California Regional Water Quality Control Board
Los Angeles Region

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Linda S. Adams
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Governor

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October 30, 2009

Khalil M. Gharios, Division Manager
Solid Resources Processing and Construction Division
City of Los Angeles Bureau of Sanitation
1149 S. Broadway, 9th Floor
Los Angeles, CA 90015

APPROVAL OF AMENDMENT TO FINAL POST-CLOSURE MAINTENANCE PLAN - LOPEZ CANYON SANITARY LANDFILL, LAKE VIEW TERRACE, CALIFORNIA (FILE NO. 69-068, ORDER NO. R4-2004-0176, CI-5636)

Dear Mr. Gharios:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), has received from the City of Los Angeles Bureau of Sanitation a document titled *Final Post-Closure Maintenance Plan, Lopez Canyon Sanitary Landfill, Volume II of II – Amendment to Partial Post-Closure Maintenance Plan, Revision II* (Amendment to FPCMP), dated August 26, 2009, and received at the Regional Board office on September 21, 2009. The Amendment to FPCMP was submitted in response to our letter dated March 11, 2009, that provided comments on a Draft Mitigated Negative Declaration that proposed a truck driver training academy (Training Academy) at the Lopez Canyon Landfill (Landfill) in Lake View Terrace that is currently in the process of final closure.

The Amendment to FPCMP includes post-closure maintenance procedures that are related to the operations of the proposed Training Academy and the construction details of the final cover at Deck B of the Landfill where the Training Academy will be located. A revised stormwater pollution prevention program (SWPPP) that includes best management practices (BMPs) related to the operations of the Training Academy was also submitted with the Amendment to FPCMP.

We have reviewed the information provided and determined that the Amendment to FPCMP adequately addresses the comments in our letter dated March 11, 2009. The Amendment to FPCMP is therefore approved. Please be advised that, in accordance with 27 CCR, Section 21860(a), the Amendment to FPCMP must also be approved by the City of Los Angeles Local Enforcement Agency (LEA) and the California Integrated Waste Management Board before its implementation.

Should you have any questions, please contact Dr. Wen Yang (project manager) at (213) 620-2253.

Sincerely,

Tracy J. Egoscue
Executive Officer

cc: Peter Jan, Remediation, Closure and Technical Assistance Branch, CIWMB
David Thompson, Department of Environmental Affairs, City of Los Angeles (LEA)
Yonas Zemuy, Geosyntec Consultants, Huntington Beach
Marlene Rader, Resident of Sunland

TABLE 2-2

CALCULATED CUMULATIVE ANNUAL INFILTRATION - REVISED
LOPEZ CANYON SANITARY LANDFILL
LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Surface Area (acres)[1]	Title 27 Prescriptive Cover	Infiltration through Title 27 Prescriptive Cover (cm^2)	Infiltration through Evapotranspirative Soil Cover (cm^2)
Disposal Area C – Deck	22.6	Composite Cover with geomembrane	0.627	1.09
Disposal Area C – Slopes	12.7	Compacted Clay Cover	23.98	1.09

Notes:
1) Table 2-2 was revised to present to address topographical error regarding the surface area noted by the LEA
2) Cumulative annual infiltration for the modeled 10 years period

TABLE 2-2a

**CALCULATED CUMULATIVE ANNUAL INFILTRATION
USING WEIGHTED AVERAGE METHODOLOGY
LOPEZ CANYON SANITARY LANDFILL
LAKEVIEW TERRACE, CALIFORNIA**

Landfill Portion	Title 27 Prescriptive Cover	Surface Area (acres)	Surface Area (ft^2)	Infiltration through Title 27 Prescriptive Cover (cm/year)	Infiltration through Title 27 Prescriptive Cover (gallons/yr)	Infiltration through Evapotran-spirative Soil Cover (cm/yr)	Infiltration through Evapotran-spirative Soil Cover (gallons/yr)
Disposal Area C – Deck	Composite Cover with geomembrane	22.6	≈ 984,448	0.627	≈ 151,487	1.09	≈ 263,351
Disposal Area C – Slopes	Compacted Clay Cover	12.7	≈ 553,208	23.98	≈ 3,255,765	1.09	≈ 147,989
CUMULATIVE ANNUAL INFILTRATION		**35.3**	**1,537,656**	-	**≈ 3,407,252**	-	**≈ 411,340**

TABLE 2-2c

CALCULATED CUMULATIVE REVISED ANNUAL INFLILTRATION USING WEIGHTED AVERAGE METHODOLOGY LOPEZ CANYON SANITARY LANDFILL LAKEVIEW TERRACE, CALIFORNIA

Landfill Portion	Title 27 Prescriptive Cover	Surface Area (acres)	Surface Area (ft^2)	Infiltration through Title 27 Prescriptive Cover (cm/year)	Infiltration through Title 27 Prescriptive Cover (gallons/yr)	Infiltration through Evapotran-spirative Soil Cover (cm/yr)	Infiltration through Evapotran-spirative Soil Cover (gallons/yr)
Disposal Area C – Deck	Composite Cover with geomembrane	22.6	≈ 984,448	0.627	≈ 151,487	0.610	≈ 147,380
Disposal Area C – Slopes	Compacted Clay Cover	12.7	≈ 553,208	23.98	≈ 3,255,765	1.09	≈ 147,989
CUMULATIVE ANNUAL INFILTRATION		**35.3**	**1,537,656**	-	**≈ 3,407,252**	-	**≈ 295,369**

Landfill Portion	Title 27 Prescriptive Cover	Surface Area (acres)	Surface Area (ft2)	Infiltration through Title 27 Prescriptive Cover (cm/year)	Infiltration through Title 27 Prescriptive Cover (gallons/yr)
Disposal Area C – Deck	Composite Cover with geomembrane	22.6	984,448	0.627	151,487.14
Disposal Area C – Slopes	Compacted Clay Cover	12.7	553,208	23.98	3,255,765.29
		35.3	1,537,656		3,407,252.43

Infiltration through Evapotran-spirative Soil Cover (cm/yr)	Infiltration through Evapotran-spirative Soil
1.09	263,350.86
1.09	147,989.33
	411,340.19

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF SANITATION

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1149 SOUTH BROADWAY STREET, 8TH FLOOR
LOS ANGELES, CA 90015
TEL: (213) 485-3002
FAX: (213) 485-2959

September 14, 2009

Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Attention: Rodney H. Nelson, Head
Landfill Unit

RESPONSE TO COMMENTS ON DRAFT MITIGATION NEGATIVE DECLARATION – PROPOSED TRUCK DRIVER TRAINING ACADEMY AT LOPEZ CANYON (FILE NO. 69-068, ORDER NO. R4-2004-0176, CI-5636)

Dear Mr. Nelson:

As requested in your letter dated March 11, 2009, attached are the following updated documents.

1. Revision II of Final Post Closure Maintenance Plan (FPCMP)
2. Updated Stormwater Pollution Prevention Plan (SWPPP),
3. "As-built" plan of "A" Deck pavement.

Please review, and if appropriate, approve the transmitted documents. If you have any questions, please contact Ms. Rosalia Rojo, P.E., Environmental Engineer at (818) 834-5111.

Sincerely,

Khalil Gharios, Division Manager
Bureau of Sanitation
Solid Resources Processing and Construction Division

Attachments

C: Khalil Gharios, BOS
Paul Blount, BOS
Jim Kurz, BOS
Karen Coca, BOS
Javier Polanco, BOS
Rosalia Rojo, BOS
Martin Rosen, LEA
Jeff Dobrowolski, GeoSyntec

FINAL POST-CLOSURE MAINTENANCE PLAN
LOPEZ CANYON SANITARY LANDFILL

VOLUME II OF II - AMENDMENT TO
PARTIAL POST-CLOSURE MAINTENANCE PLAN

REVISION II

August 26, 2009

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FIGURES

SUMMARY TABLE OF REVISIONS TO
VOLUME II of II AMENDMENT TO
PARTIAL POST-CLOSURE MAINENANCE PLAN
Revision II – August 2009

The following revisions to the Final Post-Closure Maintenance Plan (PCMP) addresses changes to the design of the final covers and to the post-closure use of Lopez Canyon Sanitary Landfill. Please ensure that these revisions are incorporated into your final PCMP.

SECTIONS, DETAILS, DRAWINGS TO BE AMENDED	DESCRIPTION OF CHANGE	COMMENT
Cover of Volume II of II	Replace	Reflect Revision II
Table of Contents of Volume II of II	Replace	Reflect Revision II
Section 1: Introduction	Replace	Reflect change in final covers and facility use.
Section 2: Revised Final Cover Maintenance Procedures	Replace	Reflect changes in cover maintenance.
Section 3: Lopez Canyon Environmental Center Operational Plan	Update Section 5 in Revision I	Updated information.
Section 4: Truck Driver Training Academy Operational Plan	Add	New operation
Figures	Add Figure 2.1	ACC cover design detail .
Figures	Add Figure 3.1	LCEC Site Lay out
Figures	Add Figure 4.1	Plane View of area proposed to be used as the Academy.

1. INTRODUCTION

1.1 Terms of Reference

This report is the second revision to the Amendment to the Final Post-Closure Maintenance Plan (FPCMP) for the Lopez Canyon Sanitary Landfill denoted Volume II of II (Volume II). Outlined below is a chronological order of the amendments and revisions to the Partial Post-Closure Maintenance Plan initially submitted in January 1993.

- The amendment to the Partial Post-Closure Maintenance Plan (Partial PCMP) for the Lopez Canyon Sanitary Landfill was submitted in February 1994 as Volume II of II Amendment to Partial Post-Closure Maintenance Plan. The objective of the amendment was to incorporate into the Partial PCMP information on the post-closure maintenance of the deck areas of Disposal Areas A and B and the deck and slopes of Disposal Areas AB+ and C sufficient to constitute a Final PCMP for the entire landfill. This report includes revisions to the groundwater monitoring procedures required by changes made in the groundwater monitoring system since the submittal of the Partial PCMP. The amendment was prepared by GeoSyntec Consultants (GeoSyntec) for the Bureau of Sanitation, Department of Public Works of the City of Los Angeles (BOS).

- Revision I documents the changes in maintenance requirements for the decks of Disposal Areas A and B, deck of Disposal Area AB+, and slopes of Disposal Area A brought about by changes in the type of final cover used in these areas and the post-closure development (construction of a green waste facility) on the decks of Disposal Areas A and B. This revision was prepared by GeoSyntec for BOS.

- This revision (Revision II) documents the changes in final cover material for C deck and C slope areas and maintenance requirements for the portion of the Disposal Area A deck brought about by changes in the type of final cover used in this portion of A deck and the post-closure development (construction of a truck driver training program hereby referred to as Academy) on the same area. This revision was prepared by the Bureau of Sanitation, Solid Resources Processing and Construction Division.

1.2 Purpose of Amendment and Revision

The purpose of this amendment is to revise the FCPMCP by providing the Local Enforcement Agency (LEA), Los Angeles Regional Water Quality Control Board (RWQCB), and California Integrated Waste Management Board (CIWMB) with the necessary information to incorporate this amendment into the Final PCMP for the Lopez Canyon Sanitary Landfill in accordance with §21830 of Title 27 of the California Code of Regulations (Title 27). Post-closure requirements for municipal solid waste landfills are contained in §21769 of Title 27, and in §258 of Title 40 of the Code of Federal Regulations, commonly referred to as Subtitle D of the Resource Conservation and Recovery Act (Subtitle D). Information on application of these requirements by the RWQCB to the Lopez Canyon Landfill is contained in RWQCB Order No. 93-062.

The Partial PCMP was submitted along with a Partial Closure Plan to the three governing agencies in January 1993. The Partial PCMP was approved by the RWQCB on 21 July 1993, by the LEA on 4 November 1993, and by the CIWMB on 16 December 1993. The Partial PCMP was prepared in order to accommodate closure of the slopes of Disposal Areas A and B in advance of the remaining disposal areas. The Partial Closure Plan proposed that the closure of the landfill be accomplished in two phases. Phase I closure includes the slopes of Disposal Areas A and B, while Phase II closure includes the top decks of Disposal Areas A and B and all of Disposal Areas AB+ and C. Phase I closure began in July of 1996 and was completed in March 1999. Phase II closure began in March 1999 and is currently (August 2009) underway. The Partial PCMP was prepared to a level of detail consistent with the state requirements of a Final PCMP contained in Title 14 and Chapter 15 as well as federal requirements for a post-closure maintenance plan contained in Subtitle D which were the regulations in effect in 1994. This revision was prepared in accordance with the state requirements for Final PCMP contained in Title 27.

The Partial PCMP contained final cover maintenance requirements for the entire landfill based on the assumption that an earthen final cover would be employed for closure of Disposal Area C and that the final elevation of the deck area for Disposal Area C would be 1,770 ft above mean sea level (MSL). Subsequent to the completion of the Partial PCMP, the final cover design of Disposal Area C was modified to comply with the requirements of Subtitle D and RWQCB Order No. 93-062. At that time, the primary modification to the final cover design for Disposal Area C was inclusion of a geomembrane in the infiltration barrier layer of the cover in the deck and bench areas as well as a cushion geotextile placed on top of the geomembrane. Furthermore, the final elevation of the deck area in Disposal Area C was projected to be at 1,585 ft MSL, as

indicated on the Revised Final Grading and Surface-Water Drainage Plan presented in Revision I of this document. In addition to these changes, two new groundwater monitoring wells were installed as part of the groundwater monitoring network subsequent to the completion of the Partial PCMP.

Revision II of the FCPMCP further changes the final cover design of Disposal Area C (deck and slopes) to be consistent with of the same design and materials used on the closure of Deck Disposal Areas A and AB+ and Slope Disposal areas B and AB+.

1.3 Report Organization

The purpose of this revision to the FCPCMP is to address the maintenance of the alternative final cover (evapotranspirative cover) installed on the decks of Disposal Areas A, AB+, C, and the slopes of Disposal Area B, AB+ and C, as well as, the maintenance of the asphaltic cement concrete cover on the decks of Disposal Areas B, portion of A and haul road; in addition to the operations of the green waste facility (built on the decks of Disposal Areas A and B), as well as, the Academy (planned to be built on a portion of the Disposal Area A deck.

The revisions to the FCPMCP contained in this revision include the following sections that will have to replace the corresponding sections in Volume II:

- Section 2 presents the revised final cover maintenance requirements for Disposal Areas A, B, AB+, and C; these revised requirements reflect changes of final covers and the operation of the LCEC and the Academy at Lopez Canyon;
- Section 3 – Modify LCEC operational plan and replace content of Revision I- Section 5 in its entirety.
- Section 4 – Add new section presenting the Academy operational plan.

2. REVISED FINAL COVER MAINTENANCE PROCEDURES

2.1 General

The functions of the final cover for a municipal solid waste landfill are to minimize liquid infiltration into the closed landfill, contain and control landfill gas generated in the facility, isolate the buried wastes, promote surface water runoff, and control erosion while accommodating settlement and subsidence. The primary purpose of the post-closure maintenance procedures described herein is to maintain the integrity of the completed final cover over the long term so that these performance goals are realized. Towards this end, this document provides maintenance scheduling and documentation procedures so that materials and maintenance practices are consistent with the final cover design. Deviations from the design of the final cover during construction and/or maintenance of the final cover should be reported to the engineer in responsible charge of the site (Engineer) or his representative so that the effects of these deviations with respect to the performance of the final cover may be evaluated and that the post-closure maintenance plan may be modified, if necessary.

Long-term maintenance activities following construction of the final cover are anticipated as a result of the following conditions:

- elective intrusion into or through the final cover associated with maintenance of landfill gas control or liquid management systems;
- settlement related sags and surface-water drainage interruptions which interfere with the controlled runoff of surface waters from the closed landfill surface;
- surface erosion as a result of high runoff velocities associated with intense rains or malfunctioning irrigation systems;
- vertical and subvertical cracking of final covers as a result of landfill differential settlement; and
- local surficial slumping on slopes resulting from intense seasonal rainfall or malfunctioning irrigation systems, or resulting from seismic loading.

2.2 Inspection Procedures

Routine inspection of the final cover will be conducted to identify areas where maintenance is required in order to minimize the effect and extent of the above conditions. The following inspection procedures will be instituted following closure:

- a final cover performance officer will be designated; this individual will be responsible for inventorying, monitoring, and coordinating repair of final cover irregularities;

- employees with access to the site will be instructed to notice and report in writing to the final cover performance officer any surface cracking, ponding, surface drainage interruptions or unusual surface conditions at the time they are observed;

- deck and slope areas will be visually inspected in detail by grid walking on a quarterly basis by a representative of the final cover performance officer instructed in inspection procedures; a formal report of findings will be prepared by the final cover performance officer or his designated representative; and

- deck and slope areas will be visually inspected in detail by grid walking by a representative of the final cover performance officer instructed in inspection procedures following unusual events such as earthquakes, landfill fires, vehicle accidents, and usually heavy rainstorms; a formal report of findings will be entered into the record following any such unusual event.

2.3 Repair Procedures

Final cover repair and/or reconstruction activities will be conducted in a manner to maintain the integrity of the as-built final cover system. Repair materials will be placed in layers consistent with the layers placed during the original final cover construction.

2.3.1 Slopes of Disposal Areas A, B, AB+, and C

The final cover for the slopes of Disposal Areas A, B, AB+ and C are composed entirely of earthen materials consisting of an evapotranspirative (monolithic)

final soil cover at least 3 ft (0.9 m) thick overlying a 24-in. (600-mm) thick (minimum) foundation layer.

Repair procedures for the earthen final cover employed on the slopes of Disposal Areas A, B, AB+ and C are presented in Section A.1.3 of the Partial PCMP.

2.3.2 Decks of Disposal Area AB+

On the decks of Disposal Area AB+, the final cover consists of evapotranspirative (monolithic) final soil cover at least 3 ft (0.9 m) thick overlying a 24-in. (600-mm) thick (minimum) foundation layer.

Repair procedures for the earthen final cover employed on the deck of Disposal Area AB+ are presented in Section A.1.3 of the Partial PCMP.

2.3.3 Deck and Benches of Disposal Area C

The final cover on the Deck and Slopes of Disposal Area C have been modified from that presented in the PCP. In these areas, the final cover will consist of the evapotranspirative cover used for the Deck of Disposal Area AB+ described in Section 2.3.2.

2.3.4 Deck of Disposal Area B, Portion of Disposal Area A and Haul Road

The final cover on the Deck of Disposal Area B and Portion of Disposal Area A has been modified from that presented in the PCP. Two different final cover configurations are now proposed for these areas. In the areas to be occupied by the composting facility, the Academy and the main haul road, an Asphaltic Cement Concrete (ACC) final cover will be employed. On the deck of Disposal Area A outside of the composting facility, the final cover will consist of the evapotranspirative cover used for the deck of Disposal Area AB+ described previously.

The ACC final cover includes the following components, from top to bottom:

- a 3-in. (7.5-cm) thick ACC overlay;
- a non-woven fabric;

- a 40-mil (1-mm) tack coat;
- a 3-in. (7.5-cm) ACC underlying pavement;
- a 12-in. (300-mm) thick base course; and
- a minimum of 3 ft (0.9 m) of foundation soil.

The ACC final cover detail is shown in Figure 2-1.

Repairs to the ACC final cover will be necessary if asphalt cement concrete becomes cracked or if surface water ponding occurs in paved areas. The ACC final cover may become cracked through extensive use or because of landfill settlement. Landfill settlement may also cause surface water ponding. Cracked ACC will be repaired as soon as practical by sealing the cracks with an asphalt epoxy compound. Paved areas where surface water ponding occurs will be repaired by placement of asphalt overlay across the affected area(s). Repairs should be monitored and documented as outlined in the revised CQA Plan presented as Appendix I of Volume IV of IV Replacement Amendment to the Final Closure Plan [GeoSyntec, 2002].

2.3.5 Elective Intrusion

Elective intrusive into of the final cover will be avoided whenever possible. Excavation will be initiated only after receiving approval from the final cover performance officer and should be conducted under the full-time observation of the Engineer or his representative. Additionally, final cover excavation will be conducted in coordination with the appropriate regulatory agencies (e.g. SCAQMD) in accordance with applicable regulations.

2.3.6 Sags, Ponds, Drainage Interruptions, and Surface Erosion

Sags, ponds, surface erosion, or other settlement features which could interfere with surface water drainage along the top of the low-permeability soil barrier layer will be repaired immediately.

3. LOPEZ CANYON ENVIRONMENTAL CENTER OPERATIONAL PLAN

3.1 General

The full-scale mulch/compost facility known as the Lopez Canyon Environmental Center – LCEC) was constructed in three phases. Phase I the initial facility had a capacity of 50-100 tons/day. During this phase the operation of the facility was optimized to minimize sound, air/odor emissions, liquid emissions, and improve operating efficiency. The completion of Phase II increased the green-waste capacity to 200 tons per day. Phase III, in turn, increased the capacity to 300 tons/day.

The LCEC is on the decks of Disposal Areas A and B of the Lopez Canyon Landfill (Figure 3-1). The LCEC is built over an asphalt pad that functions as a watertight cover to convey water away from the landfill gas barrier to direct landfill gas to a flare station and a power generating station located on site. A design detail, as approved by the RWQCB, is included in Figure 2-1.

The site drainage is designed so that all water on the pad drains into a drainage clarifier. The drainage clarifier diverts the flow into a pipe connected to surface water drainage line E and thence into the upper sedimentation basin located on Bench B4. The system is designed to convey up to six times the hundred-year storm event. The maximum flow from the site during the hundred-year event will be 155 CFM water flow. Line E consists of a 36-inch diameter corrugated metal pipe that will have a water depth of 5.4 inches (15% of the diameter) during the peak 100-year event.

3.2 Regulatory Framework

State of California Regulations concerning the design, construction and operation of compostable material facilities are found in Title 14, California Code Of Regulations, Division 7, Chapter 3.1, Articles 1.0-9.0, adopted by the CIWMB on November 20, 2002. The design, construction and operation of the green waste recycling facility will comply with the new established standards.

3.3 Operating Hours

The proposed operating hours of the facility will be from 8:00 a.m. through 4:30 p.m., Monday through Friday.

The facility may be in operations on Saturday due to the need of facility up keep or unexpected daily delays. Additionally, the facility will follow the holiday

schedule of City of Los Angeles Collection Division, which will include working the five Saturdays following the 4th of July, Thanksgiving, Christmas, New Years and Labor Day holidays.

3.4 Operation

Beginning each day, feedstock consisting of yard trimmings, horse manure and bulk tree cuttings are weighed and deposited at the facility from City of Los Angeles Collection Trucks and various commercial tree trimming operations. Trucks entering the front gate of the site will travel approximately 1 ½ miles up a two lane paved asphalt road to the LCEC on B Deck.

The feedstock material is deposited in a contained area and then processed using a series of equipment (trommel screens, wheel loaders, picking stations, and tub grinders). This process includes sorting the material into various size categories, removal of foreign material such as plastic, paper, glass and grinding larger materials into more suitable sizes.

Some processed and sorted feedstock is segregated, removed and subsequently delivered or made available to end users as coarse mulch. The remaining feedstock is composted by storing it in rows (windrows) approximately 300 ft long (90 m), 15-20 ft (4.5-6 m) wide and 5 ft (1.5 m) high. Water is added on an as-needed basis to the windrows to maintain proper moisture levels.

The windrows remain on site for approximately 21 to 60 days during which the material is periodically mechanically turned and constantly monitored for odors and temperatures. This time period allows for the compost process to take place and assist in destroying many of the weed seeds associated with household yard waste and reducing other contaminants to a regulatory acceptable level.

Daily tonnage processes will determine the number of both delivery and exported material trucks. It is currently estimated that in full production, approximately 20 to 30 Refuse Collection vehicles will be used for delivery and 4 to 8 trucks and trailer combinations will be used to export material to various end users.

Approximately 35 employees will be engaged in daily processing activities when the facility is at full operating capacity. These employee classifications will include:

- Supervisor
- Equipment Operators
- Maintenance Laborers
- Gardener Caretakers
- Heavy Duty Truck Operators

In addition to processing personnel, employees will be used for daily activities such as spotters, flag person, dust and litter control.

3.5 Evacuations and Emergency Alarms/Orders

The landfill site shall not be evacuated during or following an emergency. A landfill building, consisting of commercial coaches/trailers, shall be evacuated upon the order of the designated Building emergency Coordinator when he considers it to be unsafe for employee occupancy. On the landfill, emergency alarms/orders shall be verbal, either direct or by radio. For additional details see Section 3-9, Emergency Response.

3.6 Protective Measures

Inhalation of airborne dust is controlled for those workers at highest risk because they are required to wear masks or respirators. Water trucks will further aid in dust control. Threat of eye injuries due to dust particles may be eliminated through the use of safety goggles or safety glasses with side shields.

Hearing protection such as ear plugs or ear muffs are available at the site for use by personnel who must work in high noise areas. This protection is mandatory for all personnel who are exposed to levels in excess of 85 decibels (dBA) during site activities.

Onsite traffic includes vehicles, trucks and construction equipment. Backup warning alarms shall be required by all onsite heavy equipment. Traffic is subject to the 15 mph speed limit posted at the site. This speed limit is strictly enforced due to the potential for serious injury or harm which may result from an accident at the site.

3.7 Personal Protective Equipment

Personal protective equipment (PPE) shall be made available to landfill personnel on an as needed basis. PPE issued to individuals include, but it not limited to, the following items:

- Hard hats
- Safety glasses
- Coveralls, disposable/washable
- Gloves, leather and latex
- Respirators, half-mask and SCBA
- Masks, dust/mist
- Ear plugs/muffs
- Safety boots

The precautionary use of PPE by an employee is task/work specific. The first-line supervisor is responsible for equipping his/her employees with the required PPE prior to undertaking a task/work assignment.

3.8 General Safe Work Practices

All landfill personnel (including consultants, contractors and subcontractors) are expected to conduct themselves in a professional, safety-conscious manner at all times. Such conduct is expected to include compliance with all work rules established for the safety of the employees and others.

Employees will be provided with a copy of the work rules assuring them adequate notice of the standards to which they are being held. Each employee is encouraged to discuss these rules with his/her immediate supervisor if there are any questions as to the applicability of a particular rule. Changes in work practices and/or these safety work rules will be implemented only after approval by the Landfill Manager.

3.9 Emergency Response

The site Superintendent is the emergency response commander and directs all emergency response operations. He is familiar with emergency procedures, and has

all appropriate telephone numbers, including ambulance, medical facility, fire and police departments readily available.

Los Angeles City Fire Department paramedic support is available within 15 minutes of notification. Paramedics stabilize potential victims and transport to local emergency rooms as designated by their base commander.

3.9.1 Notification Procedures

In the event of a reportable hazardous materials or waste release or threatened release we are required by State Law to provide an immediate verbal report to:

Los Angeles City Fire Department:	9-1-1
State Office of Emergency Services:	1-800-852-7550
	Or 1-916-427-4341

Notifications will normally be made by the on-site Superintendent, who will:

- Notify Director, Bureau of Sanitation, 213-485-2210
- Bureau's Solids Safety Engineer (HRDD) - (310) 648- 5402, ; and
- Notify Los Angeles County Fire Department's Health Hazardous Materials Division at
  M-F HHMD Dispatch: 0700-1700 HRS, (323)890-4317
  After Hours Call: 911 or (323)881-2455 (Ask for Health Haz Mat)

Employees who are responsible for responding to a release or spill will be notified of the emergency. The on-site Superintendent will notify employees either verbally or by the on-site radio communication system.

In the event of a spill or release, the on-site Superintendent will notify affected employees to evacuate the area of the spill/release and to assemble in the office parking lot for instructions. Evacuation will utilize on-site vehicles/equipment, when required.

The immediate response to a leak, spill, fire, explosion or airborne release follows:

- Call 9-1-1, describe situation and give location.
- Alert employees, when necessary.
- Evacuate area, as required.
- Give/get first aid as needed.

- Mitigate hazard with resources available on-site – follow Material Safety Data Sheets (MSDS) directions, if applicable and if safe to do so.

3.9.2 Medical Assistance

Local emergency medical facilities that will be used (excluding paramedics and 911):

SERRA INDUSTRIAL OCCUPATIONAL MEDICAL CENTER
9375 San Fernando Road
Sun Valley, CA 91352
(818) 504-4774

3.9.3 Employee Training/ Hazard Prevention

Actions will be taken to prevent a hazard from occurring. Conduct ongoing, and provide additional employee training in the management of hazardous material.

There are hazards from petroleum products stored and dispensed on site which consist of skin irritation, eye contact hazards, and inhalation dangers. Petroleum products are stored within diked areas to contain contents of the tanks. Employees are trained to properly handle, store and dispense of those hazardous waste/materials found on-site. Eye wash facilities are provided and hazardous waste/materials are stored in permitted trucks in a restricted area.

Train employees in good housekeeping procedures and MSDS instructions.

- Employees will be evacuated from the release area; and others will:
- Cap/seal container/tank to stop release if safe to do so – follow safety procedures.
- Contain spill with soil and/or absorbent material per instructions from MSDS.
- Follow MSDS clean up procedural steps.

- Contaminated waste will be containerized and disposed of in accordance with hazardous waste regulations.

Employee training is designed to teach employees about the following:

- Handling hazardous materials safely.
- Which emergency agencies to contact.
- Use of emergency clean-up equipment and supplies.
- Evacuation procedures.

New employees will receive 24 hours of initial training from experienced supervisors to enable them to perform their assigned duties in a safe manner. Documentation is maintained by the Superintendent in landfill office files.

Refresher training is also conducted once every ten working days at tailgate meetings by the on-site supervisor. MSDS and the Landfill's Injury and Illness Prevention Program, including the Emergency Action and Fire Prevention Plans, are used to prepare instruction/lesson plans for said meetings. Various safety topics are discussed, i.e., emergency contacts, injury reports, safe work procedures, hazardous waste management, safe equipment operation, accident review, and Cal/OSHA requirements. Also, employees assigned to the load checking program receive refresher training annually. Attendance rosters are prepared and documentation is maintained in the Landfill Office files.

During the new employee's orientation, landfill supervisors explain emergency notification procedures. Included in this orientation are Fire Department and supervisor notification requirements. The Superintendent has access to all emergency notification numbers/requirements. The Division is also participating in the LACFD Emergency Response Team Training Program

Following the new employee's orientation, the employee receives on-the-job training on the use of emergency equipment and supplies needed to stop spills, leaks and fires. Earth moving equipment and fire extinguishers are covered in such training.

3.10 Employee Rights

Notwithstanding his/her current work experience and training, an employee always has the right to request and receive additional on-the-job training in general safe work practices and specific training with regard to hazards unique to any job assignment.

4. TRUCK DRIVER TRAINING ACADEMY OPERATIONAL PLAN

4.1 General

The Academy consists of a truck driver training program leading to a Class A California Driver's License together with functions incidental to such training (classroom and offices).

The Academy will be located over 1.5 acre portion of A deck. Classroom and offices will be placed over an asphalt pad that functions as a watertight cover to convey water and landfill gas away towards their respective collection systems. The proposed Academy site layout and the asphalt final cover design detail, as approved by the RWQCB, is included in Figure 4-1.

4.2 Lease Agreement

The Academy will be operated under a 5-year lease between the City and the Transportation Opportunity Program (a California Corporation). Such agreement places stringent restrictions on the use of the property (see section 4.4 -Operation). City personnel will have the right to inspect and monitor the premises for compliance under the lease and landfill regulatory requirements.

4.3 Operating Hours

The proposed operating hours of the facility will be from 6:00 a.m. through 3:30 p.m., Monday through Friday excluding holidays observed by the City. Hours of operations may change at the discretion of the City, however, no Academy trucks are permitted to operate on the A Deck before 8 a.m..

4.4 Operations

Initially, the Training Academy will consist of one class at a time of 12 students, who will receive 160 hours of instruction and training in each four-week session. At full operation, the Academy will start one twelve-student class session every two weeks, so that a maximum of 24 students will occupy the project site at any one time. Approximately 8 non-students (staff and instructors) will be needed to conduct the two classes. It is expected that a total of ten trucks will be available for training: four trucks assigned to each class, and two trucks to be kept in reserve for use at times when one or more of the regular vehicles is inoperative.

Per the agreement with the City, Academy operations will have to restrict the use of the facilities as follows:

- Trainees must park offsite and tenant shall provide shuttle service for trainees.
- No maintenance of tenant vehicles is allowed on site (except as during training session).
- All vehicle maintenance must be performed off-site. Storage of chemical/hazardous materials on-site is strictly prohibited.
- Vehicle fueling shall be performed off-site or by mobile fuelers.
- All tenant operations must be confined to the premises only (paved area on A deck designated for use of the Academy).
- Haul Road may be used for ingress and egress only (training on the haul road is not allowed).
- Only instructors and Academy staff may park on the premises.
- Hazardous materials are prohibited from being brought or kept on site.

4.5 Evacuations/ Emergencies/ Protective Measures

The landfill site shall not be evacuated during or following an emergency. A landfill building, consisting of commercial coaches/trailers, shall be evacuated upon the order of the designated Building emergency Coordinator when he considers it to be unsafe for employee occupancy. On the landfill, emergency alarms/orders shall be verbal, either direct or by radio.

Onsite traffic includes vehicles, trucks and construction equipment. Backup warning alarms shall be required by all onsite heavy equipment. Traffic is subject to the 15 mph speed limit posted at the site. This speed limit is strictly enforced due to the potential for serious injury or harm which may result from an accident at the site.

The site Superintendent is the emergency response commander and directs all emergency response operations. He is familiar with emergency procedures, and has all appropriate telephone numbers, including ambulance, medical facility, fire and police departments readily available. He is the Chief Operating Officer at the scene and directs all operations in response to onsite emergencies.

Los Angeles City Fire Department paramedic support is available within 15 minutes of notification. Paramedics stabilize potential victims and transport to local emergency rooms as designated by their base commander.

4.6 General Safe Work Practices

All Academy staff and students as well as other associated personnel (including consultants, contractors and subcontractors) are expected to conduct themselves in a professional, safety-conscious manner at all times. Such conduct is expected to include compliance with all work rules established for the safety of other landfill employees.

Academy managers will be provided with a copy of the work rules assuring them adequate notice of the standards to which they are being held. In addition, Academy managers will be expected to develop an emergency response plan that will include notification procedures and hazard prevention and employee training for the safe use of the facility at the City landfill.

Academy managers must include in their notification procedures, the notification of the Landfill Superintendent and recognize the Emergency Response practices as described in section 3.9 of this document.

FIGURE 2-1

ASPHALTIC CONCRETE
FINAL COVER DETAIL

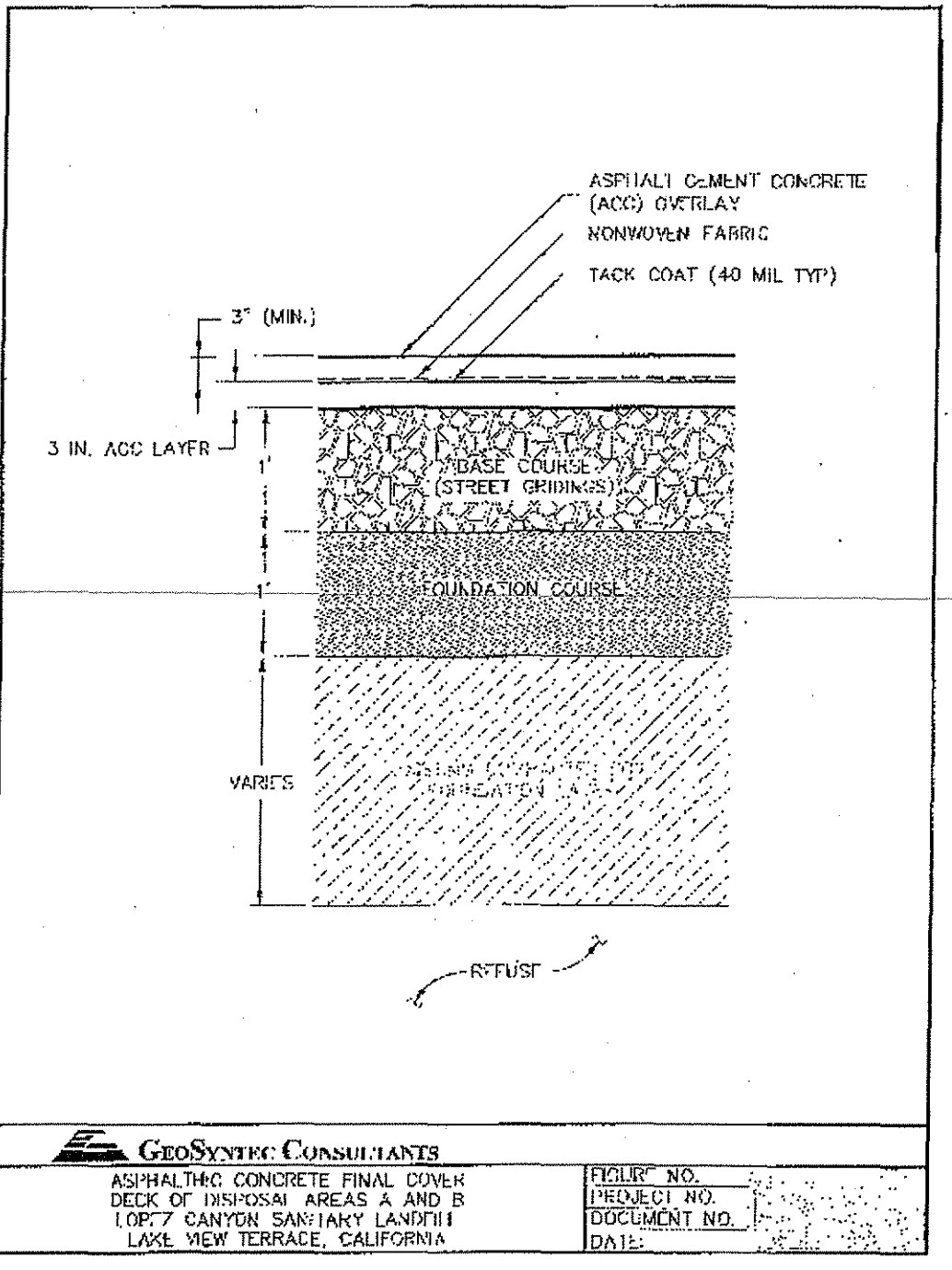


FIGURE 3-1

LOPEZ CANYON ENVIRONMENTAL CENTER
SITE LAYOUT

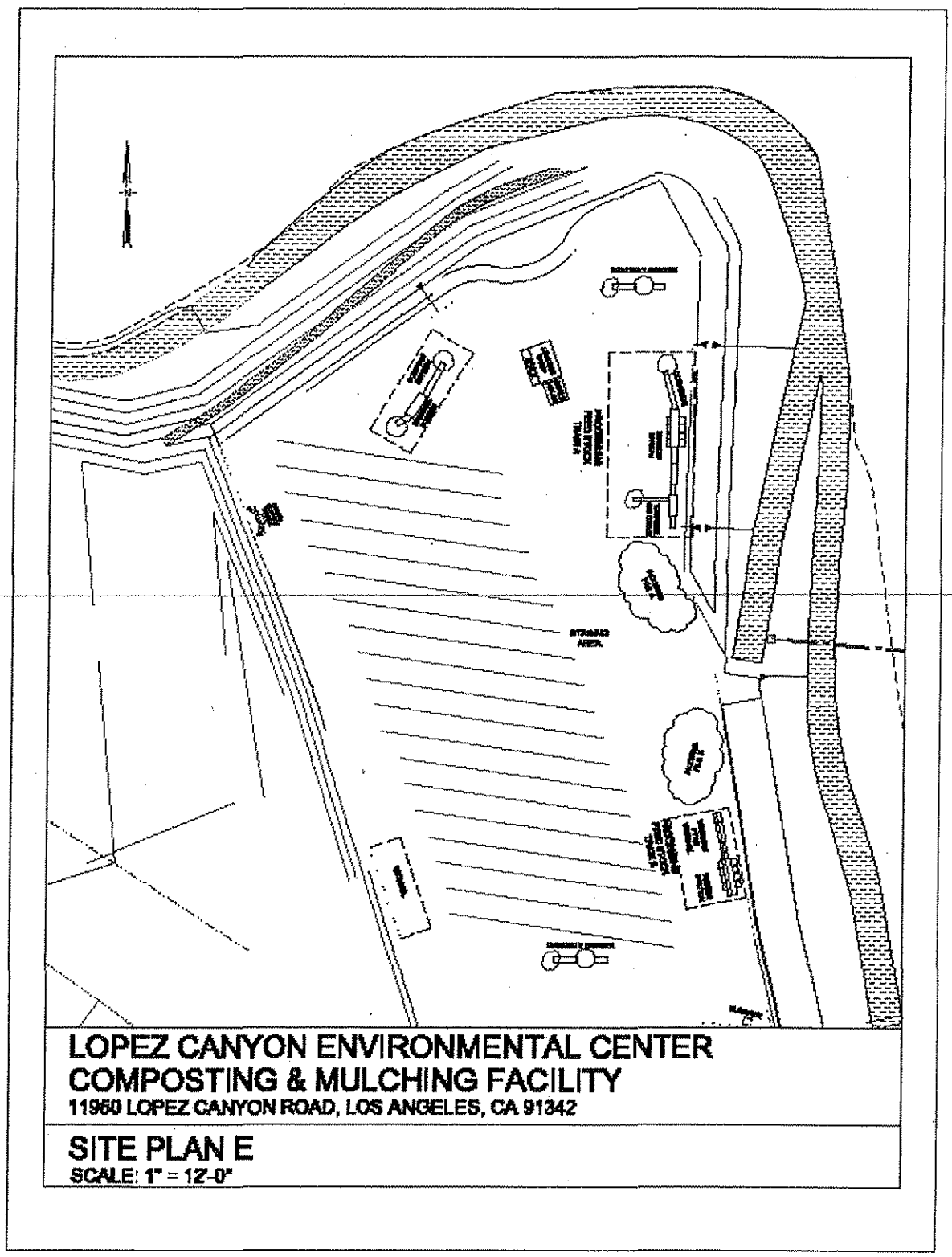
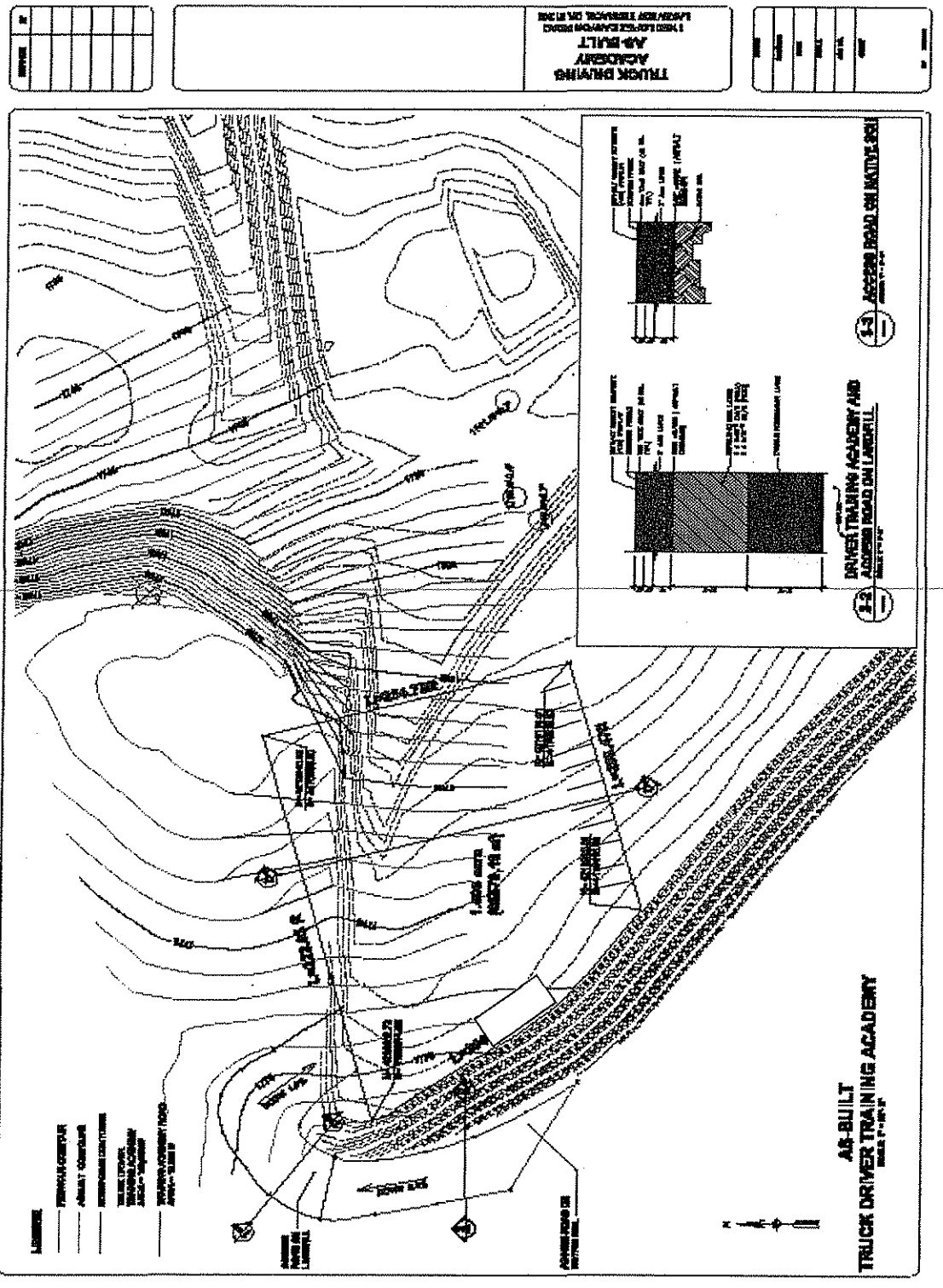


FIGURE 4-1

PROPOSED ACADEMY SITE LAYOUT / COVER DETAIL



LOPEZ CANYON LANDFILL

STORMWATER POLLUTION PREVENTION PLAN

Prepared by
Bureau of Sanitation Solid Resources
Processing and Construction Division
Reviewed by
Wastewater Engineering Services Division

August 20, 2009

C: Doug Walters, WESD
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STOMWATER POLLUTION PREVENTION PLAN

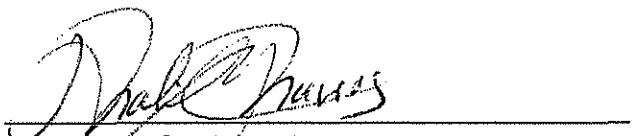
CERTIFICATION

LOPEZ CANYON LANDFILL
11950 LOPEZ CANYON ROAD
LAKE VIEW TERRACE, CA 91342

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted (whose names are listed in this certification), this information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James Kurz	Superintendent I
Rosalia Rojo	Environmental Engineer
Jawahar Shah	Environmental Engineer
Tim De Ramos	Environmental Engineering Associate III
Hossein Jamshidinia	Environmental Engineering Associate III
Greg Chilingirian	Environmental Engineering Associate II

EXECUTED ON September 15, 2009
At Los Angeles, California

Signature: 

Khalil M. Gharios, Division Manager
Solid Resources Engineering and Construction Division
Bureau of Sanitation

RECORD OF AMENDMENT

The Storm Water Pollution Prevention Plan shall be amended whenever there is a change in construction, operation and/or maintenance, which may affect the discharge of significant quantities of pollutants to surface water; ground water and/or the local agency's storm drain system.

DATE	PREPARED BY	DESCRIPTION OF CHANGE
10/01/92	Alfredo Magallanes, WSSD Fred Young, SRECD	Original Document
07/21/97	Zafar Karimi, WESD Kenneth Redd, SRECD	Updated to reflect the changes of the revised (as of 04/17/97) GISP
02/16/00	Javier Polanco, SRECD	Updated to reflect changes to facility operations and personnel.
06/03/02	Tanya Goldfield, SRECD	Updated to reflect changes to facility and personnel
04/10/08	Tim De Ramos, SRPCD	Updated to reflect changes to facility and personnel
08/20/09	Rosalia Rojo, SRPCD Tim De Ramos, SRPCD Greg Chilingirian, WESD	Updated to reflect changes to facility, operations and personnel.

TABLE OF CONTENTS

1. INTRODUCTION

A SWPPP was developed and implemented at Lopez Canyon Landfill by October 1, 1992. On March 26, 1992, Lopez Canyon Landfill submitted a Notice of Intent (NOI) in accordance with the General Industrial Storm water Permit (GISP) adopted on November 19, 1991, by the State Water Resources Control Board. The GISP requires the development and implementation of a Storm water Pollution Prevention Plan (SWPPP).

The purpose of this plan is to minimize runoff contamination by chemicals and materials kept, used or produced on-site, which could come in direct contact with storm water. Emphasis is placed on the implementation of the best management practices (BMP) to reduce pollutants. The SWPPP will be retained on site and made available upon request by a representative of the Regional Water Quality Control Board (RWQCB) or the public.

The SWPPP will be amended whenever there is a change in construction, operation or maintenance, which may affect the discharge of; significant quantities of pollutants to surface water, groundwater, or the storm drain system.

1.1. SITE DESCRIPTION

Lopez Canyon Landfill (comprised of approximately 399 acres) is situated in the foothills of the western San Gabriel Mountains with elevations between 1200 and 1810 feet above sea level. Lopez canyon is an inactive Class III sanitary landfill currently closed to accepting refuse; however, clean soil is imported and used to construct a five foot final cap over the trash area.

Other operations take place on the landfill which are intended to re-use the property for other non-landfill uses. These operations include the Lopez Canyon Environmental Center, energy co-generation using landfill gas (Foristar and the Department of Water and Power operating gas to energy facilities), and (currently under planning) a truck driving academy (which will be open to the public.)

1.2. PREVENTIVE MAINTENANCE

Lopez Canyon Landfill has ongoing maintenance activities such as:

- Equipment Maintenance for minor and some major routine services by the Department of General Services. Other major repair work is handled by outside contractors. This preventive action helps maintain equipment in optimal condition and prevents contamination of runoff by leaks from vehicles.
- Sweeping of the haul road and green processing areas. Sweeping is conducted on an as needed basis for the haul road and daily for the composting facility.
- Water spraying to control dust produced by excavation activities and vehicles.
- Inspection and cleaning of the storm drainage system. Debris and silt accumulated in the catch basins is removed prior to each rainy season. Silt is stockpiled to dry and is used for fill work later.

- Bermed areas, sealed tanks, spill control, double containment, etc. are also part of the preventive measures on site to prevent surface water contamination.

1.3. GOOD HOUSEKEEPING

In order to maintain a clean work environment and reduce pollutant sources good housekeeping practices must be followed.

Existing housekeeping practices:

- All hazardous materials are stored in a manner that prevents contact with runoff (drums or bermed storage areas).
- Sufficient absorbent material is available to control minor spills.
- Discuss with employees effective methods to maintain the work area clean.
- Remove accumulated silt from scale house area as needed.
- Pump out clarifiers when necessary.

1.4. RECOMMENDED HOUSEKEEPING PRACTICES

Additional housekeeping practices can be implemented at Lopez Canyon to prevent runoff pollution:

- Store materials in an orderly fashion.
- Whenever dry chemicals are used for spill control, they should be swept or cleaned up to prevent possible wash down into the drain system or wind blowing it to other areas.
- Schedule regular housekeeping inspections (maintenance areas, paved areas, etc.), by supervisors.
- Pump out bermed areas as soon as the rain has ceased.

1.5. STORMWATER MANAGEMENT PRACTICES

The drainage system is designed to meet 24 hour, 100-year storm frequency levels. The system described in the SEIR, Volume 1, Page II-27, consists of terrace drains, bench down drains and the use of the debris basins, rip rap and energy dissipators to increase the efficiency of the storm drainage system.

Runoff from Disposal Areas A and B drain into Bartholomaus Canyon. Two detention basins de-silt and dissipate runoff flows through Bartholomaus Canyon into Kagel Canyon debris basin. Runoff is then carried through the existing storm system to the Hansen Dam Flood Control Basin (Figure 1 in Appendix C).

Surface runoff from Disposal Areas AB+ and C is collected by a series of terraces and down drains which outlet into storm drain mainlines along the perimeter of the disposal area. This drainage system will direct flow into the debris basins located on the south and southwest section of Disposal Area C-II. Catch basins on Van Nuys Boulevard then direct the flow into the Lopez Canyon Flood Control Channel.

Based on the Lopez Canyon drainage fact sheet (Table 2 in Appendix B), the flow percentages discharged into each debris basin are shown on the following table.

DEBRIS BASIN FLOWS

Discharge Point	Flow (100 years storm) (cfs)	Percent %
1. Bartholomaus Debris Basin	169	31
2. Whitehorse Debris Basin	381	69
Total	550	100

2. POTENTIAL POLLUTION SOURCES

There are eleven (11) possible pollution sources or activities (listed below), which, without any mitigation measures, could impact in various degrees, the storm water runoff.

1) Paved Areas

2) Maintenance and Equipment Area

3) Condensate and Leachate Treatment Facilities

4) Fuel Station with Underground Storage Tanks

5) Soil Stockpile in Disposal Area A and C Canyon

6) Soil Importation

7) Closure of Disposal Areas AB+ and C Canyon Slopes and Top Decks

8) Gas Production

9) Micro turbines by DWP and power plant by Foristar

10) Mulch/Compost facility (Lopez Canyon Environmental Center)

11) Truck driving academy (Proposed)

These potential pollution sources together with existing mitigation measures implemented at Lopez Canyon as of August 20, 2009, are summarized in Table 1 of Appendix B. The location of each potential pollutant source is shown in Appendix C.

2.1. PAVED AREAS

The paved areas of Lopez Canyon consist of approximately 21 acres (two parking lots, equipment maintenance area, entrance area, B-deck, and future truck driving academy on A-deck). Not included in this total are the haul road and the Power Plant asphalted area (jurisdiction of Foristar).

The primary access road to the landfill is the West Haul Road. The road is paved from the entrance of the landfill up to Area AB+. The road (consisting of fill and base material) then continues up top the flare station. Daily landfill operations demand the extensive use of paved and unpaved roads by construction vehicles, passenger and delivery vehicles.

Possible contamination of the storm water could be attributed to leaks from all vehicles that use the haul road. Furthermore, these activities create some dirt tracking along the haul road and on parking and maintenance areas. Also, there is potential for spills on these surfaces by tank delivery trucks of bulk diesel fuel or clean-out pumper trucks, however, spills of this nature are very unlikely. No significant spills have ever occurred on site.

2.2. EQUIPMENT AND MAINTENANCE AREA

The Los Angeles General Services Department is responsible for maintaining all heavy equipment used at Lopez Canyon Landfill. On the average, the number of vehicles serviced per month is as follows:

Preventive Maintenance	15 vehicles/month
Repairs	100-150 vehicles/month

The maintenance area consists of a concrete slab, also used for storage of used batteries, waste oil, and other hazardous material (e.g., oil filters, clean motor oil, antifreeze, solvents). Potential sources of contamination are minor spills that could occur during vehicle repair and leaks from parked vehicles in the maintenance area. Additional potential pollution sources include hazardous material spills.

2.3. CONDENSATE AND LEACHATE TREATMENT FACILITY

Condensate generated by the extraction of landfill gas is collected by drain lines and pumped to a condensate treatment facility located along the haul road upgrade from the guards shack at the entrance of the landfill. The condensate treatment facility consists of two 9,000 gallon tanks in which condensate are accumulated prior to treatment and/or discharge into the sewer system.

In previous years, approximately 6,000 gallons of condensate were treated each week by the addition of NaOH. In those days, a maximum of 1,500 gallons of NaOH at 25% solution would be stored in an above ground tank. All three tanks are sealed to eliminate any possibility of rain intrusion and overflow. The only potential source of runoff contamination might be by a spill taking place during the delivery of NaOH.

Currently, condensate continues to be collected in the tanks, however, the pH has been consistently above that which requires treatment; therefore, current operations do not require the treatment prior to discharge (or the purchase of NaOH). This has eliminated the potential for runoff contamination from this activity.

As required by the Regional Water Quality Control Board, a leachate seepage cut-off barrier wall was installed in Disposal Area AB+. Furthermore, any potential for contamination of runoff is prevented by the installation of a leachate collection and removal system.

Disposal Area C is designed with a drainage blanket on the liner as an integrated drainage system. This drainage system will continuously drain the liquids from the landfill at the canyon bottom. Collected liquids will originate from compacted refuse and percolated rainwater.

2.4. UNDERGROUND FUEL STATION

Diesel fuel for heavy equipment and unleaded gasoline for other City vehicles are stored in 15,000 gallon and 2,000-gallon underground storage tanks respectfully. The fuel station including the underground storage tanks is located at the haul road at the entry to flare station. Runoff might be contaminated if the portable toilet located in the area

tips over during days of excessive winds or if fuel is spilled during re-fueling of vehicles or during delivery of fuel.

2.5. SOIL STOCKPILE IN DECK AREAS A AND C

The A-deck and C-deck are currently used for stockpiling incoming soil material which will be used for the final cover of Lopez Canyon Landfill.

Two sources of contamination include disturbed soil, which may be tracked onto paved surfaces by construction vehicles and erosion of the stockpile.

2.6. SOIL IMPORTATION

Evapotranspirative monolithic soil (mono cover) will be imported in order to complete the closure of Disposal Areas C and AB+. The amount of imported soil mono cover needed is about 200,000 cu yards. The source of runoff contamination might occur when runoff comes in contact with vehicles tracking soil and erosion from storage piles.

2.7. CLOSURE OF LANDFILL AREAS AB+ AND C CANYONS

The purpose of constructing a final cover (or cap) over the trash areas of the landfill is to minimize liquid infiltration, control the venting of gas, isolate wastes, promote drainage, minimize erosion and accommodate settlement and subsistence so that cover integrity is maintained. At this time, 65% of the total surface area has undergone closure construction. The areas remaining to undergo construction are the primary drainage channel, the haul road, the AB+ slopes, the C-deck, and C slopes.

Two sources of contamination include disturbed soil, which may be tracked onto paved surfaces by construction vehicles and erosion of the stockpile and runoff generated during dust control activities and new well construction.

2.8. GAS PRODUCTION

Landfill gas is the result of biological decomposition of buried organic wastes. This gas contains methane, carbon dioxide and other by-products that can come in contact with surface runoff. Landfill runoff samples were analyzed for inorganic, organic, volatile organic and metals contents as part of the SEIR study. Past results indicated some runoff samples to be contained with volatile organics (acetone and toluene) in concentrations that exceeded California Department of Health Services Action Level Threshold (SEIR, Vol. 5, Pg 29). The combination of heavy runoff draining over the fill slopes is most likely the source of the volatiles detected in the runoff.

2.9. MICRO TURBINES (DWP) AND POWER PLANT (FORISTAR)

A total of 50 micro turbines and a gas system treatment facility were installed by the City's Department of Water and Power (DWP) at the Flare Station location in 2002. As of August 2009, the micro turbines are not operating and will remain off-line until sufficient landfill gas can be recovered to power both the power plan operated by Foristar and the micro turbines operated by DWP. When operating, the micro turbines

require no chemicals to pre-treat the landfill gas prior to use. The only treatment consists of removing moisture and filtering the gas before use.

Foristar operates a 6 MW electricity generation power plan which runs on landfill gas collected from the landfill. Both DWP and Foristar are independent from the landfill operations and they are responsible for the proper housekeeping practices required for their operations.

2.10. LOPEZ CANYON ENVIRONMENTAL CENTER (LCEC) – MULCH/COMPOST FACILITY

The LCEC consists of the processing of two or more of the following: household yard trimmings, horse manure (both collected by the City) and tree trimming waste from commercial operations. A combination of these materials is processed into a usable mulch/compost product. The LCEC is located on the asphalted B-deck portion of the landfill. Asphalt concrete laid on top of B-deck was completed on April 2006 with an approximate area of 478,700 square feet or almost 11 acres. If necessary, this operation may be expanding into portions of the A-deck as well.

The trash that is picked out from the incoming loads is loaded onto a refuse truck for delivery to a landfill at the end of the day. However, on excessively windy days, the refuse contamination in the incoming loads can be blown onto other portions of the landfill before it is picked out and loaded onto a refuse truck. All the incoming raw materials, as well as the refuse picked out from the incoming loads and the completed end product, are stored on the asphalted deck area; therefore, all windrows and stockpiles can contribute to runoff contamination. Runoff may also be contaminated if the portable toilets located in the area tip over during days of excessive winds.

2.11. TRUCK DRIVER ACADEMY (PROPOSED)

Plans are underway to enable a non-profit organization, Transportation Opportunity Program (TOP) to use an asphalt concrete paved portion of the A-deck to operate a truck driving training academy. A limited number of trucks will use the haul road since all students will be required to park off site. The proposed lease agreement between the City and TOP prohibits the maintenance of any vehicle on site as well as any storage of hazardous materials/wastes. Spills from the servicing of the waste water tank located under the office/classroom trailer could be a potential source of runoff contamination.

3. PRACTICES TO REDUCE POLLUTANTS

In order to prevent runoff pollution from specific pollution sources, mitigation measures have been implemented. The following is a description of the existing measures as they apply to each potential pollution source (also summarized in Appendix B, Table 1).

3.1. PAVED AREAS

An underground clarifier, at the landfill entrance, collects runoff from leaks of vehicles that use the main haul road, which would otherwise go into the storm drain. The clarifier separates oil from water prior to its discharge into the local sewer system. Leaks from vehicles onto paved surfaces are minimized by closely monitoring vehicle maintenance needs. During storm events, runoff which collects pollutants from paved surfaces (primarily dirt and small amounts of grease and oil) is collected by storm drain system and directed to a series of debris basins as shown in the Lopez Canyon Site Map (Appendix C, Figure 1). Spills created during tipping over of portable toilets during excessively windy days are collected with absorbent material.

3.2. EQUIPMENT AND MAINTENANCE AREA

Oil, waste oil, and some cleaning agents are stored in drums and placed in bermed areas to mitigate any possible spills. Car batteries are stacked on a rack with secondary spill containment and stored for recycling and covered to prevent contact with rain (see Appendix C, Site Plan A).

All vehicle maintenance work is conducted on a concrete slab and any leaks on the liquid work area drains into a 1,500-gallon capacity underground clarifier. The clarifier separates the oil prior to discharging the water into the sewer system. Waste oil collected is stored in a 1,000-gallon tank placed in a secondary containment area and collected by a private contractor for disposal.

Any spill occurring during equipment maintenance is cleaned by using an absorbent material.

3.3. CONDENSATE AND LEACHATE TREATMENT FACILITY

The condensate treatment facility is located adjacent to the leachate treatment facility. Both facilities have double containment storage.

During the rainy season, the water accumulated in the bermed area is checked for pH (only if NaOH is being used, which is not currently the case) and then discharged into the sewer system. Furthermore, any spills occurring in this area are cleaned up immediately to prevent runoff contamination of rainwater. At this time, neither of these facilities require chemical treatment, therefore no storage of hazardous materials is needed.

3.4. UNDERGROUND FUEL STATION

The fuel station is protected by 8-inch thick reinforced concrete drive slab constructed in 2001. Any spill occurring during vehicle refueling is cleaned by using an absorbent material. Rainwater runoff will flow over the graded haul road towards a v-ditch discharging to A-canyon debris basin. Spills created during tipping over of portable toilets during excessively windy days are collected with absorbent material.

3.5. SOIL STOCKPILE IN LANDFILL AREAS A AND C CANYONS

Stockpiling operations are conducted so as not to interfere with other operations. The stockpile area is graded to promote lateral runoff. All storm water runoff flows to a series of debris basins equipped with an outlet standpipe and an overflow structure, both of which direct the discharge toward the Hansen Dam Flood Control Basin. Soil and silt is retained in the debris basin, to minimize offsite migration. Debris basins are cleaned of soil and silt each year prior to the rainfall season.

3.6. SOIL IMPORTATION

Lopez Canyon landfill has developed a Dust Control Protocol (March 1992) to control/prevent the creation of dust due to daily excavation or earth moving operations. Wind speed and direction is closely monitored and corrective or preventive action is taken as determined by the landfill manager. The above plan minimizes runoff contamination due to dust settling on paved surfaces.

All runoff coming in contact with remaining materials is directed to a series of debris basins where soil, silt or other debris (due to erosion, vehicle tracks and dust on paved surfaces) is retained to minimize offsite migration.

3.7. CLOSURE OF LANDFILL AREAS AB+ AND C CANYONS

Final closure construction of AB+ slopes, drainage channel and haul road has begun. The work will involve the following:

- earth work
- approved final cover material (36 inch monolithic soil cover or 6 inch inter-layered asphalt concrete (haul road)
- site drainage
- modifications to gas collection system
- hydro seeding
- channel replacement

Such intensive construction activities will potentially increase soil tracking on the haul road. In order to control the dust generated during these activities, a water truck is used daily to keep dust down. Runoff originating from the dust control in the construction area will be directed to a series of debris basins equipped with standpipe and overflow structure, both of which direct the discharge toward the Hansen Dam Flood Control Basin.

Parts of the closure activities include the installation of new wells. Construction requires the use of water to cool down the drilling process, therefore potentially creating runoff. All runoff generated is drained towards its corresponding debris basin.

Upon completion of the AB+ closure activities, crews will be directed to begin construction activities in C canyon. Closure activities will continue through 2012.

3.8. GAS PRODUCTION

An extensive landfill gas management system consisting of gas/condensate collection and a flare station ensure that no raw gas is released into the atmosphere or come in contact with runoff. The majority of the gas located at the landfill is sent to our power generating plants located on Lopez property. The reminder non usable gas is flared.

The primary elements of the gas control system consist of vertical/horizontal gas collection wells, condensate tanks, a gas collection conveyance network servicing the entire landfill and a flare station. The flare station consists of seven flares permitted by the South Coast Air Quality Management District to burn up to 8,750 cubic feet per minute of landfill gas.

The completion of the final cover over the trash areas of the landfill will further reduce gas surface emissions into the atmosphere that might come in contact with runoff. In order to minimize the gas emissions to the atmosphere, Lopez inspectors perform daily and on-going adjustments of the gas system to maintain the system under vacuum. Leaks detected by the inspectors are repaired promptly by the operations group.

3.9. MICROTURBINES (DWP) AND POWER PLANT (FORISTAR)

Before any landfill gas is flared, the current owner of the landfill gas use the gas to run a 6 MW power generating plant. The current owner is a private corporation NEO Lopez Canyon LLC (a Delaware limited liability company (NEO), and MM Lopez Energy LLC (a Delaware limited liability company (MM)). MM owns and operates the power generating plant and also the rights to use the landfill gas collected.

There are also 50 micro-turbines at the site that are owned and operated by the City's Department of Water and Power. When in operation, landfill gas used for fueling the micro turbines is provided by NEO/MM under a separate purchase agreement. The landfill gas that is not used by either of the two power generating facilities is destroyed through the flare station.

DWP will provide necessary maintenance and clean up of the site occupied by the micro turbines. Similarly, the power plant and its immediate surrounding grounds are under the care and jurisdiction of Foristar. Managers of these operations will be provided with a current copy of the Lopez SWPPP.

3.10. LOPEZ CANYON ENVIRONMENTAL CENTER (LCEC) – MULCH/COMPOST FACILITY

The nature of the operations creates a significant amount of ground-up particles that can be carried by runoff. Runoff over the asphalted B deck is drained towards an

underground clarifier. In order to minimize debris carried by runoff, the B deck area is swept daily to collect loose debris on the B-deck.

In order to reduce wind blown debris from these operations, the operations are shut down during days of excessive winds. In addition, portable nets are kept near the operations in order minimize trash from being blown towards the surrounding areas. Spills created during tipping over of portable toilets during excessively windy days are collected with absorbent material.

3.11. TRUCK DRIVER ACADEMY (PROPOSED)

The Truck Driver Academy consists of a truck driver training program whereby students are taught to operate tractor/trailer rigs leading to a Class A California Driver's License. The training consists of classroom and field training. The Academy will be operated under a proposed 5-year lease between the City and the Transportation Opportunity Program (a California Corporation). Such agreement places restrictions on the use of the property. Restrictions to prevent polluted runoff that are part of the agreement include: maintaining of academy vehicles at an off site location; prohibiting storage of hazardous materials/wastes; and limiting the use of the haul road by requiring all academy students to park off the premises. A low profile heavy duty polyurethane sewage tank will be maintained underneath the classroom trailer instead of having portable toilets that are prone to tipping over during high winds. Any spills generated from the servicing of the tank will be collected with absorbent material. Managers of this operation will be provided with a current copy of the Lopez SWPPP.

4. NON-STORMWATER DISCHARGES

The closure construction of the final cover of the remaining areas (See section 3.7) is identified as a potential source of non-storm water discharges due to potential runoff generation from dust control. Additional discharges might originate from the drilling of wells, ongoing maintenance and the landscape irrigation system.

Once construction is complete and the final vegetation becomes established, non-storm water runoff will be reduced. Any runoff generated will be collected by the storm drain system described.

Another potential non-storm water discharge consists of runoff generated during brush fire fighting activities. During fire fighting activities, approved non-storm water discharges are inevitable. Brush fires on the landfill are infrequent, but the threat of brush fires is continuous. The most recent brush fire affecting this facility was in the fall of 2008, when the Marek brush fire burned down several buildings and most of the equipment and construction materials stored on site.

5. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) - EMPLOYEE TRAINING PROGRAM

5.1. OVERVIEW AND OBJECTIVE

Spills and accidental discharges of pollutants to storm water can be prevented or minimized by providing employees with adequate training in:

- Preventive measures to avoid emergencies and spills from occurring, and
- Emergency response procedures (spill clean-up) to eliminate pollutants from coming in contact with storm water runoff.

Current training programs consist of a combination of on-the-job training (OJT), safety tailgates and safety meetings. This training program is designed to give certain basic training to all employees (i.e. safe work practices, injury and illness prevention and emergency response procedures) and provides specialized training to individuals in certain job classifications whose job responsibilities include performing complex or special tasks. Advanced training is administered based on individual needs.

During these meetings, Solid Resources Processing and Construction Division will address specifically the needs of Lopez Canyon's personnel to implement the SWPPP.

5.2. TRAINING METHODOLOGY

The SWPPP training tools available to Lopez Landfill managers consist of:

A. Classroom Training.

Classroom training is conducted by the Human Resource Development Division (HRDD) or outside contractors (Appendix B – table 3 courses available through HRDD).

- Landfill personnel assigned to specific duties receive specialized training such as:
  - Shoring practices
  - Pesticide application
- New employees receive basic orientation instructions from immediate supervisors on emergency procedures, job safety, and the safety manual.
- All employees receive training on the Emergency Action Plan and the Fire Prevention Plan.

As part of the implementation of the SWPPP, key personnel will be provided with a copy of the SWPPP. Also all employees working in each of the eleven identified potential pollution sources will receive specific training on the mitigation measures needed at their work sites to prevent runoff pollution.

Lopez Canyon superintendents will require the training of certain personnel on hazard communication, business plan and emergency response procedures.

B. On-the-job Training (OJT)

Conducted by Lopez Canyon's supervisors on an ongoing basis, teaches new employees about job duties and responsibilities, and other employees on new or modified procedures.

C. Safety Tailgate Meetings.

Safety tail gate meetings are conducted by supervisors on a regular basis (weekly, bi-weekly or monthly). The HRDD safety section is available to provide advice and resources as requested by landfill personnel.

HRDD conducts monthly meetings (see below) where representatives of all Bureau of Sanitation divisions can exchange and obtain up to date information on worker safety and hazardous waste/material management.

Meeting Topic	Contents
1. Worker Safety	Spill prevention and control training
2. Hazardous Material and Waste Management	*Review of current environmental regulation *Discussion on: a) Chemical emergency response b) Environmental Protection

5.3. SWPPP COMMITTEE / EMPLOYEE INVOLVEMENT

The SWPPP Committee consists of four personnel who are responsible to provide training, implement and update the SWPPP. The members of the SWPPP Committees as of August 2009 are:

Member	Responsibility
James Kurz, Superintendent II SRPCD - Operations	**Field Implementation, Employee Training and record keeping.** (i.e., wet weather observations, maintenance)
Rosalia Rojo, Environmental Engineer SRPCD - Engineering	**Employee Training and Documentation**
Sr. Environmental Compliance Insp. SRPCD - Inspection	**Surface Water Sampling and Quarterly Inspections**
Tim De Ramos, Env. Engr. Assoc. III SRPCD - Engineering	**Coordinate Inspections, Updates and Reports**

Each year, the SWPPP committee will conduct a series of workshops or tail gate meetings to refresh and update all Lopez Canyon personnel on their responsibilities to implement the SWPPP. These workshops/tail gate meetings will serve as a forum to discuss with employees, the results of the facility inspection and any employee recommendation on best management practices (BMPs). An outline of the content of the discussion and an attendance list will be kept on file by Solid Resources Processing and Construction Division.

Employees will be encouraged throughout the year to provide feedback on existing best management practices and make recommendations in better ways to prevent runoff pollution.

6. FACILITY INSPECTION

The SWPPP Committee or their designees will coordinate the annual facility inspection with the Wastewater Engineering Services Division. Quarterly inspections will be conducted by the Senior Environmental Compliance Inspector using Form 1 in Appendix A as a guide. A follow-up inspection will be scheduled by the Senior Environmental Compliance Inspector to ensure that appropriate corrective actions have been taken.

The goals of these inspections and observations are to:

- Ensure that no pollutants are present in each of the eleven identified potential pollutant sources that could contaminate runoff. Identify any new pollution source.
- Inspect and evaluate the condition of the drainage system (terrace drains, bench down drain, debris basins, rip rap and energy dissipators).
- Ensure that the mitigation measures identified are adequate.
- Recommend actions necessary to maintain, improve or create needed pollutant prevention mitigation measures.
- Obtain data for the annual comprehensive site compliance evaluation and report.

All deficiencies will be corrected within a reasonable period of time as agreed by the SWPPP committee, landfill managers and supervisors.

7. RECORD KEEPING

All records and documents that pertain to the implementation of the SWPPP will be kept at Lopez Canyon by the Landfill Manager or his designee. Such records include:

- Employee training records (SRPCD - Operations)
- Quarterly observation records (SRPCD - Operations)
- Quarterly facility inspection and follow-up inspections (SRPCD – Sr. ECI)
- Annual review of SWPPP and update as necessary (SRPCD - Engineering)
- Annual Report (SRPCD and WESD), which include:
  - Surfaced runoff lab analysis report (SRPCD – Sr. ECI)
  - Wet weather observations and documentation (SRPCD - Operations)
  - Dry season observation and documentation (SRPCD - Operations)

All records will remain in the Lopez Canyon Superintendent file for a minimum of five years. Additional copies of all records will be kept at the main offices of the Solid Resources Processing and Construction Division and the Wastewater Engineering Services Division.

7.1. OBSERVATIONS

Section B-4a of the Monitoring Program of the General Industrial Storm water Permit states that visual observations shall be made of storm water discharges from one storm per month during the wet season (October 1 – May 31).

Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three working days without storm water discharges and that occur during scheduled facility operating hours.

7.2. SAMPLING

Landfill inspection staff will collect sample runoff from the three identified sampling points (Appendix C, Lopez Canyon Site Map). Lab analysis results will be submitted to the engineering representative of the SWPPP Committee.

Sampling must take place within the first 60 minutes of the beginning of a storm, per the General Industrial Storm water Permit. However, for practical and safety reasons, the actual sample may be taken when enough runoff is generated (might be longer than 60 minutes from the start of the storm) and only when inspection supervisors determine that it is safe to access the sampling locations. A sample is required to be collected during normal operating hours only.

APPENDIX A

FORMS

1. Inspection Form

STORMWATER POLLUTION PREVENTION PLAN
QUARTERLY FACILITY INSPECTION
LOPEZ CANYON LANDFILL

A. Date: _____ Inspection by: _____ Title: _____ Phone: _____	B. Season (check one) Rainy: _____ Dry: _____

C. SPILL SOURCES	OBSERVATION
Paved Areas	_____
Maint./Equip. Area	_____
Condensate/Leachate Area	_____
Fuel Station	_____
Gas Production	_____
Micro turbines/ Power Plant	_____
LCEC	_____
Truck Driving Academy	_____
D. DUST SOURCES	
Soil Stockpiles	_____
Soil Importation	_____
AB+ and C Canyon Closure	_____
E. VOLATILE COMPOUNDS SOURCES	
Gas Collection/Flare Station	_____
F. STORM DRAIN SYSTEM	_____

G. CODE	H. FOLLOW-UP
1. Unclean 2. Clogged 3. Leaks 4. Not Orderly 5. Spill 6. Other (Comments)	ACTION TAKEN : _____ _____ COMMENTS: _____ _____ _____

APPENDIX B

LIST OF TABLES

TABLE 1

Possible Pollutant Sources and Existing Mitigation Measures - Summary

POLLUTANT SOURCE	POLLUTANT	CAUSE OF CONTAMINATION	MITIGATION MEASURES
• Paved Areas (Parking, Lots, Haul Road, Entrance, Heliport)	• Oil • Lubricant • Fuel • Trash • Port Potty waste	• Leaks from vehicles • Spills • Vehicle tracks • Littering • Wind blown port potty • Soil tracking	• Good equipment maintenance • Spill clean-up/spill control • Debris basins collect silt/debris • Underground clarifier remove oil/ grease • Trash cans and employee training
• Maintenance and Equipment Area	• Oil • Antifreeze • Solvents	• Leaks from parked vehicles • Vehicle washing • Oil and grease storage • Accidental spills • Battery storage pile	• Good housekeeping • Clarifier • Berm area around hazardous waste/materials • Spill control with absorbent material • Tarp over battery pile
• Condensate and Leachate Treatment Facilities	POTENTIAL ONLY NOT CURRENTLY IN USE • Sodium Hydroxide	• Spill during fill-up and dispensing	• Spill control with absorbent material
• Fuel Station with Underground Storage Tanks	• Diesel • Unleaded gasoline • Port Potty waste	• Spill during fill-up and dispensing • Wind blown port potty	• Spill control with absorbent material
• Soil Stockpile in Disposal Area A and C Canyon	• Soil	• Erosion • Vehicle track • Excessive winds	• Lateral drainage system • Debris basin to remove silt and debris • Sweeping haul road • Control dust with water spray
• Soil Importation	• Soil	• Erosion • Vehicle track • Excessive winds	• Proper drainage system • Debris basin to remove silt and debris • Sweeping haul road • Stop operations during excessively windy days/control dust with water spray
• Closure of Disposal Areas AB+ and C Canyon Slopes and Top Decks	• Soil	• Erosion • Vehicle track • Excessive winds	• Proper drainage system • Debris basin to remove silt and debris • Sweeping haul road • Stop operations during excessively windy days/control dust with water spray
• Gas Production	• Volatile compounds such as Toluene and Acetone	• Direct contact of gas with runoff	• Continuously operate and monitor the gas collection system and flare station
• Micro turbines by DWP and power plant by Foristar	• Soil • Waste oil • Trash	• Vehicle tracks • Equipment maintenance (compressors, engines, etc.) • Littering	• Distribute SWPPP to respective manager for their implementation • Spill control with absorbent material • employee training
• Mulch/Compost facility (LCEC)	• Raw material and Final Product stock piles and windrows • Trash collected from incoming loads • Port Potty waste	• Erosion • Vehicle tracks • Vehicle track • Wind blown debris/trash • Wind blown port potty • Excessive winds	• Proper drainage system • Clarifier • Debris basin to remove silt and debris • Sweeping of B deck • Portable nets to minimize wind blown debris • Spill control with absorbent material • Stop operations during excessively windy days/control dust (water spray)
• Truck driving academy	• Soil • Trash • Waste water /disinfectant spills.	• Vehicle tracks • Littering • Potential spills by service vendors.	• Distribute SWPPP to respective manager for their implementation • Sweeping haul road • Trash cans and employee training • Spill control with absorbent material

Table 2

Drainage Fact Sheet

Flow

A-Canyon		43 cfs	=19,300 gal/min
B-Canyon		126 cfs	=56,000 gal/min
Whitehorse	inflow	381 cfs	=171,000 gal/min
	Outflow	239 cfs	=107,300 gal/min
Bartholomaus	inflow	630 cfs	=282,750 gal/min
	Outflow	532 cfs	=238,800 gal/min

Volume

Whitehorse	9.8 acre-ft	=3,200,000 gal
		=Football field 7.5' deep
Bartholomaus	9.5 acre-ft	=3,100,000 gal
		=Football field 7.5' deep

Intensities

100 yr – 24 hr storm	9.04 in
50 yr – 24 hr storm	8.00 in (88% of 100 yr)
25 yr – 24 hr storm	7.07 in (78% of 100 yr)
10 yr – 24 hr storm	5.80 in (56% of 100 yr)

Table 3

HRDD Classes for

Storm water Awareness

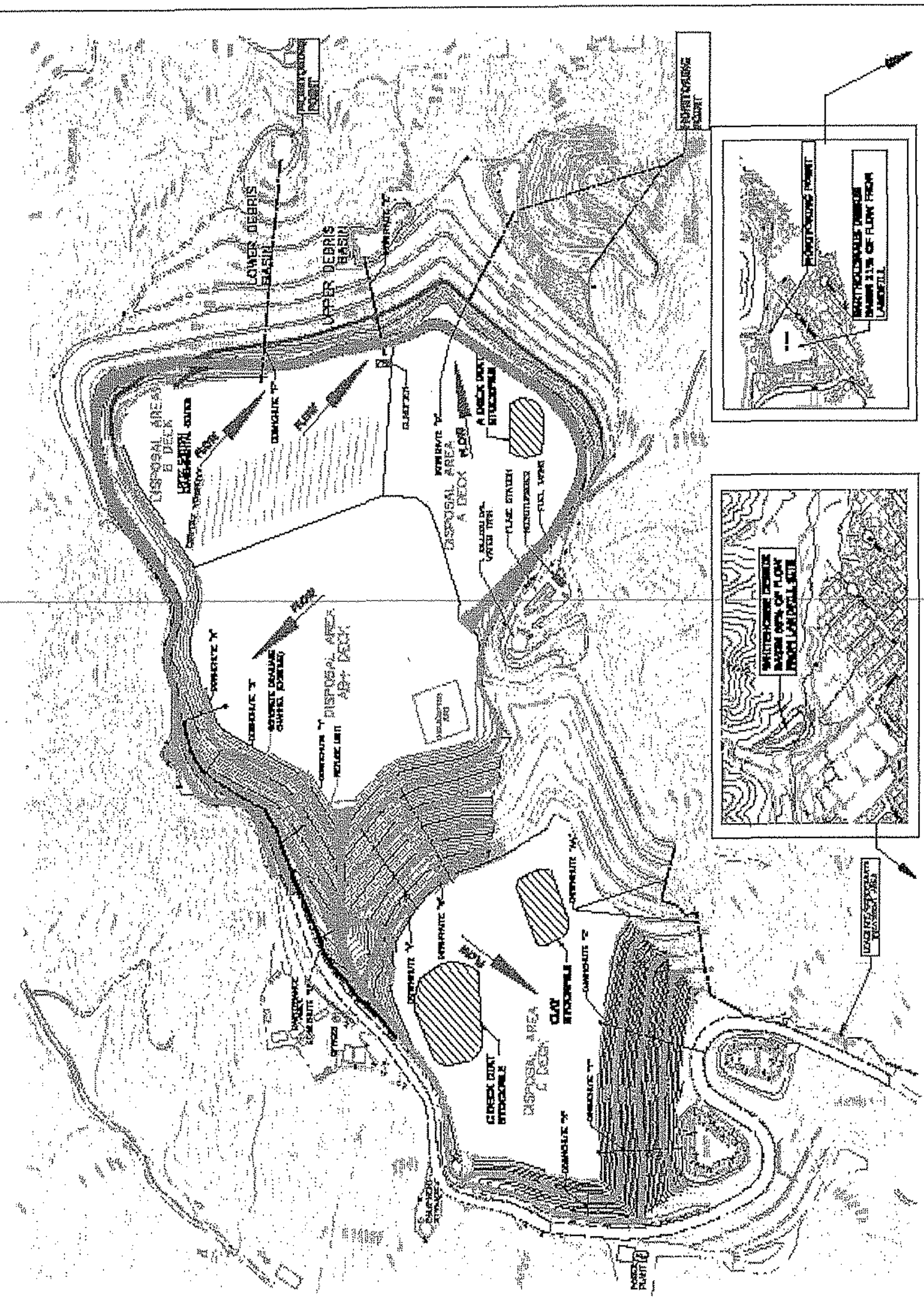
Course Name	Course Code
Pipeline Cleaning Operation	Later
Controlling Urban Runoff	Later
Oil Removal	Later
Oil Separation	Later
Stream & Condensate	Later
Emergency Procedures	Later
Hazardous Material Management	HAZWST-000
Risk Management and Prevention	MGMT-031
Prevention Maintenance & Housekeeping	MTC-001
Moving Equipment Operations/Safety	EQUIP-000
Emergency Response Team Training	EMERG-101
Supervisor Haz/Mat (Level III)	HAZCOM-300
Hazardous Communication (Level I)	HAZCOM-100
Truck Operations	REFCOL-500
Pipeline Construction	later
Waste Minimization	Later
Accident Prevention	HAZWST-011
Hazardous Waste	HAZWST-007
Identification of Hazards	HAZCOM-202
Toxic Effects of Hazardous CHE	later
Emerging Tech for Haz Waste Training	HAZWST-002
Environmental Compliance	OSHA-002

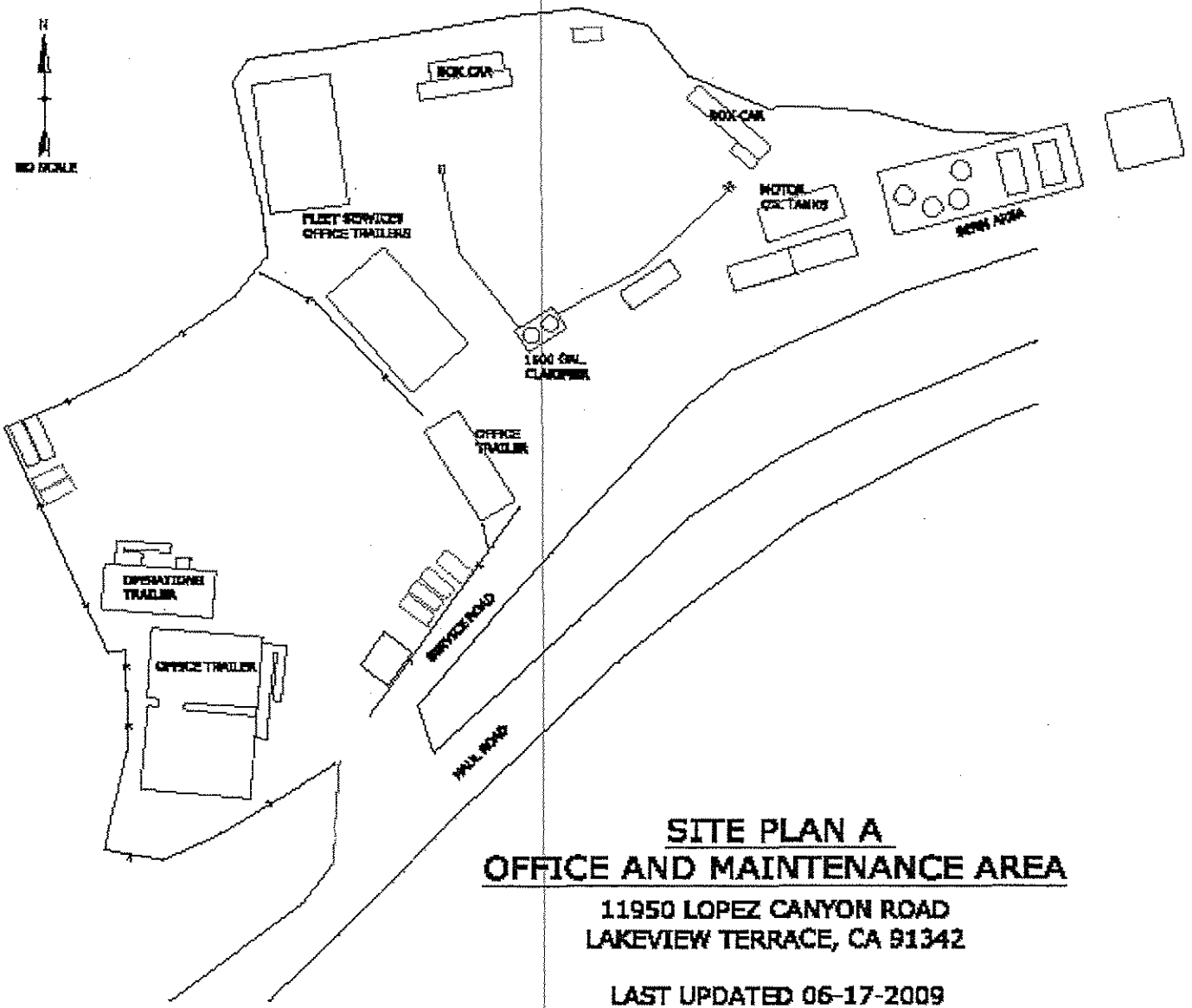
APPENDIX C

LIST OF FIGURES

1. Lopez Canyon Site Map
2. Site Plans
    - Plan A – Office and Maintenance Area
    - Plan B – Scale house/Entrance
    - Plan C – Flare Station/Micro turbines
    - Plan D – Truck Driving Academy
    - Plan E - Lopez Canyon Environmental Center

LOPEZ CANYON LANDFILL SITE MAP

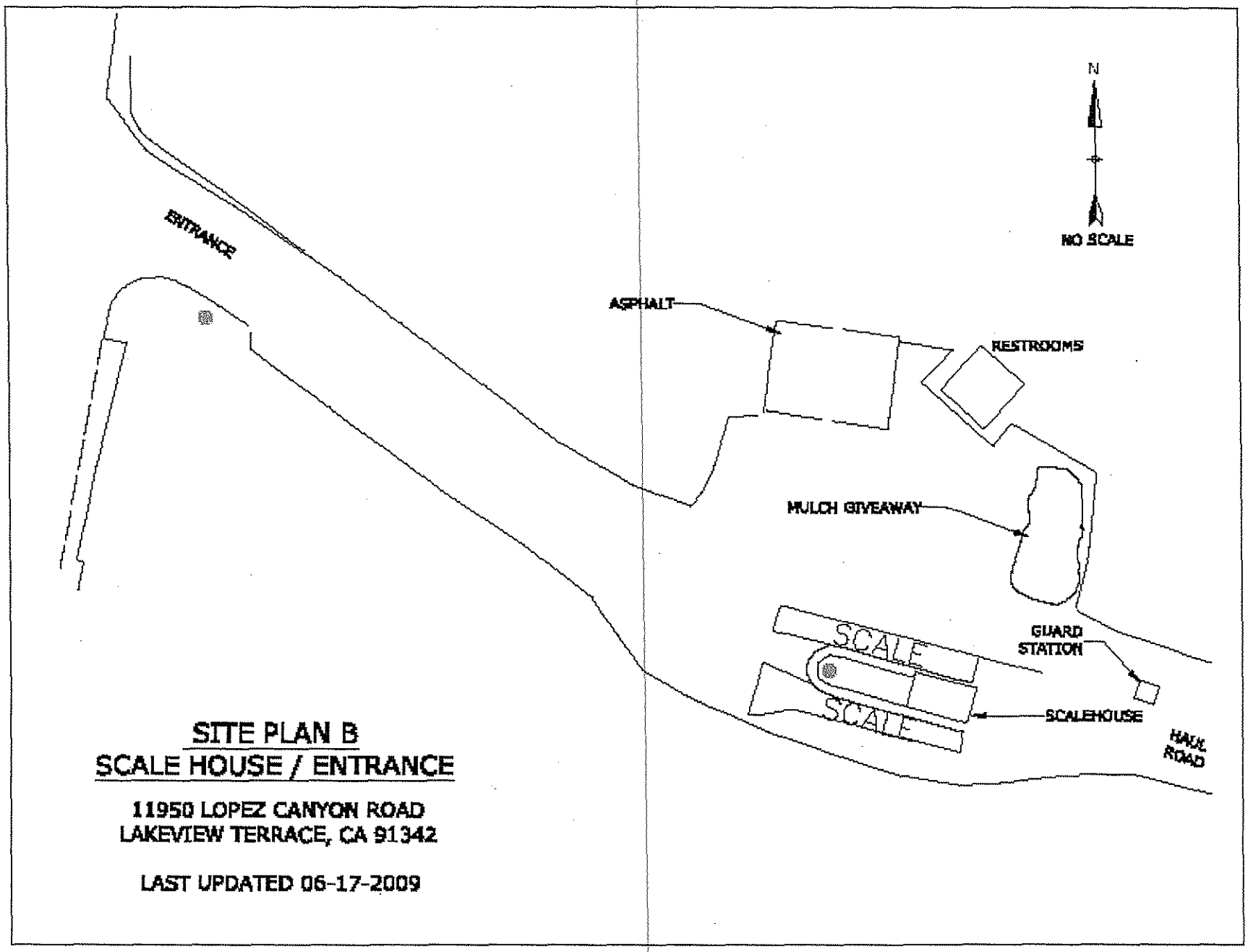




SITE PLAN A
OFFICE AND MAINTENANCE AREA

11950 LOPEZ CANYON ROAD
LAKEVIEW TERRACE, CA 91342

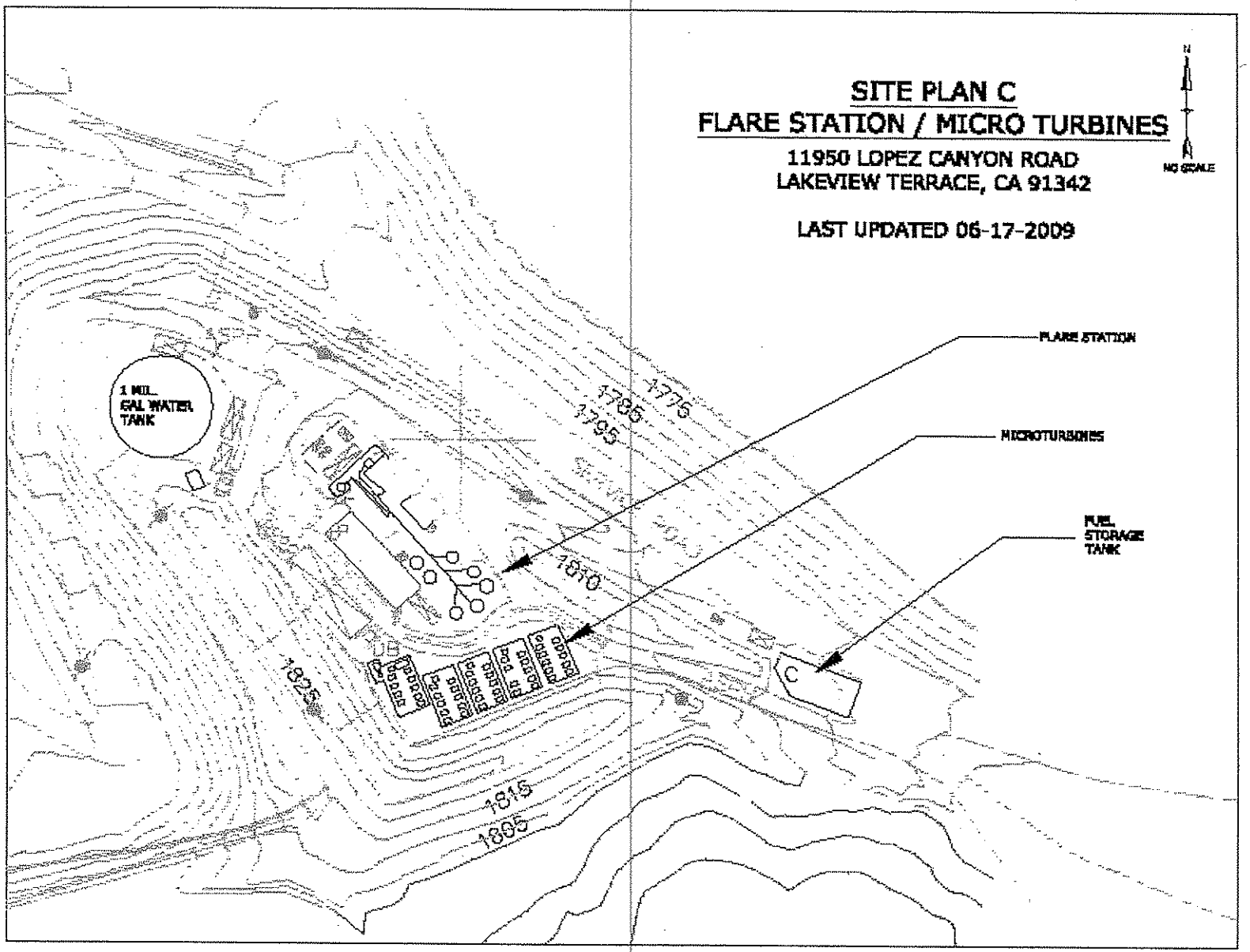
LAST UPDATED 06-17-2009



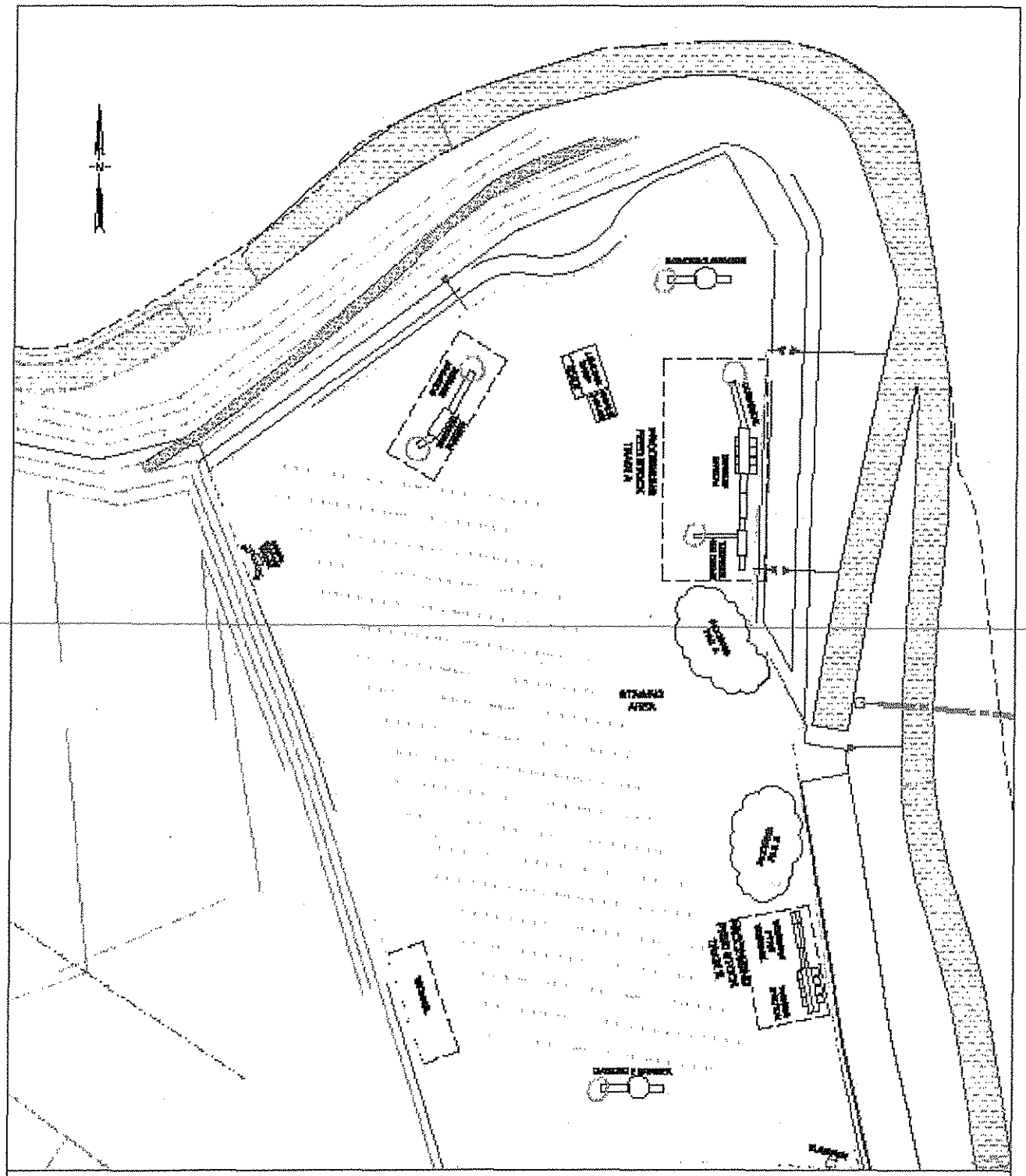
SITE PLAN B
SCALE HOUSE / ENTRANCE

11950 LOPEZ CANYON ROAD
LAKEVIEW TERRACE, CA 91342

LAST UPDATED 06-17-2009


SITE PLAN C
FLARE STATION / MICRO TURBINES
11950 LOPEZ CANYON ROAD
LAKEVIEW TERRACE, CA 91342
LAST UPDATED 06-17-2009
NO SCALE
1 MIL. GAL WATER TANK
FLARE STATION
MICROTURBINES
FUEL STORAGE TANK
1776
1795
1805
1810
1825
1815
1805
C

SITE PLAN D
TRUCK DRIVER TRAINING ACADEMY
DRIVER TRAINING ACADEMY AND ACCESS ROAD ON LANDFILL
ACCESS ROAD ON NATIVE SOIL



LOPEZ CANYON ENVIRONMENTAL CENTER
COMPOSTING & MULCHING FACILITY
11950 LOPEZ CANYON ROAD, LOS ANGELES, CA 91342

SITE PLAN E
SCALE: 1" = 12'-0"

LEGEND

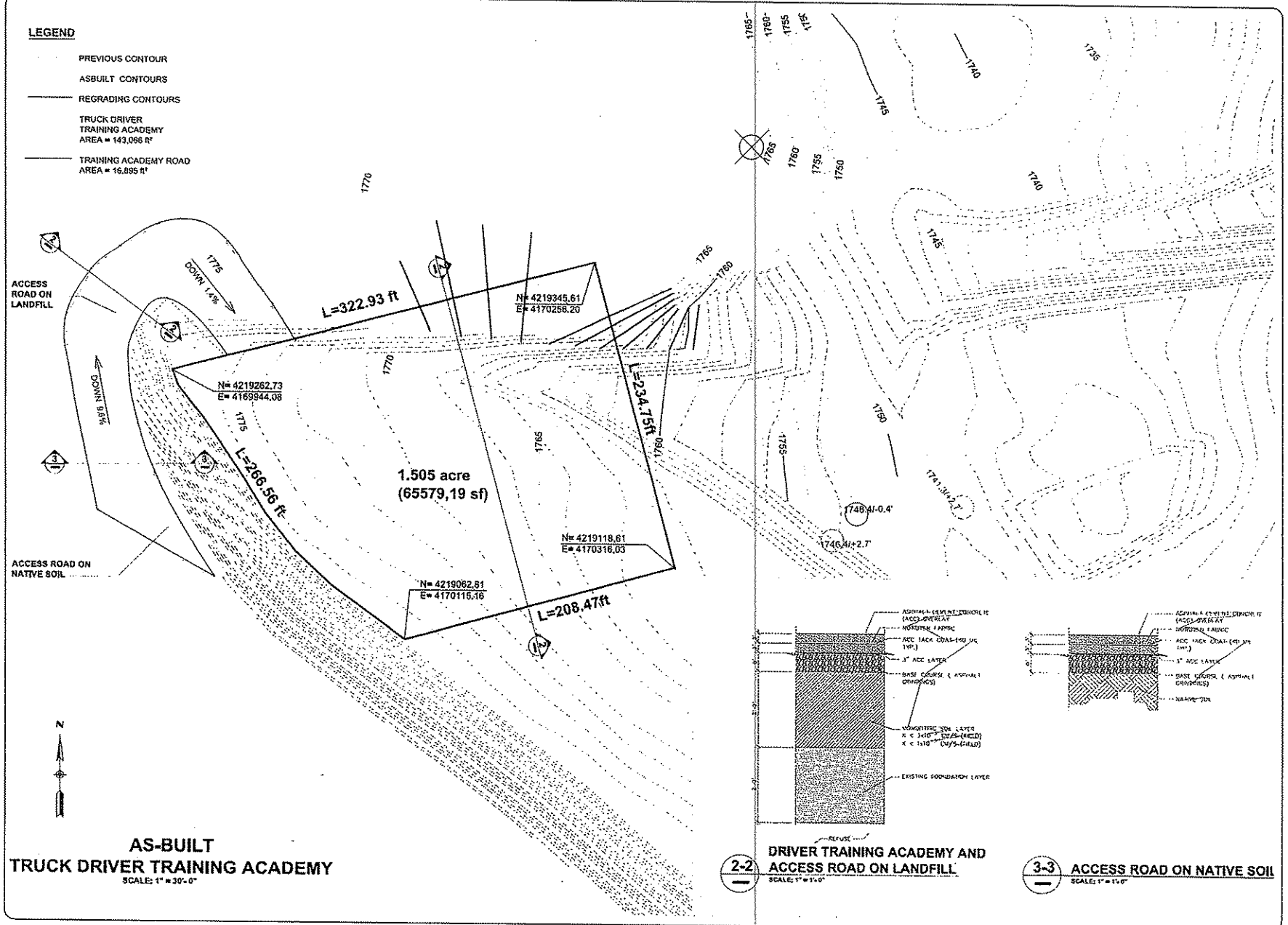
PREVIOUS CONTOUR

ASBUILT CONTOURS

REGRADING CONTOURS

TRUCK DRIVER TRAINING ACADEMY AREA = 143,066 ft²

TRAINING ACADEMY ROAD AREA = 16,895 ft²



AS-BUILT
TRUCK DRIVER TRAINING ACADEMY
SCALE: 1" = 30'-0"

2-2 DRIVER TRAINING ACADEMY AND ACCESS ROAD ON LANDFILL
SCALE: 1" = 1'-0"

3-3 ACCESS ROAD ON NATIVE SOIL
SCALE: 1" = 1'-0"

REVISIONS	BY

TRUCK DRIVING ACADEMY
AS-BUILT
11950 LOPEZ CANYON ROAD
LAKEVIEW TERRACE, CA 91342

DRAWN	
CHECKED	
DATE	
SCALE	
JOB NO.	
SHEET	

07 SHEETS