PART IV

SITE OPERATING PLAN

Temple Recycling & Disposal Facility

Temple, Bell County, Texas

TCEQ Permit MSW-692B

Owner/Site Operator/Permittee:

City of Temple
201 N. Main
Temple, Texas 76501

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING PURPOSES ONLY

Operator:

WASTE MANAGEMENT

Waste Management of Texas
9708 Giles Lane
Austin, Texas 78781

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1.0 INTRODUCTION

This Site Operating Plan (SOP) consists of procedures to be followed by the landfill personnel for day-to-day operations at the Temple Recycling & Disposal Facility (RDF), which is permitted as a Type I Municipal Solid Waste (MSW) facility. This SOP addresses the requirements of 30 Texas Administrative Code (TAC) §330.57 and §330.121 through 179. This SOP and the records required by §330.121(a) and §330.125(a) and (b) will be maintained in the Site Operating Record (SOR). The Temple RDF shall be operated in accordance with the requirements of this SOP and other applicable local, state, and federal regulations. The SOP shall be retained as part of the SOR during the active life of the site and throughout the post-closure maintenance period.

All terms used in this SOP are as defined in 30 TAC §330.3, unless otherwise stated.

1.1 Pre-Operation Notice §330.123

Written notice in the form of a Soil Liner Evaluation Report (SLER) and Geomembrane Liner Evaluation Report (GLER) detailing the final construction and lining of a new disposal cell will be submitted to the Texas Commission on Environmental Quality (TCEQ) for acceptance. The reports will be submitted to the TCEQ for review at least 14 days prior to the placement of any waste in the new cell. If verbal or written response from the TCEQ is not provided by the end of the 14th day following TCEQ receipt of the report(s), the area shall be considered approved for placement of solid waste.

1.2 Recordkeeping Requirements §330.125

The permit (including the application and any other documents that are part of the permit by reference or attachment), will be maintained onsite until the facility has completed all closure activities and waste disposal units have been approved to enter post-closure, after which these records may be maintained physically or electronically at an offsite location, once that location is approved by the executive director through permit modification, and will be made available to the executive director within one business day.

Records other than the permit (including the application and any other documents that are part of the permit by reference or attachment), will be maintained onsite, either physically or electronically, for at least three years. After three years the records may be maintained physically or electronically at an offsite location, once that location is approved by the executive director by permit modification, and will be made available to the executive director upon request.

The owner or Landfill Manager (LM) or his designated alternate shall, within 7 working days of completion or receipt of analytical data, as appropriate, record and retain information included in Tables 1 and 2 in the SOR. The information, as part of the SOR, will be maintained for the life of the facility, including the post-closure care period in accordance with 330.125(d).

Table 1: Site Operating Record Items and Regulatory Citations

Site Operating Record Item	Operating Record Regulatory Citation
Any and all location restriction demonstrations	330.125(b)(1)
Inspection records, training procedures, and notification procedures relating to excluding the receipt of prohibited waste	330.125(b)(2)
All results from gas monitoring and any remediation plans relating to explosive and other gases	330.125(b)(3)
Any and all unit design documentation for the placement of leachate or gas condensate in a MSW landfill	330.125(b)(4)
Any and all demonstration, certification, findings, monitoring, testing, and analytical data relating to groundwater monitoring and corrective action	330.125(b)(5)
Closure and post-closure care plans, and any monitoring, testing, or analytical data relating to post-closure requirements	330.125(b)(6)
Any and all cost estimates and financial assurance documentation relating to financial assurance for closure and post-closure	330.125(b)(7)
Any and all information demonstrating compliance with the small community exemption criteria	330.125(b)(8)
Copies of all correspondence and responses relating to the operation of the facility, modifications to the permit, approvals, and other matters pertaining to technical assistance	330.125(b)(9)
Any and all documents, manifests, shipping documents, trip tickets, etc. involving special waste	330.125(b)(10)
When applicable, for any spray-applied alternative daily cover (ADC) material, records of the application rate and total amount of ADC applied to the working face on those days in which ADC is applied	330.125(b)(11)
Any other document(s), as specified by the approved permit or by the TCEQ ED	330.125(b)(12)

Recordkeeping requirements and recommendations are further summarized on the table below:

Table 2: Recordkeeping Requirements

Records Needed	Frequency	Rule Citation or SOP Section
Location Restriction Demonstrations	Submittal of Permit Application	330.125(b)(1)
Prohibited Waste Inspection Records, Training and Receipt Notification Procedures	Per Occurrence	330.125(b)(2)
Gas Monitoring Results	Quarterly	330.125(b)(3); 330.159
Remediation Plans for Explosive and Other Gases	Per Occurrence	330.125(b)(3)
Unit Design Documentation for Leachate or Gas Condensate Placement	As Required	330.125(b)(4)
Groundwater Monitoring and Corrective Action Demonstration, Certification, Monitoring, Testing, & Analytical Data	Per Occurrence	330.125(b)(5)
Closure and Post-Closure Care Plans	Submittal of Permit Application	330.125(b)(6)
Post-Closure Monitoring, Testing, and Analytical Data	Per Occurrence	330.125(b)(6)
Cost Estimates and Financial Assurance Documentation for Closure and Post-Closure	Annually	330.125(b)(7)
Facility Operation, Permit Modification, Approvals, and Technical Assistance Correspondence & Responses	Per Occurrence	330.125(b)(9)
Special Waste Manifests, Trip Tickets and All Other Documents Relating to Special Waste (maintained electronically)	Per Occurrence	330.125(b)(10)
When applicable, records of the Application Rate and Total Amount of ADC Applied to the Working Face for any Spray-Applied ADC	Per Occurrence	330.125(b)(11)
Other Documents Specified in the Permit or by the TCEQ ED	As Needed	330.125(b)(12)
Personnel Training Records per §335.586(d)-(e)	As Needed	330.125(e)
Personnel Operator License	As Needed	330.125(f)
Annual Waste Acceptance Rate Documentation	Rolling Quarterly	330.125(h)
Quarterly Solid Waste Summary Report	Quarterly	330.675(a)
Annual Solid Waste Summary Report	Annually	330. 675(b)
Unauthorized Material Removal	Per Occurrence	330.133(b)
Landfill Marker Inspections	Monthly	330.143(a)
Landfill Gas Management Reports and Submittals	Per Occurrence	330.159
Cover Inspection Record	Daily	330.165(h)
Regulated Asbestos Containing Materials (RACM) Acceptance Records	Per Occurrence	330.171(c)(3)(B)
Site Access Road Records	Monthly	330.153
Access Control Inspections and Maintenance	Weekly	330.131
Notices for Access Control Breaches and Repairs	Per Occurrence	330.153
Fire Occurrence Notices	Per Occurrence	330.129
Ponded Water Records	Weekly	Section 4.23
Site Inspection and Maintenance Records	Per Occurrence	Section 4.5
Daily Log of Litter and Debris Pickup along Public Roads	Daily	Section 4.12
Additional Temporary Operating Hours	Per Occurrence	Section 4.7

1.2.1 Training Records and Licenses

The facility will maintain training records in accordance with 30 TAC §335.586(d) and (e), as follows:

1. The job title for each position at the facility related to waste management, and the name of the employee filling each job
2. A written job description for each position listed under Paragraph (1). This description must include the requisite skill, education, other qualifications, and duties of employees assigned to each position
3. 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 under Paragraph (1)
4. Records that document that the required training or job experience has been given to, and completed by, facility personnel

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

At least one person with supervisory responsibility over the facility shall maintain a Class A operator license in accordance with 30 TAC §30, Subchapter F (30 TAC §30.201 to .212).

1.2.2 Annual Waste Acceptance Rate

The facility shall maintain records to document the facility's annual waste acceptance rate. Documentation will include submitting the quarterly solid waste summary reports and the annual solid waste summary reports required by 30 TAC §330.675 through the State of Texas Environmental Electronic Reporting System (STEERS). In accordance with §330.125(h), whenever the waste acceptance rate, as established by the sum of the previous four quarterly summary reports, exceeds the operating rate upon which equipment and personnel staffing has been based, and the waste increase is not due to a temporary occurrence, the LM shall make any necessary changes in personnel and equipment as specified in Table 3, Temple RDF Waste Volume Equipment Schedule, to ensure that the site personnel and equipment necessary to safely manage the waste are available. If the volume of waste increase is beyond the scope described in this Permit Amendment Application (PAA), an application to modify the permit, including the revised estimated waste acceptance rate, will be submitted to the TCEQ ED within 90 days of the exceedance, as established by the sum of the previous four quarterly summary reports. The permit modification application will propose any needed changes in the SOP necessary to manage the increased waste volume in terms of equipment and manpower to protect public health and the environment that are beyond the scope addressed in the current approved permit application. The increased waste acceptance rate may justify requiring permit conditions that are different from or absent in the existing permit.

The current estimated waste acceptance per §330.125(h) is approximately 430,000 tons per year of waste.

1.2.3 Records Management System

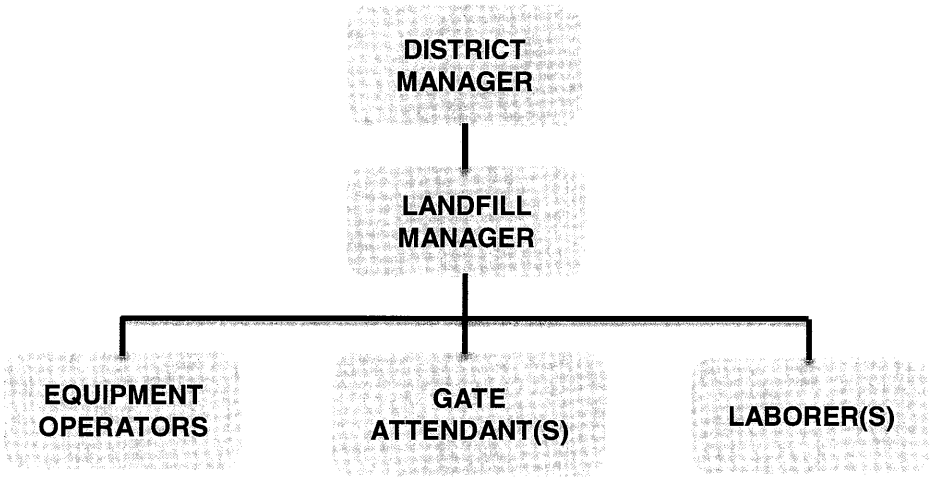
It shall be the responsibility of the LM to maintain the SOR. All required records will be retained in the SOR either in a digital format and/or hardcopy. The SOR will exist in digital and/or hardcopy form and be in an organized format that allows the information to be easily located and retrieved. All information contained in the SOR shall be furnished upon request to the TCEQ ED and must be made available for inspection by the TCEQ ED. The different plans required for the facility, and all information contained within the SOR, will be retained for the life of the facility, including the post-closure care period. Specific information concerning maintenance of SOR is included in Section 1.2.

Documents will be added to the SOR within 7 working days of completion of the item or receipt of analytical data. In accordance with §330.125(g), the TCEQ ED may set an alternate recordkeeping and notification schedule.

2.0 PERSONNEL §330.127(1)

The landfill personnel shall include, at a minimum, a LM, one equipment operator, one gate attendant, and at least one laborer for other assigned tasks. The organizational chart below provides the positions and chain-of-command of personnel necessary to operate the facility. Either the District Manager (DM) and/or the LM will be licensed in accordance with 30 TAC, Part I, Chapter 30, Subchapter F. Any alternate, as discussed throughout the SOP, will have been appropriately trained to the position they are assuming.

Temple Recycling and Disposal Facility Organizational Chart



2.1 District Manager

The DM or designated alternate is responsible for overall landfill management and the general direction of the operation of the Temple RDF. The DM may not be physically located at the landfill. However, the DM or his alternate, will be a person who routinely visits the site, provides direct oversight to the LM, and is familiar with this SOP. The DM has the authority to hire necessary supervisory and operating personnel for the landfill and to arrange or provide for their training and orientation. This individual also ascertains the facility's equipment needs and initiates requests to replace or obtain additional equipment. The DM may also engage outside contractors, as needed, to provide necessary supplemental equipment or services as deemed necessary for site operation. The DM or a designated alternate is the designated regulatory contact individual.

The DM or designated alternate must be knowledgeable and experienced in aspects of solid waste disposal operations, including relevant regulations, permit requirements, waste-handling, and safe management practices for disposal of MSW and non-hazardous industrial waste and special waste, and will have the required qualifications for licensing under 30 TAC §30.210.

2.2 Landfill Manager

The LM shall be responsible for day-to-day activities at the landfill. The LM shall provide on-site management of the landfill operations. He/she shall have the authority and responsibility to reject unauthorized loads, require unauthorized materials to be removed by the transporter, and/or assess appropriate surcharges.

The LM will have primary responsibility for ensuring compliance of day-to-day operations with TCEQ operating requirements and with the SOP. Some of the responsibilities of the LM may be assigned to a designated alternate with oversight by the LM. The LM will ensure adequate staffing to provide facility operation in accordance with the SDP, the SOP, and the TCEQ regulations, and will supervise equipment operators, gate attendants, and laborers, and assign duties as necessary. The LM will coordinate for fire protection training of landfill employees according to Section 4 of this plan. The LM will be responsible for ensuring the inspection and/or maintenance of all equipment and operating systems required under the permit (i.e., leachate collection system, methane gas collection system, etc.). The LM will serve as the emergency contact and coordinator for the facility, and will be responsible for ensuring the maintenance of the SOR and required logs. The LM or designated alternate must be an experienced personnel manager, who is familiar with and has the aptitude to implement operational aspects of solid waste disposal operations, including knowledge of relevant regulations and permit requirements, waste-handling, and safe management practices for disposal of municipal solid waste, health and safety, and waste identification.

2.3 Equipment Operator

Equipment operators shall be trained in the safe operation of landfill vehicles and heavy equipment. Duties to be performed may include spreading and compacting waste and cover soil as needed to place and contain waste, maintaining access roads, establishing and maintaining stormwater drainage, excavating soils, and completing construction activities in accordance with the SDP. Equipment operators shall also be responsible for daily inspection of equipment for operational and safety conditions. Equipment operators will be trained in prohibited waste identification and will visually observe waste loads as they are placed to help ensure that prohibited wastes are not deposited within the unit. If prohibited wastes are observed, the equipment operators shall immediately notify the LM or designated alternate. The equipment operators shall also assist other landfill personnel in fire protection operations, moving of litter fences, and other duties, as directed by the LM or designated alternate.

The minimum qualifications for an equipment operator include a demonstrated proficiency in operating heavy equipment and the ability to comprehend and implement the training included in Section 4.1, Personnel Training.

2.4 Gate Attendant

The gate attendant(s) shall be responsible for monitoring, documenting, and measuring incoming waste and collecting appropriate fees. Duties may include selecting random loads for waste inspections in accordance with Section 4.2 of this plan, and directing waste loads to the appropriate disposal area(s). The gate attendant(s) will be trained in safety procedures and in identifying prohibited wastes. If prohibited wastes are observed, the attendant(s) shall not allow the waste into the landfill and shall immediately notify the LM.

The minimum qualifications for a gate attendant include a demonstrated ability to communicate with the customers and the ability to comprehend and use the gatehouse equipment (i.e., scales, computers, etc.) and the training included in Section 4.1, Personnel Training.

2.5 Laborer

Landfill laborers shall have responsibilities as directed by the LM or designated alternate. These duties may include on- and off-site litter control, fire protection operations, dust control, inspection and maintenance of perimeter fences, gate(s), litter fences, and other duties as necessary. Appropriate training will be provided commensurate to the duties and responsibilities of the laborer(s).

The minimum qualifications for a laborer include a demonstrated ability to comprehend the training included in Section 4.1, Personnel Training.

3.0 EQUIPMENT §330.127(2)

Heavy equipment available for day-to-day operations of the disposal areas shall consist of at least one landfill compactor, one bulldozer, earth moving equipment, one motor grader, and a water truck. When major repairs to heavy equipment are needed that may adversely impact disposal operations, the LM, designated alternate, or contractors will make additional equipment of similar size and function available.

The landfill compactor shall be a wheeled compactor with a minimum weight of 40,000 pounds with appropriate cleats for sufficient waste compaction. The bulldozer shall be capable of spreading MSW waste and soils for cover, and performing construction maintenance of on-site roads. The water truck shall be used to spread water for dust control and fire prevention/protection, as well as for watering vegetation for sustained growth, as necessary. The earth moving equipment (i.e., loader and dump truck and/or scraper) shall be capable of moving sufficient volumes of soil, as necessary. For additional information regarding the number, size, and capacities of the equipment, see Table 3, Temple RDF Waste Volume Equipment Schedule. In addition to the required equipment listed in the table below, miscellaneous pickups and/or other light utility vehicles, as well as various portable water pumps, instruments, and safety and training equipment will be on-site, as necessary. The pickup truck shall be used to haul landfill personnel within the site to conduct site duties and collect windblown and spilled litter (both on- and off-site). The portable pump shall be used to pump stormwater from excavations and ponded areas.

The number, types, and equipment manufacturers of the heavy equipment and miscellaneous vehicles and equipment may vary during site operations based on operational needs and availability.

Table 3: Temple RDF – Waste Volume Equipment Schedule

Equipment Type	Waste Acceptance Rate (Tons Per Year)			Minimum [1] Size	Function
	Less Than 350,000	350,001 to 750,000	750,001 to 1,250,000		
Compactor	1	1	2	40,000 lb.	Waste spreading and compaction, fire protection
Bulldozer	1	2	2	140 horsepower	Movement and placement of soil, waste spreading and compaction, fire protection
Excavator [2]	1	1	1	2.5 cy bucket	Excavation of soil, fire protection
Haul Truck[2]	1	2	2	20 cy	Hauling of soil, fire protection
Motor Grader	1	1	1	12-ft blades	Grading of access roads
Water Truck	1	1	1	1,500 gallons	Dust control, fire protection
Temporary Litter Fencing	1	3	4	four feet high	Active face litter control
Rotary Broom Sweeper	1	1	1	4-ft broom width	Road maintenance (cleaning)
Landfill Manager	1	1	1	N/A	See Section 2.0 – Personnel
Equipment Operator	1	3	4	N/A	See Section 2.0 – Personnel
Gate Attendant	1	2	2	N/A	See Section 2.0 – Personnel
Laborer	0	3	4	N/A	See Section 2.0 – Personnel
Pump	1	1	1	NA	Storm water removal

Notes:

[1]The equipment size is the minimum size to be provided.

[2]The equivalent function of an excavator and haul truck(s) working in tandem to excavate and transport soil may be met by a scraper. Thus, at the facility's discretion, the excavator and haul truck(s) may be replaced by a scraper(s) that provides equivalent production rates.

[3]In the event of equipment breakdown or maintenance, backup equipment will be provided from other landfills, or from independent contractors or local rental companies, to avoid interruption of waste services and required facility operations.

4.0 GENERAL INSTRUCTIONS §330.127(3)

The operational procedures outlined in this SOP will be followed and will be considered a part of the SOR of this MSW landfill facility. This facility is designed for Type I MSW disposal and consists of separate phases. Each phase will be constructed as the operations advance.

Operations will be conducted in a professional manner by qualified and trained personnel. Operational objectives will consist of placing the maximum amount of waste in a specified area, and operating the site in compliance with the TCEQ regulations, the site permit, and the SOP.

The following Facility Operations, Inspection, and Maintenance List includes general instructions that the operating personnel will follow concerning the operational requirements of the facility.

Table 4: Facility Operations, Inspection, and Maintenance List

Description of Activity	Task	Frequency	Inspector	Inspection Documentation
Entrance Gate and Perimeter Fences	Conduct inspection of gate and perimeter fences to ensure that no breach has occurred. If breach occurs, address, as specified in Section 4.5.	Weekly	LM or Designee	Note status and maintain in SOR
Cover Application Record	Record date of cover, how it was accomplished, and the last area covered, according to 330.165.	Daily	LM or Designee	Document daily, intermediate, and final cover application, sign form, and place in SOR
Perimeter Drainage Channel and Pond Maintenance	Inspect channels for litter and debris, establish flowline, as required. Inspect detention ponds for damage.	Inspect weekly; Maintain as needed	LM or Designee	Document weekly, place in SOR
Random Load Inspection	Conduct random inspection of selected vehicle to ensure that no unauthorized wastes are in the load.	Weekly, as specified in Section 4.2.3	LM or Designee	Place completed Load Inspection Report in SOR
Unauthorized Material Removal	Document removal of unauthorized materials from the landfill.	Per occurrence	LM or Designee	Complete Unauthorized Material Removal form and place in SOR
Final Cover Inspection	Inspect final cover for erosion and damage to drainage structures.	As indicated in the SWPPP or weekly at a minimum	LM or Designee	Complete documentation and place in SOR
OnSite Litter Collection	Inspect site for litter. Collect litter on a daily basis and return to the working face for proper disposal.	Daily during hours of operation	LM or Designee	Complete documentation and place in SOR

Description of Activity	Task	Frequency	Inspector	Inspection Documentation
Mud and Debris Cleaned from Public Roads	Inspect public roads for evidence of mud and debris tracked from the site.	Daily during periods of inclement weather	LM or Designee	Complete documentation and place in SOR
Fire Extinguishers/ Firefighting Equipment	Inspect all fire extinguishers and/or firefighting equipment, promptly repair or replace defective equipment.	Annually	LM or Designee	Properly mark tags on fire extinguishers, document results of equipment inspections, place in SOR
Markers and Benchmarks	Inspect markers and benchmarks for damage. Replace markers that are removed or destroyed within 15 days of removal or destruction.	Monthly	LM or Designee	Complete documentation and place in SOR
Roadway Regrading	Inspect on-site access roadways to ensure a clean and safe condition.	As needed	LM or Designee	Complete documentation and place in SOR
Site Signs	Inspect all site signs for damage, general location, and accuracy of posted information.	Weekly	LM or Designee	Complete documentation and place in SOR
Ponded Water	Inspect site for potential ponding and ponded water. Fill and grade low areas as soon as practical.	Weekly	LM or Designee	Complete documentation and place in SOR

Notes:
SWPPP = Storm Water Pollution Prevention Plan

4.1 Personnel Training §330.127(4)

All landfill personnel will be properly trained to operate the landfill in accordance with this SOP and operational standards required by the permit and the TCEQ MSW regulations based on their specific responsibilities.

Training for personnel will be routine and will be directed by a person trained in waste management procedures. Facility personnel will be instructed in the required waste management procedures and contingency plan implementation relevant to the positions in which they are employed. At a minimum, the training program will ensure that facility personnel are trained for their specific responsibilities to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- Procedures for notifying appropriate personnel in the event of an emergency
- Training in use of facility emergency response and monitoring equipment
- Training in use of facility communications or alarm systems

- Training in response to fires or explosions, hot loads, hazardous weather conditions, etc.
- Training in procedures to shutdown operations

New employees will receive a comprehensive overview of landfill operations and specific training commensurate with their position, focusing on information that is necessary to protect the health and welfare of the new employee and enable them to perform their duties in accordance with this SOP, the operational standards required by the permit, and the TCEQ MSW regulations

Following the initial training, the additional employee training will continue in the form of periodic on-the-job training. Training meetings will be scheduled and conducted for employees approximately monthly. Topics for training may vary depending on job requirements.

The LM, equipment operators, gate attendants, and laborers are trained in the contents of this SOP and other topics, as described in the following table:

Table 5: Employee Training

Position	Job Description	Site Orientation	Site Operations	Endangered Species	Haz. Waste Id.	Safety (job specific)	Fire Prevention	Load Inspection	Prohibited Wastes	SPCC Plan	Emergency Response	Litter Control	Random Inspection	SWPPP	Leachate System Maintenance
Landfill Manager	Responsible for all activities including staffing, inspections, operations, etc.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Gate Attendant	Take receipts, screen customers, schedule random load inspection, and direct vehicles to unloading area	X			X	X	X	X	X		X		X		
Equipment Operator	Push and compact waste, observe dumping of loads for unauthorized waste identification and apply daily cover	X		X	X	X	X	X	X	X	X		X		As Assigned
Laborer	As assigned	X		X		X	X				X	X			

Notes:
SPCC = Spill Prevention, Control, and Countermeasure
SWPPP = Stormwater Pollution Prevention Plan

Records and written descriptions of the type and amount of introductory and continued training provided to each employee will be maintained in the SOR. Facility personnel must take part in an annual review of the initial training described in this SOP.

4.2 Control of Prohibited Waste §330.127(5)

The facility has and will continue to implement a comprehensive program for waste screening that minimizes the potential for inadvertent acceptance of prohibited wastes. The program consists of four primary elements:

1. Special/Industrial Waste Screening Program: Pre-screening customers bringing special waste and industrial waste to the facility. A detailed description of the special waste screening process is provided in the Special Waste Acceptance Plan (SWAP).
2. Random Load Inspections: The facility will implement a minimum of five random load inspections per week.
3. Prohibited Waste Training Program: Training will be provided to gatehouse personnel and equipment operators annually on prohibited waste recognition. This training plan is described in more detail in the following sections.
4. Gatehouse Waste Screening Program: During hours of operation, the gatehouse will be staffed with at least one gate attendant. The attendant will screen incoming customers to help ensure that no prohibited wastes are being brought to the landfill. In addition, the facility will provide a sign in a conspicuous location that will list wastes that are prohibited for acceptance at the landfill. The Gatehouse Waste Screening Program is described in detail in the following sections.

The approaches described above are proactive policies that, in combination, are designed to minimize the potential that the site will receive hazardous or otherwise unacceptable waste for disposal. Implementation of the program provides protection from the potential dangers that prohibited waste could pose to employees, the public, or the environment through improper management, and serves as a hazardous waste and polychlorinated biphenyl (PCB) waste screening mechanism that minimizes the potential of these waste streams entering the landfill. These programs specifically require pre-acceptance screening procedures be followed to determine if a particular waste is non-hazardous and to determine the acceptability of the waste pursuant to facility permit conditions, applicable regulations, and operating capabilities. These programs are implemented in a number of ways, including reviewing waste streams prior to acceptance, monitoring under the supervision of qualified site personnel of waste arriving at the gate, and observing the waste being disposed of at the working face by equipment operators.

Appropriately trained personnel will observe each load that is disposed of at the landfill and will perform random load inspections. This could include the Landfill Manager, the Equipment Operator, and the Gate Attendant. Other staff may also perform the inspections, provided they have been trained in Hazardous Waste Identification, Load Inspections, Prohibited Wastes, and Random Load Inspections.

The following sections discuss in detail the methods and procedures that will be used to control prohibited wastes at the site.

4.2.1 Detection and Prevention of the Disposal of Regulated Hazardous Waste

Regulated hazardous waste, as defined in 40 Code of Federal Regulations (CFR), Part 261, PCB wastes, as defined in 40 CFR, Part 761, wastes listed under 30 TAC §330.15(e), and other wastes specifically excluded for acceptance (e.g., Class 1 non-hazardous industrial waste other than regulated asbestos-containing material [RACM], which is Class 1 due to asbestos content) will not be accepted at the facility, with the exception of regulated hazardous waste from Conditionally Exempt Small Quantity Generators (CESQG). Procedures to detect and prevent these types of wastes from entering the site include:

- Informing facility customers of prohibited wastes by posting one or more signs at the facility entrance listing prohibited wastes
- Screening waste streams prior to acceptance at the gate and through procedures detailed in the SWAP for special waste
- Performing random inspections of incoming loads in accordance with procedures described in Section 4.2.3
- Detaining and/or rejecting loads that are suspected of containing prohibited waste
- Maintaining records of all random inspections
- Training appropriate facility personnel responsible for inspecting or observing loads to recognize prohibited waste, including regulated hazardous waste or PCB waste
- Remediating any prohibited waste, regulated hazardous waste, or PCB waste discovered at the site in accordance with Section 4.2.4

4.2.2 Prohibited Wastes §330.15(e)

The acceptance and disposal of the following prohibited wastes will not be allowed at this site:

- Regulated Hazardous Waste other than from CESQGs. Hazardous waste from a CESQG may be accepted, provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month.
- PCBs, as discussed in Section 4.2.1.
- Class 1 Industrial Waste, with the exception of wastes that are Class 1 only because of asbestos content, as further described in Section 4.25, Disposal of Industrial Waste.
- Do-it-Yourself (DIY) used motor vehicle oil, per §330.5(e)(2), shall not be intentionally or knowingly accepted for disposal.
- Lead acid batteries, per §330.15(e)(1), shall not be intentionally or knowingly accepted for disposal.
- Whole used or scrap tires, per §330.15(e)(4), shall not intentionally or knowingly be accepted for disposal.
- Items containing chlorinated fluorocarbons (CFCs), such as refrigerators, freezers, and air conditioners, will only be accepted at the site if the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly

allowed to escape into the atmosphere. The LM or designated alternate will screen customers to determine if refrigerant has been evacuated from the appliance or shipment of appliances. Such verification must include a signed statement from the person from whom the appliance or shipment of appliances is obtained that all refrigerant that had not leaked previously has been recovered from the appliance or shipment of appliances in accordance with 40 CFR §82.156(g) or (h), as applicable. This statement must include the name and address of the person who recovered the refrigerant and the date the refrigerant was recovered or a contract that refrigerant will be removed prior to delivery. The facility will notify persons who may deliver such items of the requirement to verify evacuation of refrigerant by signage or letter. Without written certification, CFC containing appliances will be considered to still contain CFCs.

- Liquid waste (any waste material that is determined to contain "free liquids," as deemed by US Environmental Protection Agency (USEPA) Method 9095 (Paint Filter Test), as described in "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" (USEPA Publication Number SW-846)) shall not be disposed of unless it is:
  - Bulk or non-containerized liquid waste that is:
    - Household waste other than septic waste
    - Leachate or gas condensate derived from the Temple RDF managed and disposed of in accordance with the SDP presented in Part III
  - Contained liquid waste:
    - The container is a small container similar in size to that normally found in the household waste
    - The container is designated to hold liquids for use other than storage
    - The waste is a household waste
- Used oil filters from internal combustion engines, per §330.171(d)
- Special wastes that are not identified in Table 1 of the Special Waste Acceptance Plan included as Appendix IVE of this SOP.

Landfill personnel will check for indications of prohibited waste as detailed below. The landfill personnel inspecting or observing loads will be appropriately trained to recognize prohibited waste.

One of the most important means to control the disposal of prohibited waste at the landfill is by the control of access into the facility by unauthorized vehicles. This issue is addressed in Section 4.5 of this operating plan (Access Control). If landfill personnel suspect prohibited waste is present in an incoming load, then that load will be directed to an area out of the flow of traffic, and trained personnel will further assess the load. If the load is determined to contain prohibited waste, or if there is any suspicion that it may contain a prohibited waste, the load will be rejected and directed back to the generator. Documentation of the inspection will be placed in the SOR within 7 working days. The documentation will include the date, time, name of the inspector(s), type of inspection/screening (i.e., suspected prohibited waste), transporter/generator information, and waste information. This documentation may be provided in a waste discrepancy report. A typical form in included in Appendix IVA of this SOP.

Landfill gate attendants will be trained to recognize potential sources of prohibited waste, such as microelectronics manufacturers, electronic companies, metal plating industry, automotive and vehicle repair service companies, and dry cleaning establishments.

4.2.3 Random Inspections §330.127(5)(A) & (D)

The SWAP provides for the pre-screening of all commercial customers bringing industrial or special waste to the landfill (see Appendix IVE). This plan has been and will continue to be an essential element to preventing the acceptance or disposal of prohibited wastes. An additional element in preventing the acceptance or disposal of prohibited waste is random inspections. The gate attendant, or other designated landfill personnel, will randomly select a minimum of five vehicles per week (including compactor vehicles) for inspection, notify the equipment operator, and direct the selected load to the working face. Once the selected load arrives at the working face, the equipment operator will direct the vehicle to a separate but adjacent location on the working face out of the flow of normal disposal traffic. The driver will be instructed to discharge the load onto the ground. The equipment operator will then visually inspect the contents of the load and document the contents of the load including the presence of any prohibited waste. The Load Inspection Report Form in Appendix IVB will be used to document results of the random load inspection. If prohibited waste is observed, it will be returned to the transporter. The TCEQ ED and the local pollution agency with that requests to be notified, will be notified of any incident involving the receipt or disposal of regulated hazardous waste or PCB waste received at the landfill.

Loads that are excluded from random inspections are:

- Liquid waste
- Asbestos waste

The documentation on the Load Inspection Report Form in Appendix IVB will include information such as the date and time of inspection, name and signature of inspector(s), type of inspection/screening (i.e., random screening, suspected unauthorized waste, etc.), transporter/generator information (including hauling company name and license plate number), source of waste, contents of load as reported by driver, contents of load as observed by inspector, and approval or disapproval of the load. The inspection report will be placed in the SOR within 7 days of the inspection.

Collectively, providing customers with information about prohibited wastes, reviewing proposed waste streams prior to acceptance, training site personnel, inspecting suspicious loads, observing the unloading and disposal at the working face, and conducting random load inspections make up a comprehensive prohibited waste prevention program.

4.2.4 Prohibited Waste Remediation Plan §330.127(5)(E)

In the event that prohibited wastes are received at the facility, the following procedures will be implemented. Remediation procedures for any prohibited waste that has been inadvertently placed in the landfill unit will include:

- Defining the extent of the prohibited waste that has been unloaded and disposed of in the landfill and excavating the waste.
- Loading prohibited waste back onto generator's vehicle or loading waste in an on-site container, tarping, testing, and removing the waste to an approved off-site facility. Containers will be marked appropriately with words for the type of prohibited waste it contains, such as "Hazardous Waste" or "PCBs."
- Implementing appropriate health and safety procedures when handling the prohibited waste.

Remediation procedures for the incident will be documented and included in the SOR within 7 days.

Upon determination that a waste is a prohibited waste and will not be accepted, the LM or designated alternate will make arrangements for returning such waste to the generator and/or coordinating transportation to a facility approved to receive the specific waste in question.

4.3 Other Site Activities

Other site activities may arise that are not discussed in this plan. The LM, or designated alternate, has responsibility for on-the-job training of those activities and ensuring that they are conducted as required by the site permit, TCEQ regulations, or any other local, state, or federal regulation. Some of these activities are briefly discussed below.

4.3.1 Liquids Restrictions

The landfill shall not accept bulk or non-containerized liquid waste for direct disposal unless it is household waste other than septic waste. The restriction of bulk or non-containerized liquids, with the exception of household waste other than septic waste, is intended to control a source of leachate. Liquid waste refers to any waste that is determined to contain free liquids by using USEPA Test Method 9095B-paint filter liquids test. The facility may recirculate leachate or gas condensate waste into active cells with composite liners. Containers holding liquid waste shall not be placed in the landfill unless they are small containers of household waste. The facility shall not accept bulk liquids, such as tank trucks of liquid waste, for disposal.

The facility may accept liquid sludges, grease trap waste, and liquid waste from other municipal sources for processing in accordance with Section 4.25, Disposal of Special Waste.

4.3.2 Pond and Ditch Maintenance

Periodically, as directed by the LM or designated alternate, site drainage ditches and stormwater ponds may require maintenance and/or cleaning to ensure that they function as intended. The required

maintenance may be conducted by site personnel or by a contractor. The maintenance may consist of cleaning up litter and/or small brush/limbs to excavating and removing silt deposits. The amount of maintenance will be determined by the LM or designated alternate.

4.3.3 Leachate System Maintenance

It will be the responsibility of the LM or designated alternate to ensure that the leachate collection system remains in good working order. As leachate systems are installed for new cell constructions, landfill personnel will be trained on the operation and maintenance procedures associated with the equipment. The leachate system at each cell location will be monitored for regulatory compliance. Any system found to not be operating properly will be brought to the immediate attention of the LM or designated alternate. The LM or designated alternate will ensure that appropriate measures are taken to repair the system as soon as possible.

4.3.4 TPDES Monitoring

The LM or designated alternate will ensure that monitoring is conducted in accordance with the regulations for the Texas Pollutant Discharge Elimination System (TPDES) Multi Sector General Operating Permits for this site.

4.3.5 Final Cover Maintenance

Final cover in waste areas will be placed as described in Part III, Attachment 7, Closure Plan. Once final cover has been placed, it will be the responsibility of the LM or designated alternate to ensure that vegetation is established and maintained, and that erosion is minimized. If erosion of the final cover does occur that jeopardizes the integrity of the final cover, additional soil capable of sustaining vegetation will be placed and graded according to the final contours as detailed in Part III, Attachment 7, Figure III-7-1, Final Contour Map. After erosion is repaired, seeding and irrigation will be provided over repaired areas to provide revegetation.

4.4 Fire Protection Plan §330.129

This plan has been prepared in accordance with §330.129 to include fire protection standards and site personnel training requirements for all on-site activities.

The MSW activities that store or process combustible materials at the facility include uncovered solid waste; fuel supplies; trees, brush, or unmaintained grasses; equipment/vehicles; buildings; recycling collection area; stored used tires; stored petroleum products; citizen collection station, liquid waste stabilization area, and other sources.

4.4.1 Fire Protection Standards

Designated landfill personnel regularly take the following steps to minimize the potential for fires:

- No burning of solid waste shall be permitted at this site
- Burning waste is prevented from being dumped in the active area of the landfill. The gate attendant and equipment operators are trained to observe for hot loads entering the landfill by observing for signs of burning waste, such as smoke, steam, or heat being released from incoming waste loads
- Fuel spills, if they occur, will be contained and cleaned up immediately
- Dead trees, brush, or vegetation adjacent to the landfill are removed, and grass and weeds are mowed so that forest, grass, or brush fires cannot spread to the landfill
- Smoking is not allowed on the active areas of the landfill
- A source of earthen material is maintained in such a manner that it is available at all times and adequately sized to cover any waste received for disposal that is not covered with 6 inches of daily cover earthen material
- If a fire does occur, it shall be promptly extinguished using the procedures described in this SOP
- The potential for fires shall be minimized by using cover soils

4.4.2 Fire Protection Operating Practices

Operating practices related to fire protection shall include methods to minimize the potential for accidental fires. Employees shall be instructed in the control of small fires. During site operations, the LM shall perform daily monitoring of the working face size. A sufficient volume of earthen material will be maintained on the site within 1,000 feet of the working face at all times to cover the uncovered portion of the working face with 6 inches of earthen material within 1 hour. This source of earthen material may be on-site soil stockpiles, working face diversion and/or containment berms, areas of future excavation, or some combination thereof.

Examples of required earthen material volumes are included in the following table.

Table 6: Examples of Earthen Material Required for Various Working Face Dimensions

Length of Working Face (feet)	**Width of Working Face** (feet)	**Volume Needed to Cover Working Face** (cubic yards)
100	50	111
200	50	222
100	100	222
200	100	444
300	100	667
400	200	1,778

To reduce the possibility of fire and improve the operation of the site and pursuant to §330.165, a minimum of 6 inches of "daily" cover soil, or approved equivalent, shall be placed and compacted over exposed waste at the end of each working day or at least once every 24 hours, in accordance with Section 4.22 of the SOP.

Water trucks, in addition to soil, may be used to control fires at areas other than the waste working face.

The following procedures are followed in the event of a fire at the facility:

- Small Fires – If detected soon enough, small fires may be fought with a hand-held fire extinguisher. The fire area may be watered down or smothered with 6 inches of soil, as appropriate, to ensure the fire is out.
- Equipment/Vehicle Fires – If a fire occurs on a vehicle or piece of equipment, the equipment operator should bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, uncovered solid wastes, and other vehicles. The engine should be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment. Some equipment has automatically activated fire suppression equipment on board. For those that do not, a fire extinguisher will be used to extinguish the fire.
- 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 portion of the disposal area away from the working face, fuel areas, and other combustion sources where the load can be unloaded without danger of spreading fire. The water truck will water down the waste. The bulldozer will then spread the waste to apply additional water. The bulldozer may smother the fire with soil. The waste will be inspected for signs of fire or hot spots. When the fire has been extinguished and the waste has cooled, the waste will be landfilled.
- Working Face – In the event that a fire is detected at the working face, the burning area should be isolated and pushed away from the working face quickly, or fire breaks should be cut around the fire before it can spread. If this is not possible or unsafe, efforts to cover the working face with earthen material must be initiated immediately to smother the fire. All vehicles and equipment not involved in smothering the fire will be immediately moved away from the fire. Incoming waste will be temporarily rerouted to another portion of the disposal area and a working face may be established there or work may be halted all together until the fire is extinguished.

  A bulldozer, earthmoving equipment, and a water truck will immediately mobilize to place earthen material to smother any fire that may occur. A calculation showing the adequacy of the site equipment to place the 6 inches of soil in 1 hour is included in Appendix IVC. If the working face size varies or the number of working faces is greater than 1, the LM or designated alternate will evaluate the adequacy of site equipment to place the 6 inches of soil in 1 hour in a manner consistent with the calculations included in Appendix IVC

4.4.3 Notifications

Following any fire that is not extinguished within 10 minutes of detection, the TCEQ Region 9 office in Waco will be notified. This notification to Region 9 will include:

1. Contact by telephone at 254-751-0335, as soon as possible, but no later than 4 hours following the fire discovery
2. Provide a written description of the fire and the resulting fire response within 14 days of fire detection to:

TCEQ Region 9
6801 Sanger Ave., Suite 2500
Waco, TX 76710-7826

4.4.4 Other Emergency Contact Information

If additional fire protection/fighting measures are warranted by the LM or designated alternate, emergency assistance may be requested from the City of Temple Police Department by dialing 911. The Police Department will assess the nature of the emergency and dispatch the appropriate emergency crews. Law enforcement assistance may respond from the City of Temple Police Department, or the Bell County Sheriff's Department, depending on availability. Fire, ambulance, and hazardous materials emergencies may be handled by either the City of Temple or Bell County, depending on availability.

4.4.5 Fire Protection Training

To minimize hazards regarding fire, employees shall be instructed in controlling small fires. Training of employees will be coordinated by the LM or designated alternate and will be provided to each new employee as part of the employee training program. Fire control measure training for all landfill personnel will be conducted on an annual basis. All fire extinguishers and/or firefighting equipment on-site will be inspected annually, and any equipment found to be defective will be promptly repaired or replaced. At a minimum, each landfill employee shall be trained for the following:

- Emergency notification requirements
- Preventive measures to minimize or prevent the possibility of fire
- Proper use of fire extinguishers or other equipment
- Procedures to extinguish fire with soil (equipment operators only)

4.5 Access Control §330.131

Access to the Temple RDF will be controlled by means of artificial barriers, natural barriers, or a combination of both, as described below.

Access control to the facility is by a combination of fencing around the perimeter of the facility and a gated entrance. The entrance gate will be designed to provide complete access restriction when the site is not open, yet allow plenty of room for vehicles to maneuver through when the facility is open. The entrance gate will be inspected periodically for damage or problems. The fence and gate will be repaired, maintained, or replaced on an as needed basis to ensure continued site security.

All landfill users shall be required to stop at the gatehouse and conduct appropriate business transactions prior to proceeding to the disposal area(s). Unauthorized vehicles shall not be allowed to proceed past the gatehouse. At the gatehouse, the vehicles are screened for waste type, in accordance with Section 4.2 of this SOP. If a load is identified as containing any unauthorized waste, the load shall be rejected.

To prevent the entry of livestock, and to discourage unauthorized entry to the landfill, the site permit boundary will be protected with either a 6 foot chain link fence and/or a 3.5 foot (minimum) three-strand

barbed wire fence or natural barrier. The fence shall be inspected on a weekly basis, with repairs made as necessary. A record of access inspections will be maintained in the SOR for the purpose of demonstrating compliance with access inspection requirements. The fence, gate, and signs shall be repaired, maintained, or replaced on an as needed basis to ensure continued site security.

If the fence or gate access control system is breached, that is if there is a gap in the fence or the gate is not restricting access, the TCEQ's regional office will be notified within 24 hours of detection of the breach, including when the breach will be permanently repaired. The breach will be temporarily repaired within 24 hours of detection and will be permanently repaired by the time specified to the commission's regional office when it is reported. The TCEQ's regional office will be notified when an access control breach's permanent repair is complete. If a permanent repair can be made within 8 hours of detection, no notice to the TCEQ regional office is required. A copy of these notices will be place in the SOR.

4.6 Unloading of Waste §330.133

The unloading areas at the facility may include the following:

1. Active working face – Municipal solid waste will be unloaded at the active working face(s). More than one working face maybe established to provide for separation of residential and commercial trucks and during transition from wet weather areas to other disposal areas
2. Citizens collection station – Private citizen and other small loads may be delivered to the citizens collection station at various times for customer convenience
3. Liquid stabilization processing area – Liquid waste will be unloaded at the liquid stabilization processing area
4. Recyclable material storage area – Concrete, bricks, asphalt, brush, and other wood material may be unloaded at the designated recyclable material storage area
5. Asbestos waste disposal areas – An area for receipt of RACM may be required
6. Large item salvage area - An area for temporary storage of large items may be required

Appropriately trained landfill personnel will be on duty during operating hours at the waste disposal area active working face and the asbestos waste disposal area.

After screening by the gate attendant, certain loads will be directed to the waste processing and storage areas including the liquid waste stabilization area, the Citizen Collection Station, the recyclable materials storage area, and the large item storage area. Since these loads have been screened by the gate attendant, trained landfill personnel may not be present to observe unloading of each screened load. Site personnel will not be dedicated to observing the unloading in these areas since they are not the final disposal nor the final location of these materials. However, The LM or his designated alternate will routinely monitor these areas.

4.6.1 Unloading Waste at the Active Working Face

The unloading of solid waste at the active working face shall be confined to as small an area as practical. Landfill personnel will make every effort to maintain the size of the active working face to a maximum length of 400 feet and width of 200 feet. The size of the working face will be directly impacted by the amount of wastes being received and may vary accordingly. There may be more than one active MSW working face open at any given time. Examples of when more than one MSW working face may be open at one time includes the separation of residential and commercial customers, wet weather operation, when wastes are being deposited in a new cell that must receive only select wastes to cover the bottom of the new cell, during a transition from a wet weather area to another MSW working face, during disposal of RACM, or when there may be a "hot load" delivered to the MSW working face and another working face is established until the fire is controlled. However, in general there will only be one active MSW working face to reduce odors and windblown waste and to control vector populations.

4.6.2 Unloading RACM Waste

The maximum size of the unloading area for RACM will be 100 feet by 200 feet. The procedures for managing RACM are provided in Appendix IVD, Regulated Asbestos Containing Material Handling Plan, of this SOP.

4.6.3 Unloading Waste in Other Areas

The maximum size of each of the unloading areas for the Citizens Collections Station, the liquid stabilization area, the large item salvage area, brush and wood material, and tire areas area is 200 feet by 200 feet. These areas will be located within the permit boundary and outside of any landfill buffers, drainage systems (ditches and ponds), pipeline or utility easements, or any other areas that might interfere with the safe and environmentally protective operations of the landfill.

4.6.3.1 Citizens Collection Station

The citizen's collection station will be used for small loads. The gate attendant will direct vehicles to this area as appropriate. All waste shall be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and shall be contained or bundled as not to result in litter. Roll-off boxes will be provided to unload waste. The unloading area will include a minimum of two 30-cubic yard roll-off containers for collection of waste. The boxes will be emptied at the working face as needed. Any food waste will be stored in covered or closed containers that are leak resistant, durable and designed for safe handling and cleaning. Reusable containers will be maintained in a clean condition so that they don't constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. All containers to be emptied manually will be capable of being serviced without the collector coming into physical contact with the solid waste. Containers to be mechanically handled will be designed to prevent spillage or leakage during storage, handling, or transport.

If non-reusable containers are utilized, they will be of suitable strength to minimize animal scavenging or rupturing during collection operations.

4.6.3.2 Recyclable Materials Storage Area

All recyclable materials storage area(s) will remain free of putrescibles and household wastes with the exception of incidental amounts.

4.6.3.3 Tire Area

Whole tires or tire pieces may be stored or processed on-site in an unused portion of the property in accordance with §328.54(c). Storage shall be above ground in controlled storage piles or in enclosed and lockable containers, pursuant to §328.61. The site will not store tires or tire pieces in excess of 500 used or scrap tires (or weight equivalent tire pieces or combination thereof) on the ground or 2,000 used or scrap tires (or weight equivalent tire pieces or combination thereof) in enclosed and lockable containers. The area used for tire storage and processing will be dedicated to tires only.

Tire piles consisting of scrap tires or tire pieces will be no greater than 15 feet in height and the pile will have a maximum footprint of 8,000 square feet. Indoor storage piles or bins shall not exceed 12,000 cubic feet with a 10-foot aisle space between piles or bins. Scrap tires or tire pieces may be stored in trailers provided the trailer is totally enclosed and lockable for volumes greater than 500 tires.

Tire storage will be located within the permit boundary and in an area that will allow all-weather access for emergency vehicles. Fire lanes will be provided with minimum separation of 40 feet between outdoor piles of scrap tires or tire pieces. Outdoor piles consisting of scrap tires or tire pieces and entire buildings used to store scrap tires or tire pieces shall not be within 40 feet of the property line or within an easement.

The tire processing area will be located within the permit boundary and suitable drainage structures or features will be provided to divert the flow of rainfall run-off or other uncontaminated surface water within the scrap tire storage site to a location off-site.

The tire storage area will not be located within a designated 100-year floodplain.

Tires will be split, quartered, shredded, and otherwise processed to ensure current approved limits for MSW landfills are not exceeded. (i.e., 500 tires on the ground or 2,000 tires in enclosed and lockable container[s]). Scrap tires shall be split, quartered, or shredded within 180 days from the date of delivery to the scrap tire storage site. Off-the-road tires that are used on heavy machinery, including earthmovers, loader/dozers, graders, agricultural machinery, and mining equipment are exempt from this requirement. Truck tires shall not be classified as off-the-road tires and thus are not exempt from this requirement. Appropriate vector controls shall be used at a frequency based upon type and size of piles, weather conditions, and other

applicable local ordinances. The tire storage area will remain free of putrescible materials and household wastes. The tire storage and processing activity shall not be conducted in a manner that will adversely affect operations of the MSW disposal site, or otherwise endanger human health or the environment.

Quartered, shredded, or otherwise processed tires may be beneficially reused or disposed of within the landfill. In the event that tires are not processed on-site they will be transported to an appropriately authorized facility.

4.6.4 Unloading Waste in Unauthorized Areas

The unloading of waste in unauthorized areas shall be prohibited. Any waste deposited in an unauthorized area shall be promptly removed and disposed of properly. A trained employee shall be present at the entrance at all times during operating hours to monitor all incoming loads of waste, and shall direct traffic to the appropriate unloading area. Trained personnel will also be on duty during regular operating hours at the working face to direct and observe unloading of solid waste.

4.6.5 Unauthorized Loads

The LM or designated alternate has the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter, and/or assess appropriate surcharges and have the unauthorized material removed by on-site personnel or otherwise properly managed by the facility. The employees will be trained to recognize both industrial and hazardous waste and their transportation and disposal requirements. These employers will contact the LM or designated alternate who will determine appropriate measures to be implement. A record of unauthorized material removal will be maintained in the SOR. The facility is not required to accept any solid waste that may cause problems in maintaining full and continuous compliance with the permit.

4.6.6 Prohibited Wastes

Certain wastes are prohibited from disposal at this facility as specified in Section 4.2.2 above. Prohibited wastes include hazardous waste (except hazardous waste from CESQG), PCB waste, wastes identified in 30 TAC §330.15(e), and unauthorized special waste. The known disposal of prohibited wastes at the landfill shall not be allowed. Necessary steps shall be taken by site personnel to ensure compliance with this provision, as discussed in Sections 4.2 and 4.27 of this plan. Any prohibited waste shall be returned promptly to the transporter or waste generator. The driver shall be advised and will be responsible for the proper disposal of this rejected waste. In the event the prohibited waste is not discovered until after the vehicle that delivered it is gone, the waste will be segregated and controlled as necessary. The working face staff, as well as the gate attendant(s), will contact the LM or designated alternate regarding the receipt of prohibited wastes. An effort will first be made to identify the entity that deposited the prohibited waste and have them return to the site and properly dispose of the waste. In the event that identification is not

possible, the LM or designated alternate will notify the TCEQ and seek guidance on how to dispose of the waste as soon as practical.

4.6.7 Disposal Vehicles

Only those persons operating vehicles that comply with the following requirements will be authorized by the LM or designated alternate to dispose of waste at this site:

1. Vehicles and equipment used to collect and transport waste that are in good working order to prevent loss of waste material and to minimize health and safety hazards to landfill personnel and the public
2. Collection vehicles not equipped with an enclosed transport body will be required to have tarpaulins to preclude accidental spillage
3. Private vehicles and trailers from individuals as long as waste is properly secured prior to entrance into the landfill

4.6.8 Site Signage to Disposal Areas

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

4.7 Hours of Operation §330.135

The site may be open to the public and accepting waste from 6:00 a.m. to 6:00 p.m. Monday through Friday and 7:00 a.m. to 5:00 p.m. Saturday. The facility's operating hours are from 5:00 a.m. to 8:00 p.m. Monday through Saturday. The operating hours are those hours when materials may be transported on- or off-site; when on-site waste management activities may be conducted; and when heavy equipment, including construction, transportation vehicles, etc., may operate.

In accordance with 30 TAC §330.135(b), five days of alternative waste acceptance hours will include: the Sunday after Thanksgiving, the Sunday after Christmas, the Sunday after New Year's day, the Sunday after Fourth of July, and the Sunday after Temple Bloomin' Festival. Disaster situations, emergencies, or other unforeseen situations for which the facility believes a need exists to extend waste acceptance or operating hours will be addressed through the TCEQ regional office. Landfill operations outside permitted landfill operating hours must receive TCEQ approval and will be documented in the SOR as Temporary Operating Hours.

4.8 Site Sign §330.137

A sign measuring a minimum 4 feet by 4 feet shall be maintained at each public site entrance. The sign shall state, in letters at least 3 inches high: the name of the site, type of site, hours and days of operation,

and the TCEQ permit number. The sign will have an emergency 24-hour contact phone number or numbers that reach a key landfill staff person with the authority to obligate the facility at all times that the facility is closed, and the local emergency fire department phone number. The facility sign will be readable from the facility entrance. A sign indicating prohibition of receipt of hazardous waste, closed drums, and smoking will be posted near the facility entrance or gatehouse. A sign stating that all loads will be properly covered or otherwise secured will be prominently displayed at the facility entrance.

Within the facility, additional signs will be placed along the landfill haul road and access road directing customers to where disposal areas are and which roads are to be used.

4.9 Control of Windblown Solid Waste and Litter §330.139

The working face shall be maintained and operated in a manner to control windblown solid waste. The working face shall be covered daily to avoid prolonged exposure of waste. In order to prevent disease vectors, control windblown debris and odors, reduce the possibility of fire, prevent scavenging, and improve the operation of the site, a minimum of 6 inches of "daily" cover soil, or approved equivalent, shall be placed and compacted over all exposed waste at the end of each working day or at least once every 24 hours. Weather conditions may result in material occasionally being blown away from the working face during placement operations.

Litter fences may be utilized in the immediate vicinity of the working face to help aid in controlling windblown material. The LM or designated alternate shall be responsible for determining the need, type, and placement of litter fences. Litter fences shall either be portable, free-standing fences that can be readily moved, as necessary, with equipment, or they may be temporary fences that consist of poles driven into the waste/soil cover with fencing between them. Typically, the litter fences shall be placed downwind and extend the full width of the working face and shall extend above the working face. Windblown waste and litter at the working face will be collected and properly managed to control unhealthy, unsafe, or unsightly conditions. The collected waste will be returned to the active disposal area(s). Litter scattered throughout the site and along fences, access roads, and at the gate shall be picked up daily by landfill personnel and returned to the active working face of the disposal area(s).

4.10 Easements and Buffer Zones §330.141 and §330.543

No solid waste unloading, storage, disposal, or processing operations shall occur within any easement or buffer zone that crosses the site. There are no ROWs within the permit boundary. No solid waste disposal shall occur within 25 feet of the centerline of any utility line or pipeline easement, unless otherwise authorized by TCEQ. All pipeline and utility easements shall be clearly marked with green colored posts that extend at least 6 feet above ground level, spaced at intervals no greater than 300 feet.

Buffer zones at the perimeter of the site will consist of at least a 50-foot buffer from the site boundary to the edge of existing waste cells. New cells will have a buffer of a minimum of 125 feet from the outer-most edge of waste placement. A minimum 125-foot buffer zone will be provided for any vertical expansion over previously permitted waste cells. No solid waste unloading, storage, disposal, or processing operations shall occur within any buffer zone. The buffer zone shall not be narrower than that necessary to provide safe passage for firefighting and other emergency vehicles.

4.11 Landfill Markers and Benchmarks §330.143

All required landfill markers and benchmarks shall be maintained so that they are visible during operating hours. Markers that are removed or destroyed shall be replaced within 15 days of their removal or destruction. All markers shall be repainted as necessary to retain visibility. It shall be the responsibility of the LM or designated alternate to ensure that landfill markers and benchmarks are inspected for damage on a monthly basis. Records of all inspections will be maintained as indicated in Section 1.2.

Landfill markers will consist of durable posts, steel or wooden, extending at least 6 feet above ground level to clearly identify significant landfill features, such as site boundaries, buffer zone, easements and ROWs, landfill grid system, SLER and/or GLER areas, and 100-year flood limits, if applicable. In the event a marker falls in a roadway, waterway, or other area incapable of sustaining an above ground marker, an alternate marker may be placed with its offset from its true location noted on the marker. The TCEQ may approve modifications to the marker requirements to accommodate any on-site conditions. Due to the size of the site, all markers will be incrementally installed such that the markers are in place prior to cell construction or operations. All markers will be color-coded as indicated in the chart below.

Table 7: Marker Color Coding

Marker	Color
Site Boundary	Black
Buffer Zone	Yellow
Easements	Green
Grid System	White
SLER/GLER	Red
Floodplain	Blue

4.11.1 Easement and Right-of-Way Markers §330.143(b)(4)

Easement and ROW markers (Green) will be placed along either the centerline or the limits of an easement and along the boundary of a ROW at each corner within the site and at the intersection of the site boundary.

4.11.2 Site Grid System Markers §330.143(b)(5)

A site grid system (White) will be installed at the facility. The grid system will encompass at least the area expected to be filled within the next 3 year period. An alphanumeric grid system shall consist of lettered

markers along two opposite sides, and numbered markers along the other two sides. Markers will be spaced no greater than 100 feet apart measured along perpendicular lines. Where markers cannot be seen from opposite boundaries, additional markers will be installed, where feasible. The site grid system will be tied to the site benchmark, or other survey system.

4.11.3 SLER or GLER Area Markers §330.143(b)(6)

SLER or GLER area markers (Red) 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 approved disposal areas. These markers will be located so that they are not destroyed during operations until operations extend into the next SLER or GLER. The location of these markers will be tied into the site grid system and will be reported on each SLER or GLER submitted. SLER and GLER markers will not be placed inside the evaluated areas.

4.11.4 100-year Flood Limit Protection Markers §330.143(b)(7)

Flood protection markers (Blue) shall be installed for any area within a solid waste disposal facility that is within the 100 year floodplain. The area subject to flooding shall be clearly marked by means of permanent posts spaced not more than 300 feet apart or closer, if necessary, to retain visual continuity.

4.11.5 Site Boundary Markers §330.143(b)(2)

Site boundary markers (Black) shall be placed at each corner of the site and along each boundary line at intervals no greater than 300 feet. Fence posts may be used as site boundary markers if painted black.

4.11.6 Buffer Zone Markers §330.143(b)(3)

Markers (Yellow) identifying the buffer zone shall be placed along each buffer zone boundary at all corners and between corners at intervals of 300 feet. Placement of the landfill grid markers may be made along a buffer zone boundary.

4.11.7 Permanent Benchmark §330.143(b)(8)

A permanent benchmark has been established at the site. The benchmark monument is established at the site in an area that is readily accessible and will not be used for disposal. The monument elevation was surveyed from a known United States Coast and Geodetic Survey benchmark. The location and elevation of the reference benchmark monument location is provided in Part II, Figure II-4, Site Layout Plan. The monument is a bronze marker set in concrete with the benchmark elevation and survey date stamped on it.

4.12 Materials Along Route to Site §330.145

The LM or designated alternate shall take the necessary steps to encourage that vehicles hauling waste to the site are enclosed or utilize a tarpaulin, net, or other means to effectively secure the load to prevent the

escape of any part of the load by blowing or spilling. The LM or designated alternate shall include, as necessary, signs posted at the landfill entrance requiring the loads to be enclosed or covered, and the possibility of reporting offenders to the City of Temple Police Department, adding litter control surcharges, or other necessary information that may minimize public non-compliance. On a daily basis and during daylight hours when the facility is in operation, Little Flock Road and all other public roads used to access the landfill, including Loop 363, shall be inspected and cleaned of spilled materials and windblown waste for a distance of 2 miles in either direction from any entrances used to deliver waste to the site. The following table provides specific access roads and the distances to be cleaned.

Table 8: Access Road Distances to be Cleaned

Public Access Road	Distance of Responsibility
Little Flock Road East	2.0 miles east of the facility entrance
Avenue H West	2.0 miles west of the facility entrance
Loop 363 North	1.75 miles north of the facility entrance
Loop 363 South	1.75 miles south of the facility entrance

The LM or designated alternate will be responsible for consulting with officials of the TxDOT, county, and/or local governments with maintenance authority over the roads concerning cleanup of state highways and ROWs when necessary.

Litter found along the routes to the site will be picked up by landfill personnel or other persons acting in coordination with the LM or designated alternate, at least daily on days the facility is in operation. The landfill pickup and personnel will be utilized to gather the litter, secure it on the vehicle, and transport it back to the landfill for proper disposal. Litter control outside the site will not be conducted during night hours. It shall be the responsibility of the LM or designated alternate to ensure that litter control outside the site is conducted in a safe and timely manner. The LM or designated alternate shall make proper arrangements to gather items that are too large to be picked up by conventional means. The LM, or designated alternate, will record daily cleanup efforts on a log that will be maintained in the SOR.

4.13 Disposal of Large Items §330.147

Large, heavy, or bulky items, such as air conditioning units, tree trunks, white goods (refrigerators, freezers, washers/driers, and water heaters), metal tanks, and metal pieces, that cannot be incorporated in the regular spreading, compaction, and covering operations will be recycled or crushed by compacting equipment to prevent bridging and localized subsidence. White goods may be recycled. Items identified as being too large for proper disposal shall be refused, broken into smaller pieces, or crushed by compactor equipment for proper disposal. A special area may be designated as a large item salvage area, as discussed in Section 4.6 of this plan. Large items to be salvaged will be placed in an area away from the general flow of traffic so as not to interfere with prompt sanitary disposal of solid waste, but readily

assessable to all users. The location of these containers will be moved to coincide with the location of new cells or active areas. Large items will be removed from the site frequently to prevent them from becoming a nuisance and precluding the discharging of any pollutants.

No items containing CFCs will be knowingly accepted. Refrigerators, freezers, air conditioners, and any other items containing CFCs must be handled in accordance with 40 CFR §82.156(f), as amended, and with Section 4.2.2 of this SOP, which requires verification that the CFC has been evacuated from the unit.

4.14 Air Criteria §330.149

The landfill is subject to TCEQ rules concerning burning and air pollution control. The LM or designated alternate shall ensure that any unit of the MSW landfill does not violate any applicable requirements of the approved State Implementation Plan developed under the federal Clean Air Act. Open burning of waste will not be permitted at this facility.

The site is operated in accordance with the federal New Source Performance Standards (NSPS), TCEQ Title V General Operating Permit (GOP), and 30 TAC Chapter 330 Subchapter U. The LM, or designated alternate, will ensure that the site complies with and is evaluated in accordance these requirements.

4.14.1 Odor Management Plan

MSW landfill operations have the potential to yield odorous emissions. Odor management at a landfill is a combination of identifying the sources of odor and methods used to minimize or eliminate those odors. This odor management plan addresses the identification of potential sources of odors, and includes methods to minimize odors or sources of odors and procedures to be followed if these methods are ineffective in preventing a release of odors to the surrounding community.

4.14.1.1 Sources of Odor

Sources of odor that emanate from a landfill can vary considerably and may include the wastes being delivered to the landfill, the open working face, or the leachate collection system. Many of the wastes received at a landfill are a source of odor upon receipt, such as sludge and dead animals. Other wastes have the potential for becoming a source of odor by their biodegradable characteristics, generating gases as they advance through the decomposition process. Leachate, the contaminated water that emerges from solid waste, may also be a source of odor if not properly managed. Ponded water containing contaminants could become a source of odor as well.

4.14.1.2 Odor Minimization

The primary objectives for odor control at a landfill are to minimize odor generation and odor emissions. Methods used to achieve these objectives include waste and leachate handling procedures, the timely

placement of cover materials, the elimination of ponded water, and gas control. These methods, described briefly below are included.

Waste Handling Procedures – Wastes are to be deposited at the working face, spread into layers that can be readily compacted, and covered with a minimum of 6 inches of soil. Sludges that pass the paint filter test are to be incorporated into the working face with other absorptive wastes. Dead animals are to be covered immediately with 3 feet of waste or 2 feet of soil.

Cover – The placement of daily cover is sufficient to reduce the immediate emission of odors when applied in sufficient thickness (minimum of 6 inches soil) and with the proper compaction or other approved cover. Daily cover also serves as the first deterrent to odor generation by preventing air and water from further impacting the wastes. The placement of the intermediate and final cover will provide a barrier that will reduce the amount of odor emissions as decomposition of wastes occurs over time.

Leachate Handling Procedures – Leachate must be removed from the collection system at a rate to maintain less than 30 cm of head on the liner. Leachate may be removed by pumping directly from the sump to a storage tank, evaporation pond, recirculation system, or a transfer truck. The evaporation pond may be a source for odors and must be monitored. The evaporation pond may be equipped with aerators to further reduce the emission of odors by forcing oxygen into the leachate.

Ponded Water – Water ponded over waste disposal areas may become a source of odors and should be eliminated prior to the occurrence of odors. Ponded water that occurs in the active portion of the site or on a closed area will be eliminated as quickly as possible and the area in which the ponding occurred shall be filled in and regraded within 7 days of the occurrence.

Gas Extraction System – Odor reduction may be achieved by installing a gas extraction system. The gas extraction system will minimize the migration of gases either horizontally or vertically. Gases collected in an extraction system may be distributed to such processing devices as a flare or processing plant.

4.14.1.3 Odor Response Procedures

Upon identification of an odor emission from the landfill, landfill personnel will attempt to isolate the source of the odor. If an identifiable odor is detected, the LM or designated alternate will be notified, who will initiate the necessary remedial actions. Remedial actions may include applying additional cover over the suspect area, using odor controlling sprays applied directly to the working face, controlling any ponded water on the site, adjusting the gas extraction system, sealing the riser pipe covers of the leachate collection system, prompt landfilling of odorous waste, or other methods proven to be beneficial for remediating landfill odors. If odors persist, the LM or designated alternate may contract with an engineer or other expert to address specific remediation issues.

4.15 Disease Vector Control §330.151

Conditions favorable to the production or harboring of disease vectors (rodents, flies, and mosquitoes) shall be minimized through proper compaction of the waste and the use of daily and intermediate cover. Vectors are attracted by wastes and water that serve as food and breeding grounds. The working face of each disposal area shall be minimized and daily cover shall be applied to control disease vectors. Landfill cover procedures are described in Section 4.22 of this SOP. To further control disease vectors, ponded water shall be controlled, as detailed in Section 4.23 of this SOP. Bird populations should also be controlled by using daily cover, minimizing the working face, and controlling ponded water. These daily operation measures will eliminate the need for any additional methods of vector control under normal circumstances. However, site personnel shall continuously evaluate the situation and take additional action should it be required. Should daily operations not control vectors, professional exterminators will be contacted to eliminate rodents or other pests that may appear at the site. If chemicals are needed for disease vector control, a professional will apply the appropriate chemical at the industry recommended rate, and use the appropriate health and safety practices to minimize any potential adverse effects.

4.16 Site Access Roads §330.153

All-weather site access roads provided from the public road to the unloading area(s) will consist of compacted gravel, crushed stone, asphalt, concrete, or other road building material. The tracking of mud and debris onto public roadways from the site shall be minimized.

Tracking of mud onto public roadways, including Little Flock Road, Avenue H, and Loop 363, will be controlled by minimizing the amount of mud on site entrance and access roads and on vehicles leaving the site. Vehicles leaving the site will traverse all-weather site access road and paved site entrance roads allowing for mud to be removed from the vehicle. Additionally, landfill traffic may be directed through the wheel wash prior to leaving the facility to minimize mud being tracked past the gatehouse.

Mud on the site entrance and access roads will be removed to prevent tracking of mud onto public access roads. Mud on site access roads will be removed by grading the mud off of the road. Mud on the site entrance road may be removed by spraying water from the site water truck, by scraping with a site bulldozer or maintainer, or using a rotary broom street sweeper. Mud will be removed from the public roadway, site entrance, and access roads in a similar manner, as necessary, to control the tracking of mud onto public roads and at least once per day on days when mud associated with landfill operation may be tracked onto public roadways.

Litter and debris will be controlled. Litter and debris that are tracked onto public roadways will be removed at least once per day on days when the site is operating. Litter on Little Flock Road, Avenue H, and Loop 363 will be picked up in accordance with Section 4.12, Materials Along Route to Site. Litter along the site

entrance and access road will be picked up in accordance with Section 4.9, Control of Windblown Solid Waste and Litter. Debris will be picked up daily from all on-site roads and from Little Flock Road, Avenue H, and Loop 363 for a distance of 2 miles in each direction from the site entrance. Site laborers will load any debris into the site pickup. The debris will be taken to the working face and disposed of properly.

Dust from on-site and other access roads shall be controlled on an as-needed basis to avoid becoming a nuisance to surrounding areas. A water source and the necessary equipment shall be provided by the LM or designated alternate for dust control.

The on-site water truck shall be equipped and utilized for dust control. Sources of water for this process include the on-site City of Temple Municipal Water, East Bell Water Supply Company, other commercial or municipal water supply, on-site ditches and detention ponds, borrow areas, and/or other outside sources. On-site roads and ditches shall be cleaned of litter and debris on a daily basis. On-site and other access roadways shall be maintained in a clean and safe condition. Access roadway regrading will vary seasonally, but at a minimum will be performed quarterly or more often as necessary by grading and placing additional road materials to minimize depressions, ruts, and potholes, and provide uninterrupted access to the unloading area(s). Additional re-grading or maintenance may be implemented as needed.

Records will be kept in the SOR to demonstrate compliance with the requirement of this section.

4.17 Salvaging and Scavenging §330.155

Salvaging is the controlled removal of waste materials for utilization, recycling, or sale. Scavenging is the uncontrolled and unauthorized removal of materials at any point in the solid waste management system. No scavenging shall be allowed at this site. This rule shall be strictly enforced through site access controls and monitoring by facility personnel. Salvaging or recycling of materials, such as metals, cardboard, brush, and white goods, will be allowed with specific authorization from the LM or designated alternate if the activity is supervised by landfill personnel. However, salvaging shall not be allowed to interfere with prompt sanitary disposal of solid waste or to create public health nuisances. Such items shall be removed on an as-needed basis to prevent creation of nuisance conditions, to preclude the discharge of any pollutants from the area, and to prevent an excessive accumulation of the material at the facility.

Special waste received at the disposal site shall not be salvaged. Pesticide, fungicide, rodenticide, and herbicide containers shall not be salvaged unless being salvaged through a state supported recycling program.

4.18 Endangered Species Protection §330.157

No endangered or threatened species are known to exist at the site that would be affected by the landfill operations. The facility and the operation of the facility shall not result in the destruction or adverse

modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Information regarding endangered species is provided in Part II of this PAA.

4.19 Landfill Gas Control §330.159

Landfill gas (LFG) control is addressed in detail in Part III, Attachment 6, Landfill Gas Management Plan (LFGMP) and summarized in this section. Refer to the LFGMP for specific requirements and procedures. LFG monitoring for the presence of methane gas at the site will be conducted on a regular basis. In particular, the site boundary will be monitored to identify whether there exists the possibility of off-site methane migration or perimeter methane concentrations exceeding five percent by volume. Additionally, on-site structures will be checked to confirm that methane concentrations do not exceed 1.25 percent by volume. The allowable limits and details of gas monitoring and recovery are more fully described in Part III, Attachment 6, Landfill Gas Management Plan.

Monitoring for combustible gas concentrations will be performed quarterly within all enclosed site structures and around the perimeter of landfilled portions of the site. All required reports and other submittals shall be included in the SOR. Permanent probes will be used to monitor the perimeter. Barhole probes may be used as a supplement. Probe locations are specified in Part III, Attachment 6, Landfill Gas Management Plan.

In the event that methane levels that exceed allowable lower limits are detected within structures or at the property boundary, the TCEQ will be notified and steps will be implemented to ensure the protection of human health in accordance with the Landfill Gas Management Contingency Plan. Documentation of the gas measurements and of the steps taken for human protection will be placed in the SOR within 7 days. A remediation plan for any methane gas releases, as described in the LGMP, will be implemented within 60 days of the methane detection. This remediation plan will be submitted to TCEQ to describe the proposed remediation activities within 60 days.

4.20 Oil, Gas, and Water Wells §330.161

There are no known existing or abandoned oil or gas wells within the site. There are two known water wells on the east portion of the site. These will be abandoned, as described in the Geology Report and in accordance with appropriate regulatory guidance after issuance of MSW Permit No. 692B. No water wells will remain operational for water supply at the site.

The LM or designated alternate shall provide written notification to the TCEQ of the location of any and any other existing or abandoned water wells situated within the facility upon discovery during the course of facility development. The LM or designated alternate shall, within 30 days of such a discovery, provide the

TCEQ with written certification that all abandoned water wells have been capped, plugged, and closed in accordance with all applicable rules and regulations of the TCEQ.

If any water or other type of well under the jurisdiction of the TCEQ is to be plugged, it shall be plugged in accordance with all applicable TCEQ requirements and any additional requirements imposed by the TCEQ ED. A copy of the well plugging report required to be submitted to the appropriate state agency shall also be submitted to the TCEQ ED within 30 days after the well has been plugged.

The LM or designated alternate shall provide written notification to the TCEQ 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 that are under the jurisdiction of the Railroad Commission of Texas. The LM or designated alternate shall provide the TCEQ with written notification of the location of any such well within 30 days after discovery during the course of facility development. Within 30 days after plugging of any such well, the LM or designated alternate shall provide the TCEQ with written certification that these wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas. Producing crude oil or natural gas wells that do not affect or hamper landfill operations may be operated within the facility boundary, if identified in the permit for the facility or in a written notification to the TCEQ.

A permit modification will be submitted to the TCEQ identifying any proposed changes to the liner installation plan as a result of any well abandonment.

4.21 Compaction §330.163

The waste shall be thoroughly compacted by landfill compaction equipment. The compaction equipment shall pass over the waste a sufficient number of times to achieve thorough compaction.

When waste is used as ballast, as described in Part III, Attachment 3, Appendix III-3F, Liner Quality Control Plan, the first 5 feet or the total thickness of ballast, whichever is less, placed on the liner system shall be free of brush and large bulky items that would damage the underlying parts of the liner system or that cannot be compacted to the required density. When waste is used as ballast, a wheeled trash compactor having a minimum weight of 40,000 pounds, or similar equipment shall be used for compaction of waste. . For additional information, see Appendix III-3F, Liner Quality Control Plan.

4.22 Landfill Cover §330.165

4.22.1 Daily Cover

To prevent disease vectors, control windblown debris and odors, reduce the possibility of fire, prevent scavenging, and improve the operation of the site, a minimum of 6 inches of "daily" cover (earthen material

that has not been previously mixed with garbage, rubbish, or other solid waste), or approved equivalent, shall be placed and compacted in the case of soil over all exposed waste at the end of each operating day.

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

- The daily cover will be sloped to drain.
- The daily cover will be compacted with the bulldozer tracks to minimize infiltration of stormwater, graded to drain, and will not have any waste visibly protruding through it.
- The LM or designated alternate will document where daily cover has been placed through visual inspections during placement that a minimum of 6 inches (compacted thickness) of daily cover has been placed over the working face area. The LM or designated alternate will document on a daily basis the daily cover completion and placement area.

4.22.2 Alternative Daily Cover

The Temple RDF is currently not using any Alternative Daily Cover (ADC). In accordance with §330.165(d), the facility may request a temporary authorization to use ADC material in the future.

4.22.3 Intermediate Cover

All areas that have received waste but will be inactive for longer than 180 days will be provided with intermediate cover. This intermediate cover will include 6 inches of suitable earthen material that is capable of sustaining native plant growth. Erosion control will be provide as described in Part III, Attachment 2, Section 4.0 of this PAA. Intermediate cover will be not less than 12 inches (6 inches of daily cover plus additional 6 inches of soil) of suitable earthen material. Areas of intermediate cover shall be graded for proper drainage to help prevent ponding of water and to maintain plant growth or other erosion control features. Run-off from areas that have received intermediate cover will not be considered as having come into contact with the working face or leachate.

4.22.4 Final Cover

"Final" cover soil for the landfill shall be placed and compacted as outlined in Part III, Attachment 7, Appendix III-7A, Final Cover Quality Control Plan.

The final cover system, including the erosion control structures (such as drainage swales and chutes), will be maintained during and after construction. During the active life of the site, the LM or designated alternate should inspect the final cover system on a weekly basis. Erosion of final cover shall be repaired promptly by restoring the cover material, grading, compacting, and seeding it as necessary.

4.22.5 Erosion of Cover

Intermediate or final cover that has been seeded and has vegetation established will continue to be maintained. However, caution will be exercised not to damage the integrity of vegetation in these areas that

will result in greater erosion through the destruction of vegetative cover to fix minor erosion rills. To address this concern, minor or incidental erosion rills will be monitored to ensure that they do not develop into areas of significant erosion. Erosion of intermediate and final cover areas greater than 4 inches in depth, as measured perpendicular to the cover surface will be repaired to maintain integrity of the cover systems. These areas will be repaired within 5 days of detection as weather permits. If conditions warrant, and the TCEQ's regional office approves otherwise, based on the extent of the damage, time to repair, or weather conditions, the 5 day requirement may be extended. The date of detection of erosion and date of completion or repairs, including reasons for any delays, will be documented in the cover inspection record. The LM or designated alternate will inspect the intermediate and final cover at the site on a weekly basis and after a qualifying rain event as specified in the facility TPDES permit.

4.22.6 Cover Inspection Record

A cover application record shall be maintained at the site and readily available for inspection by TCEQ and authorized agents or employees of local governments having jurisdiction. The record shall specify the date that cover was accomplished, how it was accomplished, and the last area covered. This record applies to daily, alternate daily, intermediate, and final cover. For final cover, the record shall also specify the thickness applied on that date. Each entry shall be certified by signature of the LM or designated representative.

A cover inspection record will be maintained that documents inspections of daily, intermediate, and final cover, the findings, and corrective action taken when necessary.

4.23 Ponded Water §330.167

Measures shall be implemented to prevent ponding of water over waste in the disposal areas. Ponded water that occurs in the active portion of the MSW landfill unit or on a closed portion of the facility, other than the leachate storage/evaporation ponds, will be eliminated and the area where the ponding occurred will be corrected within 7 days of the occurrence. These areas will be repaired within 7 days of detection as weather permits. If conditions warrant, and the TCEQ's regional office approves otherwise, based on weather conditions, the 7 day requirement may be extended. The date of detection of erosion and date of completion or repairs, including reasons for any delays, will be documented in the cover inspection record.

4.23.1 Ponding Prevention Plan

The potential for ponding of water over waste areas will be minimized by achieving adequate compaction during the placement of the wastes and by constructing and maintaining proper cover and slope on all areas so that stormwater will not pond and will drain properly, either to the site drainage system (for intermediate or final covered areas) or to run-off control structures (for active disposal areas). Measures shall be implemented to minimize ponding of water over waste in the disposal areas, such as the installation of

upgradient diversion berms to minimize the amount of water entering the disposal area, and proper construction of the working face slopes.

Active portions of the landfill, including final covered areas not in post-closure care, intermediate cover areas, and daily cover areas, will be inspected at least weekly for signs of ponded water or depressions that could potentially pond water. Additional inspections may be conducted after rainfall events in excess of 0.5 inch or more rain in a 24-hour period. However, during periods of extended or heavy rainfall, portions of the site may not be accessible to vehicles for inspection. During these periods it may be necessary to allow for drying prior to accessing the remote sections of the site for inspection.

During the post-closure period of closed portions of the landfill, the final cover will be inspected and maintained, in Accordance with Part III, Attachment 8, Post Closure Plan.

Depressions that could potentially pond water will be eliminated, by filling and/or regrading, within 7 days of identification, weather and access permitting.

Ponded water areas may be corrected by implementing one or more of the following procedures:

- Pumping water out of the depression
- Regrading and allowing the water to flow off
- Adding cover soils to fill the depression and forcing the water on to areas of the landfill that allows the water to flow off the landfill

However, during periods of extended or heavy rainfall, the site may not be able to operate on the cover materials without further compromising the cover with the tracking of equipment. During these periods, the site may allow for drying prior to accessing the ponded water site with equipment.

After the ponded water has been removed, the site will be regraded and/or filled with additional cover soil to eliminate the potential for ponded water and promote positive drainage.

Water that has been in contact with waste will be handled as contaminated water andwill be removed and handled in accordance with Part III, Attachment 2, Surface Water Protection Plan and Drainage Plan, Section 4.2.

In general, contaminated water will be contained in the area of the working face behind the containment berm. This water will not be handled as leachate. The contaminated water will be pumped directly into a tanker truck if necessary or pumped to on-site storage/evaporation pond. Contaminated water pumped directly to a tanker truck will be disposed of off-site at an approved treatment facility. Any of the aforementioned transmission systems may be utilized.

Contaminated water, except leachate and gas condensate, may not be recirculated.

4.24 Liquid Waste Stabilization Area

To process/stabilize approved liquid wastes that are received at the facility, and wastes that do not pass paint filter test, the facility will utilize a metal basin placed within a disposal cell with an approved TCEQ liner system (i.e., not within a pre-Subtitle D cell). The basin will be secured with landfill material and soil. The soil will be graded around the liquid waste stabilization basin (basin) to ensure that stormwater run-off is directed away from the basin. The basin will be placed to ensure a minimum of 1 foot of the basin extends above the surrounding soil. Using an excavator or similar mixing equipment, the liquid wastes will be mixed promptly upon receipt with a stabilizing material (see Appendix IVE, SWAP Section 8.2.2) or soil within the basin and will be removed from the basin for disposal by the same equipment. The mixing equipment will maximize removal of residual materials from the basin sides to prevent any cumulative build-up of material that could contribute to odors or vectors. The bottom of the basin will be at least 10 feet above the top of the protective cover soil composite of the lining system and founded in the waste. Various sizes of metal basins may be used throughout the life of the site. Once stabilized, the waste will be removed daily from the basin and landfilled at the facility. If necessary, the batch of solidified/stabilized material will be tested for free liquids in accordance with the Method 9095B (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication Number SW-846), as amended. Upon verification of the solidified/stabilized material passing the paint filter test, or other approved test, the mixture will be removed from the basin and deposited in the active face for landfilling. The current liquid waste stabilization area is located as shown on Part III, Attachment 1, Figure III-1-2.

4.25 Disposal of Special Waste §330.171

Special waste is 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 human health or the environment. The various types of special wastes are defined in 30 TAC §330.3(148).

The acceptance and/or disposal of a special waste is described in Appendix IVD, Regulated Asbestos Containing Material Handling Plan, and Appendix IVE, Special Waste Acceptance Plan (SWAP).

4.26 Disposal of Industrial Waste §330.173

Industrial non-hazardous waste is defined by §330.3 as solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations, classified as follows:

- Class 2 Industrial Solid Waste – any individual solid waste or combination of industrial solid wastes that cannot be described as Class 1 or Class 3, as defined in §335.506 (relating to Class 2 waste determination).

- Class 3 Industrial Solid Waste – any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc. that are not readily decomposable as defined in §335.507 (relating to Class 3 waste determination).

Class 2 and Class 3 industrial solid wastes may be accepted at a Type I facility, provided disposal of these wastes does not interfere with proper operation of the facility. Provisions for acceptance of these wastes are described in Appendix IVE SWAP

This facility will not accept Class 1 industrial solid waste, with the exception of wastes that are Class 1 only because of asbestos content. Waste classified as Class 1 only because of asbestos content may be accepted by the facility for disposal and will be managed in accordance with 30 TAC §330.171(C)(3) and Appendix IVE of this SOP. All shipments of Class 1 industrial waste only because of asbestos content must be accompanied by a manifest, as required by the TCEQ.

The amount of Class 1 industrial non-hazardous waste (industrial Class 1 only because of asbestos content) received will not exceed 20 percent of the total amount of waste (not including Class 1 wastes) accepted during the current or previous year in accordance with §330.173(e) and §330.173(f). The amount of waste may be determined by volume or weight, but the same unit of measure must be used for each year, unless a variance is authorized by the TCEQ ED.

In the event that a prohibited industrial solid (Class 1) waste arrives at the site, the LM or designated alternate will follow the appropriate procedures as outlined in Section 4.2. The facility will operate in compliance with 30 TAC §330.173 or any special conditions imposed by the TCEQ ED.

The facility may accept Class 2 and 3 industrial solid wastes for disposal provided the acceptance of this waste does not interfere with facility operations.

4.27 Screening of Deposited Waste §330.175

Final, intermediate, and daily cover will screen deposited waste materials from view. As aerial filling progresses to the north, final sideslope cover will be placed and vegetated on the landfill and perimeter drainage channels and final cover drainage channels and terraces will be constructed. Additionally, vegetated soil berms may be temporarily utilized as visual screening berms at locations throughout the facility.

Existing natural vegetation in the buffer zones shall be maintained, where possible, to provide visual screening of disposal operations from public view. The facility will continue to operate the landfill in a manner that will provide the maximum screening possible within the requirements of the design.

4.28 Contaminated Water Discharge §330.207(a) and (b)

The Temple RDF will not discharge contaminated water without specific written authorization from the TCEQ. This facility is authorized to discharge stormwater run-off pursuant to the TPDES permit and Storm Water Pollution Prevention Plan (SWPPP). This authorization applies only to stormwater and other approved sources collected in the facility drainage system. No contaminated water (water that has come in contact with solid waste or leachate) may be discharged from the site through the facility drainage system pursuant to this authorization. Stormwater and any other water that collects in or runs off from the working face will be managed as contaminated water.

All contaminated water shall be managed as specified in Part III, Attachment 3, Waste Management Unit Design, and Part III, Attachment 2, Surface Water Drainage Report.

Additionally, the facility will be operated in accordance with provisions outlined in the SDP, Part III, Section 4.0, Surface Water Protection, which states that the design and operation of the facility will not cause:

1. A discharge of solid wastes or pollutants adjacent to or into the water in the state, including wetlands, that is in violation of the requirements of the Texas Waster Code, §26.121.
2. A discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to §402 as amended.
3. A discharge of dredged or fill material to waters of the United States, including wetlands, that is in violation of the requirements under the Federal Clean Water Act, §404, as amended.
4. A discharge of a nonpoint source pollution of waters of the United States, including wetlands, that violates any requirement of an area wide or statewide water quality management plan that has been approved under the Federal Clean Water Act, §208 or §319, as amended.

4.29 Leachate and Gas Condensate Recirculation §330.177

Leachate and LFG condensate will be either diverted to the landfill leachate recirculation system, the evaporation ponds, disposed of off-site at an authorized off-site facility, or stabilized on-site. Recirculation procedures of leachate and gas condensate are included in Part III, Attachment 3, Section 6.1.2.8.

4.30 Storage and Processing Areas

As shown on Part III, Attachment 1, Figure III-1-2, the facility has various storage and processing areas. These areas include:

- Citizen collection station
- Whole tire staging area
- Reusable materials staging area

- Large item salvage and white goods staging area (only non-chlorinated fluorocarbon [non-CFC] containing white goods are accepted for disposal)
- Liquid waste stabilization (processing) area
- Leachate storage/evaporation ponds

A description of each of these areas in accordance with applicable rules of 30 TAC Chapter 330, Subchapter E is presented in this section.

4.30.1 Waste Acceptance and Analysis §330.203

The types of waste to be accepted at the facility are discussed Part II, Section 2.1. Further details of waste accepted or stored in each storage and processing area is included in Part III, Section 2.2.

The waste acceptance rate for the facility is addressed in Part II, Section 2.2. Daily waste volumes to be accepted at the storage and processing areas are included in the total waste acceptance rate provided in Part II, Section 2.2.

4.30.1.1 Citizen Collection Station

Section 4.6.3.1 addresses the waste unloading and roll-off containers at the citizen collection station. The citizen collection station may receive approximately 60 tons of municipal solid waste per day and have a maximum amount of 60 tons of waste stored at one time. Waste in the containers will be disposed of at the working face when the containers are full or within 72 hours of being waste placement in the container. The average length of time waste will be stored at the citizen collection station is 48 hours, the maximum amount of time waste will be stored is 72 hours. The containers will be covered with tarps during a rainfall event to prevent contaminated water being generated.

4.30.1.2 Tire Staging Area

Section 4.6.3.3 addresses operation details about the tire staging area. Tires will be split, quartered, shredded, and otherwise processed to ensure current approved limits for MSW landfills are not exceeded, i.e., 500 tires on the ground or 2,000 tires in enclosed and lockable containers. Scrap tires shall be split, quartered, or shredded within 180 days from the date of delivery of the scrap tire. The average length of time tire will be stored is 90 days.

4.30.1.3 Recyclable Materials Staging Area

Recyclable or reusable materials may be received and staged at the facility. The size of the stockpiles may vary depending on the amount of reusable or recyclable materials received at any given time. The reusable materials staging area may receive approximately 300 tons of material per day and have a maximum amount of 3,000 tons of material stored at one time. Materials at the staging area will be either used onsite for applications such as roadbase, erosion control, etc., or transported offsite to end users. The average

time for the materials to be stored onsite is 90 days; the maximum time for the materials to be stored onsite is 180 days.

4.30.1.4 Large Item Salvage/White Goods Staging Area

The large item salvage and white goods staging area (only non-chlorinated fluorocarbon [non-CFC] containing white goods are accepted for disposal) may receive approximately one ton of large items and white goods per day and have a maximum amount of 180 tons of materials stored at one time. These materials can be stored for a maximum of 180 days and 90 days on average.

4.30.1.5 Liquid Waste Stabilization Area

Section 4.24 addresses the operation of the liquid waste stabilization area. The facility may receive approximately 25 tons of liquid waste per day and a maximum of 50 tons of materials may be stored at one time. These materials can be stored for a maximum of 72 hours and 24 hours on average.

4.30.1.6 Leachate Storage/Evaporation Area

The leachate storage/evaporation ponds will be in continuous use and leachate is expected to be constantly present in the ponds. The maximum storage volume in the leachate ponds are 270,000 gallons for Pond A and 930,000 gallons for Pond B. The leachate storage time will vary depending on the volume of leachate recirculation and evaporation rate.

4.30.2 Contaminated Water Management §330.207

All water coming in contact with waste will be treated as contaminated water and managed in the same manner as discussed in Part III, Attachment 2, Section 4.2.

4.30.3 Fire Protection Water Supply §330.221

Since the storage and processing areas are part of landfill operation the fire protection plan provided in Section 4.4 of this SOP will be implemented, as required, for this area. Pressurized water, if required, will be provided from the water truck.

4.30.4 Overloading and Breakdown §330.241

The capacity of the storage and processing areas will not be exceeded. The citizen collection station is the storage area which could be impacted by overload and break down. In this event, waste loads will be diverted to the working facility. Ventilation and Air Pollution Control §330.245(C)

Liquid waste in the waste stabilization area will be monitored for odors and stabilization and removed for disposal to prevent odor issues.

4.30.5 Employee Sanitation Facilities §330.249

City of Temple public water and sanitary facilities will be provided for all employees and visitors at the facility.

APPENDIX IVC

FIRE PROTECTION EQUIPMENT CAPACITY CALCULATION

FIRE PROTECTION EQUIPMENT CAPACITY

Made By: AGM/HPR
Checked by: MX
Reviewed by: CGD

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING PURPOSES ONLY

1.0 OBJECTIVE

Evaluate the adequacy of the on-site equipment to place a 6-inch layer of earthen material within 1 hour of detecting a fire on the working face area that is not already covered. Evaluate the capacity of the equipment to haul soil from a borrow area 1,000 feet away and for a bulldozer to spread the soil over the open area. The equipment to be evaluated includes excavators, each with a 4-cubic yard (cy) bucket, dump trucks, each with a 20-cy capacity, and CAT D8 bulldozers. The equipment being evaluated is typical and may be replaced with equivalent equipment of a different brand or size.

2.0 ASSUMPTIONS

I) A working face size for a typical operation is 10,000 ft^2 (100 feet by 100 feet), but at maximum may be as much as 80,000 ft^2 (400 feet by 200 feet).

II) Volume of working face with 6-inch layer, including an additional 20%, ranges from approximately 222 cy for a 10,000 ft^2 working face to 1,778 cy for an 80,000 ft^2 working face. This material is stockpiled adjacent to the working face and used for daily cover.

III) Distance to earthen material borrow area is 1,000-feet.

IV) Time to cover working face is 1 hour (60 minutes).

V) Bulldozer will be used at the working face for spreading.

VI) The site currently has one (1) excavator, two (2) dump trucks, and two (2) bulldozers. The capacity of these pieces of equipment will be first evaluated for adequacy. Additional operating requirements, if needed are provided.

2.1 Equipment Specs

2.1.1 Excavator

Estimated per Reference 1, using the CAT 345D L-VG excavator specifications (p. 4-19) and time cycle charts (p. 4-189).

Bucket Volume (heaped)	4 cy
Load Bucket	0.13 min
Swing Loaded	0.07 min
Dump Bucket	0.02 min
Swing Empty	0.06 min
Cycle Time per Load	0.28 min

2.1.2 Dump Truck

Estimated per Reference 1, using the CAT 770 truck specifications (p. 9-3) and travel time charts (p. 9-18).

Dump Capacity	20 cy	
Loading Time = (Dump Truck Capacity / Excavator Bucket Volume) * Excavator Cycle Time		
Loading Time	1.4 min	
Hauling Time (10%grade)	1.2 min	
Dumping Time	0.5 min	(Assumed)
Return Time (10% grade)	0.6 min	

3.0 CALCULATIONS

3.1 Excavators and Dump Trucks

Excavator

Cycle Time = 0.28 minutes

Bucket Volume = 4 cy

Total Volume in 60 minutes = 856 cy

Dump Truck

Cycle Time = Load + Haul + Dump + Return

Cycle Time (per truck) = 3.7 min

In 60 minutes:

Number of Loads (per truck) 16

Volume of Material (per truck) 320 cy

One (1) Excavator and Two (2) Dump Trucks

Total Volume in 60 minutes = 640 cy

The exisiting site equipment can haul up to 640 cy. In order to haul 1778 cy, the capacity required for an 80,000 ft^2 working face, additional equipment will be required. Alternatively, material can be stockpiled near the working face in order to provide adequate volume. Table 1 shows the stockpile volumes necessary to supplement the hauling capacity of the existing site equipment.

Table 1: Working Face Stockpiling Requirements

Working Face Area (ft^2)	Required Cover Material Volume (cy)	Hauling Capacity[1] (cy)	Working Face Stockpile Requirement (cy)
10,000	222	640	0
20,000	444	640	0
30,000	667	640	27
40,000	889	640	249
50,000	1111	640	471
60,000	1333	640	693
70,000	1556	640	916
80,000	1778	640	1138

[1]Hauling capacity of existing equipment (one excavator and two haul trucks)

3.2 CAT D8 Bulldozers

In an emergency fire situation, the bulldozers will push nearby soil already hauled and dumped next to the working face, plus they will push storm water run-on/run-off control berms to create a fire break and then to cover exposed waste.

Average dozing distance assumed as 100 feet.
Dozer production = maximum production * correction factors:

Max production per D8 Dozer =	900	cy/hr	Ref. 1 (p. 1-47)
Loose stockpile, correction factor =	1.15		
Excellent Operator, correction factor =	1.00		
Production =	1035	cy/hr	

Total Soil handled by each bulldozer = 1035 cy/hr
Total Soil handled by two (2) bulldozers = 2070 cy/hr

The existing bulldozers have adequate capacity to spread 1778 cy, the volume corresponding to the maximum working face area of 80,000 ft^2.

4.0 CONCLUSION

On-site bulldozers will be available to place a 6-inch layer of earthen material on the working face waste area within one hour of detecting a fire. Stockpiles near the working face should be maintained to supplement the hauling capacity of existing equipment when large working faces are being operated. The existing onsite excavator and haul trucks can haul 640 cy of soil to the working face within one hour. If additional soil volume is required, adequate soil needs to be stockpiled near the working face per Table 1. Alternatively, the site may add additional equipment.

5.0 REFERENCES

1) Caterpillar Performance Handbook, Edition 40, January 2010.



MODEL	345D L – FIX		345D L – VG		345D L – VG	
Sourcing	Japan, U.S.		U.S.		Belgium	
Flywheel Power	283 kW	380 hp	283 kW	380 hp	283 kW	380 hp
Operating Weight*	45 375 kg	100,040 lb	46 970 kg	108,610 lb	52 230 kg	115,167 lb
Bucket Capacity Range (heaped)	1.0-3.1 m^3	1.3-4.03 yd^3	1.0-3.1 m^3	1.32-4.03 yd^3	2.0-3.6 m^3	3.0-5.0 yd^3
Engine Model	C13 ACERT		C13 ACERT		C13 ACERT	
Rated Engine RPM	1800		1800		1800	
No. of Cylinders	6		6		6	
Bore	130 mm	5.1"	130 mm	5.1"	130 mm	5.1"
Stroke	157 mm	6.2"	157 mm	6.2"	157 mm	6.2"
Displacement	12.5 L	736 in^3	12.5 L	736 in^3	12.5 L	736 in^3
Max. Implement Hydraulic Pump Output at Rated RPM	2 × 360 L/min	2 × 95 gpm	2 × 360 L/min	2 × 95 gpm	2 × 367 L/min	2 × 97 gpm
Relief Valve Settings:						
Implement Circuits	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Travel Circuits	35 000 kPa	5080 psi	35 000 kPa	5080 psi	35 000 kPa	5080 psi
Swing Circuits	31 400 kPa	4550 psi	31 400 kPa	4550 psi	31 400 kPa	4550 psi
Pilot Circuits	4110 kPa	596 psi	4110 kPa	596 psi	4100 kPa	596 psi
Maximum Drawbar Pull	331 kN	74,380 lb	331 kN	74,380 lb	338 kN	76,050 lb
	Two Speed Travel		Two Speed Travel			
Maximum Travel Speed at Rated RPM	Lo: 3.5 km/h Hi: 4.7 km/h	2.2 mph 2.9 mph	Lo: 3.5 km/h Hi: 4.7 km/h	2.2 mph 2.9 mph	4.7 km/h	3.0 mph
Track Shoe Width	750 mm	2'6"	750 mm	2'6"	600 mm	2'0"
Overall Track Length	5.36 m	17'7"	5.34 m	17'6"	5330 mm	17'6"
Ground Contact Area with Std. Shoe	7.07 m^2	10,960 in^2	5.63 m^2	8730 in^2	5.21 m^2	8045 in^2
Track Gauge	2.74 m	9'0"	2.4 m	7'10"	2390 mm	7'10"
Extended	—		2.89 m	9'6"	2890 mm	9'6"
Fuel Tank Refill Capacity	705 L	186 U.S. gal	705 L	186 U.S. gal	710 L	188 U.S. gal
Hydraulic System (includes tank)	570 L	150 U.S. gal	570 L	150 U.S. gal	570 L	151 U.S. gal
Hydraulic Tank	—		—		262 L	69 U.S. gal

*Operating weight for 345D L – FIX and 345D L – VG (U.S. Sourced) includes coolant, lubricants, full fuel tank, standard shoes, bucket and operator 75 kg (165 lb). Operating weight for 345D L – VG (Belgium Sourced) includes coolant, lubricants, full fuel tank, one-piece boom, long stick, small profile bucket, operator 75 kg (165 lb) and wide shoes (standard shoes on 345D L – VG).

NOTE: Certain models may not be available in all Sales areas.
Specifications may also vary by Sales area.
Contact your Cat dealer for details.

Cycle Time Estimating Chart

Model		307C	308D CR	308D CR SB	311D LRR	312D, 312D L	315D L	319D L, 319D LN	M312, M313C, M315C, M313D, M315D	M315, M316C, M316D	M318C, M318D	M322C, M322D
Bucket Size	L	280	220	220	450	520	520	800	610	750	900	1050
	yd³	0.37	0.30	0.30	0.59	0.68	0.68	1.05	0.80	0.98	1.18	1.37
Soil Type		← Packed Earth →							← Sand/Gravel →			
Digging Depth	m	1.5	1.8	1.8	1.5	1.8	3.0	3.0	3.0	3.0	3.0	3.0
	ft	5'0"	6'0"	6'0"	5'0"	6'0"	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"
Load Bucket	min	0.08	0.09	0.08	0.07	0.07	0.07	0.09	0.05	0.06	0.06	0.08
Swing Loaded	min	0.05	0.03	0.03	0.06	0.06	0.06	0.09	0.05	0.05	0.06	0.06
Dump Bucket	min	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Swing Empty	min	0.06	0.06	0.08	0.05	0.05	0.06	0.07	0.04	0.04	0.05	0.05
Total Cycle Time	min	0.22	0.21	0.22	0.21	0.21	0.24	0.28	0.17	0.18	0.20	0.23

Cycle Time Estimating Chart

Model		320D	320D RR, 321D CR, 323D	324D	328D LCR	329D	336D	345D	365C L	385C
Bucket Size	L	800	800	1000	N/A	1100	1400	2400	1900	3760
	yd³	1.05	1.05	1.31		1.44	1.83	3.0	2.5	5.0
Soil Type		← Hard Clay →								
Digging Depth	m	2.3	2.3	3.2	N/A	3.2	3.4	4.0	4.2	5.6
	ft	8	8	10		10	11	13	14	18
Load Bucket	min	0.09	0.09	0.09	N/A	0.09	0.09	0.13	0.10	0.19
Swing Loaded	min	0.06	0.06	0.06	N/A	0.06	0.07	0.07	0.09	0.06
Dump Bucket	min	0.03	0.03	0.04	N/A	0.04	0.04	0.02	0.04	0.03
Swing Empty	min	0.05	0.05	0.06	N/A	0.06	0.07	0.06	0.07	0.07
Total Cycle Time	min	0.23	0.23	0.25	N/A	0.25	0.27	0.28	0.30	0.35

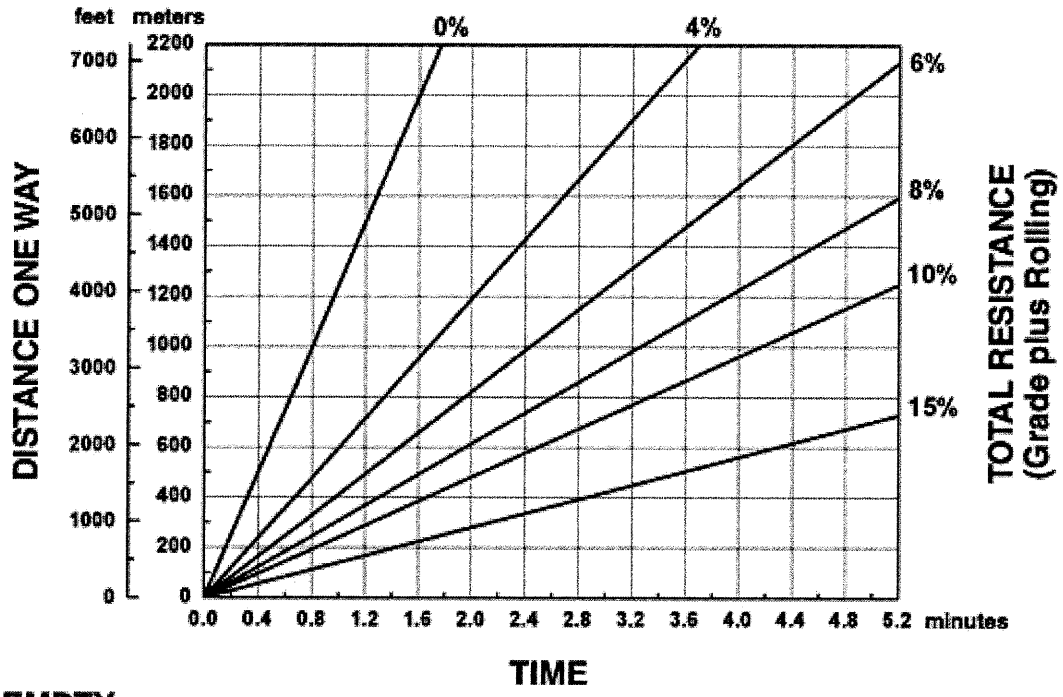
N/A = Not Applicable



MODEL	770		770		772	
Body Type	Medium Impact Steel Flat Floor		Medium Impact Steel Dual Slope		Medium Impact Steel Flat Floor	
Gross Machine Weight	71 214 kg	157,000 lb	71 214 kg	157,000 lb	82 100 kg	181,000 lb
Chassis Weight*	24 613 kg	54,262 lb	24 613 kg	54,262 lb	25 425 kg	56,053 lb
Body System Weight	10 029 kg	22,110 lb	10 019 kg	22,088 lb	10 439 kg	23,013 lb
Target Payload**	36 572 kg	80,628 lb	36 582 kg	80,650 lb	46 236 kg	101,934 lb
Capacity:						
Struck (SAE)	16.4 m^3	21.5 yd^3	16.4 m^3	21.5 yd^3	23.3 m^3	30.5 yd^3
Heaped (2:1) (SAE)	25.1 m^3	32.8 yd^3	25.1 m^3	32.8 yd^3	31.3 m^3	41.0 yd^3
Distribution Empty:						
Front	48%		48%		48%	
Rear	52%		52%		52%	
Distribution Loaded:						
Front	33%		33%		33%	
Rear	67%		67%		67%	
Engine Model	C15 ACERT		C15 ACERT		C18 ACERT	
Number of Cylinders	6		6		6	
Bore	137 mm	5.4"	137 mm	5.4"	145 mm	5.7"
Stroke	171 mm	6.7"	171 mm	6.7"	183 mm	7.2"
Displacement	15 L	928 in^3	15 L	928 in^3	18 L	1105 in^3
Net Power	355 kW	476 hp	355 kW	476 hp	399 kW	535 hp
Gross Power	381 kW	511 hp	381 kW	511 hp	446 kW	598 hp
Standard Tires	18.00R33 (E4)		18.00R33 (E4)		21.00R33 (E4)	
Machine Clearance Turning Circle	20.2 m	66'3"	20.2 m	66'3"	21.6 m	70'10"
Fuel Tank Refill Capacity	529 L	140 U.S. gal	529 L	140 U.S. gal	529 L	140 U.S. gal
Top Speed (Loaded)	74.8 km/h	46.5 mph	74.8 km/h	46.5 mph	79.7 km/h	49.5 mph
GENERAL DIMENSIONS (Empty):						
Height to Canopy Rock Guard Rail	4.14 m	13'7"	4.14 m	13'7"	4.22 m	13'10"
Wheelbase	3.96 m	13'0"	3.96 m	13'0"	3.96 m	13'0"
Overall Length (Operating)	8.74 m	28'9"	8.74 m	28'9"	8.74 m	28'9"
Overall Length (Shipping)	8.74 m	28'9"	8.74 m	28'9"	8.74 m	28'9"
Loading Height (Empty)	3.12 m	10'3"	3.12 m	10'3"	3.50 m	11'6"
Height at Full Dump	8.28 m	27'2"	8.28 m	27'2"	8.36 m	27'5"
Body Length (Target Length)	5.55 m	18'3"	5.55 m	18'3"	5.55 m	18'3"
Width (Operating)	4.75 m	15'8"	4.75 m	15'8"	4.75 m	15'8"
Width (Shipping)***	3.96 m	13'0"	3.96 m	13'0"	3.95 m	13'0"
Front Tire Tread	3.11 m	10'3"	3.11 m	10'3"	3.17 m	10'5"

*Weights include lubricants, coolants and 100% fuel.
**Refer to Caterpillar's 10/10/20 Payload Policy for Quarry & Construction Trucks.
***Disassembled.

LOADED



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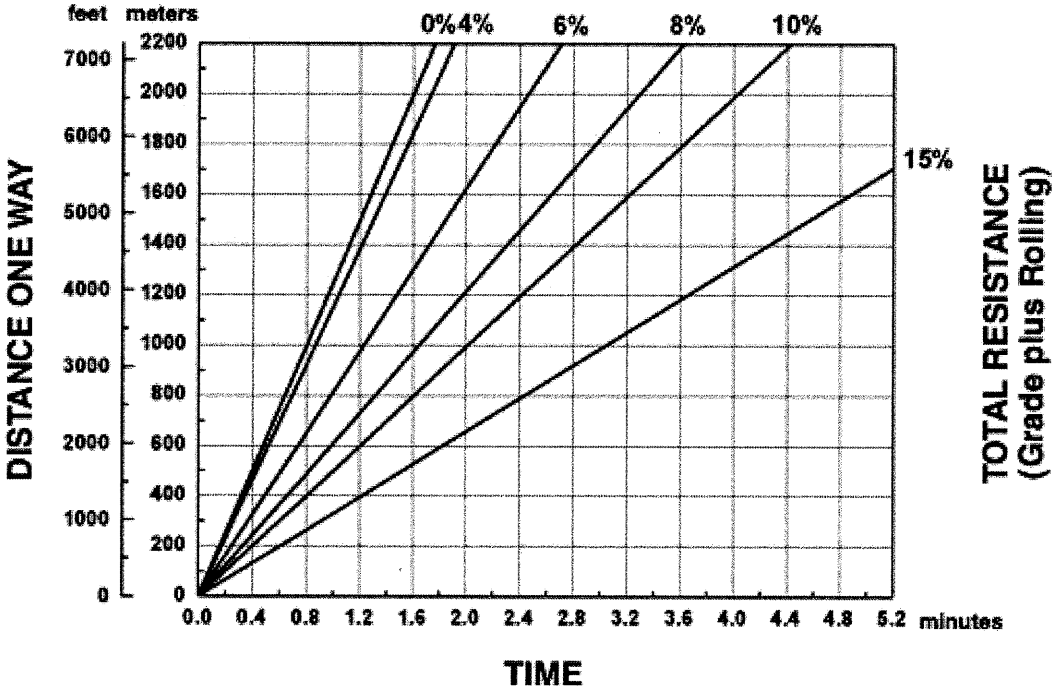

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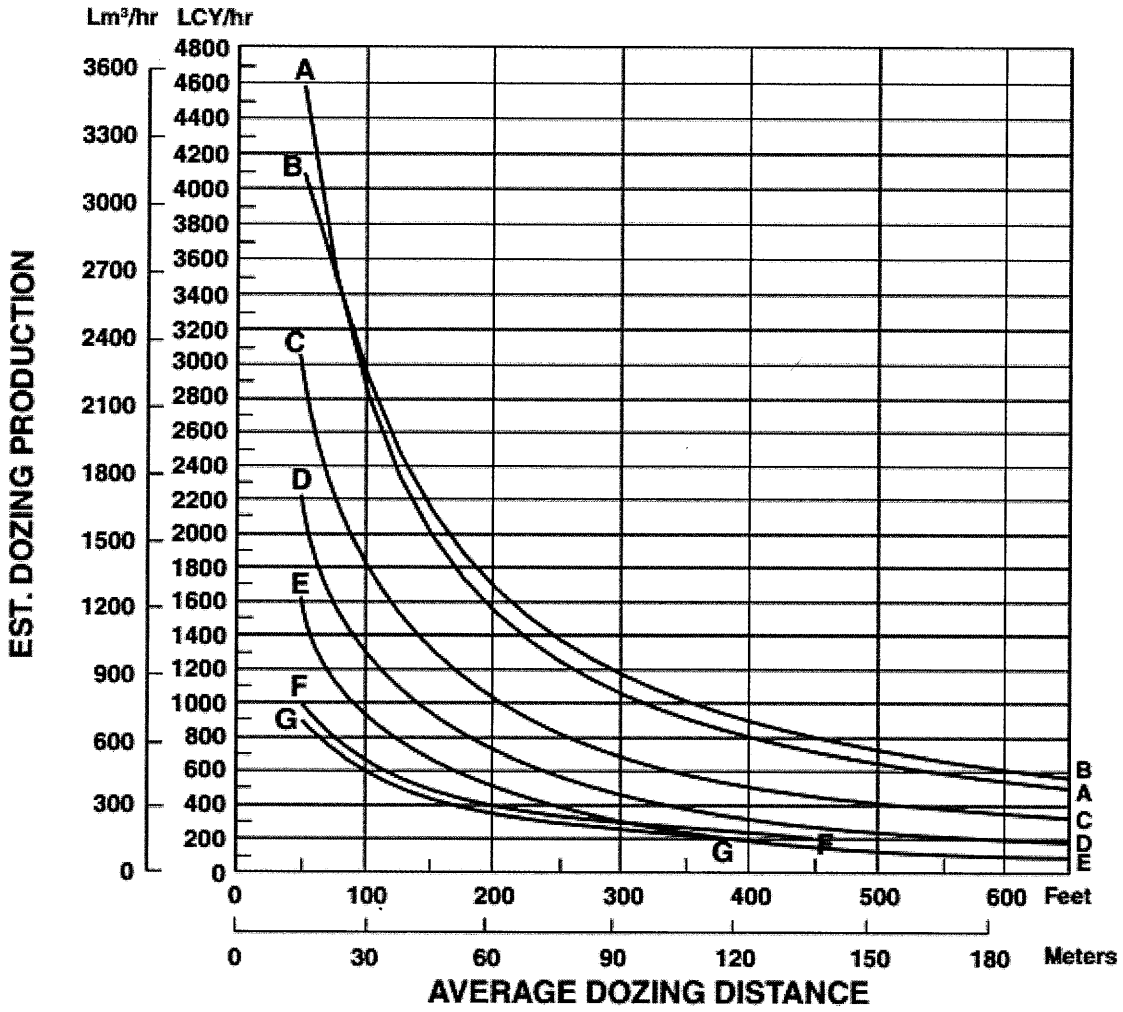
ESTIMATED DOZING PRODUCTION • Universal Blades • D7G through D11T



KEY

A — D11T-11U
B — D11T CD
C — D10T-10U
D — D9R/D9T-9U
E — D8R/D8T-8U
F — D7R Series 2-7U
G — D7G-7U

NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors following these charts.

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APPENDIX IVD

REGULATED ASBESTOS CONTAINING MATERIAL HANDLING PLAN

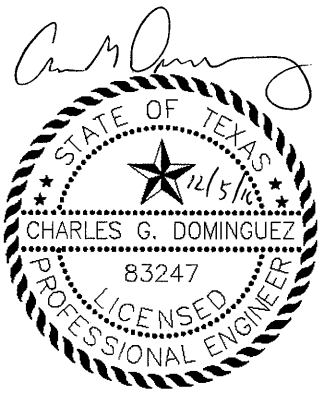
PART IV, APPENDIX D

REGULATED ASBESTOS CONTAINING MATERIAL HANDLING PLAN

Temple Recycling & Disposal Facility

Temple, Bell County, Texas

TCEQ Permit MSW-692B



Owner/Site Operator/Permittee:

City of Temple
201 N. Main
Temple, Texas 76501

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING PURPOSES ONLY

Operator:

WASTE MANAGEMENT

Waste Management of Texas
9708 Giles Lane
Austin, Texas 78781

Submitted By:

Golder Associates Inc.
500 Century Plaza Drive, Suite 190
Houston, TX 77073 USA
Professional Engineering Firm Registration Number F-2578

Submitted: June 2016
Revised: December 2016

Project No. 1400336

Table of Contents

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578

INTENDED FOR PERMITTING PURPOSES ONLY

- Bags or containers holding RACM must be carefully unloaded and placed in their disposal location rather than thrown to the ground. Unloading will be conducted by employees of the generator or transporter.
- Direct discharge of roll-off containers is permitted when performed in accordance with the following procedures:
  - A liner is used with a minimum 6-mil thickness to facilitate sliding of bags from the roll off container without damage by tearing of the bags. A sheet of 6-mil plastic (or equivalent) is placed in the open roll-offs and used to wrap the wetted asbestos in a "burrito wrap" method to prevent airborne particulates. The truck and roll-off box are positioned to unload at the hole excavated in advance for disposal of the waste.
  - With the opened roll-off box tailgate above the edge of the excavation, the bed of the truck and the roll-off box are gradually elevated until the entire envelope slowly slides out of the roll-off box and into the excavation.

3.3 Covering the Asbestos Waste

Asbestos waste will not be compacted directly. Immediately after unloading, the asbestos waste should be covered with a minimum of 3 feet of asbestos-free solid waste or 1 foot of soil. Care should be exercised in the application of the cover to ensure that the bags or containers will not be ruptured.

3.4 Grid System Control

A 3-D grid system will be utilized to identify where the waste will be disposed. The site grid system (i.e., 100 foot markers) and site elevation benchmark and will be used in identifying the disposal locations in a log book. The date of disposal, the approximate elevation and grid coordinates, and the volume of waste will be recorded.

4.0 RECORD KEEPING

Record keeping for RACM disposal is in the form of manifests and disposal location log. The disposal location log indicating RACM disposal locations is maintained by the landfill manager or designated alternate. A Monthly Waste Receipt Summary form will be completed using STEERS for all loads of industrial RACM which were disposed of during the preceding calendar month, including those months in which no RACM was received at the facility unless an exception is granted by the TCEQ. The Monthly Waste Receipt Summary shall be submitted no later than 25th day of the month following the month that the waste was received.

4.1 Manifests

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

a) Name, address, and telephone number of the generator.
b) Name, address, and telephone number of any transporter.
c) Description and quantity of RACM (including Class III Designation).
d) Date of receipt and signature of disposal facility representative.

A copy of each manifest must be retained on-site for at least 3 years.

4.2 Log or Site Map

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

a) The horizontal location of disposal (using the existing site grid system).
b) The elevation of disposal.
c) The volume of waste.
d) The date of disposal.

4.3 Monthly Waste Receipt Summary

Monthly Reporting of RACM from industrial sources will be submitted through the State of Texas Environmental Electronic Reporting System (STEERS).

4.4 Deed Recordation

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

5.0 PERSONAL PROTECTIVE EQUIPMENT

Respirators and protective clothing prevents exposure of asbestos contamination. Requirements for respirators and protective clothing for spill cleanup are listed below. (Note: If on-site personnel do not meet these requirements, a qualified asbestos cleanup contractor will be contacted. The area will be sealed off until qualified personnel arrive).

5.1 Respirators

a) Must be NIOSH approved.

b) Must be fit-tested to each individual.

c) Must be clean and properly maintained.

5.2 Personal Protective Equipment

a) Disposable Tyvek or similar coveralls.

b) Gloves (when necessary).

c) Foot coverings (when necessary).

The respirator and disposable coveralls should be worn by all personnel in immediate proximity to the RACM cleanup should a spill occur during the disposal operation, workers involved in the cleanup should wear their respirator, disposable coveralls, gloves, and foot coverings.

6.0 EMPLOYEE TRAINING

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

a) Asbestos and its health effects.
b) Regulations on transportation, disposal and worker protection.
c) Paperwork, manifesting and notification requirements.
d) Personal protection and protective equipment (including respirator fit tests).
e) Transportation requirements.
f) RACM receipt procedures.
g) RACM disposal procedures.
h) Location logging and record keeping.
i) Spill response actions.

All employee training will be completely documented and maintained on-site.

Contractors and others working around the RACM disposal areas are informed of the RACM disposal practices at the site. Should any excavation work be necessary in areas of previous RACM disposal, a written notification to the TCEQ or EPA Administrator will be made 45 days prior to excavating or otherwise disturbing any RACM. The disposal location will be identified and all personnel working in that vicinity will wear the appropriate protective clothing. Any excavated or exposed RACM will be handled in the same manner as if the waste had just been brought in for disposal.

7.0 CONTINGENCY PLAN

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

7.1 Personal Protection

a) Get upwind of the RACM

b) Employees involved in cleanup should make use of the following PPE, including:

   i. Respirator

   ii. Disposable coveralls

   iii. Shoe covers

   iv. Gloves

   v. Safety glasses or goggles

c) Keep others away until cleanup is complete.

7.2 Notification

a) Notify the landfill office/landfill manager.

b) If the spill of RACM involves a reportable quantity (one pound or more), the National Response Center (NRC) must be notified by the landfill manager, or his designated representative.

7.3 Emergency Cleanup Actions

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

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

c) Wash any contaminated equipment or machinery.

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

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

f) Check respirator, refit with new filter cartridges, and place into a resealable, air-tight container for future use.

7.4 Spill Response Equipment

a) An OSHA approved respirator with the proper pre-filters.

b) A disposable, Tyvek or similar coverall suit.

c) Disposable gloves.

d) Rubber boots.

e) 6 mil plastic bags with asbestos warning.

f) Water spray tank.

g) Roll of duct tape.

h) Broom and shovel.

~~h)~~

APPENDIX IVE

SPECIAL WASTE ACCEPTANCE PLAN