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**TYPE V MUNICIPAL SOLID WASTE FACILITY
TCEQ MSW PERMIT 2069**

APPLICATION PART III – SITE DEVELOPMENT PLAN

for

LIQUID ENVIRONMENTAL SOLUTIONS OF TEXAS, LLC

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**Part III – SITE DEVELOPMENT PLAN
TYPE V PERMIT APPLICATION**

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1. INTRODUCTION

Liquid Environmental Solutions of Texas, LLC (LES) is in the business of processing certain non-hazardous liquid wastes. The LES Dallas Facility processes grease trap/food-related and grit trap waste streams. The facility is designed to separate and process the waste streams received into recyclable components, water suitable for discharge into the sanitary sewer system and solid materials for appropriate disposal. The acceptance and processing of these wastes requires a Type V Municipal Solid Waste (MSW) permit.

The purpose of this major permit amendment is to increase the monthly grease trap/food-related waste permitted capacity from 2.4 million gallons per month to 4.8 million gallons per month. This amendment request is supported by an engineering evaluation of the grease trap treatment facility capacity performed by Brown and Caldwell. A Technical Memorandum describing this evaluation is included as Attachment SDP-1 to the Site Development Plan. LES is also requesting the following amendments to the permit:

- Addition of a second shaker screen to the grease trap treatment process. This additional shaker screen will facilitate the requested grease trap/food-related waste receipts increase.
- Addition of a grinder pump with a capacity up to 350 gpm to facilitate the processing of grease trap and food-related wastes with large solids or high solids content. This improvement is planned for the future and LES proposes to notify the Texas Commission on Environmental Quality (TCEQ) prior to placing a grinder pump in service.
- Removal of special provisions that have historically been associated with this permit. These permit documents have been prepared to address all applicable regulatory requirements.
- Addition of authorization to accept food-related wastes which are Class 2 industrial solid wastes. LES has determined that these wastes, which include solids-laden liquid wastes from food manufacturing facilities, can be effectively processed through the existing LES treatment system.

The original MSW permit application for Permit 2069, currently owned and operated by LES, was submitted on June 1, 1987. Since that time, there have been a total of fourteen revisions to the permit documents which constitute the permit, as indicated in the following Table SDP-1. The Site Operating Plan (SOP) underwent a major reorganization in the November 27, 2006 revision to comply with extensive new regulatory requirements.

Date	Site Development Plan (SDP)	Site Operating Plan (SOP)	Waste Acceptance and Analysis Plan (WAAP)	Permit Edition
6/1/1987	Original	-	-	Original
3/30/1988	Revision 1	-	-	Revision 1
3/19/1989	Revision 2	-	-	Revision 2
May 1991	-	Original (Old)	-	Revision 3
September 1991	-	Revision 1	-	Revision 4
5/18/1999	Revision 3	-	-	Revision 5
8/24/2003	Revision 4	Revision 2	Original	Revision 6 ^A
2/2/2004	Revision 5	Revision 3	Revision 1	Revision 7
6/25/2004	Revision 6	Revision 4	Revision 2	Revision 8
2/1/2005	Revision 7	Revision 5	-	Revision 9
4/5/2005	Revision 8	Revision 6	-	Revision 10
8/5/2005	Revision 9	Revision 7	-	Revision 11
11/27/2006	-	Original (New)	-	Revision 12
6/8/2007	-	Revision 1	-	Revision 13
5/30/2008	Revision 10	Revision 2	Revision 3	Revision 14

Notes:

A. Date for SDP is 8/24/2003, date for SOP and WAAP is 8/25/2003.

Table SDP-1: Revision history for MSW Permit No. 2069.

This permit document submittal represents a major reorganization of the previous permit documents. The documents have been reorganized to better align with the corresponding regulatory requirements. Where applicable, regulatory citations are noted. With the concurrence of the TCEQ, these documents are being submitted as clean copies without markups.

Regulatory requirements for Part III of the MSW permit application are presented in Title 30, Texas Administrative Code (TAC), Chapter 330, Section 63.

2. FACILITY ACCESS (330.63 (b) (1))

The process area is enclosed with a minimum 6-foot tall fence and gates. The fence is installed to restrict public view of and access to the facility. The truck offloading area has direct public access only if the gate is unlocked. The gate is unlocked when plant employees are working and the gate is kept locked when plant operations are not occurring. During plant operation activities, employees are present to restrict public access to the area and signs are posted indicating authorized areas of entry. Additional fences are also located at the front of the facility along Goodnight Lane.

3. FLOW DIAGRAMS (330.63 (b) (2) (A) AND (B))

Figures SDP-1 and SDP-2 include the process flow diagrams for the treatment of grease trap/food-related waste and grit/lint trap waste streams. Most of the tank transfers are performed using flexible mobile hoses.

Grease Trap and Food-Related Wastes

Grease trap/food-related waste is transported to the Facility by LES vehicles and independent haulers. Once the waste is accepted, the truck is moved into the offloading area and connected by flexible hoses to an offload tank. Offloaded waste materials are phase separated in the offload tank and are sent to the shaker screen(s). Solids are removed by the shaker screen(s) and deposited into a container for removal from the site as described in Section 7 of the SOP.

The waste stream passing through the shaker screen(s) is routed first to water holding tanks and then to the Entrapped Air Flotation Unit (EAF). Coagulants and flocculants are added at the EAF to remove solids, fats, oils, and greases. Treated EAF effluent is routed to a final holding tank for pH adjustment prior to discharge to the city sanitary sewer system.

Settled solids and sludge from the offload tanks, the water holding tanks, and the EAF are routed to storage tanks. This material may be hauled offsite either directly or following solidification. Solidification may be accomplished by mixing the sludge with solidifying material (such as sawdust) or by processing in the filter press. When the filter press is used, the sludge is first routed to the Sludge Mix Tank, where lime is added. Offsite disposal of settled solids and sludge is further described in Section 7 of the SOP.

Grease and floating solids are removed from the top of the EAF and pumped to the holding tanks. Floating grease from the water holding tanks may be subject to heat phase separation. Once heat phase separation occurs, liquid grease can be decanted off the top and routed to brown grease storage tanks until loaded and shipped via tanker truck as described in Section 7 of the SOP.

Depending on the solids content of incoming grease trap and/or food-related wastes, the wastes may be offloaded into one of the two in-ground 10,000-gallon solidification pits prior to being routed to an offload tank and subsequently to the shaker screen(s) in the grease trap treatment process. The facility anticipates using one or more grinder pumps to process solids-laden grease trap or food-related wastes during the transfer of the incoming wastes to the offload tanks in lieu of the solidification pits for some loads.

Grit/Lint Trap Wastes

Grit and lint trap wastes must be pre-approved. When pre-approved grit/lint trap wastes arrive at the facility, a representative sample is collected and screened for acceptance. The complete acceptance process is described in the Waste Acceptance and Analysis Plan and the accompanying Waste Acceptance and Analysis Procedures.

After the waste is approved it is offloaded to one of the solidification pits. The liquid phase is then transferred from the in-ground pits into a mixing tank where pH adjustment occurs and coagulants and/or flocculants are added. The chemically treated wastewater is sent to a settling tank where solids and metal contaminants phase separate. Settled solids are routed back to the solidification pits while the wastewater is routed through an air flotation unit. Polymer is added in an air flotation unit as final polishing of the wastewater prior to routing to a holding tank and discharging to the city sanitary sewer system.

Free phase oil from the solidification pits is routed to a drum for offsite disposal as described in Section 7 of the SOP. Floatable solids and oily water removed by an air flotation skimmer are sent to an oily water holding tank before being hauled offsite as described in Section 7 of the SOP. Solids from the solidification pits are routed to containers and disposed offsite as described in Section 7 of the SOP.

4. VENTILATION AND ODOR CONTROL MEASURES (330.63 (b) (2) (C))

This facility is designed to rapidly process all incoming wastes so that waste will not remain on site longer than 72 hours.

The enclosed processing building ventilation is connected to the air pollution abatement system. Openings to the processing building must be controlled such that the building is under negative pressure. The doors to the process building are to remain closed except when in use.

A wet air scrubber is located on the west wall of the processing building and neutralizes odors emanating from the processing building. The air scrubber is vented above the roof line.

The scrubber is properly maintained and operated. Cleaning and maintenance will be performed so that equipment efficiency is adequately maintained while operating.

Maskants dispersed by atomizers and/or misters are also used to reduce odors from leaving the Facility. The maskants are used when the Facility is operational and when the wind direction necessitates their use.

LES believes the combination of rapid processing and removal of sludge, isolated location, wet air scrubbing of the processing building air, and use of maskants and misters effectively reduces odor complaints.

5. GENERALIZED CONSTRUCTION DETAILS (330.63 (b) (2) (D) AND (E))

Generalized construction details for storage units, processing units, and ancillary equipment are provided in Tables SDP-2, SDP-3, and SDP-4, respectively. As shown in Attachment II-2, the facility may add a modular office building measuring 16-feet by 64-feet.

Available generalized construction details for the facility are maintained on-site and are available to the TCEQ upon request.

6. CONTAINMENT DIKES AND ENCLOSING WALLS (330.63 (b) (2) (F))

Containment dikes are indicated on the facility map included as Attachment II-2 to Part II of the application. All of the dikes are constructed of concrete. Dike wall heights range from 3-inches to 83-inches above the adjoining slab depending on location.

7. GREASE, OIL, AND SLUDGE STORAGE (330.63 (b) (2) (G))

This facility is designed to rapidly process all incoming wastes so that waste will not remain on site longer than 72 hours. Processed and unprocessed sludge and screening wastes accumulated in containers will be stored for no more than 72 hours pending transfer off site but are generally disposed of daily. Wastewater, following pretreatment, is discharged to the sanitary sewer system or recycled as facility wash water. The recovered light hydrocarbon storage period will vary according to the amount of hydrocarbons reclaimed; however, in no event will the reclaimed used oil remain on site longer than 90 calendar days. Final disposition of facility wastes and processed materials is described in Section 7 of the SOP.

8. DISPOSITION OF EFFLUENT (330.63 (b) (2) (H))

Pre-treated effluent is discharged to the City of Dallas in accordance with the City of Dallas discharge permit requirements.

9. SANITATION (330.63 (b) (3))

The site is graded so that rain water flows away from the storage and processing facility. Containment dikes segregate process areas as shown on the facility map in Attachment II-2 to Part II of the application and as described in Section 6 of this SDP. The offload area is sloped from the truck entrance gate towards the storage areas where offloading occurs. Runoff accumulates in a sump located at the deepest part of the offload area. The sump contents are manually pumped by an on site vacuum tank to the storage tanks for processing through the treatment system. A concrete containment curb located along the southern boundary of the offload area helps protect against contaminated runoff from the offload area. Similarly, stormwater, spills, and leaks within the other contained processing areas are collected, stored, and processed through the treatment facility.

The floor inside the processing building area is concrete construction with a minimum berm height of three inches. Spillage or leakage in the processing building is flushed to a sump and cleaned out as necessary by an on site vacuum tank or pump. All material cleaned out of the sumps is combined and processed with incoming waste.

The processing building was constructed with a concrete foundation and a metal prefabricated building. All outdoor process areas consist of concrete slabs and containment walls. These materials can be hosed down and scrubbed.

The facility washes work surfaces daily and as necessary during operations. To promote sustainability, air flotation system effluent may be used as the source of wash water. While some cleaning operations may require potable water, many operations such as tank rinsing, hose rinsing, and wash down of processing area(s) are environmentally compatible with recycled water. To control odor, wash waters are pumped to waste management units for processing prior to discharge to the sanitary sewer system.

The wash water and storm water runoff are collected in sumps and transferred to Holding and Phase Separation Tanks for processing in the wastewater treatment system.

10. WATER POLLUTION CONTROL (330.63 (b) (4))

The Facility complies with the provisions of the Texas Pollutant Discharge Elimination System Permit Program. All impacted wastewater, wash water, and stormwater is pre-treated and discharged to the City of Dallas Municipal Sanitary Sewer System in accordance with a permit through the City. The Facility will continue to renew the Industrial Wastewater Discharge Permit as required by the City of Dallas.

All stormwater associated with industrial activity is collected, pre-treated, and routed to the sanitary sewer system in compliance with the facility indirect discharge permit. The facility does maintain permit coverage under the TPDES multi-sector storm water general permit to comply with the Clean Water Act in the unlikely event of a discharge of stormwater associated with industrial activity.

11. ENDANGERED SPECIES PROTECTION (330.63 (b) (5))

Impacts on endangered species are addressed in Section 14 of Part II of the application.

12. SURFACE WATER DRAINAGE (330.63 (c))

The containment described previously is designed to prevent run-on into and runoff from the process areas. The ability of the facility to manage stormwater from a 25-year, 24-hour event is described in Section 13.

13. WASTE MANAGEMENT UNIT DESIGN: STORAGE AND TRANSFER UNITS (330.63 (d) (1))

Section 3 describes how incoming wastes are processed. Section 7 of the SOP describes how wastes are disposed. As discussed in Section 7 of this SDP, wastes do not remain on site for longer than 72 hours. The majority of all incoming and most processed waste materials are stored in fixed-roof tanks limiting exposure of wastes to the elements. Section 4 describes odor control measures implemented by the facility.

As shown on the Facility Layout Map, Attachment II-2 to Part II of the permit documents, the facility includes five containment areas. Area A includes the majority of the storage and processing tanks. Area B is the process building. Area C includes the solidification pits and the Offload Area. Areas D and E each include storage tanks used for grit trap/lint trap and related wastes. Minimum heights of containment are described in Section 6.

The facility uses active secondary containment measures to control runoff from Area C. The solidification pits are sloped and bounded on the north, west and south sides with a containment wall and on the east side with a rollover curb. The pits are designed such that overflows of these pits would empty into the Offload Area. The Offload Area is sloped to a sump near the northwestern corner and is bounded on the south side with a containment curb. Spillage and runoff which accumulates in and around the sump is pumped into either storage or treatment units. The facility is normally staffed seven days per week with personnel typically on site at least 22 hours per day for six of those seven days. When the facility is staffed, appropriate personnel are tasked with preventing the accumulation of runoff in and around the sump to prevent releases of spills and contaminated runoff from the facility. Before the site is vacated, a complete washdown of the Offload Area is performed, preventing a release of impacted runoff from this area when no personnel are on site. LES will assess the adequacy of active containment measures at Area C to prevent releases either from spills or from runoff resulting from a 25-year, 24-hour storm and will provide the results to the TCEQ no later than six months from the date of this document submittal.

According to data from Technical Paper No. 40: Rainfall Frequency Atlas of the United States, from the United States Department of Commerce (May 1961), a 25-year, 24-hour storm event produces around 8 inches of rainfall. Calculations demonstrate that the secondary containment for Areas D and E are sufficient to contain either the rainfall from such a storm event or a release from the tank within the corresponding containment area. The secondary containment around Area A is adequate to contain a release from the largest tank in this area. However, the containment wall around Area A is not sufficient to contain rainfall from a 25-year, 24-hour storm. Calculations indicate that the containment wall, which presently varies in height depending on location, must be raised as much as 3 inches in some areas to provide adequate containment for a 25-year, 24-hour storm. Because the process building (Area B) is completely enclosed, containment for this area does not need to consider containment of runoff. Calculations indicate that the containment curb around the process building must be raised to contain a release from the largest tank in this area. LES has committed to completing modifications to containment structures at Areas A and B to meet these requirements within one year of approval of this permit.

14. GEOLOGY REPORT (330.63 (e))

This requirement does not apply to liquid waste processing facilities.

15. GROUNDWATER SAMPLING AND ANALYSIS PLAN (330.63 (f))

This requirement does not apply to liquid waste processing facilities.

16. LANDFILL GAS MANAGEMENT PLAN (330.63 (g))

This requirement does not apply to liquid waste processing facilities.

17. CLOSURE PLAN (330.63 (h))

A Final Closure Plan is included in Attachment SDP-2. The Final Closure Plan provides procedures to remove wastes, clean and remove equipment, and close the Facility should operations cease or otherwise be terminated. Closure of the Facility would include the removal of grease trap/food-related waste, grit trap waste, processed brown grease, wastewater and sludge from the equipment and removal of all equipment and chemicals.

18. POST-CLOSURE PLAN (330.63 (i))

Following implementation of the Closure Plan, no waste materials would remain on site. Therefore, no Post-Closure Plan is required.

19. COST ESTIMATE FOR CLOSURE AND POST-CLOSURE CARE (330.63 (j))

A cost estimate for closure is included in the Final Closure Plan in Attachment SDP-2.

TABLES

FIGURES

ATTACHMENTS

ATTACHMENT SDP-1

Technical Memorandum: Treatment Capacity Evaluation, LES Dallas Facility

ATTACHMENT SDP-2

Final Closure Plan