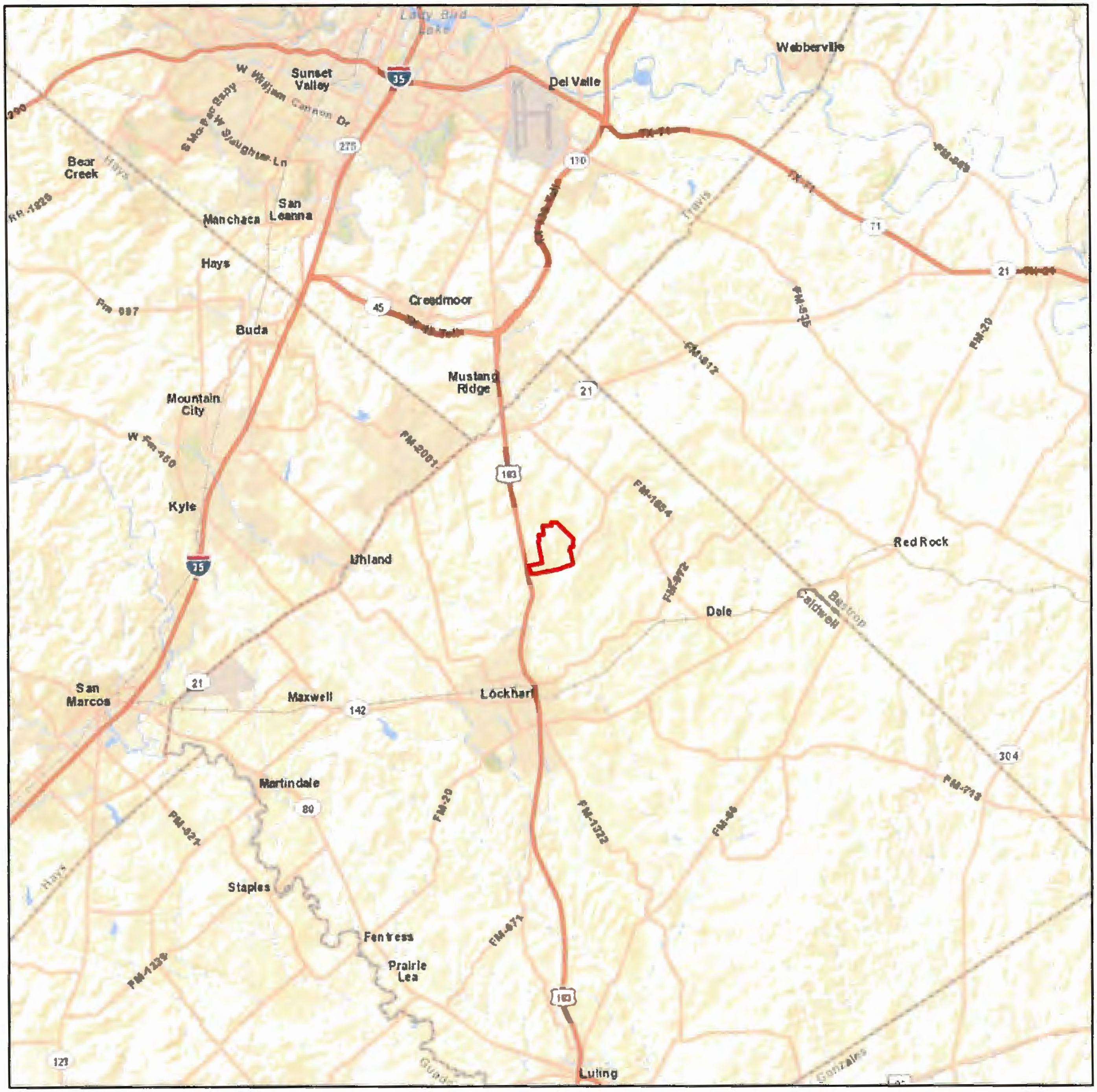
Miles

Legend

Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map/2013
2.
3.
4.
5.

Project Title: 130 ENVIRONMENTAL PARK
Project Number
Date: 06/2013 AVO: 29520
Sheet Title: PROJECT LOCATION MAP
Sheet Number: FIGURE 1
HALFF



N

0 2.5 5 10

Miles

Legend

Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map Service/2013
2.
3.
4.
5.

Project Title: 130 ENVIRONMENTAL PARK

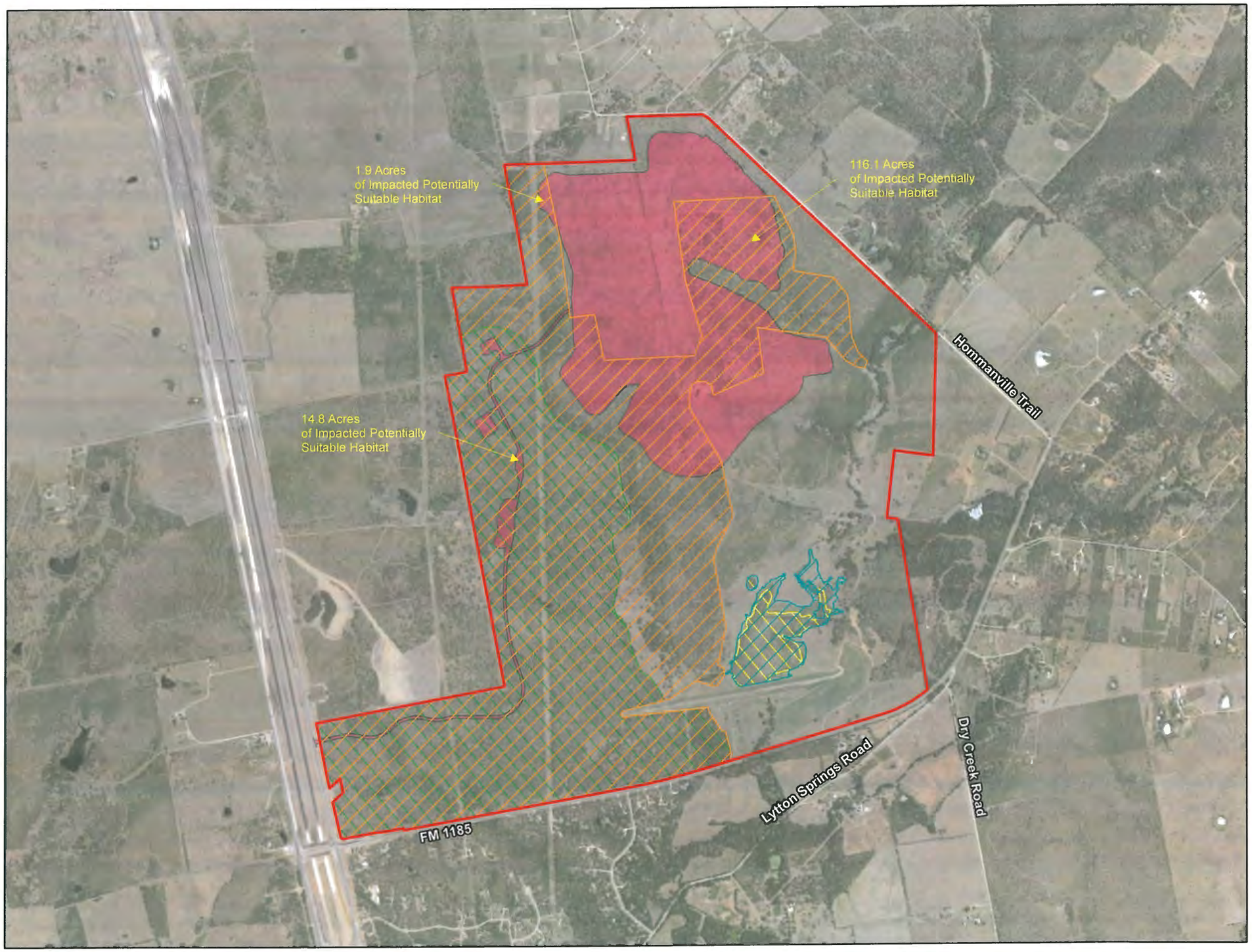
Project Number

Date: 06/2013 AVO: 29520

Sheet Title: PROJECT VICINITY MAP

Sheet Number: FIGURE 2

HALFF



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0 500 1,000 2,000

SCALE IN FEET

Legend

- Study Area
- Wood Stork
- Golden Orb & Texas Pimpleback
- Timber/ Canebrake Rattlesnake
- Texas Horned Lizard
- Project Impact Area

Species	Potentially Suitable Habitat Acreage
Wood Stork	30.9
Texas Pimpleback	20.9
Golden Orb	20.9
Timber/ Canebrake Rattlesnake	705.9
Texas Horned Lizard	388.8

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Project Title: 130 ENVIRONMENTAL PARK
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: POTENTIALLY SUITABLE HABITAT MAP
Sheet Number: FIGURE 3
HALFF