

City of Corpus Christi

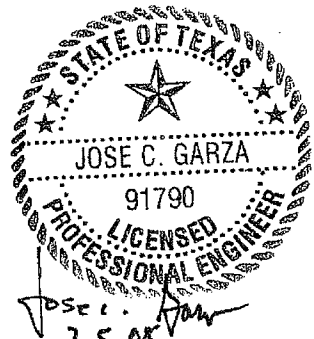
**Cefe Valenzuela Landfill
Municipal Solid Waste Permit No. 2269**

**Part IV
Site Operating Plan**

Nueces County, Texas

**Revised
March 2008**

**HDR Engineering, Inc.
17111 Preston Road, Ste. 200
Dallas, TX 75248**


This document is released for the purpose of review only under the authority of Jose C. Garza, P.E. # 91790. It is not to be used for bidding or construction.
For pages _____ thru _____

For page 48 only

**City of Corpus Christi
Site Operating Plan for Cefe Valenzuela Landfill**

Table of Contents

1.0	Introduction.....	1
2.0	Recordkeeping Requirements	3
3.0	Waste Acceptance Rates	8
4.0	Types of Landfill Personnel.....	10
5.0	Types of Equipment.....	15
6.0	Personnel Training.....	17
7.0	Detection and Prevention of Disposal of Prohibited Waste.....	18
8.0	Fire Protection Plan.....	23
9.0	Access Control.....	30
10.0	Unloading of Waste	33
11.0	Facility Operating Hours.....	35
12.0	Site Signs	36
13.0	Control of Windblown Solid Waste and Litter	37
14.0	Easements and Buffer Zones	39
15.0	Landfill Markers and Benchmark	41
16.0	Materials Along the Route to the Site.....	44
17.0	Disposal of Large Items	45
18.0	Air Criteria.....	47
19.0	Disease Vector Control	49
20.0	Site Access Roads	50
21.0	Salvaging and Scavenging	52
22.0	Endangered Species Protection.....	53
23.0	Landfill Gas Control	54
24.0	Oil, Gas, and Water Wells	58
25.0	Compaction.....	60
26.0	Landfill Cover.....	61
27.0	Ponded Water.....	66
28.0	Disposal of Special Wastes.....	68
29.0	Disposal of Industrial Wastes	73
30.0	Visual Screening of Deposited Wastes.....	76
31.0	Operational Standards for Class I Waste Management	77

**City of Corpus Christi
Site Operating Plan for Cefe Valenzuela Landfill**

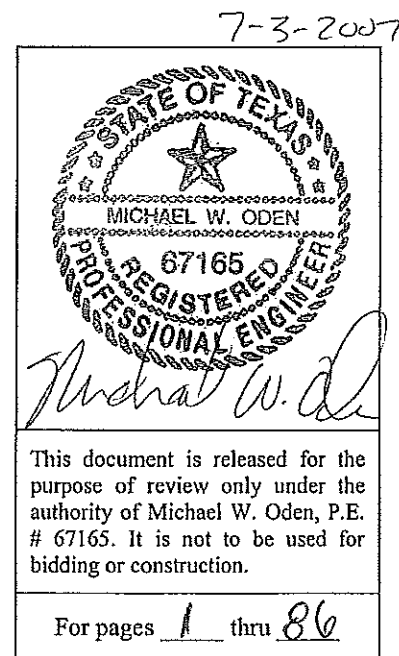
Table of Contents

List of Tables

Table 2.1: Recordkeeping Requirements.....	3
Table 3.1: Projected Waste Quantities.....	9
Table 4.1: Landfill Disposal Operations Staffing Requirements.....	14
Table 5.1: Minimum Equipment per Waste Acceptance Rate.....	15
Table 8.1: Maximum Size of Working Face & Wet Weather Area.....	27
Table 8.2: Fire Type and Extinguishing Agent.....	29
Table 9.1: Repair and Reporting Requirements for Access Breaches	31
Table 9.2: Fence Specifications	32

Appendices

Appendix IV-A: Alternate Daily Cover Manufacturer's Information



1.0 Introduction

The City of Corpus Christi's Cefe Valenzuela Landfill (Facility), Municipal Solid Waste Permit 2269, is located in Nueces County, 14 miles southwest of Corpus Christi's City Hall, at the intersection of Farm to Market 2444 and County Road 20. The coordinates and elevation are: Latitude 27° 38' 12" N, Longitude 97° 34' 05" W, and Elevation 46.07 feet above mean sea level (msl).

The Cefe Valenzuela landfill property covers 2,273.59 acres. The layout will include the construction of two Type I municipal solid waste landfill units, which combined measure approximately 810 acres.

This Site Operating Plan (SOP) is a modification to the currently approved permit 2269, and is designed to bring the SOP into conformance with rule changes that became effective in March 2006 by the Texas Commission on Environmental Quality (TCEQ).

The landfill is owned by the City of Corpus Christi (City). The City is responsible for day-to-day landfill operations using both contract operators and City personnel.

This Site Operating Plan (SOP) is intended to provide guidance from the design engineer to the site management and operating personnel. It will facilitate site operations in compliance with applicable TCEQ regulations and current standards of practice in the industry, compatible with the design of the facility. This Plan will serve as a reference source and is to be used as a training tool for landfill personnel. The contents of this SOP are consistent with the current permit and its supporting documents, except for portions which revisions are necessary to comply with the current SOP rules. The intent of this modified SOP is to provide additional detailed information as required under Subchapter D of 30 TAC §330.

1.1 Description of On-Site Facilities

The facility includes an approximately 810 acre Type I MSW disposal area which will be developed in several phases as described in the Site Development Plan. Several buildings will be located on site to serve several functions including an administrative building, maintenance building, scale and scale house and other facilities to service the landfill's operations.



Michael W. Oden
8-22-2007
pgs. 3-9

2.0 Recordkeeping Requirements

To be compliant with the recordkeeping requirements of 30 TAC § 330.125, the City of Corpus Christi keeps an organized library consisting of a copy of the facility permit, the site development plan, the site operating plan, the final closure plan, the landfill gas management plan, and any other plans required by permit along with all issued modifications, and any temporary authorizations granted. The table below lists the filing location of the records, areas/groups, document type, and site location of the records.

Table 2.1: Recordkeeping Requirements

Document Type	Site Location of Records	Frequency of Submittal to Site Operating Record (see Note 1)	Regulatory Reference
Landfill Permit	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Site Development Plan	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Site Operating Plan	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Final Closure Plan	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Post-closure Maintenance Plan	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Landfill Gas Management Plan	Landfill Office	Permit Application – no additional submittals required	§330.125(a)
Location Restriction Demonstrations	Landfill Office	Permit Application – no additional submittals required	§330.125(b)(1)
Inspection Records	Landfill Office	within 7 working days of completion	§330.125(b)(2)
Training Procedures	Landfill Office	Annually	§330.125(b)(2), §330.125(f)
Notification procedures relating to excluding the receipt of prohibited waste	Landfill Office	As required	§330.125(b)(2)
Gas Monitoring Results and Remediation Plans	Landfill Office	Quarterly	§330.125(b)(3)
Leachate or Gas Condensate placement and unit design documentation	Landfill Office	As constructed	§330.125(b)(4)
Groundwater Monitoring documentation	Landfill Office	Quarterly / Semi-annually	§330.125(b)(5)

Closure and Post-closure Care Plans and related data	Landfill Office	Permit Application – no additional submittals required	§330.125(b)(6)
Cost Estimates and Financial Assurance Documentation	Landfill Office	Annually	§330.125(b)(7)
Compliance with small community exemption criteria	N/A	N/A	§330.125(b)(8)
Copies of correspondence relating to the operation of the facility	Landfill Office	As required	§330.125(b)(9)
Copies of correspondence relating to modifications to the permit, approvals of matters	Landfill Office	As required	§330.125(b)(9)
Documentation of receipt of any special wastes	Landfill Office	As required	§330.125(b)(10)
Records of spray-applied ADC	Landfill Office	As required	§330.125(b)(11)
Other documents	Landfill Office	As required	§330.125(b)(12)

Note 1: All documentation and data will be placed in the Site Operating Record within 7 days of completion or receipt of data, as appropriate

Disclosure Statement: "In addition to the records mentioned above, the City of Corpus Christi reserves the right to add more documents to the library in order to optimize the landfill operations. If the City of Corpus Christi decides to add documents to the document library then the table listing the filing location of the records, areas/groups, document type, and site location of the records will be updated and added to Section 1 of the SOP."

All information contained in the SOP records will be furnished to the TCEQ upon request and will be made available at all reasonable times for inspection.

The operating record as described in this section, plus any other related operational plans, or documents will generally be maintained at the landfill office.

2.1 Breach Related Reporting & Records

In the event of an access breach, notice will be given to the TCEQ's regional office to document when a breach has been identified and when a repair is completed, if a repair is necessary, and if the repair is not completed within eight hours. The TCEQ's regional

office will be notified of the breach within 24 hours of detection. The breach will be temporarily repaired within 24 hours of detection and will be permanently repaired by the time specified to the TCEQ regional office when it was reported in the initial breach report. If a permanent repair can be made within eight hours of detection, no notice will be submitted. A copy of these notices will be retained in the operating record in accordance with 330.131(b)(9).

2.2 Fire Incident Reporting & Records

After any waste related fire occurs on-site that cannot be extinguished in ten minutes, the City will contact the TCEQ regional office. The notification will include: contact by telephone as soon as possible, but no later than 4 hours following fire discovery, and a written description of the cause and extent of the fire and the resulting fire response within 14 days of fire detection.

The following agencies or personnel will be contacted:

- Fire – 911
- Landfill Manager – Landfill Office
- TCEQ Regional Office

2.3 Final Cover Reporting and Records

As final cover is applied to the landfill, a log will be maintained of area covered, date applied, thickness and activities and management practices. Any damage to the cover, including anticipated repairs will be reported to the TCEQ and repaired within five days.

2.4 Waste Inspections and Unauthorized Waste Reporting

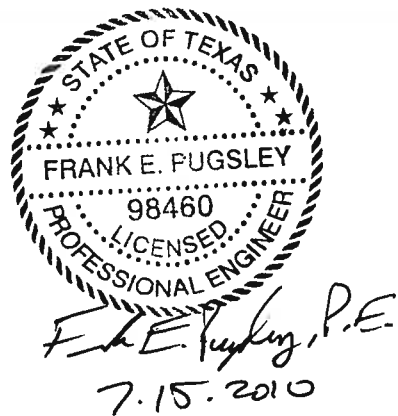
The Landfill Manager will maintain and include in the site operating record the following reports: (1) load inspection reports, (2) records of regulated hazardous or PCB waste notifications, and (3) personnel training records. The report will include the date and time of the inspection, the name of the hauling company and driver, the type of vehicle, the size and source of the load, contents of the load, indicators of prohibited waste and the results of the inspection. A record of any removal of unauthorized material will be maintained in the site's operating record.

2.5 Long Term Record Keeping

The City will retain all information contained within the Operating Record and the different plans required for the facility for the life of the facility including the post-closure care period. Once the landfill closes, the records will be maintained at the Department of Streets and Sanitation Office.

2.6 Groundwater Evaporation Ponds

Operations of dewatering activities using evaporation ponds may be present during and after cell construction. Inspections of the ponds will be conducted monthly to ensure perimeter berms are intact, in good condition and functioning to contain evaporation waters within the pond areas. Documentation of the inspections will be included with inspection records. Inspections of the ponds when not in use, removed or relocated will be noted as part of the inspection procedure and record.



This page intentionally left blank.

3.0 Waste Acceptance Rates

As per the waste acceptance rate requirements of 30 TAC 330.125(h) and 330.675, the City of Corpus Christi is required to perform quarterly reporting to the TCEQ. The waste acceptance rate monitoring is intended to ensure that the facility's operations continue to be adequate when waste acceptance rates increase. Whenever the annual waste acceptance rate as established by the sum of the previous four quarterly summary reports exceeds the annual waste acceptance rate estimated in the permit application, and the waste increase is not due to a temporary occurrence, the City of Corpus Christi will file an application to modify the permit within 90 days of the exceedance. Once the quarterly waste acceptance rates are calculated then an average annual waste acceptance rate will be calculated. Data will be generated from actual scale data. The average is based on quantities accepted at the landfill divided by the actual number of operating days waste is accepted during the reporting period.

If an exceedance of the annual waste acceptance rate occurs, the following provision of the SOP will be evaluated and modified as necessary.

- Number of operating personnel
- Number and types of equipment
- Waste compaction procedures
- Odor prevention plan and control
- Unloading of waste procedures
- Waste screening procedures
- Control of windblown waste and litter
- Soil management, placement, and compaction of daily, intermediate and final cover
- Other SOP provisions, as necessary

3.1 Projected Waste Acceptance Rates

The table below presents a projection of estimated waste acceptance rate based on an assumption that after 2010 the waste accepted per year will increase at 1.5% per year.

Projected Waste Quantities shown in Table 3.1 are consistent with the previously approved permit for the Cefe Landfill.

Table 3.1: Projected Waste Quantities

Year	Tons/Year	Tons/Day	Annual % Increase
2003	428,127	1385	-
2004	441,196	1427	3.0
2005	449,446	1454	1.9
2006	426,420	1380	-5.1
2007	432,816	1401	1.5
2008	439,309	1422	1.5
2009	445,898	1443	1.5
2010	452,587	1465	1.5
2011	459,375	1487	1.5
2012	466,266	1509	1.5
2013	473,260	1532	1.5
2014	480,359	1555	1.5
2015	487,564	1578	1.5
2016	494,878	1602	1.5
2017	502,301	1626	1.5
2018	509,836	1650	1.5
2019	517,483	1675	1.5
2020	525,245	1700	1.5
2021	533,124	1725	1.5
2022	541,121	1751	1.5
2023	549,230	1777	1.5
2024	557,476	1804	1.5
2025	565,838	1831	1.5

* Based on a 309 day year and annual population growth of 1.5%. Quantities for 2003 to 2006 are based on City records.

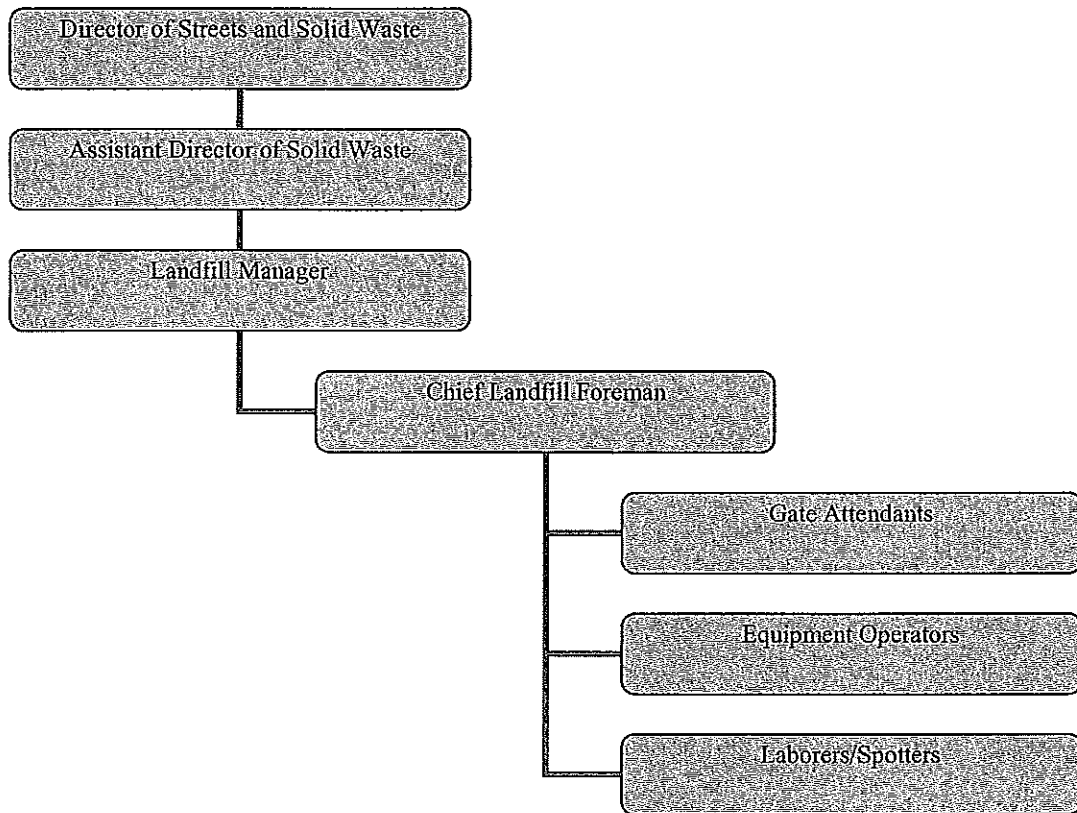
To determine if the projected waste quantity has been exceeded, each year the previous four quarterly waste quantities (calculated) will be compared to the projected waste quantities in Table 3.1.

4.0 Types of Landfill Personnel

4.1 Organizational Chart

The chart below represents the Cefe Valenzuela Organization Chart.

Cefe Valenzuela Organization Chart



The City may contract with private entities to perform certain activities at the landfill. The City understands it is responsible for all regulatory requirements of the permit regardless of whether the contractor is responsible for performing specific duties.

4.2 Key Personnel Job Description

The City of Corpus Christi is required to provide a job description for each position held by key personnel on site. The list below presents a description for each key position listed in the Cefe Valenzuela Organizational Chart.

Director of Streets and Solid Waste:

The Director of Streets and Solid Waste (SSW) is ultimately responsible for the overall site management. The contact person for matters related to regulatory compliance is the Director of SSW.

Assistant Director of Solid Waste:

The Assistant Director of Solid Waste directs and oversees the overall management and operation of the Solid Waste Services Department. The Assistant Director is responsible for the following:

- conducts short and long term planning associated with the collection and disposal of municipal waste;
- supports and facilitates the coordination and scheduling of personnel, materials and equipment;
- prepares and oversees the department division operating budget, capital outlay, revenues, and fiscal programs;
- prepares written reports, documentation, technical data/reports, agenda memoranda on various solid waste issues; and
- prepares and delivers oral presentations on the Division's aspects of Solid Waste Services operations.

Landfill Manager:

Under the general direction of the Assistant Director of Solid Waste Services, the Landfill Manager administers the facility's SOP. The Landfill Manager is responsible for assuring that adequate personnel and equipment are available to provide efficient and compliant operations in accordance with the Site Development Plan (SDP), the SOP, and the TCEQ rules and regulations. The Landfill Manager will serve as the emergency coordinator during all site emergencies. The duties of the Landfill Manager may be

assigned to a qualified alternate individual in the event the Landfill Manager is away from the facility. The landfill manager's qualified designee, who must be an employee from a position shown on the organizational chart and who must have the equivalent training as the Landfill Manager shall act on behalf of the Landfill Manager with the same authority and responsibilities required for that position. In addition, the Landfill Manager may conduct random inspection of vehicles for prohibited wastes.

Chief Landfill Foreman:

The Chief Landfill Foreman monitors landfill operations which include: environmental activities such as management of leachate, condensate, methane collection, and methane flaring; supervises and monitors landfill personnel and equipment; and schedules and manages services for equipment and vehicles.

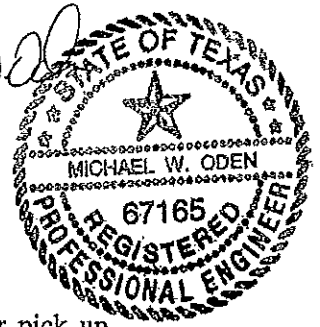
Gate Attendants:

The Gate Attendants primary responsibility is to visually inspect the waste loads for unauthorized wastes and maintain complete and accurate records of loads rejected. The Gate Attendants will also direct traffic at the entry gate to the landfill to assure a steady flow of traffic and minimize the possibility of any potential traffic accidents. In addition, Gate Attendants may conduct random inspection of vehicles for prohibited wastes.

Equipment Operators:

The equipment operators are responsible for the safe operation of both light duty and heavy equipment, which is required to operate the landfill. These employees are responsible for being alert for potentially dangerous conditions, including careless and improper actions of other employees and other authorized persons at the site. The equipment operators general area of responsibilities include, but not limited to, overseeing unloading of waste from vehicles; detecting the presence of unauthorized waste, general site maintenance, construction activities, litter abatement, and site clean up. The equipment operators will intervene as necessary to prevent accidents and report unsafe conditions immediately to the Landfill Manager and /or designee. In addition, Equipment Operators may conduct random inspection of vehicles for prohibited wastes.

Michael W. Oden
8-22-2007
Pg. 13



Laborers/Spotters:

Landfill laborers are responsible for overall site maintenance including litter pick up, general site maintenance, and, in certain instances, waste screening. Some, but not all, laborers on site will be trained to conduct waste screening.

4.3 Key Personnel Minimum Qualifications Criteria

The City of Corpus Christi is also required to provide a description of the minimum qualifications for each position held by key personnel located on site, including City and current contractor personnel. The following Table 4.1 shows minimum personnel training and qualifications.

Table 4.1: Personnel Types and Descriptions

Position	Training
Director of Streets and Solid Waste*	Must hold and maintain MSW Supervisor Occupational license Grade A or be able to obtain one within one year of hire. Minimum of five years experience in the field of solid waste management.
Assistant Director of Solid Waste*	Must hold and maintain MSW Supervisor Occupational license Grade A or be able to obtain one within one year of hire. Minimum of five years experience in the field of solid waste management. Complete training in site safety, fire protection and waste screening.
Landfill Manager*†	Must hold and maintain MSW Supervisor Occupational license Grade C within 1 year of hire. Minimum three years solid waste or related regulatory experience. Complete training in site safety, fire protection.
Chief Landfill Foreman	Must hold and maintain MSW Supervisor Occupational license Grade C within 1 year of hire. Complete training in site safety, fire protection.
Gate Attendant	Waste screening training, 40-hour HAZWOPR within 1 year of hire.
Equipment Operator	Waste screening training, 40-hour HAZWOPR within 1 year of hire.
Laborer/Spotter	Waste screening training, 40-hour HAZWOPR within 1 year of hire.

*These personnel will have other duties within the department.

†The Landfill Manager's designee must possess a license (Class A, B, or C) issued in accordance with Chapter 30, Subchapter F.

The City does intend to periodically contract with private firms to operate portions of the landfill. Private operators must demonstrate qualifications criteria for equivalent positions described in this section.

4.4 Projections of Personnel as a Function of Waste Acceptance Rates

The table below lists the types and required staff compared with the waste acceptance rates. The intention of this projection is to make sure that enough qualified personnel are present for the varying levels of waste acceptance.

Table 4.2: Landfill Disposal Operations Staffing Requirements

Personnel	1 -1000 TPD	1001 – 2000 TPD	2001 -3000 TPD	3001 -4000 TPD
Director of Streets and Solid Waste	1	1	1	1
SSW Assistant Director	1	1	1	1
Landfill Manager	1	1	1	1
Chief Landfill Foreman	1	1	1	1
Equipment Operators	3	3	4	4
Gate Attendants	2	3	3	4
Laborers/Spotters	3	4	5	6

5.0 Types of Equipment

As per the “Types of Equipment” requirements of 30 TAC §330.127(2), the City of Corpus Christi is required to list and discuss in the SOP the description, sizes, types, numbers, and functions of the equipment to be used at the facility.

The City’s contractor is required to handle the incoming waste after it has been accepted and screened by the City. The waste will be pushed to the proper location and compacted to achieve the desired density and waste elevations. The contractor is also responsible for covering the waste at the end of the day.

The table below lists the types of equipment used in day-to-day operations according to the waste acceptance rate. The intention of this list is to anticipate the amount of equipment necessary in the event that an increase in waste acceptance occurs.

Table 5.1: Minimum Equipment per Waste Acceptance Rate

Equipment	1-1000 TPD	1001 -2000 TPD	2001- 3000 TPD	3001 – 4000 TPD
Landfill Compactor > 100,000 lbs	2	2	2	3
Bulldozers CAT D6 or Equivalent	2	3	3	4
Excavator 180 hp or equivalent	1	1	1	1
Articulating Truck CAT 725 or equivalent	2	2	3	3
Motor Grader 145 hp or equivalent	1	1	1	1
Front End Loader 140 hp or equivalent	1	1	1	1
Tractor Mower	1	1	1	1
Pickup Truck (various models)	2	2	2	3
Fuel Truck	1	1	1	1
Water Truck 1000 gallon or equivalent	1	1	1	1
Water Pump	1	1	1	1

The following generally describes the functions of the heavy equipment listed in Table 5.1 above.

- Dozer/loader – removing, replacing, moving daily and intermediate cover soils; repair levees and berms, building and repairing roads
- Excavator – general excavation work; excavating for cover soil (daily and interim)
- Dump trucks – transporting cover soil
- Compactor – compacting waste and cover
- Water truck – dust control; transporting leachate; supplemental watering
- Scraper –moving gravel and soils for daily and intermediate cover soils, levees and berms.
- Motor grader – building and repairing on-site roads and drainage features
- Tractor Mower – site maintenance, grass cutting
- Water Pump – operating leachate collection system and for managing areas where water ponding may occur on the site.

Disclosure Statement

“In addition to the above list, miscellaneous pickups, vans, and other light utility vehicles as well as various pumps, instruments, and safety and training equipment will be on-site as necessary for operational efficiency. At infrequent times, such as during equipment breakdown or periodic maintenance, some pieces of equipment may not be immediately available.”

6.0 Personnel Training

As per the "Personnel Training" requirements specified in 30 TAC § 330.127(4), the City of Corpus Christi is required to provide training and keep track of the personnel training records necessary to ensure the facility's compliance with rule requirements. Training and safety meetings will be scheduled at least once per month. If a regularly monthly meeting is cancelled, it shall be rescheduled or combined with the scheduled training the following month. Records of personnel attending each training session and the topics covered will be maintained at the site. The training will be provided by qualified personnel.

Topics for training may vary each month but must be conducted at least annually for:

1. Fire protection, prevention and evacuation
2. Fire extinguisher use
3. Asbestos waste management
4. Emergency response
5. Litter control and windblown waste pick-up
6. Hazardous waste management and PCB waste detection and control
7. Prohibited waste management
8. Properties of methane gas and safety procedures for methane gas
9. Additional training for job specific activities as needed
10. Safety
11. Random inspection procedures

Facility personnel must take part in an annual review of their training in accordance with 335.586 (c).

The Landfill Manager will review each employee on an annual basis to see that adequate training is held to maintain the required licenses and that training in site safety and waste screening is provided at least annually. As per 30 TAC 335.586(a)(2), the training program will include – at minimum – procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; communications or alarm systems; response to fires or explosions; response to ground-water contamination incidents; and shutdown of operations.

7.0 Detection and Prevention of Disposal of Prohibited Waste

As per the “Detection and Prevention of Prohibited Waste, Hazardous Waste, and PCBs” requirements specified in 30 TAC §330.127(5), the City of Corpus Christi is required to have a protocol to exclude prohibited waste, including hazardous waste, PCBs, and waste listed in §330.15(e).

Prohibited waste includes but is not limited to lead acid batteries, used motor vehicle oil, used-oil filters from internal combustion engines, whole used or scrap tires, items containing chlorinated fluorocarbons (CFCs) unless all the CFCs contained within the item have been properly managed, liquid waste as defined in TAC §330.3 (relating to definitions), regulated hazardous waste as defined in TAC §330.3 (relating to definitions), polychlorinated biphenyl (PCB) waste, as defined under 40 Codes of Federal Regulations part 761, and radioactive material as defined in TAC §336.

7.1 Control of Incoming Waste

Incoming waste will be controlled in three ways to preclude the inadvertent receipt of prohibited wastes.

First Level of Control consists of informing the customers that make inquiries via phone or in person of the types of waste accepted at the landfill. Screening of waste will also take place at the transfer station prior to waste from this location being hauled to the landfill.

Second Level of Control consists of informing key personnel at the landfill of the typical characteristics of these prohibited wastes. Key personnel will be trained according to the “Personnel Training” requirements listed in Section 6 of this SOP. Personnel from both the City of Corpus Christi and the current contractor are instructed to contact the Landfill Manager or his designee on duty if prohibited material is detected anywhere on site.

Third Level of Control will be provided by the Landfill Manager, Gate Attendants, and Equipment Operators. Random inspections of a certain percent of vehicles entering the landfill will be made daily at the gate by landfill site personnel listed above. The percent of randomly inspected vehicles will vary according to special events and circumstances. However, at least one vehicle per day shall be randomly inspected. The daily random inspections will be filed in the Site Operating Record.

Fourth Level of Control will be provided by the Landfill Manager, and/or other qualified personnel at the working face. Random inspections of a certain percent of vehicles at the working face will be made daily by current contractor personnel, the percent of randomly inspected vehicles will vary according to special events and circumstances. However, at least one vehicle per day shall be randomly inspected from the working face. Trucks will be selected via a random number sheet identifying the number of trucks entering the site each day before the random inspection(s) will be conducted. The daily random inspections will be filed in the Site Operating Record.

If there is an incident involving the receipt or disposal of regulated hazardous waste or PCB waste at the landfill, the ED and any local pollution agency with jurisdiction will be notified within two days of discovery, as required by §330.127(5)(D).

Personnel shall be trained on an on-the-job basis by their supervisors related to acceptable and unacceptable wastes. Records of employee training on prohibited waste control procedures shall be maintained in the facility operating record. The personnel shall be trained to look for the following indications of prohibited waste:

- Yellow hazardous waste on PCB labels
- DOT hazard placards or markings
- Liquids
- 55-gallon drums
- 85-gallon overpack drums

- Powders or dusts
- Odor or chemical fumes
- Bright or unusual colored wastes
- Sludges

7.2 Protocol for Random Waste Inspections

The random inspections will be performed daily at the entry point to the landfill and at the working face. The purpose of the random inspections is to detect prohibited waste, hazardous waste, and PCBs that could potentially enter the site concealed within loads of authorized waste. The selection of loads for random inspection will exclude only waste in transfer vehicles that has already been screened.

a

All other vehicles will be included in the pool of loads for random waste inspections. However, if at any time an excluded vehicle outside the pool is found to have suspected waste within a load, the exemption status of that vehicle will become null and void, thereby subjecting it to random waste inspection consideration.

STEPS FOR RANDOM WASTE INSPECTION

- | | |
|-------------------|--|
| <u>Step One</u> | Direct the selected vehicle to the designated random waste inspection site. |
| <u>Step Two</u> | Qualified Personnel will inspect the load searching for signs of prohibited waste, hazardous waste, and PCB's that could potentially enter the site concealed within loads of authorized waste. The personnel performing the random waste inspection reserves the right to ask the driver to completely empty the load for a thorough examination. |
| <u>Step Three</u> | The results from the random waste inspections loads will be recorded Site Operating Record. |
| <u>Step Four</u> | In the event that a prohibited waste, hazardous waste, or PCB's is detected then the waste must be managed in accordance with Section 7.3 or 7.4 of this SOP. |

7.3 Management of Prohibited Wastes, Hazardous Wastes, and PCB's detected at the Entry Point of Cefe Valenzuela Landfill

If a prohibited waste is discovered at the entry point of the landfill, the gate attendant shall immediately notify the Landfill Manager or its designee of the situation. The driver shall be advised that the waste cannot be accepted and where the waste may be disposed of legally. He or she shall be responsible for the proper disposal of this rejected waste. Gate attendants will complete a waste screening form indicating that the load carried a suspected unauthorized waste. The waste screening report will be entered in the Site Operating Record.

7.4 Management of Prohibited Wastes, Hazardous Wastes, and PCBs detected at the Working Face

If a prohibited waste is discovered at the working face, personnel at the working face shall immediately notify the Landfill Manager or its designee of the prohibited waste location and actions taken. Prohibited wastes that are not discovered until after they have been unloaded shall be returned to the vehicle that delivered the waste. The driver shall be advised where the waste may be disposed of legally and he or she shall be responsible for the proper disposal of this rejected waste. Personnel at the working face or other personnel assigned by the Landfill Manager or its designee will complete a waste screening form indicating that the load carried a suspected unauthorized waste. The waste screening report will be entered in the Site Operating Record. In the event that the unauthorized waste is not discovered until after the vehicle that delivered the waste is gone, the waste shall be segregated and controlled as necessary. An effort shall be first made to identify the entity that deposited the prohibited waste and have them return to the site and remove the waste. In the event that identification is not possible, the Landfill Manager will notify the TCEQ and seek guidance on how to dispose of the waste as soon as possible. The Landfill Manager or its designee will enter the incident in the Site Operating Record.

7.5 Large Items Containing CFCs

Large items containing CFCs will be kept separate from the working face. A licensed contractor will be responsible for removing CFCs in accordance with 40 CFR §82.156(f). Once CFCs are removed, the appliances can be either recycled or disposed as a large item in accordance with procedures defined in section 17.0 of this SOP.

8.0 Fire Protection Plan

As per the "Fire Protection" requirements specified in 30 TAC § 330.129, the City of Corpus Christi is required to have fire protection procedures in place to protect the safety of the employees, protect the environment, and minimize damage to the integrity of the site and structures.

8.1 Preventive Actions

The following steps must be taken by designated landfill personnel as precautionary measures to prevent fires:

- Landfill personnel will take the necessary steps to prevent facility access to wastes that might present a fire hazard
- Fuel spills must be contained and cleaned up immediately
- No smoking will be allowed in prohibited areas and other areas that have not been specifically designed for smoking
- A stock pile of soil will be kept at the working face to be used as a fire control measure in case a fire occurs in the working face or adjacent areas.

The open burning of solid waste, except for the infrequent burning of waste generated by on-site land cleaning operations or emergency clean-up operations as authorized by the TCEQ is prohibited at the site.

Unattended landfill equipment will not remain in the active area of the site overnight. Additionally, fuel spills will be contained and cleaned-up in a timely fashion.

Dead trees, brush or heavy vegetation will be moved at least 100 feet from the limits of the waste, and grass and weeds around the limits of waste will be moved so that forest, grass or brush fires cannot spread to the landfill.

8.2 Fire Protection Training

All employees shall receive fire protection training regarding the provisions of this Fire Protection Plan. A review of fire control measures for all landfill personnel shall be conducted on an annual basis. At a minimum, each landfill employee shall receive training regarding the following:

- Fire prevention
- Procedures to follow to respond to fires
- Fire fighting techniques
 - The use and limitations of fire extinguishers
 - When and who to contact in case of an emergency
 - Other methods for fire control and prevention

8.3 General Rules for Fire Incidents

- Contact the Fire Department by calling 9-1-1. The City's Fire Department is approximately 3.5 miles away and ready to respond if necessary.
- Alert other facility personnel.
- Assess the extent of fire, possibilities for the fire to spread and alternatives for extinguishing the fire.
- Proceed to attempt to contain or extinguish the fire only if it appears that the fire can be safely extinguished with available fire fighting devices and personnel.
- Do not attempt to fight a fire alone; always wait for back up personnel to arrive.
- Do not attempt to fight a fire without adequate personal protective equipment.
- Upon the arrival of the Fire Department, direct Fire Fighting personnel to the fire and inform them of the actions taken.

8.4 Specific Fire Fighting Actions

- If a fire occurs on a vehicle or piece of equipment, then the first step is to bring the vehicle to a safe stop and isolate it. If the situation allows, the vehicle must be parked away from any fuel sources, uncovered solid wastes, personnel and vehicles. Shut off the engine, engage the brake, or use some other appropriate method to prevent subsequent movement of the vehicle.

- If the fire is in the “working face” the burning area should be isolated and contained. Soils should be directly placed on the fire to prevent additional oxygen from feeding the combustion. If this is not possible or is unsafe, then attempt to cover the work face with additional soils, alternate fire mitigation materials or water spray.

A common fire fighting method at landfills include covering the area in question with a significant amount of soil so as to prevent any more oxygen from feeding the combustion. Also, water could be sprayed from the water truck to help extinguish the fire or prevent it from spreading. If a fire is detected early enough, then a small fire may be fought with a hand held extinguisher. Fire extinguishers will be located at the Gatehouse and on each piece of operating equipment.

8.4.1 Stockpiling Fire-Fighting Materials

Generally, the fire-fighting technique that can be quickly employed to fight a landfill fire is smothering with soil. The faster stockpiled soil can be placed over the fire, the more effective this method will be in controlling and extinguishing the fire. Enough cover soil will be stockpiled within 2,300 feet of the working face as an aid to fighting fires. A typical fire control stockpile is made up of one day's worth of daily cover material. Based on the maximum working face size of 150' by 150', a total of approximately 417 cubic yards of soil will be available within 2,300 feet. This amount of soil will vary depending on the quantities of waste accepted at the site. Only one area of the landfill will typically be open at any given time. During wet weather conditions, a wet weather operating area will be maintained, but the normal working area will not be open at that time. During cell transition periods, it may be necessary to operate two areas at the same time. This will be a short-term condition. Trained staff will be located at both areas.

Each quarter, the Landfill Manager will evaluate waste acceptance at the site, and based on the largest quantities accepted per day, establish a stockpile quantity for the next

quarter. The calculation will be made by multiplying the active working face area times .5 feet (cover thickness) divided by 27 cubic feet to determine cubic yards of stockpile. The landfill water truck will also be available on-site for fire fighting.

Sufficient equipment is available on site to provide a minimum of six inches of soil over the working face in the event of a fire; however, this is not always deemed to be the most appropriate method for fire control. Under most circumstances, when the fire is limited to a small area of the site, material that is on fire will be removed from the working face to limit the size of the fire. Once removed, the fire can be extinguished using soil, fire extinguishers, or water from the water truck. If the fire becomes too large for control using these methods, the fire department will be notified immediately. Below is a calculation of the City's ability to place six inches of material over the maximum working face of 150' x 150'.

Calculation Assumptions:

Amount of soil required = surface area (150'x150') * cover thickness (.5') = 417 cubic yards

20 cubic yards per load (average) = 20.85 loads (11 per truck)

10 miles per hour average (includes loading and unloading time) = 880 feet / minute

11 loads @ 2,300' * 2 way = 50,600 ft / 880 ft per minute = 57.5 minutes which is less than the required 60 minutes.

The staff will be trained upon hire and annually in fire protection and containment techniques and will be advised of the procedural listing in this document.

Sufficient material will be available for fire prevention and to assist in extinguishing a fire if one should occur. The projected maximum size of the working face will vary with throughput. The working face sizes will be limited to the following sizes under normal site operations. The ranges represent the size of the working face including the wet weather area.

Table 8.1: Maximum Size of Working Face & Wet Weather Area

Tons per day	Maximum Square Feet of Working Face
1 - 100	2,500
101 - 1,000	10,000
1,001 - 2,000	22,500
2,001 - 3,000	40,000

Under normal working conditions, only one area will be allowed for disposal of municipal solid waste. During wet weather conditions, a designated wet weather area will be used. The maximum size of the wet weather area will correspond to the size of the normal working face. A trained employee staff (equipment operator or spotter) will monitor the working face during disposal operations.

8.5 Operational Activities that Store, Process, or Dispose of Combustible Materials

Fueling Tank Operation: The City of Corpus Christi owns a 10,000 gallon fuel tank used for the fueling of heavy equipment vehicles servicing the landfill and surrounding City properties.

8.6 Fire Fighting Equipment

Facility equipment will include fire extinguishers, a water truck with powered spray capability, earth moving equipment, and a water pump. A fire extinguisher shall be placed at all buildings on site, on each piece of heavy equipment, and at the fueling station. Each extinguisher shall be inspected at least annually and recharged as necessary.

The site will have a bulldozer and earth moving equipment, either a scraper and/or excavator and dump truck, and water pump available for fire fighting purposes. The bulldozer will be available for spreading soil over the burning waste and for dispersing any incoming load that is on fire. The scraper or excavator and dump truck will provide cover soils for covering burning waste and for transferring extinguished and cooled loads for disposal. The water truck may be used for dumping or spraying water on fires. The

water pump may be used for loading water into the water truck or for pumping water directly onto a fire.

8.7 Hot Loads

Burning waste will not be unloaded in the active area of the landfill. After the gate attendant, equipment operator, or other site personnel have identified signs of a possible load of burning waste or a hot load, the truck will be directed to a pre-designated portion of the landfill away from the working face, fuel areas, and other combustion sources. The waste will be unloaded and the water truck will water down the waste. The bull dozer may smother the fire with soil if the water does not sufficiently extinguish the fire. The waste will then be inspected for signs of fire or hot spots. When the fire has been extinguished and the waste has been cooled, the waste will then be transferred to the landfill active area and disposed.

8.8 Equipment Cleaning

Limited high pressure hot water or steam will be used to remove combustible waste and caked material that can cause equipment overheating and increase the threat of fire. The cleaning will be limited to equipment used primarily on the working face and will be accomplished in an area that was constructed in a manner that is compliant with Subtitle D requirements. There is no limit on the number of times cleaning can occur.

8.9 Fire Protection Standards

The City of Corpus Christi adopted the “2003 edition of the International Fire Code” as the Fire Prevention Code Section of the City Code of Ordinance.

8.10 Different Types of Fires

The table below describes the four common types of fires and the proper extinguishing agent to use in each case.

Table 8.2: Fire Type and Extinguishing Agent

Fire Type	Characteristics	Extinguisher Type
Class A Fire	Wood, paper, textiles, and other ordinary combustibles.	Class A or ABC Extinguisher: Uses water, water-based chemical, foam, or multi-purpose dry chemical. A strictly Class A extinguisher contains only water. Use
Class B Fire	Flammable liquids, oils, solvents, paint, grease, etc.	Class ABC or BC Extinguisher: Uses foam, dry chemical, or carbon dioxide, to put out the fire by smothering it or cutting off the oxygen.
Class C Fire	Electrical, live or energized electric wires or equipment.	Class ABC or BC Extinguisher: Uses foam, dry chemical, or carbon dioxide to put out the fire by smothering it or cutting off the oxygen.
Class D Fire	Combustible metals (magnesium, titanium, potassium, etc.)	Class D Extinguisher: Uses dry powder or other special sodium extinguishing agents.

9.0 Access Control

As per the “Access Control” requirements specified in 30 TAC § 330.131 all municipal solid waste management facilities must control access. The City of Corpus Christi is required to have adequate access control to prevent unauthorized waste disposal.

Public access to the landfill is limited to one main entrance/exit located on CR 20. The Gate Attendants will control access and monitor all vehicles entering and exiting the site.

9.1 Access from Public Road

Access to the site will be controlled at the main site entrance/exit. A site entrance sign is prominently displayed adjacent to the main entrance. There is also a gate located at the entrance to the facility. This gate is locked when the facility is not in operation.

9.2 Vehicle Access

Landfill vehicles and waste vehicles will have access to the active portion of the landfill. All visitor vehicles not related to waste hauling activities are required to sign-in at the gatehouse and are then directed to go to the landfill office to discuss the nature of business with the Landfill Manager. The Landfill Manager reserves the right to accept or deny entry if they feel that the visitors presence or intended activity might hinder the overall landfill performance.

9.3 All Weather Access

The main site entrance at CR20 is paved asphalt roadway that transitions into all-weather roads in the interior of the site. Site personnel maintain the caliche roads for all –weather access. The entrance road to the facility from CR20 and interior access roads within the site are all-weather roads. The all-weather road and access area should be constructed of caliche, limestone, concrete or asphalt. A “pad” may be constructed near the disposal area so that vehicles will have maneuverability to dispose of the waste at the working face during wet weather. The materials used for all-weather road construction may be salvaged and reused as the access roads locations change across the site.

9.4 Traffic Control

The Gate Attendant will restrict site access only to authorized vehicles and will direct the traffic to the corresponding disposal area. Most commercial waste transportation will be weighed at the scales and then directed to the active portion of the landfill. Most non-commercial waste transportation vehicles will be directed where to go by the Gate Attendant or by the different signs placed on site. Site personnel, signs, and barricades will be used to control traffic flow and to expedite safe movement of vehicles.

9.5 Site Security and Access Control Breach

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

If an access breach is detected and the repairs take up to 8 hours after first discovery, then the TCEQ does not need to be notified of the incident. However, the incident will be recorded in the Site Operating Record as a non-reportable incident.

If an access breach is detected and the repairs are anticipated to take more than 8 hours after first discovery, then the TCEQ must be notified of the incident. Furthermore, the incident will be recorded in the Site Operating Record as a reportable incident.

The following table summarizes the repair and reporting requirements for access breaches repaired within 8 hours and not permanently repaired in 8 hours.

Table 9.1: Repair and Reporting Requirements for Access Breaches

Requirements	If an Access Breach occurs and it can be repaired within 8 hours	If an Access Breach occurs and it cannot be permanently repaired in 8 hours
Then, notification to TCEQ regional office of breach and repair schedule...	Is <u>Not</u> required	Is required within 24 hours
Then, temporary repairs must be completed...	Do not apply	Within 24 hours

Requirements	If an Access Breach occurs and it can be repaired within 8 hours	If an Access Breach occurs and it cannot be permanently repaired in 8 hours
Then, permanent repairs must be completed...	Within 8 hours	Within the schedule submitted to TCEQ regional office in the initial notice
Then, notification to TCEQ regional office when permanent repair is completed...	Is <u>Not</u> required	Is <u>required</u> within the schedule submitted to TCEQ regional office in the initial notice

9.6 Site Fencing

An appropriate fence will be maintained in areas where natural barriers are not available to prevent public access to the facility. The types, sizes and performance specifications for the fences are listed in table below.

Table 9.2: Fence Specifications

Type of Fence	Performance Specifications	Location of Fence
Galvanized Wire Fence	5 feet high, 14 Gauge, consisting of 2"x 4" Galvanized Wire Fence	Perimeter Fence
Galvanized Wire Fence	8 feet high, 14 Gauge, consisting of 2"x 4" Galvanized Wire Fence	Containment Fence

10.0 Unloading of Waste

As per the “Unloading of Waste” requirements of 30 TAC § 330.133, the City of Corpus Christi is required to have a protocol pertaining to the unloading of wastes. The unloading of solid waste must be confined to as small an area as practically possible, the maximum allowable working face area will be 40,000 ft². Trained personnel will be available to monitor each load that is disposed of in the working face. 30 TAC § 330.133 gives the facility staff the authority and responsibility to reject unauthorized loads and have unauthorized material removed from the working face. A record of unauthorized material removed from the working face will be entered in the Site Operating Record.

Trained personnel refers to the Landfill Manager, landfill foreman, equipment operators and laborers with waste screening training which will monitor the incoming waste at the working face. These personnel will be familiar with the rules and regulations governing the various types of waste that can or cannot be accepted into the facility, including knowledge of 30 TAC § 330.171. The personnel will also have a basic understanding of both industrial and hazardous waste and their transportation and disposal requirements.

10.1 Management of Wastes Disposed in Unauthorized Areas

Unloading of waste in unauthorized areas is prohibited. Solid waste unloading will be controlled to prevent disposal in locations other than those specified by site management. Signs with directional arrows and portable traffic barricades will help to restrict traffic to designated disposal locations. Signs will be placed along the access roads to the current disposal area or other designated disposal areas that may be established. Any waste deposited in an unauthorized area will be promptly removed and disposed of at the working face. Controls 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. As mentioned before, the maximum allowable working face area will be 40,000 ft². Normally, only one working face should be active on any given day.

10.2 Random Load Inspections at the Working Face

Random load inspections for all unauthorized wastes at the working face will be conducted at least once every day and they will be entered in the Site Operating Record. The random load inspections will follow the protocol established in Section 7.2 of this SOP.

10.3 Management of Prohibited or Unauthorized Wastes and PCBs detected at the Working Face

If a prohibited waste, hazardous waste, PCBs, or any other unauthorized waste is discovered at the working face, then the Landfill Manager or its designee shall be notified immediately of the unauthorized waste location and actions taken. The prohibited waste, hazardous waste, or PCBs shall be managed according to the provisions set in Section 7.4 of this SOP.

11.0 Facility Operating Hours

As per the "Facility Operating Hours" requirements specified in 30 TAC § 330.135, the City of Corpus Christi is required to specify the operating hours when the facility may be open to accept waste and the operating hours when materials may be transported on or off site. The facility is authorized for waste acceptance 24 hours per day, 7 days per week. Actual hours of operation will be set by the Director of Solid Waste Services. Prior to initial opening of the facility, the Landfill Manager will inform TCEQ in writing of the planned hour of operation.

12.0 Site Signs

An “entrance sign” is displayed at the CR 20 entrance to the site. The sign will measure at least 4 feet by 4 feet, and have lettering of at least 3 inches in height which states the name of the site, type of site, hours and days of waste acceptance, and the TCEQ MSW permit number. A sign prohibiting certain types of waste such as hazardous waste, and “smoking wastes” will be posted near the landfill entrance. In addition, a sign stating that all waste transport vehicles must be properly covered will be posted at the CR 20 entrance and at the gate house. The City is authorized to operate the facility 7 days per week, 24 hours per day. At the City’s discretion, waste acceptance hours will be set within this timeframe and will be included on the site sign.

The sign will also indicate the phone numbers of emergency contact personnel available 24 hours per day, including the Landfill Manager and the emergency fire department contact.

Rules related to requirements that any loads delivered to the landfill must be covered will be included with the site sign.

13.0 Control of Windblown Solid Waste and Litter

As per the “Control of Windblown Solid Waste and Litter” requirements specified in 30 TAC § 330.139, the City of Corpus Christi is required to control onsite windblown waste and litter scattered along fences, access roads, and at the gate, due to wind currents or as a result from waste falling from vehicles at least once a day on days that the facility is in operation.

Windblown Wastes and Litter will be controlled using the following means:

- Waste disposal vehicles using the landfill will be required to have adequate covers or other means of containment for the wastes they transport. The adequacy of covers and/or containment will be checked at the site entrance.
- Displaying signs indicating that unsecured loads will not be admitted and they will be subjected to enforcement action from the Solid Waste Code Enforcement Officers.
- Personnel from Solid Waste Code Enforcement will be responsible for issuing violations for improperly secured loads.
- Portable litter control fences will be provided, as necessary, at appropriate locations. The litter control fences may be constructed of wire mesh screens attached to portable frames or other appropriate anchor methods. The litter control fences should be of sufficient height to control windblown waste and litter. The litter control fence should be located as close as practical to the active area to control windblown waste and litter.
- At least once a day that the facility is in operation, litter will be collected that may have accumulated on-site near the gate house and access roads used by waste disposal vehicles. The actions taken and volumes handled will be recorded daily in the Site Operating Record. The City is responsible for litter control within two miles of the site entrance in either direction on CR 20. The City will provide this litter pickup on each day that the landfill is in operation. The collected waste will be taken to the landfill for disposal.

- The working face shall be covered at least once daily during the operational hours using approved daily cover materials to avoid prolonged exposure of wastes and to minimize windblown effects.

14.0 Easements and Buffer Zones

As per the “Easement and Buffer Zones” requirements of 30 TAC § 330.141, the City of Corpus Christi is required to address the location and operations concerning easements and buffer zones.

14.1 Easements

In accordance with 30 TAC§ 330.141, solid waste unloading will not occur within an easement 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. Easements, will be clearly marked as specified in Section 15 (relating to Landfill Markers and Benchmarks) of this SOP.

Electrical and telephone service to the site will be provided by a combination of overhead lines on utility poles and underground piping. Drinking water will be provided by underground piping from an on-site water supply well. Wastewater from the buildings will be handled by an onsite septic tank system or will be transported to a City wastewater treatment plant by tank truck. Natural gas will not be used at the site at this time.

Several underground pipeline easements cross the site, as identified in Part III of the Permit Application and Site Development Plan, attachment 1-Site Layout Plans. This map identifies specific easement widths as well. Waste shall not be placed within 25 feet of the centerline of any underground pipeline easement. A copy of the Permit Application and Site Development Plan can be found in the landfill’s organized document library.

14.2 Buffer Zones

The buffer zone is located between the permit boundary and the waste footprint. The buffer zone for the site is composed of a 500-foot wide band of site property located adjacent to the property boundary. No solid waste unloading, storage, disposal, or

processing operations will occur within any buffer zone or right-of-way that crosses the site. Perimeter drainage, buffer zone planting, farming, and other non-waste related activities may occur within the buffer zone, in accordance with the Site Development Plan. The buffer zone and/or perimeter access roads adjacent to the waste footprint will be maintained at a width of at least 50 feet with no obstacles to provide safe passage for fire fighting and other emergency vehicles. The Landfill Manager will make provisions to ensure that proper lighting at the working face is oriented so that it does not become a nuisance to adjacent residents. Due to long distances between landfill and residences, it is not anticipated that physical barriers between the site and residences will be needed. However, if additional mitigation of light or noises becomes necessary, the Landfill Manager or its designee will take appropriate measures to promptly address the issue. All buffer zones will be clearly marked with a yellow marker.

15.0 Landfill Markers and Benchmark

As per the “Landfill Markers and Benchmark” requirements specified in 30 TAC § 330.143, the City of Corpus Christi is required to indicate how the landfill markers and benchmarks will be maintained.

15.1 Landfill Markers

Landfill markers will be installed to clearly mark significant features. The markers will be steel, wooden, plastic or other appropriate materials of construction. 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 after first discovery. Guidelines for types, placements, and color-coding of markers are outlined below.

- **Site Boundary:** Site Boundary markers will be painted *black*. The 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. In areas where the fence is located on the property boundary the fence posts may be painted black and used as site boundary markers. In this case, the post may be no less than 6 feet in height
- **Buffer Zone:** Buffer zone markers will be painted *yellow*. The markers will be placed in sequence with development of the site (see Part II of the Permit Application and Site Development Plan, Attachment 1) along the buffer zone boundary, at corners, and between corners at intervals of approximately 300 feet. The buffer zones will be a minimum of 500 feet wide. A copy of the Permit Application and Site Development Plan can be found in the landfill’s organized document library.
- **Easements and Right-of-Way:** Easements and rights-of-ways markers will be painted *green*. The markers will be placed in sequence with development of the

site (see Part III of the Permit Application and Site Development, Attachment 1) and only within the areas of solid waste activities. Markers south of grid line N8000 will be placed as follows: At site opening (see Figure 1.13 located in Part III of the Permit Application and Site Development, Attachment 1) the Hanlon-Buchanan Pipeline from its intersection with the site entrance road southward, and all other known pipelines and utility easements will have markers placed at intervals of approximately 300 feet along the centerline of the easement along the boundary of right-of-way, at each corner within the site (each changed direction of the pipeline), and at the intersection of the pipeline with the site boundary. The Hanlon-Buchanan Pipeline easement and right-of-way will be marked at its intersection with the site entrance road, but not further marked north of that intersection until site development eliminates agricultural production north and east of this intersection (see Figure 1.16 located on Part III of the Permit Application and Site Development, Attachment 1). at that time the Hanlon-Buchanan pipeline easement and right-of-way will be marked at 300-foot intervals from the entrance road to gridline N8000.

Easements and rights-of-way located north of grid line N8000 will be marked at the site opening only where they cross the entrance road and at their intersections with the site boundary. Internal markers north of grid line N8000 will not be utilized so as to not otherwise interfere with agricultural activities. Disposal of solid wastes north of grid line N8000 cannot occur under this permit. Future development of areas north of gridline N8000, should it be desired, will comply with applicable solid waste regulations in effect at the time of the desired new development. A copy of the Permit Application and Site Development Plan can be found in the landfill's organized document library.

- **Landfill Grid System:** Grid markers will be painted *white*. The grid system will consist of lettered markers along two opposite sides and numbered markers along the other two sides. These markers will be spaced no greater than 100 feet apart measured along perpendicular lines. Intermediate markers will be installed in the

case where markers cannot be seen from opposite boundaries. The grid markers will be maintained during the active life of the site and throughout the post-closure period. The grid system will mark at least the area that will be filled with solid waste within the next three years.

- **SLER or GLER Area:** SLER or GLER markers will be painted *red*. The markers will be placed so that all areas for which a SLER or GLER has been submitted and approved by the TCEQ are readily determinable. Such markers are to provide site workers immediate knowledge of the extent of the approved disposal areas. The location of these markers will be tied into the landfill grid system and will be reported on each SLER or GLER submitted. SLER or GLER markers will not be placed inside the evaluated areas.
- **Flood Plain:** There are no areas of this site inundated by the 100-year flood plain. Therefore, such markers are not necessary.
- **Class 1 Areas:** Specific areas dedicated to the burial of Class 1 non-hazardous industrial solid wastes will be marked at all corners of the approved composite liner for the Class 1 area. Such markers will provide site workers immediate knowledge of the extent of the approved disposal areas. Markers will be located so that they are not destroyed during operations.

15.2 Landfill Benchmarks

As required by 30 TAC § 330.143(b)(8), a permanent benchmark will be established onsite in areas that are accessible and will not be used for disposal. The benchmark will be a bronze survey pin set in concrete on monitor well pads. The benchmark elevation has been surveyed from a known United States Geological Survey (USGS) benchmark or other reliable benchmark.

16.0 Materials Along the Route to the Site

As per the “Materials Along the Route to the Site” requirements specified in 30 TAC § 330.145, the City of Corpus Christi is required to take steps to encourage waste disposal vehicles to carry their load in enclosed containers or provide a tarpaulin, net, or other means to properly secure the load. A sign will be posted stating this policy at the CR20 entrance and at the gate house. These steps are necessary to prevent the escape of any part of the load by blowing or spilling. The landfill personnel will be responsible for the cleanup of waste material spilled along and within the right-of-way of all public access roads serving the site for a distance of 2 miles in either direction from the entrance on CR20. This will be done every day that the landfill is in operation. The actions taken and volumes handled will be recorded in the Site Operating Record.

17.0 Disposal of Large Items

As per the “Disposal of Large Items” requirements specified in 30 TAC § 330.147, the City of Corpus Christi is required to manage large items in such a way that they do not present an interference to site operations and/or to avoid any potential environmental issue that might impact the site and/or its surroundings.

Refrigerators, freezers, air conditioning units, or other items containing CFC refrigerant will not be accepted for disposal at the working face unless the CFC’s contained in the item have been removed completely by a licensed contractor in accordance with 40 CFR § 82.156(f), as amended. The City of Corpus Christi will hire a licensed contractor to remove the CFC’s contained in the items prior to disposal at the working face. The City of Corpus Christi will temporarily store items containing CFC’s in the “Appliance Area” located inside the landfill. The Appliance Area is sufficiently large to temporarily store large items awaiting CFC extraction. The Appliance Area will be separated from the working face by more than 500 feet to avoid any possible interference with disposal operations and/or to avoid any potential environmental issue that might impact the site and/or its surroundings.

17.1 Items classified as Large, Heavy or Bulky Items (White Goods)

The following list gives examples of items that are considered as large, heavy, or bulky.

- Refrigerators of various sizes
- Air conditioners of various sizes
- Dryers of various sizes
- Washers of various sizes
- Freezers of various sizes

The above list is not inclusive and more items can be added at the Landfill Manager’s discretion.

Large items will be placed in the designated appliance area and recycled when possible. Large items including appliances will be removed at least monthly to eliminate the potential from these materials from becoming a nuisance. Tires that are delivered comingled with other waste and that are removed from the working face will be stored at the white goods area and recycled. Whole used or scrap tires will not be knowingly disposed. Scrap tires will be removed from this area every two weeks. Tires and appliances will be managed in a manner to reduce and eliminate possible ponding of water to eliminate potential conditions that would promote disease vectors.

If disposed, they will be reduced in size at the working face to the extent practical. Large and bulky items, including brush will be disposed near the bottom of the fill face. Items that can be classified as large, heavy, or bulky can include, but are not limited to, white goods (household appliances), air conditioner units, metal tanks, large metal pieces, large pieces of brush and automobiles. Special care will be taken to achieve the maximum practical compaction of these items prior to placement of the next layer of waste in the lift. Special care will be taken while disposing these materials so that the liner is not damaged while this material is disposed. These materials will not be placed within the first five feet above the liner or sidewalls.

17.2 Management of Items Containing CFCs

The respective license and certifications for the contractor will be kept on file at the landfill office. The contractor will remove all CFCs from the site upon extraction. The Landfill Manager will work to keep the storage of appliances on site to a minimum number of days, never to exceed more than one month.

18.0 Air Criteria

As per the "Air Criteria" requirements specified in 30 TAC § 330.149, the City of Corpus Christi is subject to TCEQ rules concerning burning and air pollution control, this includes nuisance odors, outdoor burning, visible emissions, and particulate matter control requirements.

Sources of Odor

Potential odor sources associated with a municipal solid waste landfill facility may include the wastes being delivered to the landfill, the open working face, the leachate collection system, leachate storage ponds or tanks, ponded water, and landfill gas. Many of the wastes received at a landfill are a source of odor upon receipt, such as sludges and dead animals. Other wastes have the potential for becoming sources as they biodegrade during the decomposition process. Leachate, liquid that has passed through or emerged from solid waste, may also be a source of odor if not properly handled or managed in a timely manner. Ponded water and landfill gas could become a source of odor as well. Due to the landfill being in a remote area with few neighbors, problems associated with odors will be minimal.

18.1 Odor Management Plan

The odor management plan addresses the handling of particular odorous waste at the landfill. Odor control measures may include, but are not limited to the following items:

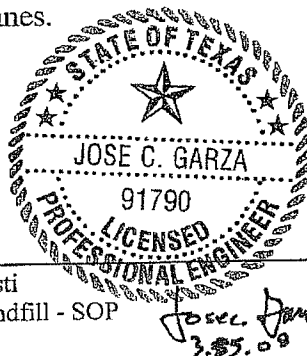
- Control of any ponded water at the site to avoid its becoming an odor nuisance
- Incoming waste should be promptly landfilled.
- To avoid spillage and to minimize exposure to the atmosphere, removal of leachate should be done under appropriate weather conditions (i.e. low wind speeds, no rain).
- Regular inspections and repairs of the gasket, cap, and leachate riser backfill material.
- Use of vapor-tight gaskets on all leachate sumps.

- Adding leachate collection systems to the gas management system.
- Daily visits on days that the landfill is in operation will be made to the leachate storage ponds or tanks to determine any odor problems. In the event of odor problems, the storage facilities will be examined and appropriate measures will be employed to minimize the odors. We do not anticipate any issues arising from odor. The wind is predominantly from the southeast and the nearest neighbor is approximately 1.5 miles from the ponds. If the wind is from the north, there are no neighbors within two miles of the south property line. The areas adjacent to the ponds are agricultural and no development is anticipated. However, if odor becomes an issue (complaint from a nearby neighbor specifically regarding odor from the ponds), then the City shall interview the neighbor and determine the cause of the odor. If it is determined that the odor is from the ponds and is a nuisance, then proper measures shall be taken as appropriate in accordance with current design standards. Such measures may include, but are not limited to, the use of aerators, bubblers, and as a last resort removing the leachate and transporting it off-site for treatment.
- In the event objectionable odors occur, appropriate measures should be taken to alleviate the condition.
- Identify known sources of odorous wastes and specify a time of day for these wastes to be received so that they can be given special attention.
- If odors are a result of improper use of alternate daily cover material, the cover material will need to be re-evaluated.
- Spills of odorous material should be promptly managed.
- Damage or erosion of daily, alternate or final cover should be promptly repaired

NOTE: The City of Corpus Christi (Nueces County in general) is not in a State Implementation Plan (SIP) designated jurisdiction; therefore SIP criteria does not apply.

18.2 Open Burning

Open burning is banned at the landfill, unless specifically authorized by the TCEQ to manage emergency situations, such as burning of brush when an emergency situation arises, i.e. hurricanes.



19.0 Disease Vector Control

19.0 Disease Vector Control

As per the “Disease Vector Control” criteria specified in 30 TAC § 330.151, the City of Corpus Christi is required to control vectors such as rodents, flies, and mosquitoes at landfills through daily site operations, which include the application of daily, intermediate, and final cover. Landfill operators will conduct routine checks for insects or rodents associated with the operations and will report problems to the Landfill Manager. If necessary, a licensed professional should apply pesticides to ensure that proper chemicals are used and are properly applied.

20.0 Site Access Roads

As per the "Site Access Roads" requirements of 30 TAC § 330.153, the City of Corpus Christi is required to control and minimize mud, dust and litter from the landfill onto public roadways. The entrance to the facility from CR20 and interior access roads within the landfill are all weather roads. These roads are provided for access to the active disposal area. Re-grading to minimize potholes will be performed as necessary. The following steps will be taken to control and minimize the impact of mud, dust and litter from the facility:

20.1 Control and Minimization of Mud:

The road construction material will consist of caliche, limestone, or recycled asphalt, which provides mud control for waste disposal vehicles prior to exiting the site and returning to public roadways. The entrance to the landfill will be swept at least once per day on days when mud and associated debris are being tracked onto the public roadway, and as necessary to control excessive amounts of mud that the daily maintenance crew cannot handle. Mud and associated debris will be controlled through the use of all-weather roads, mechanical or hand sweepers, and equipment capable of scraping mud from the roads.

20.2 Control and Minimization of Dust:

Dust at the facility will be controlled by watering the access roads as necessary to suppress dust generation. The water source may be clean storm water (including that storm water captured during cell construction), or applicable potable water supply system.

20.3 Control and Minimization of Litter:

For control and minimization of windblown solid waste and litter see Section 13.

20.4 Re-grading of Site Access Roads:

The site access roads will be re-graded at the discretion of the Landfill Manager but at least once a quarter.

21.0 Salvaging and Scavenging

As per the “Salvaging and Scavenging” requirements specified in 30 TAC § 330.155, the City of Corpus Christi is required to take the necessary steps to ensure that salvaging efforts do not interfere with sanitary disposal operations, and that scavenging activities do not occur on site.

21.1 Salvaging Operations

Salvaged materials should be considered as potential recyclable materials and may be stored in a designated collection area. Salvaged items should be recycled often enough to prevent an excessive accumulation of the material at the site to prevent odor or other nuisance conditions from developing and to eliminate the risk of discharge of pollutants. Items recovered through salvage operations will be removed from the site at least once per month.

21.2 Scavenging Activities

Scavenging will be prohibited at all times on site. The City of Corpus Christi will take necessary measures to prevent scavenging activities on site.

22.0 Endangered Species Protection

Based on previous studies and a determination by both the Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service, operations of the site is not likely to impact endangered species (animal or plant). As the facility is developed site personnel should notify the Landfill Manager if any change in this status is suspected.

Previous evaluation and the findings of the Texas Historical Commission indicated that cultural resources do not exist on site. As the facility is developed, site personnel should notify the Landfill Manager if any change in this status is suspected.

The Landfill Manager will be responsible for reporting suspected changes to the status of endangered species or cultural resources to the Director of Solid Waste Services. The Director will then take appropriate action which may include notification of authorities as appropriate, and ordering modification of activities in the area of concern.

23.0 Landfill Gas Control

As per the “Landfill Gas Control” requirements of 30 TAC § 330.159, the City of Corpus Christi is required to control and monitor landfill gas in accordance with the “Gas Management Plan” included in Part III of the Permit Application and Site Development Plan, Attachment 14. The Permit Application and Site Development Plan can be found in the landfill’s document library as per the “Recordkeeping Requirements” specified in 30 TAC § 330.125. The landfill gas monitoring results will be kept in the facility’s operating record and submitted to the TCEQ in accordance with the Site Development Plan, Attachment 14.

23.1 Perimeter Monitoring

23.1.1 Perimeter Monitoring Network

The LFG monitoring probe network will include LFG monitoring probes and utility trench vents. The LFG monitoring probes will be located along the permit boundary and north of Unit 2. The utility trench vents will be located on each utility easement within 2,000 feet of the waste disposal areas. The probes and vents will be installed sequentially as the development of the fill areas progress. The probes and vents will be installed at locations when waste disposal is within 2,000 feet. Locations of the proposed monitoring probes and vents, as well as the installation sequence plan, are shown in Appendix 14A, Figure 14A. 1.

Permanent LFG monitoring probes of a single tube design will be used to detect the presence of LFG in subsurface soil. The single tube probe design was chosen for two reasons. First, it provides monitoring of the soil strata for the total depth of the probe, minimizing the possibility of undetected LFG migration through an unscreened zone. Second, it is difficult to achieve and maintain positive seals between separate monitoring zones within a single well-bore, which increases the chance for misinterpreted monitoring results.

Utility trench vents will be used to detect the presence of LFG within the utility easements. Utility trench vents will be installed with a monitoring port for monitoring for the presence of LFG. The vent was selected to serve as a means of monitoring due to its ability to also be used to mitigate LFG migration within the utility easements should it occur.

23.1.2 Landfill Gas Monitoring Probes and Utility Trench Vents

Proposed LFG monitoring probes will be installed consistent with guidelines presented in the TCQ Municipal Solid Waste Division Methane Monitoring Handbook, Version 2, December 1993. Probes will be installed to monitor the soil strata above the higher of the lowest measured groundwater level at the monitoring point or the lowest current or planned future elevation of waste within 1,000 feet of the monitoring point. The probes will be screened from approximately 1.5 feet above the bottom of the borehole to within approximately 5 feet of the ground surface. Washed pea gravel will be placed in the borehole to approximately 6 inches above the screened interval and approximately 6 inches of sand will be placed over the pea gravel. Bentonite pellets will be placed above the sand and hydrated to form an impermeable layer to prevent air and water intrusion into the probe boring. A concrete pad and a steel casing extending into the borehole and above the ground surface will also be installed. A PVC cap with a quick connect coupling will be installed at the top of the probe for ease of monitoring. No solvents or PVC cement, which may affect monitoring results, will be used during construction of the probes. A typical detail of the proposed LFG monitoring probes is provided on Figure 14A.2 in Appendix 14A.

23.1.3 Monitoring Procedures

Methane concentrations will be measured using a combustible gas indicator calibrated against a methane standard with a sampling line for drawing samples directly to the indicator without diluting the sample. The indicator should give a direct reading of methane concentration by volume. Equipment maintenance requirements, monitoring procedures, and calibration information for the instruments used to monitor methane concentrations should be kept on site with the LFG monitoring records described in Section 3.3. Monitoring will be conducted under the oversight of the Chief Landfill

Foreman by qualified personnel or a qualified consultant. The results will be recorded on the attached Quarterly Landfill Gas Monitoring Report (Appendix 14B), or similar form, and maintained in the Site Operating Record.

If one of the tests indicate that the allowable concentration of methane has been exceeded, verification procedures, described in Section 4 of Part III, Attachment 14, will be implemented. If verification procedures indicate allowable limits are being exceeded, notification procedures, also described in Section 4, will be implemented.

23.1.4 Maintenance Procedures

Each time LFG monitoring is conducted, the integrity of the LFG monitoring probes and utility trench vents will be inspected by the sampler. The sampler will record pertinent information on the Quarterly Landfill Gas Monitoring Report (Appendix 14B) or similar forms. The Quarterly Landfill Gas Monitoring Report will be kept on file at the facility.

The sampler will perform the following at each monitoring event:

- Verify that the LFG monitoring probe or utility trench vent number 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 or excessive wear to the LFG monitoring probe or utility trench vent is observed, it will be reported to the Landfill Foreman. If it is not possible to repair the LFG monitoring probe or utility trench vent and the damage can potentially affect the accuracy of future monitoring results, the LFG monitoring probe or utility trench vent will be decommissioned and replaced with a new LFG monitoring probe or utility trench vent in accordance with Sections 3.1.2 and 3.4 of the Landfill Gas Management Plan.

The combustible gas monitoring instrument should be calibrated and maintained in accordance with the manufacturer's instructions. The maintenance requirements for the monitoring instrument will be available on site with the LEG monitoring records described in Section 3.3.

23.2 Recordkeeping/Reporting

Field monitoring data records will be maintained for the methane monitoring and kept on site as part of the Site Operating Record. Field data will be recorded on the Quarterly Landfill Gas Monitoring Report form (or similar form) as shown in Appendix 14B of Part III.

Quarterly monitoring results will be submitted to the TCEQ Executive Director or his authorized representative. Monitoring probes and utility trench vents will be monitored quarterly during the following periods:

LFG Monitoring Quarters	
First Quarter:	January - March
Second Quarter:	April - June
Third Quarter:	July - September
Fourth Quarter:	October - December

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 TCEQ to revise or discontinue the program.

24.0 Oil, Gas, and Water Wells

As per the “Oil, Gas and Water Wells” requirements specified in 30 TAC § 330.161 the City of Corpus Christi is required to identify the location of any known abandoned oil or water wells on site.

Oil wells, gas wells, and water wells associated with support of oil and gas drilling, are known to have been drilled on the site. During the course of site development, but prior to beginning construction on the site, the Landfill Manager will:

- a) Provide written notification to the TCEQ of the location of all known existing or abandoned water wells, crude oil wells, natural gas wells, or other wells associated with mineral recovery, situated within the site.
- b) Provide written certification to the TCEQ, that all such abandoned wells have been properly capped in accordance with applicable rules and regulations of the Railroad Commission of Texas.
- c) Provide a demonstration to the TCEQ that all such wells which are still in use at the time of the notification will not conflict with the development of the site. The demonstration will include a schedule for abandonment and plugging of wells which are anticipated to eventually conflict with the site development. Also included will be plans for protection of such wells, if necessary, until they are abandoned and plugged.

24.1 Discovery of Water Wells during Facility Operation

As the site is developed, if any water wells are encountered they should be exposed, and the casing should be cut to a minimum of 2 feet below the excavation, and the well should be capped and plugged in accordance with all applicable rules and regulations of the TCEQ, the Railroad Commission of Texas, or other applicable state agency. If water wells are located the Landfill Manager or its designee must, within 30 days, provide written notification to the TCEQ’s executive director of the location of any and all existing or abandoned water wells. Within 30 days of discovery, the Landfill Manager

will provide written certification to the Executive Director that all such wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the TCEQ or other state agency. A copy of all well plugging reports and closure documentation will be submitted with the closure certification.

24.2 Discovery of Oil and Gas Wells during Facility Operations

The Landfill Manager will immediately provide written notification to the Executive Director of the location of any and all existing or abandoned on-site crude oil or natural gas wells, or other wells associated with mineral recovery. The Landfill Manager will provide the Executive Director a written notification that all such wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Texas Railroad Commission. A copy of the well plugging report required 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.

25.0 Compaction

As per the "Compaction" requirements specified in 30 TAC § 330.163, the City of Corpus Christi is required to compact the incoming waste to provide a more efficient use of available space and reduce the amount of settling after the fill is complete. Compaction will be accomplished with an adequately sized landfill garbage compactor(s) to minimize the volume of loose material and have more air space available for waste disposal operations.

25.1 Compaction of Waste during Placement of Ballast

If waste is used as ballast, the Landfill Manager and/or designee will be on-site full time during the placement of the first five (5) feet of waste over the liner system. He/she will verify that this lower five (5) feet of waste does not contain large bulky items that could damage the liner system or that cannot be compacted to the required density. The Landfill Manager and/or designee will document that the waste used for ballast has been compacted.

26.0 Landfill Cover

As per the "Landfill Cover" requirements specified in 30 TAC § 330.165, the City of Corpus Christi is required to apply daily cover to control disease vectors, windblown waste, odors, fires, and scavenging, and to promote runoff from the fill area.

26.1 Soil Management

A stockpile or borrow source for soil cover material will be maintained on-site. The cover material will not have been previously mixed with wastes. On-site soils are suitable for cover material as well as other soils deemed appropriate by the landfill manager. The cover material should be managed so as to not interfere with vehicular traffic or impede drainage. At least a portion of this cover material should be stockpiled near the workforce for potential emergency fire control.

Temporary excess soil will be stockpiled in the buffer areas, on filled areas and on side slopes for future use on the site or for removal from the site. All stockpiles will be maintained in conformance with the Erosion Control Plan. Stockpiles will be oriented generally parallel to the direction of surface drainage in any given area and will not alter drainage patterns nor block the use of the buffer areas by fire and emergency equipment.

26.2 Daily Cover

Daily cover of waste will be applied at least once daily to control disease vectors, windblown waste, odors, fires, scavenging, and to prevent excessive accumulation of water within the fill. Soils and alternate daily covers that include tarps or foams, or a combination of the three, will be utilized to complete the daily cover at the site. The use of Saniform (or equivalent) or polyethylene tarps as an alternative daily cover was previously approved for the Cefe Landfill. Alternate daily cover material will not be used if the landfill will be closed more than 24 hours. Quarterly status reports will be submitted to the TCEQ for four consecutive quarters in the event that alternative daily cover is used.

26.2.1 3-M Sanifoam (or equivalent)

3-M Sanifoam (or equivalent) cover will be used routinely as daily cover. 3-M Sanifoam is an air-injected, two component synthetic foam that can be sprayed onto the landfill solid waste surface to form an expanded protective foam blanket. The spray thickness will be between one (1) and two (2) inches. The applied foam "sets up" within 60 seconds to a durable solid state with consistency similar to crushable expanded polystyrene. The foam is non-toxic and non-combustible, and is biodegradable. The hardened foam is water insoluble which promotes rainfall runoff, exhibits extremely low gas permeability that prevents escape of vapors and odors, it seals the waste from flies and other. Rodents and vectors, and adheres to the waste preventing litter and dust from blowing. The foam is mechanically crushed and broken up during subsequent landfill operations for unimpeded movement of methane gas and leachate in the cell. Technical data sheets and MSDS are attached for further information in Appendix IV-A.

The foam is sprayed on with a machine specially designed for this product. The machine (Coverfoam Services, Inc., model PB-250-D, or equivalent) uses a spray bar system to apply an even coat of foam over the solid waste. The machine is pulled by a dozer or other tractor over the solid waste making several adjacent passes until the surface is completely covered.

During periods of inclement weather (i.e., rain) where the foam may not set properly, foam operations will be suspended and the working face will be covered by the use of polyethylene tarps or soil.

26.2.2 Polyethylene Tarps

Polyethylene tarp covers will also be used for daily cover. Typically these tarps will be used in small working faces (less than 200' x 200') and on slopes too steep for 3-M Sanifoam application. The tarps are fifty feet by fifty feet (50' x 50') in size and are made

out of a fire retardant woven fabric which repels water. The tarps are an effective barrier against vectors, odors, and windblown litter by effectively sealing in the waste. MSDS and physical properties for the tarp materials are attached in Appendix IV-A.

These tarps will be installed by landfill personnel by hand at the end of the day. Tarp installation will be such that they overlap by a minimum of one foot in such a manner so that rainfall will run off with minimal or no infiltration. Tarps will be weighted down with automobile tires along the perimeter and the center to prevent the wind from blowing them off the working face. The following morning, the tarps will be pulled off the working face by landfill personnel either by hand or using a dozer before the start of the day's operations.

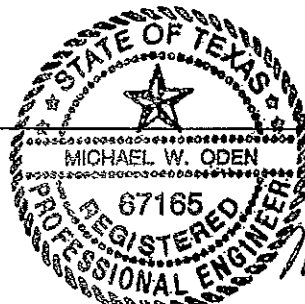
26.3 Soil

A well-compacted six (6) inch soil cover will be used to cover solid waste when ADC materials are not used. The soil cover will be clean and not previously mixed with waste materials. When a period of greater than 24 hours is expected to lapse before solid waste disposal will resume at a specific working face or area, soil cover will be used in lieu of ADC. A period of greater than 24 hours may occur when the site closes on a weekend, when the working face is temporarily moved to a new area, or other reasons.

26.4 Intermediate Cover

The top and sides of the landfill working face will be shaped to conform to landfill operations. Intermediate cover soil will then be transported to the working face or any area that has already received daily cover, where it will be deposited near the upper end of the working face, spread, and compacted. Intermediate cover will consist of soils that have not been previously mixed with wastes and will be capable of sustaining native plant growth.

All areas that receive waste and then become inactive for longer than 180 days will be covered with an additional six (6) inches of compacted cover material, for a total cover



Michael W. Oden

thickness of at least 12 inches. When the area is to be reused, some of this cover material will then be removed from use as daily cover on new areas, if it can be removed cleanly.

To minimize erosion and maintain adequate control of storm water, temporary let down structures may be used on intermediate cover. The intermediate cover will be seeded or sodded following its application, and vegetation and other erosion control features will be maintained on areas that have received intermediate cover. Grading of the intermediate cover will be undertaken in a manner to prevent ponding of water. This is discussed in Section 27.0.

26.5 Final Cover over Class 1 Waste

Final cover construction and maintenance will be in compliance with Attachment 12 – Final Closure Plan – in the Site Development Plan, and with Chapter 330, Subchapter K.

26.6 Final Cover

The Final Closure Plan allows for successive closure of areas of the site as they become filled to capacity. The final cover will be maintained in a manner consistent with Attachment 12 of Part III – Final Closure Plan and the requirements of Chapter 330 Subchapter K. Closure of individual areas will be in accordance with the “Sector Fill Plan”. The City will implement the plan as ongoing landfilling operations to continue until the time of final closure. The surface will be managed throughout the active life of the site to minimize infiltration into the filled areas and to minimize contact with solid waste. In general, closure of completed portions of the site will consist of the following steps:

1. Survey controls will be implemented to control the filling of solid waste to the lower level of the final cover.
2. A surveyed grid system or other suitable surveying measures will be used to control placement of the final infiltration layer.
3. Testing of the various components of the final cover system will be performed in accordance with the TCEQ regulations.

4. During the first growing season following application of final cover system, the area will be vegetated with appropriate grasses to minimize erosion.

26.7 Cover Application Log

Throughout the active life of the landfill, a cover application log will be maintained and made readily available for inspection. For intermediate cover and daily cover, the log will specify the area covered, how it was placed and when it was completed. For final cover, the log will specify the amount of cover applied over each area (thickness) and when it was applied. The cover log will be located inside the landfill office unless otherwise directed by the Landfill Manager.

27.0 Ponded Water

As per the “Ponded Water” requirements of 30 TAC § 330.167, the City of Corpus Christi is required to prevent and control the ponding of water inside the landfill. Ponded water can be breeding grounds for vectors, and can be a source of harborage for vectors. Site grading and maintenance activities will be performed on an as needed basis to help minimize the ponding of water over waste areas. Should ponded water occur, it will be removed and depressions will be filled as soon as practicable but no later than seven (7) days after the occurrence. If the ponded water has come into contact with waste, leachate, or waste contaminated soils, the ponded water will be treated as leachate and managed in accordance with Part III of the Permit Application and Site Development Plan, Attachment 15-Leachate and Contaminated Water Plan. The Permit Application and Site Development Plan can be found in the landfill’s organized document library.

27.1 Ponded Water Prevention

The City will manage the working face of the landfill in a manner that reduces the potential for water collecting and ponding. This will be accomplished by maintaining the working face at sufficient grades so as to promote water running off the exposed waste or daily cover. Water that may pond at the working face will be removed using landfill equipment. Water that comes in contact with waste will be treated as contaminated water and disposed of accordingly. Water that may pond in areas where it does not come in contact with waste will be treated as storm water.

27.2 Routine Inspections to Identify Potential Ponding Locations

Following major storm events, the City will undertake an assessment of the site to identify areas of potential or actual ponding. In addition, the City conducts at least monthly reviews of the entire site to identify possible depressions as locations of possible future ponding. City crews will be directed to these locations to re-grade areas to reduce the potential for future ponding.

Directives to fill and re-grade potential ponding locations will be undertaken as soon as practical after they have been identified. Ponded water that occurs in the active portion of the landfill will be eliminated and the area in which the ponding occurred will be filled in and regarded within seven days of detection.

During extremely wet conditions, or periods of extended storms, disposal activities will be limited to the wet weather area. Priorities for staff during these periods are to maintain access into and out of the site and provide disposal services as efficiently as possible. Within 7 days of extended wet weather conditions, the City will evaluate the site to identify areas where ponding has occurred and will take corrective actions to reduce ponding in areas of the working face and closed areas.

27.3 Record Keeping

As a part of the overall site review, records will be maintained to identify areas where ponding has occurred. Documentation of work completed will also be placed in the site's file.

28.0 Disposal of Special Wastes

As per the “Disposal of Special Wastes” requirements specified in 30 TAC § 330.171, the City of Corpus Christi is required to handle special wastes in a manner consistent with TCEQ regulations.

The definition of special waste can be found in 30 TAC § 330.3, which states that special wastes are wastes that because of their quantity, concentration, or physical, chemical, or biological properties require special handling and disposal to protect human health or the environment. The facility will handle special waste according to the following guidelines.

28.1 Protocol for Disposal of Special Waste

If a generator wishes to dispose of a special waste at Cefe Valenzuela Landfill, the generator must submit to the Landfill Manager a completed City of Corpus Christi Generator’s Waste Profile Sheet (GWPS) in order to provide a complete profile for the special waste. The City of Corpus Christi will determine if the special waste falls in the category of special wastes that do not require further disposal authorization from TCEQ, or if the waste falls in the category of special wastes that do require special disposal authorization from TCEQ.

If the special waste falls in the category of special wastes that do not require special disposal authorization from TCEQ, then the special waste will be further evaluated using the criteria established for special wastes. If the special waste meets all the conditions mentioned previously, then the special waste will be considered “acceptable for disposal”.

If the special waste falls in the category of special wastes that do require special disposal authorization from TCEQ, then the generator or its designee will be responsible for obtaining special disposal authorization from TCEQ.

The Landfill Manager will reserve the right to accept or reject any special waste load, even if the special waste load is deemed acceptable, if at any point he feels that the facility could potentially receive a negative impact from the acceptance of the special waste load.

28.2 Special Wastes That Do Not Require Special Waste Disposal Authorization from TCEQ

According to 30 TAC § 330.171(c) the following special wastes do not require written authorization for acceptance provided that the waste is handled in accordance with the noted provisions for each waste.

a) Special Waste from Health Care Related Facilities

Special wastes from health care related facilities which have been previously treated in accordance with the procedures specified in 30 TAC § 330 Subchapter Y (relating to Medical Waste Management) may be accepted.

b) Dead Animals and/or Slaughterhouse Waste

Dead animals and/or slaughterhouse waste may be accepted at without further approval from the TCEQ provided that the carcasses and/or slaughterhouse waste are covered by three feet of other solid waste or at least two feet of earthen material immediately upon receipt.

c) Regulated Asbestos-Containing Materials (RACM)

RACM may be accepted at the facility in accordance with TAC § 330.171(c)(3) and as authorized in the original permit. Prior to initial receipt of RACM at this facility, the Landfill Manager will dedicate a specific area(s) of the landfill for receipt of RACM and notify the TCEQ in writing of the designated area(s). The Landfill Manager will also prepare a contingency plan in case of ruptured bags and designate appropriate personnel for implementation of the contingency plan. As the operation continues, the Landfill Manager will notify the TCEQ in writing of any new dedicated areas for RACM.



8-22-2007
Pg. 69

August 2007
Version 2

A handwritten signature in black ink, appearing to read "Michael W. Oden", written over the printed name and license number on the seal.

Each load of RACM that arrives on-site will be documented. This documentation will include the volume of material, and the location and depth of its disposal. RACM disposal locations will be identified by survey (Registered Professional Land Surveyor) and identified on a current site drawing at the site.

Delivery of RACM will be coordinated with the Landfill Manager so that the waste will arrive during times that it can be properly managed by site personnel.

RACM will be accepted at the site only if it is contained in tightly closed containers or bags, or wrapped as necessary with 6-mil thick polyethylene.

RACM will be placed in landfill units such that it will not be exposed as a result of erosion or weathering. When possible this will be achieved by placing the RACM below the natural grade. At a minimum, the RACM will be placed at least 20 feet away from exterior final sideslopes, and at least 10 feet below final grade. During unloading and placement of RACM in the waste fill, care will be exercised to prevent breaking open the bags or containers. One foot of soil cover or 3-feet of asbestos-free municipal solid waste will be placed over the RACM immediately after it is placed in the landfill unit.

RACM that has been designated as Class 1 industrial solid waste, and that arrives at the facility will be disposed of in accordance with TAC § 330.173(g)-(i) or in accordance with this section of the Site Operating Plan.

Upon closure of the facility, a notation indicating that the site accepted RACM will be placed in the deed record. This notation will indicate where the RACM was disposed of on the property by showing its location on a site diagram. A copy of this documentation will be provided to the TCEQ.

d) Non-regulated Asbestos-Containing Materials (non-RACM)

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 the requirements of 30 TAC § 330 (relating to Municipal Solid Wastes). Under no circumstances may 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.

e) Empty Containers which have been used for Pesticides, Herbicides, Fungicides, or Rodenticides

Empty containers which have been used for pesticides, herbicides, fungicides, or rodenticides must be disposed of in accordance with the provisions mentioned below.

These containers may be disposed of provided that the following 3 conditions are met:

- The containers are triple-rinsed prior to receipt at the landfill
- The containers are rendered unusable prior to or upon receipt at the landfill; and
- The containers are covered by the end of the same working day they are received.

Those containers for which triple-rinsing is not feasible or practical (e.g. paper bag, cardboard containers) may be disposed of under the provisions of 30 TAC §330.171(c)(5).

f) Municipal Hazardous Waste from Conditionally Exempt Small Quantity Generators (CESQG)

Municipal hazardous waste from a conditionally exempt small quantity generator (CESQG) may be accepted at a Type I municipal solid waste landfill without further approval from the executive director provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator, and provided the landfill owner or operator authorizes acceptance of the waste.

g) Sludge, Grease Trap Waste, Grit Trap Waste, or Liquid Waste from Municipal Sources

Sludge, grease trap waste, grit trap waste, or liquid wastes from municipal sources can be accepted at Type I municipal solid waste landfill for disposal only if the material has been, or is to be, treated or processed and the treated/processed material has been tested, in accordance with Test Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/chemical Methods" (EPA Publication Number SW-846), as amended, and is certified to contain no free liquids. Prior to treatment or processing of this waste at the landfill, the owner or operator shall submit written notification to the executive director of the liquids processing activity as required in 30 TAC § 330.11.

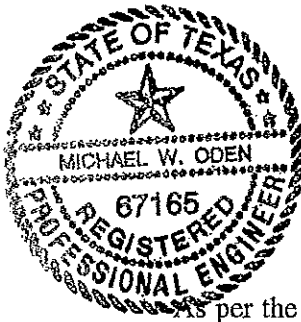
28.3 Special Wastes That Require Special Waste Disposal Authorization from TCEQ

Special wastes that are not specifically identified in 30 TAC § 330.171(c) require prior written authorization by the TCEQ for disposal. If the special wastes are not specifically addressed in section 28.2 of this SOP then the generator of the special waste will be required to request written authorization from TCEQ prior to disposal. Additionally, the generator of the special waste will be required to complete the City of Corpus Christi Waste Profile Sheet prior to disposal.

28.4 Special Waste Prohibited for Disposal in any MSW Landfill

The following special wastes will not be accepted for disposal at any MSW facility:

- Used-oil filters from internal combustion engines.
- Lead acid storage batteries



Michael W. Oden
8-22-2007
Pg. 73

29.0 Disposal of Industrial Wastes

As per the "Disposal of Industrial Wastes" requirements of 30 TAC § 330.173, the City of Corpus Christi is required to address the types of Non-Hazardous Industrial Wastes that are acceptable for disposal at Cefe Valenzuela Landfill. Industrial Wastes are defined in 30 TAC § 330.3 as solid wastes resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations.

29.1 Protocol for Disposal of Industrial Waste

If an industrial generator wishes to dispose of waste at Cefe Valenzuela, the industrial generator will first classify the waste and submit a completed Waste Profile Sheet to the City of Corpus Christi for evaluation. The City of Corpus Christi will determine if the classification performed by the industrial waste generator seeking disposal authorization is consistent with the waste classification criteria in §330.3 (Definitions) and Chapter 335, Subchapter R. Wastes should be classified by generator prior to delivery to the landfill. The City of Corpus Christi will determine if the waste is a Class 1, 2, or 3 Industrial Waste. The Cefe Valenzuela Landfill is permitted to accept Class 1, 2, and 3 Non-Hazardous Industrial Wastes.

Disposal of Class 1 Non-Hazardous Industrial Solid Wastes will be accomplished in accordance with the requirements of 30 TAC§ 330.173. The phrase "dedicated trench" as used in the regulations means the specific area in which Class 1 waste is placed for disposal.

All shipments of Class 1 waste will be accompanied by a manifest (waste-shipping control ticket) as required by the commission. The Landfill Manager will sign the manifest for any authorized shipments of Class 1 waste. The Landfill Manager will not accept or sign for shipments of Class 1 waste for which the authorization to accept has not been granted by the executive director or has not been authorized by permit provisions. The landfill will retain the disposal facility copy of the manifest for a period

of three years. This time period is automatically extended if any enforcement action involving the City or the landfill is initiated or pending by the executive director.

When the landfill accepts any Class 1 waste, a written report of Class 1 waste received will be submitted to the executive director. This report will be submitted no later than the 25th day of the month following the month that the waste was received. Reports will be submitted on forms provided by the TCEQ and will include all the required information. Monthly reports regarding acceptance of Class 1 waste will be submitted, including those months in which no Class 1 waste is received at the landfill unless an exception is granted by the executive director.

While Class 1 Non-Hazardous Industrial Solid Waste will be placed only in dedicated areas, specific dedicated areas not identified at this time. All permitted disposal areas that are below the elevation of the surrounding natural grade may be dedicated to Class 1 waste disposal. However, specific areas to be dedicated to Class 1 waste disposal will be identified as the site is developed. When new dedicated areas for Class 1 waste are identified, site drawings will be modified as appropriate. Modified site drawings will be submitted to the TCEQ for review and approval. Areas dedicated to Class 1 waste disposal will be constructed in accordance with the requirements as discussed in Part III of the Permit Application and Site Development Plan, Attachment 10 Soil and Liner Quality Control Plan.

The volume of Class 1 Non-Hazardous waste disposed at the site in any one year will not exceed 20 percent of the total amount of waste (not including Class 1 wastes) accepted during the same or previous year of operation.

Wastes which are Class 1 Non-Hazardous Industrial Solid Wastes only because of asbestos content may be accepted at the facility in accordance with the requirements of 30 TAC § 330.171.

Class 2 and 3 Non-Hazardous Industrial Solid Wastes, except special wastes as defined in §330.3, will be accepted for disposal at any point in time provided they can be managed with regular MSW in any available disposal area and will not interfere with facility operation.

29.2 Class 1 Non-Hazardous Industrial Wastes

A Class 1 Non-Hazardous Industrial Waste is any industrial solid waste or mixture of industrial solid wastes that because of its concentration or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, and may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or otherwise managed as defined in 30 TAC §335.505 (relating to Class 1 Waste Determination).

29.3 Class 2 Non-Hazardous Industrial Wastes

A Class 2 Non-Hazardous Industrial Waste is any individual solid waste or combination of industrial solid wastes that cannot be described as hazardous, Class 1, or Class 3 Non-Hazardous Industrial Wastes, as defined in 30 TAC § 335.506 (relating to Class 2 Waste Determination).

29.4 Class 3 Non-Hazardous Industrial Wastes

A Class 3 Non-Hazardous Industrial Wastes is any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, dirt, and certain plastics and rubber, etc., that are not readily decomposable as defined in 30 TAC § 335.507 (relating to Class 3 Waste Determination).



Michael W. Oden
8-22-2007
pg. 75

30.0 Visual Screening of Deposited Wastes

The development of the disposal sectors or cells is performed in such a way as to minimize the visual appearance of waste disposal operations from beyond the property border. Disposal operations take place in different sectors or cells depending on the circumstances and weather conditions. All disposal operations are conducted in accordance with the following sections of this SOP to minimize the visual impact of waste disposal operations:

- Section 26 (relating to Landfill Cover)
- Section 25 (relating to Compaction)
- Section 21 (relating to Salvaging and Scavenging)
- Section 19 (relating to Disease Vector Control)
- Section 13 (relating to Control of Windblown Solid Waste and Litter)
- Section 10 (relating to Unloading of Waste)

Unless otherwise indicated by the TCEQ, the City of Corpus Christi will continue performing operations as usual observing the sections mentioned above and implementing good housekeeping practices as necessary.

Visual screening of waste disposal activities will be accomplished primarily by:

- Vegetative screening on outer perimeter of the landfill area, and
- Vegetative screening along eastern side of the entrance road.

Visual screening will be developed in general accordance with the Fill Sequence plans in Attachment 1 of the Site Development Plan. Vegetation will consist of appropriate trees, shrubs, and grasses recommended for the Corpus Christi area by the USDA or the Texas Forestry Service.



Michael W. Oden
8-22-2007
pg 77

31.0 Operational Standards for Class I Waste Management

Class I industrial solid waste will not be accepted and disposed of at this landfill unless compliance with §330.179 is achieved and maintained.

31.1 General Inspection Requirements

In accordance with §335.585 and §330.179(a)(1), the City or its operator will inspect the landfill for compliance with the site operating plan and will develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards. The schedule will be maintained at the landfill office and will identify the types of problems (e.g., malfunctions or deterioration) that are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, or eroding dike). This schedule will be updated to reflect the types of Class I Industrial Waste to be accepted at the landfill.

The frequency of inspection may vary for the items on the schedule. However, the frequency will be based on the rate of deterioration of the equipments and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, will be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies required in 40 Code of Federal Regulations §264.303 for hazardous waste landfills.

The City or its operator will remedy any deterioration or malfunction of equipment or structures that the inspection reveals on a schedule that ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action will be taken immediately.

The City or its operator will record inspections in an inspection log or summary, and retain these records in accordance with the requirements of §335.113(d) (relating to Reporting of Emergency Situations by Emergency Coordinator). At a minimum, these

records will include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

31.2 Personnel Training

In accordance with §335.586 and §330.179(a)(2), landfill personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of §335, Subchapter T. The City will ensure that this program includes all the elements described in the document required under subsection §335.586(d)(3). This program will be directed by a person trained in waste management procedures, and will include instruction that teaches landfill personnel waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

At a minimum, the training program will be designed to ensure that landfill personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- communications or alarm systems;
- response to fires or explosions;
- response to ground-water contamination incidents; and
- shutdown of operations.

Landfill personnel must successfully complete the program required in §335.586(a) within six months after the date of their employment or assignment to the landfill. Employees will not work in unsupervised positions until they have completed the training requirements of §335.586(a). Landfill personnel must take part in an annual review of the initial training required to ensure that ongoing training needs are addressed and maintained. The owner or operator must maintain the following documents and records at the facility:

- The job title for each position at the facility related to waste management, and the name of the employee filling each job;
- A written job description for each position listed above. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;
- A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed above; and
- Records that document that the training or job experience required has been given to, and completed by, landfill personnel.

Training records on current landfill personnel will be kept until closure of the facility and training records on former employees will be kept for at least three years from the date the employee last worked at the facility. Landfill personnel training records may accompany personnel transferred within the same company.

31.3 Waste Analysis

In accordance with §335.587 and §330.179(a)(3), the following waste analysis requirements apply to the landfill:

- Before treating, storing, or disposing of any waste, the City will obtain a chemical and physical analysis of a representative sample of the waste. At a minimum, the analysis will contain all the information that must be known to treat, store, or dispose of the waste in accordance with §335, Subchapter T.
 - A waste generator's studies conducted on waste generated from processes similar to that which generated the waste to be managed at the facility may be included in the data base required.
 - The City may arrange for the generator of the waste to supply the information required by §335.587(a)(1). If the generator does not supply the information, and the City chooses to accept a waste, City will be

responsible for obtaining the information required to comply with the regulations.

- The analysis may include data developed under §335, Subchapter R (relating to Waste Classification), and existing published or documented data on a waste or on such waste generated from similar processes.
- The analysis must be repeated as necessary to ensure that it is accurate and up-to-date. At a minimum, the analysis must be repeated:
 - when the owner or operator is notified, or has reason to believe, that the process or operation generating the waste has changed; and
 - when the results of the inspection required in §335.587(a)(4) of this subsection indicate that the waste received at the landfill does not match the waste designated on the accompanying manifest or shipping paper.
- The City will inspect and, if necessary, analyze each waste received at the landfill to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

The City will develop and follow a written waste analysis plan that describes the procedures which the City will carry out to comply with the regulations. This plan will be submitted to the TCEQ and will be kept at the landfill office. The plan will specify:

- the parameters for which each waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties);
- the test methods which will be used to test for these parameters; and
- the sampling method that will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either one of the sampling methods described in Appendix I of Title 40 Code of Federal Regulations Part 261 or an equivalent sampling method approved by the executive director;
- the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date;
- the waste analyses that waste generators have agreed to supply; and

- where applicable, the methods that will be used to meet any additional waste analysis requirements in §335.588 (relating to General Requirements for Ignitable, Reactive, or Incompatible Wastes).

This plan will be developed when Class I wastes are proposed for disposal and will be updated as needed to meet the specific needs of the individual Class I wastes.

31.4 Ignitable, Reactive, or Incompatible Wastes

In accordance with §335.588 and §330.179(a)(4), the City will take precautions to prevent accidental ignition or reaction of wastes that are ignitable or reactive as defined in §335.505 (relating to Class 1 Waste Determination). This waste will be separated and protected from sources of ignition or reaction including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

The landfill may dispose ignitable or reactive waste, or mix incompatible waste or incompatible wastes and other materials, therefore requiring the landfill to take precautions to prevent reactions which:

- generate extreme heat or pressure, fire or explosions, or violent reactions;
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- damage the structural integrity of the device or facility; or
- through other like means threaten human health or the environment.

When the above-mentioned conditions apply, the City will document compliance with §335.588(a) and (b). This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses as specified in §335.587 (relating to Waste Analysis), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

31.5 Contingency Plan

In accordance with §335.589 and §330.179(a)(5), the City will have a contingency plan for the landfill. The contingency plan is designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of waste or constituents of such waste to air, soil, or surface water. The contingency plan will be submitted to the executive director with the permit application and, after modification or approval, will become a condition of any permit issued. The provisions of the plan will be carried out immediately whenever there is a fire, explosion, or release of waste or constituents of such waste that could threaten human health or the environment.

The contingency plan describes the actions landfill personnel will take to comply with §335.589(a) and (f) in response to fires, explosions, or any unplanned sudden or non-sudden release of waste or constituents of such waste to air, soil, or surface water at the landfill. Also included are arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services. The City will maintain a list of names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator, and this list must be kept up-to-date and at the landfill.

A list of all emergency equipment will be kept at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

The plan includes an evacuation plan for landfill personnel in the event that evacuation is necessary. This plan describes signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes in case the primary route is blocked by releases of waste or fires.

A copy of the contingency plan and all revisions to the plan must be maintained at the landfill and submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

The contingency plan will be reviewed and updated, if necessary, whenever:

- the landfill permit is revised;
- the plan fails in an emergency;
- the landfill changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of waste or constituents of such waste, or changes the response necessary in an emergency; or
- the list of emergency equipment changes.

At all times Class I waste is accepted for disposal, there must be at least one employee either on the landfill property or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator will be thoroughly familiar with all aspects of the landfill's contingency plan, all operations and activities at the landfill, the location of all records at the landfill, and the landfill layout. In addition, this person will have the authority to commit the resources needed to carry out the contingency plan.

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) will immediately activate

facility alarms or communication systems, where applicable, to notify all facility personnel and notify appropriate state or local agencies with designated response roles if their help is needed.

Whenever there is a release, fire, or explosion, the emergency coordinator will immediately identify the character, exact source, amount, and areal extent of any released materials. The emergency coordinator may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis. Concurrently, the emergency coordinator will assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any waste surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

If the emergency coordinator determines that the landfill has had a release, fire, or explosion that could threaten human health, or the environment, outside the landfill property boundary and if the emergency coordinator's assessment indicates that evacuation of local areas may be advisable, the emergency coordinator will immediately notify appropriate local authorities, and must be available to help appropriate officials decide whether local areas should be evacuated.

The emergency coordinator will immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under 40 CFR Part 1510) or the National Response Center (using their 24-hour toll free number 1-800-424-8802). The report will include:

- name and telephone number of reporter;
- name and address of facility;
- time and type of incident (e.g., release, fire);
- name and quantity of material(s) involved, to the extent known;
- the extent of injuries, if any; and

- the possible hazards to human health, or the environment, outside the facility.

During an emergency, the emergency coordinator will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other waste at the landfill. These measures include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator will provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the landfill. The City will classify all recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility in accordance with §335, Subchapter R (relating to Waste Classification) and in accordance with all applicable requirements of §335, Subchapter A (relating to Industrial Solid Waste and Municipal Hazardous Waste in General). The City will notify the executive director, and other appropriate state and local authorities, that the landfill is in compliance before operations are resumed in the affected area(s) of the landfill.

The emergency coordinator will ensure that, in the affected area(s) of the landfill:

- no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
- all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

The City will note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the City will submit a written report on the incident to the executive director. The report must include:

- name, address, and telephone number of the City's representative;
- name, address, and telephone number of the landfill;
- date, time, and type of incident (e.g., fire, explosion);
- name and quantity of material(s) involved;
- the extent of injuries, if any;
- an assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- estimated quantity and disposition of recovered material that resulted from the incident.

31.6 Operational and Design Standards

In accordance with §335.590(25) and §330.179(a)(6), hazardous waste from a conditionally exempt small quantity generator as defined in §335.78(a) (relating to Special Requirements for Hazardous Waste Generated by Conditionally Exempt Small Quantity Generators), may be accepted for disposal at the Cefe landfill, provided the amount of hazardous waste accepted from each conditionally exempt small quantity generator does not exceed 220 pounds (100 kilograms) a calendar month, and provided the City is willing to accept the hazardous waste.

In accordance with §330.179(b), nonhazardous industrial waste may be placed above natural grade provided that the conditions in §335.590(24)(F)(i)-(vi) of this title are met, except as provided in §335.590(24)(F)(vii).

Appendix IV-A
Alternate Daily Cover Manufacture's Information

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3596

MATERIAL SAFETY
DATA SHEET



DIVISION: SPECIALTY CHEMICALS DIVISION

TRADE NAME:

FC-4200 SANIFOAM Synthetic Daily Cover (Resin)

3M I.D. NUMBER: 98-0211-4818-8 98-0211-4858-4 98-0211-6550-5

ISSUED: JANUARY 12, 1994
SUPERSEDES: JULY 22, 1993
DOCUMENT: 10-4210-0

1. INGREDIENT	C.A.S. NO.	PERCENT
WATER	7732-18-5	52.0
UREA-FORMALDEHYDE RESIN +(5641P)	TradeSecret	39.0
ADDITIVE +(5642P)	TradeSecret	9.0
FREE FORMALDEHYDE	50-00-0	0.7

NOTE: New Jersey Trade Secret Registry (EIN) 04499600-+

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL OR CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

FREE FORMALDEHYDE

2. PHYSICAL DATA
BOILING POINT:..... 100 C
VAPOR PRESSURE:..... ca. 31 mmHg
Calc. @ R.T.
VAPOR DENSITY: ca. 0.68 Air = 1
Calc. @ R.T.
EVAPORATION RATE:..... < 1.0 Butyl Acetate = 1
SOLUBILITY IN WATER: 3:1
SP. GRAVITY:..... ca. 1.2 Water = 1
PERCENT VOLATILE: 52 %
VOLATILE ORGANICS: N/D
VOC LESS H2O & EXEMPT SOLVENT N/D
pH: ca. 6.5
VISCOSITY: N/D
MELTING POINT..... N/D
APPEARANCE AND ODOR: White opaque viscous liquid.

3. FIRE AND EXPLOSION HAZARD DATA
FLASH POINT:..... > 100.00 C Setaflash
FLAMMABLE LIMITS - LEL: N/A
FLAMMABLE LIMITS - UEL: N/A
AUTOIGNITION TEMPERATURE: ... N/D
EXTINGUISHING MEDIA:
Water, Foam
SPECIAL FIRE FIGHTING PROCEDURES:
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
See Hazardous Decomposition section for products of combustion.

Abbreviations: N/D - Not Determined N/A - Not Applicable

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3597

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4200 SANIFOAM Synthetic Daily Cover (Resin)
JANUARY 12, 1994

PAGE: 2 of 4

4. REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY - MATERIALS TO AVOID:
Solidifies upon addition of acids.
HAZARDOUS POLYMERIZATION: Will Not Occur
HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of Nitrogen Amine Compounds

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call (612) 733-1110 or (612) 733-6100 for 24-hour spill assistance. Dilute in a large excess of water. Carefully, and with stirring, add appropriate dilute acid such as sulfamic acid or vinegar. Confirm neutrality. Collect spilled material.

RECOMMENDED DISPOSAL:

Flush spent solutions and small quantities (less than 5 gal.(19 L)) to a wastewater treatment system. Dispose of waste product in a sanitary landfill. Dispose of completely cured (or polymerized) material in a sanitary landfill.

Discharge the resin/water mixture to a wastewater treatment system, or landfill the precipitate.

ENVIRONMENTAL DATA:

Prior to sanitary landfill disposal, solidify by stirring 1 gallon vinegar per 50 gallons of paste or liquid product. For spills and small quantities, dilute with water -- use greater than 3 times the spill volume. This will precipitate the resin into small flakes. Discharge the resin/water mixture to a wastewater treatment system, or landfill the precipitate.

SARA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate medical attention.

SKIN CONTACT:

IMMEDIATELY wash affected area with soap and water.

INHALATION:

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:

Drink two glasses of water. Call a physician.

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3598

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4200 SANIFOAM Synthetic Daily Cover (Resin)
JANUARY 12, 1994

PAGE: 3 of 4

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Avoid eye contact. Wear vented goggles. Wear safety glasses with side shields.

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material..

VENTILATION PROTECTION:

Use with appropriate local exhaust ventilation. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION:

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: full-face supplied air respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Not determined.

RECOMMENDED STORAGE:

Keep container closed when not in use.

FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed.

INGREDIENTS		EXPOSURE LIMITS		VALUE	UNIT	TYPE AUTH	SKIN*
WATER		NONE	NONE	NONE	NONE	NONE	NONE
UREA-FORMALDEHYDE RESIN +(5641P)		NONE	NONE	NONE	NONE	NONE	NONE
ADDITIVE +(5642P)		NONE	NONE	NONE	NONE	NONE	NONE
FREE FORMALDEHYDE		0.3	ppm	CEIL	ACGIH		
FREE FORMALDEHYDE		1	ppm	TWA	OSHA		
		OSHA STANDARD	1910.1048				
FREE FORMALDEHYDE		2	ppm	STEL	OSHA		
		OSHA STANDARD	1910.1048				
FREE FORMALDEHYDE		0.5	ppm	TWA	OSHA		
		OSHA ACTION LEVEL					

* SKIN NOTATION: Listed substances indicated with "Y" under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NONE: None Established

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3599

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4200 SANIFOAM Synthetic Daily Cover (Resin)
JANUARY 12, 1994

PAGE: 4 of 4

8. HEALTH HAZARD DATA

EYE CONTACT:

Single exposure may cause:

Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

SKIN CONTACT:

Allergic Skin Reaction: signs/symptoms can include redness, swelling, blistering, and itching.

Mild Skin Irritation: signs/symptoms can include redness, swelling, and itching.

INHALATION:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

IF SWALLOWED:

Ingestion is not a likely route of exposure to this product.

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

CANCER:

FORMALDEHYDE (50-00-0) is a potential cancer hazard causing nasal cavity cancer by the inhalation route of exposure in laboratory animal studies (NTP anticipated human carcinogen, ACGIH suspected human carcinogen A2, IARC probable human carcinogen 2A, OSHA listed carcinogen, Calif. Proposition 65).

REPRODUCTIVE/DEVELOPMENTAL TOXINS:

FORMALDEHYDE (50-00-0) Female Reproductive System Effects: symptoms can include abnormal menstrual cycle and inability to become pregnant.

OTHER HEALTH HAZARD INFORMATION:

A 3M Product Toxicity Summary Sheet is available.

SECTION CHANGE DATES

HEADING SECTION CHANGED SINCE JULY 22, 1993 ISSUE

HEALTH HAZD. DATA SECTION CHANGED SINCE JULY 22, 1993 ISSUE

Abbreviations: N/D - Not Determined N/A - Not Applicable

The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this material under normal conditions. Any use of the material which is not in conformance with this Data Sheet or which involves using the material in combination with any other material or any other process is the responsibility of the user.

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3600

MATERIAL SAFETY
DATA SHEET



DIVISION: INDUSTRIAL CHEMICAL PRODUCTS DIVISION
TRADE NAME:
FC-4201 SANIFOAM Synthetic Daily Cover (Foamer)

3M I.D. NUMBER: 98-0211-4823-8 98-0211-4824-6

ISSUED: MARCH 11, 1992
SUPERSEDES: MARCH 3, 1992
DOCUMENT: 10-4220-9

1. INGREDIENT	C.A.S. NO.	PERCENT
WATER	7732-18-5	57.0 - 58.0
SURFACTANT +(5012P)	TradeSecret	28.0 - 29.0
PHOSPHORIC ACID	7664-38-2	13.0 - 14.0

NOTE: New Jersey Trade Secret Registry (EIN) 800971-+

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL OR CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:
PHOSPHORIC ACID

2. PHYSICAL DATA

BOILING POINT:..... 100.00 C
VAPOR PRESSURE:..... ca. 31.0000 mmHg
 Calc. @ R.T.
VAPOR DENSITY: ca. 0.68 Air = 1
 Calc. @ R.T.
EVAPORATION RATE:..... < 1.00 Butyl Acetate = 1
SOLUBILITY IN WATER: complete
SP. GRAVITY:..... ca. 1.200 Water = 1
PERCENT VOLATILE: 54.00 %
VOLATILE ORGANICS: N/D
VOC LESS H2O & EXEMPT SOLVENT N/D
pH: < 2.00
VISCOSITY: N/D
MELTING POINT..... N/D
APPEARANCE AND ODOR: Clear brown liquid.

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... > 100.00 C
FLAMMABLE LIMITS - LEL: N/A
FLAMMABLE LIMITS - UEL: N/A
AUTOIGNITION TEMPERATURE: ... N/D
EXTINGUISHING MEDIA:
Water, Foam
SPECIAL FIRE FIGHTING PROCEDURES:
Full-faced mask self-contained breathing apparatus which provides eye protection should be worn.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Will cause acid burns on tissue, eyes, fabrics.
NFPA-HAZARD-CODES: HEALTH 2 FIRE 1 REACTIVITY 0
UNUSUAL REACTION HAZARD: none

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3601

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4201 SANIFOAM Synthetic Daily Cover (Foamer)
MARCH 11, 1992

PAGE: 2 of 4

4. REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY - MATERIALS TO AVOID:
Not applicable
HAZARDOUS POLYMERIZATION: Will Not Occur
HAZARDOUS DECOMPOSITION PRODUCTS:
Sulfur, Phosphorous Compounds

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Observe precautions from other sections. Cover with a slurry of soda ash and slaked lime. Collect spilled material. Clean up residue with a soda ash solution. Place in a polyethylene-lined metal container, and seal.

RECOMMENDED DISPOSAL:

Carefully, with stirring and cooling, add waste product to a solution of soda ash and slaked lime. Confirm neutrality. Discharge spent solutions to a wastewater treatment system. Reduce discharge rate if foaming occurs. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste No.: D002 (Corrosive)

ENVIRONMENTAL DATA:

Testing in progress.

SARA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush with plenty of water. Continue for 15 minutes.
Call a physician.

SKIN CONTACT:

IMMEDIATELY wash affected area with soap and water. In case of allergic reaction, consult a physician.

INHALATION:

If symptoms occur, remove person to fresh air. If symptoms continue, call a physician.

IF SWALLOWED:

DO NOT INDUCE VOMITING. Give copious amounts of water. IMMEDIATELY call a physician or Poison Control Center.

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Safety Goggles

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3602

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4201 SANIFOAM Synthetic Daily Cover (Foamer)
MARCH 11, 1992

PAGE: 3 of 4

7. PRECAUTIONARY INFORMATION (continued)

SKIN PROTECTION:

Rubber gloves, protective clothing.

VENTILATION PROTECTION:

Local exhaust ventilation is recommended for transfer and mixing.

RESPIRATORY PROTECTION:

NIOSH approved respirator with organic vapor cartridge and particulate filter.

PREVENTION OF ACCIDENTAL INGESTION:

Not determined.

RECOMMENDED STORAGE:

Not determined.

FIRE AND EXPLOSION AVOIDANCE:

Not determined.

OTHER PRECAUTIONARY INFORMATION:

Use only in well ventilated areas. Do not breathe vapors, wear respiratory protection when ventilation is not available for transferring and mixing. Do not get in eyes, on skin or clothing; wear personal protection. Keep container closed when not in use. ++Testing reported is for a version that contained 6% hydroquinone (CAS 123-31-9). We do not expect this change to affect the reported results.

INGREDIENTS	EXPOSURE LIMITS		TYPE	AUTH	SKIN*
	VALUE	UNIT			
WATER	NONE	NONE	NONE	NONE	
SURFACTANT +(5012P)	NONE	NONE	NONE	NONE	
PHOSPHORIC ACID	1	mg/m3	TWA	ACGIH	
PHOSPHORIC ACID	3	mg/m3	STEL	ACGIH	
PHOSPHORIC ACID	1	mg/m3	TWA	OSHA	
PHOSPHORIC ACID	3	mg/m3	STEL	OSHA	

* SKIN NOTATION: Listed substances indicated with "Y" under SKIN refer to the potential contribution to the overall exposure by the cutaneous route, including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NONE: None Established

3M General Offices
3M Center
St. Paul, Minnesota 55144-1000
612/733-1110

01-46
3603

MATERIAL SAFETY
DATA SHEET



MSDS: FC-4201 SANIFOAM Synthetic Daily Cover (Foamer)
MARCH 11, 1992

PAGE: 4 of 4

8. HEALTH HAZARD DATA

EYE CONTACT:

+++May cause slight irritation of the eyes on direct contact.

SKIN CONTACT:

+++May cause slight irritation of the skin on prolonged contact.

INHALATION:

+++No test data available. Phosphoric acid mist and vapor may cause severe respiratory system irritation.

IF SWALLOWED:

+++Considered practically non-toxic orally; the acute oral LD50 in the rat is greater than 5 grams per kilogram of body weight. Not an expected route of exposure.

SECTION CHANGE DATES

INGREDIENTS	SECTION CHANGED SINCE MARCH 3, 1992 ISSUE
PRECAUT. INFO.	SECTION CHANGED SINCE MARCH 3, 1992 ISSUE

Abbreviations: N/D - Not Determined N/A - Not Applicable

The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this material under normal conditions. Any use of the material which is not in conformance with this Data Sheet or which involves using the material in combination with any

Synthetic Daily Cover

Operational Properties

- **Soil Cover Equivalence** – A 1" layer of SaniFoam Synthetic Daily Cover provides daily cover performance equivalent to 6" of compacted soil (Report, Georgia Institute of Technology, dated 9/4/81).
- **Coverage Rate** – Approximately 12,000 square feet of daily cover can be applied in 30 minutes using hand-held equipment (400 sq. ft./min.); the PB-83 Automatic Spray Rig can cover the same area in less than 15 minutes (800 sq. ft./min.).
- **Rodent Control** – Creates an environment hostile to rodents; discourages burrowing.
- **Vector Control** – Contributes no nutrients; seals waste from the air; seals in waste-borne flies.
- **Dust Control** – Contributes no airborne dust; aids in dust control in situations where water cannot be used.
- **Litter Control** – Provides rapid, temporary means of controlling blowing litter on workface.
- **Odor Control** – Temporarily seals in odor-causing gases; provides means for rapid and continuous coverage of wastes during the day in situations where odors are an immediate and continuous problem.
- **Fire Performance** – Non-flammable and self-extinguishing.
 - Fuel content: 0 (ASTM E84)
 - Fire containment: Adds no fuel; seals fire from air.
 - Ignition temperature: Greater than 1,200°F
 - Smoke density: Less than that of red oak (ASTM E84)
 - Relative Inhalation toxicity: less than that of plywood (Federal Hazardous Substance Act 191 [f] [2]).
 - Gaseous byproducts of high temperature exposure (1,300°F): HCN, NH₃ and CO, all within OSHA standards for the workplace.
- **Compressibility** – Compresses to less than 1/10 its initial volume during next day's landfill operations.

Landfill Compatibility Properties

- **Application Climate**
 - Temperature – Can be applied at any ambient temperature, solutions and material delivery lines must be protected against freezing.
 - Wind – Can be applied in moderate winds up to 35 mph (With handheld equipment only).
 - Rain – Can be applied during light to moderate rainfall. Once applied and set up, can withstand moderate to heavy rain, depending on thickness and method of application.
- **Filling Method** – Compatible with area, trench or ramp landfill designs.
- **Landfill Capacity** – Extends site capacity for waste material up to 15-20%.
- **Contouring** – Once compacted by next day's refuse, occupies no space, and therefore has no influence on final landfill contours.
- **Runoff Control** – Foam "skin" supports surface water runoff; can be shaped to channel runoff; attains maximum water resistance 2 hours after application.
- **Erosion Control** – Provides for temporary daily surface contouring to prevent erosion; will hold when applied on steep faces.

Synthetic Daily Cover

Available Tests, Reports, Site Evaluations and Laboratory Analyses Performed on SaniFoamTM Synthetic Daily Cover by Independent Laboratories, Agencies, Universities and Consulting Firms

1. Environmental Impact on the Use of Plastic Foam as a Daily and Interim Landfill Cover, Professor Graham Allen, University of Washington, August 11, 1981.
2. SaniBlanketTM Operational Test, Dr. Sidney I. Firstman and Dr. Frederick G. Pohland, Georgia Institute of Technology Engineering Experiment Station, August 18, 1981.
3. Control of Emissions During Excavation of Hazardous Waste Sites, (Evaluates and recommends SaniFoam as the "most viable and economically attractive" method for "controlling odor and toxic gas emissions during excavation of hazardous wastes."), South Coast Air Quality Management District, November 5, 1981.
4. Leachate Generation Tests (Tests showing near normal pH and no free formaldehyde in SaniBlanketTM, concluding that SaniBlanketTM is biodegradable over long periods of time.), American Standards Testing Bureau, April 15, 1982.
5. Evaluation of the Potential for SaniBlanketTM to Emit Formaldehyde and Ammonia (Results of a six-week field test to determine worker exposure, if any, to formaldehyde and ammonia as a result of working with SaniBlanketTM), BCL Associates, October, 1982.
6. Thirteen EPA Metal Analysis (A test to demonstrate the absence of heavy metals in SaniBlanketTM - an important factor in groundwater protection). BCL Associates, December 15, 1982.
7. Letter confirming findings that SaniBlanketTM will not adversely affect employees working with SaniBlanketTM, Cal/OSHA, January 14, 1983.
8. Report on Headspace Analysis for Foam (SaniBlanketTM) as per EPA method 5020 (A test showing formaldehyde levels below OSHA requirements for worker exposure), BCL Associates, August 8, 1983.
9. Bioassay Analysis, conducted according to the California Assessment Manual for Evaluation of Toxic Materials (EPA Toxicity Test) (demonstrates that SaniBlanketTM will not toxify groundwater). Jacobs Environmental, October 12, 1983.
10. Letter confirming findings that SaniBlanketTM is not classified as a hazardous waste, California Department of Health Services (DOHS), November 4, 1983.
11. The Use of Plastic Foam as a Cover Material During Landfilling of Solid Wastes (A report on an 18-month pilot plant study to determine the long-term effects of SaniBlanketTM on leachate and to demonstrate its safety in the landfill environment), Georgia Institute of Technology, December 27, 1983.
12. Analysis of the Environmental Impact of Using SaniBlanketTM Foam as a Daily Cover Material for the Workforce of Non-Hazardous Landfills in California, BCL Associates, 1983.
13. Evaluation of the Permeability of SaniBlanketTM (Study report showing that the permeability of SaniBlanketTM is equal to, or less than, sandy soils in rain.), BCL Associates, January, 1984.
14. Permeability Test Results on SaniFoam Materials, (Study report showing that the coefficient of permeability for SaniBlanketTM is better than that of sandy soils.), Woodward-Clyde Consultants, April 17, 1985.
15. Use of Synthetic Material for Landfill Daily Cover, (Evaluation of a six month test program to evaluate SaniBlanketTM foam at the Outagamie County, Wisconsin landfill.) Paper presented at the Ninth Annual Madison Waste Conference, Univ. of Wisconsin - Madison, Dept. of Engineering Professional Development, September 9, 1986.
16. Summary of SaniFoamTM SDC (Evaluation at Bradley West Landfill in Sun Valley), California, October 22, 1982.
17. Operational test Report of Use of SaniFoamTM SDC (California Landfill - California Waste Mgmt. Board), October, 1982.
18. Summary of SaniFoamTM SDC (Evaluation at Lantana Landfill in Palm Beach, Florida), August, 1983.
19. Summary of SaniFoamTM SDC (Evaluation at G.R.O.W.S., Inc., Bucks Co., PA) October/November, 1989.
20. Summary of SaniFoamTM SDC (Evaluation at Cape May County Landfill, Woodbine, NJ) May, 1991.

Pertinent Findings from Tests of SaniFoam™ Synthetic Daily Cover

Document #	Page #	Reference To	Summary of Facts Stated
1	1	Water runoff	• Rain tends to run off without penetrating into foam • Rain which penetrates foam is absorbed and held
	2	Heavy rain	• If water extractable portion of foam escaped during heavy, penetrating and prolonged rain, result would be same as for lawn fertilizers.
	3	Leachate Safety	• Any seepage from foam presents no environmental hazard. • "It can be concluded with confidence that the use of plastic aminoplast foam as a daily and interim landfill cover will pose no significant environmental hazard."
2	1	Equiv. to dirt	• Foam performed as specified for operational, landfill compatibility and physical properties of daily and intermediate cover.
	2	Rainfall	• No difficulty maintaining adequate foam properties in light rainfall.
		Moderate Wind	• No effect on the covering operation
		Dust	• Foam contributed no dust, in contrast to dust blowing from soil elsewhere on fill.
		Equiv to dirt.	• Foam maintained physical integrity overnight and over weekend • No cracks or fissures observed at any time
		Insects, flies and rodents	• Foam acted as a deterrent to flies, birds and vermin that were observed on the landfill, but not on the foam.
		Rain	• Operator wanted foam in wet weather to avoid problems he has with soil.
3	1	Equiv. to dirt	• For hazardous waste excavation, a 2" foam cover was an equivalent substitute for a six-inch soil cover.
	14	Equiv. to dirt	• Environmental impact statements...point out the feasibility of the material as an effective cover.
		Cost savings	• The use of plastic foam has decidedly a marked advantage over top soil for covering trucks.
		Odor control	• Plastic foam presents strong possibilities as an economical and efficient substitute for clean soil.
		Cost savings	• The first cost (for compressor and pumps) may be considered minimal relative to the benefits and advantages that may be derived from the use of this material.
4	2	Leachate	• This material is biodegradeable.
5	7	Safety	• SaniBlanket does not contribute detectable level of ammonia to the atmosphere.
6	1	Safety	• All 13 EPA heavy metals are well below threshold limit conc.
7	1	Safety	• Formaldehyde levels are below 2 ppm limit • Ammonia levels are below 1 ppm; limit is 25 ppm. • Employees applying, using or in the vicinity of the operation would not be adversely affected.
8	1	Safety	• No formaldehyde detected after 24 hours. • The foam can be classified as non-hazardous when used as daily cover for the face of Class II disposal sites.
10	1	Safety	• SaniBlanket foam is not classified as a hazardous waste, based on aquatic bioassays in which it is not toxic to fish
11	1	Equiv. to dirt	• Foam and its constituents had minimal impact on the landfill stabilization process.
	v		• SaniFoam...may be used as an alternative to daily landfill cover without posing adverse environmental impacts...
12	1	Odors	• Prevents odors from being released from the workplace
		Dust and litter	• Prevents dust or litter from being blown off the workplace
		Insects and rodents	• Prevents access to the refuse by insects and rodents.
		Birds	• Discourages, to some extent, birds from scavenging refuse from the workplace.
		Runoff	• Promotes efficient water runoff from the workplace.
		Temperature	• Provides controls even during temperature extremes

Document #	Page #	Reference To	Summary of Facts Stated
		Economic Advantage	Increases landfill capacity by reducing the volume of space taken up by cover soil.
	2	Cost savings	- Foam cheaper than dirt - example. - Additional space made available by use of foam would generate \$32,000 in extra revenues at \$6.70/cu. yd. tipping fee.
		Safety	Conc. of ammonia and formaldehyde emitted to air are so low as to be considered insignificant in terms of both on-site worker safety and off-site air quality impacts.
	3	Safety	- The foam is not toxic, based on five different tests. - The foam is non-flammable and self extinguishing. - The foam is non-corrosive. - Contains no irritating, reactive or pressure generating compounds.
	4	Leachate	Long-term tests indicate that SaniBlanket would not introduce significant levels of contaminants to landfill leachate.
		Safety	Conclusive statement: "No significant environmental impacts would occur from using SaniBlanket as a daily cover for the workplace of non-hazardous waste landfills."
13	2	Equiv. to soil (water runoff)	The measured coefficients of permeability for SaniBlanket are equivalent to values one would expect for very fine sands, silts and the like.
		Water runoff	A properly applied layer will provide control of surface water infiltration equivalent to silty soil.
		Equiv. to soil	SaniBlanket has superior permeability characteristics to many of the sandy soils currently used as cover material. SaniBlanket's low permeability features will last for at least 48 hours.
14	2	Water runoff	Coefficient of permeability of $4.0 \text{ to } 4.4 \times 10^{-5}$ (Approx. equal to sandy soil)
16	1	Cost savings	- Saved 250 TPD cover dirt. - Saved \$1,250/day revenue (\$5/ton tip fee $\times$ 250 T) - Saved scraper time at \$60/hr.
		Equiv. to dirt	- Found Sanifoam an effective product to cover the open face. - Should not be applied to top of lift or left on for long periods. (Suggests overnight use for up to 12 hours only.)
		Odor and vectors	Does control odor and vectors.
17	3	Odor	Prevents the escape of waste odor
		Litter	Prevents litter from blowing off the waste cell.
		Insects	Prevents the emergence of flies.
		Vectors, birds and animals	Prevents attraction of vectors, birds and animals.
		Water runoff	Prevents excess infiltration of rainwater to waste.
		Dust	Controls dust particles from escaping.
		Cost savings	Will increase site capacity by the approximate volume normally occupied by soil cover material.
		Equiv. to dirt	- IT IS THE OPINION OF THE CWMB STAFF THAT USING SANIBLANKET FOR A NONHAZARDOUS LANDFILL SITE AS A DAILY COVER CAN MEET THE REQUIRED LEVEL OF PERFORMANCE OBJECTIVES AS SET FORTH IN TITLE 14, CAC SECTIONS 17225.16, 17682, AND 17683. - Use should be limited to active faces w/slopes of 5% or more for a period of 24 hours or less. - Foam shall not be used on rainy days.
	6	Standards	- SaniBlanket evaluated under current regulatory standards from: - California Waste Management Board - CAL/OSHA - South Coast Air Quality Mgmt. District - State Department of Health Services - California Regional Water Quality Control Board
	18	High winds	High velocity winds may affect the foaming
		Rain	Using SaniBlanket during light to moderate rain is being done in other states, but Calif. currently restricts use to non-rainy days.
		Runoff	Foam can absorb 60% of its volume in water
		Leachate	Initial leaching effects are minimal and short-lived.

Document #	Page #	Reference To	Summary of Facts Stated
18	ii	Cost savings	• SaniBlanket daily cover costs 8.42¢/sq. ft. compared to off-site sand at 8.87¢/sq. ft.
		Overall savings	• SaniBlanket recommended for daily cover because of landfill volume savings potential and limited on-site material resources.
	v	Overall advantage of using foam	• Occupies less landfill volume • Reduces infiltration of surface runoff • Improves vector control • Conserves supplies of on-site sand cover
	vii	Reasons to recommended use	• Conservation of landfill volume • Limited on-site cover • No evidence of environmental damage • Ability to conserve expensive off-site cover material
	2-6	Equiv. to dirt	• 1" thick application of SaniBlanket will function as well as, or better than, 6" of sand as a cover material.
	2-7	Equiv. to dirt	• Not viable for intermediate or final cover. • Cracks develop approximately 72 hours after application. • Can extend useful life of landfill since volume otherwise occupied by sand can be occupied by solid waste.
		Temperatures	• Few incidents of equipment clogging even at temps up to 90°F
		Winds	• Moderate winds less than 15 mph will not affect foam placement.
		Rain	• Recommend that SaniBlanket not be exposed to rain within 15 minutes after application.
	2-8	Rain	• Rain after application pitted surface, but did not reduce integrity of foam cover.
		Runoff	• Less penetration of precipitation into landfill than with conventional cover.
		Insects	• Relatively impervious skin of foam makes penetration difficult for insects.
		Vermin	• Tests at the College of Physicians and Surgeons of Columbia Univ. show that a rat will not burrow through foam top to get at food encased in it.
		Flies, birds, vectors	• Flies, birds and vectors present when sand cover was used, avoided the same area when covered with SaniBlanket. • No degradation of foam layers from animals or birds walking on it or attempting to burrow beneath for food.
	2-11	Birds	• Birds at the landfill would not land on the surface immediately after it was covered with foam.
		Flies	• Flies avoided the foamed surface, but swarmed nearby on the sand-covered solid waste.
		Rain	• Foam surface dry to touch in morning after overnight rain; surface pitted from rain.
		Odor (after rain)	• No odor from waste beneath the foam even after rain fell on foam.
		Litter (after rain)	• Foam held to slope after rain and prohibited blowing waste.
		Vectors (after rain)	• No flies, birds or vectors on foam, but tracks where birds had landed.
19			• Contact 3M for details.
20			• Contact 3M for details.

For further information, call 612/736 4236.

Important Notice to Purchaser: All statements, technical information and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT. No statement or recommendation not contained herein shall have any force or effect unless in

**POLYETHYLENE TARP
MATERIAL SAFETY DATA SHEET
AND
TECHNICAL INFORMATION**

FABRENE INC.

MSDS: FAB 001-A

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Trade Name:

FABRENE • WOVEN POLYOLEFIN

Synonyms:

Uses:

Manufacturer/Supplier:

FABRENE CORP.

Address: 8927/8929 J.M. KEYNES DR., SUITE 301
CHARLOTTE, N. C. U.S.A., 28213

(704)-548-0628

Telephone Numbers:

- FABRENE IS FABRENE INC.'s REGISTERED TRADE MARK FOR ITS WOVEN POLYOLEFIN FABRIC

2. HAZARDOUS INGREDIENTS

NONE OF THE FABRENE WOVEN POLYOLEFINS ARE CONSIDERED HAZARDOUS UNDER NORMAL CONDITIONS

3. PHYSICAL DATA

Boiling Point (°F):

N/A

Melting Point (°F):

230 - 320

Vapour Pressure(mmHg):

N/A

Vapour Density (air=1):

N/A

Specific Gravity (water=1):

0.90 - 0.95

Volatiles (% by volume):

N/A

Evaporation Rate:

N/A

Solubility in Water (% w/w):

INSOLUBLE

Appearance & Odor:

CLEAR OR PIGMENTED ODORLESS WOVEN FABRIC

4. FIRE AND EXPLOSION DATA

Flash Point (Method used)(°F):

N/A

Autoignition Temperature (°F):

N/A

Flammable Limits in air (%v/v):

LEL: N/A - UEL: N/A

Extinguishing Media:

WATER, DRY CHEMICAL, CARBON DIOXIDE

Fire Fighting Procedures:

NONE - FABRENE WOVEN POLYOLEFIN IS A COMBUSTIBLE MATERIAL. FIRE FIGHTING PERSONNEL SHOULD BE AWARE OF THE POTENTIAL HAZARDS CREATED BY DRIPPING MOLTEN PLASTIC. SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED ESPECIALLY FOR THE FLAME RETARDANT GRADE OF FABRENE.

Fire & Explosion Hazards:

NONE

5. SPECIAL PRECAUTIONS

Handling & Storage:

ROLLS SHOULD BE ADEQUATELY RESTRAINED TO PREVENT SHIFTING DURING HANDLING AND STORAGE.

Other Precautions:

6. HEALTH HAZARD DATA

Permissible Exposure Limit(s): N/A
 Routes of Exposure: N/A
 Overexposure Effects: N/A
 Emergency & First Aid Procedures: NONE REQUIRED

7. REACTIVITY DATA

Stability: STABLE
 Materials to Avoid: STRONG OXIDANTS AT HIGH TEMPERATURES.
 Hazardous Decomposition Products: CARBON DIOXIDE, CARBON MONOXIDE, ACRYLEIN, KETONES, ALDEHYDES AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION. FLAME RETARDANT FABRENE, WILL BE MORE COMPLEX AND COULD INCLUDE HYDROBROMIC ACID.

Hazardous Polymerization: WILL NOT OCCUR

8. SPILL OR LEAK PROCEDURES

If Material is Released or Spilled: NO SPECIAL PROCEDURES REQUIRED
 Neutralizing Chemicals: N/A
 Waste Disposal Method:

9. SPECIAL PROTECTION INFORMATION

Ventilation:
 Clothing & Equipment Requirements: NOT REQUIRED
 Respiration: NOT REQUIRED
 Eye Protection: NOT REQUIRED
 Hand/Arm Protection: NOT REQUIRED
 Other:

DATE OF ISSUE : APRIL 28, 1987
 DATE OF REVISION : JANUARY 10, 1990

NOTICE: This information is believed to be reliable and it is intended for use by skilled persons at their own risk. FABRENE CORP. assumes no responsibility for events resulting or damages incurred from its use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

N/A - NOT AVAILABLE

P. Box 77757
Baton Rouge, LA 70879-7757

504-752-1990
1-800-673-1570
FAX 504-755-3448



Physical properties of TGNN polyethylene material.

Properties	Units	Values		Test Methods
Construction	Tapes/inch	Warp 24/Welt 16		
Tensile Grab Strength	lbf	Warp 440/Welt 335		ASTM D 1682-64
Tear Strength*	lbf	65		ASTM D 2261-71
Mullen Burst Strength	lb/in ²	610		ASTM D751-73
Coating	Mils	2.0	1.5	Each Side
Colors	Scrim Coating	Natural Black/Black	Natural Black/Blue Blue/Blue Natural/Natural	
Unit Weight	oz/yd ²	9.6	9.0	

*Includes force to shift tapes — tear may be crosswise to direction of force.

P.O. Box 77757
Porton Rouge, LA 70879-7757



504-752-1990
1-800-673-1570
Fax 504-755-3448

LANDFILLS IN TEXAS

B.F.I.
BLUE RIDGE PROCESSING FACILITY
FRESNO, TX
PERRI HOLMES
(713) 835-6142

WASTE MANAGEMENT
HILLSIDE LANDFILL
LEWISVILLE, TX
STEVE ORCUTT
(903) 868-0310

B.F.I.
GOLDEN TRIANGLE FACILITY
BEAUMONT, TX
MIKE BARKSDALE
(409) 842-5091

B.F.I.
WHISPERING PINES LANDFILL
HOUSTON, TX
CHARLIE
(713) 633-2720

B.F.I.
GALVESTON COUNTY LANDFILL
GALVESTON, TX
RICK WILLIAMSON
(409) 925-4380

WASTE MANAGEMENT
SECURITY LANDFILL
CLEVELAND, TX
RICH SENGER
(713) 592-3543

G.T.U.A. LANDFILL
DENNISON, TX
JERRY CHAPMAN
(903) 786-4433

WASTE MANAGEMENT
LAZY LAKEVIEW LANDFILL
WACO, TX
JOHN HODGE
(817) 799-9353

ANGELINA COUNTY
ANGELINA COUNTY LANDFILL
LUFKIN, TX
JAMES MAYES
(409) 632-7168

REPUBLIC WASTE
C & T LANDFILL
LINN, TX
WELDON MOSMEYER
(210) 383-7398

APPENDIX IVB

**PLAN FOR PLANTING AND MAINTENANCE OF VEGETATION
ON COMPLETED LANDFILL CAP**



CONTENTS

1 INTRODUCTION	IVB-1
2 VEGETATION PLANTING ON THE COMPLETED LANDFILL CAP	IVB-2
2.1 Grass Cover	IVB-2
2.2 Shrubs and Trees	IVB-2
2.2.1 Shrub and Tree Locations	IVB-2
2.2.2 Soil Considerations	IVB-3
2.2.3 Shrub and Tree Selection	IVB-3
3 MAINTENANCE OF VEGETATION COVER ON LANDFILLED AREAS	IVB-5
3.1 Maintenance of Grass Cover	IVB-5
3.1.1 Irrigation	IVB-5
3.1.2 Mowing	IVB-5
3.2 Maintenance of Shrubs and Trees	IVB-6
3.2.1 Irrigation	IVB-6
3.2.2 Trimming and Removal of Shrubs and Trees	IVB-6
3.2.3 Managing Wind Impacts	IVB-6



1 INTRODUCTION

The maintenance of a vegetative cover over the completed landfill is important to minimize erosion of soil from the cap, decrease potential for intrusion of moisture into the waste, improve the quality of surface runoff water, and improve the appearance of the completed site. Vegetative cover on the CoCC Solid Waste Facility will include appropriate grasses, shrubs, and trees, planted and maintained by the City throughout the life of the facility and the postclosure care period.

The guidelines contained in this plan are designed to enable compliance with 30 TAC 330.253(b)(3), requiring immediate seeding of completed portions of the site to prevent soil erosion. In addition, the City should use the guidelines to help maintain a vegetative (grass) cover over capped areas of 90 percent in order to minimize cap erosion, as assumed by soil erosion calculations contained in Part III, Attachment 6A - Surface Water Drainage Design Report. It is expected that the state of the practice of the planting of trees and shrubs on completed portions of landfills will continue to evolve. As such, the City may, from time to time, modify this plan with TNRCC approval.

This plan has been prepared in cooperation with professional staff of the Corpus Christi office of the Texas Forestry Service. As such, the City will continue to rely as necessary on the expertise of the Texas Forestry Service for guidance in selection of tree and shrub types, plant groupings, and ongoing maintenance of vegetative cover.

2 VEGETATION PLANTING ON THE COMPLETED LANDFILL CAP

2.1 Grass Cover

Grass cover over the completed landfill cap will be initiated immediately after the erosion layer of the cap has been placed. Appropriate native grasses, or other grasses suited for the climate of the Corpus Christi area will be used. The type of grass to be used will be determined by the Disposal Superintendent at the time of placement of final cover. Typical grasses may include Coastal Bermuda, Buffalo Grass, Texas Grama, Bluestem, and Johnson Grass. Winter Rye, and Rescue Grass may also be used as a cool season cover, when necessary. The Disposal Superintendent may also consult with the Nueces County Extension Agent regarding appropriate grasses, at the time grass cover is needed.

Any disturbance to the grass cover on completed portions of the site will be repaired as quickly as practical in order to maintain a high level of erosion control. Disturbances to the grass cover may include accidental disturbance by site equipment, or planned disturbances such as installation of landfill gas collection system components.

2.2 Shrubs and Trees

The planting of shrubs and trees on the completed site is a developmental process, anticipated to take place over an extended period of time of landfill operation and postclosure care. The determination of when to begin planting trees and/or shrubs on completed landfill areas will be made by the City of Corpus Christi, following the guidelines in this plan. If, during development of the site, it becomes necessary or advantageous to modify these guidelines to improve the process of planting or maintaining shrubs and trees, the City may do so in consultation with the Texas Forest Service and others with expertise in the field, and by notifying the TNRCC of any planned changes.

2.2.1 Shrub and Tree Locations

With limited restrictions, shrubs and trees may be located anywhere on completed portions of the site as long as guidelines for soil layer thickness, plant types, and planting techniques (see below) are followed. Shrubs and trees will not be located within drainage swales or chutes, or within 25 feet of any landfill gas collection system component (collection line, well, condensate sump, etc.). In general, shrubs and trees will be located in clusters. Planting in clusters will provide better opportunity for the shrubs and trees to act as wind breaks for each other, and will increase moisture retention within the joint root systems.

The shrub/tree clusters will be located initially on the downhill side of swales, in areas where the erosion layer has been thickened in accordance with these guidelines. The initial and ultimate sizes of shrub/tree clusters, their number and locations on completed areas, the timing of their placement, and the make-up of each cluster will be determined by the Disposal Superintendent in consultation as necessary with the Regional Forester of the Texas Forestry Service. Planning for the arrangement of shrubs and trees within each cluster will be accomplished at the time the planting is desired. In general, the arrangement of shrubs and trees should consider how proposed plants can provide windbreaks for other plants in the cluster, and the ultimate planned postclosure use of the closed landfill in the area of the proposed cluster.

Locations of shrub and tree clusters will consider their use as windbreaks, short-term and long-term postclosure use plans, availability of additional soil for thickened cover depth, availability of water for irrigation, costs for development of shrub and tree area, and available budget constraints.

2.2.2 Soil Layer Considerations

The erosion layer component of the final cover system will be thickened in areas where shrubs or trees are to be planted. The thickened layer will be 39 to 58 inches, including the original 18 inches of the erosion layer. As shown in Part III, Attachment 6C - Cover System Details, Figure 6C.1, drainage swales on the completed landfill are formed by construction of soil berms of approximately 2-1/2 feet in height (above top of erosion layer). Details of swale locations on the site are provided in Attachment 6A. The planting of shrubs and trees will take advantage of the swale berms by expanding the top width of the berm in areas where shrub/tree clusters are planned. Attachment C, Figure 6C.2 - Tree Planting Details indicates the general procedure for thickening the soil layer in this manner. As shown in Attachment 6C.2, the minimum thickness of soil where trees or shrubs will be planted will be 58 inches. This includes the 18-inch thick erosion layer. The edges of the soil-thickened areas will transition back to the typical erosion layer thickness at a slope of no greater than 2H:1V.

If soil thickness is increased for shrubs or trees after the initial grass cover is established on the completed cap (thereby creating an exposed area without grass cover), the thickened area will be seeded to reestablish grass cover prior to planting any shrubs or trees.

Soil used to thicken the erosion layer for trees will generally be a fine-textured soil, but should not be a heavy clay. The soil should be mixed with composted material or other soil amendments to improve organic content. Soil will be placed with only limited compaction to promote root growth.

2.2.3 Shrub and Tree Selection

Appropriate native shrubs and trees, or other shrubs or trees suited for the climate of the Corpus Christi area may be used on completed landfill areas. However, selection of specific shrubs and trees is dependent upon the location on the landfill area, planned postclosure uses of the landfill, availability of water in the vicinity of the planned cluster, aesthetic and functional considerations

3 MAINTENANCE OF VEGETATION ON COMPLETED LANDFILLED AREAS

3.1 Maintenance of Grass Cover

3.1.1 Irrigation

Watering will be accomplished as needed in order to establish grass cover as quickly as practical. Watering may generally be accomplished by:

- spraying water from a water truck, to the extent that the truck does not cause damage to the final cover system
- use of portable irrigation piping and a delivery system from an onsite water well or ponded water

The amount of water needed will be dependent on the amount of rainfall being experienced at the time of planting. Grass conditions and growth will need to be watched closely until coverage is established. Care must be taken to prevent irrigation water from causing erosion of the landfill cap.

Once grass cover is established, irrigation requirements will generally decrease as the grass root system begins to take more moisture from the erosion layer of the final cap system. In drier periods of the year, additional water may need to be applied periodically to prevent excessive drying of the vegetative cover.

3.1.2 Mowing

It is not anticipated that mowing of the grass cover on most of the landfill cap will be needed. However, it may be necessary to mow or trim grass in the drainage swales to prevent blockage and overflow of the swales. Grass may also periodically need to be trimmed from around landfill gas extraction wells or other landfill gas collection system appurtenances that extend above ground. Grass that is mowed or trimmed from the site should be removed from the cap area immediately to prevent accumulations of cuttings in swales or other drainage structures.

3.2 Maintenance of Shrubs and Trees

3.2.1 Irrigation

Trees will need to be irrigated initially until root systems are capable of extracting sufficient moisture from the soil. Irrigation of trees will be accomplished by:

- spraying water from a water truck, to the extent that the truck does not cause damage to the final cover system
- construction of a drip-irrigation system within the area of thickened soil and a water delivery system from an onsite water well or ponded water

Initially, watering will need to be accomplished frequently (once to twice per week). Irrigation requirements should decrease, however, as clusters of shrubs and trees become established. However, increased irrigation may be needed in dry periods in order to prevent excessive drying of the plants.

Mulching of planting clusters should also be done in order to reduce excessive evaporation of moisture from the soil.

3.2.2 Trimming and Removal of Shrubs and Trees

It is not anticipated that the shrubs and trees will require trimming unless desired by the City at some future time. Shrubs or trees that have died will be removed by cutting the trunk at ground level. Limbs that are trimmed for any reason will be removed from the site immediately to prevent accumulation of material that could block drainage or cause damage to the final cap.

Shrubs and trees will not be allowed to interfere with the landfill final cover system, landfill cap drainage system, or landfill gas system piping, extraction wells or other system components. If it is determined that shrubs or trees are endangering such systems (either above-ground growth or the root system beneath the ground), they will be trimmed as necessary or removed. Inspection of tree clusters for potential impacts on the landfill cap system will be a regular part of the postclosure care requirements for the site. The Texas Forestry Service may be consulted if there are questions regarding whether a shrub or tree is in danger of having an adverse impact on the final cover system.

3.2.3 Managing Wind Impacts

Uprooting of trees can be minimized by maintaining a rooting soil thickness of 39 to 58 inches, and by planning the clusters to maximize their ability to provide windbreaks for each other within the cluster. However, it may be expected that some trees will be uprooted from time to time, particularly in excessively high winds such as hurricanes. When a tree is uprooted, it will be removed from the landfill cap as soon as practical. The hole left by the uprooted tree will be inspected to determine if any damage has occurred to the membrane liner, the drainage layer between the membrane and the erosion layer, or any irrigation lines.

APPENDIX IVC

WASTE FORMS

Inspection No. _____
Date _____

WASTE SCREENING REPORT
City of Corpus Christi
Corpus Christi Solid Waste Facility
Permit No. _____

Purpose of Screening:

- ☐ Random Selection ☐ Suspected Unauthorized Waste
☐ Other

Transporter Information:

Company Name _____
Address _____
Phone _____
Driver's Name _____
Truck No. & I.D. _____

Detected:

Containers _____
Powder/Dust _____
Odors _____
Liquids _____
Heat _____
Marked PCB or Hazardous Waste _____
Special Wastes _____

Sample Taken (Identify):

Disposition of Waste:

Recommendations:

Action Taken:

☐ Notified Texas Natural Resource Conservation Commission

Date/Time _____ Person Notified _____

☐ Filed in Operating Record Date _____

Signed:

Inspector

Transporter

CITY OF CORPUS CHRISTI - GENERATOR'S WASTE PROFILE SHEET INSTRUCTIONS

The information contained in these instructions may be used to determine the acceptability of waste intended for disposal at the Corpus Christi Solid Waste Facility. This information is strictly confidential and will only be used as an internal tool to maintain permit compliance with the Texas Natural Resource Conservation Commission. The form must be filled out in its entirety.

PART A

1. GENERATOR NAME - Enter the name of the facility where the waste is generated.
2. FACILITY ADDRESS - Enter the street address (Not the P. O. Box) where the waste is generated.
3. GENERATOR CITY/STATE - Enter the city and state of the site where the waste is generated.
4. ZIP CODE - Enter the generator's zip code.
5. GENERATOR USEPA ID - Enter the generator's identification number issued by the USEPA.
6. GENERATOR STATE ID - Enter the generator's identification number issued by the State.
7. TECHNICAL CONTACT - Enter the name of the person who can answer technical questions about the waste.
8. PHONE - Enter the telephone number of the person designated as the technical contact.

PART B

1. NAME OF WASTE - Enter the name of the waste (e.g. putrescible, untreated medical waste, sludge, contaminated soil, etc.)
2. PROCESS GENERATING WASTE - List the specific process or operation that generates the waste. (e.g. municipal refuse, manufacturing, etc.)
3. ANNUAL AMOUNTS - Enter the amount of waste that will generated and transported annually.(Use cubic yards, gallons, tons)
WASTE TYPE - Based upon the attached definition found in State of Texas Municipal Solid Waste Law, indicate if the waste type qualifies as a special waste.
5. TNRCC WASTE CODE NO. - This is the designated industrial waste code number identifying the waste as Class 1 non-hazardous, Class 2, or Class 3. Put N/A if the waste is not an industrial waste.
6. CLASS 1 INDUSTRIAL WASTE PROCESS INFORMATION - If the waste is Class 1 non-hazasrdous, provide specific information regarding the waste stream, the actual process generating this waste, and regulatory information pertaining to the waste. If you are not sure of the process, indicate "N/D" for not determined.
7. SPECIAL HANDLING INSTRUCTIONS/INFORMATION - For all wastes, describe any special handling requirements and any additional information applicable to its disposal.

DEFINITION OF SPECIAL WASTE

According to TAC 30:

Special Waste - Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment. If improperly handled, transported, stored, processed or disposed of or otherwise managed, it may pose a present or potential danger to the human health or the environment. Special wastes are:

- (A) hazardous wastes from conditionally exempt small-quantity generators that may be exempt from full controls under §§335.401-335.412 of this title (relating to Household Materials Which Could Be Classified As Hazardous Waste);
- (B) class I industrial nonhazardous waste not routinely collected with municipal solid waste;
- (C) special waste from health-care-related facilities (refers to certain items of medical waste);
- (D) municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
- (E) septic tank pumpings;
- (F) grease and grit trap wastes;
 - i) wastes from commercial or industrial wastewater treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR, Part 261, Appendix VII but has not been listed as a commercial chemical product in 40 CFR, §261.33(e) or (f);
- (H) slaughterhouse wastes;

- dead animals;
- drugs, contaminated foods, or contaminated beverages, other than those contained in normal household waste;
- (K) pesticide (insecticide, herbicide, fungicide, or rodenticide) containers;
- (L) discarded materials containing asbestos;
- (M) incinerator ash;
- (N) soil contaminated by petroleum products, crude oils, or chemicals;
- (O) used oil;
- (P) light ballasts and/or small capacitors containing polychlorinated biphenyl (PCB) compounds;
- (Q) waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas when those wastes are to be processed, treated, or disposed of at a solid waste facility permitted under this chapter;
- (R) waste generated outside the boundaries of Texas that contains:
 - (i) any industrial waste;
 - (ii) any waste associated with oil, gas, and geothermal exploration, production, or development activities; or
 - (iii) any item listed as a special waste in this paragraph;
- (S) any waste stream other than household or commercial garbage, refuse, or, rubbish;
- (T) lead acid storage batteries; and
- (U) used-oil filters from internal combustion engines.

8. **INCIDENTAL AMOUNTS OF SPECIAL WASTE** - incidental quantities of special waste that do not materially change the physical or chemical identity of the load or make it hazardous waste must be identified by type and amount.

PART C

1. **METHOD OF SHIPMENT** - Indicate the anticipated method of shipment by checking the appropriate box.
2. **SUPPLEMENTAL SHIPPING INFORMATION** - Enter any additional shipping information.
3. **REPORTABLE QUANTITY** - Enter the pounds of waste for disposal.

.T D

TECHNICAL MANAGER DECISION - To be completed by the City of Corpus Christi.

PART E

PHYSICAL CHARACTERISTICS OF WASTE

1. **COLOR** - Describe the appearance of the waste (e.g., green, transparent, varies).
2. **ODOR** - **Do Not Smell The Waste!** If the waste has a known incidental odor, then describe it (e.g., acrid, pungent, solvent, sweet).
3. **PHYSICAL STATE** - Check the applicable box, if "OTHER" enter a descriptive phrase in the space provided.
4. **LAYERS** - Check all applicable boxes. Multi-layered means more than two layers (e.g., oil/water/sludge). Bi-layered means the waste is comprised of two layers which may or may not be of the same phase (e.g., oil/water or solvent/sludge). Single phased means the waste is homogenous.
5. **SPECIFIC GRAVITY** - Indicate the range. The specific gravity of water is 1.0. most organics are less than 1.0. Most inorganics are greater than 1.0.
6. **FREE LIQUIDS** - Check "YES" if liquid is usually present when packaging for shipment and estimate the percent of liquid volume. Check "NO" if there are no free liquids as determined by the Paint Filter Test or direct observation.
7. **pH** - Indicate for liquid portions of the waste. Check the appropriate boxes which cover the pH of the waste. Use the "RANGE" space if appropriate. For solid or organic liquid wastes, indicate the pH of a 10% aqueous solution of the waste if applicable. Check "NA" for non-water soluble materials.
8. **FLASH POINT** - Indicate the flash point obtained using the appropriate testing method.

PART F

CHEMICAL COMPOSITION

List all organic an/or inorganic components of the waste using special chemical names. If trade names are used, attach Material Safety Data Sheet or other documents that adequately describe the composition of the waste. For each component, estimate the range (in percents) in which the component is present. In addition, indicate whether any TCLP constituents are present in the waste. The total of the maximum values of the components must be greater than or equal to 100% including water, earth etc.

2. If the waste contains PCB's, cyanides, or sulfides indicate the concentrations. If the waste does not include these constituents, indicate by checking the "NO" box(es) which applies. If the concentration of these constituents is unknown, please indicate "UNK" under "ACTUAL".
3. Indicate whether the method used to determine the chemical composition in F1 was the TCLP (Toxicity Characteristic Leaching procedure) method, an analysis to determine the total concentrations, or another method. Specify the method.

PART G

SAMPLING SOURCE

Describe exactly where the sample was taken (i.e., drum, lagoon, pond, tank, etc.).

PART H

REPRESENTATIVE SAMPLE CERTIFICATION

This section only needs to be completed when providing a waste sample for testing.

Some wastes require analytical data to determine their chemical composition, regulatory status, and if they are acceptable for transportation, treatment or disposal. The sample should be collected in accordance with "Test Methods for the Evaluation of Solid waste, Physical/Chemical Methods," SW-846, USEPA, and/or 40 CFR 261.20(c), or equivalent rules. A suitable sample container for most wastes is a wide mouth glass bottle with a plastic cap having a non-reactive liner. Plastic containers are recommended for strong caustics or fluorides. Fill to approximately 90% of capacity to allow for expansion during transportation. The sample must be packed and shipped in accordance with U.S. DOT regulations and specific requirements imposed by the carrier. Improperly packaged samples may be disposed upon receipt.

1. PRINT SAMPLER'S NAME - Enter the sampler's name.
2. SAMPLE DATE - Enter the date that the sample was collected.
3. SAMPLER'S TITLE - Enter the sampler's title.
4. SAMPLER'S EMPLOYER - Enter the name of the sampler's employer.
5. SAMPLER'S SIGNATURE - Sign in the space provided.

PART I

TRANSPORTER CERTIFICATION

By signature of this profile sheet, the transporter certifies that statements in Nos. 1, 2, 3, 4, 5, 6, and 7 are true and accurate with respect to the waste streams listed.

7. SIGNATURE - An authorized employee of the Transporter must sign the Transporter's Waste Profile Sheet.
8. TITLE - Enter the employee's title.
9. NAME - Enter the employee's name.
10. DATE - Enter the date signed.

KEEP A COPY OF THE TRANSPORTER'S WASTE PROFILE SHEET FOR YOUR RECORDS. SEND THE ORIGINAL AND ALL ATTACHMENTS TO THE CITY OF CORPUS CHRISTI - DEPARTMENT OF SOLID WASTE.

PART F - (cont.)

Please Note: Unless analytical notes are attached, the chemical composition identification should include at a minimum, Arsenic, Barium, cadmium, chromium, Lead, Mercury, Selenium, Silver, Pesticides, Herbicides, and any other TCLP constituents that may be present in the waste. The total concentration must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

Indicate method used to determine composition (if provided):

TCLP

Total

Other: _____

PART G - SAMPLING SOURCE (e.g., Drum, Lagoon, Pit, Pond, Tank, Vat): _____

PART H - REPRESENTATIVE SAMPLE CERTIFICATION

1. PRINT SAMPLER'S NAME: _____ 2. SAMPLE DATE: _____

3. SAMPLER'S TITLE: _____

4. SAMPLER'S EMPLOYER (if other than generator): _____

The sampler's signature certifies that any sample submitted is representative of the waste described above pursuant to 40 CFR 261.20(c) or equivalent rules.

5. SAMPLER'S SIGNATURE: _____

PART I - GENERATOR CERTIFICATION

By signing this profile sheet, the generator certifies:

1. This waste is not a "Hazardous Waste" as defined by 40CFR261 or 30 TAC 335, Subchapter R.

2. This waste does not contain regulated radioactive materials or regulated concentrations of PCB's (Polychlorinated Biphenyls).

3. The information provided on this sheet and the attachments is a true and accurate description of the waste material. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

4. The generator has read and understands the Definition of Special Waste included in the instructions form.

5. The analytical data presented herein or attached hereto were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.

If any changes occur in the character of the waste, the generator shall notify the City of Corpus Christi prior to its delivery to the Corpus Christi Solid Waste Facility.

6. The generator will abide by disposal requirements imposed by the City of Corpus Christi on the waste being disposed at the site. Disposal requirements include those contained in the Site Operating Plan for the City's disposal facility, and any additional requirements imposed by the City on this specific waste stream.

8. SIGNATURE: _____

9. TITLE: _____

10. NAME (Type or Print): _____

APPENDIX IVD

**CLASS 1 NONHAZARDOUS INDUSTRIAL WASTE
ACCEPTANCE PLAN**



CONTENTS

1 INTRODUCTION	IV-1
2 WASTE ACCEPTANCE CRITERIA	IV-2
3 WASTE EVALUATION CRITERIA	IV-3
4 QUALITY ASSURANCE/QUALITY CONTROL - ANALYTICAL INFORMATION	IV-4
4.1 Analytical Information	IV-4
4.2 Point-of-Delivery Inspection/Testing	IV-5
5 WASTE APPROVAL UPDATES	IV-6
6 WASTE DISCREPANCIES AND REJECTED LOADS	IV-7
7 DOCUMENTATION AND RECORDKEEPING	IV-9
8 REPORTING	IV-10
9 TRAINING OF PERSONNEL AND WASTE SCREENING	IV-12



[Handwritten signature]
8/31/98

1 INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) Municipal Solid Waste Regulations define a Class 1 nonhazardous industrial waste (Class 1 waste) as any industrial solid waste designated as Class 1 by the executive director, or mixture of industrial solid wastes that because of its concentration or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, and may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or otherwise managed.

The disposal requirements for industrial wastes in a municipal solid waste landfill, including Class 1 wastes, are found at 30 TAC §330.137 - Disposal of Industrial Wastes. This Class 1 nonhazardous industrial waste acceptance plan (Plan) was developed in accordance with Section 330.137. All Class 1 wastes handled, treated, and/or disposed of at the City of Corpus Christi (CoCC) Solid Waste Facility will be subject to the procedures and guidelines contained in this Plan.

For the specific purposes of this Plan, Class 1 waste is further defined as any waste:

- Determined to be nonhazardous by process determination or by meeting the definitions of such as outlined in 40 CFR Part 261; and,
- Classified as Class 1 waste by the TNRCC or self-classified by an in-state, out-of-state, or Maquiladora generator as Class 1 waste.

This definition does not include Class 1 asbestos waste.

2 WASTE ACCEPTANCE CRITERIA

Prior to acceptance of any Class 1 waste at the CoCC facility, the following initial criteria must be met:

1. The waste must be determined to be nonhazardous as defined in 40 CFR Part 261 or by applicable state solid waste regulations and
2. Class 1 waste generated in the State of Texas must be classified as Class 1 by the TNRCC or self classified as Class 1 in accordance with 30 TAC Chapter 335, Subchapter R or
 - Class 1 waste generated by a Maquiladora facility, which has been assigned a valid "Q" reference number by the TNRCC, must be classified as Class 1 by the TNRCC or self classified as Class 1 in accordance with 30 TAC Chapter 335, Subchapter R or
 - Class 1 waste generated by out-of-state generators must be self-classified as Class 1 waste in accordance with 30 TAC, Chapter 335, Subchapter R and receive generator specific/site specific approval for disposal by the TNRCC.
3. The generator/customer must provide all required information in accordance with Section 3 Waste Evaluation Criteria.

3 WASTE EVALUATION CRITERIA

Prior to the acceptance of a Class 1 wastestream, the generator/customer is required to state and certify the characteristics, origin and estimated quantity of the Class 1 waste proposed for disposal. In addition, if the waste is not readily identifiable, the generator/customer may be required to provide other pertinent information regarding the waste before a Class 1 waste is accepted.

The generator/customer must complete and sign the Generator's Waste Profile Sheet (GWPS-see Appendix IVC) and may be required by the Disposal Superintendent to provide current laboratory analyses data for the waste stream intended for disposal. Texas generators and Maquiladora generators will be required to submit evidence that the waste has been classified as a Class 1 waste either by the TNRCC or self-classified as a Class 1 waste in accordance with 30 TAC chapter 335, subchapter R.

The GWPS and all information provided by the generator/customer will be reviewed by the Disposal Superintendent. The Disposal Superintendent will ensure that any analytical information submitted meets the requirements described in Section 4.0 of this Plan, assign necessary conditions/limitations on managing the waste, and make the decision and submit approval of the wastestream in writing to the generator/customer if the waste is eligible for disposal at the facility. If the waste is approved for acceptance, an expiration date not to exceed 2 years is assigned to the GWPS unless the Disposal Superintendent determines that an expiration date of less than 2 years is appropriate. The waste stream will be reviewed at the end of the expiration date to ensure it is still in conformance with the information provided.

The Disposal Superintendent will ensure that a Class 1 Waste Disposal Agreement is executed by the generator/customer. The Class 1 Waste Disposal Agreement states that the generator/customer warrants that the waste materials delivered to the landfill will not contain any hazardous, toxic or radioactive waste or substances as defined by applicable federal, state, local or provincial laws or regulations. The Class 1 Waste Disposal Agreement also states that the generator/customer warrants that the waste material delivered to the facility will not contain any waste except that specifically described in the GWPS and approved in writing, by the facility.

Any necessary special conditions/limitations will be included in the Class 1 Waste Disposal Agreement and noted on the GWPS. The Class 1 Waste Disposal Agreement contains a statement that the generator/customer agrees to comply with all special conditions/limitations contained in the Class 1 Waste Disposal Agreement.

4 QUALITY ASSURANCE/QUALITY CONTROL - ANALYTICAL INFORMATION

4.1 Analytical Information

The laboratory analyses required for review with the GWPS is dependent upon the type of waste stream to be disposed. Analyses must have been conducted in accordance with EPA test methods as outlined in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication Number SW-846). The type of analyses that may be required on the waste include corrosivity, ignitability, reactivity, toxicity (TCLP), paint filter and any other state-required tests to determine if the waste meets the Class 1 classification criteria. The Disposal Superintendent must receive either proper analytical results from the generator/customer or equivalent information. In accordance with 40 CFR 262.11 the Disposal Superintendent may use the generator's knowledge of the waste and process generating the waste to ensure that the facility is not managing hazardous waste or other prohibited wastes.

Analytical reports must clearly identify the generator, when analyses were conducted, the material analyzed, when the sample was taken, and must include the signature of the Laboratory Manager or Chemist serving as certification that the analyses were completed by the laboratory in accordance with applicable approved test methods. In addition, the GWPS requires all samples to be collected in accordance with 40 CFR 261.20(C).

Representative samples may also be required by the Disposal Superintendent for testing and evaluation by the City prior to issuing a disposal decision. Any additional sampling and/or testing required will be the responsibility of the generator/customer.

Analytical data submitted to Disposal Superintendent for use in the waste evaluation process must meet the following quality assurance criteria:

- Analytical data must be current, preferably less than 6 months old (the Disposal Superintendent may, however, accept older data, if appropriate).
- The source and/or process generating the waste must be identified and described in physical terms.
- The reference of methods employed must accompany the analytical data.
- All laboratory QA/QC information must accompany the data submitted and should include: Chain of custody records, data on standards, duplicate analyses, spikes and blanks, and other pertinent statistical information.

4.2 Point-of-Delivery Inspection/Testing

Because Class 1 waste disposed at the facility will be delivered in designated loads not mixed with other wastes, these waste loads will not be subject to normal waste screening methods described in Section 5 of the Site Operating Plan (Part IV of the Permit Application). However, each load of Class 1 waste delivered to the landfill for disposal will receive a visual inspection to verify conformance with the GWPS. In addition to visual inspection, additional verification testing may be performed on any load. Test results will be recorded and referenced by manifest document number on the GWPS and maintained in the site operating records.

Class 1 wastes containing free liquids as determined by the paint filter liquids test (EPA Method 9055; EPA Publication Number SW-846) will not be accepted at the facility.

5 WASTE APPROVAL UPDATES

Approximately 3 months prior to the expiration date of the GWPS, the Disposal Superintendent will inform the generator/customer of the impending expiration. The generator/customer must then provide appropriate updates to the GWPS, additional laboratory data and additional process information prior to expiration of the current GWPS. The Disposal Superintendent may extend the expiration of the current GWPS by up to 3 additional months, if generator/customer is making satisfactory progress toward completing the required update.

In the event the process from which the Class 1 waste is generated changes, it is the responsibility of the generator/customer to provide notification and updated information on the waste. The additional information may include additional analytical data, and other information as required by the Disposal Superintendent. The GWPS must be updated by the generator with the additional information.

In the event the physical characteristics of a Class 1 waste received at the facility differs from that of the approved waste stream, disposal will not be allowed and the generator/customer will be required to provide additional process and/or analytical data in order to determine the cause of the change in waste characteristics and any associated disposal requirements.

6 WASTE DISCREPANCIES AND REJECTED LOADS

Documentation for all Class 1 wastes with an approved GWPS that arrive for disposal at the facility are reviewed by the Scalehouse Operator and, if necessary, by the Disposal Superintendent. If required documentation is missing, incomplete, or the characteristics of the waste are questionable, all discrepancies must be resolved prior to acceptance of the waste for disposal. In the event all discrepancies cannot be resolved, the waste load will be rejected.

Discrepancies which will cause a load to be rejected include, but are not limited to:

- A Class 1 waste arrives without a TNRCC manifest;
- A Class 1 waste arrives and the waste material does not match the description on the waste manifest;
- A Class 1 waste arrives and the information on the manifest is not complete or is incorrect; or
- A Class 1 waste arrives which does not match the information provided on the GWPS, Class 1 Waste Disposal Agreement or any TNRCC approval documents.

In the event that the description or physical characteristics of a Class 1 waste being received at the facility differs from that of an approved waste stream or if previously unidentified Class 1 waste is suspected, the load will be stopped and the generator/customer will be required to provide an updated GWPS to properly identify the wastestream prior to disposal.

Should an incident occur in which a waste load is accepted as a Class 1 waste approved for disposal at the facility, but is afterward suspected of being a different (not approved) Class 1 nonhazardous waste, hazardous waste, PCB waste, radioactive waste, or other prohibited waste, the load will be isolated and the area around the waste load secured. The generator/customer will be immediately contacted to provide proper identification of the waste. If the waste is subsequently confirmed to be a different (not approved) Class 1 nonhazardous waste, or hazardous, or to contain PCB's, or radioactive, or other prohibited waste, the following actions will occur:

- The TNRCC Regional office will be notified of the incident.
- The generator/customer will be required to remove the waste for proper disposal elsewhere.
- If the generator/customer is unable to remove the waste, the Disposal Superintendent will develop an appropriate remediation plan. The plan will be implemented upon approval of the TNRCC.

7 DOCUMENTATION AND RECORDKEEPING

All required paperwork and documentation relating to the acceptance of Class 1 wastes will be maintained as part of the Site Operating Record. The following forms and/or documentation will be required under this acceptance Plan:

TNRCC Waste Classification

The generator/customer will be required to submit evidence that the waste has been classified as a Class 1 waste by the TNRCC or self-classified as a Class 1 waste according to TNRCC regulations. This will include identification as a process waste or one-time waste (using TNRCC Form 0757). This requirement applies to all registered Texas generators and registered Maquiladoras with a valid "Q" number.

Generator Waste Profile Sheet and Class 1 Waste Disposal Agreement

The GWPS and Class 1 Waste Disposal Agreement are required of all generators/customers of Class 1 waste. The generator/customer certifies by signature that all information contained in the GWPS and Class 1 Waste Disposal Agreement is true and correct. Copies of the current GWPS will be maintained in the Site Operating Record.

TNRCC Waste Manifest

The TNRCC currently requires all Class 1 non-hazardous industrial waste to be manifested from generator to disposal facility using a TNRCC Hazardous Waste Manifest. The waste manifest is to be completed by the generator and the transporter, and must accompany each load of Class 1 waste. Once the facility has confirmed the necessary pre-authorizations for acceptance and disposal of the waste, the destination section of the manifest will be completed by the facility and a copy presented to the transporter. To verify final destination and disposition of the waste, the generator's copy of the manifest will be forwarded to the generator. One copy will be permanently filed at the facility.

All documents and information relevant to Class 1 waste profiled and accepted for disposal at the facility will be maintained in the Site Operating Record for a period of no less than 3 years.

8 REPORTING

The following reports will be completed for all Class 1 wastes received for disposal, and submitted to the TNRCC as required.

Monthly Waste Receipt Summary Report

The City of Corpus Christ Solid Waste Facility will submit to the TNRCC a monthly report of Class 1 waste received. This report will be submitted no later than the 25th day of the month following the month in which the waste was received. Reports will be on TNRCC Form 0133A and submitted to the TNRCC Industrial and Hazardous Waste Division, Waste Evaluation Section, in accordance with 30 TAC §335.15. Monthly reports will be filed by the facility including those months in which no Class 1 waste is received at the facility unless an exception is granted by the TNRCC. These reports will summarize the quantity, character, transporter identity, and the method of storage, processing, and disposal of each Class 1 waste shipment received, itemized by manifest document number.

Quarterly Municipal Solid Waste Fee Report

In accordance with 30 TAC §330.603, a Quarterly Municipal Solid Waste Fee Report is required to be submitted to the TNRCC on a form furnished by the TNRCC. This report must include a statement of the amount of Class 1 waste received for processing or disposal in addition to amounts of other wastes received, the facility operator's name, address, and phone number, the permit number, permit application number, the facility type, size, and capacity, and other information the TNRCC may request. The required quarterly report will be submitted to the TNRCC not later than 20 days following the end of the fiscal quarter for which the report is applicable.

Waste Discrepancy Reporting

By following the procedures in this Class 1 Nonhazardous Industrial Waste Acceptance Plan, it is anticipated that improper acceptance of Class 1 nonhazardous industrial wastes (i.e., acceptance without proper documentation) will be avoided. However, if such wastes are inadvertently received improperly, a report of the incident must be filed with the TNRCC, in accordance with 30 TAC 335.15(3). This report will be submitted within 15 days of receiving the waste, regardless of quantity, and will include the following information:

- Name and address of the facility;
- The date the waste was received;
- Name and address of the generator and the transporter, if available;

- A description and the quantity of each Class 1 waste the facility received without proper documentation;
- The method of storage, processing, or disposal for each Class 1 waste the facility received without proper documentation;
- The certification signed by the owner or operator of the facility or his authorized representative; and
- A brief explanation of why the waste was unaccompanied by a manifest, if known.