Volume II Appendices

Subsequent Environmental Impact Report

Sunshine Canyon Landfill

State Clearinghouse Number 92041053

SEIR 91-0377-ZC/GPA

Lead Agency:

City of Los Angeles

Department of City Planning

Environmental Review Section

221 N. Figueroa Street, 15th Floor

Los Angeles, CA 90012-2601

July 1997

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INITIAL STUDY/NOTICE OF PREPARATION

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Appendix A1
ENVIRONMENTAL ASSESSMENT FORM/WORKSHEET

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING

ENVIRONMENTAL ASSESSMENT FORM

ASE NO. _____ Council District _____
Related Case: _____ Atlas Pg; Bk; Ref. No. _____
PROJECT DESCRIPTION: _____

COMMUNITY PLAN: _____ DOES NOT CONFORM/QUAD: _____
Land Use indicated: _____ Vacancy Factor _____%
CLEARANCE REQUIRED:
Seismic Study Area/Hillside Grading Area/Ecologically Important Area
Archaeological/Paleontological/Historical/Coastal Zone/Sta. Monica Mtn. Zone
Air/Major Street/Housing/Flood (Map #) State Clearing House/SCAG
OFFICE USE ONLY - ABOVE DOUBLE LINE

TO BE COMPLETED BY APPLICANT - PLEASE TYPE OR PRINT

PROJECT ADDRESS: 14747 San Fernando Road Community Granada Hills - Knollwood
Between San Fernando Road and Balboa Boulevard
APPLICANT'S NAME: Browning-Ferris Industries of Calif., Inc. Phone (818) 362-1567
Address 14747 San Fernando Road City Sylmar 91342
(zip code)

If applicable
AGENT'S COMPANY: _____ Phone _____
CONTACT PERSON: _____
Address _____ City _____
(zip code)

The following Exhibits are required (3 copies of each exhibit and 3 Environmental Assessment Forms for projects in Coastal & S.M. Mtn. Zones): All Exhibits should reflect entire project, not just area in need of zone change, variance, or other alteration.

A. 2 Vicinity Maps (8-1/2" x 11") showing nearby street system, public facilities and other significant physical features (similar to road maps, Thomas Brothers Maps, etc.) with project area circled.
B. 2 Radius Maps (1" = 100' scale) showing land use and zoning to 500 feet (100 feet of additional land use beyond the radius for alcoholic beverage cases); 100' radius line (excluding streets) okay for Coastal building permits.
C. 2 Plot Plans showing the location and layout of proposed development including dimensions; include topographic lines where grade is over 10%; tentative tract or parcel maps where division of land is involved to satisfy this requirement, and the location and diameter of all trees existing on the project site.
D. Application - a duplicate copy of application for zone change, (including Exhibit "C" justification) batch screening form, periodic comprehensive general plan review and zone change map, variance, conditional use, subdivider's statement, etc.
E. Pictures - two or more pictures of the project site showing walls, trees and existing structures.

ENVIRONMENTAL ASSESSMENT
APPROVED BY: _____
DATE: _____

INITIAL STUDY FEE ($771 + O.S.S. FEE $15 - TOTAL FEE $786)*
RECONSIDERATION FEE ($137 + O.S.S. FEE $3 - TOTAL FEE $140)*

APPLICATION ACCEPTED BY: _____
RECEIPT NO. _____ DATE: _____

SCAQMD = SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT.
RWQCB = LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD.
CIWMB = CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD.
DFG = DEPARTMENT OF FISH AND GAME. ACE = ARMY CORP OF ENGINEERS.

I. **Briefly describe the project and permits necessary (i.e., Tentative Tract, Conditional Use, Zone Change, etc.) including an identification of phases and plans for future expansion:**

The Proposed Project is for the development and operation of an extension of the Sunshine Canyon Landfill, a yard trimmings facility, and an open windrow composting area. The following permits would be required by the City: a General Plan Amendment; Zone Change; a Oak Tree Permit; and other Utility permits (i.e., building, grading, etc.). Other responsible agency permits include: SCAQMD Permit to Construct and Operate; RWQCB Waste Discharge Order; CIWMB Solid Waste Facility Permit; DFG 1600 Streambed Alteration Permit; and the ACE Nationwide 26 Permit.

II. Existing Conditions:

A. Project Site Area 494 +/- (Landfill 185 +/-) Net and 494 +/- Gross Acres
B. Existing Zoning A1-1-0
C. Existing Use of Land Landfill and Open Space
D. Existing General Plan Designation Minimum Low Density — Requested General Plan Designation Heavy Industrial
E. Number NA type _____ and age ± _____ of structures to be removed as a result of the project. If residential dwellings (apts., single-family, condos) are being removed indicate the: number of units: _____ and average rent: _____ Is there any similar housing at this price range available in the area? _____ If Yes, Where _____

F. Number Refer to Attachment, Trunk Diameter _____ and type _____ of existing trees.

G. Number Refer to Attachment, Trunk Diameter _____ and type _____ of trees being removed (identify on plot plan).

H. Slope: State percent of property which is:

17%	Less than 10% slope	If slopes over 10% exist, a topographic map will be required. Over 50 acres - 1"=200' scale is okay
5%	10-15% slope	
78%	over 15% slope	

I. Check the applicable boxes and indicate the condition on the Plot Plan: There are ( ) natural or man-made drainage channels, ( ) rights-of-way and/or ( ) hazardous pipelines crossing or immediately adjacent to property. ( ) None of the above.

J. Grading: (specify the total amount of dirt being moved)
** Landfill would have an estimated capacity of 55 million tons using cut and cover operation of refuse disposal.

NA	0-500 cu. yds.
NA	if over 500 cu. yds. indicate amount of cu. yds.

K. Import/Export: Indicate the amount of dirt being imported 0 or exported 0 *

* Projects involving import/export of 1000 cubic yards or more are required to complete a Haul Route Form and Haul Route Map.

If project involves more than one phase or substantial expansion or changes of existing uses, please document each portion separately, with the total or project details written b w. Describe entire project, not just area in need of zone change, variance, or other a ation.

III. Residential project (if not residential, do not answer)

A. Number of Dwelling Units-
Single Family _____
Apartment _____ or Condominium _____
B. Number of Dwelling Units with:
One bedroom _____ Two bedrooms _____
Three bedrooms _____ Four or more bedrooms _____
C. Total number of parking spaces provided _____
D. List recreational facilities of project _____
E. Approximate price range of units $ _____ to $ _____
F. Number of stories _____, height _____ ft.
G. Type of appliances and heating (gas, electric, gas/electric, solar) _____
Gas heated swimming pool? _____
H. Describe night lighting of the project _____
(include Plan for shielding light from adjacent uses, if available)
I. Percent of total project proposed for: Building _____
Paving _____
Landscaping _____

IV. Commercial, Industrial or Other Project (if project is only residential do not answer this section). Describe entire project, not just area in need of zone change, variance, or other alteration.

A. Type of use Landfill Extension, Yard Trimmings Facility, and an Open Windrow Composting Area
B. Total number of square feet of floor area 155,000 +/-
C. Number of units if hotel/motel NA
D. Number of stories NA, height NA ft.
E. Total number of parking spaces provided: 310 +/-
F. Hours of operation 6 a.m. - 6 p.m. Days of operation Monday - Saturday
G. If fixed seats or beds involved, number NA
H. Describe night lighting of the project For Security Purposes Only
(Include Plan for shielding light from adjacent uses, if available)
I. Number of employees per shift 75 +/- Total Employees
J. Number of students/patients/patrons NA
K. Describe security provisions for project Fencing along perimeter/entrance gates
L. Percent of total project proposed for: Building .67%
Paving .94%
Landscaping 35.84% (Total Revegetation At The Close of Operation)

EAF3

IV.B. 155,000 +/- includes proposed yard trimmings facility, administrative offices, scale house, nursery, and all ancillary buildings.

V.F. Hours of operation reflect public waste disposal operation hours, daily operations (i.e., daily preparation, maintenance, etc.) would be during the hours of 6 a.m. to 9 p.m., Monday-Saturday, equipment maintenance would be limited to the hours of 4 a.m. to 9 p.m., Monday-Saturday.

V. Stationary Noise Clearance - A clearance may be necessary certifying the project's equipment (i.e., air conditioning) complies with City Noise Regulations.

Some projects may require a noise study. The EIR staff will inform those affected b this requirement.

VI. Selected Information:

A) Circulation: Identify by name all major and secondary highways and freeways within 1,000 feet of the proposed project; give the approximate distance(s):
Golden State Freeway (Interstate 5), approximately 600' +/-
San Fernando Road (Major Highway), approximately 600' +/-

B) Air: All projects that are required to obtain AQMD permits (see AQMD Rules and Regulations) are required to submit written clearance from the AQMD indicating no significant impact will be created by the proposed project.*
See Bottom of Page

C) Noise: Projects located within 600 feet of railroad tracks indicate the number of trains per day:**

Day 7 am - 10 pm NA
Night 10 pm - 7 am NA

VII. Mitigating Measures:

Feasible alternatives or mitigation measures which would substantially lessen any significant adverse impact which the development may have on the environment.

- Implement proposed mitigation measures included in Initial Study.
- Comply with all applicable Federal, State, regional and local regulatory agencies.
- Comply with conditions as set forth by the Granada Hills - Knollwood District Plan.
- Comply with approved conditions of the Sunshine Canyon Landfill Extension FEIR, as set forth by the County of Los Angeles, relevant to the proposed project.

* Contact the South Coast Air Quality Management District at 572-6418 for further information.

** For information, contact:

Southern Pacific Train Dispatcher	629-6569
Union Pacific Engineering	725-2313
Santa Fe Train Master	267-5546

VI.B. Prior FEIR prepared for the Sunshine Canyon Landfill Extension (City and Count has indicated that no significant impacts would be created.

ATTACHMENT

II.F. The information utilized was obtained from the Oak Tree Report prepared for the Sunshine Canyon Landfill Extension FEIR, located in the City and County of Los Angeles.

Approximately 865 existing Coastal Live Oaks would be removed from the proposed project site. The trunk diameters would consist of the following estimated averages, in percentage form:

less than 12"	37%
12" - 18"	48%
18" - 24"	11%
24" - 36"	3%
greater than 36"	>1%

The removal of the 865 Coastal Live Oaks was based upon the oak tree sampling prepared for the FEIR County Oak Tree Report.

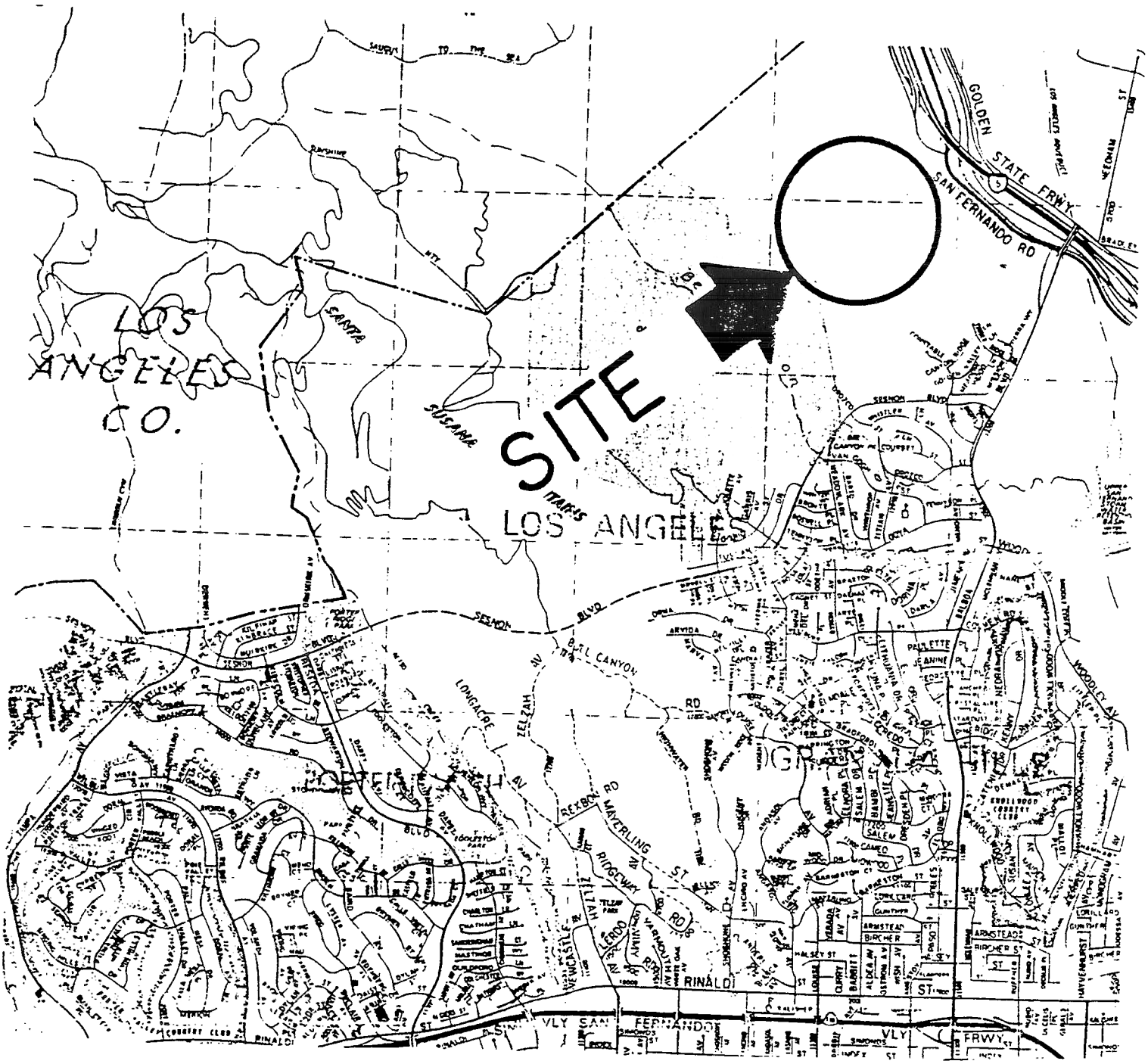
II.G. The number of trees being removed from the project site would be counted at a later date and subsequently located and plotted on a Plot Plan Map. Actual numbers plotted would be based upon a 100% inventory. In addition, appropriate mitigation measures would be developed based upon actual tree removal.

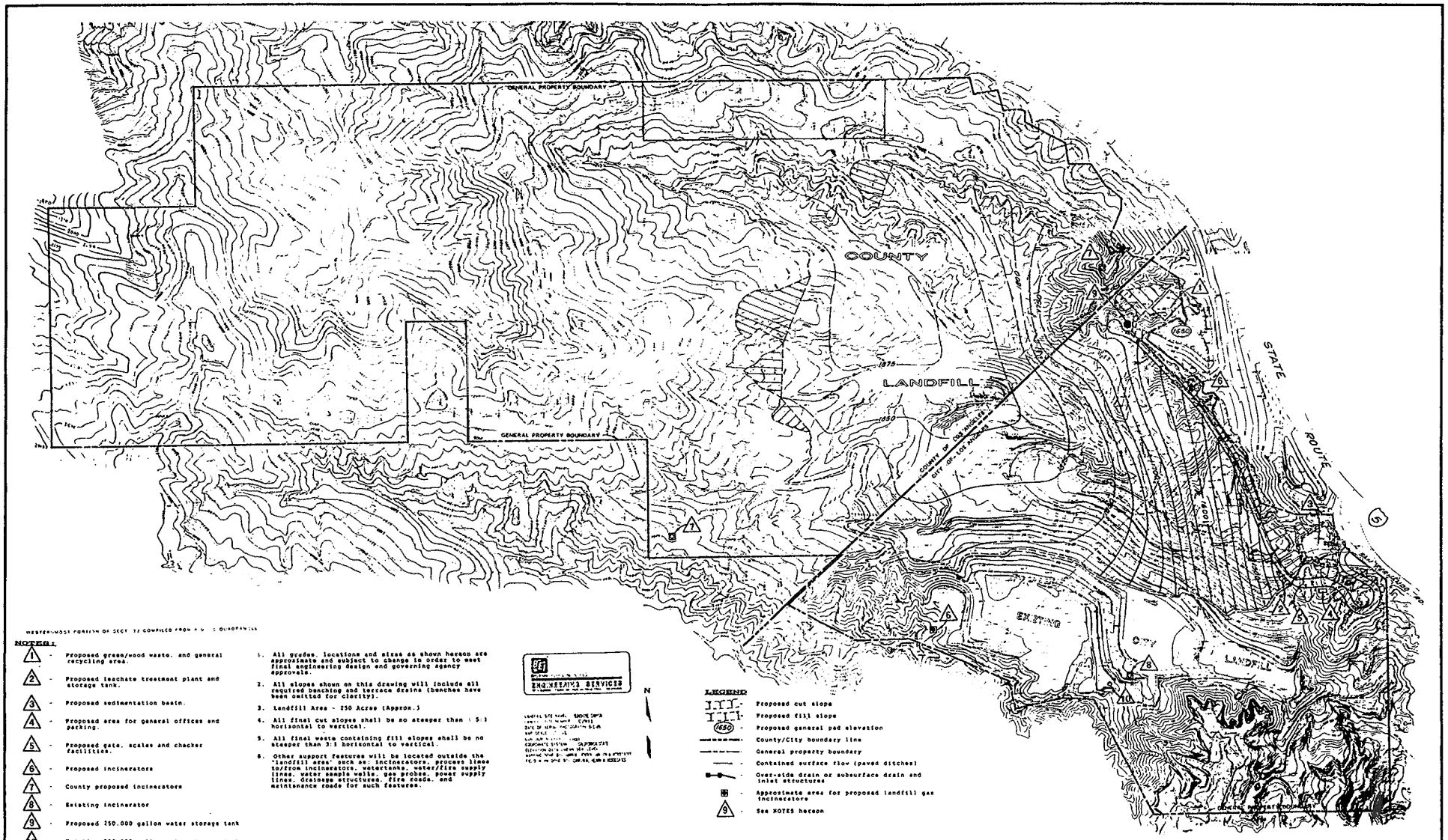
During project implementation, all trees would be counted during the year that they are removed; furthermore, oak tree removal would follow the requirements of the Oak Tree Ordinance No. 153,478 of the City. In addition, the project proponent is proposing to replace oak trees on a 2:1 ratio and implement both an oak tree monitoring and management program.

A/C MAPPING SERVICE
636 FOREST AVENUE
SOUTH PASADENA, CA 91030

818 - 441-1080

VICINITY MAP





WESTERN-MOST PORTION OF SECT 32 COMPILED FROM A.V. [illegible] OUADRANGLES

NOTES:

1. Proposed green/wood waste, and general recycling area.
2. Proposed leachate treatment plant and storage tank.
3. Proposed sedimentation basin.
4. Proposed area for general offices and parking.
5. Proposed gate, scales and checker facilities.
6. Proposed incinerators
7. County proposed incinerators
8. Existing incinerator
9. Proposed 250,000 gallon water storage tank
10. Existing 200,000 gallon water storage tank

1. All grades, locations and sizes as shown hereon are approximate and subject to change in order to meet final engineering design and governing agency approvals.
2. All slopes shown on this drawing will include all required benching and terrace drains (benches have been omitted for clarity).
3. Landfill Area - 250 Acres (Approx.)
4. All final cut slopes shall be no steeper than 1.5:1 horizontal to vertical.
5. All final waste containing fill slopes shall be no steeper than 3:1 horizontal to vertical.
6. Other support features will be located outside the "landfill area" such as: incinerators, process lines to/from incinerators, wetertanks, water/fire supply lines, water sample wells, gas probes, power supply lines, drainage structures, fire roads, and maintenance roads for such features.

ENGINEERING SERVICES

LEGEND

- Proposed cut slope
- Proposed fill slope
- (650) Proposed general pad elevation
- County/City boundary line
- General property boundary
- Contained surface flow (paved ditches)
- Over-side drain or subsurface drain and inlet structures
- Approximate area for proposed landfill gas incinerators
- (9) See NOTES hereon

NO.	DATE	ZONE	DESCRIPTION	DRAWN	APPROVED

REVISIONS

DATE June 17, 1991
JOB NO. 0102-42
DRG NO
DRAWN R.J.
CHK'D D.A.
APP'D

The PRA Group, Inc
CONSULTING ENGINEERS
2104 Technology Drive, Hercules, CA 94547, (415) 732-9600
1241 Hood Avenue, Piedmont, CA 94610, (415) 653-3177

SITE PLAN

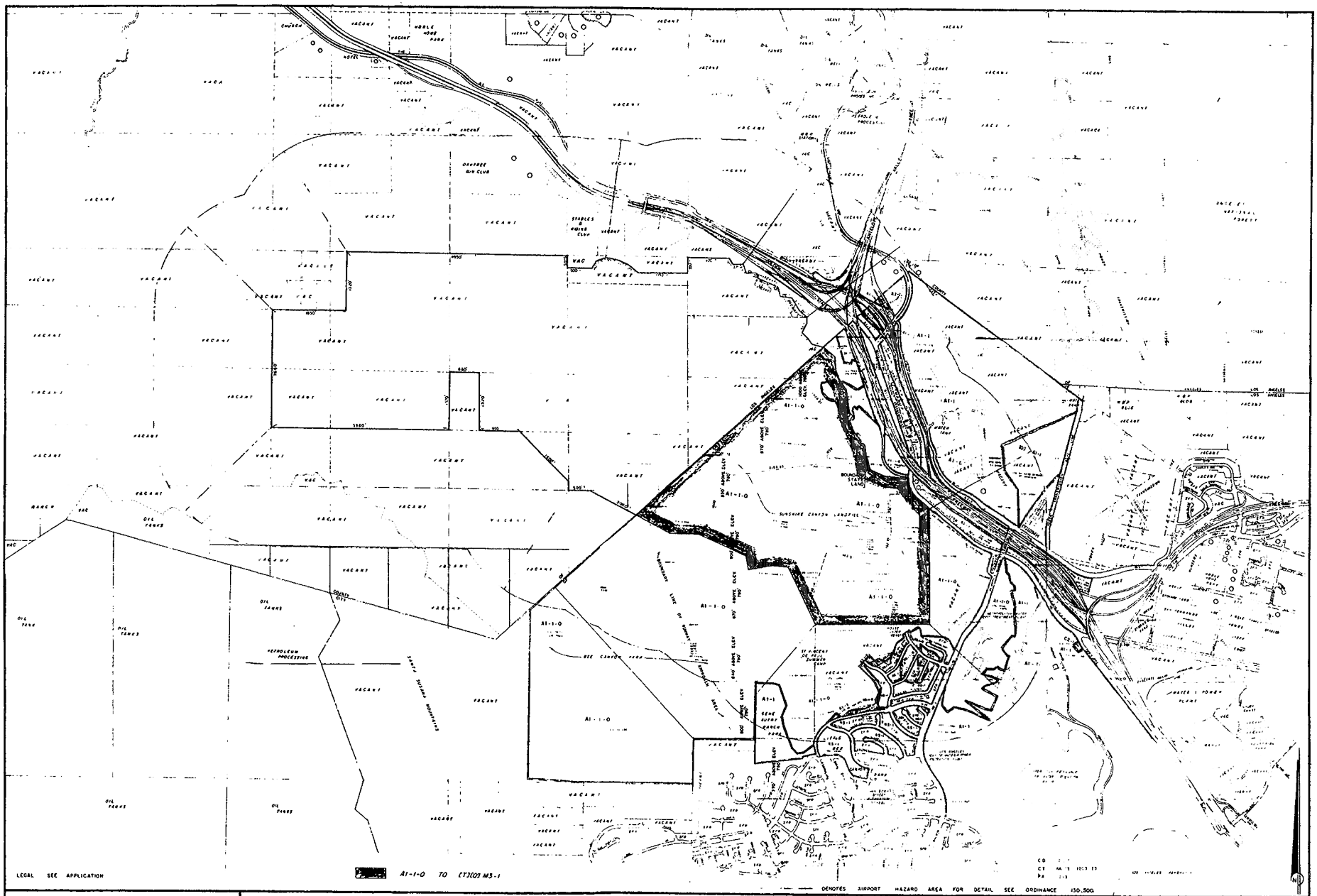
CITY OF LOS ANGELES LANDFILL EXTENSION

SUNSHINE CANYON SANITARY LANDFILL, LOS ANGELES COUNTY, CALIFORNIA

BROWNING-FERRIS INDUSTRIES

FIGURE NO. CITY EXT

REV NO. 0



HANDELMAN · KATHERMAN , INC.
1000 WILSHIRE BLVD #320
LOS ANGELES , CA 90017
(213) 688-0800

PERIODIC COMPREHENSIVE GENERAL PLAN REVIEW AND ZONE CHANGE PROCESS -"BATCHING" - E A F

LEGEND SFR=SINGLE FAMILY RESIDENCES

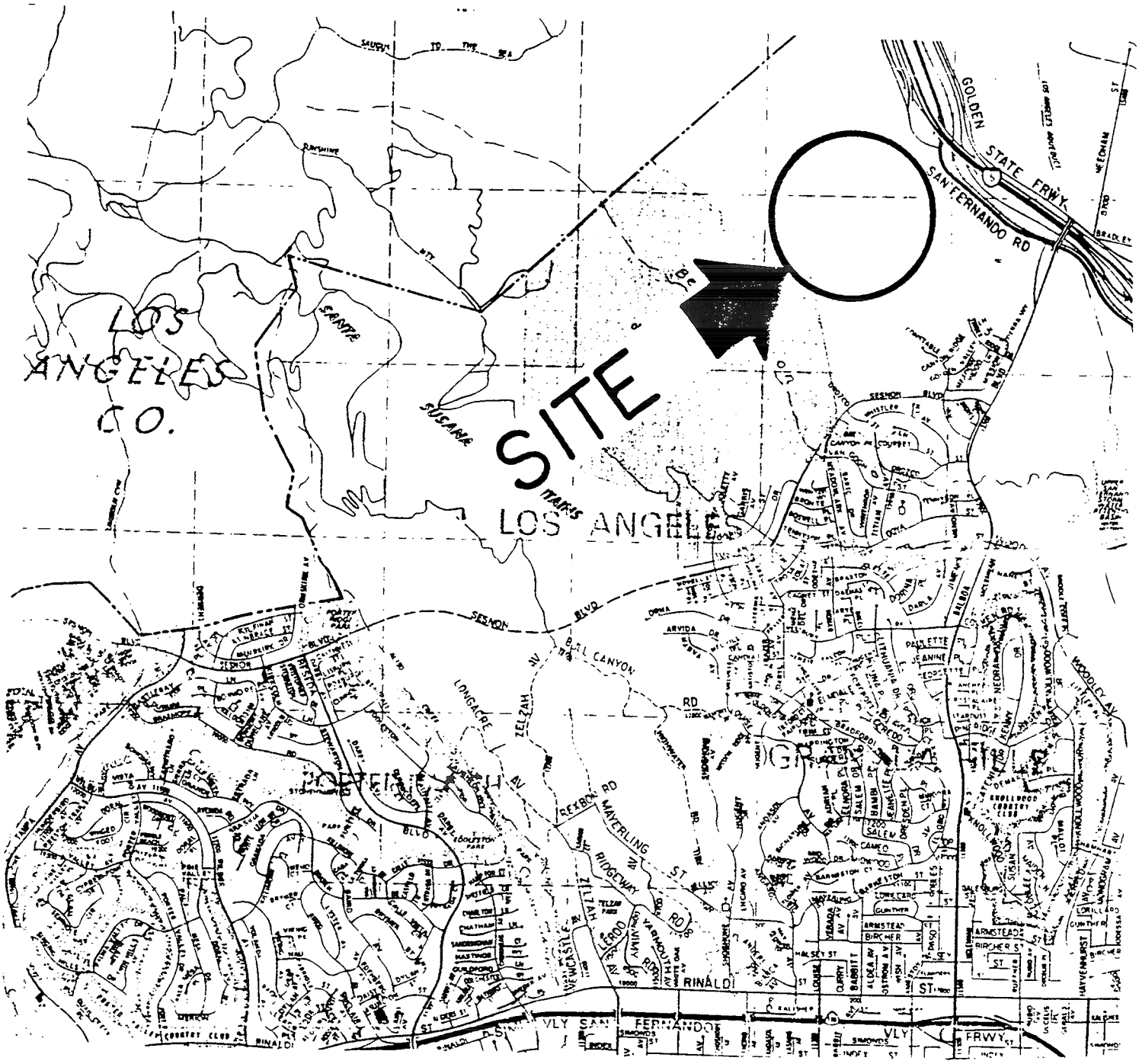
CASE NO
DATE & T. 91
SCALE 1" = 600'
USES
TO PAGE
COMING
BOOK PAGE GRID

Appendix A2
ZONE CHANGE/GENERAL PLAN AMENDMENT APPLICATION

A/C MAPPING SERVICE
636 FOREST AVENUE
SOUTH PASADENA, CA 91030

818 - 441-1080

VICINITY MAP



CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING

ENVIRONMENTAL ASSESSMENT FORM

CASE NO. _____ Council District _____
Related Case: _____ Atlas Pg; Bk; Ref. No. _____
PROJECT DESCRIPTION: _____

COMMUNITY PLAN: _____ DOES NOT CONFORM/QUAD: _____
Land Use indicated: _____ Vacancy Factor _____%
CLEARANCE REQUIRED:
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Archaeological/Paleontological/Historical/Coastal Zone/Sta. Monica Mtn. Zone
Air/Major Street/Housing/Flood (Map #) State Clearing House/SCAG
OFFICE USE ONLY - ABOVE DOUBLE LINE

TO BE COMPLETED BY APPLICANT - PLEASE TYPE OR PRINT

PROJECT ADDRESS: 14747 San Fernando Road Community Granada Hills - Knollwood
Between San Fernando Road and Balboa Boulevard
APPLICANT'S NAME: Browning-Ferris Industries of Calif., Inc. Phone (818) 362-1567
Address 14747 San Fernando Road City Sylmar 91342 (zip code)

If applicable
AGENT'S COMPANY: Brobeck, Phleger & Harrisson Phone (213) 489-4060
CONTACT PERSON: Ms. Linda Bozung
Address 444 S. Flower Street City Los Angeles, CA 90017 (zip code)

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DATE: _____

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RECEIPT NO. _____ DATE: _____

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F. Number Refer to Attachment, Trunk Diameter _____ and type _____ of existing trees.

G. Number Refer to Attachment, Trunk Diameter _____ and type _____ of trees being removed (identify on plot plan).

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17% Less than 10% slope
5% 10-15% slope
7% over 15% slope

If slopes over 10% exist, a topographic map will be required. Over 50 acres - 1"=200' scale is okay

I. Check the applicable boxes and indicate the condition on the Plot Plan: There are (x) natural or man-made drainage channels, ( ) rights-of-way and/or ( ) hazardous pipelines crossing or immediately adjacent to property. ( ) None of the above.

J. Grading: (specify the total amount of dirt being moved)
** Landfill would have an estimated capacity of 55 million tons using cut and cover operation of refuse disposal.
NA 0-500 cu. yds.
NA if over 500 cu. yds. indicate amount of cu. yds.

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If project involves more than one phase or substantial expansion or changes of existing uses, please document each portion separately, with the total or project details written ›w. Describe entire project, not just area in need of zone change, variance, or other a..eration.

III. Residential project (if not residential, do not answer)

A. Number of Dwelling Units-
Single Family _____
Apartment _____ or Condominium _____

B. Number of Dwelling Units with:
One bedroom _____ Two bedrooms _____
Three bedrooms _____ Four or more bedrooms _____

C. Total number of parking spaces provided _____

D. List recreational facilities of project _____

E. Approximate price range of units $ _____ to $ _____

F. Number of stories _____, height _____ ft.

G. Type of appliances and heating (gas, electric, gas/electric, solar) _____
Gas heated swimming pool? _____

H. Describe night lighting of the project _____
(include Plan for shielding light from adjacent uses, if available)

I. Percent of total project proposed for: Building _____
Paving _____
Landscaping _____

IV. Commercial, Industrial or Other Project (if project is only residential do not answer this section). Describe entire project, not just area in need of zone change, variance, or other alteration.

A. Type of use Landfill Extension, Yard Trimmings Facility, and an Open Windrow Composting Area

B. Total number of square feet of floor area 155,000 +/-

C. Number of units if hotel/motel NA

D. Number of stories NA, height NA ft.

E. Total number of parking spaces provided: 310 +/-

F. Hours of operation 6 a.m. - 6 p.m. Days of operation Monday - Saturday

G. If fixed seats or beds involved, number NA

H. Describe night lighting of the project For Security Purposes Only
(include Plan for shielding light from adjacent uses, if available)

I. Number of employees per shift 75 +/- Total Employees

J. Number of students/patients/patrons NA

K. Describe security provisions for project Fencing along perimeter/entrance gates

L. Percent of total project proposed for: Building .67%
Paving .94%
Landscaping 35.84% (Total Revegetation At The
Landfilling 62.55% Close of Operation)

EAF3

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Some projects may require a noise study. The EIR staff will inform those affected by this requirement.

VI. Selected Information:

A) Circulation: Identify by name all major and secondary highways and freeways within 1,000 feet of the proposed project; give the approximate distance(s):
Golden State Freeway (Interstate 5), approximately 600' +/-
San Fernando Road (Major Highway), approximately 600' +/-

B) Air: All projects that are required to obtain AQMD permits (see AQMD Rules and Regulations) are required to submit written clearance from the AQMD indicating no significant impact will be created by the proposed project.*
See Bottom of Page

C) Noise: Projects located within 600 feet of railroad tracks indicate the number of trains per day:**

Day 7 am - 10 pm NA
Night 10 pm - 7 am NA

VII. Mitigating Measures:

Feasible alternatives or mitigation measures which would substantially lessen any significant adverse impact which the development may have on the environment.

- Implement proposed mitigation measures included in Initial Study.
- Comply with all applicable Federal, State, regional and local regulatory agencies.
- Comply with conditions as set forth by the Granada Hills - Knollwood District Plan.
- Comply with approved conditions of the Sunshine Canyon Landfill Extension FEIR, as set forth by the County of Los Angeles, relevant to the proposed project.

* Contact the South Coast Air Quality Management District at 572-6418 for further information.

** For information, contact:

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Union Pacific Engineering	725-2313
Santa Fe Train Master	267-5546

VI.B. Prior FEIR prepared for the Sunshine Canyon Landfill Extension (City and County) has indicated that no significant impacts would be created.

APPLICANT/CONSULTANT'S AFFIDAVIT

OWNER MUST SIGN AND BE NOTARIZED;

IF THERE IS AN AGENT, THE AGENT MUST ALSO SIGN AND BE NOTARIZED

I, Dean Wise
Owner (Owner in escrow)*
(Please Print)

Signed: _____
Owner

I, LINDA J. BOZUNG
Consultant*
(Please Print)
BROEBECK, PFLEGER & HANSON

Signed: _____
Agent

being duly sworn, state that the statements and information contained in th Environmental Assessment Form are in all respects true and correct to the best of m knowledge and belief.

State of California, County and City of Los Angeles

Signed: Brenda Helene Theveny
Notary

Subscribed and sworn to before me

this 24th day of June, 19 91

(NOTARY or CORPORATE SEAL)

OFFICIAL SEAL
BRENDA HELENE THEVENY
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires DEC 11, 1993

Signed: Brenda Helene Theveny
Notary

Subscribed and sworn to before me

this 24th day of June, 19 91

(NOTARY)

OFFICIAL SEAL
BRENDA HELENE THEVENY
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires DEC 11, 1993

* If acting for a corporation, include capacity and company name.

APPLICATION TO THE
CITY PLANNING COMMISSION

City Planning Commission Case No. _____

Related Case No(s). ZA 17804

Street Address 14747 San Fernando Road, Sylmar

REQUEST: (Check one only-a separate application is required for each)

/ / ZONE CHANGE: From zone _____ to _____

/ / HEIGHT DISTRICT: From _____ to _____

/xx/ ZONE CHANGE/HEIGHT DISTRICT: From A1-1-0 to M3-1-0.
REQUIRING GENERAL
PLAN AMENDMENT: From Medium Low Density Residential to Heavy Industrial

/ / BUILDING LINE: ( )establish ( )repeal change from ___ feet to ___ feet

The existing building line is based on Ordinance No. _____.

If more than one street, a separate application is required for each.

/ / CONDITIONAL USE: Type of use _____

/ / DENSITY BONUS: _____ percent increase or number of additional units.

/ / SUPPLEMENTAL USE DISTRICT: Type of district _____
(Omit parts A and B below)

A. The property is situated at 14747 San Fernando Road, on the East side(s) between Balboa Blvd. and County of Los Angeles Boundary Street.

B. The ownership number(s) from Exhibit A and acquisition date(s) of the involved property being: _____

All applications must include the owner of the involved property as the applicant or as co-applicant, if the application is filed on behalf of a lessee or purchaser in escrow.

C. (Legal) description of said property (lot, block, tract or metes and bounds) being: See Attached Exhibit D

(If additional space is required, attach as Exhibit D)

DATE APPLICATION DEEMED COMPLETE AND FILED _____

Initials _____

CP-7201 (3/88)

Your application herein will receive full, fair and impartial consideration. Experts on the staff of this Department will fully investigate and analyze the subject matter of your application without cost to you other than the filing fee paid by you. The same full, fair and impartial consideration will be accorded your application regardless of whether or not you engage any person to represent you.

This information is furnished you for your protection against any person who might indicate to you that but for his services you would not receive the same full, fair and impartial consideration.

CITY OF LOS ANGELES-CITY PLANNING DEPARTMENT
APPLICANT'S AFFIDAVIT

STATE OF CALIFORNIA)
CITY OF LOS ANGELES) SS.
COUNTY OF LOS ANGELES)

I, We, DEAN WISE
(Print Name In Full)

being duly sworn, depose and say that I am/we are OWNER(S)/LESSEE(S) of the entire property involved in this application and that I have familiarized myself/ourselves with the requirements of the City Planning Department with respect to preparing and filing this application and that the foregoing statements and answers herein contained and the information on the attached plans, to the best of my/our ability present the arguments in behalf of the application herewith requested and that the statements and information above referred to are in all respects true and correct to the best of my/our knowledge and belief.

Brenda Helene Theveny
Notary Public

OFFICIAL SEAL
BRENDA HELENE THEVENY
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires DEC 11, 1993

Signed _____
(Owner's signature)
Print Name Dean Wise

14747 San Fernando Road
(Mailing address of owner)
(818) 362-1567
(Daytime Phone No.)
Sylmar, CA 91342
City Zip

Subscribed and sworn to before me this 24th day of June 1991

State below the name, address and phone number of person to be contacted for details, if other than above signatory.

Name Handelman*Katherman, Inc. Robert Katherman
Address 1000 Wilshire Blvd., Suite 320
City Los Angeles, CA 90017
(Daytime) Phone No. (213) 892-0800

State below the name, address and phone number of ~~the lessee or purchaser in escrow, if any~~ agent.

Name Brobeck, Phleger & Harrisson Linda Bozung
Address 444 S. Flower Street
City Los Angeles, CA 90017
(Daytime) Phone No. (213) 489-4060

FOR OFFICE USE ONLY

Application Reviewed and Accepted by _____
Date _____
Applic. Fee _____ O.S.S. Fee _____ Total Fee _____
Receipt No. _____

CP-7201 (3/88)

ZC/GPA APPLICATION
EXHIBIT "C" JUSTIFICATION
14747 San Fernando Road, Sylmar

1. Request

This application is for the change in zone and general plan amendment for a 494 ± acre site located at 14747 San Fernando Road, Sylmar, California, southwest of the intersection of the Antelope Freeway (State Route 14) and the Golden State Freeway (Interstate 5) in the Granada Hills Community.

The requested zone change is from A1-1-0 (Agricultural Zone, Height District 1, Oil District Overlay) to M3-1-0 (Heavy Industrial Zone, Height District 1, Oil District Overlay). The requested Granada Hills - Knollwood District plan amendment is from Minimum Density Residential to Heavy Industrial.

The change in zone and plan amendment would allow for the continued operations and extension of a Class III nonhazardous solid waste landfill facility, a yard trimmings facility, and an open windrow composting area (the "City Extension"). The landfill facility will continue to be identified as the "Sunshine Canyon Landfill."

2. Project Description

On February 19, 1991, the Los Angeles County Board of Supervisors approved the extension of Sunshine Canyon Landfill operation and authorized the development of a 16.9 million ton landfill extension in the County of Los Angeles on approximately 542 acres, with landfilling to take place on approximately 215 acres, pursuant to Conditional Use Permit and Oak Tree Permit 86-312-(5), Compound Plan Amendment 90-2-(5) and Sub-Plan Amendment 86-312-(5).

A condition of the action by the Los Angeles County Board of Supervisors requires the applicant, Browning Ferris Industries of California, Inc. (BFI), to apply for the City Extension of the landfill development into the City of Los Angeles by July 1, 1991. This application is being filed to satisfy the County of Los Angeles requirements and to enable the future consolidation of landfill operations in both the City and County areas.

This City Extension will have an estimated total airspace capacity of 55 million tons, allowing for the disposal of approximately 5,000 tons of solid waste per day in the City of Los Angeles portion of the site. This is in addition to the 6,000 tons per day approved for the County landfill extension, which will provide for a total capacity in the City and County portions of the site of 11,000 tons per day.

The landfill will be operated as a Class III facility in accordance with Title 14 and Title 23, Chapter 15 of the California Code of Regulations. The landfill design will include: a state-of-the-art composite landfill liner; groundwater monitoring and collection systems; leachate collection, removal and treatment systems; landfill gas collection, extraction and disposal systems; surface and storm water control systems; intermediate and final covers; and landscaping treatments during operation and following closure of the landfill.

The yard trimmings facility will be designed as a high-technology, enclosed processing facility. The facility will operate with machinery, conveyors and equipment for processing incoming yard trimmings. A separate tipping and storage area will provide sufficient storage for two days of incoming material and the processing at this facility will be designed to minimize inorganic contamination of yard waste through the processes of sorting, shredding and sizing. The processing facility will handle a daily capacity of 250 tons and up to 62,500 tons of yard trimmings per year.

An open windrow composting area will augment the yard trimmings processing facility and will require approximately 15 acres of land. The active windrow composting area will have dimensions of approximately 500 feet long, 18 feet wide and 8 feet high and approximately 3.5 windrows per week would be constructed. The material will remain in the windrows for 12 weeks and then be transfered to a storage area to be placed in curing piles until it is sold.

3. Public Necessity, Convenience and General Welfare

The California Integrated Solid Waste Management Act (Assembly Bill 939) which became law January 1, 1990 established state-mandated local integrated waste management planning. "This law requires that each city and county prepare a source reduction and recycling element of a County Integrated Waste Management Plan, documenting the ability to achieve specified waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. In addition, each county is required to develop a siting element to provide for the long-term disposal of wastes which cannot be diverted" (Integrated Solid Waste Management System for Los Angeles County, Draft Environmental Impact Report) (August 1990). With anticipated future closures of existing landfills sites in the Los Angeles basin, increased recycling and source reduction alone will not be sufficient to satisfy disposal capacity needs. "Based on the 'Time to Crisis' analysis prepared jointly by the City's Bureau of Sanitation, the County Department of Public Works and the Los Angeles County Sanitation Districts, the City will utilize all available landfill capacity at existing sites by 1997" (Subsequent Environmental Impact Report, Lopez Canyon Sanitary Landfill at VI-3).

A comprehensive solid waste management plan, known as the Solid Waste Management Action Plan April, 1988 (the "Action Plan") was developed by the City

of Los Angeles Bureau of Sanitation, the County of Los Angeles Department of Public Works and the County Chief Administrative Office. Staff members from these organizations developed and adopted the Action Plan in response to the impending solid waste disposal capacity crisis in the Los Angeles region. Adopted recommendations of the Action Plan include the implementation of recycling and composting programs, the expansion of existing landfills, and the siting of landfill facilities as a long-term necessity, not an option, to alleviate the impending crisis.

Some of the major facts presented in the Action Plan are as follows:

- By 1992, there will not be disposal capacity for 6,400 tons of waste per day unless new facilities are sited or existing landfills are expanded. If capacity is not added through either new landfills being sited or existing landfills being expanded, this figure will increase to 30,000 tons per day by the year 2000.

- Currently 5,400 tons per day of waste are exported from the City of Los Angeles.

- The City of Los Angeles will have no disposal capacity remaining within the City by 1997.

Similarly, in testimony before the Los Angeles County Board of Supervisors on January 17, 1991, in connection with the extension of the Sunshine Canyon Landfill into the County, Mr. Tom Tidemanson, Director of Public Works for the County of Los Angeles, addressed landfills and regional capacity need in the Los Angeles area. Mr. Tidemanson emphasized that one of two key policies of the Action Plan was that "[e]xisting landfills be expanded to the maximum extent technically and environmentally feasible. " According to Mr. Tidemanson, expanding existing landfills is one of only two means available of addressing the waste disposal capacity shortfall in the short-term because of the five to seven years required to permit new landfills. Thus, he concluded that "[i]t is essential that Sunshine Canyon Landfill be permitted to provide and possibly assure disposal capacity during the critical short-term period."

The region's need for additional landfill capacity and, in particular, the extension of Sunshine Canyon, was also discussed in detail in the Solid Waste Management Status and Disposal Options Report in Los Angeles County (February, 1988) which states that because the Sunshine Canyon Landfill site has the largest remaining potential landfill waste capacity of any existing landfill site in the County, its extension is indispensable in averting the disposal capacity shortfall in the near term. This was also highlighted most recently in the Integrated Solid Waste Management System for Los Angeles County, Draft Environmental Impact Report (Executive Summary) (August, 1990), prepared for the County's Integrated Solid Waste Management System, which provides that "several of these expansions are absolutely necessary, at least in the short term, if a disposal crisis is to be averted.

Between now and 1995, expansions of existing sites are the only feasible method of averting a shortfall."

The current goals, policies and objectives of the County's Integrated Solid Waste Management System focus on minimizing disposal of solid waste at landfills through aggressive waste diversion programs but, at the same time, require the establishment of adequate landfill capacity to ensure that disposal of remaining wastes can be accomplished in a safe, environmentally sound manner. In that regard, the primary components of the County's Integrated Solid Waste Management System include: (i) waste diversion programs (i.e., source reduction, recycling and reuse), (ii) the expansion of existing landfills, and (iii) siting new landfills when environmentally feasible. The Final EIR for the Sunshine Canyon Landfill Extension in the City and County identified the following project-related benefits.

1. The City Extension will provide needed landfill capacity, available to both public and private entities within the City, to help avert an impending region-wide waste disposal capacity shortfall "crisis" projected to begin in 1991. The Extension will serve as a Class III landfill site and as an integral component of the County's regional Integrated Solid Waste Management System;

2. The City Extension is strategically located within close proximity to waste stream sources in the City. Accordingly, there are economic benefits associated with the Extension (i.e., potential for lower waste handling costs, fuel conservation, etc.);

3. The City Extension will provide opportunities to implement various waste diversion programs and recovery and recycling measures; and

4. When the City Extension has reached final capacity and the facility's closure plan is completed, the landfill site ultimately will provide permanent open space for the City.

In addition, by helping to avert an impending shortfall of landfill capacity, the landfill extension will serve existing development in the City of Los Angeles.

4. Consistency with City & County Plans and Policies

The proposed project is consistent with portions of the Granada Hills - Knollwood District Plan, the City's proposed Solid Waste Management Plan (CiSWMP) which is a part of the infrastructure element of the City's General Plan, and the City and County Solid Waste Management Action Plan. In addition, Sunshine Canyon is also identified in the County of Los Angeles Solid Waste Management Plan (LA CoSWMP) as a landfill site.

The landfill has been in operation at the existing location since 1958 and is currently operating under a zoning variance granted by the City in September 1966 (ZA 17804) which will expire in September 1991. The continued operation of this facility will serve the current waste disposal needs of the citizens of Los Angeles.

According to the Granada Hills - Knollwood District plan "...development shall be sequenced and timed to provide a workable, efficient, and adequate balance between land use and service facilities at all times. The full residential, commercial and industrial densities and intensities proposed by the Plan are predicated upon the provision of adequate public service facilities, with reference to the standards contained in the General Plan." The requested City Extension is a public service facility for solid waste disposal required to meet the current needs of the Granada Hills - Knollwood District and the Los Angeles region.

The Sunshine Canyon Landfill site is identified in the City's proposed Solid Waste Management Plan, which is a part of the Service-Systems Element of the City's General Plan. This document states the need for the designation of additional industrial land through the Periodic Plan review process to facilitate siting facilities for the implementation of the CiSWMP. The existing Sunshine Canyon landfill site is currently designated in the Granada Hills - Knollwood District Plan for Agricultural uses. A change in the Plan designation to heavy industrial would be in conformance with both the current use of the site as a landfill and the Service-Systems Element of the City's General Plan.

The project proponent's stated objectives are to address both the short and long term needs identified in the Action Plan and other associated reports. Therefore, in response to the Action Plan and in concert with the County's Integrated Solid Waste Management System, the proposed project will meet the demonstrated need for additional daily and total disposal capacity beginning in 1995; will combine implementation of the County and City extensions; and will meet a substantial portion of the waste disposal capacity needs in the Los Angeles area

In addition, Sunshine Canyon has been identified in the County of Los Angeles Solid Waste Management Plan as a designated landfill site. Therefore, the proposed extension of this existing landfill operation is consistent with the policy statements of the County Planning document which was also approved by the City of Los Angeles.

5. <u>The Site is Suitable for the Proposed Use</u>

This site is advantageous in terms of location, topography, geology, and existing use. Surrounding land uses adjacent to the proposed project include undeveloped mountainous terrain to the north and west, vacant property known as Aliso Canyon and East Canyon to the southwest and west, and an approximate 100-acre, privately owned, open space area to the south and southeast. Directly south of the

existing landfill is O'Melveny Park, a designated regional recreational site. Located farther southwest of the project site are the residential communities of Granada Hills, Porter Ranch and Knollwood. Light industrial uses, San Fernando Road, the I-5 Freeway and the Southern Pacific Rail line are located to the east.

The entrance to Sunshine Canyon is located on the easterly side of the proposed project site and is served by San Fernando Road off the Interstate 5 just south of the Antelope Valley Freeway and north of the Foothill Freeway. The proposed project site is well served by these transportation corridors which includes a nearby railroad.

Since the landfill is situated away from major population centers of the City, there are limited environmental impacts upon Los Angeles residents. In addition, freeway access to the proposed project contributes to a reduction of traffic through City streets and is economical for private waste haulers, cities, and the general public that use the landfill.

The proposed project site is also topographically isolated from the surrounding community. Sunshine Canyon is shielded on three sides by mountain ridges rising to an elevation of approximately 1,600 - 2,000 feet, therefore, proposed landfill operations would not be visible to the residents located to the south. In addition, the landfill maintains a dedicated open space buffer zone of at least a quarter of a mile and the actual operations of the proposed landfill will be 2,000 feet from the nearest residential area.

The geology of the area is also appropriate for safe landfill operation as a result of the excellent containment characteristics of the bedrock and cover materials at the site. In addition, due to the unique conditions of low annual precipitation rate, steep hill face, low permeability interim cover and low permeability bedrock, the leachate generated is very low.

Of the 494 acre site within the City of Los Angeles, approximately 230 acres consist of the existing landfill. Approximately 164 acres of the site will be utilized for the extension of the landfill and composting operations. The remaining approximately 100 acres at the southerly property line is proposed to be retained as open space and a buffer zone.

Because of the significant physical separation between the proposed project and the nearest residential land uses, the proximity of existing freeway corridors and rail lines, the topography and geography of the site and the fact that the site has been used as a landfill over a thirty-year period, this location is ideally suited for the proposed use as an extension of the existing landfill, a yard trimmings facility and an open windrow and composting area.

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING

PERIODIC PLAN REVIEW (PPR)
AND MAJOR PLAN REVIEW (MPR)

INITIATION REQUEST AND TIME EXTENSION AUTHORIZATION

Initiation. By law, only the City may initiate a Plan Amendment. Your application is technically for a Zone Change only. Therefore you must request that the City initiate the corresponding Plan Amendment by checking the box below:

☒ I hereby request that the City Planning Commission initiate a Plan Amendment consistent with my requested zone change.

Time extensions. The City Planning Commission will hear MPR/PPR cases in a timely manner, consistent with Ordinance No. 160,862. The maximum authorized processing time for MPR/PPR cases, from the Fee Payment date to Commission action date, is 180 days. In complex or controversial cases, it may be necessary to utilize all of this time and to exercise two additional extensions of up to three months each. By authorizing the maximum allowable processing time and the extension, you may avoid having your case delayed until the next window, or denied due to lack of time to resolve controversial issues. You should therefore check the following boxes, agreeing to these potential extensions:

☒ I hereby consent to the maximum 180-day time limitations pursuant to L.A.M.C. Section 12.32,D-2.

☒ I hereby consent to two 3-month extensions of time pursuant to L.A.M.C. Section 12.32,D-2, if required.

(Signed) _____

(Date) June 21, 1991
Applicant or Representative

CP-7750 (3/88)

S C R E E N F O R M (Continued)

(1) CRITERIA	(2) ANSWER YES OR NO:		(3) ANSWER YES OR NO:	
Please refer to the maps on file in Room 460-S to determine Hillside areas, CRA areas, Specific Plan areas, Open Space areas.	Any YES answer requires consultation with Batching Section head prior to filing. A complete plan restudy or other type of planning approval may be required.		Any YES answer requires Major Plan Review. To be eligible for Periodic Plan Review, all answers must be "NO".	
	IS (DOES) THE PROJECT:		IS THE PROJECT:	
Project area in acres	200 acres or more	yes	100 acres or more	yes
New dwelling units in project	1,000 units or more	no	More than 400 units	no
New non-residential square footage	1,000,000 sq.ft. or more	no	More than 500,000 sq. ft.	no
Acreage within "hillside" areas (shown on CP-6112)	50 acres or more	yes	More than 20 acres	yes
Acreage for projects located in whole or in part in a CRA area	50 acres or more	no	More than 20 acres	no
Mixed use combining residential and commercial uses	500,000 sq. ft. or more	no	More than 250,000 sq. ft.	no
Specific Plans	In a Specific Plan area	no		
Highway Designation	Require change to Hwy. Desig.	no		
Change Plan text and/or legend	Require change to text/legend	yes		
Open Space Designation	In an Open Space Area	no		

CP-7723 (7/90)

Appendix A3
INITIAL STUDY AND CHECKLIST

CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

INITIAL STUDY AND CHECKLIST

(Article IV — City CEQA Guidelines)

LEAD CITY AGENCY	COUNCIL DISTRICT	DATE
City Planning Department	12	7/25/91

PROJECT TITLE/NO.	CASE NO.
Zone Change / Plan Amendment	91-0377-ZC/GPA(CUZ)(ZV)

PREVIOUS ACTIONS CASE NO.

☐ **DOES** have significant changes from previous actions.
☐ **DOES NOT** have significant changes from previous actions.

PROJECT DESCRIPTION: Zone Change from A1-1-O to M3-1-O and Plan Amendment on 494± acre site. The Zone Change and Plan Amendment would allow the expansion of the County landfill operation of a Class III non-hazardous solid waste landfill facility, a yard trimmings facility, and an open windrow composting area (the City Extension). The landfill identified as the "Sunshine Canyon Landfill."

PROJECT LOCATION

19747 - San Fernando Rd; Granada Hills.

PLANNING DISTRICT	STATUS:
Granada Hills-Knollwood	☐ PRELIMINARY 11-21-74 ☐ PROPOSED ☒ ADOPTED 7-3-88 (Amended) date

EXISTING ZONING	MAX. DENSITY ZONING	PROJECT DENSITY
A1-1-O	—	
PLANNED LAND USE & ZONE	**MAX. DENSITY PLAN**	☐ DOES CONFORM TO PLAN
Very Low I	—	☐ DOES NOT CONFORM TO PLAN
PLAN DENSITY RANGE	**PROJECT DENSITY**	☐ NO DISTRICT PLAN
1 to 2	—	

☞ DETERMINATION (to be completed by Lead City Agency)

On the basis of the attached initial study checklist and evaluation:

NEGATIVE DECLARATION	☐ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
MITIGATED NEGATIVE DECLARATION	☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION WILL BE PREPARED. (See attached condition(s).)
ENVIRONMENTAL IMPACT REPORT	☒ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Helene Ho — SIGNATURE

City Planner — TITLE

INITIAL STUDY CHECKLIST (To be · .ıpleted by Lead City Agency)

BACKGROUND

PROPONENT NAME	PHONE

PROPONENT ADDRESS

AGENCY REQUIRING CHECKLIST	DATE SUBMITTED

PROPOSAL NAME (If applicable)

ENVIRONMENTAL IMPACTS

(Explanations of all "yes" and "maybe" answers are required to be attached on separate sheets.)

	YES	MAYBE	NO
1. EARTH. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	✓		✓
b. Disruptions, displacements, compaction or overcovering of the soil?	✓		
c. Change in topography or ground surface relief features?	✓		
d. The destruction, covering or modification of any unique geologic or physical features?		✓	
e. Any increase in wind or water erosion of soils, either on or off the site?			✓
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			✓
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	✓		
2. AIR. Will the proposal result in:			
a. Air emissions or deterioration of ambient air quality?	✓	✓	
b. The creation of objectionable odors?		✓	
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?		✓	
d. Expose the project residents to severe air pollution conditions?		✓	
3. WATER. Will the proposal result in:			
a. changes in currents, or the course or direction of water movements, in either marine or fresh waters?			✓
b. Changes in absorption rates, drainage patterns, or the rate and amounts of surface water runoff?	✓		
c. Alterations to the course or flow of flood waters?		✓	
d. Change in the amount of surface water in any water body?			✓
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?		✓	
f. Alteration of the direction or rate of flow of ground waters?	✓		
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		✓	
h. Reduction in the amount of water otherwise available for public water supplies?			✓
i. Exposure of people or property to water related hazards such as flooding or tidal waves?			✓
j. Changes in the temperature, flow, or chemical content of surface thermal springs.			✓
4. PLANT LIFE. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops and aquatic plants)?	✓		
b. Reduction of the numbers of any unique, rare or endangered species of plants?		✓	
c. Introduction of new species of plants into an area, or is a barrier to the normal replenishment of existing species?		✓	
d. Reduction in acreage of any agricultural crop?		✓	

	YES	MAYBE	NO
5. ANIMAL LIFE. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	✓		
b. Reduction of the numbers of any unique, rare or endangered species of animals?	✓		
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?		✓	
d. Deterioration to existing fish or wildlife habitat?		✓	
6. NOISE. Will the proposal result in:			
a. Increases in existing noise levels?			✓
b. Exposure of people to severe noise levels?			✓
7. LIGHT AND GLARE. Will the proposal			
a. Produce new light or glare from street lights or other sources?	✓		
b. Reduce access to sunlight of adjacent properties due to shade and shadow			✓
8. LAND USE. Will the proposal result in an alteration of the present or planned land use of an area?		✓	
9. NATURAL RESOURCES. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?			✓
b. Depletion of any non-renewable natural resource?			✓
10. RISK OF UPSET. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?		✓	
b. Possible interference with an emergency response plan or an emergency evacuation plan.			✓
11. POPULATION. Will the proposal result in:			
a. The relocation of any persons because of the effects upon housing, commercial or industrial facilities?			✓
b. Change in the distribution, density or growth rate of the human population of an area?			✓
12. HOUSING. Will the proposal:			
a. Affect existing housing, or create a demand for additional housing?			✓
b. Have an impact on the available rental housing in the community?			✓
c. Result in demolition, relocation or remodeling of residential, commercial, or industrial buildings or other facilities?			✓
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of additional vehicular movement?	✓		
b. Effects on existing parking facilities, or demand for new parking?			✓
c. Impact upon existing transportation systems?			✓
d. Alterations to present patterns of circulation or movement of people and/or goods?			✓
e. Alterations to waterborne, rail or air traffic?			✓
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	✓		
14. PUBLIC SERVICES. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	✓		
b. Police protection?			✓
c. Schools?			✓
d. Parks or other recreational facilities?			✓
e. Maintenance of public facilities, including roads?			✓
f. Other governmental services?			✓
15. ENERGY. Will the proposal result in:			
a. Use of exceptional amounts of fuel or energy?			✓
b. Increase in demand upon existing sources of energy, or require the development of new sources of energy?		✓	

	YES	MAYBE	
16. ENERGY. Will the proposal result in:			
a. Use of exceptional amount of fuel or energy?			
b. Significant increase in demand upon existing sources of energy, or require the development of new sources of energy?			
17. UTILITIES. Will the proposal result in a need for new systems, or alterations to the following utilities:			
a. Power or natural gas?			
b. Communications systems?			
c. Water?	✓		
d. Sewer or septic tanks?			
e. Storm water drainage?		✓	
f. Solid waste and disposal?			
18. HUMAN HEALTH. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?		✓	
b. Exposure of people to potential health hazards?		✓	
19. AESTHETICS. Will the proposed project result in:			
a. The obstruction of any scenic vista or view open to the public?			
b. The creation of an aesthetically offensive site open to public view?			
c. The destruction of a stand of trees, a rock outcropping or other locally recognized desirable aesthic natural feature?			
d. Any negative aesthetic effect?	✓		
20. RECREATION. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?			
21. CULTURAL RESOURCES:			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?		✓	
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?			
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?			
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?			
22. MANDATORY FINDINGS OF SIGNIFICANCE.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.			
c. Does the project have impacts which are individually limited, but cumulatively considerable?*			
d. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?			

* "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

DISCUSSION OF ENVIRONMENTAL EVALUATION

(Attach additional sheets if necessary)

PREPARED BY	TITLE	TELEPHONE	DATE
Reginald K. Foster	City Planning Assoc.	485-5776	

Work Sheet

	Significant Yes	No
1. Earth: Landfill operation would have an estimated capacity of 55 million tons using cut and cover operation of refuse disposal.		
a. Grading	X	
b. Geologic Hazards Project site is located within a seismic study area	X	
2. Air:		
a. Mobile 345,000 vehicle miles/day 2.83 = X 5% Air pollutants from landfill gases and mobile source emissions from cut on fill operation an increase in vehicles traffic using on-site roads. 345,000 vehicle miles/day vehicle miles/day 235,000 vehicle miles/day	X	
b. Stationary - A.Q.M.D. permit ~~is not~~ May be required.	May be	
c. Meteorology (wind) Wind blowing dust from ~~Less than six stories~~ the land fill site	X	
3. Water:		
a. Surface Water Runoff/Hydrology Less than 50 acres in size < BFI owns a total of 1560 acres.	X	
b. Ground Water		
c. Flood Hazard —	X	
☐ None		
☒ Project should conform to the Flood Hazard Management Plan		
Material cut from one portion of the site would be used in an adjacent area to the extent technically feasible, to reduce the cover material in transported.	X	

Work Sheet

	Significant Yes	No
Plant Life:		
[ ] No known significant or endangered plant life.		
[X] — (#) Various and Oaks (species) trees/plants affected.	X	
Development of this project site would result in the direct removal of native non-native vegetation, and riporian plant species within the proposed project area.		
Animal Life:		
[ ] No known significant or endangered animal life.		
[X] Significant or endangered animal life affected.	X	
the proposed project will result in change in the diversity of species, or numbers of and species of animals.		
Noise:		
a. Mobile Adjacent to San Fernando Road. St/Ave/Hwy		X
[X] Commercial Project [ ] Residential		
b. Stationary The on-site noises from land fill equipment and other operations are not expected to be audible at adjacent residential area, because the proposed project would be located below existing perimeter ridge lines.		X
Light:		
a. Artificial [X] Security lighting to be shielded from nearby residential - ____	X	
[ ]		
b. Natural		
Less than six stories		X
Land Use:		
a. Zoning		
Existing -- A1-1-O		
Required -- M3-1-O	X	

	Significant Yes	No
b. Community or District Plan Existing -- Very low I density Requested -- Heavy industry	X	
c. General Plan Elements Not checked against Citywide Elements		
d. Regional, State or Federal Plans No knowledge on part of staff		X
9. Natural Resources: The implementation of the proposed project would not impact on natural resources.		X
10. Risk of Upset: The potential for the release of hazardous substances in the event of an accident or upset conditions is possible.	X	
11. Population: The proposed project will not result in relocation of any persons.		X
12. Housing: Project will not result in a change in the distribution, density or growth rate of the human population or create a demand for additional housing.		X
13. Right-of-Way and Access: San Fernando Rd. ___ Boulevard/Avenue/Street Major/secondary Hwy -- Ingress/Egress; Access close to intersection; Driveway Plan required.	X	

Work Sheet

	Significant	
	Yes	No
14. Transportation and Circulation:		
Comments from DOT		
a. Traffic — Traffic study will be required.	X	
b. Parking		
☒ Commercial - 3 spaces/1,000 square feet ____		X
Code ____ spaces required		
____ spaces provided		
☐ Residential		
15. Public Services:		
a. Fire Protection — The proposed site is located in an area designated Mountain Fire District.	X	
b. Police Protection		
☒ Commercial security will mitigate need for additional police personnel		X
☐ ____ <333 persons		
c. Schools		
☒ Commercial project / Industrial		X
☐ Residential ____ DU's <150 d.u.'s		
d. Libraries — N/A		X
e. Parks/Recreation Facilities		
☒ Commercial Facility / Industrial		X
☐ Residential		

Work Sheet

	Significant Yes	No
16. Energy Conservation:		
CEQA requires project to consider energy conservation.	X	
17. Utilities:		
a. Power less than 2400 d.u.'s.		
Less than 850,000 square feet ——		X
b. Gas less than 600 d.u.'s.		
Less than 100,000 square feet ——		X
c. Communication Systems		
d. Water		
Water conservation measures should be encouraged.	X	
e. Sewers Landfill operation.		
Refer to Valley Engineering District.		X
f. Storm Water Drainage		
The surface water runoff may change existing drainage patterns.	cont.	
g. Solid Waste and Disposal		
Proposed landfill site.		X
18. Safety: The proposed project site may create a health hazard or potential health hazard.	Maybe	
19. Aesthetics/View:		
Landscape all open areas not used for buildings, driveways or parking areas.	X	

Work Sheet

	Significant Yes	Significant No
20. **Cultural Resources:**		
a. **Archaeological**		
☐ No known significant sites.		
☒ Significant site(s) —	Maybe	
b. **Paleontological**		
☒ No known significant sites. —		X
☐ Significant site(s)		
c. **Historical**		
☒ No known sigfinicant sites. —		X
☐ Significant site(s)		

Note: See attached

INITIAL STUDY
TRAFFIC ANALYSIS

EIR CASE NO.: 91-0377-Z(GPA TRANSMITTAL DATE: 7/25/91

PROJECT DESCRIPTION: Z.C. and Plan Amendment for the continued operations and expansion of a Class III nonhazardous solid waste landfill facility on 494± acs of a 1560 acre site City/County.

PROJECT LOCATION: 14747 San Fernando Rd.

EXISTING ZONES: A-1-O PLANNED ZONES: _____

PROJECTED GENERATED TRIPS:

San Fernando Rd. (Street) ADT _____ TPH _____

Antelope Fwy. (Street) ADT _____ TPH _____

CRITICAL INTERSECTIONS:

_____ & _____ &

	AM	PM	AM	PM
NB				
SB				
EB				
WB				

COMMENTS: No increase in daily tonage to landfill. Access same.

IMPACT OF TRAFFIC GENERATION:

NOT SIGNIFICANT	MAY BE SIGNIFICANT	MAY BE CUMULATIVE	TRAFFIC STUDY NEEDED
(circled)			

Prepared by: D. Yuen Date: 7/31/91

CP-1206 (3/79)

20-0130

Work Sheet

	Significant Yes	Significant No
1. Earth:		
a. Grading — Non-Hillside		X
b. Geologic Hazards — ___		X
2. Air:		
a. Mobile 684,000 vehicle miles/day		
2.83 =		
X 5%		
684,000 (Existing facility)		
vehicle miles/day 235,000 vehicle miles/day		X
b. Stationary - A.Q.M.D. permit is not required.		X
c. Meteorology (wind)		
Less than six stories — ___		X
3. Water:		
a. Surface Water Runoff/Hydrology		
Less than 50 acres in size — ___		
b. Ground Water		X
c. Flood Hazard		X
[X] None		
[ ] Project should conform to the Flood Hazard Management Plan		X

Work Sheet

	Significant Yes	No
4. Plant Life:		
[X] No known significant or endangered plant life.		X
[ ] ____ # ____ (species) trees/plants affected.		
5. Animal Life:		
[X] No known significant or endangered animal life.		X
[ ] Significant or endangered animal life affected.		
6. Noise:		
a. Mobile Adjacent to Ventura St/Ave/Hwy		X
[X] Commercial Project [ ] Residential		
b. Stationary —		X
7. Light:		
a. Artificial [ ] Security lighting to be shielded from nearby residential - ____	X	
[ ]		
b. Natural		
Less than six stories —		X
8. Land Use:		
a. Zoning		
Existing -- Required -- —		X

Appendix A4
ENVIRONMENTAL STUDY ADVISORY COMMITTEE DETERMINATION

CITY OF LOS ANGELES
Department of City Planning
Environmental Review Section, Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4801

DATE: August 14, 1991 EAF CASE NO.: SUP-91-0377-ZC/GPA(CUZ)(ZV)

TO THE APPLICANT OR CONSULTANT:

On 08/07/91 the Planning Department completed the review of your project for an environmental clearance and made the following determination: (SEE ITEM CHECKED BELOW:)

( ) The attached Negative Declaration has been proposed for your project.

( ) The attached Mitigated Negative Declaration (MND) has been proposed for your project. IT IS REQUIRED THAT THE OWNER OF THE PROPERTY INVOLVED SIGN AND RETURN TO THIS OFFICE THE ATTACHED ENVIRONMENTAL MITIGATION AGREEMENT: MAIL THE SIGNED AGREEMENT TO THE ADDRESS SPECIFIED ABOVE. THIS ENFORCEABLE AGREEMENT REQUIRES THE OWNER OF THE PROPERTY TO DEVELOP THE PROJECT IN ACCORDANCE WITH THE STIPULATED MITIGATION MEASURES.

NOTE: A minimum 21-day public notice and comment period is required by law for all proposed environmental clearances. Therefore, your environmental document can be released on but not before _____. THE SIGNED ENVIRONMENTAL MITIGATION AGREEMENT MUST BE PROVIDED TO THIS OFFICE PRIOR TO THE RELEASE OF THE MND DOCUMENT. (The Agreement can be mailed or delivered to this office in advance of the above date). Only upon release of the environmental document can the City continue to process your application. Payment of application fees are made at Counter S, Room 460, Los Angeles City Hall.

( ) Because your case is being processed simultaneously with others, under the Periodic Plan Review Process, IT IS NECESSARY THAT YOU PAY THE REQUIRED FEES BY _____. Failure to meet this fee deadline will delay your project for six months, that is, until the next filing window for your project's geographic area.

(xx) Your project requires the preparation of a Draft Environmental Impact Report (DEIR). An initial public notice distribution with a project description and maps to concerned persons and organizations is required by law as the first City action on your project. Therefore, before you begin the preparation of an EIR document, you must submit 40 copies each of the following: a vicinity map; radius map; tract/parcel map; plot plan; description materials; and pay $ 10,936.50 (½ the required EIR filing fee). (At the time the draft EIR is deemed adequate for circulation, the second-half of the filing fee must be paid.) IF FEES ARE NOT PAID WITHIN SIX (6) MONTHS, THE CASE WILL BE DEACTIVATED AND A TERMINATION NOTICE GIVEN. THE CASE WILL BE TERMINATED WITHOUT FURTHER NOTICE IF FEES REMAIN UNPAID AT THE END OF ONE YEAR, UNLESS A WRITTEN REQUEST FOR EXTENSION HAS BEEN APPROVED BY THIS SECTION. ANY FURTHER CITY ACTION ON A TERMINATED CASE WILL REQUIRE A RECONSIDERATION APPLICATION AND RELATED FEE PAYMENT.

NOTE: BY LAW THE CITY IS PROHIBITED FROM RENDERING A DECISION ON YOUR PROJECT UNTIL A PROPOSED ENVIRONMENTAL CLEARANCE IS ISSUED FROM THIS OFFICE.

Please call the Environmental Review Section (213)485-3443 if you have any questions.

MELANIE S. FALLON
Director of Planning

HELENE LY
City Planner
Environmental Review Section

CP-1274 (4/91)

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING

ENVIRONMENTAL DATA REQUIREMENT

SUPPLEMENTAL EIR NO.: 91-0377-ZC/GPA(CUZ)(ZV)

PROJECT DESCRIPTION: Zone Change from A1-1-0 to M3-1-0 and Plan Amendment on 494± acre site. The Zone Change and Plan Amendment would allow the expansion of the County landfill operation of a Class III non-hazardous solid waste landfill facility, a yard trimmings facility, and an open windrow composting area (the City Expansion). The landfill identified as the "Sunshine Canyon Landfill."

PROJECT LOCATION/ADDRESS: 14747 San Fernando Road; Granada Hills

In accordance with the provisions of Article 3, Sections 65940 through 65944 of the Government Code and the California Environmental Quality Act of 1970 and adopted City guidelines, this Department has reviewed the Environmental Assessment Form for the above-described project and hereby finds that the proposed project may have a significant effect on the environment and the following data necessary to properly evaluate said effects are required to be submitted to this Department in an acceptable form prior to the acceptance of the application as complete:

1. EARTH (GRADING, DRAINAGE, GEOLOGIC HAZARDS): The proposed project is located within the boundaries of a Hillside Study area with possible impacts occurring due to grading and alteration of on- site drainage. Additionally, the proposed project is proximal to potentially active fault zones and may be subject to unstable earth conditions and other seismic-related hazards. Investigation should address impacts relative to proposed grading procedures, drainage plans, and construction activities (i.e. dust control, on-site watering). Investigation should also address specific actions relative to minimizing potential hazards and risk related to seismic disturbance of the site. Potential impact to the physical character/aesthetic value of unique landforms (rock croppings) shall also be analyzed and appropriate mitigation measures defined. Mitigation measures may include:

   - preparation of a site-specific geotechnical report;
   - construction activities performed under supervision of a licensed engineer, geologist and/or soils engineer;
   - on-site investigation of site during construction;

- use of landform grading and landform landscaping techniques and compliance with applicable portions of the City's Landform Grading Manual;

- conformance with City's Seismic Safety Plan, applicable portions of the Municipal Code, and seismic safety requirements of the Department of Building and Safety;

- project design maintaining physical integrity/aesthetic value of existing natural landform features;

- adherence to applicable provisions of the Municipal Code, Flood Hazard Management Specific Plan and recommendations of the City Engineer/Department of Building and Safety; and,

- use of semipermeable pavement for hardscape areas.

2. AIR (AIR QUALITY-STATIONARY SOURCES): Project development may result in deterioration of ambient air quality due to short-term emissions generated during construction. Additionally, future project residents may be exposed to dust and odors generated by landfill and other activities proximal to the site. Investigation should address specific actions that may potentially reduce impacts on local and regional air quality. Mitigation measures may include:

   - implementation of ground wetting and temporary dust cover during construction; and,

   - restriction of grading activities on exceedingly windy days when particulates and/or fugitive dust are likely to be carried off-site.

3. PLANT LIFE: Investigation should address impacts resulting from removal of existing vegetation on the site. Mitigation measures may include:

   - grading plans/landscaping and construction activities in conformance with the City's Oak Tree Preservation Ordinance (Section 17.05 R, Los Angeles Municipal Code);

   - preparation of a plot plan indicating the location, size, type and condition of all existing trees on the site, as prepared by a reputable tree expert, submitted for approval by the Department of City Planning and the Street Tree Division of the Bureau of Street Maintenance;

- replacement of trees in parkways and replacement of desirable trees on-site to the satisfaction of the Street Tree Division of the Bureau of Street Maintenance and the Department of City Planning;

- preparation of landscape plans by a licensed landscape architect subject to approval by the City Planning Department and/or other city agencies; and,

- landscaping of appropriate open space areas.

4. ANIMAL LIFE: The proposed project may result in 1) conversion and/or disturbance of existing animal habitat area on-site and proximal to the site, and 2) disruption of access corridors between habitat areas. Investigation should address impacts resulting from project development. Mitigation measures may include:

- provision of escape routes to allow resident wildlife access to uninhabited areas;

- consultation with the Department of Animal Regulation regarding animal relocation and escape routes; and,

- post-construction landscape treatment to provide replacement habitat for wildlife; use of native and/or drought-tolerant plant materials is encouraged.

5. NOISE (STATIONARY SOURCES): Project development may significantly affect noise levels, adversely impacting adjacent residential areas. Investigation should address noise impacts resulting from construction activities (short-term stationary source), land use activities (long-term stationary sources). Mitigation measures may include:

- limiting hours of construction;

- use of sound-restricted construction equipment;

- compliance with applicable provisions of Noise Ordinance No. 144,331; and,

- limiting hours of operation for project use (post construction period).

6. LAND USE (DISTRICT PLAN): The proposed project would result in alteration of existing land use.

(CONTINUED ON PAGE 4)

7. LIGHT/GLARE (ARTIFICIAL): Project development may result in increased ambient reflectivity and glare from the project site, adversely impacting locations proximal to the site. Investigation should address impacts related to increased reflectivity and stationary light sources. Mitigation measures may include:

   - use of plant materials to decrease reflectivity of hardscape surface; and,

   - security lighting to be directed toward the center of the site.

8. RISK OF UPSET: Project development may result in the release of hazardous substances in the event of an accident or upset conditions, due to volume of solid waste which may be accepted.

9. TRANSPORTATION-CIRCULATION-DRIVEWAY/ACCESS: Project generated vehicular traffic may contribute to cumulative impacts on local circulation. The project is also located within a Traffic Impact Area defined by the Department of Transportation. Completion of a Traffic Study, as determined by the Department of Transportation, may be necessary to define impacts of project generated vehicular traffic at several key intersections, and appropriate ingress/ egress locations. Traffic impacts should be addressed by the Environmental Impact Report to provide comprehensive review and mitigation of impacts to an acceptable level. Mitigation measures may include:

   - completion of a Traffic Study, per requirements of the Department of Transportation, assessing potential cumulative impacts resulting from project development; and,

   - provision of a driveway/access plan consistent with requirements/recommendations of Department of Transportation and/or City Engineer.

10. PUBLIC SERVICES: The proposed project may result in a need for additional fire protection and emergency services. Investigation should address impacts relative to adequacy of these services. Mitigation measures may include:

   - compliance with federal, state, and local requirements regarding fire protection, safety, and locking standards; and,

(CONTINUED ON PAGE 5)

- structural design, roadways, and emergency access locations developed in accordance with City requirements.

11. ENERGY CONSERVATION: The California Environmental Quality Act requires that the proposed project be considered relative to potential energy impacts. Investigation should address impacts resulting from potential consumption of non-renewable resources. Mitigation measures may include:

- compliance with Title 24, California State Code, (Energy Conservation Standards); and,

- consultation with Department of Water and Power and Southern California Gas Company regarding feasible energy conservation measures.

12. WATER CONSERVATION: The California Environmental Quality Act requires that the proposed project be evaluated relative to water use and water conservation measures in accordance with State guidelines. Investigation should address potential consumption rates and adequacy of existing water supply. Mitigation measures may include:

- compliance with the City's Water Conservation Regulations defined in Ordinance No. 163,532.

13. SERVICE SYSTEM (STORM DRAINAGE): The proposed project may have a cumulative impact on existing service system. Investigation should address adequacy of existing system and potential impacts resulting from project development. Mitigation measures may include:

- compliance with recommendations of Department of Engineering and other City agencies (as required).

14. AESTHETICS: The proposed project development may substantially alter the surrounding land use.

15. EQUESTRIAN ISSUES: The proposed project is located in a community characterized by equestrian-related activities. Investigation should address potential impacts related to equestrian-use issues. Mitigation measures may include:

- communication with local horsekeeping groups, owners, and interest groups;

- comprehensive analysis of existing trail locations to insure uninterrupted access by equestrians;

- dedication of property for an equestrian trail(s), to permit continued access to open space areas/trails adjacent to the site; and,

- project development consistent with the policies and provisions of the City's Major Equestrian and Hiking Trails Plan element and the "Equestrian and Hiking Trails Guide."

16. CULTURAL RESOURCES (ARCHAEOLOGICAL): The project site is located in an area which may encompass prior unrecorded sites potentially containing significant artifacts/ resources. Investigation should address impacts resulting from disruption of potential archaeological sites. Mitigation measures may include:

    - notification of project development to the UCLA Archaeological Inventory (213)825-1720, or an appropriate agency to be determined by the Environmental Review Section of the City Planning Department; and,

    - cessation of project development should archaeological materials be encountered and, subsequent contact with the UCLA Archaeological Inventory to insure proper evaluation of artifacts/resources and potential impacts.

Pertinent data should be prepared and submitted addressing these impacts, as well as project alternatives; appropriate mitigation measures; energy conservation measures and economic data, where necessary to evaluate the feasibility of a mitigation measure or alternative in order that the Planning Department may prepare the necessary Environmental Impact Report (EIR) as required by the Environmental Review Committee. Questions regarding this matter may be directed to Merryl Edelstein at 485-3443.

APPROVED BY: Merryl Edelstein Merryl Edelstein DATE: 08/07-91
Environmental Review Committee

APPLICANT OR REPRESENTATIVE NOTIFIED: _____

CP-1256

Appendix A5
NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING

CITY PLANNING COMMISSION

WILLIAM G. LUDDY
PRESIDENT
THEODORE STEIN, JR.
VICE-PRESIDENT
LYDIA H. KENNARD
SUZETTE NEIMAN
FERNANDO TORRES-GIL

RAMONA HARO
SECRETARY

(213) 485-5071

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

DEPARTMENT OF
CITY PLANNING
ROOM 561, CITY HALL
200 N. SPRING ST.
LOS ANGELES, CA 90012-4801

MELANIE S. FALLON
DIRECTOR
FRANKLIN P. EBERHARD
CHIEF DEPUTY DIRECTOR
(213) 237-1986
R. ANN SIRACUSA
DEPUTY DIRECTOR
ROBERT H. SUTTON
DEPUTY DIRECTOR
(213) 237-1818
FAX (213) 237-0552

NOTICE OF PUBLIC SCOPING MEETING
SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
Granada Hills-Knollwood District Plan Area
Council District 2

The City of Los Angeles ("City") has issued a "Notice of Preparation" for the preparation of a supplemental environmental impact report (SEIR) for the Sunshine Canyon Landfill within the City, and has scheduled a public scoping meeting on this proposed project. The City invites you to attend the scoping meeting and to comment on the environmental issues associated with the proposed project.

The proposed project would allow the development and operation of a Class III non-hazardous solid waste landfill facility and onsite composting facilities. The project site is located in the northwest portion of the San Fernando Valley, within the City boundary, approximately 3/4 of a mile southwest of the Antelope Freeway and the Golden State Freeway interchange.

The public scoping meeting will be facilitated by the Department of City Planning staff and will be conducted as a formal public meeting. The purpose of this public scoping meeting is to describe the proposed project, explain the environmental review process, and receive comments from the public on relevant environmental issues which should be discussed in the SEIR. Verbal comments from each speaker must be limited to 3 minutes, and should specifically address relevant environmental issues associated with the proposed project.

DATE: WEDNESDAY, APRIL 29, 1992
TIME: 7:00 P.M. - 10:00 P.M.
PLACE: JOHN F. KENNEDAY HIGH SCHOOL (LITTLE THEATER)
11254 Gothic Avenue, Granada Hills
APPLICANT: BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.

The City will prepare the SEIR to address the potential environmental impacts of the proposed project. This environmental document will be prepared to comply with the requirements of the California Environmental Quality Act (CEQA) and the City's environmental guidelines.

The complete environmental file, including an initial study and an environmental assessment, is available for public inspection in Room 655, City Hall, 200 North Spring Street, Los Angeles. Hours are Monday-Friday 7:30 a.m. -5:30 p.m.

These school premises have been licensed pursuant to provisions of Section 39379 of the Education Code of the State of California by Ultrasystems Engineers & Constructors, Inc. from the Board of Education of the City of Los Angeles. The Board of Education does not sponsor or take responsibility, nor does it necessarily endorse any of the activities, statements, or opinions which may be expressed at this meeting or activity.

AN EQUAL EMPLOYMENT OPPORTUNITY – AFFIRMATIVE ACTION EMPLOYER

NOTICE OF PREPARATION AND PRE-DRAFT REQUEST FOR COMMENTS

The enclosed materials describe a proposed project which consists of a landfill connecting to the County-approved Sunshine Canyon landfill and a yard trimmings and open windrow composting processing facility. The materials also discuss potential environmental impacts of the proposed project. The proposed project is located in an area that has been determined to be of interest to you and/or the organization you represent. A Supplemental Environmental Impact Report (SEIR) is to be prepared on the proposed project by this office.

We welcome all comments on the potential environmental impacts of the proposed project so that we can take into consideration your concerns and/or those of the organization you represent in the preparation of the (SEIR). All comments should be in writing and must be submitted to this office by May 11, 1992.

Please direct your response to:

Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856 (213) 485-5776

MELANIE S. FALLON
Director of Planning

Sally Hanley

Sally Hanley
City Planner
Environmental Review Section

SUPPLEMENTAL EIR CASE NO: SUP-EIR 91-0377-ZC/GPA(CUZ)(ZV)

PROJECT NAME: Sunshine Canyon Landfill, City of Los Angeles

PROJECT LOCATION: 14747 San Fernando Road
Sylmar, California 91342

PLANNING AREA: Granada Hills - Knollwood District Plan

COUNCIL DISTRICT: 12

DUE DATE: May 11, 1992

PROJECT BACKGROUND

The project applicant, Browning-Ferris Industries of California, Inc. ("BFI"), operated an approximate 230± acre Class III landfill in the southwest portion of Sunshine Canyon, in the City of Los Angeles ("City"), between 1978 and 1991. The proposed project consists of the development and operation of the City portion of a combined Los Angeles County/City landfill project as well as composting facilities adjacent to the prior landfill. The composting element of the project would consist of an on-site yard trimmings and open windrow composting facility. Both elements of the project would be located in Sunshine Canyon. The proposed Sunshine Canyon Landfill ("landfill") would be a Class III, nonhazardous solid waste facility and would not accept liquids, hazardous waste or radioactive materials.

BFI owns a total of 1,560± acres of real property in and adjacent to Sunshine Canyon within the City and unincorporated area of the County of Los Angeles ("County"). Of this 1,560± acres, approximately 1,066± acres are located in the County and the remainder, approximately 494± acres, is located in the City portion of Sunshine Canyon. The total acreage of the site subject to this environmental review is 494± acres.

County/City Landfill Project

During July 1986, an Initial Study was prepared for a proposed new landfill in Sunshine Canyon, located in both City and County jurisdictions ("County/City landfill"). The project as originally proposed was to have an estimated total disposal capacity of 215-million tons and a wastestream intake of up to 17,500 tons per day. The new landfill would be comprised of 706± acres of Sunshine Canyon, including 542± acres in the County and 164± undeveloped acres in the City. Landfill design considerations necessitated that the County/City landfill begin with the construction of the landfill in the County area of Sunshine Canyon; thereafter, the landfilling operations would extend back into the City area, eventually linking both County and City landfill areas.

County Portion of the County/City Landfill Project

Due to engineering and design considerations, the initial portion of the County/City landfill would be constructed in the County; therefore, land use entitlements and operational permits were originally sought for the portion of the landfill in the County's jurisdiction ("the County portion" of the County/City landfill.)

A draft environmental impact report ("DEIR") addressing both the County and City portions of the landfill was completed by the County Department of Regional Planning and circulated for public comment in 1989. Six Public hearings on the DEIR and the proposed County portion of the landfill were held by the County's Regional Planning Commission between 1989 and 1990, and the EIR public review and comment period extended over 198 days. A final EIR (FEIR) was issued in 1990 and certified by the Commission. Further public comment was solicited by the Board of Supervisors on the FEIR and the project between 1990 and 1991. The FEIR was certified by the Board of Supervisors in connection with its approval of a down-sized version of the project in February 1991.

PROJECT DESCRIPTION

City Portion of the County/City Landfill and Composting Facilities

As a condition to the County's approval for the County portion of the landfill, BFI is required to seek future City approval to further expand the landfill operations within the City boundaries. BFI is now seeking the necessary entitlements and permits for the City portion of the combined County/City landfill ("City portion"). As discussed previously, implementation of the County/City landfill would begin in the County area of Sunshine Canyon and extend into the City, eventually linking both the County and City landfill areas.

The proposed project in the City of Los Angeles ("the proposed project") would consist of two elements; first, the development and operation of a landfill connecting the County landfill with the existing Class III nonhazardous solid waste landfill facility (landfill footprint of approximately 240± acres, including both undeveloped City lands and acreage overlapping the existing landfill's fill slopes), and secondly, on-site composting facilities consisting of an on-site yard trimmings and open windrow composting processing facility. The total acreage of the proposed project site, comprising all of BFI's ownership in the City portion of Sunshine Canyon, is approximately 494± acres.

Environmental Review and Project Permitting

On June 25, 1991, BFI submitted an Environmental Assessment Form ("EAF") and a General Plan and Zone Change request to the City for the proposed project. The EAF defined the proposed project and the

requested project entitlements consistent with the applicable General Plan land use designation and the Zoning Code of the City. On August 7, 1991, the Environmental Staff Advisory Committee ("ESAC") of the Planning Department considered the EAF and directed City staff to prepare a Supplemental Environmental Impact Report ("SEIR") on the proposed project. The SEIR will address specific environmental issues relative to the City portion of the County/City landfill and the composting facilities that have the potential to cause significant effects on the environment.

This Notice of Preparation ("NOP") presents the scope of environmental issues based on the previous County FEIR and other incorporated documentation for the County/City landfill, and focuses the analyses to be included in the SEIR.

The existing project site land use designation as described within the Granada Hills-Knollwood District Plan is "Minimum Low Density Residential" and the present zoning on the proposed project site is A1-1-0" (Agricultural Zone, Height District 1, Oil District Overlay). The City Zoning Administrator has concluded that approval of the proposed project would require a general plan amendment to "Heavy Industrial" and a zone change to M3-1-0 (Heavy Industrial Zone, Height District 1, Oil District Overlay). These General Plan and Zoning amendments were not fully addressed in the prior FEIR.

In addition to the above discretionary approvals, BFI will be requesting various other approvals from the City (e.g. grading permit, building permit, utilities permit, etc.) New or amended permits and approvals will also be necessary from the following public agencies, subsequent to the City's action on BFI's proposal, in order to allow landfill development and operations. These permits include:

* Findings of Conformance, Integrated Waste Management Task Force of Los Angeles County;

* Solid Waste Facilities Permit, California Integrated Waste Management Board;

* Permit to Construct and Operate, South Coast Air Quality Management District;

* Waste Discharge Requirement Permit, (Los Angeles Regional Water Quality Control Board;

* Streambed Alteration Permit/1603, California Department of Fish and Game; and

* Nationwide 26 Permit, 404 (b)(1), U.S. Army Corp of Engineers.

Landfill in the City

The landfill element of the City portion of the project would be contiguous with the approved landfill of approximately 215 acres located in the County portion of Sunshine Canyon and would be adjacent to the prior City landfill. The proposed City portion of the County/City landfill would have an estimated net airspace capacity of 55 million tons and would have a solid waste disposal intake of approximately 30,000 tons per week (average 5,000 tons per day), in addition to the 36,000 tons per week of refuse approved for disposal within the approved County portion of the landfill.

On-Site Composting Facilities in the City

The on-site composting facilities element of the proposed project (on-site yard trimmings and an open windrow composting processing facility) was not previously proposed and evaluated in the FEIR prepared for the County/City landfill. These facilities are now being proposed in response to a "Request for Proposal" solicited by the City to interested parties in the spring of 1991.

The yard trimmings facility would be a high-technology, enclosed processing facility, designed to minimize household refuse in yard waste through the processes of sorting and shredding. The facility would be designed to handle a volume intake of 250 tons per day and up to 1,250 tons per week.

The open windrow composting area would be designed to process the yard trimmings into compost product. The open windrow method for producing compost would require approximately 15± acres of land. Each active windrow would have dimensions of approximately 500 feet long, 18 feet wide and 8 feet high. Approximately 3.5 windrows per week would be constructed, and each windrow would be turned at least three times per week by a mechanical device known as a "Scarab" windrow machine. A water truck would supply the necessary moisture to the windrows. The material would remain in the windrows for 12 weeks and would then be transferred to an on-site storage area in curing piles until sold.

AREAS OF POSSIBLE ENVIRONMENTAL IMPACT

As referenced previously, the FEIR prepared by the County of Los Angeles assessed environmental impacts of the combined County/City landfill extension. The FEIR documents prepared during the review and permitting of the County portion of the landfill extension consist of the following:

- Volume I - Draft EIR (April, 1989)
- Volume IIA and IIB - Appendices to Draft EIR (April, 1989)
- Volume III - Responses to County Agencies Comments (July, 1989)
- Volumes A and B - Responses to Public and Agencies Comments (July, 1990)
- Addendum to Draft EIR - Planning Commission Final FEIR (October, 1990)
- Final FEIR Comments Received and Responses (February, 1991)
- Addendum to Final FEIR Comments and Responses (February, 1991)

These documents and all incorporated technical reference documents have been on file at the County and are available for review at the following public libraries:

Granada Hills Library
10640 Petit Avenue
Granada Hills, CA

Central Library -
Sciency and Technology
433 South Spring Street
Los Angeles, CA

Sylmar Library
13509 Glen Oaks Boulevard
Sylmar, CA

Valencia Library
23743 W. Valencia Boulevard
Santa Clarita, CA

San Fernando Library
1050 Library Street
San Fernando, CA

Culver City Library
4975 Overland Avenue
Culver City, CA

Northridge Library
9051 Darby Avenue
Northridge, CA 91325

The following sections discuss those environmental issues specific to the City portion of the County/City landfill extension and the on-site composting facilities which will be addressed in the Supplemental Environmental Impact Report ("SEIR"). For those issues that have already been evaluated sufficiently in the original FEIR for the County/City landfill, references to relevant environmental and technical documentation are provided.

1. EARTH

The proposed project is located within the boundaries of a Hillside Study area with possible impacts occurring due to grading and alteration of on- site drainage. Additionally, the proposed project is proximal to potentially active fault zones and may be subject to unstable earth conditions and other seismic-related hazards. Investigation should address impacts relative to proposed landfilling, grading procedures and drainage plans (i.e. dust control, on-site watering). Investigation should also address specific actions relative to minimizing potential hazards and risk related to seismic disturbance of the site.

The composting facilities element of the proposed project involves excavation and grading activities, which would take place during construction. Short-term dust emissions may also be created.

The implementation of the proposed project would result in changes to the site's existing topography and ground surface relief features (i.e., natural drainage channel). These changes to the physical surface of the site could impact the permeability of soils in the area of the facilities and may increase or redirect rainwater across the site.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Earth.

- Volume 1 - Section 3.2.1, pp. 81-100
- Volume IIA and IIB - Appendices B, M, O, S, and T
- Volume III - Sections II.B, II.C, and II.D, pp. 13-34; Appendix D
- Volumes A and B - Topical Responses 3,4 and 5; Responses #6, #173, #179, #181, #182, #183, #239, #245, #248, #771, #795, #796, #797, #800, #802, #803, #804 and #805
- Final FEIR Responses - Section 3.2., PP. 8-10

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Grading

Lithology - setting section will be amended with results of borings and Packer tests for soil and bedrock permeability within the City portion

Drainage

Cumulative Impacts will be revised per updated related project list

Complete analyses for the *composting facilities element* of the proposed projects will be conducted in the following areas:

Grading

Slope Stability

Drainage

Mitigation measures may include:

- preparation of a site-specific geotechnical report;

- construction activities performed under supervision of a licensed engineer, geologist and/or soils engineer;

- on-site investigation of site during construction;

- use of landform grading and landform landscaping techniques and compliance with applicable portions of the City's Landform Grading Manual;

- conformance with City's Seismic Safety Plan, applicable portions of the Municipal Code, and seismic safety requirements of the Department of Building and Safety;

- project design maintaining physical integrity/aesthetic value of existing natural landform features;

- adherence to applicable provisions of the Municipal Code, Flood Hazard Management Specific Plan and recommendations of the City Engineer/Department of Building and Safety; and,

- use of semipermeable pavement for hardscape areas.

2. **WATER (Surface Water and Groundwater):**

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Water.

- Volume I - Section 3.2.2 and 3.2.3, pp. 101-121
- Volume IIA and IIB - Appendices F, R, S and W
- Volume III - Section II.B, II.C and II.D, pp. 13-34
- Volume A and B - Topical Responses 6, 7, 8 and 9; Responses #24, #55, #163, #189, #194, #203, #245, #246, #247, #249, #389, #472, #478, #651, #699, #700, #746, #749, #807, #909 and #943
- Final FEIR Responses - Section 3.3., pp. 11-20, and

Section 4.0 (#1)

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Ground Water - Setting section will describe hydrologic connection between Sunshine Canyon and San Fernando Basin through shallow alluvium layer; Impact discussion will add a comprehensive analysis of high chloride values at Well No. MW-1, to be submitted to the California Regional Water Quality Control Board for assessment and corrective measures; Mitigation measures will include any RWQCB-recommended measures to allay migration of leachate from Sunshine Canyon

Cumulative Impacts will be updated per revised related projects list

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Ground Water

3. **AIR**

Project-generated traffic may result in quantifiable increases in air emissions, deterioration of ambient air quality, and/or exposure of residents in the area to severe air pollution conditions. Investigation should address specific actions that may potentially reduce impacts on local and regional air quality.

Project development may result in deterioration of ambient air quality due to short-term emissions generated during construction. Additionally, area residents may be exposed to dust and odors generated by landfill and other activities proximal to the site. Investigation should address specific actions that may potentially reduce impacts on local and regional air quality.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Air.

- Volume 1 - Sections 3.2.6 and 3.2.7, pp. 154-191
- Volumes IIA and IIB - Appendices I, P and X
- Volumes A and B - Topical Responses 17, 18, 19 and 20; Responses #7, #64, #66, #67, #116, #117, #132, #290, #684, #686, #689, #691, #692, #735, #826, #832, #833, #840, #842, #910, #995, #998, #999 and #1103; Appendix 4
- Final EIR Responses - Section 3.7, pp. 43-49, and Section 4.0 (#3)

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Mobile Air Quality - Setting section will be revised to include a full discussion of 1989 Air Quality Management Plan; Impact section to utilize current traffic counts as baseline for assessing new traffic-generated air quality impacts; Impact section to analyze significance of combined mobile and stationary air emissions; Mitigation measures to mitigate combined impacts

Stationary Air Quality - Impact section will supplement original analysis of methane gas flaring with analysis of impacts from flaring of total projected landfill gas emission; Impact section will describe locations of nearby residences and analyze impacts for all adjacent areas in addition to southwestern quadrant

Cumulative Impacts will be revised per updated related projects list

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Mobile Air Quality - Impact section will discuss mobile source emissions from increased vehicular traffic using off-site routes to access the composting facilities, exhaust emissions generated from light and heavy duty vehicles hauling recyclable materials along access routes and daily use of various types of equipment required for composting operations

Stationary Air Quality - Impact section will discuss air pollution emissions which may occur during both construction and operational phases of the project. Operational emissions may include fugitive dust and exhaust emissions from on-site equipment

Odors - Impact section will address objectionable odors which may result from the slow anaerobic decomposition of yard trimmings.

Mitigation measures may include:

- implementation of ground wetting and temporary dust cover during construction; and,

- restriction of grading activities on exceedingly windy days when particulates and/or fugitive dust are likely to be carried off-site.

4. **BIOTA**:

The proposed project may result in 1) Conversion and/or disturbance of existing animal habitat area on-site and proximal to the site, and 2) disruption of access corridors between habitat areas.

Investigation should address impacts resulting from removal of existing vegetation of the site.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Biota (including plant and animal species).

- Volume I - Section 3.2.4, pp. 122-150
- Volume IIA and IIB - Appendices C, H, K, N, U and Z
- Volume III - Section V.C, pp. 48-56; Appendices B and C
- Volumes A and B - Topical Responses 10, 11, 12, 13, 14, 15 and 16; Responses #19, #321, #327, #338, #371, #382, #402, #488, #496, #625, #644, #674, #679, #717, #719, #812, #813, #815, #816, #921, #1011, #1012, #1016, #1017, #1033, #1044, #1049, and #1051; Appendices 1, 2, 3, 8 and 10
- Final FEIR Responses - Section 3.4, 3.5 and 3.6, pp. 21-42, and Section 4.0 (#2)

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Oak Trees - Setting section will include a count of oak trees 8" - 12" in diameter

Riparian/Wetland Vegetation - Setting section will describe size and composition of all riparian/wetland areas within the City portion; Impact section will discuss any loss of riparian/wetland areas; Mitigation measures will include a riparian/wetland area replacement program

Cumulative Impacts will be revised per updated related projects list

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Oak Trees ("8 + in diameter)

Riparian/Wetland Vegetation

Native Species

Habitats

Mitigation measures may include:

- provision of escape routes to allow resident wildlife access to undisturbed areas;

- consultation with the Department of Animal Regulation regarding animal relocation and escape routes; and,

- post-project landscape treatment to provide replacement habitat for wildlife; use of native and/or drought-tolerant plant materials is encouraged.

- grading plans/landscaping and landfilling activities in conformance with the City's Oak Tree Preservation Ordinance (Section 17.05 R, Los Angeles Municipal Code)

- replacement of desirable trees on-site to the satisfaction of the Street Tree Division of the Bureau of Street Maintenance and the Department of City Planning;

- preparation of landscape plans by a licensed landscape architect subject to approval by the City Planning Department and/or other city agencies; and,

- landscaping of appropriate open space areas

5. **NOISE (Mobile and Stationary Sources)**:

Proposed development may significantly affect ambient noise levels, adversely impacting adjacent residential areas. Investigation should address noise impacts resulting from construction activities (short-term stationary sources), land use activities (long-term stationary source), and increases in local traffic (long-term mobile source).

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Noise.

- Volume I - Section 3.2.9, pp. 214-227
- Volumes IIA and IIB - Appendix Q
- Volumes A and B - Topical Response 21; Responses #73, #294, #854, #857 and #862

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Cumulative Impacts will be revised per updated related

projects list.

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Mobile Noise - Impact discussion will assess noise from trucks traveling to the yard trimmings processing area, trucks unloading onto the tipping floor and trucks carrying processed material to the open windrow composting area

Stationary Noise - Impact discussion will assess on-site equipment operations: yard trimmings shredding machinery, bucket loader for the shredding operation, loader/dozer for earth moving and stockpiling, a "Scarab" machine for

windrow turning and water truck for windrow moisturizing and dust suppression

Mitigation measures may include:

- limiting hours of construction;
- use of sound-restricted construction equipment
- compliance with applicable provisions of Noise Ordinance No. 144,331;
- limiting hours of operation for project use

6. **LAND USE**

The existing project site land use designation as described within the Granada Hills-Knollwood District Plan is "Minimum Low Density Residential." The present zoning of the site is "A1-1-0" (Agricultural zone, Height District 1 with an Oil District Overlay designation).

Development of the proposed project will require the existing General Plan land use designation to be changed from "Minimum Low Density Residential" to "Heavy Industrial" and a zone change from "A1-1-0" to "M3-1-0" (Heavy Industrial Zone, Height District 1 with an Oil District Overlay designation).

Complete analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

City District Plan

City Zoning

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

District Plan

Zoning

7. **LIGHT/GLARE (Artificial):**

Project development may result in increased ambient reflectivity and glare from the project site, adversely impacting locations proximal to the site. Investigation should address impacts related to increased reflectivity and stationary light sources.

Complete analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Light/Glare

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Light/Glare

Mitigation measures may include:

- use of plant materials to decrease reflectivity; and,
- security lighting to be directed toward the center of the site.

8. **HUMAN HEALTH/RISK OF UPSET:**

Project development may result in the release of hazardous substances in the event of an accident or upset conditions, due to volume of solid waste which may be accepted.

The composting facilities element of the proposed project may result in the creation of potential health hazards (e.g., vectors, employee safety, health risk).

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Human Health/Risk of Upset.

- Volume I - Section 3.2.13, pp. 257-260
- Volumes IIA and IIB - Appendix G
- Volumes A and B - Topical Responses 24; Responses #103, #869 and #870; Appendix 9
- Final FEIR Responses - Section 3.9, p.52

Additional analyses for the *City Portion of the County/City landfill* will be conducted in the following areas:

Landfill Gas Explosion

Hazardous Waste Materials

Cumulative Impacts will be revised per updated related projects list

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Fire Hazard

Hazardous Waste Materials

Vector Control

Employee Safety

9. **TRANSPORTATION - CIRCULATION**

The proposed project would have a wastestream disposal of an average of 5,000 tons per day in addition to the approved County portion of landfill which has a wastestream disposal of an average of 6,000 tons per day (maximum 6,600 tons per day). This would be in addition to clean dirt; waste processed and put to a beneficial use; waste separated or diverted from the wastestream; and waste exported from the landfill for the purpose of recycling.

Previous traffic studies for the County FEIR addressed an ultimate County/City landfill with a waste intake of up to 17,500 tons per day.

Project generated vehicular traffic may contribute to cumulative impacts on local circulation. Completion of a Traffic Study, as determined by the Department of Transportation, may be necessary to define impacts of project generated vehicular traffic at several key intersections, and appropriate ingress/egress locations. Traffic impacts should be addressed by the Environmental Impact Report to provide comprehensive review and mitigation of impacts to an acceptable level.

The following list references specific volumes, sections, and page

numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Transportation-Circulation.

- Volume I - Section 3.2.8, pp. 192-213
- Volume IIA and IIB - Appendix E
- Volume III - Sections II.G and II.H, pp. 35-37
- Volumes A and B - Topical Response 22; Responses #70, #100, #230, #235, #293 and #1083; Appendix 5
- Final EIR Responses - Section 3.8, pp. 50-51

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Traffic - Setting and Impact sections to be updated utilizing current traffic count baseline; Impact section to examine potential freeway capacity Impacts.

Cumulative Impacts will be revised per the updated related projects list.

Complete analyses for the *composting facilities element* of the proposed projects will be conducted in the following areas:

Traffic

Circulation/Access

Mitigation measures may include:

- completion of a Traffic Study, per requirements of the Department of Transportation, assessing potential cumulative impacts resulting from project development; and,

- provision of a driveway/access plan consistent with requirements and recommendations of the Department of Transportation and City Engineer.

10. **PUBLIC SERVICES**:

The proposed project may result in a need for additional fire protection and emergency services. Investigation should address impacts relative to adequacy of these services.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Public Services.

- Volume I - Sections 3.2.11 and 3.2.12, pp. 248-256

- Volume III - Sections V.A and V.B, pp. 45-47
- Volume A and B - Responses #11, #527 and #866
- Final FEIR Responses - Section 3.10, p. 53

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Fire and Emergency Services

Cumulative Impacts will be revised per updated related projects list

Complete analyses for the *composting facilities element* of the proposed projects will be conducted in the following area:

Fire and Emergency Services

Mitigation measures may include:

- compliance with federal, state, and local requirements regarding fire protection, safety, and locking standards

11. **ENERGY CONSERVATION**:

The California Environmental Quality Act requires that the proposed project be considered relative to potential energy impacts.

Investigation should address impacts resulting from potential consumption of non-renewable resources.

Implementation of the proposed project would not result in substantial increases in the amounts of fuel or energy utilized, or require the development of new energy sources. Implementation would involve the commitment and expenditure of fossil fuel as well as water, sand, gravel, wood and other natural resources which, once used, represent either an irretrievable loss or depletion of these source materials. The SEIR will address short-term and long-term consumption of energy and proposed project measures to minimize consumption of non-renewable resources.

Complete analyses for the *City portion of the County/City landfill* will be conducted in the following area:

Energy Conservation

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following area:

Energy Conservation

Mitigation measures may include:

- compliance with Title 24, California State Code, (Energy Conservation Standards); and,

- consultation with Department of Water and Power and Southern California Gas Company regarding feasible energy conservation measures.

12. **WATER CONSERVATION**:

The California Environmental Quality Act requires that the proposed project be evaluated relative to water use and water conservation measures in accordance with State guidelines. Investigation should address potential consumption rates and adequacy of existing water supply.

Water use on-site would primarily be for dust suppression and irrigation for landscaping.

Complete analyses for the *City portion of the County/City landfill* will be conducted in the following area:

Water Conservation

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following area:

Water Conservation

Mitigation measures may include:

- compliance with the City's Water Conservation Regulations defined in Ordinance No. 163,532.

- use of reclaimed water for landfilling operations.

13. **SERVICE SYSTEMS (STORM DRAINAGE)**

The implementation of the proposed project may result in some localized changes to existing drainage patterns through the alteration of the existing landforms. In addition, the introduction of impervious surfaces in the area of the composting facilities would result in changes to present drainage patterns and rates of absorption. The SEIR will address potential impacts to off-site public storm drainage systems and address specific on-site measures and site design features utilized to avoid potential impacts.

Complete analyses to the *City portion of the County/City landfill* will be conducted in the following area:

Storm Drainage

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following area:

Storm Drainage

Mitigation measures may include:

- compliance with recommendations of Department of Engineering and other City agencies (as required).

14. **AESTHETICS**:

The proposed project may be visible from certain locations off-site.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provide key information and analyses relevant to the environmental topic of Aesthetics.

- Volume I - Section 3.2.10, pp. 228-247
- Volumes IIA and IIB - Appendices K and Y
- Volumes III - Section II.A, pp. 9-12
- Volumes A and B - Topical Response 23; Responses #34, #76, #295, #611 and #1059

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Views

Litter

Cumulative Impacts will be revised per updated related projects list

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following areas:

Views

Litter

15. **RECREATION**

The proposed project is located in an area with existing and proposed equestrian trails. Investigation should address potential impacts related to equestrian-use issues. Investigation should

also address ultimate use of project site for public recreation.

Complete analyses for the *City portion of the County/City landfill* will be conducted in the following areas:

Equestrian issues

Phasing and Use of Completed Landfill for Open Space or Recreation

Complete analyses for the *composting facilities element* of the proposed project will be conducted in the following area:

Equestrian Issues

Mitigation measures may include:

- Communication with local horsekeeping groups, owners, and interest groups;

- Comprehensive analysis of existing trail locations to insure uninterrupted access by equestrians;

- dedication of property for an equestrian trail(s), to permit continued access to open space areas/trails adjacent to the site; and,

- project development consistent with the policies and provisions of the City's Major Equestrian and Hiking Trails Plan element and the "Equestrian and Hiking Trails Guide".

16. **CULTURAL RESOURCES (Archaeological)**:

The project site is located in an area which may encompass prior unrecorded archaeological sites potentially containing significant artifacts/resources. Investigation should address impacts resulting from disruption of potential archaeological sites.

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation which provides key information and analyses relevant to the environmental topic of Cultural Resources.

- Volume I - Section 3.2.5, pp. 151-153
- Volumes IIA and IIB - Appendix D
- Volumes A and B - Responses #617, #817, #818, #820 and #821

Additional analyses for the *City portion of the County/City landfill* will be conducted in the following area:

Archaeology - Setting section to be updated

Complete analyses for the *composting facilities element* of the proposed projects will be conducted in the following area:

Archaeology - Setting section to be updated

Mitigation measures may include:

- notification of project development to the UCLA Archaeological Inventory (213) 825-1720, or an appropriate agency to be determine by the Environmental Review Section of the City Planning Department; and,

- cessation of project development should archaeological materials be encountered and, subsequent contact with the UCLA Archaeological Inventory to insure proper evaluation of artifacts/resources and potential impacts.

17. **ALTERNATIVES**

Full Discussion of alternatives will include:

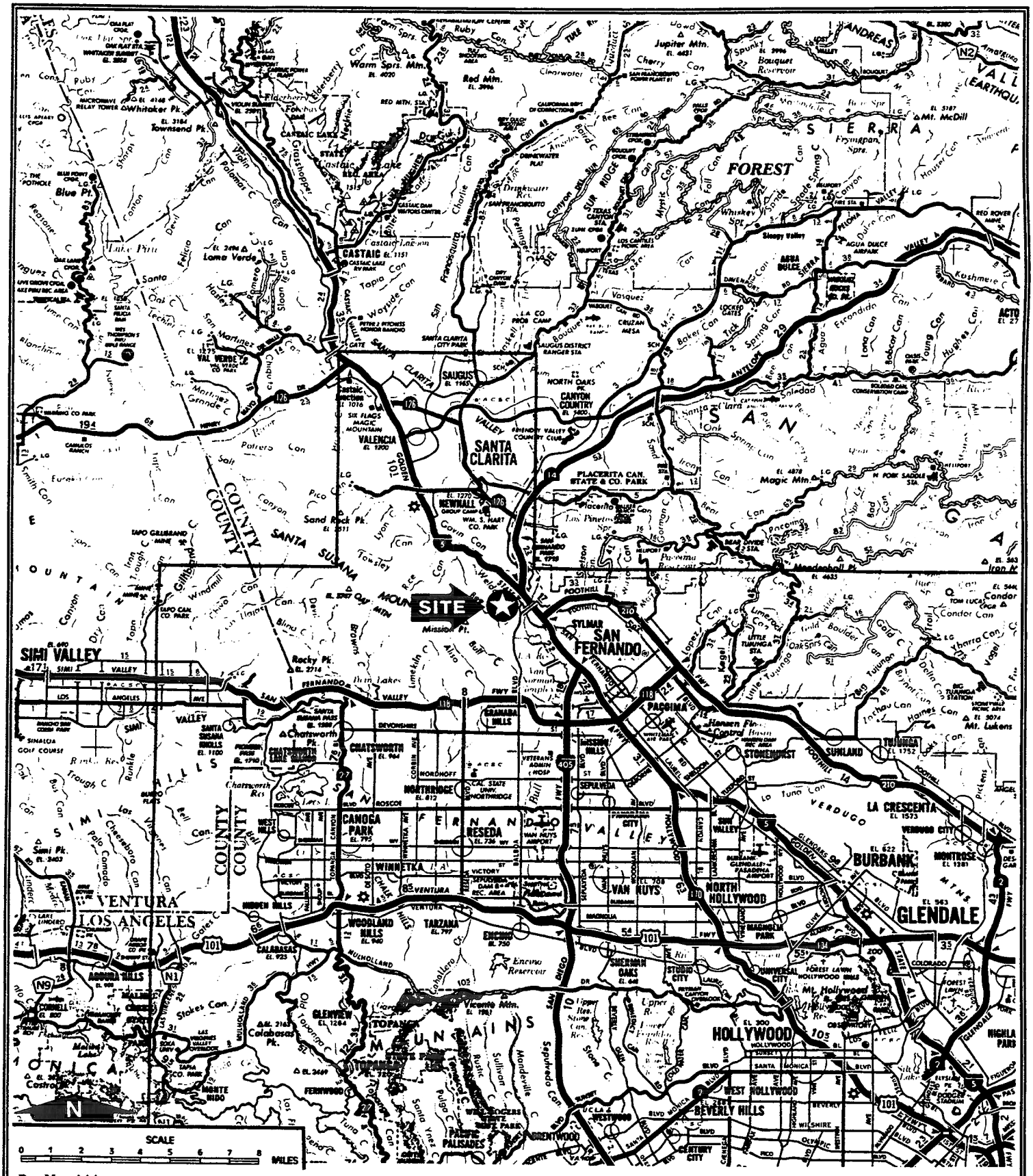
No Project

Reduced Daily Intake/Landfill Size/Composting Facility Size

Resource Recovery Systems (recycling; material recovery)

Alternative Land Use - Open Space

Alternative Sites



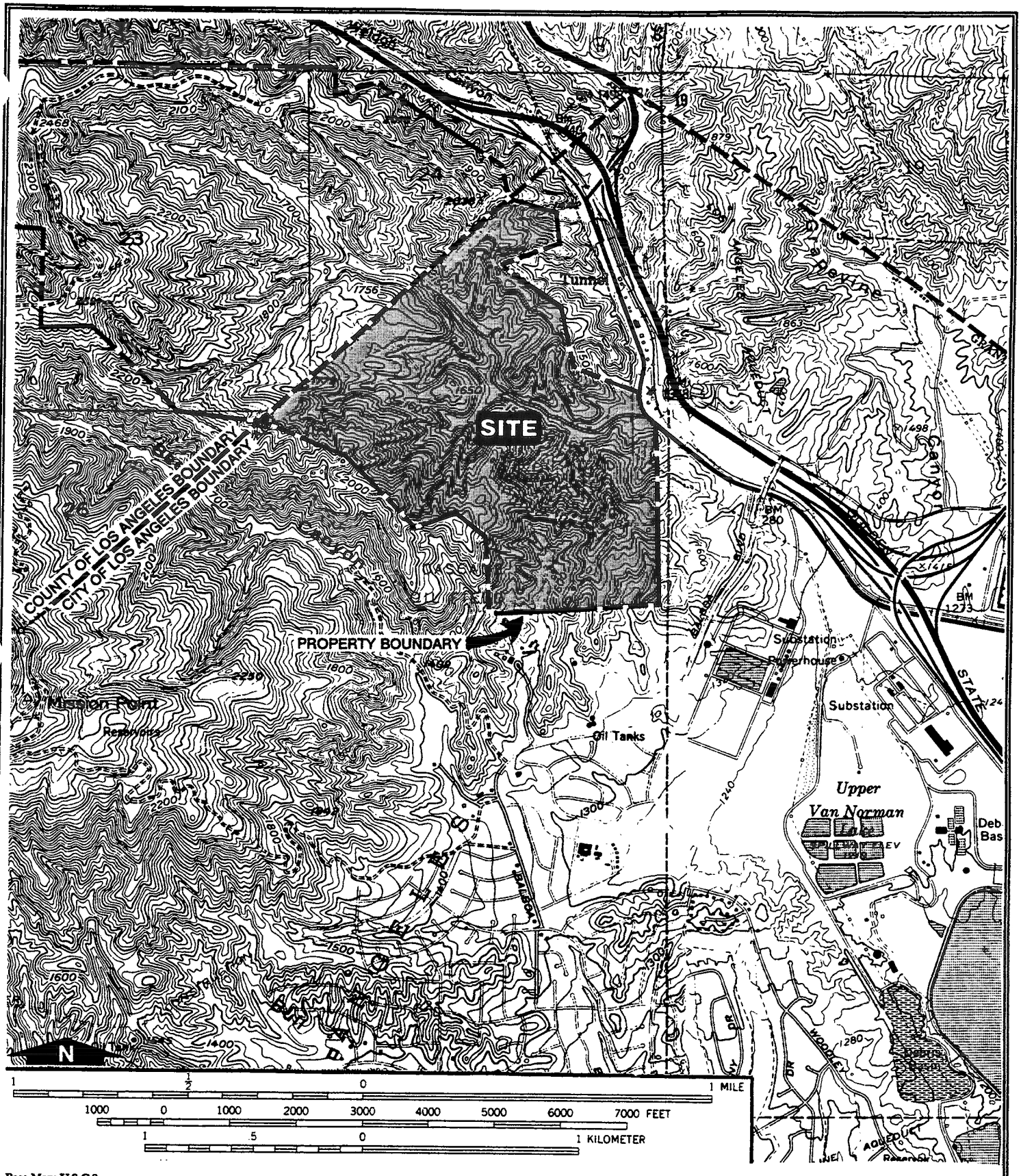
Base Map: AAA

Sunshine Canyon Landfill

Source: Ultrasystems Engineers & Constructors, Inc.

REGIONAL LOCATION MAP

FIGURE 1



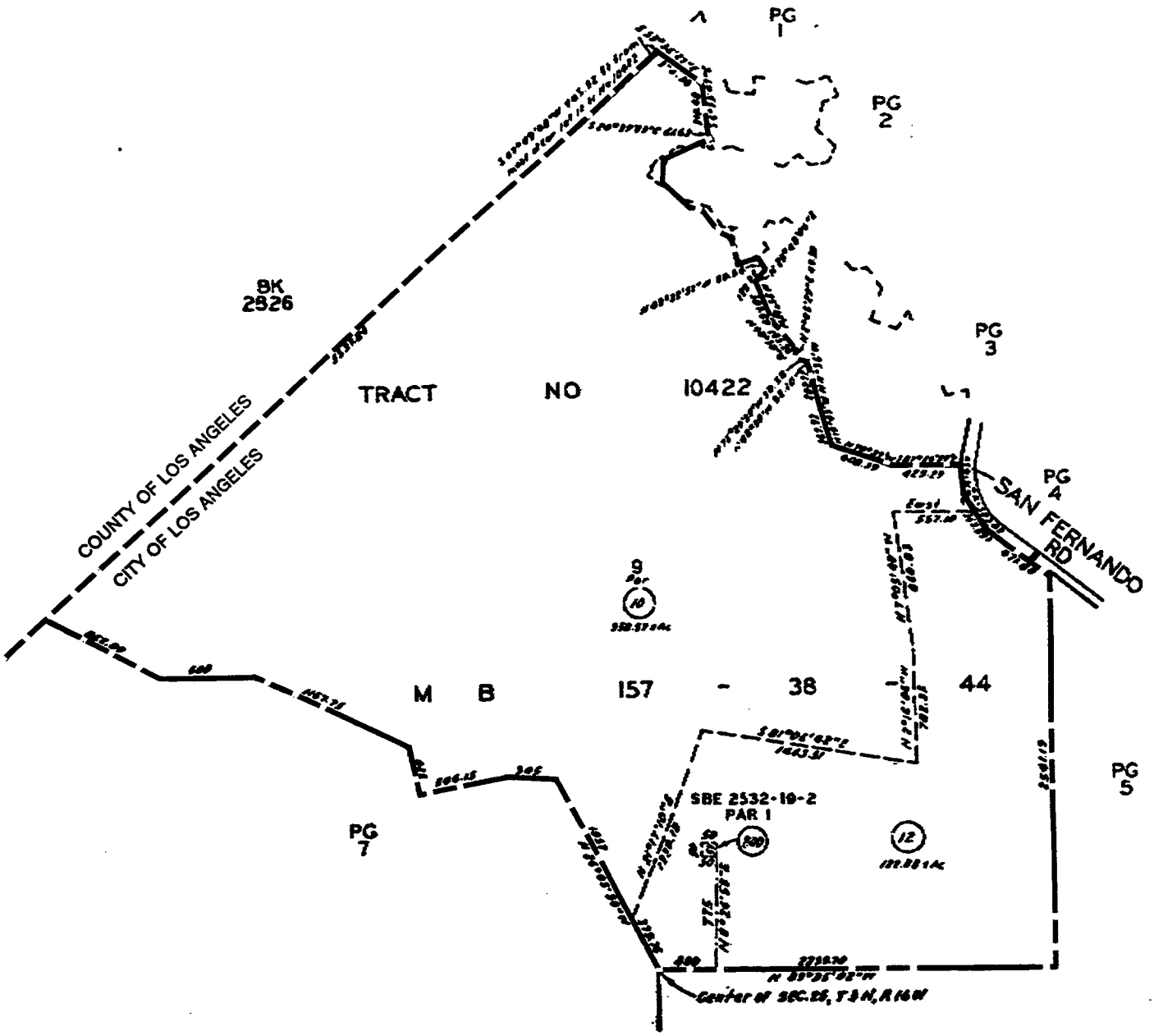
Base Map: U.S.G.S.

Sunshine Canyon Landfill

Source: Ultrasystems Engineers & Constructors, Inc.

VICINITY LOCATION MAP

FIGURE 2



N

Scale: 1" = 800'

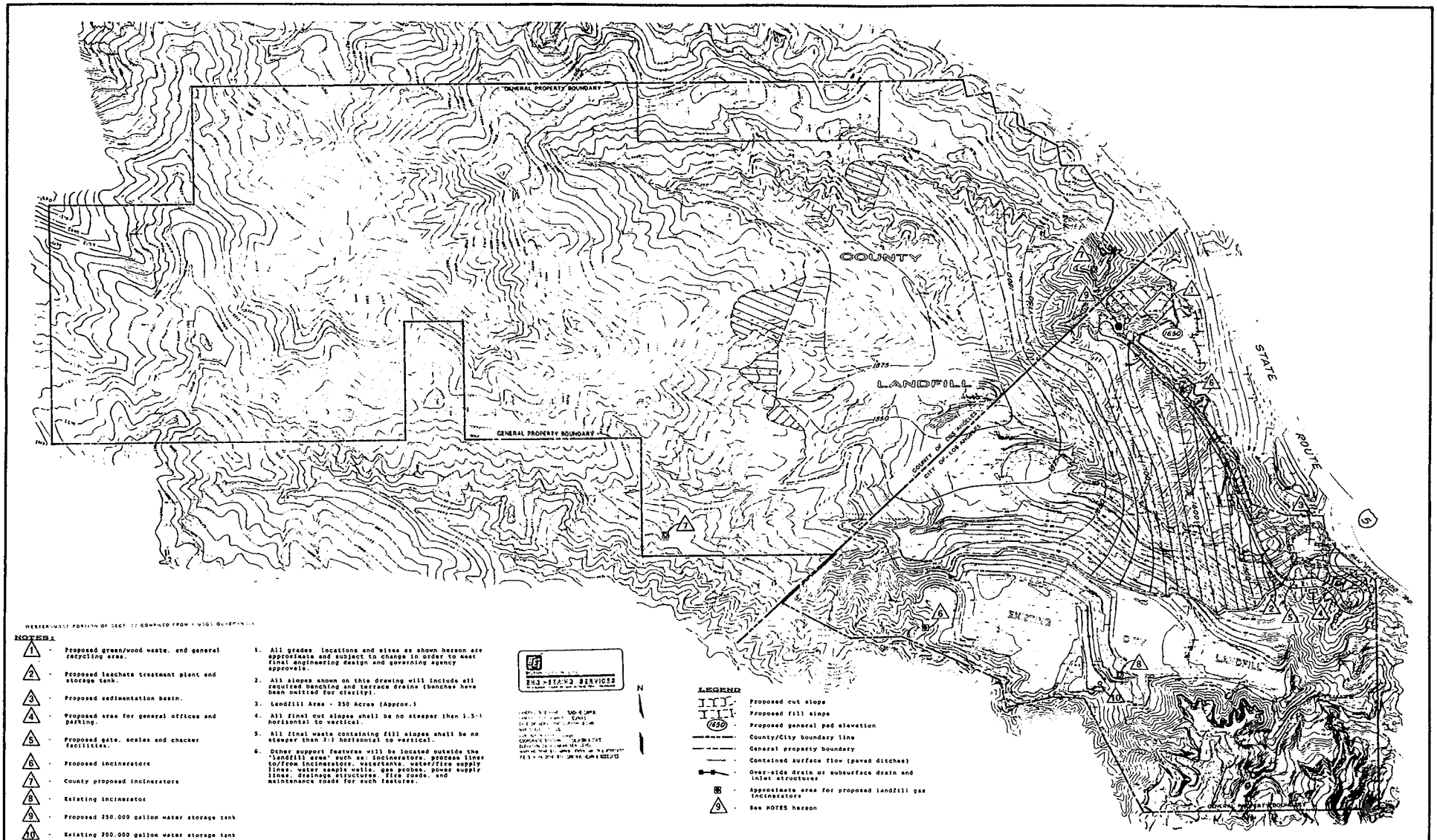
Base Map: L.A COUNTY ASSESSOR'S OFFICE

Sunshine Canyon Landfill

Source: Ultrasystems Engineers & Constructors, Inc.

ASSESSOR'S PARCEL MAP No.2601-11-13 APN

FIGURE 3



NORTHERN MOST PORTION OF SECT. 22 COMPILED FROM A USGS QUADRANGLE

NOTES:

1. Proposed green/wood waste, and general recycling area.
2. Proposed leachate treatment plant and storage tank.
3. Proposed sedimentation basin.
4. Proposed area for general offices and parking.
5. Proposed gate, scales and checker facilities.
6. Proposed incinerators
7. County proposed incinerators
8. Existing incinerator
9. Proposed 250,000 gallon water storage tank
10. Existing 200,000 gallon water storage tank

1. All grades, locations and sizes as shown hereon are approximate and subject to change in order to meet final engineering design and governing agency approvals.
2. All slopes shown on this drawing will include all required benching and terrace drains (benches have been omitted for clarity).
3. Landfill Area - 250 Acres (Approx.)
4. All final cut slopes shall be no steeper than 1.5:1 horizontal to vertical.
5. All final waste containing fill slopes shall be no steeper than 3:1 horizontal to vertical.
6. Other support features will be located outside the "landfill area" such as: incinerators, process lines to/from incinerators, wastetanks, water/fire supply lines, water sample wells, gas probes, power supply lines, drainage structures, fire roads, and maintenance roads for such features.

ENGINEERING SERVICES

N

LEGEND

- Proposed cut slope
- Proposed fill slope
- (1850) - Proposed general pad elevation
- County/City boundary line
- General property boundary
- Contained surface flow (paved ditches)
- Over-side drain or subsurface drain and inlet structures
- Approximate area for proposed landfill gas incinerators
- (9) - See NOTES hereon

NO.	DATE	ZONE	DESCRIPTION	DRAWN	APPROVED

REVISIONS

DATE June 17, 1991
JOB NO. 0102-42
DES'NO.
DRAWN R.J.
CHK'D D.A.
APP'D

The PRA Group, Inc
CONSULTING ENGINEERS
1101 Tehama Drive, Merced, CA 95341, (209) 722-1990
1041 Monk Avenue, Pleasant Hill, CA 94523, (415) 827-1177

SITE PLAN

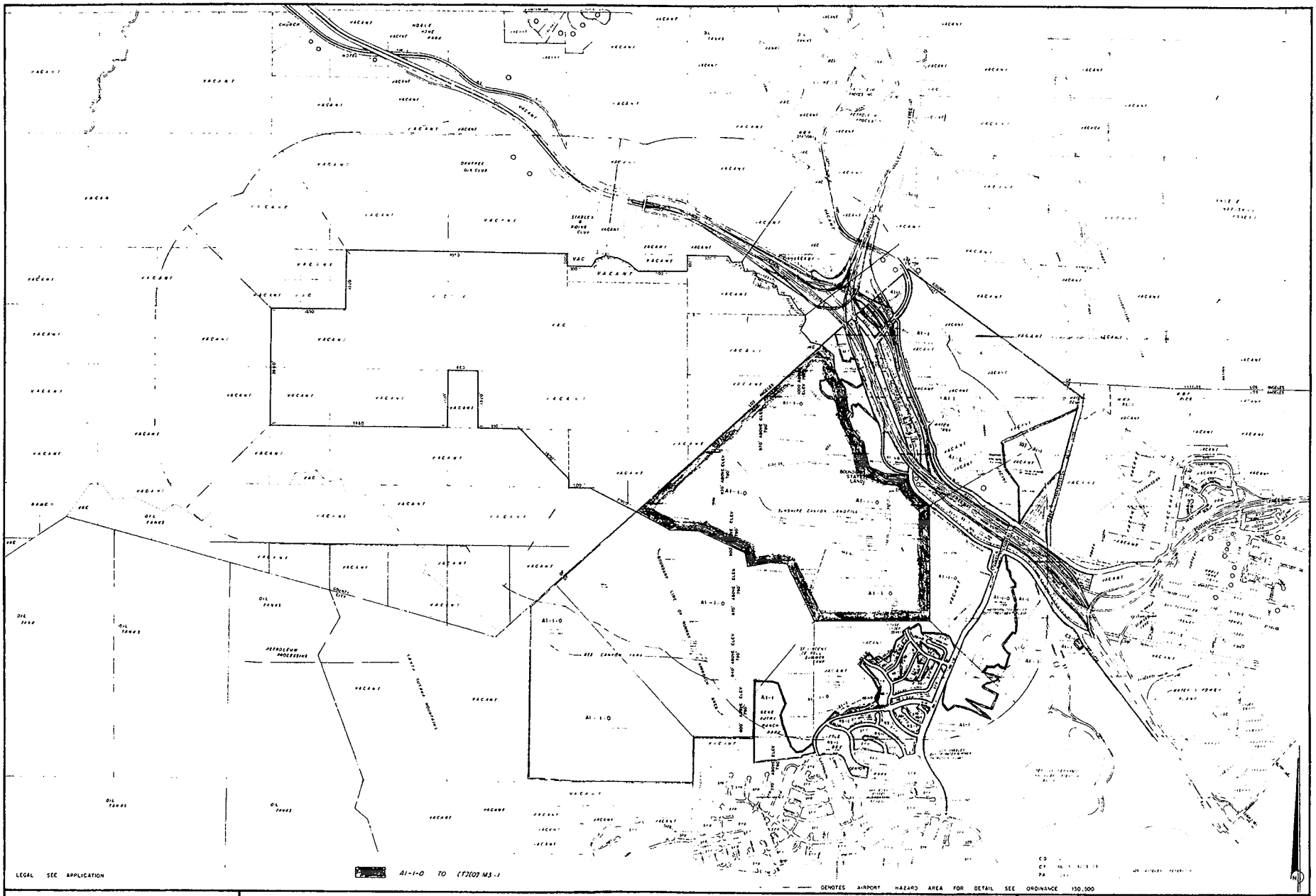
CITY OF LOS ANGELES LANDFILL EXTENSION

SUNSHINE CANYON SANITARY LANDFILL, LOS ANGELES COUNTY, CALIFORNIA

BROWNING-FERRIS INDUSTRIES

FIGURE NO. CITY EXT

REV NO. 0



HANDELMAN · KATHERMAN , INC.
1000 WILSHIRE BLVD #320
LOS ANGELES , CA 90017
(213) 892 0800

PERIODIC COMPREHENSIVE GENERAL PLAN REVIEW
AND ZONE CHANGE PROCESS -"BATCHING" - E.A.F.

DM 223-B-133 · 229-B-133 · 229-B-129
229-B-133 · 231-B-129 · 231-B-133
223-B-133 · 232-B-129 · 232-B-133
223-B-137 · 229-B-137 · 231-B-137
231-B-133
LEGEND: SF=SINGLE FAMILY RESIDENTES

CASE NO
DATE
SCALE 600
USES
TR PAGE 121 GRID
ZONING ATLAS
BOOK PAGE GRID

Appendix A6
NOTICE OF PREPARATION AND INITIAL STUDY DISTRIBUTION LIST

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Consultant - Wastewater Program
Mgmt Div. Bureau of Engineering
Room 600, City Hall East

Mail Stop 397C
G. David Lessley
Neighborhood Planning Division
3rd and Figueroa

Mail Stop 395
Jack Sedwick
Plan Implementation Division
3rd and Figueroa

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County of Los Angeles
Environmental Review Section
320 Temple Street
Los Angeles, CA 90012

Mail Stop 177
Environmental Affairs
Attn: Gary Gero
Room 1500, City Hall

Mail Stop 380
Department of Cultural Affairs
Attn: Barbara Goldstein
433 S. Spring St., 10th Floor

Mail Stop 442
Los Angeles Police Department
Planning Section
207 South Broadway, Room 200

Mail Stop 370
Jane Blumenfeld
Mayor's Office
Room M-1, City Hall

Mail Stop 370
Michael Bodaken
Mayor's Office
Room M-1, City Hall
Mail Stop 250

Fire Department
Environmental Review Section
Room 920, City Hall East
Mail Stop 250

Mail Stop 397
Ann Siracusa
Citywide Planning Division
221 S. Figueroa Street
4th Floor

Bureau of Engineering
Environmental Management Section
tn: Ara Kasparian
m 807, City Hall
ail Stop 490

Mail Stop 901
Land Developing/Mapping Division
Bureau of Engineering
Attn: LaGronie Wyatt
Room 705, City Hall

Mail Stop 115
Building & Safety Department
Chief, Building Bureau
Co-ordinating Division
Room M-50, City Hall

Rich Macias
Environmental Review Unit
CRA
354 South Spring St., Suite 700
Mail Stop 182

Mail Stop 800
Department of Water and Power
Attn: E. Karapetian
111 North Hope Street, Room 1121
Los Angeles, CA 90012
Power Systems

Department of Transportation
City Traffic Engineer
Attn: Harold Vellins
Room 1200, City Hall
Mail Stop 725

Mail Stop 625
Recreation and Parks
Attn: Marilyn Rawlings
Room 1290, City Hall East

Office of Water Reclamation
Attn: Bahman Sheidh, Director
Room 366, City Hall
Mail Stop 464

Mail Stop 800
Department of Water and Power
Attn: Ronald A. McCoy
111 N. Hope St., Room 1432
Los Angeles, CA 90012

L.A. Unified School District
Attn: Joan Friedman, Realty Div.
1425 S. San Pedro St., Room 101
P.O. Box 2298 - Terminal Annex
Los Angeles, CA 90015

Department of Transportation
City Traffic Engineer
Attn: Haripal Vir
7166 West Manchester Avenue
West Los Angeles, CA
Mail Stop 769

Los Angeles Bio Diversity Project
Attn: Barbara Eales
8334 Kenyon Avenue
Los Angeles, CA 90045

Oak Tree Coalition
c/o Anson Burlingame
10058 Sunland Boulevard
Shadow Hills, CA 91040-1649

State Clearinghouse
Office of Planning and Research
Attn: Glenn Stober
1400 10th St., Room 121
Sacramento, CA 95814

Gary McSweeney
CalTrans
District 7 IGR/CEQA Coordinator
Trans. Plan. & Analysis Branch
120 South Spring Street
Los Angeles, CA 90012

Mr. Joel Woodhull
Environmental Section
R.T.D. Planning Department
425 South Main Street
Los Angeles, CA 90013

U.S. Forest Service Resource/
Planning Section
Attn: Bernice Bigelow
701 N. Santa Anita Avenue
Arcadia, CA 91006

U.S. Fish and Wildlife Service
370 Amapola Ave., Suite 114
Torrance, CA 90501

U.S. Army Corps of Engineers
Environmental Resources Branch
P.O. Box 2711
Los Angeles, CA 90053-2325

South Coast Air Quality
Management Distrct
Local Government CEQA
Attn: Connie Day
21885 Copley Dr., 2nd Floor South
Diamond Bar, CA 91765

Los Angeles County
Transportation Commission
818 W. Seventh St., Suite 1100
Los Angeles, CA 90017

Environmental Protection Agency
Attn: Paul DeFalco, Jr.
215 Fremont Street
San Francisco, CA 94105

Santa Monica Mountains
Conservancy
Mr. John Diaz
3700 Solstice Canyon Road
Malibu, CA 90265

County Clerk, EIR Desk
111 N. Hill Street, Room 106
Los Angeles, CA 90012

Pacoima Property Owner's Assoc.
Fred Ford
11249 Borden Avenue
Pacoima, CA 91331

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City of San Fernando
117 MacNeil
San Fernando, CA 91340

Hidden Hills Property Owner's Assoc.
24549 Long Valley Road
Hidden Hills, CA 91302

Ventura Blvd.-Canoga Avenue-Winnetka
and Mulholland Vista De Ore
Homeowners Assoc.
Attn: Mr. Robert McKnight
5170 Kelvin Avenue
Woodland Hills, CA 91364

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Woodland Hills Homeowners' Organization
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23120 Mulholland Drive
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Woodland Hills Residents Assoc.
Dorothy Peisner, President
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Chatsworth Beautiful
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Chatsworth, CA 91311

Rockpoint Homeowners' Assoc.
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Chatsworth, CA 91311

Encino Property Owners
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Encino, CA 91316

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Tarzana Property Owners' Assoc.
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P.O. Box 112
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Granada Hills, CA 91344

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City of Hidden Hills
24549 Long Valley Road
Hidden Hills, CA 91302

West Hills Property Homeowners
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West Hills, CA 91308

rector of Planning
ty of Simi Valley
2929 Tapo Canyon Road
Simi Valley, CA 93063

Santa Susana Mtn. Park Assoc.
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Chatsworth, CA 91313-4831

Homeowners of Encino
P.O. Box 453
Encino, CA 91426

Tarzana Property Owners' Assoc.
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19501 Rosita St.
Tarzana, CA 91356

Tarzana Property Owners' Assoc.
P.O. Box 17778
Encino, CA 91416

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10758 Forbes Avenue
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Granada Hills-Knollwood
Property Owners'
12301 Zelzah Avenue
Granada Hills, CA 91344

Granada Hills Property Owners' Assoc.
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Sepulveda H.O.A.
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N. Hollywood, CA 91607

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18917 Nordhoff St., Suite 10
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Norht Valley Homeowners Federation
P.O. Box 7717
Northridge, CA 91321

Reseda Homeowners' Assoc.
Attn: Rose Conley
649 Calvert St.
Reseda, CA 91335

Reseda Homeowners' Assoc.
Attn: L. Sheperd
17934 Hutton St.
Reseda, CA 91335

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Reseda/W. Van Nuys #20
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Briar Cliff Improvement Assoc.
Walter M. McIntyre
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Briar Cliff Improvement Assoc.
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Studio City Residents' Assoc.
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Toluca Lake Homeowners' Assoc.
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East Valley Horse Owners' Assoc.
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11511 Orcas Avenue
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Keith Allyn, Chairman
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Federation of Hillside and Canyon Assoc.
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Hon. Marian W. LaFollette,
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Thirty-Eight Assembly District
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SCOPE
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Federation of Hillside & Canyon Assoc.
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Los Angeles, CA 90077

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Elizabeth Rhone
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Environmental Defense Fund
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Van Nuys, CA 91407

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North Valley Coalition
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Granada Hills, CA 91344

Allison C. Fuller
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C.O.A.S.T.
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California Regional Water Quality
Control Board
Los Angeles Region
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Sara J. Wan
Malibu Township Council, Inc.
P.O. Box 803
Malibu, Ca 90265-0803

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Willis E. Simms
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Aran H. Dokovna
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Don P. Mullally
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Granada Hills, CA 91344

Los Angeles County Forester
& Fire Warden
1320 N. Eastern Avenue
Los Angeles, CA 90063
Attn: Joe Ferrara

Army Corps of Engineers
Los Angeles District
P.O. Box 2711 Reg. Branch
Los Angeles, CA 90053

U.S. Forest Service
701 N. Santa Anita Avenue
Arcadia, CA 91006

California Department of Fish
& Game
330 Golden Shore #50
Long Beach, CA 90802
Attn: Jack Spruill

State Department of Health
Environmental Management Branch
1449 W. Temple Street
Los Angeles, CA 90026

Native American Heritage
Commission
915 Capitol Mall Room 288
Sacramento, CA 95814

Water Resources Board
Planning Division
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Sacramento, CA 95814

Sierra Club
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Los Angeles, CA 90020

The California Native Plant
Society
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Sherman Oaks, CA 91423

County of Los Angeles
Health Services-Noise
313 N. Figueroa St.
Los Angeles, CA 90002
Attn: Frank Gomez

County of Los Angeles
Department of Public Works
Planning Division
900 S. Fremont Ave.
Alhambra, CA 91803
Attn: Michael Nagao, Sec. Head

County of Los Angeles
County Sanitation Districts
P.O. Box 4998
Whittier, CA 90607-4998
Attn: Paul Prestia

Jo Ann Darcy
Sr. Area Field Deputy
23920 Valencia Bl., Suite 255
Santa Clarita, CA 91358

U.S. Fish and Wildlife Service
2[illegible]rila Road
La[illegible] Miguel, CA 92656
Attn: John Hanlon

State Department of Conservation
Division of Oil and Gas
6401 Telephone Road
Ventura, CA 93003

California Department of Transportation
Environmental Review Section
District 7
120 South Spring Street 1-A
Los Angeles, CA 90012

Public Utilities Commission
107 S. Broadway Street
Los Angeles, CA 90012
Attn: Environmental Review

National Park Service
22900 Ventura Blvd.
Woodland Hills, CA 91364
Attn: Environmental Review

California Air Resources Board
9528 Telstar Avenue
El Monte, CA 91731

California Intergrated Waste
Management Board
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Sacramento, CA 95814

Los Angeles City
Bureau of Sanitation
200 N. Main St. Room 1400
City Hall East
Los Angeles, CA 90012

State Department of Parks and
Recreation
P.O. Box 942886
Sacramento, CA 94296-0001

Southern California Association
of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90012

Honorable Richard Katz
9140 Van Nuys Blvd., Suite 109
Panorama City, CA 91402

Appendix A7
COMMENTS RECEIVED ON NOTICE OF PREPARATION/INITIAL STUDY

Table A7-1
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
		Federal	
Brooks Harper, Office Supervisor **United States Department of the Interior, Fish and Wildlife Service** Fish and Wildlife Enhancement Southern California Field Station Carlsbad Office 2730 Loker Avenue West Carlsbad, CA 92008	April 23, 1992	**Earth** • Soil erosion **Biological Resources** • Biological report • Wetlands • Federal permits • Revegetation **Land Use** • Open space **Alternatives**	Section 4.1.2, Geologic Hazards - Mudflow and Landslide, Including Lithologic History Section 4.1.6, Geologic Hazards - Slope Stability Section 4.4, Biological Resources Section 4.7, Land Use Section 5.0, Alternatives
		State	
Christine Kinne Acting Deputy Director Permit Assistance **State of California, Governor's Office of Planning and Research** 1400 Tenth Street Sacramento, CA 95814	April 15, 1992	No Comment	

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Wilford Melton, Sr. Transportation Planner **State of California** **Business and Transportation Agency** **Department of Transportation** Advance Planning Branch District 7, 120 South Spring Street Los Angeles, CA 90012	May 5, 1992	**Transportation and Circulation** • Traffic study • Percent share of mitigation costs	Section 4.13, Transportation and Circulation
Paul Edelman, Conservancy Project Development Analyst II **State of California,** **Santa Monica Mountains Conservancy** Solstice Canyon Park 3700 Solstice Canyon Road Malibu, CA 90265	May 13, 1992	**Water** • Groundwater **Biological Resources** • Biological report **Risk of Upset** • Vectors **Parks and Recreation** • Impacts to Santa Clarita Woodlands State Park, O'Melveny Park **Alternatives**	Section 4.3.2, Groundwater Section 4.4, Biological Resources Section 4.9.2, Vectors Section 4.14.4, Parks and Recreational Resources Section 5.0, Alternatives
Regional			
Connie Day, Program Supervisor **South Coast Air Quality Management District** Local Government-CEQA/Planning and Technology Advancement 21865 East Copley Drive Diamond Bar, CA 91765-0939	April 24, 1992	**Air** • Air quality study • Consistency with AQMP • Cumulative Impact **Risk of Upset** • Toxic source emissions **Alternatives**	Section 4.2, Air Quality Section 4.2.9, Health Risk Analysis Section 4.9.5, Human Health Section 5.0, Alternatives

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
		County	
David B. Lambert, Project Engineer **County Sanitation Districts of Los Angeles County** Financial Planning & Property Management Section P.O. Box 4998 Whittier, CA 90607-4998	April 28, 1992	**Utilities** • No affect upon existing Districts facilities	Section 4.16.5, Sewers
Chief Joseph Ferrara, Forestry Division **County of Los Angeles Fire Department** Prevention Bureau 1320 North Eastern Avenue Los Angeles, CA 90063-3294	May 6, 1992	**Biological Resources** • Biological report **Public Services** • Fire service/agency responsibility • Recommended mitigation measures	Section 4.4, Biological Resources Section 4.14.1, Fire and Emergency Medical Services
Carl L. Blum, Asst. Deputy Director **County of Los Angeles Department of Public Works** Planning Division P.O. Box 1460 Alhambra, CA 91802-1460	June 2, 1992	**Air** • Landfill gas extraction system **Utilities** • Stormwater discharge (NPDES Permit) **Other Issues** • Responsibility for monitoring/ financial assurance • Solid Waste Management Action Plan/time-to-crisis	Section 2.7, Environmental Protection and Control Systems Section 4.2, Air Quality Section 4.3.1, Surface Water Section 7.0, Mitigation Reporting and Monitoring Program. Section 2.3, Need for the Proposed Project

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
		City	
James R. Lightfoot Advanced Planning Manager **City of Simi Valley** 2929 Tapo Canyon Road Simi Valley, CA 93063	April 24, 1992	No comment	
Robert S. Horii, City Engineer **City of Los Angeles** **Bureau of Engineering** Project Management Division Environmental Management Section 200 North Spring Street, Room 807 City Hall Los Angeles, CA 90012	May 8, 1992	**Earth** • Geologic hazards **Water** • Groundwater • Surface water • Stormwater drainage **Biological Resources** • Biological report **Land Use** • End land use **Risk of Upset** • Migration of contaminants **Alternatives/Other Issues** • Type of documentation for City/ County Landfill	Section 4.1.2, Geologic Hazards - Mudflow and Landslide, Including Lithologic History Section 4.3, Surface and Groundwater Section 4.4, Biological Resources Section 2.15.1, End Use of the Site Section 4.7, Land Use Section 4.9.5, Human Health Section 5.0, Alternatives Section 1.5, Project Background

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
		• County litigation/use of SEIR • City's Solid Waste Management Plan Economic liability to City	Appendix C3, Overview of the Litigation Proceedings in Connection with the County Landfill Section 2.3, Need for the Proposed Project Section 7.0, Mitigation Reporting and Monitoring Program
Bahman Sheikh, Director **City of Los Angeles** **Office of Water Reclamation** 200 North Spring Street, Room 366 City Hall Los Angeles, CA 90012	May 11, 1992	**Utilities** • Reclaimed water system	Section 4.16.4, Water
Dal L. Howard, Assistant Fire Marshal **City of Los Angeles** **Fire Department** Bureau of Fire Prevention & Public Safety 200 North Main Street Los Angeles, CA 90012	May 13, 1992	**Public Services** • Fire prevention • Fire safety • Access to equipment and personnel	Section 4.14.1, Fire and Emergency Medical Services
J.W. Cobarrubias, Engineering Geologist III **City of Los Angeles** **Department of Building and Safety** 200 North Spring Street Room 411, City Hall Los Angeles, CA 90012-4869	June 1, 1992	**Earth** • Grading, soils, landform alteration **Water** • Surface water **Other Issues** • Ancillary facilities	Section 4.1, Earth Resources Section 4.18, Aesthetics/Views Section 4.3.1, Surface Water Section 2.5, Project Characteristics

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Edward Karapetian, Manager **City of Los Angeles** **Department of Water and Power** Environmental and Governmental Affairs Box 111 Los Angeles, CA 90051-0100	June 19, 1992	**Energy Conservation** • Energy conservation measures **Utilities** • Electrical service and distribution	Section 4.15, Energy Conservation Section 4.16.1, Electricity
Captain David J. Kalish, Commanding Officer **City of Los Angeles** **Police Department** Planning and Research Division P.O. Box 30158 Los Angeles, CA 90030	July 10, 1992	**Public Services** • No issues identified	
Individuals/Organizations/Others			
Steve Hartman **The California Native Plant Society** 4444 Longridge Avenue Sherman Oaks, CA 91423	April 18, 1992	**Biological Resources** • Biological report • Oak habitats	Section 4.4, Biological Resources

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Ernest and Mary Hilberg 17133 Van Gogh Street Granada Hills, CA 91344-1218	April 27, 1992	**Air** • Air quality **Water** • Liner failure **Biological Resources** • Loss of trees Revegetation program **Risk of Upset** • Human health **Alternatives** **Monitoring Program**	Section 4.2, Air Quality Section 4.3.2, Groundwater Section 4.4, Biological Resources Section 4.9.5, Human Health Section 5.0, Alternatives Section 7.0, Mitigation Reporting and Monitoring Program
Mary Ellen Hughes, CAE **Apartment Association** 14550 Archwood Street Van Nuys, CA 91405	April 28, 1992	**Public Services** • Solid waste disposal capacity	Section 2.3, Need for the Proposed Project
Don P. Mullally 10418 Gothic Avenue Granada Hills, CA 91344	May 2, 1992	**Biological Resources** • Biological report • Oak trees • Riparian habitat	Section 4.4, Biological Resources

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Maribel Marin, Senior Research Associate **Natural Resources Defense Council** 617 South Olive Street Los Angeles, CA 90014	May 6, 1992	**Land Use** • Open space **Risk of Upset** • Human health **Alternatives** **Other Issues** • Project need • A.B. 939 compliance	Section 4.7, Land Use Section 4.9.5, Human Health Section 5.0, Alternatives Section 2.3, Need for the Proposed Project
Rosemary Woodlock, Attorney 21015 Mulholland Drive P.O. Box 365 Woodland Hills, CA 91365	May 12, 1992	**Other Issues** • County litigation/use of SEIR • Inclusion of permitting agencies comments	Appendix C3, Overview of the Litigation Proceedings in Connection with the County Landfill Section 1.5, Project Background Section 1.6, Environmental Study Advisory Committee Requirements Appendix A7, Comments Received on Notice of Preparation/Initial Study Appendix A10, Public Scoping Meeting List of Attendees, Speakers and Comments Matrix Appendix A16, Lead Agency, Project Proponent, and Responsible Agencies Appendix A14, Notice of Early Consultation (NOEC) Responses

Table A7-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
COMMENTS RECEIVED DURING NOTICE OF PREPARATION PRE-CIRCULATION PERIOD
(April 11, 1992 through May 11, 1992)

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Allen R. Hecht, Chairperson **City of Los Angeles** **Solid Waste Citizens Advisory Group** % Bureau of Sanitation Solid Waste Management 419 South Spring Street Los Angeles, CA 90013	June 4, 1992	**Alternatives** **Other Issues** • County litigation/use of SEIR	Section 5.0, Alternatives Appendix C3, Overview of the Litigation Proceedings in Connection with the County Landfill Section 1.5, Project Background

United States Department of the Interior

FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
SOUTHERN CALIFORNIA FIELD STATION
Carlsbad Office
2730 Loker Avenue West
Carlsbad, California 92008

April 23, 1992

Ms. Susan Bok
City of Los Angeles
Department of City Planning
Room 655, City Hall
Los Angeles, California 90012

Re: Notice of Preparation - Sunshine Canyon Landfill
(Case No. 91-0377), Los Angeles, Los Angeles County, California

Dear Ms. Bok:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Preparation received April 15, 1992, regarding the referenced project. The proposed project could have significant impacts on the area's remaining natural drainage systems, riparian and wetland habitats, sensitive species, and wildlife movement and migratory corridors.

The primary concern of the Service is the protection of public fish and wildlife resources and their habitats. Our mandates require that we provide comments on any public notice issued for a Federal permit or license affecting the Nation's waters, in particular, U.S. Army Corps of Engineers (Corps) permits pursuant to Section 404 of the Clean Water Act and Section 10 of the River and Harbor Act of 1899.

The Service is also responsible for administering certain portions of the Endangered Species Act of 1973, as amended (Act). Section 7 of the Act requires Federal agencies to consult with the Service should they determine that their actions may affect any listed threatened or endangered species. Section 9 of the Act prohibits the "taking" of any federally listed endangered or threatened species. Taking includes harm which may include destruction of necessary habitat or disruption of reproductive behavior.

Generally, the Service will need for analysis the following information:

1. A description of the proposed project, including all feasible alternatives and no action alternative. This alternative analysis is important to the Service's evaluation of the project as feasible alternatives often have less impacts to biological resources.

2. Specific acreages and detailed descriptions of the amount and types of habitats that may be affected by the proposed project. Of particular concern will be the number of wetland, riparian, and riverine acres to be

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impacted. This number should be verified by the Corps and/or the Environmental Protection Agency. Maps and tables should be included in the draft Environmental Impact Report to assist in evaluation of the project-related impacts.

3. Quantitative and qualitative information concerning fish and wildlife resources, including invertebrates, associated with each habitat type.

4. A list of Federal candidate, proposed or listed threatened or endangered species, State-listed species, and locally declining or sensitive species that are found at or near the project site. A detailed discussion of these species, focusing on their site-related distribution and abundance and the anticipated impacts of the project on these species should also be included.

5. An assessment of biological impacts, including direct, indirect, and cumulative impacts. All aspects of the project should be included in this assessment. This also includes the effects of groundwater pumping and discharge on wetland and riparian vegetation and fragmentation of natural drainages on wildlife movement.

6. Specific mitigation plans to offset project-related impacts, including cumulative impacts of direct and indirect habitat losses. If necessary, adverse project-related impacts should be mitigated through the re-creation and/or revegetation of impacted habitat types. The objective of the mitigation plan should be to offset qualitative and quantitative project-induced loss of fish, wildlife, and invertebrate habitat values. Avoidance of the impacts through project modification is considered mitigation.

7. Identification of construction methods to be employed to prevent soil erosion, along with specific erosion and sedimentation control plans to be carried out throughout the life of the project.

8. A discussion concerning proposed open space and the continuation of that open space to existing and/or proposed adjacent open space to provide maximum wildlife use of the project site, including contiguous wildlife movement corridors along natural drainage systems.

We look forward to reviewing your draft Environmental Impact Report. Should you have any additional questions, please contact John Hanlon of my staff at (619) 431-9440.

Sincerely,

Brooks Harper
Office Supervisor

cc: CDFG, Region 5, Long Beach, CA (Attn: M. Giusti)
EPA, San Francisco, CA (Attn: C. Morris)
CE, Los Angeles, CA (Attn: L. Varnhagen)

STATE OF CALIFORNIA PETE WILSON, *Governor*

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
CRAMENTO, CA 95814

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DATE: Apr 15, 1992

TO: Reviewing Agency

RE: CITY OF LOS ANGELES, DEPARTMENT OF CITY PLANNING's NOP for
SUNSHINE CANYON LANDFILL SEIR 91-0377
SCH # 92041053

Attached for your comment is the CITY OF LOS ANGELES, DEPARTMENT OF CIT Notice of Preparation of a draft Environmental Impact Report (EIR) for the SUNSHINE CANYON LANDFILL SEIR 91-0377.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

SUSAN BOK
CITY OF LOS ANGELES, DEPARTMENT OF CITY PLANNING
ROOM 655, CITY HALL
LOS ANGELES, CA 90012

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Tom Loftus at (916) 445-0613.

Sincerely,

Hope Bury

for Christine Kinne
Acting Deputy Director, Permit Assistance

Attachments

cc: Lead Agency

NOP Distribution List

SCH# 92041058

S = sent by lead agency
X = sent by SCH

Resources Agency

- [ ] Judy Carpenter, Dept. of Boating & Waterways, 1629 S Street, Sacramento, CA 95814, 916/445-6281
- [ ] Gary L. Holloway, California Coastal Commission, 45 Fremont Street, Suite 2000, San Francisco, CA 94105-2219, 415/904-5200
- [ ] Reed Holderman, State Coastal Conservancy, 1330 Broadway, Suite 800, Oakland, CA 94612, 510/464-1015
- [S] Steve Oliva, Dept. of Conservation, 1416 Ninth Street, Room 1326-2, Sacramento, CA 95814, 916/445-8733
  - ( ) Div. of Mines and Geology
  - ( ) Div. of Oil and Gas
  - ( ) Land Resources Protect. Unit
- [ ] Douglas Wickizer, Dept. of Forestry, 1416 Ninth Street, Room 1516-2, Sacramento, CA 95814, 916/653-9451
- [ ] Hans Kreutzberg, Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001, 916/653-9107
- [S] Mike Doyle, Dept. of Parks and Recreation, P.O. Box 942896, Sacramento, CA 94296-0001, 916/653-0547
- [ ] Anna Leona Bronson, Reclamation Board, 1416 Ninth Street Room 706, Sacramento, CA 95814, 916/653-9669
- [ ] Nancy Wakeman, S.F. Bay Conservation & Dev't. Comm., 30 Van Ness Avenue, Room 2011, San Francisco, CA 94102, 415/557-3686
- [S] Nadell Gayou, Dept. of Water Resources, 1416 Ninth Street, Room 440, Sacramento, CA 95814, 916/653-6866

Fish and Game - *Regional Offices*

- [ ] Gary Stacey, Regional Manager, Department of Fish and Game, 601 Locust, Redding, CA 96001, 916/225-2300 (8-442)
- [ ] Jim Messersmith, Regional Manager, Department of Fish & Game, 1701 Nimbus Road, Suite A, Rancho Cordova, CA 95670, 916/355-0922 (8-436)
- [ ] B. Hunter, Regional Manager, Department of Fish and Game, P.O. Box 47, Yountville, CA 94599, 707/944-5518
- [ ] G. Nehus, Regional Manager, Department of Fish and Game, 1234 East Shaw Avenue, Fresno, CA 93710, 209/222-3761 (8-421)
- [S] Fred A. Worthley, Jr., Reg. Manager, Department of Fish and Game, 330 Golden Shore, Suite 50, Long Beach, CA 90802, 213/590-5113 (8-635)

Independent Commissions

- [X] John R. Nuffer, California Energy Commission, 1516 Ninth Street, MS-15, Sacramento, CA 95814, 916/654-3859
- [S] William A. Johnson, Native American Heritage Comm., 915 Capitol Mall, Room 288, Sacramento, CA 95814, 916/653-4082
- [S] William Meyer, Public Utilities Commission, 505 Van Ness Avenue, San Francisco, CA 94102, 415/703-1540 (8-597)
- [X] Betty Eubanks, State Lands Commission, 1807 - 13th Street, Sacramento, CA 95814, 916/322-2795

Business, Transportation, & Housing

- [ ] Sandy Hamard, Caltrans - Division of Aeronautics, P.O. Box 942874, Sacramento, CA 94274-0001, 916/324-1833
- [ ] Tom Mikesa, California Highway Patrol, Office of Special Projects, Planning and Analysis Division, 2555 First Avenue, Sacramento, CA 95818, 916/437-7222
- [ ] Ron Helgeson, Caltrans - Planning, P.O. Box 942874, Sacramento, CA 94274-0001, 916/445-5570

Department of Transportation *District Contacts*

- [ ] Guy Luther, Caltrans, *District 1*, 1656 Union Street, Eureka, CA 95501, 707/445-6407
- [ ] Michelle Gallagher, Caltrans, *District 2*, P.O. Box 494040, Redding, CA 96049-4040, 916/225-3259 (8-442)
- [ ] Jody Lonergan, Caltrans, *District 3*, 703 B Street, Marysville, CA 95901, 916/741-4277 (8-457)
- [ ] Gary S. Adams, Caltrans, *District 4*, P.O. Box 7310, San Francisco, CA 94120, 415/557-9162 (8-597)
- [ ] Wayne Schnell, Caltrans, *District 5*, P.O. Box 8114, San Luis Obispo, CA 93403-8114, 805/549-3683 (8-629)
- [ ] Moses Pacheco, Caltrans, *District 6*, P.O. Box 12616, Fresno, CA 93778, 209/276-5989 (8-422)
- [S] Gary McSweeney, Caltrans, *District 7*, 120 South Spring Street, Los Angeles, CA 90012, 213/620-2376 (8-640)
- [ ] Harvey Sawyer, Caltrans, *District 8*, P.O. Box 231, San Bernardino, CA 92402, 714/383-4908 (8-670)
- [ ] Lisa Flores, Caltrans, *District 9*, 500 South Main Street, Bishop, CA 93514, 619/872-0203 (8-427)
- [ ] Al Johnson, Caltrans, *District 10*, P.O. Box 2048, Stockton, CA 95201, 209/948-7838 (8-423)
- [ ] Mike Owen, Caltrans, *District 11*, P.O. Box 85406, 2829 Juan Street, San Diego, CA 92186-5406, 619/688-6750 (8-631)
- [ ] Aileen Kennedy, Caltrans, *District 12*, 2501 Pullman St., Santa Ana, CA 92705, 714/724-2939 (8-455)

Food and Agriculture

- [ ] Vashek Cervinka, Dept. of Food and Agriculture, 1220 N Street, Sacramento, CA 95814, 916/322-5227

Health & Welfare

- [S] Guy Tu, Dept. of Health, 714 P Street, Room 692, Sacramento, CA 95814, 916/323-6111
- [ ] DHS/ICB: _____

State and Consumer Services

- [ ] Robert Sleppy, Dept. of General Services, 400 P Street, Suite 5100, Sacramento, CA 95814, 916/324-0214

Environmental Affairs

- [S] Barbara Fry, Air Resources Board, 1102 Q Street, Sacramento, CA 95814, 916/322-8267
- [S] Steve Alt, Calif. Waste Management Board, 8800 Cal Center Drive, Sacramento, CA 95826, 916/322-4235

State Water Resources Control Board

- [ ] Allen Patten, State Water Resources Control Board, Division of Clean Water Programs, P.O. Box 944212, Sacramento, CA 94244-2120, 916/739-4265
- [ ] Dave Berlenger, State Water Resources Control Board, Delta Unit, P.O. Box 2000, Sacramento, CA 95812-2000, 916/322-9870
- [X] Phil Zentner, State Water Resources Control Board, Division of Water Quality, P.O. Box 100, Sacramento, CA 95801, 916/657-0912
- [ ] Mike Falkenstein, State Water Resources Control Board, Division of Water Rights, 901 P Street, 3rd Floor, Sacramento, CA 95814, 916/657-1377 (8-437)
- [X] APCD/AQMD: SOUTH COAST 33

Regional Water Quality Control Board

- [ ] NORTH COAST REGION (1), 1440 Guerneville Rd., Santa Rosa, CA 95401, 707/576-2220 (8-590)
- [ ] SAN FRANCISCO BAY REGION (2), 2101 Webster, Suite 500, Oakland, CA 94612, 415/464-1255 (8-561)
- [ ] CENTRAL COAST REGION (3), 81 Higuera Street, Suite 200, San Luis Obispo, CA 93401-5414, 805/549-3147 (8-629)
- [X] LOS ANGELES REGION (4), 1075 S. Broadway, Rm. 4027, Los Angeles, CA 90012, 213/265-4460 (8-640)
- [ ] CENTRAL VALLEY REGION (5), 3443 Routier Road, Suite A, Sacramento, CA 95827-3098, 916/361-5600
  - ( ) Fresno Branch Office, 3614 East Ashlan Avenue, Fresno, CA 93726, 209/445-5116 (8-421)
  - ( ) Redding Branch Office, 415 Knollcrest Drive, Redding, CA 96002, 916/224-4845 (ATS 441)
- [ ] LAHONTAN REGION (6), 2092 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150, 916/544-3481
  - ( ) Victorville Branch Office, 15428 Civic Drive, Suite 100, Victorville, CA 92392-2359, 619/241-6583
- [ ] COLORADO RIVER BASIN REGION (7), 73-271 Highway 111, Suite 21, Palm Desert, CA 92260, 619/346-7491
- [ ] SANTA ANA REGION (8), 2010 Iowa Avenue, Suite 100, Riverside, CA 92507, 714/782-4130 (8-632)
- [ ] SAN DIEGO REGION (9), 9771 Clairemont Mesa Blvd., Suite B, San Diego, CA 92124-1331, 619/265-5114 (8-636)

- [S] OTHER: SANTA MONICA MOUNTAINS
- [ ] OTHER: _____

10/22/91

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, 120 SO. SPRING ST.
ANGELES, CA 90012
) 897-3656

May 5, 1992

IGR/CEQA
City of Los Angeles
NOP-DEIR
Sunshine Canyon Landfill
SUP-EIR 91-0377-
ZC/GPA(CUZ)(ZV)
Vic LA-5-R44.43

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Ms. Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Dear Ms. Bok

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. Based on the information received, we have the following comments:

Caltrans would be interested in reviewing and evaluating the Traffic and Circulation element of the Sunshine Canyon Landfill. Items which should be covered for this element should include, but not be limited to the following:

1. Trip generation/distribution including the method used to develop the percentages and assignment.

2. ADT, AM and PM peak-hour volumes for both the existing and future (Year 2010) conditions. This should include the Golden State Freeway (I-5), and affected ramps, streets, crossroads,and controlling intersections, as well as an analysis of existing and future conditions on mainline freeway.

3. An analysis of future (Year 2010) conditions which include project traffic and the cumulative traffic generated for all approved developments in the area.

4. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. These discussions should include, but not be limited to, the following:

    * financing
    * scheduling considerations
    * implementation responsibilities
    * monitoring plan

5. Developer(s) percent share of the cost for mitigation measures.

MITIGATION OF IMPACTS

If any adverse impacts are anticipated, a plan of realistic mitigation measures (above: #4) under the control of the developer should be included. When ramp and mainline improvements as well as R/W infringement are necessary as mitigation measures, guidelines called for by tbe Caltrans permit process will be followed. Basically, permits are needed for any work performed on, above, or below State highway right-of-way.

Finally, we feel that assessment fees for mitigation should be extended to cover mitigation for mainline freeway deficiencies that occur as a result of the additional traffic generated by a project.

We look forward to reviewing the DEIR. We expect to receive a copy from the State Clearinghouse. However, to expedite the review process, you may send two copies in advance to the undersigned at the following address:

Wilford Melton
District 7 IGR\CEQA Coordinator
Advance Planning Branch 4-11G
120 So. Spring Street
Los Angeles, CA 90012

Thank you for this opportunity to comment. If you have any questions regarding these comments, please call me at (213) 897-1338.

Sincerely,

Wilford Melton

WILFORD MELTON
Senior Transp. Planner
IGR\CEQA Coordinator
Advance Planning Branch

nh\4059

STATE OF CALIFORNIA PETE WILSON, Governor

SANTA MONICA MOUNTAINS CONSERVANCY
SOLSTICE CANYON PARK
3700 SOLSTICE CANYON ROAD
MALIBU, CA 90265
(310) 456-5046
FAX (310) 456-1042

May 13, 1992

Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Re: Sunshine Canyon Landfill
Pre-Draft Comments
SUP-EIR 91-0377-ZC/GPA(CUZ)(ZV)

Dear Ms. Bok:

The Santa Monica Mountains Conservancy is the principal state agency charged with the protection of the Santa Monica Mountains Zone and the Rim of the Valley Trail Corridor pursuant to Division 23 of the Public Resources Code. The Conservancy staff offers the following comments on the scope of the Supplemental Environmental Impact Report (SEIR) for the above-referenced project.

Relationship between the Loss of High Quality Habitat and the Reduction of Longterm Regional Ecosystem Capacity: An approximation of the remaining acres of habitat in the Santa Susana Mountains is needed in the SEIR. This information should also be presented graphically. Such an approximation of the overall landscape unit size is essential to adequately assess how the proposed incremental loss of habitat of the project and its alternatives could impact the range's longterm ecological carrying capacity for multiple species.

The SEIR should also include some discussion of how much of the habitat within the project boundaries, relative to the whole of the Santa Susana Mountains, contains above average resource value to wildlife per actual acre of area. Thus for the proposed project and its alternatives, the impact analysis section should address whether or not the loss of an acre of habitat in Sunshine Canyon could have a more significant ecosystem impact than the loss of an acre in many other portions of the range.

The document should describe, both in text and with graphics, the spatial and ecological relationships between the project area and the California Department of Parks and Recreation's proposed Santa Clarita Woodlands State Park and O'Melveny Park in the City of Los Angeles. The SEIR should address both textually and graphically how habitat intrusion and fragmentation between the Santa Clarita Woodlands and Bee Canyon could limit wildlife utilization of these areas both by species with high individual area requirements and by species with minimal tolerance of human activities. Possible degradation of southern spotted owl habitat, critical incremental reduction of mountain lion and American badger habitat, and the effects of significant increases in the visitation of multiple "human trash utilizing" avian species should be considered as part of this analysis.

The pumping of groundwater, at a volume or rate needed even for minor landfill operations, poses a strong probability of altering regionally important ecological resources related to existing soil and substrate moisture regimes. Such adverse alteration of subsurface water regimes would probably occur over a widespread area, and it would be observably and unobservably manifested in a multiplicity of biotic and abiotic manners.

The SEIR should explain the difficulty involved with accurately assessing what the total longterm effects of groundwater pumping would be on ecologically-related resources. If a lack of significant adverse impact cannot be conclusively demonstrated, then the ultimate burden of such proof should be considered as a project requirement prior to any subsequent level of government approval.

Potential Degradation of Public Recreational Value and Opportunity: Under various scenarios, ranging from a fully completed Santa Clarita Woodlands State Park to a partial level of park completion, the SEIR should address how the proposed project, and its alternatives, could affect future and existing user value of the proposed state park and of O'Melveny Park.

Mitigation Measures: The preceding portions of this letter include many requests for specific information to be included in the SEIR. As a result, the document should include both more thoroughly defined baseline conditions and corresponding potential adverse impacts. The proposed mitigation measures in the SEIR should specifically reflect these current findings.

In order to adequately mitigate the above-described potential ecological and recreational impacts, it may be appropriate to direct a percentage of the landfill tipping fees to these specific areas of concern. The Conservancy has demonstrated its ability to address and propose solutions to ecological and recreational issues. The expertise and flexibility of this agency should be heavily considered in respect to selecting parties to implement related mitigation programs and tasks.

We appreciate the opportunity to comment on these matters. Please contact our staff if we can provide any further assistance or clarification.

Sincerely,

Paul Edelman
Conservancy Project Development Analyst II
Staff Ecologist

cc: Dan Preece, District Superintendent, California Department of Parks and Recreation

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (714) 396-2000

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April 24, 1992

Ms. Susan Bok
City of Los Angeles
Department of City Planning
Room 655, City Hall
Los Angeles, CA 90012

Dear Ms. Bok:

Re: Notice of Preparation of a Draft Environmental Impact Report for the Sunshine Canyon

SCAQMD# LAC920416-14

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the Notice of Preparation for a Draft EIR for the Sunshine Canyon. SCAQMD is responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Basin, which includes the study area. As a responsible agency, SCAQMD reviews and analyzes environmental documents for projects that may generate significant adverse air quality impacts. In this capacity, SCAQMD advises lead agencies in addressing and mitigating the potential adverse air quality impacts caused by projects.

To assist the Lead Agency in the preparation of the air quality analysis for the EIR, the following is a summarization of key information for evaluating air quality impacts.

Baseline Information: Describe existing climate and air quality of the region and study area from the District Monitoring station located in the project source receptor area.

Identify and quantify all project **Emission Sources.**

Compare and assess anticipated project emissions with the District's **Thresholds of Significance** and the existing air quality of the region and study area.

Identify and assess **Toxic Source Emissions** within the study area.

Assess **Cumulative Air Quality Impacts** from the regional area.

Assess **Consistency of the General Plan** with the AQMP.

Identify and quantify **Project Alternatives** that may attain goals of the project with substantially fewer or less significant impacts.

Identify **Mitigation Measures** necessary to reduce air quality impacts substantially.

For additional information please refer to the District's "Air Quality Handbook for Preparing Environmental Impact Reports" to assess and mitigate adverse air quality impacts. Attached is a list of potential mitigation measures to reduce air quality impacts.

Upon completion of the Draft Environmental Impact Report, please forward two copies to:

Office of Planning & Rules
South Coast Air Quality Management District
21865 Copley Drive
P O Box 4939
Diamond Bar CA 91765-0939

Attn: Local Government - CEQA

If you have any questions, please call me at (714) 396-3055

Sincerely,

Connie Day
Program Supervisor
Local Government - CEQA

Attachment
(regnop)

ATTACHMENT

POTENTIAL MITIGATION MEASURES

To reduce particulate emissions from paved and unpaved roads, construction activities, and agriculture operations:

MITIGATION MEASURES

- o Use low emission mobile construction equipment (e.g., tractor, scraper, dozer etc.).
- o Develop trip reduction plan to achieve 1.5 AVR for construction employees.
- o Water site and clean equipment morning and evening.
- o Spread soil binders on site, unpaved roads and parking areas.
- o Apply District approved chemical soil stabilizers according to manufacturers specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
- o Reestablish ground cover on construction site through seeding and watering.
- o Implement or contribute to an urban tree planting program to off-set the loss of existing trees at the construction site.
- o Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between the emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak-hours.
- o Pave construction roads, and sweep streets if silt is carried over to adjacent public thoroughfares.
- o Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less.
- o Require a phased-schedule for construction activities to minimize emissions.
- o Suspend grading operations during first and second stage smog alerts.
- o Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- o Wash off trucks leaving the site.
- o Maintain construction equipment engines by keeping them tuned.
- o Use low sulfur fuel for stationary construction equipment.
- o Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- o Use low emission on-site stationary equipment.

To reduce automobile emissions by reducing the number of vehicles driven to a work site on a daily basis:

MITIGATION MEASURES

- o Provide local shuttle and regional transit systems and transit shelters.
- o Provide bicycle lanes, storage areas, and amenities.
- o Ensure efficient parking management.
- o Provide dedicated parking spaces with electrical outlets for electric vehicles.
- o Provide peripheral park-n-ride lots.
- o Provide preferential parking to high occupancy vehicles and shuttle services.
- o Charge parking lot fees to low occupancy vehicles.

To reduce automobile emissions by reducing the number of persons who must drive to a work site on a daily basis:

MITIGATION MEASURES

- o Promote Transportation Management Associations (TMAs).
- o Establish telecommuting programs, alternative work schedules, and satellite work centers.
- o Work with cities/developers/citizens in the region to implement TDM goals.

To reduce vehicular emissions through traffic flow improvements:

MITIGATION MEASURES

- o Configure parking to minimize traffic interference.
- o Minimize obstruction of through-traffic lanes.
- o Provide a flagperson to guide traffic properly and ensure safety at construction sites.
- o Schedule operations affecting traffic for off-peak hours.
- o Develop a traffic plan to minimize traffic flow interference from construction activities. Plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- o Schedule goods movements for off-peak traffic hours.
- o Synchronize traffic signals.
- o Provide adequate ingress and egress at all entrances to public facilities to minimize vehicle idling at curbsides.
- o Provide dedicated turn lanes as appropriate.

To reduce the length of work trips while expanding the supply of affordable housing and creating an urban form that efficiently utilizes urban infrastructure and services:

MITIGATION MEASURES

- o Achieve a job/housing balance compatible with the Regional Growth Management Plan.
- o Encourage growth in and around activity centers, transportation nodes and corridors.
- o Promote future patterns of urban development and land use , making better use of existing facilities, and promoting mixed use development involving commercial and residential uses.

To reduce stationary emissions of operation related activities:

MITIGATION MEASURES

- o Require development practices which maximize energy conservation as a prerequisite to permit approval.
- o Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.
- o Introduce window glazing, wall insulation, and efficient ventilation methods.
- o Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units.
- o Incorporate appropriate passive solar design, and solar heaters.
- o Use devices that minimize the combustion of fossil fuels.
- o Capture waste heat and reemploy it in nonresidential buildings.
- o Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.

To protect sensitive land uses from major sources of air pollution:

MITIGATION MEASURES

- o Integrate additional mitigation measures into site design such as the creation of buffer zones between a potential sensitive receptor's boundary and potential pollution source.
- o Require design features, operating procedures, preventive maintenance, operator training, and emergency response planning to prevent the release of toxic pollutants.

WASTEWATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-4998
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (213) 699-7411, (213) 685-5217
Fax: (213) 695-6139

CHARLES W. CARRY
Chief Engineer and General Manager

April 28, 1992

File No: 31-900.13.10J

RECEIVED
CITY OF LOS ANGELES
MAY 0 4 1992
ENVIRONMENTAL
UNIT

Ms. Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 N. Spring Street
Los Angeles, CA 90012-4856

Dear Ms. Bok:

Sunshine Canyon Landfill

The County Sanitation Districts received a *Notice of Preparation of a Supplemental Environmental Impact Report* for the subject project on April 16, 1992. We offer the following comment regarding sewerage service:

The proposed project will not affect any Districts' facilities.

If you have any questions, please contact the undersigned at (310) 699-7411, extension 2728.

Very truly yours,

Charles W. Carry

David Lambert

David B. Lambert
Project Engineer
Financial Planning &
Property Management Section

DBL:rc

N:\ENVASSES\ENVASS2\SUNSCANY.LTR

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

June 2, 1992

IN REPLY PLEASE REFER TO FILE: P-6

Ms. Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

RECEIVED
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JUN 0 3 1992
ENVIRONMENTAL UNIT

Dear Ms. Bok:

RESPONSE TO A NOTICE OF PREPARATION
SUNSHINE CANYON LANDFILL

Thank you for the opportunity to provide comments on the Notice of Preparation (NOP) of a Supplemental Environmental Impact Report (SEIR) for the Sunshine Canyon Landfill. We have reviewed the NOP and offer the following comments:

1. The County of Los Angeles may experience a solid waste disposal crisis beginning mid-1993, unless new or expansion of existing landfills are permitted. In anticipation of the disposal capacity shortfall and crisis, the Los Angeles County Board of Supervisors adopted the County Solid Waste Management Action Plan on April 5, 1988. The Action Plan includes a policy to support expansion of existing landfills in Los Angeles County, including Sunshine Canyon Landfill, as long as it is environmentally and technically feasible. This Division recognizes the need for the proposed waste management facilities and supports the continual operation of Sunshine Canyon Landfill, provided it is technically and environmentally feasible.

2. The SEIR should address the existence of and need to comply with the National Pollutant Discharge Elimination System (NPDES) Permit regulations for stormwater discharges as well as for construction activities (40 CFR 122.26 14[V]).

3. The SEIR should include a discussion of the type of landfill gas migration detection and control measures that will be used to minimize, to the maximum extent possible, subsurface lateral migration of landfill gas beyond the perimeter of the landfill.

4. Any mitigation measure monitoring program performed by the Los Angeles County Department of Public Works, Waste Management Division, will require a funding account to be established by the project proponent to pay for the required services. The amount of necessary funds will be determined at the time monitoring will be performed. The Department of Public Works, Waste Management Division, must be contacted to establish the funding account.

If you have any questions regarding these comments, please contact Mr. Michael Bohlander of our Waste Management division at (818) 458-3562. Questions regarding the environmental reviewing process of this Department can be directed to Ms. Clarice Nash at the above street address or at (818) 458-4334.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

for Michael O. Nagao
CARL L. BLUM
Assistant Deputy Director
Planning Division

MA:le
WP/MA.112

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(213) 881-2481

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

RECEIVED
CITY OF LOS ANGELES

MAY 1 1 1992

ENVIRONMENTAL
UNIT

May 6, 1992

Susan L. Bok, Project Coordinator
Department of City Planning
Room #655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Dear Ms. Bok:

SUBJECT: ENVIRONMENTAL IMPACT REPORT -- CITY OF LOS ANGELES SUNSHINE CANYON LANDFILL -- GRANADA HILLS/KNOLLWOOD DISTRICT PLAN AREA -- (COUNCIL DISTRICT 2)

SERVICE RESPONSIBILITY
The subject property is totally within the City of Los Angeles and does not appear to have any impact on this Department. It is not a part of the Consolidated Fire Protection District nor Forester and Fire Warden responsibility areas.

FORESTRY DIVISION
We have reviewed the Notice of Preparation and Pre-draft request for comments for the Sunshine Canyon landfill, City of Los Angeles.

The Biota section should include a complete analysis of all trees, including oak trees and their related ecosystems, as protected by city ordinances.

Mitigation for unavoidable environmental impacts to the biota should include land donation of equal resource value, replacement planting in nearby city areas and open spaces, biotic research or education. Street tree planting on remanufactured slopes or street medians does not recreate the resource removed.

We welcome the opportunity to review the Supplemental Environmental Impact Report (SEIR). If you have additional questions, please contact this office at (213) 881-2481.

Very truly yours,

P. MICHAEL FREEMAN

BY
JOSEPH FERRARA, CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

JF:lc

CITY OF SIMI VALLEY

2929 Tapo Canyon Road, Simi Valley, California 93063 • (805) 583-6700

April 24, 1992

RECEIVED
CITY OF LOS ANGELES
APR 28 1992
ENVIRONMENTAL
UNIT

Susan L. Bok, Project Coordinator
Department of City Planning, City of Los Angeles
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

SUBJECT: SEIR NO. 91-00377-ZC/DPA(CUZ)(FZ)
SUNSHINE CANYON LANDFILL NOP

Dear Ms. Bok:

The staff of the Environmental Services Department of the City of Simi Valley has reviewed the Notice of Preparation for the Supplemental Environmental Impact Report for the Sunshine Canyon landfill. Because it is not anticipated that this project will have any impact on the City of Simi Valley, the City offers no response to the Notice of Preparation.

Thank you for the opportunity to review the project.

Sincerely,

DIANE DAVIS-CROMPTON, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL SERVICES

James R. Lightfoot
Advanced Planning Manager

cc: City Manager
Deputy Director/Advanced Planning
Senior Planner, M. Kuhn

GREGORY STRATTON, Mayor • BILL DAVIS, Mayor Pro Tem • SANDI WEBB, Council Member • JUDY MIKELS, Council Member • MICHAEL W. PIPER, Council Member

Room 655

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

DATE: MAY 0 8 1992

RECEIVED
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MAY 1 3 1992
ENVIRONMENTAL UNIT

TO: Con Howe
Director, City Planning Department

ATTN: Linn Wyatt
EIR Preparation

FROM: Robert S. Horii
City Engineer

BY: Andres Santamaria
Project Management Division

SUBJECT: **SUNSHINE CANYON LANDFILL**
SUP. EIR No. 91-0377-ZC/GPA(CUZ)(ZV)

The Bureau of Engineering offers the following comments in response to the Notice of Preparation received from your department regarding the above referenced project:

1. Discussion of the rationale for preparation of separate documents for the City and County owned portions of the landfill is appropriate. Specifically, would a single document for the entire project be more appropriate ?

   The decisionmaker (City Council/Planning Commission) should be advised of the Los Angeles County Superior Court ruling regarding the adequacy of the County's Final EIR; any implications this may have for the City's proposed project should be discussed. A summary of other legal objections to the Final EIR and/or the proposed project should be included. Discussion regarding the technical and legal merit of the objections, as applicable to the City's proposed project, should be included.

2. A discussion of the project's relationship to the City's Solid Waste Management Plan (which is being prepared) should be included.

3. A thorough discussion of feasible alternatives should include alternative:

   a. sites - including the possibility of several smaller landfills.
   b. management - City owned & operated vs City owned & operated under contract vs independently owned & operated.
   c. method of disposal - i.e., recycling, waste to energy conversion, material recovery facilities, etc....
   d. capacity - same site, reduced capacity.

   Suggest that the EIR not focus on a single preferred alternative. Alternatives should be given equal consideration to provide maximum flexibility to staff and the decisionmaker in the selection and adoption of the final project. This approach will minimize the need to rewrite the EIR if a need to alter the proposed project arises in the future.

4. Given the presence of an existing closed landfill adjacent to the proposed site, a thorough investigation of existing geological and hydrological conditions including soil and groundwater investigations for hazardous and/or toxic materials should be conducted to establish baseline

conditions. Results and conclusions of this investigation should be available for circulation and comment as part of the Draft EIR. A program of regular monitoring, extending beyond the active life of the facility, including a plan of action for responding to migration of leachate, should be included.

5. Potential end uses for the facility should be discussed. The potential benefits of end uses for alternatives to the proposed project should be considered. Specifically, what is the relative contribution of potential end uses to the surrounding communities -- who will benefit ? Sources of funding for maintenance of proposed end uses, including long-term monitoring of ground and water quality should be included.

6. The potential for future economic demands upon the City to correct damages resulting from failure of the project to function as designed should be discussed. The relative liability of feasible alternatives should be included in this discussion.

7. Analysis of stormwater runoff should include the effects of a 100-year storm occurring at a time when the watershed substrate is saturated.

8. A survey of the existing natural setting should include discussion of the representative value of various habitats present at the site. This discussion should assess the area of the represented habitats present at the site relative to the total area of similar types of undeveloped habitats present in the City of Los Angeles. Proposed uses, existing zoning, and community plan designations for any of those habitats used in this assessment should be presented to compare the relative long-term potential of the habitat to support wildlife. In addition to total area, the undeveloped habitats should be contrasted regarding factors which affect their ability to support wildlife, including but not necessarily limited to: proximity to developed lands, proximity to wildlife corridors, integrity of represented communities.

9. Existing wildlife species which use the proposed site should be described, and their populations estimated. Mapping of the territories utilized by these species should be performed to accurately assess the potential impact on wildlife in the area. This study should include analysis of impacts to wildlife which utilize the site as a corridor to travel between other habitats and/or populations. Based on the above assessment, a discussion of the project's potential impacts on affected species, relative to known populations of those species within the natural boundaries of the project area, should be presented. This discussion should include suggestions for reduced impact through mitigation measures and/or feasible project alternatives.

10. A Mitigation Monitoring and Reporting Program should be circulated for review and comment as part of the Draft EIR. Proposed mitigation measures should be specific, feasible to implement, enforceable, readily monitored by the responsible agencies. Where appropriate, mitigation measures should establish mechanisms for reparation by responsible parties whose failure to implement prescribed actions results in significant environmental impacts.

Thank you for the opportunity to comment on this proposed project. If you have any questions regarding this memo, please do not hesitate to contact Mr. Brian McRae of my staff at extension 56556.

RSH/AS/BM:s

City of Los Angeles
Office of Water Reclamation
(213) 237-0887

MEMORANDUM

DATE: May 11, 1992

TO: Susan L. Bok, Project Coordinator
City Planning, Environmental Review Section

FROM: Bahman Sheikh, Director
Office of Water Reclamation

CC: Jerry Gewe
Department of Water and Power

SUBJECT: ENVIRONMENTAL IMPACT REPORT COMMENTS - SUNSHINE CANYON LANDFILL PROJECT

Although there is no official master plan, currently delineating future reclaimed water service areas, the pace of water reuse infrastructure development in the City of Los Angeles is accelerating. It is anticipated that a reclaimed water delivery system will be extended from the Tillman Water Reclamation Plant toward the project area over the next few years, as the East Valley Water Reclamation Project is implemented and extended. Therefore, in light of the relatively low additional costs, it is recommended that a dual plumbing system be designed into this project.

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

May 13, 1992

TO: Susan Bok, Project Coordinator
Department of City Planning

FROM: Fire Department

SUBJECT: PRE-DRAFT REQUEST FOR COMMENTS
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL EIR CASE 91-0377-ZC/GPA (CUZ)(ZV)

Browning-Ferris Industries of California proposes to develop and operate the City portion of a combined Los Angeles County/City landfill project as well as composting facilities. The composting element of the project would consist of an on-site yard trimmings and open windrow composting facility.

The proposed project is a total of 1,560 acres, with approximately 494 acres located in the City portion and the remainder in the County.

A. FIREFIGHTING PERSONNEL ACCESS

No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.

Adequate public and private fire hydrants shall be required.

B. FIREFIGHTING APPARATUS ACCESS

Access for Fire Department apparatus and personnel to and into all structures shall be required.

Private development shall conform to the standard street dimensions shown on Department of Public Works Standard Plan D-22549.

Construction of public or private roadways in the proposed development shall not exceed 15 percent in grade.

CONCLUSION

In order to mitigate the inadequacy of fire protection in travel distance, automatic fire sprinklers will be required throughout any structure to be built.

This project is located in the Mountain Fire District and shall comply with requirements set forth in the City of Los Angeles Municipal Code 57.25.01.

The proposed project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708).

Definitive plans and specifications shall be submitted to this Department and requirements for necessary permits satisfied prior to commencement of any portion of this project.

For any additional information, please contact our Hydrant Unit, at (213) 485-5964.

DONALD O. MANNING
Chief Engineer and General Manager

For Dal L. Howard, Assistant Fire Marshal
Bureau of Fire Prevention and Public Safety

DLH:ASM:cr/3140E

cc: Councilman Hal Bernson
Environmental Affairs Commission
Fire Department Planning Section

CITY OF LOS ANGELES
CALIFORNIA

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MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
411, CITY HALL
LOS ANGELES, CA 90012-4869

WARREN V. O'BRIEN
GENERAL MANAGER

EARL SCHWARTZ
EXECUTIVE OFFICER

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June 1, 1992

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JUN 10 1992
ENVIRONMENTAL
UNIT

C.D. - 11

Susan L. Bok
Environmental Review Section,
Room 655, City Hall
Department of City Planning

(E. I. R. File - 7)

SUBJECT: Sunshine Canyon Landfill, EIR 91-0377-2C/6DA
14747 SAN FERNANDO ROAD

In accordance with your request, the Grading Division has reviewed the transmitted Pre-Draft Report as it relates to earth and seismic considerations discussed under Heading 1.

The project is a zone damage to permit heavy industrial use of 494 acres of hillside terrain. Excavation within the building area and adjacent slopes will be regulated by the Los Angeles Building Code. Detailed geologic and soil engineering reports are required for such projects.

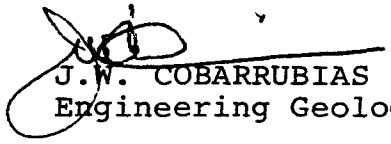
Department Comments:

The proposed County-City landfill will require grading to creat landfill confinement, debris basin, operation facilities, and drainage centrals. A large 200,000 gallon water tank and incinerators are planned for the city portion. Estimated amount of grading is not given, but primarily will involve a high fill slope and driveway access graded slopes.

AN EQUAL EMPLOYMENT OPPORTUNITY -- AFFIRMATIVE ACTION EMPLOYER Recyclable and made from recycled waste

To minimize the visual impact of grading and construction, a landform grading scheme and slope landform planting could maintain a natural finished appearance to the project. Detailed geologic and soil engineering studies are required for the areas adjoining the proposed buildings.

LARRY WESTPHAL
Chief of Grading Division



J.W. COBARRUBIAS
Engineering Geologist III

(213) 485-2160

JWC:sa
TGRSG0601920/4GR

Department of Water and Power the City of Los Angeles

TOM BRADLEY
Mayor

Commission
MICHAEL J. GAGE, *President*
RICK J. CARUSO, *Vice President*
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MARY D. NICHOLS
JUDITH K. DAVISON, *Secretary*

DANIEL W. WATERS, *General Manager and Chief Engineer*
ELDON A. COTTON, *Assistant General Manager - Power*
JAMES F. WICKSER, *Assistant General Manager - Water*
NORMAN L. BUEHRING, *Assistant General Manager - External Affairs*
NORMAN J. POWERS, *Chief Financial Officer*

June 19, 1992

Ms. Susan L. Bok
Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, California 90012-4856

RECEIVED
CITY OF LOS ANGELES
JUN 29 1992
ENVIRONMENTAL
UNIT

Dear Ms. Bok:

Request for Comments
Sunshine Canyon Landfill, City of Los Angeles (City)

This is in reply to your letter received April 13, 1992 requesting comments concerning the above project.

The proposed project consists of the development and operation of the City portion of a combined Los Angeles County/City landfill project as well as composting facilities adjacent to the prior landfill.

Electric service will be provided in accordance with the Los Angeles Department of Water and Power's rules and regulations. The cumulative effect of this and other projects planned in the area may eventually require the construction of additional power distribution facilities. Power distribution facility construction may cause limited temporary impact on the surrounding communities in the form of unavoidable noise, air pollution, and traffic congestion during construction.

Based on the project description, some of the enclosed energy-conservation measures may apply and should be considered for inclusion into the Draft Environmental Impact Report.

111 North Hope Street, Los Angeles, California ☐ *Mailing address:* Box 111, Los Angeles 90051-0100
Telephone: (213) 481-4211 *Cable address:* DEWAPOLA *FAX:* (213) 481-8701

Recyclable and made from recycled paper

Thank you for the opportunity to comment on this project. If you or your staff have any questions regarding this letter, please contact Mr. Douglas E. Varner of my staff at (213) 481-3233.

Sincerely,

EDWARD KARAPETIAN
Manager of Environmental and
Governmental Affairs

Enclosure

c: Mr. Douglas E. Varner w/o Enclosure

Commercial Energy Conservation Mitigation Measures

During the design process, the applicant should consult with the Los Angeles Department of Water and Power, Energy Services Subsection, regarding possible energy conservation measures. The applicant shall incorporate measures which will exceed minimum efficiency standards for Title XXIV of the California Code of Regulations.

- Built-in appliances, refrigerators, and space-conditioning equipment should exceed the minimum efficiency levels mandated in the California Code of Regulations.

- Install high-efficiency air conditioning controlled by a computerized energy-management system in the office and retail spaces which provides the following:

  - A variable air-volume system which results in minimum energy consumption and avoids hot water energy consumption for terminal reheat;

  - A 100-percent outdoor air-economizer cycle to obtain free cooling in appropriate climate zones during dry climatic periods;

  - Sequentially staged operation of air-conditioning equipment in accordance with building demands; and

  - The isolation of air conditioning to any selected floor or floors.

  - Consider the applicability of the use of thermal energy storage to handle cooling loads.

- Cascade ventilation air from high-priority areas before being exhausted, thereby, decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors and then to mechanical spaces before being exhausted.

- Recycle lighting-system heat for space heating during cool weather. Exhaust lighting-system heat from the buildings, via ceiling plenums, to reduce cooling loads in warm weather.

- Install low and medium static-pressure terminal units and ductwork to reduce energy consumption by air-distribution systems.

- Ensure that buildings are well-sealed to prevent outside air from infiltrating and increasing interior space-conditioning

loads. Where applicable, design building entrances with vestibules to restrict infiltration of unconditioned air and exhausting of conditioned air.

- A performance check of the installed space-conditioning system should be completed by the developer/installer prior to issuance of the certificate of occupancy to ensure that energy-efficiency measures incorporated into the project operate as designed.

- Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and, thus, increase lighting efficiency.

- Install thermal insulation in walls and ceilings which exceeds requirements established by the California Code of Regulations.

- Design window systems to reduce thermal gain and loss, thus, reducing cooling loads during warm weather and heating loads during cool weather.

- Install heat-reflective draperies on appropriate exposures.

- Install fluorescent and high-intensity-discharge (HID) lamps, which give the highest light output per watt of electricity consumed, wherever possible including all street and parking lot lighting to reduce electricity consumption.

- Install occupant-controlled light switches and thermostats to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.

- Install time-controlled interior and exterior public area lighting limited to that necessary for safety and security.

- Control mechanical systems (HVAC and lighting) in the building with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.

- Incorporate windowless walls or passive solar inset of windows into the project for appropriate exposures.

- Design project to focus pedestrian activity within sheltered outdoor areas.

For additional information concerning these conservation measures, please contact Mr. Brian Belier, Manager of the New Construction Unit of Energy Services Subsection, at (213) 481-5735.

LOS ANGELES POLICE DEPARTMENT

WILLIE L. WILLIAMS
Chief of Police

TOM BRADLEY
Mayor

P.O. Box 30158
Los Angeles, Calif. 90030
Telephone:
(213) 485-2636
Ref #: 9.4

July 10, 1992

Ms. Susan L. Bok
Project Coordinator
Department of City Planning
City Hall, Room 655
200 North Spring Street

EIR CASE NO: 91-0377-ZC/GPA (CUZ) (ZV)

Dear Ms. Bok:

The proposed Sunshine Canyon Landfill project has been reviewed. The project should have no impact on police service in the concerned area.

Very truly yours,

WILLIE L. WILLIAMS
Chief of Police

DAVID J. KALISH, Captain
Commanding Officer
Planning and Research Division

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THE CALIFORNIA NATIVE PLANT SOCIETY

April 18, 1992

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UNIT

Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Re: SUPPLEMENTAL EIR CASE NO: 91-0377-ZC/GPA(CUZ)(ZV)

Dear Ms. Bok,

The key factor not being addressed by the City is whether the destruction of the forest in Sunshine Canyon represents a significant reduction of this particular kind of plant community. Is there another closed-canopy oak forest in the City of Los Angeles?

The California Native Plant Society is very concerned about the plight of oak communities throughout the state, with particular concern focused on those remaining oak communities left in southern California. Our *Oak Hardwood Policy*, adopted in 1989, in part reads: "Fragmentation of oak habitats reduces their ability to provide the full range of ecological benefits, including maintenance of species diversity, soil and watershed protection, and wildlife, recreational, and aesthetic values. For most native oak species basic ecological information is incomplete; current management decisions are being made based upon inadequate understanding of their consequences for oaks..."

Before the City should destroy a significant oak community, the City should present evidence that indicates exactly what percentage of closed-canopy oak forest remain in the City and what additional percentage will be lost by destroying the plant communities in Sunshine Canyon.

Sunshine Canyon is more than just a collection of plants and animals. The City should make certain that it does not destroy a unique natural resource in Southern California. If the City is certain that Sunshine Canyon is not unique, it should provide examples of other canyons with the same plant community adjacent to a large protected area (i.e. the proposed Santa Clarita Woodlands State Park).

Sincerely,

Steven Hartman

Steve Hartman
4444 Longridge Avenue
Sherman Oaks, CA 91423

Forwarded by County
Rec'd 5-14-92

17133 Van Gogh St.
Granada Hills,
CA 91344-1218
April 27, 1992

City of Los Angeles
Department of City Planing
Room 561, City Hall
200 N. Spring St.
Los Angeles, CA 90012-4801

RE: Notice of Public Scoping Meeting Sunshine Canyon Landfill

Ladies and Gentlemen:

I am requesting the environmental impact report consider the following items.

1. Browning and Ferris have in the past not permitted any unannounced inspections of their operation. Therefore we have no knowledge of what was being deposited in the dump.

2. Browning and Ferris have not taken the health and safety of the local residents into consideration in their plans. For example when asked why they did not pipe the leaking methane gas into the gas company's line they said it was too expensive. The gas from the landfills in the Sepulveda pass area is piped into the gas system. Are we in the valley more expendable than those rich people who live in the pass? Remember there is still a strong possibility that the December fires that destroyed homes was caused by the flame from the methane burn off.

3. The present system of burning the methane does reduce the toxins but not any more than the garbage disposal plant would have that was planned for other locations in Los Angeles. Therefore if the garbage incineration plant planned for other locations in Los Angeles was unsafe Sunshine Canyon is unsafe.

4. As to the plastic liner to prevent water penetration into the water supply. I had plastic piping for my lawn sprinkler system prior to the earthquake. The shakes scraped the piping and leaking was so severe I had to replace all the piping.

5. Lets make everyone participate in recycling. Only a small portion of the county is participating. I hear it is too expensive, Since when is that a justification for stacking garbage where beautiful trees stand that help supply the oxygen we need.

6. Browning Ferris proposes cutting down the trees in Sunshine canyon so we can the dump garbage. This exemplifies why the world is in environmental trouble. Brazil should stop cutting down trees, but it is okay for Los Angeles to cut down trees? As to the trees they will plant to replace those cut down, it will take years for those trees to replace the capacity of the existing trees to produce oxygen. With the lack of control that has existed in the past we have no assurance that the trees will be nurtured into maturity.

Yours truly

Mary Hallberg Ernest Hallberg

Apartment Association

14550 Archwood Street

Van Nuys, California 91405

RECEIVED
CITY OF LOS ANGELES
MAY 1 1992
ENVIRONMENTAL
UNIT

April 28, 1992

Ms. Susan L. Bok, Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, California 90012-4856

Dear Ms. Bok;

The Board of Directors of the Apartment Association San Fernando Valley/Ventura County is very concerned about the trash disposal facing not only its members, but all residents of Los Angeles County. Since I am unable to attend the Public Scoping Meeting on the Sunshine Canyon Landfill tomorrow evening, April 29, 1992 to express their concerns, I am writing this letter in lieu of public testimony.

As residents of Los Angeles, we are concerned that we are progressively running out of disposal space for the trash that is generated in the City of Los Angeles. While citizens today are more aware than ever of the trash disposal crisis facing us and the need to recycle, we also realize that recycling alone will not solve the problem.

The County of Los Angeles recognized the need for close-in disposal space when they approved the request of Browning-Ferris Industries to be permitted to expand the landfill into the County portion of the property. It is now time for the City to act and take responsibility for disposal of its trash by approving the application of Browning-Ferris Industries to extend landfilling in the City's portion of its property.

Thank you for your consideration of our position.

Sincerely,

Mary Ellen Hughes

Mary Ellen Hughes, CAE
Executive Director

MEH/slr

(818) 374-3240 • (800) 479-4223
FAX (818) 787-6018

May 2, 1992

Don P. Mullally
10418 Gothic Avenue
Granada Hills, Ca. 91344
818-363-3040

Susan L. Bok, Projector Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, California 90012-4856

RECEIVED
CITY OF LOS ANGELES
MAY 07 1992
ENVIRONMENTAL
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Subject: Supplemental E.I.R. Case
No: SUP-EIR 91-0377-ZC/GPA
(CUZ) (ZV)

Project Name: Sunshine Canyon Landfill,
City of Los Angeles

Project Location: 14747 San Fernando Road
Sylmar, California 91342

Dear Ms. Bok:

I have only superficial knowledge of the plant and animal species and plant communities of that portion of Sunshine Canyon within the limits of the City of Los Angeles. However, I have studied the biology of adjacent Bee, Rice, East, and Weldon Canyons and the county portion of Sunshine Canyon.

Woodland communities which are considered to be endangered, rare and even unique to Bee, Rice, East and Weldon Canyons include the following.

1. Valley oak woodland-savanna. (Quercus lobata). State endangered.

2. Valley oak-Southern black walnut (Juglans californica) woodland-savanna. Rare.

3. Coast live oak (Quercus agrifolia)- Valley oak- Canyon live oak woodlands (Quercus chrysolepis) AND forest. Minor inclusions of fir, California bay laurel (Umbellaria californica), Big leaf maple (Acer macrophyllum), Flowering ash (Fraxinus dipetala), and walnut. Unique.

4. Flowering ash woodland (Fraxinus dipetala). Unique.

5. Flowering ash- Southern black walnut woodland-savanna. Unique.

6. Flowering ash- Coast live oak - Southern Black walnut woodland-savanna. Unique.

7. Ash- Walnut- California bay laurel woodland- savanna. Unique.

8. Coast live oak- Big cone Douglas fir (Pseudotsuga macrocarpa) woodland- forest (Without canyon live oak, the usual associate of the fir.) Rare or unique.

9. Southern California black walnut woodlands (over 1/4 hectare in size). Rare.

10. Coast live oak- Big cone Douglas fir- Southern California walnut woodland. Rare or unique.

Many of these plant communities have been examined in my presence by Dr. Todd Keeler Wolf, Plant Ecologist, California Department of Fish and Game, Sacramento, Natural Diversity Data Base.

I suggest that Sunshine Canyon be examined by independent, qualified plant ecologists (a field of botany) for the presence of these plant communities. The presence of sufficiently large quantities of these communities to form habitat should be cause for mitigating or relocating the project.

My background includes:

1. B.A. degree in Zoology from U.C.L.A. and extensive graduate studies.

2. Biology teacher, high school, Los Angeles City Schools, 1957-1977.

3. Summer season naturalist, California Department of Parks and Recreation, 1958-1967.

4. Senior Gardener (de facto manager) of O'Melveny City Park from 1986 to 1992. O'Melveny Park is adjacent to Sunshine Canyon.

5. Contributions to the biological knowledge of Significant Ecological Area 20 of the Santa Susana Mountains of Los Angeles County. Some of this knowledge were used by the State of California, Department of Parks and Recreation, in creation of a publication, "Santa Clarita Woodlands Feasibility Study", September, 1990. My name is listed as a contributor.

I also contributed heavily to the responses to the E.I.R.s for the county portion of BFIs proposed Sunshine landfill expansion and for the Los Angeles County Sanitation Districts proposed landfill in Towsley Canyon. Knowledge and appreciation of the importance of the unique and rare woodland plant communities has been largely developed since responses were given to the Final E.I.R. for the expansion of the county portion of the BFI Inc. landfill in Sunshine Canyon.

The possible loss of common habitats and species is regrettable. However, unless these environments support rare or endangered species, such losses involve political and economic considerations more than the reduction of the natural diversity of the state. This is particularly true if alternative avenues exist which serve as wildlife corridors.

Sincerely,

Don P. Mullally

Natural Resources
Defense Council

617 South Olive Street
Los Angeles, CA 90014
213 892-1500
Fax 213 629-5389

May 6, 1992

RECEIVED
CITY OF LOS ANGELES
MAY 13 1992
ENVIRONMENTAL
UNIT

Susan L. Bok
Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Thank you for your invitation to comment on the Supplemental Environmental Impact Report (SEIR) for proposed expansion of the Sunshine Canyon landfill. The Natural Resources Defense Council (NRDC) is a national non-profit environmental organization supported by more than 180,000 members and contributors dedicated to the conservation of our natural resources and the protection of public health. NRDC is very concerned about proposed landfill expansions because of their potential to leak contaminants into the surface water, ground water, air and upper atmosphere, and their general tendency to downgrade the quality of life for surrounding residential areas.

Insufficient Date to Support Project Scale

The City's proposal to expand the Sunshine Canyon landfill is especially troubling because once again (like the Elsemere Canyon, Lopez Canyon and the County portion of Sunshine Canyon environmental reports) a waste management decision is being considered prior to the completion and implementation of the City's waste reduction plan mandated under AB 939. Any review of the project must provide an in depth analysis of how the daily capacity and project size were determined. Furthermore, sufficient data must be provided to substantiate a causal relationship between the proposed project size and capacity, and the City's capacity demand after it implements its waste reduction plan.

It is premature to propose a project size until after the City implements its plan to achieve AB 939 goals particularly if we are to assume that they will be successful. The proposed capacity does not seem to reflect the fact that Los Angeles' solid waste stream will be reduced by half in seven years. The daily capacity of the proposed expansion is practically the same as that allowed under the original permit; a fact which seems to be in conflict with AB 939 requirements to implement solid waste management practices emphasizing **first**, source reduction, **second**, recycling and landfills only as a last resort. It does not seem possible that landfill space requirements can be properly determined **before** the plan outlining waste reduction and recycling is completed.

Additional Data Needed

Los Angeles will most likely continue to grow, increasing the amount of waste needing disposal. Likewise, new treatment technologies will come on line as the City learns the details of its waste stream composition and implements its waste reduction plans. For each of the waste materials in the stream, there will be a most appropriate technology for disposal/treatment. Landfilling may not be that technology. A proper environmental analysis would review a variety of treatment technologies in order to determine the most environmentally sensitive method per waste category. These various technologies are what an alternatives section should describe.

It will not be enough to simply list alternative technologies. They must be detailed as to their technological and labor requirements, costs, and scales necessary to address the corresponding portion of the waste stream to be treated. Only in this way, can a rational planning agency expect to make the best informed decisions.

Conclusion

NRDC believes that this is an extremely vital document which will greatly impact Los Angeles' waste management future. Making rational planning decisions on a single project basis which compliment and strengthen the City's long term plans, can only be accomplished with a full review of the facts. The SEIR must set out a detailed, comprehensive, and rigorous waste reduction and recycling program for Los Angeles. Waste reduction and recycling facility sites must be outlined as should schedules for implementation. Until it is clear how and where the primary alternatives are going to be implemented can a proper environmental impact be assessed or mitigated for the proposed expansion project.

In summary, to provide the most accurate information on the environmental impact and the appropriateness of the proposed project, the SEIR must include the following:

1. Los Angeles population growth rates (estimated at least until year 2000)
2. Los Angeles waste reduction plan to meet AB 939 goals
3. Data supporting landfill requirements for remaining waste stream
4. Specific landfill design/technology
5. Current waste stream composition analysis specific to City of Los Angeles
6. Analysis of "most appropriate technology" for each material found in the waste stream
7. Review of material specific information necessary to properly assess the correct technology, size, cost and labor requirements appropriate to treatment or disposal facility under consideration

Given the tremendous pressures on existing open space and natural envrionments within L.A. County, NRDC believes it is imperative that these areas be protected where possible, for the benefit of residents now and in the future. We do not believe sufficient justification has been offered for the expansion of existing landfills, or even the creation of new ones. If the SEIR for the City portion of the Sunshine Canyon Landfill expansion is to be taken as a serious waste management decision document, it must include the above listed information.

Respectfully,

Maribel Marín
Senior Research Associate

Rosemary Dealey Woodlock
ATTORNEY-AT-LAW

21015 Mulholland Drive
P. O. Box 365
Woodland Hills, Ca. 91365

RECEIVED
CITY OF LOS ANGELES
MAY 12 1992
ENVIRONMENTAL
UNIT

May 12, 1992

Ms. Susan Bok
Planning Department
City of Los Angeles
Room 655, City Hall
Los Angeles CA 90012

Dear Ms. Bok:

RE: SCOPING COMMENTS SUNSHINE CANYON LANDFILL - SEIR 91-0377

On behalf of the North Valley Coalition of Concerned Citizens ("NVC"), I am writing to follow up on my oral comments at the scoping hearing on April 27, 1992.

In the first instance, NVC strongly objects to the intention of the City, at the suggestion of the applicant's consultant, to proceed with the preparation of a supplemental EIR instead of a new EIR. At the scoping hearing,the frustration and distrust of the citizens who have participated in six years of CEQA proceedings at the County level engineered by Ultrasystems was evident in the comments of speaker after speaker. If for no other reason, the City should allay its citizens' apprehension by hiring its own consultant for this project.

A supplemental EIR is inappropriate because the City of Los Angeles spent a great deal of money arguing in Suerior Court that the EIR was a fatally flawed document; Judge Sohigian agreed with the City and NVC on some of those issues but that does not mean tha the City should roll over and play dead, especially since it has the authority as a responsible agency to prepare a new EIR. Because of the provisions of CEQA Guidelines §15096(e), the City is required to prepare a subsequent EIR because (1) the existing EIR was ordered vacated by the Court **so there is no existing EIR to supplement;** (2) the information required for the City application as well as theinadequacies (as argued by the City's attorneys) of the original EIR are more than "technical"; 3) under Guidelines §15163, the decision-making body must consider "the previous EIR as revised by the supplemental EIR" and make "a finding under §15091 shall

be made for each significant effect shown in the previous EIR as revised." The previous EIR is not being revised in this instance. The project involves a new element of the project which was deliberately omitted from the County EIR and left to the discretion of the City to analyze.

I repeat our request for the administrative records of the Department of Fish and Game, Army Corps of Engineers, the Regional Water Quality Control Board, and the State Integrated Waste Management Board to be included in the environmental reveiw process because new information regarding environmental imnpacts was presented to those responsible agencies during the permitting process, although those permits must be vacated following the Court's decision that the EIR certification be vacated by the Board of Supervisors.

We additionally specifically request that the proceedings before the City Board of Zoning Appeals also be included inasmuch as the Court found that the County's dismissal of Councilman Bernson's comments on the failure of BFI to comply with the City's enforcement and closure requirements were a material failure of the EIR. Since Councilman Bernson's original comments were made to the County before the latest round of proceedings regarding BFI's noncompliance and defiant refusal to provide information is of great importance in assessing the cumulative impacts of this latest project.

Again, the anger and disgust evidenced by the citizens of this City regarding their previous experiences with BFI and the County must not be ignored in this EIR process. The evidence presented regarding serious health problems possibly related to the landfill alone should require that the City do as much as possible to present an unbiased and adequate environmental assessment on this project.

Thank you for the opportunity to respond.

Sincerely,

Rosemary Woodlock

CITY OF LOS ANGELES
SOLID WASTE CITIZENS ADVISORY GROUP

Bureau of Sanitation
Solid Waste Management
419 South Spring Street
Los Angeles, California 90013

RECEIVED
CITY OF LOS ANGELES
JUN 30 1992
ENVIRONMENTAL
UNIT

June 4, 1992

TO THE COUNCIL OF THE
CITY OF LOS ANGELES

Honorable John Ferraro; President:

RE: NOTICE OF PREPARATION FOR SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR SUNSHINE CANYON LANDFILL, CITY OF LOS ANGELES. BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC., APPLICANT. SUPPLEMENTAL EIR CASE NO. SUP-EIR 91-0377-ZC/GPA(CUZ)(ZV)

Your SOLID WASTE CITIZENS ADVISORY GROUP notes the recent decision of the Superior Court vacating the Environmental Impact Report submitted to Los Angeles County by Browning-Ferris Industries of California, Inc, for the extension of its Sunshine Canyon Landfill into County land (State Clearinghouse No. 84082908).

The SWCAG believes that under the provisions of the California Environmental Quality ACT (CEQA), the vacation of the "parent" document would also invalidate any successive, related document. Therefore, the city's current intent to prepare a supplemental EIR for its companion plans to expand the landfill and provide additional uses within the City portion of its land may well be out of order. Until all ongoing legal issues have been clarified, no aspect of this request, including the Notice of Preparation, should go forward. However, the city can and should prepare a separate EIR including consideration of the 16.9 million ton alternative project.

Respectfully submitted,

Allen R. Hecht, Chairperson
Solid Waste Citizens Advisory Group

cc: ✓Susan Bok, Project Coordinator, Department of City Planning
Linn Wyatt, City Planner, Department of City Planning
Lillian Kawasaki, Director, Department of Environmental Affairs
Marilyn Morton, President, Environmental Affairs Commission
Delwin A. Biagi, Director, Bureau of Sanitation

Appendix A8
SUNSHINE CANYON LANDFILL SCOPING MEETING AGENDA AND MINUTES (JUNE 4, 1992)

SUNSHINE CANYON LANDFILL
SUBSEQUENT EIR 91-0377-ZC/GPA(CUZ)(ZV)

SCOPING MEETING AGENDA
June 4, 1992

1. Introductions

2. Additional comments from Pre-Circulation period (attached)

3. Schedule
   First EIR data base due at City by December 12, 1992
   (6 months from end of Pre-circulation period)

4. Related Projects
   Consultant should submit list and map for approval by DOT and EIR Coordinator ASAP.

5. Data Bases
   Submit data bases in loose-leaf, 3-hole punched binders
   Must be single-spaced, single-sided pages
   All data bases must have same format
   For data base revisions - one copy shall be redlined or highlighted to show deletions and additions
   Any variation in data base revisions from City's instructions must be explained in separate cover letter
   All revisions must be made within 3 data bases or project will be suspended and priority lost

6. Technical Reports
   Submit all technical reports with first data base, including reports undergoing review by other City agencies. DEIR won't be released for circulation until DOT has approved the traffic study.

7. Impact Areas & Alternatives
   See Tables A-E (attached)

8. Change from Supplemental to Subsequent EIR (see attached letter)

9. Second Reader Program

BL/6-4-92

TABLE A

SUNSHINE COUNTY EIR LAWSUIT ISSUES

Lawsuit Item #	Lawsuit Issue	Relevant to City EIR?	Court Disposition	Court Notes	Addressed in FEIR Addendum May 1992?	Further Revisions Needed for City EIR?			Nature of Revisions
						No	Minor	Major	
12.1	Form of EIR	Indirectly	Granted in Part	Bernson's comments should have been responded to; Elsmere Cyn left out of FEIR topical responses	Yes		X		Land Use Section should include discussion of Variance & Revocation history--potential impact due to noncompliance with conditions?
12.2	SEATAC review	No	Granted		N/A	X			
12.3	Board of Supes' review	No	Denied		N/A	X			
12.4	Public availability	No	Denied		N/A	X			
12.5	Landfill "crisis" status	Yes	Denied		No		X		Use Tidemanson letter's data
12.6	Alternatives	Yes	Denied	Denied on questionable grounds	No			X	Thorough exam of Alternatives under project objective of "expanding County's solid waste capacity" (everything feasible)
12.7	Project definition	Yes	Denied		No		X		Eliminate "extension" references
12.8	Hydrogeologic impacts	Yes	Denied	Hydrogeology needs clarification	No		X		

Lawsuit Item *	Lawsuit Issue	Relevant to City EIR?	Court Disposition	Court Notes	Addressed in FEIR Addendum May 1992?	Further Revisions Needed for City EIR?			Nature of Revisions
						No	Minor	Major	
12.9	a) Air quality	Yes	Granted	Cumulative only	Yes				
	b) Biota	Yes	Denied	Need more discussion on O'Melveny Park	No		X		Discuss O'Melveny Park and possible impacts on it
	c) Water use	Yes	Denied		No			X	Water Conservation section; include composting facilities
12.10	County General Plan	No	Not Treated		N/A	X			
12.11	County GP Amendment	No	Denied		No	X			
12.12	State Waste Man. Laws	Indirectly	Denied		No	X			
12.13	City impacts:								
	a) Deferred discussion	Indirectly	Denied		No	X			
	b) Biota	Yes	Denied		No		X		Count oak trees; O'Melveny Park
	c) Road	?	Denied		No	X			
	d) Hydrogeologic	Yes	Denied		No		X		Clarify hydrogeologic connection; additional groundwater tests
	e) Power line	?	Denied	Court said further CEQA analysis may be needed later	No	?			
	f) Gas flaring	Yes	Denied	Ditto	No		X		Assume no sale of methane
	g) General Plan	Yes	Granted in Part	Past non-compliance & General Plan consistency	Yes			X	Full analysis of County and City solid waste plans, General Plan issues and past failure to comply with City conditions
	h) Denial of City use	No	Granted		Yes	X			
12.14	Denial of City use	No	Granted		Yes	X			

TABLE B

SUNSHINE CANYON VARIANCE REVOCATION ISSUES

Revocation Item	Revocation Disposition	Relevant to City EIR?	Addressed in City EIR NOP?	Revisions of County EIR needed for City EIR? No	Minor	Major	Nature of Revisions
Dust & rubbish blowing from landfill	Violation	Yes	Yes	X			
Height of fill	Violation	Yes	No	X			
Filling & grading beyond boundaries	Violation	No	No	X			
Health impacts, allergies, skin conditions, respiratory conditions	Unproven*	Yes	No			X	Epidemiological study; soil and water samples for toxin contamination, esp. Van Norman Reservoir and L A Aqueduct
Failure to provide final cover	Unproven	?	No	X			
Odor, waste coverage and street litter	Previously resolved	Yes	Yes			X	Composting activity may be new nuisance generator
Water contamination	Unproven	Yes	Yes		X		Described in NOP
Depth of compacted waste	Unproven	?	No	X			
Confinement of gases	Unproven	Yes	Yes			X	Composting activity presents new potential danger; plus analysis for new landfill
Monthly reporting on gases	Unproven	No	No	X			

Revocation Item	Revocation Disposition	Relevant to City EIR?	Addressed in City EIR NOP?	Revisions of County EIR needed for City EIR?			Nature of Revisions
				No	Minor	Major	
Fences	Unproven	?	No	?			
Pest control reports	Unproven	?	No	?			
Bench marks	Unproven	?	No	?			
Deposit of toxic materials	Unproven	Yes	No	?			
Adverse impacts on real estate values	Unproven	No	No	X			

TABLE C

SUNSHINE CANYON EIR PRE-CIRCULATION ISSUES

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	Revisions of County EIR needed for City EIR?			Nature of Revisions
				No	Minor	Major	
HUMAN HEALTH/RISK OF UPSET Cancer incidence Respiratory disease New problems from composting activities Litter & illegal dumping Methane gas flaring/explosion	Yes	Yes	No			X	Epidemiological study; soil and water samples for toxic contamination; impact on LA Aqueduct, Balboa inlet tunnel, Van Norman Reservoir and LA Reservoir from air-borne and groundwater-borne contaminants; litter and illegal dumping health impacts; methane gas explosion potential
EARTH Seismic-active fault on site? Landsliding Risk to landfill liner Risk to existing City fill ridgeline Seismic safety measures	Yes	No	No		X		Further study needed to corroborate testimony about on-site faults and unreported seismic events; magnitude of quake necessary to tear landfill liner; Preliminary Design Report for City side
WATER Surface run-off and leachate polluting groundwater and LA water systems Hydrogeologic connections btwn groundwater basins Seepage from existing City fill Flooding from site onto O'Melveny Park							Further groundwater testing; surface run-off analysis; full description of hydro-geology; analysis of seepage from existing City fill; timing of leachate recovery system and impacts therefrom; study surface run-off into channel at Jensen filtration plant

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	Revisions of County EIR needed for City EIR?			Nature of Revisions
				No	Minor	Major	
3% hazardous waste Delay w/leachate recovery system							
AIR Cumulative stationary impacts Metereology-wind speeds Odors Air-borne dust & toxins Air-borne litter Compatibility of landfill with windy area	Yes	Yes	Yes			X	
TRANSPORTATION/CIRCULATION Traffic on San Fernando Rd. & Balboa Blvd. Trucks lining up at 4 am New composting trucks hauling in and out Employee traffic Left turns on n-bound San Fernando Rd.	Yes	No	No			X	
BIOTA SEA status of City area Vector control Wetland 404 Permit Re-vegetation Oak tree counting method, Native trees Off-site mitigation	Yes	No	Yes			X	

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	Revisions of County EIR needed for City EIR?			Nature of Revisions
				No	Minor	Major	
RECREATION & PARKS	Yes	No	No		X		Discuss impacts of delaying open space development on existing City fill site
NOISE Trucks lining up at 4 am Increased noise from composting trucks Expanded operating hours	No	No	No		X		Expand noise analysis: queing of trucks, composting trucks, operating hours
LAND USE Joint Powers Act Non-compliance with 15 conditions of Variances High density of "dumps" in north Valley GPA/ZC Proceedings from permit hearing before Cal State Integrated Waste Management Board	No	Yes	Yes			X	Implications of previous non-compliance history on future enforcement of mitigation measures; survey of "dump" operations in north Valley and implications on land use of allowing more thru GPA/ZC; proximity of landfill to downwind residential areas and L A City water supply
ALTERNATIVES Rail haul Rural alternative site County-only City-only	Yes	No	Yes			X	Develop selected new alternatives

TABLE D

SUNSHINE CANYON EIR PRE-CIRCULATION ISSUES

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	Revisions of County EIR needed for City EIR? No	Minor	Major	Nature of Revisions
BIOTA • Wildlife migration corridors • % of habitat as part of LA City habitat & Santa Susana Mtns. habitat (quantified) • Rare, endangered & unique plant communities & species including closed-canopy oak forest • Wetland & riparian habitats • Fish & wildlife resources, post-drought • Effects of groundwater pumping on wetland & riparian habitats • New mitigation measures • Linkage of future park with surrounding open space • Quality of existing habitat within project site • Revegetation of landfill site doesn't replace habitat	Yes	No	Yes			X	Mapping & description of migration corridors, plant communities & habitats Comparison of habitats as % of regional habitats (LA City & Santa Susana Mtns.) Study of groundwater pumping impacts Biota survey (all types) U.S. Fish & Wildlife Service & LA County Fire Dept. mitigation measures Special study of closed-canopy oak forest habitat
TRANSPORTATION/CIRC • Freeway flow impacts Year 2010 cumul. impacts	Yes	No	No			X	Study freeway flow and ramp congestion impacts - AM/PM/ADT
AIR • New AQMD procedures	Yes	No	No			X	Utilize procedures in new Air Quality Section

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	is of County EIR d for City EIR? No	Minor	Major	Nature of Revisions
LAND USE/BACKGROUND • Discuss County EIR history & lawsuit; BZA history; RWQCB history; etc. • Economic liability to City if landfill fails to function properly • AB 939 implications	No	No	No		X		Add description of County EIR history and lawsuit, variances, County permit processes to Background Discuss implications of noncompliance with conditions in Land Use Section Add discussion of AB 939 and implications of approving landfill before Countywide Plan is adopted, in Land Use
WATER • Hydrogeologic study of soil and groundwater contamination • Future groundwater monitoring • Surface water run-off	Yes	No	Yes			X	Supplemental testing for soil and groundwater contamination with toxic and hazardous materials; provide program for future monitoring or groundwater; analyze stormwater runoff during 100-year storm when watershed substrate is saturated
RISK OF UPSET/HUMAN HEALTH • Toxic impacts from gas flaring	Yes	No	No		X		Expand discussion of health & safety impacts from gas flaring; why not pipe gas into existing system lines?
WATER CONSERVATION	No	No	No			X	Dual plumbing for eventual use of reclaimed water

TABLE E

SUNSHINE CANYON CITY SUBSEQUENT EIR SCOPING ISSUES
Source: Tables A-D & NOP

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
PROJECT OBJECTIVE	City Staff	Yes		X		Define one project objective to be applied to determining feasibility of Alternatives: "to expand County's solid waste capacity"?
BACKGROUND	Pre-Circ Comments City Staff Public Scoping Lawsuit	Yes			X	Discuss history of County EIR, lawsuit, variance history, revocation action, non-compliance history; Use Tidemanson letter data re: County landfill capacity
EARTH						
Seismic	Public Scoping	Yes		X		Further analysis of on-site fault traces, nearby active faults, recent seismic activity Study possible impact on existing City fill ridgeline
Grading	NOP	Yes		X		Full analysis for composting facilities and landfilling operations
Lithology	NOP	Yes		X		Amend with results of borings and Packer tests for soil and bedrock permeability

History of LA City Variance Revocation Activity

Issue	Addressed in County EIR?	Variance Revocation Issue?	Lawsuit Issue?	Revisions of County EIR needed for City EIR?			Nature of Revisions
				No	Minor	Major	
FIRE & EMERGENCY SERVICES	Yes	No	No		X		Incorporate LA City Fire Dept. recommendations
EARTH • Can landfill liner resist earthquakes? What magnitude?	Yes	No	No		X		Expand discussion & analysis of liner resiliency

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
Slope stability	NOP	Yes			X	Full analysis for composting facilities
WATER						
Groundwater	NOP Variance Revocation Public Scoping	Yes			X	Describe hydrogeologic connection btwn Sunshine Cyn & San Fernando Basin; comprehensive analysis of high chloride values at Well No. MW-1 & RWQCB review and approval; full analysis for composting facilities; full restatement of all water contamination issues; examine allegation of substance seepage into O'Melveny Park from existing City fill; timing of leachate recovery system and impacts of timing
Surface water	Public Scoping	Yes		X		Surface run-off analysis: detailed description of drainage pattern and potential impact on L A Aqueduct, L A Reservoir & Balboa Inlet tunnel; examine flooding from project site into O'Melveny Park
AIR						
Mobile air quality	NOP	Yes			X	Reflect 1989 AQMP & new AQMD procedures; utilize new traffic study counts; analyze combined impact of mobile and stationary impacts; full analysis for composting facilities

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
Stationary air quality	NOP Lawsuit (Cumulative) Public Scoping	Yes			X	Analyze impacts from flaring total projected landfill gas emission; analyze stationary impacts from composting facilities (construction & operation emissions); analyze cumulative stationary impacts
Odors	NOP Variance Revocation Public Scoping	Yes		X		Objectionable odors from composting activities and landfilling
Meteorology (Wind)	Variance Revocation Public Scoping City Staff	No			X	Full analysis of average and single-incidence wind speeds through the site, direction of winds, impacts in terms of litter, dust and air-borne toxins
BIOTA						
Wildlife migration	Pre-Circ Comments	No			X	Map & describe migration corridors & discuss impact on regional migration paths
Riparian/wetland habitat	NOP Public Scoping	Partially		X		Full discussion of riparian/wetland habitat; blueline stream; 404 Permit needed? % of site habitat to total in Santa Susana Mtns. & L A City; habitat replacement program; full analysis of composting activity impacts
O'Melveny Park impacts,	Lawsuit Public Scoping	No		X		Discuss impacts from litter, odors, flooding and seepage from site of existing and future landfill into O'Melveny Park

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
Native habitats	Public Scoping Pre-Circ Comments	Yes			X	Discuss rare, endangered, unique habitats; habitat quality; habitat as % of that remaining in LA City and Santa Susana Mtns. Habitat replacement program; ~~status of City side GEA~~; supplement oak tree count
NOISE						
Mobile	NOP Public Scoping	Yes			X	Complete analysis for composting facilities; discuss noise from trucks lining up at 4 am; discuss impact from expanded operating hours on County side
Stationary	NOP	Yes			X	Complete analysis for composting facilities
LAND USE						
District Plan Amendment	NOP	No			X	Complete analysis of impact on surrounding land use from GPA/ZC; high density of "dumps" in north Valley; past non-compliance problems as they may affect future compliance with mitigation measures; proximity of landfill to downwind residences and City water reservoirs
Zone Change	NOP	No			X	
Variance Revocation & Non-Compliance History	Public Scoping Pre-Circ Comments Lawsuit	No			X	
County Integrated Solid Waste Manage. Plan	NOP	No			X	Analysis of proposed Plans and impact from implementing Sunshine Cyn before adoption of AB 939-required plans;

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
City Source Reduction & Recycling Element	NOP	No			X	analysis of relationship to AB 939
Joint Powers Act Calif. State Integrated Waste Management Board	Public Scoping	No		?		Discuss proceedings of recent actions
LIGHT/GLARE	NOP	No			X	Full analysis of impacts from all activities
HUMAN HEALTH/ RISK OF UPSET						
Landfill gas explosion	NOP Public Scoping	~~No~~ yes			X	Full analysis of potential explosion/fire from landfill and composting activity
Hazardous waste material	NOP Variance Revocation Public Scoping	~~No~~ yes			X	Analysis of est. 98 of hazardous waste in completed landfill & potential impacts
Vector control	NOP	Yes		X		Full analysis for composting facilities;
Human health	Variance Revocation Public Scoping Pre-Circ Comments City Staff	No			X	Full-scale epidemiological study for incidence of cancer, respiratory disease, allergies, skin disorders; off-site soil and water sampling for toxic contamination; examine impacts on L A Reservoir and L A Aqueduct from air-borne toxins and groundwater leachate from landfill; include toxin impacts from composting

Issue	Source	Addressed in County EIR?	Revisions of County EIR needed for City EIR?			Nature of Revisions
			No	Minor	Major	
Litter / Illegal Dumping	Variance Revocation Public Scoping Pre-Circ Comments City Staff	Yes		X		Restate analysis from Aesthetics section with particular attention to history of litter problems in City neighborhoods, O'Melveny Park, San Fernando Road, Balboa Blvd.; include health impacts from this litter
TRANSPORTATION/ CIRCULATION						
Traffic	NOP Pre-Circ Comment Public Scoping	Yes			X	New traffic study with existing traffic count baseline; examine impact on fwy capacity, flow, ramps; new traffic from composting activities; employee trips;
Circulation/Access	NOP Public Scoping	Yes			X	Full analysis for composting facility: in-and-out truck traffic, internal circulation, street access; analyze left turn signal for n-bound San Fernando Rd into landfill
FIRE & EMERGENCY SERVICE	NOP	Yes		X		Full analysis of City Fire Dept. level of service and safety standards
ENERGY CONSERVATION	NOP	No			X	Full standard energy conservation analysis
WATER CONSERVATION	NOP Lawsuit	No			X	Full standard water conservation analysis

JUN 12 1992

SUNSHINE CANYON LANDFILL
SUBSEQUENT EIR 91-0377-ZC/GPA(CUZ)(ZV)

SCOPING MEETING MINUTES
June 4, 1992

Attendees: Susan Bok, City of LA Planning
Linn Wyatt, City of LA Planning
Betsy Lindsay, Ultrasystems
Peter Cohen, Environmental Consultant
Rob Katherman, HKW

1.0 Additional comments from Pre-Circulation period transmitted to Ultrasystems.

2.0 Schedule: First EIR data base due at City by December 12, 1992. (6 months from end of Pre-circulation period). City and Ultrasystems to meet bi-weekly or monthly on work program during DEIR preparation.

3.0 Related Projects: Consultant should submit list and map for approval by DOT and EIR Coordinator ASAP.

4.0 Instructions given to Ultrasystems on data bases and technical reports (see Agenda.) EIR tone and approach to be neutral and objective--all possible impacts must be fully revealed and discussed.

5.0 Second reader program to be instituted by City for review of selected technical reports (eg., epidemiological study) and EIR sections.

6.0 Impact Areas & Alternatives: See Tables A-E attached to Agenda. An environmentally superior alternative must be identified and must be feasible with regard to the project objective.

7.0 Change in EIR status from Supplemental to Subsequent EIR. Letter from Frank Eberhard to Dean Wise, BFI, forthcoming.

Appendix A9
PUBLIC SCOPING MEETING HANDOUTS AND PROOF OF PUBLICATION (APRIL 29, 1992)

AGENDA

PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
JOHN F. KENNEDY HIGH SCHOOL (LITTLE THEATER)
APRIL 29, 1992/7:00 P.M. - 10:00 P.M.

Note: *This public scoping meeting will be recorded*

- **Welcome-Introductions**
  Susan Bok, EIR Coordinator, City of Los Angeles
  Paul Freeman, Independent Facilitator

- **Purpose and Intent of Tonight's Public Scoping Meeting**
  - Schedule of tonight's meeting
  - What is scoping?

- **Background Information Presented About the Sunshine Canyon Landfill**

- **The Environmental Review Process/California Environmental Quality Act**
  - What is a Supplemental Environmental Impact Report (SEIR).
  - Why is the City of Los Angeles the Lead Agency?
  - Explanation of the SEIR process and the status of the project in relation to the process.
  - How additional information may be incorporated into the SEIR.
  - Explanation of the Notice of Preparation - Public review and comment period.
  - Opportunities for public comment and review throughout the SEIR process.

- **Public Comment Received**

  Note: *Your comments will be limited to 3 minutes so that everyone who wants to speak may get a chance to participate. If there is time, you will be given a second opportunity to speak after everyone has finished. Only relevant environmental issues associated with the proposed project should be addressed at this meeting.*

- **The Next Step**
  - Public comments on the NOP may be submitted in writing by May 11, 1992, to:

    Susan Bok, EIR Coordinator
    City of Los Angeles
    Department of City Planning
    Room 655, City Hall
    200 N. Spring Street
    Los Angeles, CA 90012-4856

  - The Draft SEIR will be prepared next. It should be ready for public review by Winter, 1992. You will be notified of its availability if you indicated on the Attendees card (green card) that you would like to be included on the mailing list.

THANK YOU FOR PARTICIPATING!

PROJECT LOCATION/PROJECT DESCRIPTION
SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

PROJECT LOCATION

The proposed project address is 14747 San Fernando Road, Sylmar. The project is located in the northwest portion of the San Fernando Valley within the City's jurisdictional boundary. The site is located approximately 3/4 of a mile southwest of the Antelope Freeway (State Route 14) and the Golden State Freeway (Interstate 5) interchange. More specifically, the project entrance is situated approximately 3/4 of a mile northwest of the intersection of Balboa Boulevard and San Fernando Road, see Figure 1, Regional Location Map. The proposed project is also geographically located within the Granada Hills - Knollwood District Plan area, which is a part of Council District Twelve.

PROJECT DESCRIPTION

The project consists of two elements: first, the development, operation, and maintenance of a Class III nonhazardous solid waste landfill facility located within the jurisdictional boundary of the City, and second, the development and operation of onsite composting facilities, which consist of a green waste and wood waste processing facility and an open windrow composting area. The total acreage of the project site, encompassing all of the project proponent's ownership within the City is approximately 494± acres, see Figure 2, Vicinity Location Map. The following discussion briefly summarizes each of these planned facilities.

Landfill Facility

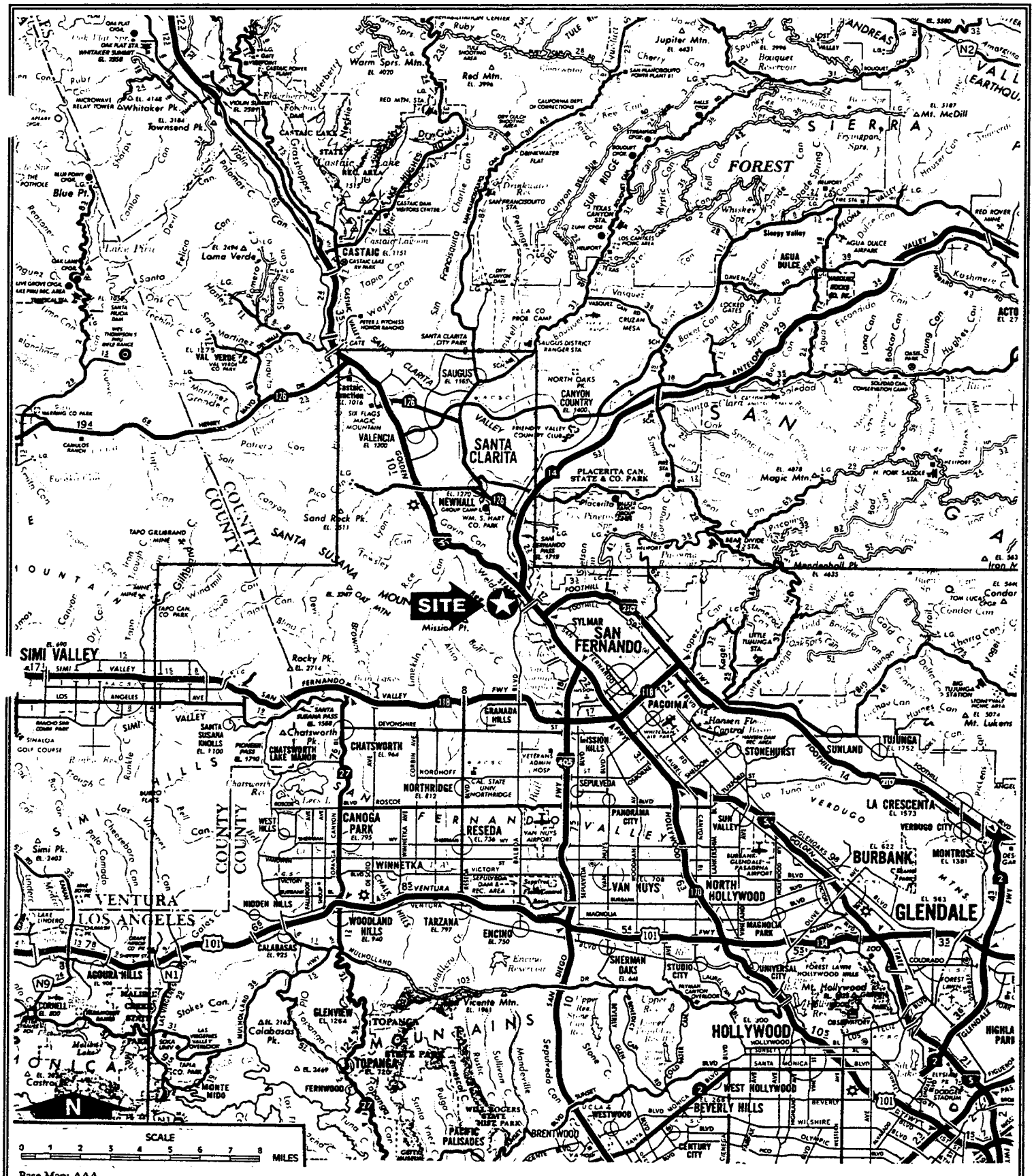
The new landfill facility (landfill footprint of 185± acres) would be located on undeveloped City lands owned by Browning-Ferris Industries of California, Inc., and it would connect with an approved landfill area located in the County portion of Sunshine Canyon and with the existing landfill (fill slopes) located in the City. The total net airspace capacity of this new City landfill would be approximately 55 million tons and would allow for a solid waste disposal intake of approximately 5,000 tons per day.

Green Waste and Wood Waste Processing Facility

One component of the onsite composting facilities would consist of a green waste and wood waste processing facility. This facility would be designed as a high-technology, enclosed, processing facility of approximately 155,000 square feet. Processing at this facility would accommodate a daily volume intake of approximately 250 tons and up to 1,250 tons per week.

Open Windrow Composting Area

The open windrow composting area, another component of the onsite composting facilities would accept the processed material from the green waste and wood waste processing facility. The processed (shredded or grinded) material would be formed into active windrows onsite. Each active windrow would have a dimension of approximately 500 feet in length, 18 feet in width, and 8 feet in height. The open windrow composting area would encompass approximately 15± acres.

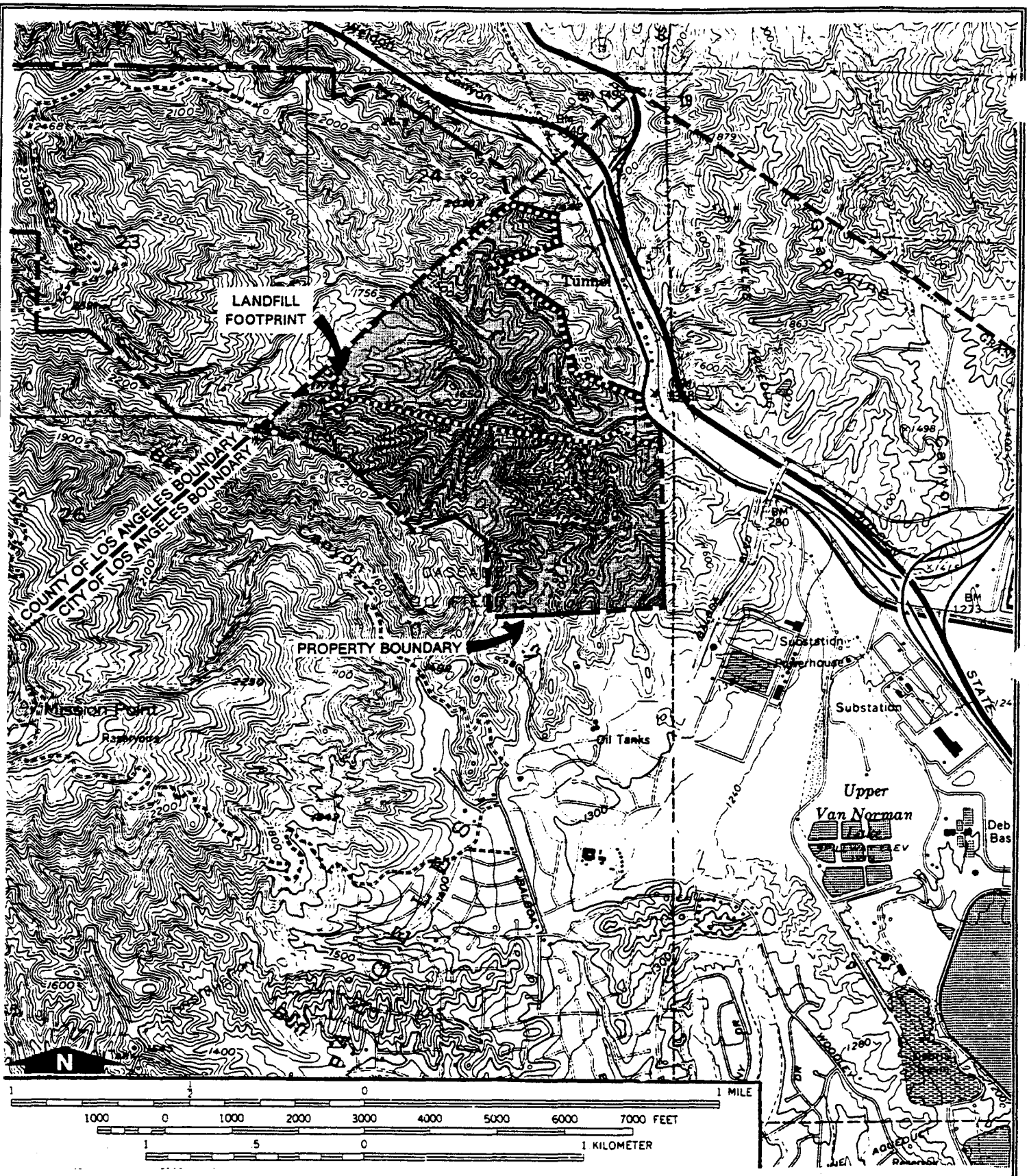


Sunshine Canyon Landfill

Source: Ultrasystems Engineers & Constructors, Inc.

REGIONAL LOCATION MAP

FIGURE 1



Base Map: U.S.G.S.

Sunshine Canyon Landfill

Source: Ultrasystems Engineers & Constructors, Inc.

VICINITY LOCATION MAP

FIGURE 2

TENTATIVE LIST OF ENVIRONMENTAL ISSUES TO BE ADDRESSED IN THE SEIR FOR THE SUNSHINE CANYON LANDFILL

SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

- **EARTH**
  - Grading
  - Lithology
  - Drainage
  - Slope Stability

- **WATER**
  - Groundwater

- **AIR**
  - Mobile Air Quality
  - Stationary Air Quality
  - Odors

- **BIOTA**
  - Oak Trees
  - Riparian/Wetland Vegetation
  - Native Species
  - Habitat
  -

- **NOISE** (Mobile and Stationary Sources)
  - Construction Activities
  - Land Use Activities
  - Increases in Local Traffic
  - Mobile Noise
  - Stationary Noise

- **LAND USE**
  - City District Plan
  - City Zoning
  - County Integrated Solid Waste Management Plan
  - City Source Reduction and Recycling Element

- **LIGHT/GLARE**
  - Reflectivity
  - Stationary Light Sources

- **HUMAN HEALTH/RISK OF UPSET**
  - Landfill Gas
  - Hazardous Waste Materials
  - Fire Hazard
  - Vector Control
  - Employee Safety

- **TRANSPORTATION - CIRCULATION**
  - Traffic
  - Circulation Access

- **PUBLIC SERVICES**
  - Fire and Emergency Services

- **ENERGY CONSERVATION**

- **WATER CONSERVATION**

- **SERVICE SYSTEMS (STORM DRAINAGE)**

- **AESTHETICS**
  - Views
  - Litter

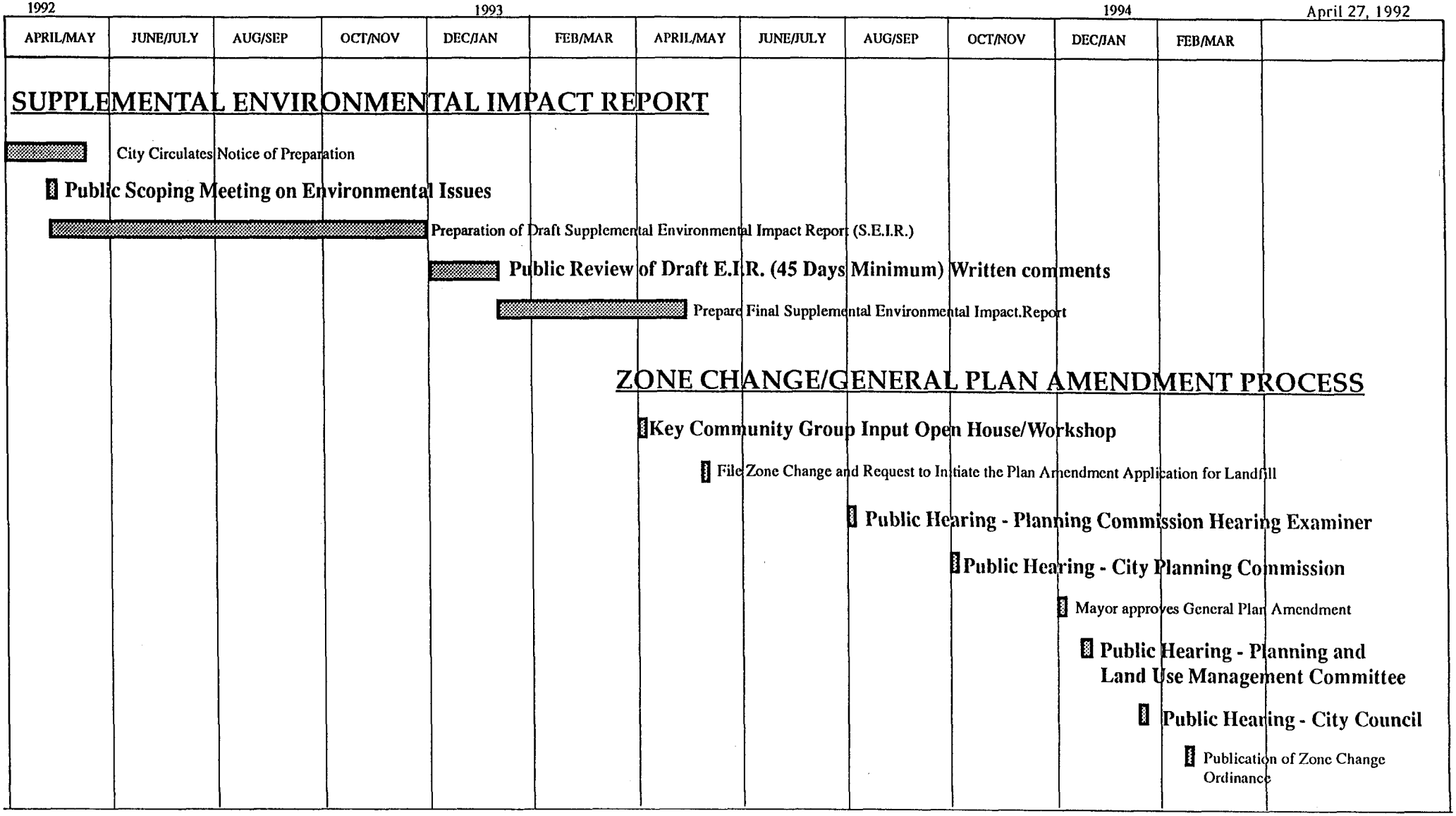
- **RECREATION**
  - Equestrian Issues
  - Phasing and Use of Completed Landfill

- **CULTURAL RESOURCES** (Archaeological)

- **ALTERNATIVES**
  - No Project Alternative
  - Reduced Daily Intake/Landfill Size/Composting Facility Size
  - Resource Recovery Systems
  - Alternative Land Use - Open Space
  - Alternative Sites

SUNSHINE CANYON LANDFILL

PUBLIC HEARING PROCESS



NOTE: This tentative project schedule depicts key SEIR project milestones for public review and participation.

LIST OF REVIEWING LOCATIONS
FOR THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

The FEIR and all incorporated technical reference documents prepared for the Sunshine Canyon Landfill Extension, County of Los Angeles are on file at the City of Los Angeles, and are available for review (during business hours) at the following libraries:

- **Granada Hills Library**
  10640 Petit Avenue
  Granada Hills, CA

- **Sylmar Library**
  13509 Glen Oaks Boulevard
  Sylmar, CA

- **San Fernando Library**
  1050 Library Street
  San Fernando, CA

- **Northridge Library**
  9051 Darby Avenue
  Northridge, CA 91352

- **Central Library - Sciency and Technology**
  433 South Spring Street
  Los Angeles, CA

- **Valencia Library**
  23743 W. Valencia Boulevard
  Santa Clarita, CA

- **Culver City Library**
  4975 Overland Avenue
  Culver City, CA

LIST OF CONTACT PERSONS
SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

LEAD AGENCY

City of Los Angeles
Department of City Planning
Room 655, City Hall
200 N. Spring Street
Los Angeles, CA 90012-4856

Contact: Susan Bok, EIR Coordinator
(213) 485-3508

ENVIRONMENTAL CONSULTANT

Ultrasystems Engineers & Constructors, Inc.
Environmental Services Division
2030 Main Street, 14th Floor
Irvine, CA 92714-7240

Contact: Betsy Lindsay, Project Manager
(714) 955-4300

PROJECT PROPONENT

Browning-Ferris Industries, Inc.
14747 San Fernando Road
Sylmar, CA 91342

Contact: James Aidukas, Director of Environmental Affairs
(818) 362-1567

NOTES

PROOF OF PUBLICATION FROM THE DAILY NEWS AND THE SIGNAL NEWSPAPERS

APR 2 8 1992

ENVIRONMENTAL SERVICES

PROOF OF PUBLICATION
(2015.5 C.C.P)

This space is for the County Clerk's Filing Stamp

STATE OF CALIFORNIA,
COUNTY OF LOS ANGELES,

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the

The Signal

a newspaper of general circulation, printed and published daily in the City of Santa Clarita County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of March 25, 1988, Case Number NVC15880; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

April 18, 19, 25, 26

all in the year 1992.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Santa Clarita

California, this 26 day of April, 1992

Signature

Free copies of this blank form may be secured from:
California Newspaper Service Bureau, Inc.
Advertising Clearing House
P.O. Box 8022
El Monte, 91734-2322 (818) 288-CNSB
Please request GENERAL Proof of Publication when ordering this form.

Proof of

NOTICE OF PUBLIC SCOPING MEETING
SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
Granada Hills-Knollwood
District Plan Area
Council District 12

DATE, TIME AND LOCATION OF SCOPING MEETING: A public scoping meeting will take place Wednesday, April 29, 1992 at 7:00 p.m. — 10:00 p.m. at John F. Kennedy High School (Little Theater), 11254 Gothic Avenue, Granada Hills, 91344.

FROM: The City of Los Angeles, Department of City Planning, City Hall, Room 655, 200 N. Spring Street, Los Angeles, CA 90012-4856.

PROJECT TITLE: Supplement to the Environmental Impact Report (SEIR) for the Sunshine Canyon Landfill, SUP. EIR No. 91-0377-ZC/GPA(CUZ)(ZV), Granada Hills-Knollwood District Plan Area, Council District 12.

PROJECT LOCATION-SPECIFIC: The proposed project site is located at 14747 San Fernando Road, Sylmar, CA 91342. The project site is located in the northwest portion of the San Fernando Valley, within the city boundary, approximately 3/4 of a mile southwest of the Antelope Freeway and Golden State Freeway Interchange.

PROJECT LOCATION-CITY: Los Angeles, (Granada Hills Community).

PROJECT DESCRIPTION: The proposed project consists of the development and operation of the City portion of a combined Los Angeles County/City landfill project, as well as a composting element of the project, consisting of, an onsite yard trimmings and open windrow composting facility. Both elements of the project would be located in Sunshine Canyon. The proposed Sunshine Canyon Landfill ("landfill") would be a Class III, nonhazardous solid waste facility and would not accept liquids, hazardous waste or radioactive materials. The City will prepare the SEIR to address the potential environmental impacts of the proposed project. This environmental document will be prepared to comply with the requirements of the California Environmental Quality Act (CEQA) and the City's environmental guidelines.

ADDRESS WHERE COPY OF THE NOP IS AVAILABLE: The complete environmental file, including an initial study and an environmental assessment, is available for public inspection in Room 655, City Hall, 200 North Spring Street, Los Angeles. Hours are Monday-Friday 7:30 a.m.-5:30 p.m.

FORMAT AND VERBAL COMMENTS: The public scoping meeting will be facilitated by the Department of City Planning staff and will be conducted as a formal public meeting. The purpose of this public scoping meeting is to describe the proposed project, explain the environmental review process, and receive comments from the public on relevant environmental issues which should be discussed in the SEIR. Verbal comments from each speaker must be limited to 3 minutes, and should specifically address relevant environmental issues associated with the proposed project. Publish in Newhall Signal and Saugus Enterprise April 18, 19, 25 and 26, 1992.

PROOF OF PUBLICATION
(2015.5 C.C.P.)

This space is for the County Clerk's Filing Stamp

STATE OF CALIFORNIA,
County of Los Angeles,

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the

Daily News

a newspaper of general circulation, printed and published 7 times weekly in the Cities of Los Angeles, Burbank & San Fernando, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of May 26, 1983, Case Number Adjudication #C349217; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

April 18, 19, 25, 26

all in the year 1992

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Woodland Hills,

California, this 27th day of April, 1992

Signature

DN - 2510

Proof of Publication of

Notice of Public Scoping Meeting

Paste Clipping

Public Notices

(DAILY NEWS)
NOTICE OF PUBLIC SCOPING MEETING
SUNSHINE CANYON LANDFILL
SUP, EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
Granada Hills-Knollwood District Plan Area
Council District 12

DATE, TIME AND LOCATION OF SCOPING MEETING:
A public scoping meeting will take place Wednesday, April 29, 1992 at 7:00 p.m. - 10:00 p.m. at John F. Kennedy High School (Little Theater), 11254 Gothic Avenue, Granada Hills, 91344.

FROM:
The City of Los Angeles, Department of City Planning, City Hall, Room 655, 200 N. Spring Street, Los Angeles, CA 90012-4856.

PROJECT TITLE:
Supplement to the Environmental Impact Report 99SEIR) for the Sunshine Canyon Landfill, SUP, EIR No. 91-0377 -ZC/GPA(CUZ)(ZV), Granada Hills-Knollwood District Plan Area, Council District 12.

PROJECT LOCATION—SPECIFIC:
The proposed project site is located at 1040 San Fernando Road, Sylmar, CA 91342. The project site is located in the northwest portion of the San Fernando Valley, within the city boundary, approximately 3/4 of a mile southwest of the Antelope Freeway and Golden State Freeway interchange.

PROJECT LOCATION—CITY:
Los Angeles, (Granada Hills Community)

PROJECT DESCRIPTION:
The proposed project consists of the development and operation of the City portion of a combined Los Angeles County/City landfill project, as well as a composting element of the project, consisting of, an onsite yard trimmings and open windrow composting facility. Both elements of the project would be located in Sunshine Canyon. The proposed Sunshine Canyon Landfill ("landfill") would be Class III, nonhazardous solid waste facility and would not accept liquids, hazardous waste or radioactive materials. The City will prepare the SEIR to address the potential environmental impacts of the proposed project. The environmental document will be prepared to comply with the requirements of the California Environmental Quality Act (CEQA) and the City's environmental guidelines.

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The complete environmental file, including an Initial study and an environmental assessment, is available for public inspection in Rom 655, City Hall, 200 North Spring Street, Los Angeles. Hours are Monday-Friday 7:30 a.m. - 5:30 p.m.

FORMAT AND VERBAL COMMENTS:
The public scoping meeting will be facilitated by the Department of City Planning staff and will be conducted as a formal public meeting. The purpose of this public scoping meeting is to describe the proposed project, explain the environmental review process, and receive comments from the public on relevant environmetnal issues which should be discussed in the SEIR. Verbal comments from each speaker must be limited to 3 minutes, and should specifically address relevant environmental issues associated with the proposed project.
Publish April 18, 19, 25, 26, 1992

Appendix A10
PUBLIC SCOPING MEETING LIST OF ATTENDEES, SPEAKERS AND COMMENTS MATRIX

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
001	Apartment Association, Executive Director	Mary Ellen Hughes 14550 Archwood Street Van Nuys, CA 91405 (letter in lieu of testimony)	818-374-3240		
002	Councilman Hal Bernson, Chief Deputy	Greig Smith City Hall - Room 237 200 N. Spring Street Los Angeles, CA 90012	213-485-3343		
003		Eugene L. DuBois 17172 Sesnon Blvd. Granada Hills, CA 91344	818-360-4047		
004	North Valley Coalition	Mary Edwards 17219 Orozco Street Granada Hills, CA 91344	818-360-7635		
005		Lorin & Marian Fife 11450 Curry Avenue Granada Hills, CA 91344	818-363-2216		
006		Ann M. Messina 13145 Whistler Avenue Granada Hills, CA 91344	818-360-0731	x	
007	Friends of the Park, Chairman	Mary Ellen Crosby 17246 Van Gogh Street Granada Hills, CA 91344	818-363-2685		
008	North Valley Coalition	Diane Liberman 17327 Bronte Place Granada Hills, CA 91344	818-831-7935	x	
009	Bureau of Sanitation	Leo Ingalla 4590 Colorado Blvd. Los Angeles, CA 90039	213-237-0806	x	
010	North Valley Coalition	Sylvia Libis 13126 Courbet Lane Granada Hills, CA 91344	818-363-9761		
011		Gerald E. Walters 12521 Aristo Place Granada Hills, CA 91344	818-360-5295	x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
012		Doug Martin 13066 Shenley Street Sylmar, CA 91342	818-367-8967	x	
013		Frances Walters 12521 Aristo Place Granada Hills, CA 91344	818-360-5295	x	
014		Tom & Maryanna Kienholz 13130 Whistler Avenue Granada Hills, CA 91344	818-360-9404	x	
016	North Valley Coalition	John Coker 12772 Jolette Avenue Granada Hills, CA 91344	818-368-5240	x	
017	Granada Hills Homeowners Association	Audrey Bourgholtzer 12660 Darla Avenue Granada Hills, CA 91344	818-368-1734		
018		Vince Rojas 13001 Jolette Avenue Granada Hills, CA 91344	818-366-6665		
019		Sheila Cole 11700 Odessa Granada Hills, CA 91344	818-368-8891		
020		Marilyn Seckar 13031 Jolette Avenue Granada Hills, CA 91344	818-363-1725		
021		John Seckar 13031 Jolette Avenue Granada Hills, CA 91344	818-363-1725	x	
022		Mr. & Mrs. Albert H. Johnston 17306 Tennyson Place Granada Hills, CA 91344			
025		Maria Holl 13344 Canyon Ridge Lane Granada Hills, CA 91344		x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
026	North Valley Coalition	Richard Tresierras 17235 Orozco Street Granada Hills, CA 91344	818-363-3429		
028	North Valley Coalition	K.M. Bell 13180 Courbet Lane Granada Hills, CA 91344	818-360-7465		
029	City of Los Angeles, Environmental Affairs Department	David Thompson Room 1500 - MS 177 City Hall 200 N. Spring Street Los Angeles, CA 90012	213-485-9989		
030		Irwin Seiler 15455 Glenoaks Blvd. #543 Granada Hills, CA 91344	818-367-0459		x
031	North Valley Coalition	Burton F. Siskin 10210 Farralone Avenue Chatsworth, CA 91311	818-882-3462		
032	North Valley Coalition	Salvatore & Jan Luongo 17256 Tennyson Place Granada Hills, CA 91344		x	
033		Janice Van Steen 17268 Tennyson Place Granada Hills, CA 91344	818-368-4677	x	
034	Santa Susana Property Owners Association	Kenneth M. Wasserman 10 Universal City Plaza Suite 2055 Universal City, CA 91608	818-506-8905	x	
039	Tree People The Nature Conservancy North Granada Hillside Homeowners Association North Valley Coalition	Francis W. Navickas 13046 Jolette Avenue Granada Hills, CA 91344	818-363-6381	x	
040		Barrett & Linda Ross 17939 Chatsworth Street #505 Granada Hills, CA 91344	818-363-4072		

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
042	Mid San Fernando Valley Chamber of Commerce	Barbara Baerg 5824 Nagle Avenue Van Nuys, CA 91401	818-994-9688		
044		Nancy Burns 10450 E. Zelzah Avenue Northridge, CA 91326	818-360-7611	x	
045	North Valley Coalition	Wayde Hunter 12354 El Oro Way Granada Hills, CA 91344	818-363-3597		
046		Mr. & Mrs. Albert Lax 12297 Woodley Avenue Granada Hills, CA 91344		x	
047	North Valley Coalition	George Edwards 17219 Orozco Street Granada Hills, CA 91344	818-360-7635	x	
048		Marjorie Champawat 17149 Lisette Street Granada Hills, CA 91344	818-360-5479		
049		Narayan Champawat 17149 Lisette Street Granada Hills, CA 91344	818-360-5479	x	
050	North Valley Coalition	Brenda Mosler 13172 Courbet Lane Granada Hills, CA 91344	818-363-2215 (home) 818-785-7425 (work)	x	
051		Ray Price 12936 Winthrop Avenue Granada Hills, CA 91344	818-366-9019	x	
053	Save Our Sylmar	Michael W. Ormsby 13024 Norris Avenue Sylmar, CA 91342	818-367-5997		
057		Roger F. Dames 12552 Neon Way Granada Hills, CA 91344	818-363-5696 (home) 213-244-6769 (work)	x	
058	North Valley Coalition	John Manning 13129 Constable Avenue Granada Hills, CA 91344	818-366-3448	x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
059	North Valley Coalition	Giesela Manning 13129 Constable Avenue Granada Hills, CA 91344	818-366-3448		
060	PRIDE	Don Worsham 12235 Stewarton Drive Northridge, CA 91326	818-366-5888		
061	North Valley Coalition, Attorney	Rosemary Woodlock 21015 Mulholland Drive Woodland Hills, CA 91364	818-703-7609		
062		Irwin R. Dudow 12758 Deon Place Granada Hills, CA 91344	818-363-6660	x	
063	North Valley Coalition	Ernest & Mary Hilberg 17133 Van Gogh Street Granada Hills, CA 91344	818-360-5513		
064		Rosina Iannetta 17419 Tuscan Drive Granada Hills, CA 91344	818-363-6145		
065		Camillo Iannetta 17419 Tuscan Drive Granada Hills, CA 91344	818-363-6145		
066		Teresa Todd 13338 Canyon Ridge Lane Granada Hills, CA 91344	818-368-8890	x	
068		Larry Rofe 17238 Van Gogh Street Granada Hills, CA 91344	818-366-1660	x	
069	North Valley Coalition	Anne Feldman 17201 Orozco Street Granada Hills, CA 91344	818-363-4479		
070		Hank Feldmann 17201 Orozco St. Granada Hills, CA 91344	818-363-4479		
075	North Valley Coalition	Sally Ehmke 17219 Courbet Street Granada Hills, CA 91344	818-360-0452	x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
078	Solid Waste Citizen Advisory Group	Peter Daniels 2543 W. 6th Street Los Angeles, CA 90057	213-387-1211		
079		Andrea & Barry Mann 12838 Meadowlark Ave. Granada Hills, CA 91344	818-360-8881	x	
082	Solid Waste Citizen Advisory Group	Allen R. Hecht 13360 Meadow Wood Granada Hills, CA 91344	818-368-6211		
084		Martha Bayer 17364 Angelaine Way Granada Hills, CA 91344	818-360-4048	x	
085		Maria Sims Carpenter 10738 Gerald Avenue Granada Hills, CA 91344	818-366-6386	x	
086		Jody Nuckolls 44169 Devol Street Lancaster, CA 93535	805-942-9739	x	
087		Sharie Swallow-Buckey 3319 Falham Court Palmdale, CA 93551	805-266-1581	x	
091		Jennie Juchien-niuj Wu 17723 Courdia Court Granada Hills, CA 91344	818-363-0357	x	
092		Howard Wang 17423 Tuscan Drive Granada Hills, CA 91344	818-368-8189	x	
093		Tao Wang 17423 Tuscan Drive Granada Hills, CA 91344	818-368-8189	x	
094	Granada Hillside Property Owners Association Granada Hills Chamber of Commerce	Linda Smaldino 17711 Arvida Drive Granada Hills, CA 91344	818-368-3636	x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
095		Stella E. Valdez 12874 Winthrop Ave. Granada Hills, CA 91344	818-360-7388	x	
096	North Valley Coalition	Cynthia S. Taylor 17405 Tuscan Drive Granada Hills, CA 91344	818-363-0255	x	
097	North Valley Coalition	Paul E. Sperrazza 17405 Tuscan Drive Granada Hills, CA 91344	213-956-5516	x	
099		Jorge L. Juarez 13138 Constable Avenue Granada Hills, CA 91344	818-363-8557	x	
100		Suzanne Takahashi 13138 Constable Avenue Granada Hills, CA 91344	818-368-1528	x	
101	North Valley Coalition	Max Turell 12307 Jolette Avenue Granada Hills, CA 91344	818-363-8316		
102	North Valley Coalition	Mrs. Mildred J. Turell 12307 Jolette Avenue Granada Hills, CA 91344	818-363-8316		
103		Catharina M. S. Schram 12700 Darla Avenue Granada Hills, CA 91344	818-368-8950		x
104		Willem J. Schram 12700 Darla Avenue Granada Hills, CA 91344	818-368-8950	x	
105		Walter N. Prince 19025 Parthenia St. #200 Northridge, CA 91324	818-993-6300	x	
108	Tarzana Property Owners Association	Ev Garfinkle 6073 Calvin Avenue Tarzana, CA 91356	818-881-6318	x	

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
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SUP EIR NO. 91-0377 ZC/GPA(CUZ)(ZV)
LIST OF ATTENDEES

Registration Number	Organization/Title	Name/Address	Telephone Number	Mailing List	
				Yes	No
109	North Hollywood Kiwanas	David Gerred 5554 Case Avenue North Hollywood, CA 91601	818-505-8257		
110	North Valley Coalition	Norene M. Charnofsky 12636 Meadowlark Avenue Granada Hills, CA 91344	818-360-8153	x	
111		Paula Becker 24448 W. Valencia Blvd. Valencia, CA 91355	805-254-0456		
113		Keith Larson 13640 Simshaw Sylmar, CA 91342	818-998-5238	x	
114	LASER (Landfill Alternatives Save Environmental Resources)	Lynne Plambeck P.O. Box 110 Burbank, CA 91503			
115	San Fernando Valley Board of Realtors	Frank Buawi 11552 Gothic Avenue Granada Hills, CA 91344	818-360-3666		
116		Seyed A. Rooholamini 17243 Orozco Street Granada Hills, CA 91344	818-360-9635	x	
117		Fatemeh Rooholamini 17243 Orozco Street Granada Hills, CA 91344	818-360-9635		x
118		Maria Reynoso 15476 Roxford Street Sylmar, CA 91342	818-362-2549		
120	Rim of the Valley Coalition	Marge Feinberg 16875 Encino Hills Drive Van Nuys, CA 91436	818-784-2455		
122		Warren J. Hall 17546 Tuscan Drive Granada Hills, CA 91344	818-363-4567		

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
LIST OF SPEAKERS

Registration Number	Organization/Title	Name/Address	Telephone Number
001	Apartment Association, Executive Director	Mary Ellen Hughes 14550 Archwood Street Van Nuys, CA 91405 (letter in lieu of testimony)	818-374-3240
002	Councilman Hal Bernson, Chief Deputy	Greig Smith City Hall - Room 237 200 N. Spring Street Los Angeles, CA 90012	213-485-3343
003		Eugene L. DuBois 17172 Sesnon Blvd. Granada Hills, CA 91344	818-360-4047
004	North Valley Coalition	Mary Edwards 17219 Orozco Street Granada Hills, CA 91344	818-360-7635
007	Friends of the Park, Chairman	Mary Ellen Crosby 17246 Van Gogh Street Granada Hills, CA 91344	818-363-2685
010	North Valley Coalition	Sylvia Libis 13126 Courbet Lane Granada Hills, CA 91344	818-363-9761
014*		Tom Kienholz 13130 Whistler Avenue Granada Hills, CA 91344	818-360-9404
028	North Valley Coalition	K.M. Bell 13180 Courbet Lane Granada Hills, CA 91344	818-360-7465
033		Janice Van Steen 17268 Tennyson Place Granada Hills, CA 91344	818-368-4677

* Did not complete speaker card.
** Completed speaker card but did not verbally comment.

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
LIST OF SPEAKERS

Registration Number	Organization/Title	Name/Address	Telephone Number
039*	Tree People The Nature Conservancy North Granada Hillside Homeowners Association North Valley Coalition	Francis W. Navickas 13046 Jolette Avenue Granada Hills, CA 91344	818-363-6381
042	Mid San Fernando Valley Chamber of Commerce	Barbara Baerg 5824 Nagle Avenue Van Nuys, CA 91401	818-994-9688
044*		Nancy Burns 10450 E. Zelzah Avenue Northridge, CA 91326	818-360-7611
045	North Valley Coalition	Wayde Hunter 12354 El Oro Way Granada Hills, CA 91344	818-363-3597
053	Save Our Sylmar	Michael W. Ormsby 13024 Norris Avenue Sylmar, CA	818-367-5997
057		Roger F. Dames 12552 Neon Way Granada Hills, CA 91344	818-363-5696 (home) 213-244-6769 (work)
060	PRIDE	Don Worsham 12235 Stewarton Drive Northridge, CA 91326	818-366-5888
061	North Valley Coalition, Attorney	Rosemary Woodlock 21015 Mulholland Drive Woodland Hills, CA 91364	818-703-7609
062*		Irwin R. Dudow 12758 Deon Place Granada Hills, CA 91344	818-363-6660

* Did not complete speaker card.
** Completed speaker card but did not verbally comment.

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
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LIST OF SPEAKERS

Registration Number	Organization/Title	Name/Address	Telephone Number
063	North Valley Coalition	Ernest Hilberg 17133 Van Gogh Street Granada Hills, CA 91344	818-360-5513
066		Teresa Todd 13338 Canyon Ridge Lane Granada Hills, CA 91344	818-368-8890
070		Hank Feldmann 17201 Orozco Street Granada Hills, CA 91344	818-363-4479
075*	North Valley Coalition	Sally Ehmke 17219 Courbet Street Granada Hills, CA 91344	818-360-0452
078	Solid Waste Citizen Advisory Group	Peter Daniels 2543 W. 6th Street Los Angeles, CA 90057	213-387-1211
082	Solid Waste Citizen Advisory Group	Allen R. Hecht 13360 Meadow Wood Granada Hills, CA 91344	818-368-6211
092**		Howard Wang 17423 Tuscan Drive Granada Hills, CA 91344	818-368-8189
109	North Hollywood Kiwanas	David Gerred 5554 Case Avenue North Hollywood, CA 91601	818-505-8257
114*	LASER (Landfill Alternatives Save Environmental Resources)	Lynne Plambeck P.O. Box 110 Burbank, CA 91503	
122*		Warren J. Hall 17546 Tuscan Drive Granada Hills, CA 91344	818-363-4567

* Did not complete speaker card.
** Completed speaker card but did not verbally comment.

PUBLIC SCOPING MEETING - APRIL 29, 1992
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
ADDITIONAL WRITTEN COMMENTS SUBMITTED

Registration Number	Organization/Title	Name/Address	Telephone Number
002	City of Los Angeles Councilman Hal Bernson, Chief Deputy	Greig Smith City Hall - Room 237 200 N. Spring Street Los Angeles, CA 90012	213-485-3343
008		Diane Liberman 17327 Bronte Place Granada Hills, CA 91344	818-831-7935
NVC		Not signed	
		Dawn Benedict 12451 Lithuania Drive Granada Hills, CA 91344	
		Naomi C. Godfrey 17309 Tennyson Place Granada Hills, CA 91344	
		Randi & Michael Weiner 17300 Bronte Place Granada Hills, CA 91344	
		Robert B. Weiss 17208 Braxton Street Granada Hills, CA 91344	
		Walter & Erica Bachmann 12427 Nugent Drive Granada Hills, CA 91344	818-360-5140

VERBAL COMMENTS RECEIVED AT PUBLIC SCOPING MEETING (APRIL 29, 1992)
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

NOP TOPICAL ENVIRONMENTAL ISSUES																			
Commentor (In Order of Presentation)	Organization	Earth	Water (Surface Water & Groundwater)	Air	Biota	Noise	Land Use	Light/ Glare	Human Health/ Risk of Upset	Transportation Circulation	Public Services	Energy Conservation	Water Conservation	Service Systems (Storm Drainage)	Aesthetics	Recreation	Cultural Resources (Archaeological)	Alternatives	Other Issues
Sylvia Libis (010)				✓															
Greig Smith (002)	Councilman Hal Bernson	✓		✓					✓						✓				Procedural Full EIR
Mary Edwards (004)	NVC	✓	✓	✓	✓		✓		✓		✓			✓		✓			Procedural EIR Consultants Non-compliance
Eugene L. DuBois (003)		✓		✓			✓			✓				✓	✓			✓	Operations
Rosemary Woodlock (061)	NVC Attorney		✓		✓				✓	✓								✓	Procedural Full EIR EIR Consultants Operations Litigation
Ernest Hilberg (063)	NVC	✓	✓	✓					✓									✓	Maps Procedural Enforce-ment
Don Worsham (060)	PRIDE								✓										Procedural
Barbara Baerg (042)	Mid S.F. Valley C.O.C.																	✓	
Mary Ellen Hughes (001)	Apartment Association																		Submitted Letter
K.M. Bell (028)	NVC																	✓	Procedural Non-Compliance

(000) Denotes speaker registration number
[000] Denotes attendee registration number

Note: The names of those commentors who spoke more than once are indicated in **bold** type.

VERBAL COMMENTS RECEIVED AT PUBLIC SCOPING MEETING (APRIL 29, 1992)
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

NOP TOPICAL ENVIRONMENTAL ISSUES																			
Commentor (In Order of Presentation)	Organization	Earth	Water (Surface Water & Groundwater)	Air	Biota	Noise	Land Use	Light/ Glare	Human Health/ Risk of Upset	Transportation Circulation	Public Services	Energy Conservation	Water Conservation	Service Systems (Storm Drainage)	Aesthetics	Recreation	Cultural Resources (Archaeological)	Alternatives	Other Issues
Hank Feldmann (070)		✓	✓	✓					✓										
Peter Daniels (078)	SWCAG																		Requests discussion w/City Procedural
Mary Ellen Crosby (007)	Friends of the Park	✓	✓						✓					✓		✓			
Wayde Hunter (045)	NVC	✓	✓	✓	✓				✓	✓					✓	✓			Procedural Full EIR Mitigation Non-compliance Operations Transcript
Janice Van Steen (033)		✓				✓			✓	✓	✓							✓	More research
David Gerred (109)	N. Hollywood Kiwanas																	✓	
Allen R. Hecht (082)	SWCAG																		EIR Consultants Procedural Full EIR
Roger F. Dames (057)				✓					✓									✓	Procedural EIR Consultants
Teresa Todd (066)		✓	✓	✓	✓				✓	✓	✓								Non-compliance Financial Full EIR

(000) Denotes speaker registration number
[000] Denotes attendee registration number

Note: The names of those commentors who spoke more than once are indicated in bold type.

VERBAL COMMENTS RECEIVED AT PUBLIC SCOPING MEETING (APRIL 29, 1992)
SUNSHINE CANYON LANDFILL
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NOP TOPICAL ENVIRONMENTAL ISSUES																			
Commentor (In Order of Presentation)	Organization	Earth	Water (Surface Water & Groundwater)	Air	Biota	Noise	Land Use	Light/ Glare	Human Health/ Risk of Upset	Transportation Circulation	Public Services	Energy Conservation	Water Conservation	Service Systems (Storm Drainage)	Aesthetics	Recreation	Cultural Resources (Archaeological)	Alternatives	Other Issues
Michael W. Ormsby (053)	Save Our Sylmar	✓	✓	✓	✓				✓						✓				Non-compliance EIR Consultants
Tom Kienholz (014)	Park People		✓						✓										
Lynne Plambeck [114]	LASER																	✓	Procedural
Marsha McLean (no info)	LASER														✓			✓	Report on trash crisis
Sally Ehmke [075]	NVC								✓										
Nancy Burns [044]																			Procedural
Francis W. Navickas [039]	Tree People	✓	✓															✓	
Erwin R. Dudow [062]				✓											✓				Full EIR
Warren D. Hall [122]				✓					✓									✓	
Total Number of Comments		11	10	12	5	1	2	0	15	5	3	0	0	3	6	3		12	

(000) Denotes speaker registration number
[000] Denotes attendee registration number

Note: The names of those commentors who spoke more than once are indicated in **bold** type.

WRITTEN COMMENTS RECEIVED AT PUBLIC SCOPING MEETING (APRIL 29, 1992)
SUNSHINE CANYON LANDFILL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
SUP EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)

NOP TOPICAL ENVIRONMENTAL ISSUES																			
Commentor	Organization	Earth	Water (Surface Water & Groundwater)	Air	Biota	Noise	Land Use	Light/ Glare	Human Health/ Risk of Upset	Transportation Circulation	Public Services	Energy Conservation	Water Conservation	Service Systems (Storm Drainage)	Aesthetics	Recreation	Cultural Resources (Archaeological)	Alternatives	Other Issues
Greig Smith (002)	Councilman Hal Bernson	✓		✓					✓									✓	Full EIR Non-compliance Procedural
Unsigned Letter	NVC	✓	✓	✓	✓	✓		✓	✓	✓					✓			✓	Procedural Full EIR Non-compliance EIR Consultant
Diane Liberman (008)	NVC		✓	✓															
Dawn Benedict				✓															
Naomi C. Godfrey									✓										
Randi & Michael Weiner			✓	✓	✓														
Robert Weiss				✓					✓										
Walter & Erica Baohmann			✓				✓											✓	
Total Number of Comments		2	4	6	2	1	1	1	4	1	0	0	0	0	1	0	0	3	

(000) Denotes speaker registration number
[000] Denotes attendee registration number

Appendix A11
PUBLIC SCOPING MEETING TRANSCRIPTS (INCLUDING WRITTEN SUBMITTALS)

CERTIFIED COPY

PUBLIC SCOPING MEETING -SUNSHINE CANYON LANDFILL

Granada Hills, California

April 29, 1992

GEORGE A. HAAS
CSR #5939

COLEMAN, HAAS, MARTIN & SCHWAB, INC.
Certified Shorthand Reporters
3600 WILSHIRE BOULEVARD, SUITE 1000
LOS ANGELES, CALIFORNIA 90010

TELEPHONE (213) 480-1234

PUBLIC SCOPING MEETING -SUNSHINE CANYON LANDFILL, taking place at 11254 Gothic Avenue, Granada Hills, California, commencing at 7:10 P.M., Wednesday, April 29, 1992, reported by George A. Haas, CSR No. 5939.

PRESENT:

SUSAN BOK, EIR Coordinator,
City of Los Angeles

PAUL FREEMAN, Independent Facilitator

BETSY LINDSAY, Project Manager,
Ultrasystems Engineers &
Constructors, Inc.

(Whereupon, at 7:10 P.M., the meeting was called to order.)

MS. BOK: May I have your attention, please. Would all persons outside the auditorium please come in. It's 7:10 P.M.

On behalf of the City of Los Angeles Planning Department, I would like to welcome you to this scoping session to the Sunshine Canyon Landfill Environmental Impact Report supplement.

Thank you all for coming this evening.

My name is Susan Bok. I am the coordinator for the city planning department in the preparation of the Supplemental Environmental Impact Report for Sunshine Canyon Landfill, and I will be overseeing tonight's program. To my right is a gentleman named Paul Freeman, who is an independent facilitator, selected by the city staff to coordinate testimony we will be taking from you this evening.

Mr. Freeman is a managing partner with Nelson Communications, which is an Orange County-based public affairs and public relations firm.

Mr. Freeman's past experience includes the negotiation -- successful negotiation of the Laguna Canyon land transfer. He has also been the media liaison for the Dalai Lama's visit here in the United

States and also is active in many of the land development projects in Orange County and here in Los Angeles county as well.

To his right is Ms. Betsy Lindsay, who will be the Environmental Impact Report preparer. Ms. Lindsay is with the Ultrasystems consulting firm.

As part of tonight's program, I'm required to read the following statement: "These school premises have been licensed pursuant to provisions of Section 39379 of the Education Code of the State of California by Ultrasystems Engineers and Constructors, Inc., from the Board of Education of the City of Los Angeles. The Board of Education does not sponsor or take responsibility, nor does it necessarily endorse any of the activities, statements or opinions which may be expressed at this meeting or activity."

As you no doubt note, at this time, we have refreshments outside. Rest rooms are on this side of the lobby, and we have further information and people to answer your questions outside.

When you came in, you received a binder with an information packet containing an agenda for this evening's meeting, a description of the Sunshine Canyon Landfill project region and vicinity, location maps and a list of the contact people at the city and

at Ultrasystems and with Browning-Ferris Industries that you may contact for further information about the project after tonight's meeting. My name is on that contact list.

At this time I would like to turn the meeting over to Mr. Freeman to explain the purpose and intent of what we are doing tonight and to take your testimony.

Mr. Freeman.

MR. FREEMAN: Thank you.

Good evening. I'm just going to sit here rather than stand up at the podium.

Before we get started, I just want to take a few minutes and underscore my role here this evening. I'm not an expert. I'm not a decision maker. In fact, I'm really not involved in this issue. I have no connection with the city or the County of Los Angeles, nor with the applicant, nor with any party interested or stakeholder interested in this issue.

I am a facilitator. My job here is merely to keep things on track, to insure that this is a fair process. I may take the liberty, if it's appropriate, to suggest the need to focus comments on the purpose of why we are here. And so what I plan to do is just talk

a couple of minutes before we take testimony about why we are here, explain the purpose of what is a scoping meeting, outline the process of the meeting, the ground rules for taking testimony, and then we'll get down to business at hand, taking your comments for the record.

We are planning, this evening, to go until 10:00 P.M. We may not need to go that long, but we won't go longer than 10:00 P.M. The rules that were laid out in the notice of this hearing state that everybody has an opportunity to speak for three minutes. You see the little clock over here on this chair. After you have given your name and address, and, if any, group affiliation, I'll start the clock. When it gets to three minutes, that's it. If time permits, once everybody who wishes to testify has done so and we have more time and it's before 10:00, then there will be the opportunity for people to come up and speak again and respond to others' comments. We are prepared to stay, in other words, until 10:00.

The purpose of this meeting is to get your comments about what issues should be addressed in this document called the Supplemental Environmental Impact Report, which I'll describe in just a moment. It's not a meeting to take your comments in support of or in opposition to this proposed project. These are not the

decision makers on the project that you see up here. What you see here are city staff and consultants that will be involved in writing the environmental report. As such, you have the opportunity to give some guidance on what issues you think should be addressed in that report.

So the benefit of this meeting is really to help them decide what those issues are. Those issues are things like air quality, water quality, land uses, the effect on the inhabitants, the effect on traffic and so on.

This is not the only opportunity you'll have to comment on this project. In fact, it's the first of many opportunities you'll have to comment on the project. However, this will be the only scoping meeting. There will be, however, the opportunity for you to submit written comments. In fact, up until May 11 you have the opportunity to submit written comments.

Frankly, in a lot of cases there is a lot of benefit for your submitting written comments. There is no limit as to how long your comments will be, on what issues you want to address.

The background for why we are here is that there has been proposed a new landfill in Sunshine

Canyon. Many of you know the history of it, so bear with me because I'm obliged provide a little thumbnail sketch of the background for those of you who may not be so familiar with it.

It's located in the northwest San Fernando Valley, three quarters of a mile between the interchange of the Antelope Valley and the Golden State freeways. There are maps back in the lobby, some maps over here depicting where the project is. What the project is is a proposed nonhazardous solid waste landfill. It would also have on-site compost, essentially to bury garbage and process yard fillings and the like. It is a project that has some history.

The early history of it is there was a landfill operating in the 1950's that took in about 1,200 tons a day. In 1978, the property, in fact, just under 1,600 acres, was acquired by Browning-Ferris Industries, BFI. That's the applicant for the current project. They operated a landfill up there until September 21, 1991, when a zoning variance expired.

Prior to that, back in 1986, BFI applied to the county for an okay to operate a new landfill. That one expanded would straddle the county and city line. In other words, that process, that Environmental Impact Report, looked at both city and county issues.

Numbers of public hearings were held, and in February 1981, the county certified the Environmental Impact Report that set the stage for building that landfill. Except, as a condition of approval, they said that the applicant, BFI, had to get the "okay" from the city.

And since that time, leading up to now, there has been some litigation, as I'm sure many of you are aware. Essentially, the law requires the county to go back and address a handful of issues that were found to have been inadequately addressed, and it requires the city to go forward with its permitting processes. That's why we are here tonight.

A couple of things are important to note by way of summary. This project, if approved, would be a new landfill. The old one that was up there is closed down. This is a new project. On the city-side -- that's our focus here tonight -- the proposed new landfill would take in about 5,000 tons of garbage a day, with a capacity of 55 million tons. It will be composting up to 250 tons a day of compost material. If you are interested in reviewing the detail of all of this history, you can do so. The documents are on file and in the notice of preparation -- in fact, in your package, you have information about how to contact the city. You can go

and review the whole record for yourself.

The next item on the agenda, that I'm asked to review briefly, is what is a Supplemental Environmental Impact Report, other than yet another acronym.

Well, first of all, let me address why this is a Supplemental Environmental Impact Report. There are really several reasons, but it really boils down to just a couple of things. First, the city really wanted to update some information contained in the county's analysis, but by now it's a little outdated. For example, that analysis was begun in 1986, and that was before a new air quality management plan was issued by the South Coast Air Quality Management District in 1989, and a number factors have changed. The project has changed. This composting component is new.

Secondly, the city wanted to make its own mark, so to speak, on the planning process. They have some different ways, some different criteria, compared to the criteria the county applies. For example, the county counts oak trees where they find the diameter of the tree is about 12 inches. The city wants to count oak trees where the diameter is about 8 inches. So there is a variety of reasons relating to external

factors and different criteria where the city wanted to do its own analysis, update the information that is dated and supply its own criteria. Basically, however, there was a feeling there was not a need to go back and visit all the analyses. Besides, the safety and other factors were found to have been perfectly adequate.

Even though this is a Supplemental Environmental Impact Report, there is essentially the same process as there would be if there were a full, new Environmental Impact Report. You have the opportunity to comment at this scoping hearing. You'll have the opportunity to comment at other hearings, once the draft Environmental Impact Report is issued.

If you look in your packet, you'll see a piece of paper that I don't know if you can see it from down there, but it says at the top "Sunshine Canyon Landfill Public Hearing Process." You can see from that schematic this is merely the start of what will be a fairly lengthy process, during which you'll have a number of opportunities to make comments. In fact, in your packet is an attendance card. If you fill it out, you'll be on a list of people who will be notified when the draft Supplemental Environmental Impact Report comes out. If you wish, you can contact the appropriate office at City Hall and can review it and

comment on it. That will be, in many cases, a more important time to comment, because although your comments tonight will be made -- you see a court reporter to my far right. Your comments at this hearing are being reported. Your comments, verbatim, will be part of the administrative record; however, your comments don't necessarily dictate a response.

City staff and only the city staff will decide what issues are addressed in the draft Supplemental Environmental Impact Report. By contrast, once that draft comes out, if you choose to review it and if you choose to file a comment to it, that does dictate a response. There has to be a written response to every comment you make. Tonight it's an opportunity to provide some input. The city staff, not the applicant, not the consultant, will decide what issues are addressed in this document. So this is an important opportunity.

What is, then, a Supplemental Environmental Impact Report?

Essentially, it's a tool. It's a tool designed to provide the decision makers, who ultimately decide whether to approve this project, with all the information they need to assess the environmental consequences of this project. Insofar as there are

adverse environmental impacts identified, then the law requires that there has to be an identification of suggested measures to mitigate or offset those impacts or some alternatives.

The impacts that are supposed to be identified are supposed to include those impacts that will come up during construction of the landfill, operation and maintenance of the landfill. Again, the issues are air, water, motors, noise, traffic.

Why is the City of Los Angeles the lead agency?

Very simply, at this point, the applicant, BFI, has requested a general plan amendment and some zone changes and other operating permits. That puts the city in the driver's seat. They are required by the California Environmental Quality Act to consider all the environmental consequences of granting these approvals and allowing the project to go forward.

So where are we in this process?

Well, as I said, we are right at the beginning of it. The original application package was submitted to the city in June 1991. Right now we are essentially in a 30-day comment period, which ends May 11. That's when all of your written comments have to be in. Again, just -- I'll refer you again to this

schedule that you have in your packet. That really lays out the process and where we are. We are at the start of it.

After this hearing, again, there will be additional opportunities to provide information, both in writing by May 11; and then, if you choose to fill out the attendance card, you'll have the opportunity to review and comment on the draft Supplemental Environmental Impact Report.

Susan, do you want to add anything to where we are?

MS. BOK: Yes. Thank you.

I wanted to reiterate this will be the only public meeting for the scoping of the Supplemental Environmental Impact Report. There will be no further public meetings. The next opportunity for public comment on this document will be when the draft report is circulated in 1993.

I'd also like to clarify just a couple of technical points that Mr. Freeman brought up in his description of the project.

The city-side landfill will be proposed to accept a total of 5,000 tons per day and would be in conjunction with the county side receiving 6,000 tons per day. The total capacity for the city-side landfill

would be 55 million tons.

Thank you.

MR. FREEMAN: All right. That's an overview of the process and where we are in that process.

At this point, we are prepared to take testimony. In your package you have these cards. If you do want to testify, please fill out these cards. There will be individuals coming down the aisle periodically. There they are now, in fact. Just hand them your cards, and you'll have the opportunity to testify.

I'm simply going to call up people in the order in which I'm handed these cards.

The first card I was handed was Greg Smith.

Mr. Smith.

SPEAKER LIBIS: Excuse me. I would like to talk first, if you have no objection.

MR. FREEMAN: Actually, I have an objection. My process is very simple, in the order in which I'm handed --

SPEAKER LIBIS: Excuse me. My husband is sick. I don't have the time to wait it out.

SPEAKER SMITH: I'd be happy to yield.

MR. FREEMAN:

Mr. Smith has yielded to you.

Could you state your name and address for the record?

SPEAKER LIBIS: Yes, I will.

Hello. My name is Sylvia Libis. I live at 13126 Courbet Lane.

MR. FREEMAN: Could you spell your last name, please?

SPEAKER LIBIS: L-i-b-i-s.

I'd like to bring up a relevant topic that has not been addressed or studied by anyone. My husband and I have attended and sat through most of the meetings in connection with the dump. We live on Courbet Lane, a cul-de-sac of 21 homes. Since Browning-Ferris Industries took over the dump, there has been higher incidents of cancer per capita population than is usually prevalent in the rest of the population.

On our block the following people have come down with cancer: Virginia Gomer, Winnona Matson, Elizabeth Moutan, Mary Lee and Arlene Rawlins. Some of these people have died from the cancer. Tonight I'm here by myself. I can't wait to talk in my turn; you see, I have a sick husband at home who needs taking care of. In case you haven't guessed it, now my

husband has been diagnosed as having cancer.

MR. FREEMAN: Mr. Smith.

SPEAKER SMITH: I'm Chief Deputy for Councilman Hal Bernson.

I want to point out one thing to the residents here today. In Mr. Freeman's introduction, he stated that it was required that the city go forward with its permitting process, and somehow this is going to happen. There is nothing in the requirements of the county that require the City of Los Angeles to approve this dump. I can tell you I will resign my job and move out before they do.

If at times tonight some people seem very upset and angry, it's because we are. We have been lied to and cheated by BFI for many years, and there are some things you better take into account in your environmental document. Mrs. Libis just pointed out one of them.

Moving ahead in my statement, because I want to talk about that, back in 1988, John Parker, the zoning administrator in the City of Los Angeles, ruled, in his ruling on the zoning revocation hearing for the dump, that BFI must, within 60 days of the effective date of termination, initiate a study to evaluate the impacts, if any, upon health by the landfill operation,

a systematic sampling and analysis of air, soil, et cetera, on the community to see if there was, in effect, any health risk caused by BFI.

As we sit here four years later, that survey was never completed by BFI. People are dying up there. We know it. It is a shame that they were allowed to get away with that. One of the things you must consider in your evaluation is that there are 15 outstanding conditions that BFI has never complied with on the existing Sunshine Canyon Landfill, some of them very onerous. You better go back and read the transcripts, and I will submit you a list of those 15 conditions prepared by Mr. Parker of the things they have not done to protect this community environmentally.

If you are going to prepare an environmental document, it had better be one that is very, very well thought out, covers every base, because I can guarantee you BFI will sue the City of L.A. and you on your document. That is the way they operate.

Speaking of suits, I wanted to point out to you, as you sit here tonight, you are relying upon an EIR that was prepared for the County of Los Angeles that a court, the Superior Court, ruled does not meet California State requirements and has set aside that

EIR. Technically, as you sit here tonight, there is no EIR for you to look at. It does not exist legally.

Therefore, Councilman Bernson demands that the City of Los Angeles not conduct a Supplemental Environmental Impact Report but requires that full Environmental Impact Report be done on this entire project. There are too many things wrong with that dump that must be looked at; there are too many things that that EIR did not do, and that's why the judge threw it out.

Please go back, do the right thing, require a full Environmental Impact Report and look at all the things BFI has not done in the past ten years, including the four years that the 15 conditions existed by Mr. Parker that have not been met.

Thank you.

MR. FREEMAN: Just to underscore a couple of things. The entire record, as I indicated in my introduction, is available for public review. I can only echo Mr. Smith's comments, if people are interested in doing their homework on it, all that information is part of the public domain. Contact the offices and numbers indicated in your packet and look at it for yourself. That's what the process is intended to provide and the intent under CEQA. As I

say, the environmental impacts have to be identified, and, as far as if they are found adverse, there has to be an identification of mitigation or alternatives.

The next card that I have is Mary Edwards.

SPEAKER EDWARDS: Good evening, I'm Mary Edwards, 17219 Orozco Street in Granada Hills.

I feel a little bit like the people in Henry VIII. How can I have three minutes to tell you all the things that need to be done, in a scoping session, about a project that is so flawed and we have lived with so long? It is an impossibility.

First, it is -- as Greg Smith pointed out, it is not proper to base an SEIR on an EIR that has been vacated.

Secondly, the EIR must contain discussions of a stand-alone city alternative rather than this county-city monstrosity that is being forced upon us. The mandated role of the city is to provide independent review. This was never ever done in the process of the environmental review that we went through.

Ultrasystems prepared a document that was so flawed in so many areas, it was so self-serving, and in order to reduce to levels of insignificance for many impacts, they deferred to the city impacts. They said, "We'll consider them later." Now they are trying to

say, "Okay. These are not going -- as an air quality, going over levels of significance."

The first -- very first page of the original documents starts out "We have received 6,400 tons as an annual daily TPD." This is just plainly not true. That is not the average. The city has the records and knows that's not the average. There are hundreds and hundreds of things that are wrong and flawed in that EIR.

Let's talk about -- you have said they are not going to redo seismic. Fine. If you do not redo;; seismic, how do you reconcile the statement made by the county that the Santa Susana fault is active, in the document? The EIR says it's not an active fault. Those things are just irreconcilable.

There are the issues of water, which were deferred to the city by the regional water board for later review.

If you read that book, those books and books, how can the public possibly find out the answers? If they look to the water, for example, you have one consultant, Mr. Blevins, saying there is no hydrogeologic connection. You have Mr. Bean saying there is no hydrogeologic connection. Can you be satisfied with that?

Buried way back inside is a retraction by Mr. Blevins, and we have a retraction by Mr. Bean. Obviously there is a hydrogeologic connection. These things no casual reader -- I think Ultrasystems bound everything in their file cabinet together and submitted it and called it an EIR. Certainly it's big. That is the only good thing about it. Everything else is violatious, self-serving.

The city must exercise independent review. CEQA says this. If the city --

MR. FREEMAN: Excuse me, Ms. Edwards, could you finish your thought? You are up to the three-minute mark.

SPEAKER EDWARDS: As I said, you can't possibly say all the things that need to be said about this project. I'm over the three-minute mark.

25 years ago there was a man by the name of Milton Blair that stood in front of a similar audience to this and said, "Look, what is going to happen to me at my property?" 25 years later they said, "Oh, it's going to become a park in 25 years." The city made a covenant with this man, and BFI has dishonored that covenant, and the city has dishonored it. They said they would turn it over in 25 years to recreation and parks. Now what are we going to get?

More of the same.

MR. FREEMAN: I just want to remind everybody, once everybody who has decided to speak -- if we go through that list and it's short of 10:00, you'll have all the time you want up to 10:00. Also, again, there is the opportunity to submit written comments, as lengthy as you wish, prior to May 11. It's not just three minutes. This is the process we are starting with tonight.

The next card I have is Sylvia Libis -- she spoke. Excuse me.

Eugene DuBois.

SPEAKER DUBOIS: Thank you.

Before you start that clock, is that standard time or daylight time?

My name is Eugene DuBois. I live at 17172 Sesnon Boulevard in Granada Hills. I'm a former -- retired employee from NBC after 35 years. I, too, was a victim of cancer. I am in the 2 percent rate, mortality rate of the type of cancer I had. They gave me seven weeks to live. I'm in the 2 percent group. I'm now 71 years of age.

MR. FREEMAN: We are very glad to have you with us, Mr. DuBois.

SPEAKER DUBOIS: Thank you.

I moved up there on account of the area -- nice and clear, a lot of wind. I didn't mind that. It's like living in the country. But we have been, since I moved up there, at the end of the city limits, and I thought, "Gee whiz, nothing is going to bother me." But we have been bothered by everything. Now they are tearing up the street I live on and near O'Melveny Park. It's becoming a major highway. Balboa Boulevard, at the present time, morning and night, you have people coming and going from Valencia, Palmdale and Lancaster. It is bumper to bumper.

At the end of this year, when Sesnon Boulevard is finished and it becomes a major highway, you can't believe the impact of traffic that is going to be there. I have already requested a stoplight on Sesnon and Balboa , and it's been turned down.

On the corner of San Fernando Road and Balboa it's a very dangerous intersection, which is like a half mile from the entrance to this dump. This is yesterday or the day before, there was a city garbage truck that turned over. Fortunately most of the garbage was on the inside and the driver was out there picking it up. There was also a police car there guiding the traffic. There have been several accidents on that particular corner.

Now, the Sunshine Canyon was closed last fall. I can't see any reason why you have to open it up for anything anymore. It should remain closed because the head of the water and power department, Metro water and power, just recently indicated there is going to be 100,000 people in that area within a short time, and it's already developing.

Across the street from me there are 58 brand-new homes going to go up, starting at $700,000. Towards the hills, there is like a big castle up there on the hill that belongs to assemblyman Hank -- I can't think of his name right now.

To me, I'd like to see -- oh, also, Sunshine Canyon is on a fault. Because we lived up there during that big earthquake in San Fernando, our house was split in two. We found that out. So then, also ever since that time we keep getting methane gas, the smell of it, in our garage. We still do today. But since it has been closed up, it is much better. No more dust and everything else. It's like living in peace again. I'm sorry I'm a little over, but maybe I can talk to you some more. I have a lot to say about this.

If you don't know this area, you should drive around that park and see what is going on,

because it's -- it should be delayed until a later time, if they are going to open it, until that road is opened and see how the impact of the traffic is going to be.

Thank you.

MR. FREEMAN: Thank you.

Rosemary Woodlock.

SPEAKER WOODLOCK: Rosemary Woodlock, 21015 Mulholland Drive, Woodland Hills, 90364. I'm the attorney for the North Valley Coalition. I was in Washington, D.C. over the weekend. I haven't had an opportunity to read the article in the Los Angeles Times about the excessive amount of money some people feel the City of Los Angeles is spending on taking issues to court. If any of the taxpayers are wondering, I think if they attended these proceedings they would find out why.

We would like to reiterate Mr. Smith's comments. You do not have a valid EIR, and, therefore, you do not have the legal authority to do a subsequent EIR to that EIR. If Los Angeles City wants to do the job right, the City of Los Angeles can do the EIR for the entire project because there is no EIR at this moment.

One of the things that disturbs us a great

deal, and was part of our lawsuit, is the fact that the consultant is so overly bias to the person paying or the corporation paying the money to them.

I would like to state, for the record, a portion of a letter, dated March 25, 1991, from Betsy Lindsay of Ultrasystems Engineers & Constructors. This judgment is very lengthy and filled with many rulings -- speaking to the later Sunshine Canyon ruling. One of these rulings confirms the use of the word "extension" is appropriate.

The current direction from BFI is to correct these issues as deemed by the court and move forward to recertify the Sunshine Canyon EIR. The opinions also seem to reiterate that the preparation of the Supplemental Environmental Impact Report is the correct approach.

First of all, what the person had at that time was not the judgment but the judge's opinion. The judgment states that the peremptory writ of mandate issues from this court, commanding the supervisors to vacate their certification and adoption of EIR and vacate and set it aside. In addition, on February 19, 1991, failing properly to respond to Councilman Bernson's comments concerning BFI's assertive records of not having complied with the zoning variance and

conditions imposed by the City of Los Angeles within the city's jurisdiction at the Sunshine Canyon site, declaring and deeming the comments referred to above to be irrelevant.

Therefore, they failed both to incorporate in the topical responses of the EIR, and cross-reference of the EIR, other essential expert comments: For failing to cause a significant ecological area tactical advisory committee to review the EIR or the draft; for failing adequately to explain the cumulative air analysis; for failing to comply with the City of Los Angeles' general plan; in particular, BFI's asserted past noncompliance with city zoning regulations; for failing adequately to discuss the impacts of the nonuse of the landfill for the City of Los Angeles trash haulers. They are ordered to suspend all activities.

That does not seem to me that this judge stated that a few technical changes over on the county side are going to clean this operation up. And so, therefore, we are asking the city to do the right thing, for a change, and to assume its role as lead agency and prepare an EIR for the entire project.

Failing that, it cannot prepare a subsequent EIR from an EIR that is decertified.

The final point we would like to make --

MR. FREEMAN: You are a half minute over. Please finish your thought.

SPEAKER WOODLOCK: When you have a record of 22,000 pages, which was badly cross-referenced as the judge said, it is inappropriate to expect the public to track down all of those pages and then comment.

I think in terms of clarity, I think in terms of fairness to the public, and in terms of the fact that the judge found those 22,000 pages inadequate, the City of Los Angeles must remedy that situation.

Thank you.

MR. FREEMAN: Thank you.

Ernest Hilberg.

SPEAKER HILBERG: The thing I have to say, this is the second time within a week that the city has presented us with data that contains obsolete maps. How can you do any kind of planning when your maps don't represent the area? I hope your impact report is a little better. According to these maps, we don't even exist where we are -- for the last 26 years.

My point is, the reason -- the main reason we are objecting is Browning-Ferris Industries never allowed any inspectors, never complied with any

regulations; so the whole absurdity of preparing this report is absurd. I'll lay you 100 to 1 odds you don't have any inspectors to make them enforce whatever they do. Whatever comes up. You can pass all sorts of regulations, but you won't pay for the cops to make it happen; so it's a joke.

The next thing is it was improper to burn garbage in downtown L.A. Why the hell is it proper to burn garbage in the outskirts?

That's what they are doing when that methane comes out. They didn't burn it at first. It's almost deadly. They burned it. We can't prove they set 23 houses on fire, but it's an interesting coincidence. It was too expensive to pipe the gas where it might be safe. Our lives have got a price tag on them.

God help you if you live in this area.

Plastic liners. During the earthquake we had an interesting experience. The earth came and shook. It tore the plastic in my garden pipes. Do you think an earthquake won't tear the plastic liner that is keeping all this garbage where it supposedly belongs? No way.

What you are going to have is a joke. You are spending -- going to spend a lot of money to line

this thing. The fault -- go up in O'Melveny. Don't argue with it. There is a curve in the land that looks like this. That is a fault. Don't talk about -- you don't have to be a seismologist or geologist. You can see it. It's there. It's about 30 feet high.

Now, it would be nice if the city wants to do some planning. How about everybody getting into recycling? It's interesting: Our area does recycling, you go a mile away, they don't do recycling. If you want to cut down on garbage, reduce the need for dumps, go out and get everybody in the act.

It's too expensive. Oh, so what are we doing? We are doing Browning-Ferris Industries' environmental study report.

Thank you for nothing.

MR. FREEMAN: Don Worsham.

SPEAKER WORSHAM: Thank you.

Don Worsham. I'm an officer in a residents organization in the northwest San Fernando Valley called PRIDE. I'd like to thank the planning department for giving the community an opportunity to speak.

The city found itself in a no-win position with respect to this project. The Joint Powers Act, now in effect, will prevent this from occurring. They

want to see this area closed to dumping forever. It's up to the community to act to achieve this closure. The North Valley Coalition to Dump The Dump has studied this area, studied the problem and provided the answers. They have even gone so far as to provide some new questions. Acting to tie other areas of dumping into the Joint Powers Act, which this dump has been connected, has really moved the Sunshine Canyon project to a more political area where the answers from the North Valley Coalition to Dump the Dump may be achieved by the courts. I must add I respect their attorney's opinion, very concise and clear and probably the only thing we are going to hear that is absolutely, positively accurate and cannot be misinterpreted.

I think PRIDE would like to see a couple of things done. Assuming you can do an SEIR, it certainly needs to be expanded to include the areas in the county portion north of the areas you have designated on your maps in terms of the environmental effects.

I think you should also go so far as to review how the legislative impacts from the Joint Powers Act will affect the city's required or desired action. Certainly purported health risks to the community and the presence of toxic landfills upstream

from the city water supply are all required to be completed in order to make your studies accurate and adequate, and certainly the question concerning how the presence of such an obnoxious area like this will impact future growth in the area needs to be studied.

Thank you very much for your time.

MR. FREEMAN: Barbara Baerg. Forgive me if I mispronounce your last name.

SPEAKER BAERG: Good evening. Baerg is correct.

I'm a realtor by profession. I'm testifying on behalf of Mid San Fernando Valley Chamber of Commerce.

We are all aware, here, of the need for additional landfill disposal space throughout southern California and in the City of Los Angeles, actually all over the country. This isn't just an isolated problem. We know of the increased awareness of residents to the need for recycling. Recycling will not take away the need for safe disposal for waste that is not recyclable. We are all aware of this. Everyone is aware because of our disposable diapers and the other goods we buy that are disposable. The Sunshine Canyon Landfill is a disposal location that has operated in the past as a landfill. The County of Los

Angeles recognized its responsibility to find a place for disposal of waste and approved the extension of the landfill, the county's portion of the property.

Now the city must seriously look at this site, and that portion of the landfill that is within the city's jurisdiction, as a site to dispose of the waste generated in the Los Angeles area. Until the city acts responsibly and takes action on issues such as the waste trash crisis, new businesses will not locate here. If the cost of disposal increases because trash has to be shipped far away from its source, there is a possibility that existing businesses will be leaving the area as well.

Please review the application of BFI for this needed expansion with care, and let's move forward to help reduce the effects of the trash crisis.

Thank you.

UNIDENTIFIED SPEAKER: Can something be done about the speaker? We can't hear.

MR. FREEMAN: You can't hear?

UNIDENTIFIED SPEAKER: No, we can't hear.

I think if they hold it closer to their mouth.

MR. FREEMAN: The next speaker is Mary Ellen Hughes.

Perhaps, Ms. Hughes, we can ask you to hold the microphone a little closer and speak up, and see if that makes a difference.

SPEAKER HUGHES: You'll note that letter attached to the speaker card is in lieu of the oral testimony on behalf of the Apartment Association.

MR. FREEMAN: Thank you.

UNIDENTIFIED SPEAKER: Can you hear her?

MR. FREEMAN: Yes, we can.

UNIDENTIFIED SPEAKER: I didn't hear a thing she said.

UNIDENTIFIED SPEAKER: I couldn't hear a word. The acoustics are very bad in this room.

MS. BOK: If people would please move forward to the forward seats, the audibility is much clearer in the front. If you would please move down to the front of the auditorium, it would be very helpful.

UNIDENTIFIED SPEAKER: It's really hard to hear you people up there, too.

MS. BOK: You cannot hear us?

UNIDENTIFIED SPEAKER: Not too clearly.

MS. BOK: We'll speak up.

MR. FREEMAN: We'll call the next speaker. Ken M. Bell.

We have somebody who is going to try to

improve the acoustics.

SPEAKER BELL: I don't need any improvement. I'm the hysterical one.

MR. FREEMAN: I'm told the acoustics in this room generally are not very good. I can assure you we can hear your comments. They are being recorded clearly in the record, and hopefully, we'll make a little progress here so you all can hear more clearly.

Mr. Bell.

SPEAKER BELL: I'm Ken Bell. I live on Courbet Lane. I don't think I have cancer yet.

First of all, I'd like to comment on your saying "do your homework." I'm not quite sure how you meant that, but for those of us in the audience who have done our homework, we are literally incredulous at why we are here tonight. We've done our homework. We don't understand how you've got the unmitigated gall to call a meeting like this, other than to just run us through the mill one more time.

I'll tell you what, I'll be here as long as it takes. My subject is the credibility of BFI, the honesty of BFI, the ability of BFI to be paid like a law-abiding citizen. The corporate entity of BFI is a convicted felon in more than one state.

There is something in the other EIR only

because of my ranting and ravings. There was no investigation by Ultrasystems of BFI's past legal record. If BFI's entire legal record were in the EIR, the EIR would be a moot -- that's all they would need. You could shut it down.

So, number one, I really would like to see a total and complete investigation of all of BFI's missdoings, felonies and everything else, and all other places, including the City of Los Angeles, which creates no problem. It's something that we'll supply to you with no problem.

The other thing you didn't do -- except the initial EIR said, well, there is no alternative. You did not look at alternatives. You didn't do an exhaustive study on alternatives. You really mention recycling in kind of a conciliatory way: "Yes, it's one of those things we can do." You didn't look at rail haul or any alternatives.

Now, if the alternatives were truly investigated, you know, we wouldn't need BFI. Or if BFI wanted to get into the alternatives and take a really constructive approach, maybe we could use BFI. But, please, other than all of the other stuff that has been submitted here, I want you to please put down, underline, underline, "BFI is nobody anybody in their

right mind would ever want to do business with," number one.

Number two, if I really look at the alternatives, there is nothing else you really need to look at, because there are plenty of alternatives than burying this city, this bowl in garbage around its periphery, so the inversion layer can hold all of those gases right on top of your head so you can just plain bloody suffocate slowly, in about 20 years, it takes.

Thanks a lot.

MR. FREEMAN: Hank Feldman.

SPEAKER FELDMAN: Good evening. I'm Hank Feldman, a resident of the area, very close to the BFI dump -- have been for over 25 years.

One of the interesting things on the sheet that you gave out was the description of the location of BFI's landfill. Very specifically, it talks about being three quarters of a mile southwest of the freeway interchange, the entrance is three quarters of a mile southwest of the intersection of Balboa Boulevard and San Fernando Road. What it doesn't mention specifically is that this dump is across the street from L.A.'s primary source of water.

UNIDENTIFIED SPEAKER: That's right.

SPEAKER FELDMAN: Now, why would that concern

us?

Well, we have already talked a little this evening about what might happen with earth movements, of which apparently we enjoy in continuous experience. Plastic liners in that landfill -- and if you have any doubt about what happens in an earth movement, you can look at the piping running the ground water from the dump across the street and look how those pipes have just been smashed over the years by simple ground movement.

Why does that worry us?

Well, the Environmental Protection Agency has said that approximately 3 percent of all sanitary landfills are made up of toxic waste.

Toxic waste gets in there because, as good homeowners, we are not always careful about what we throw into our garbage. 3 percent may be a small number, but at the 3 percent level, in ten years we'll have 130 million tons of toxic waste sitting across the street from our primary water supply.

Now, that's only what comes underground. If you notice the L.A. Times this past week, what they talked about was an interesting article about some of the business people -- and I know we have chamber of commerce people speaking -- some business people in the

Valley being affected because very small microcosms of organisms got into their drain pipes. This was in the laundry business. What happened was DWP investigated, and they said, "Gee, for some strange reason, all of a sudden those microcosms that lived on the top moved way down into that reservoir." They are not quite sure why.

We can give you some possible answers.

These are the things that your Environmental Impact Report doesn't mention, but I think you probably want to look into it a little closer. This may not be a problem we are going to see next year or in five years, but in ten years or more, I'm sure that's going to happen. It is, ladies and gentlemen, inevitable.

In closing, just to change the subject very briefly, a number of people spoke to you about the incidents of cancer among this -- we are talking about a six-block neighborhood up here. I'm one of the lucky ones. My wife is still with me. She had her operation and radiation treatments a couple of years ago, came out of it very well. Some of the others didn't.

Thank you very much for your attention.

MS. BOK: I'd like to clarify something. The county Environmental Impact Report was not prepared by

Los Angeles City, and the Environmental Impact Report that we are now anticipating preparing is original for us. We had no involvement with the county Environmental Impact Report. We did not prepare it.

Thank you.

MR. FREEMAN: Next speaker is Peter Daniels.

SPEAKER DANIELS: My name is Peter Daniels. I'm from Council District 1, not from this area.

Today I was faxed from the Environmental Affairs Department the information about this meeting tonight. I'm the chairman of the Solid Waste Citizens Advisory Group of the City of Los Angeles.

MR. FREEMAN: Excuse me, Mr. Daniels. Hold the mike a little closer.

SPEAKER DANIELS: Sure. It seems that the planning commission or the planning department doesn't know about our group although we are -- we were created by the City Council in 1987. BKK knows us, BFI knows us, public works knows us, BLS knows us, and we were created by the City Council.

For that reason, since our group is meeting May 6, I would like to request an extension of the comment period. Because our group is meeting May 6, that will give us five days. Usually it takes the group, to get something back, until the

next meeting, which would be June.

We would also like to request that Susan Bok or the project director address our group, which by the way, is open to all the citizens of Los Angeles.

There are 15 of us and we represent the 15 districts.

To the gentleman who was just up here, I'd like to mention that I live in the Glendale and Highland Park area. There is an unbelievable Hodgkin's disease epidemic, especially in young people about 18 to 25. My son had a bone marrow transplant last August. So it's something to be concerned about.

Thank you.

MR. FREEMAN: You made a specific request. I'll let Susan Bok respond.

MS. BOK: I have a message, I believe from you, and I will call you tomorrow.

SPEAKER DANIELS: It's from Barbara Fine, but I'll call you.

Thank you, and I appreciate that.

MS. BOK: You're welcome.

MR. FREEMAN: Mary Ellen Crosby.

SPEAKER CROSBY: My topic is going to be a little different. I'm chairman of the Friends of the Park. I live across the street from the park and the

dump, 17246 Van Gogh. I look up the hill and I see it. I look across the street and we have this wonderful park. I think it's about 180 acres. I have lived there 24 years. We have been battling to make it a park.

First, there was no money, as usual, for any city project. Then we got the money. Then there was not enough laborers. Finally it became a park. It became a reality. People from all over started to use it. It became a catchword. We were the best kept secret in the Valley, our lovely park. They started bringing buses out with school children. The Audubon Society would come with their little things and look up at the birds and have wonderful times. The park was beginning to be a reality. One thing, when anybody came to the park, they would look around and say, "What is that flat stuff across the two mountains? What happened there?" All we can say is, "Oh, that's BFI's memory to our park. They wanted to help decorate it. They made this flat thing between two mountains and put a couple of little green sticks up there and those are going to be trees in 25 years."

Then we had an earthquake. But BFI was just a tiny little dump at that time. We really didn't realize any problems from it. A few years back, I

looked out my bathroom window, and coming down the hill towards me was this raging fire. Thank God he was with me. The wind started blowing, and poor Porter Ranch got it. But our park got it. We lost again.

Then, this winter God was good to us again. We got a lot of rain. Well, that rain really did us in. It came down through what is an earthquake fault, called B Canyon Fault, which runs all around where the existing dump is and it's going to be. The water -- there are creeks, there are springs all through the park that feed into that. The force of that water was so intense it uprooted the water fountain, bridges. The water came almost to the street between Van Gogh and Orozco. We got a little scared about that. It's still a mess.

The only thing I can say good that has happened recently, we can go out there and take a deep breath. We didn't get that -- the neighbors and people, said, "What is that smell?" We haven't noticed that lately. We were enjoying not having it. We would like to see that we don't have it anymore.

We love our park. We love Granada Hills. We would like to keep it that way. If we happen to have another earthquake, that big square thing across the top of that hill is going to come down. It's

sitting right on the fault. We are going to get that lovely garbage in that lovely park. I hope you keep it. We don't really want it in our park.

Thank you.

MR. FREEMAN: Wayde Hunter.

SPEAKER HUNTER: Thank you. 12354 El Oro Way, Granada Hills. Wayde Hunter.

First off, I'm sick. I'm actually standing here before you doing this. I didn't think I would ever have to do this. I'd like to ask a question. Is there anybody up there who has actually read the FEIR?

MS. BOK: Yes, sir, I have.

SPEAKER HUNTER: You have read the entire 25,000 pages, Susan? And you are aware of its contents?

MS. BOK: Well, if you are going to quiz me right now, it might be difficult to answer. I have reviewed the documents, yes.

SPEAKER HUNTER: Then I'd like to point out to you, on the document you sent to us, Page 6, "Areas of possible environmental impact."

"As referred previously, the FEIR prepared by the County of Los Angeles assessed environmental impacts of the combined county/city landfill extension." That's your statement.

You go on to quote all these volumes that are available. If you take the time to read the entire document, you would have found such things in here as statements that the draft EIR addressed the entire ultimate envisioned county/city landfill extension development. That's the statement they make; the whole of the action is required under the state CEQA guidelines, Sections 15126 and 15378.

It's not true. It did not do that. The statement that "However, the project applicant is currently seeking permits only for the portion of the total landfill extension that lies within the county" has been the proponent's entire approach to the EIR, and they have taken an incremental look at this. They have said, "We are just going to look at the county side right now, and later on we'll come back and look at the city."

Did you know they deducted the impacts of the existing city landfill from the county so they could get approval? This is one thing they happened to do.

There were no substantial discussions as to the protection of ground water, liner installation, leachate control, stacking roads, dust control, litter control, vector control, vermin control, revegetation,

geology, earthquake, landslide, ultimate mitigation, relocation of support facilities and compliance with jurisdictional and regulatory control at the city/county line and the mitigation of the impacts that should have been done to the city property. They just have not been done. They were not.

If you told me you read it, you can't find it. Don't tell me you can. It's not there. I have a book that is full of these things, that says -- pick a page.

Rebuttal. We have got rebuttal to the topical responses. We said that they have not addressed our specific questions relating to the city. Time and time again, nothing. "We are going to take care of that later."

The whole project is 215 million tons. The county has looked at a portion and said, "We are going to approve 20." Now you are going back and saying, "We are going to have a look at 50. And by the way, the county is running in 6,000 tons a day, plus an uncontrolled amount of anything for recycling. We are going the take an another five."

This is incremental. How can you do that to us? I demand an Environmental Impact Report, not an SEIR. That is nothing. We need a full Environmental

Impact Report that takes account of the entire project, including the county side; otherwise, you are doing exactly what they are doing. It's a violation of CEQA. It's incremental approval of the entire project.

Thank you.

MR. FREEMAN: Janice Van Steen.

SPEAKER VAN STEEN: Thank you very much for the time this evening you have given to us but --

I have lived in this area for 19 years.

MR. FREEMAN: You need to speak up a little bit.

SPEAKER VAN STEEN: I have lived in this area for 19 years. The reason I moved to this area is because of the fact that I wanted a better environment for my children. I wanted to be able to breathe and to live in a better community. It seems as though you want us to live in a dump, and I don't really appreciate living in a dump.

I would like to say that I think that the City of Los Angeles owes us a little more than what they have been giving us. The City of Los Angeles owes the people that live in this community a little more research on a lot of the dump sites that we have seen in the news lately.

People are suffering from illnesses, far

down the line. It's their grandchildren who have been getting illnesses and diseases that they have gained from living near these sites of dumps and things like that.

I'm very emotional about this because of the fact that this is my first meeting of this. But I think that there are things that we need to address here to the City of Los Angeles, and that says noncompliance of violations.

We have increases in noise and pollution, in traffic congestion. This is just because of the increase in people coming up here to live. Can you imagine the number of trucks that would have to be trafficking up here to go and dump that stuff?

Why do you want us, as residents of Granada Hills, to live among the trash? I didn't come up here to pay all this money for a home to live among the dump.

I think that the expansion of the dump is ludicrous, absolutely ridiculous for us to live like that. I think there needs to be steps to stop this imposition on citizens by the city. They need to try to take alternative measures to rid our community of dumping trash. There are other alternatives, other than people being imposed on by the pollution, the

increase of bacteria in our water supply.

You were not here when we had to suffer through that fire. You were not here when we had that earthquake. You were not here when we had all that dust coming when that fire was around.

My husband and I were black from the soot from that dump.

You don't know what kind of impact that has taken upon our lungs, and I'm pretty sick and tired of it -- that the city wants to impose this on us here. I think that instead of increasing the dump, you need to take steps to decrease the dump.

Thank you.

MR. FREEMAN: Before I call the next speaker, I just want to remind those of you here that while it's evident that you have strong feelings in opposition, many of you, to the proposed project, that this hearing is not for the purpose of taking testimony pro or con. I'm just obliged to say to you the purpose of this hearing is to get your comments about what issues need to be addressed in this document.

Now, it may well be that you have strong feelings pro or con, and it's absolutely your right to state them. You have got your three minutes, but it's of greatest benefit to those who are going to be

preparing this document, and particularly to the benefit of the city staff whose decision it will be what this document will address, if you really focus your comments on those issues you think need to be addressed.

The next speaker is David Gerred.

UNIDENTIFIED SPEAKER: That's what we are doing, expressing our feeling towards that dump and giving you input.

MR. FREEMAN: Thank you.

SPEAKER GERRED: Good evening, ladies and gentlemen. I'm David Gerred. On the way over here today I saw a license -- bumper sticker that said, "Think globally. Act locally." It was obviously talking about doing things in the best interests of society as a whole and not what is best for us personally.

Every one of us generates trash. No one here denied that. We try to recycle paper, medical waste, try to compost our green waste. Allowing this expansion would allow us to do more than that. Sanitary landfills are just that, sanitary landfills. Not one person here has said we don't need a dump. Not one person here said we don't want to reduce trash. All they said is, "We don't want it in our backyard."

From my point of view, that's not good enough. We need to recycle, compost, do the best job we can to have sanitary landfills, and we can't all say "Not in my backyard." We need this.

UNIDENTIFIED SPEAKER: Where do you live? Where do you live?

MR. FREEMAN: Excuse me.

UNIDENTIFIED SPEAKER: Who does he work for?

SPEAKER GERRED: My address --

UNIDENTIFIED SPEAKER: Can I move that be stricken from the record because he did not identify his address?

UNIDENTIFIED SPEAKER: He gave --

MR. FREEMAN: Excuse me. It's my job to try to keep this on track.

UNIDENTIFIED SPEAKER: Why don't you ask him where he lives?

MR. FREEMAN: Actually, we have his address on the card.

UNIDENTIFIED SPEAKER: We want to know. This is a public meeting.

UNIDENTIFIED SPEAKER: Who does he work for? What division of --

MR. FREEMAN: Ladies and gentlemen, since this card is going to be in the record that is made public,

I'll read you the address.

UNIDENTIFIED SPEAKER: We want to know now.

UNIDENTIFIED SPEAKER: What division of BFI does he work for?

MR. FREEMAN: I just said I'll read the address. As I read it, please, let's keep it, you know, responsible dialogue here. There is no point in shouting back and forth. This is a public record meeting.

He lives on Case Avenue.

UNIDENTIFIED SPEAKER: What city?

MR. FREEMAN: North Hollywood.

UNIDENTIFIED SPEAKER: What does --

MR. FREEMAN: Ladies and gentlemen. Ladies and gentlemen. Thank you.

The next speaker is Allen Hecht.

SPEAKER HECHT: My name is Allen Hecht. I live in Granada Hills. I am the local representative for the Los Angeles Solid Waste Citizens Advisory Group, and I also live very near the landfill.

I just want to make a couple of comments. Susan took exception to the fact or made sure that we knew that the City of Los Angeles was not responsible for the EIR that was produced by the county. A correction, it was produced by BFI for the county.

And here you are, wanting to add on a Supplemental Environmental Impact Report to an EIR that you don't want to have anything to do with. Well, we want a straight EIR for this project for the city. It is our city. It is, unfortunately, our landfill. It is our community, and we know that the other EIR was invalidated. And we deserve the right to have an EIR on our own, on every one of the items that CEQA requires be covered.

I join Peter in asking for an extension of the time to respond. I don't think that some of the people got ample time to look at your notice of preparation, and I just feel very strongly and just now --

To get emotional, if I can, right now the City of Los Angeles is in deep doo-doo. We have a siege going at Parker Center, as we speak. They are burning up the streets in South Central L.A. because of the way -- the results of what happened today in the court. You got a large segment of the population that feels they are not being represented. Well, people, we feel we are not being represented, and we are getting awfully angry. You are trying to wear us down. You won't. We are just getting more and more angry.

Thank you.

MR. FREEMAN: At this point I don't have any other cards of people that have signed up.

It's 8:30. We are prepared to stay until 10:00. If there is anybody who has a card they would like to turn in, please do so. We'll take those individuals first.

Roger Dames.

SPEAKER DAMES: Thank you. I'm Roger Dames. I also live in Granada Hills, Neon Way, where my bedroom window balcony -- I look out and I can see the dump.

Rather than express a lot of the concerns about the particular proposed expansion, I want to concentrate on asking you to study more carefully alternatives, because I think there are better things to do that make more sense. We need to develop those alternatives. I think some of them may cost more money, but I think responsible citizens that want to live better in the long term, in a better environment, should be willing to pay that price.

One thing still strikes me about that site. I'm very concerned about proper consideration of wind-blown contaminants. I know, from my experience during the fire and other times, that we have one hell of a wind that blows through there. I am concerned that, as the area grows and increases in population, we

have a greater number of people that are exposed, to the extent anything goes wrong and something is released.

Maybe 25, 50 years ago, maybe 10 or 15 people may have been affected. I don't know what the population is within the area that the downstream wind blows, but it's obviously increasing, and I think proper consideration needs to be taken into consideration with the number of people.

That is why I feel, to the extent we want to consider alternative sites, it's important to have it in an area where, if something does go wrong, preferably no one is impacted, because you end up with a large enough site that there is just a sufficient distance exclusion so you get no migration of a pollutant. It would stay on the site. That obviously requires a larger site.

Also, I'm concerned that we aren't doing a tenth as much as we should be in considering recycling. They started, on an experimental basis, recycling in our neighborhood. I think, before we build new landfills, we ought to mandate that throughout the city.

I think the -- another thing that people have mentioned is a concern about, try as we may to

keep hazardous pollutants out the landfill, in the real word a certain amount of it gets there. Part of the reason it gets there is that's the easy way out. I feel that any container that is sold in this city -- and I would like to see it part of a state and federal law as well -- that if the container itself contains something that is hazardous -- even though we may have a legitimate use for it -- there is a very large deposit placed on that container so people have a substantial financial incentive to return it to someplace where it will be treated properly, and the contaminant, if possible, decontaminated.

They try to do it with these hazardous waste roundups, but people who have insecticide bottles -- they can throw them in the trash or once every six months, they can get in their car and drive to a hazardous waste roundup. If you had a $5 deposit on that bottle, you may think twice.

MR. FREEMAN: Do wrap it up, please.

SPEAKER DAMES: I would like you to seriously consider only having, in close-in areas, compost. Everything else be transported to a more distant site. I would think that rail haul alternatives should be given serious consideration.

Thank you.

MR. FREEMAN: Thank you. Teresa Todd.

SPEAKER TODD: I'm Teresa Todd. I'm a homeowner located at 13338 Canyon Ridge Lane, Granada Hills. I reside in a tract which is only about a couple of hundred feet from the outlying edge of the Sunshine Canyon Landfill.

I realize that the purpose of your meeting here tonight is that we, as local citizens, homeowners, residents, can give you some insight as to what we consider major concerns or aspects of what should be included in your report.

Our concerns are multifaceted, because we have spent many years -- and some people before me many, many more years -- investigating the health hazards, environmental hazards and the risks involved to having a landfill adjacent to our residences. I think, first and foremost, we would like to address the fact -- would like you to address the fact that BFI has a very long history of violations and noncompliance with its past permits and all of the factors that were involved in its previous running of BFI in the city limits.

Not just here within L.A. city, but we know in other areas BFI has not always been the most honest, most law-abiding citizen with the most honest

business practices. Why should their size and dollars offset and forgive what can be very costly to health and financial destruction for the City of L.A.?

Are their tax dollars anymore important to the City of L.A. because they pay larger sums than the individuals of the city, residents and homeowners and property owners?

We are concerned because water contamination does not just affect the local members. We are not just concerned because it's in our backyard, but the water that DWP brings in services the entire L.A. city area. So it's not just Granada Hills that will be affected, but the entire city could be affected. The water brought in by MWD, the Metropolitan Water District, does not just service L.A. city. In fact a very small portion of it does. Most of it goes on to Simi and Ventura counties. Any water contamination that could take place as a result of a seismic action, malfunctioning of the liner, the fact that water spillage could go off into our creeks and lakes and to other natural reservoirs, would affect not just Granada Hills but would affect even this gentleman from Case Avenue and even people beyond that, not just for this generation, but for generations to come.

We have seen recently, throughout the

United States and throughout the world, where slight contaminations can make major, costly, destructive events on the world. There have been so many other issues brought up in real -- I'm going past my three minutes.

As many have testified before, it's more than concern for the fact that L.A. city used to be a wonderful place to live, and Granada Hills especially. We are now being concerned that perhaps money can buy anything, and we would like that the human element be very strongly considered here in this Environmental Impact Report.

MR. FREEMAN: Is there anyone else who has filled out a card who has not yet had the opportunity to speak?

SPEAKER ORMSBY: I put my card in the pack.

MR. FREEMAN: Why don't you come up and identify yourself.

SPEAKER ORMSBY: Can you hear me?

UNIDENTIFIED SPEAKER: Speak up.

SPEAKER ORMSBY: My name is Michael Ormsby, 13024 Norris Avenue, Sylmar, California. I have spoken at many hearings because I feel a very vital interest in protecting the forest, that includes the forest of the city's portion of the canyon as well as the

county's. We have to remind people that BFI has destroyed thousands of oak trees as such in the city without the benefit of city permits.

We also have to remind people that the zoning violations that they were accused of and ruled against last year, 1991 -- I went to a meeting in December. They have not complied with those zoning violations in the City of Los Angeles. It's darn near an insult that you can be here tonight, with the fact that BFI has such a record of noncompliance with the city's own zoning administrator.

Number two, I have to ask that the city not use Ultrasystems for the EIR for the city's portion of this landfill. Number one, Ultrasystems' EIR was extremely biased, as mentioned. But more importantly, a lot of the facts were missing from the EIR from day one. That's why we won in court on March 20. The judge ruled against BFI, and Ultrasystems prepared a poor EIR.

The oak tree survey was done on a statistical basis, and Mr. Osterling performed it, and it was done in such a way, it reduced to zero, nine ancient oaks in Sunshine Canyon that are up to 300 years old. They should be protected under the county oak tree ordinance. There should never be a landfill

in an area that has ancient forest like this.

Number two, they ignored the Cal Tech databank's information that there were three major earthquakes within Sunshine Canyon in the last ten years, including but not limited to a 4.2 earthquake that occurred during the night. A lot of the people probably didn't feel it, but Cal Tech records them all.

It should be known, in fact, in the EIR they say there are no active faults in Sunshine Canyon. How could there be no active faults there if there are three earthquakes within 24 hours?

Number three, hiding the statement that DWP made that water from Sunshine Canyon beneath the existing landfill -- closed by the city because people couldn't take it anymore, I might add -- would pass into the Sylmar aquifer and hence pollute it.

I have a couple of quick questions to wrap up. Why doesn't BFI hire more biologists to solve their problems and less attorneys and PR people?

Why is BFI here tonight anyway? We know the reason, large profits for Houston, Texas. I heard it from the horse's mouth. The reason they want this dump is large profits for Houston, Texas.

The attorneys are out here now, a $250

man. How can they afford a $250 an hour man if this project is for us, the people and the environment?

If BFI is good for the environment, why don't they try to save this ecosystem and protect it instead of destroying it?

Why doesn't BFI sit down with the North Valley Coalition and my group, Save Our Sylmar, and talk about the alternatives seriously, where we can serve the entire forest and still allow BFI to make a profit on that property?

I realize -- I am in business -- I realize you have to make a profit on your investment. The question is how you make it, how much, and who you sacrifice. I think, today, we found we are sacrificing the public, us, the local residents, the Valley and the southern half of California.

MR. FREEMAN: You're about a half minute over your three minutes.

UNIDENTIFIED SPEAKER: We are not out of time.

SPEAKER ORMSBY: As long as BFI won't work with us -- this is my closing -- we will not work with them. As long as they won't work with us, we will continue to fight them and continue to win and stop this project forever.

Thank you.

MR. FREEMAN: At this point, what I'd like to do -- it's about 8:35 -- is invite anyone who has not yet spoken to come up to speak for three minutes. If there is no one who wants to take advantage of that or if we have time after that, at that point anyone who has testified previously can come up and speak again.

At this point I'd invite anyone who hasn't yet spoken and wishes to do so, to come up to speak for up to three minutes.

State your name for the record.

SPEAKER KIENHOLZ: Tom Kienholz, 13130 Whistler.

MR. FREEMAN: Spell your last name.

SPEAKER KIENHOLZ: K-i-e-n-h-o-l-z.

I'm one of the park people, like Barbara and Ken, who are up there four or five days a week, usually do about three and a half to five miles back up in the canyons and whatnot. I just want to ask the lady who is going to do the EIR thing: Are you going to do -- go up there? Physically?

MS. BOK: I have been. I have been up there.

SPEAKER KIENHOLZ: When you do the thing, this report, can you tell me what that yellow and red oily stuff is that is coming down from the dump, down the side canyon and into B-Canyon creek, into the middle of

the park?

UNIDENTIFIED SPEAKER: Is runs down the creek.

SPEAKER KIENHOLZ: Yes. Its comes down that side canyon where the drinking fountain fell into the big hole in the ground.

That's all I wanted to ask. When you do your report, can you tell me what that stuff is?

MR. FREEMAN: Thank you.

SPEAKER PLAMBECK: My name, Lynn Plambeck, P.O. Box 110, Burbank, 91503. I represent a group named --

MR. FREEMAN: Spell your last name, please.

SPEAKER PLAMBECK: P-l-a-m-b-e-c-k.

I represent a group called LASER, Landfill Alternatives Safe Environmental Resources. I'm also a candidate for county supervisor in the fifth district.

I would just like to say I think it's very outrageous that the city is considering putting a $ 50 million dump in when they have not yet applied and received extensions on AB 939. It shows bad faith, bad faith on the part of the county. We do not consider environmentally sound ways of disposing of our solid waste. There has been no attempt at legislation for resource reduction. We are not making efforts to find companies that will treat the waste stream as a resource and not put it in landfills. We need to find

other ways of doing -- of getting rid of our solid waste. We can't use landfills anymore. They are going to destroy our future generations.

Thank you.

MR. FREEMAN: Is there anyone else who wishes to speak who hasn't yet done so?

Seeing no one, what I propose to do is --

SPEAKER MCLEAN: Can anybody speak now?

MR. FREEMAN: What I'd like, if somebody wishes to speak who hasn't done so, please come forward.

Okay.

SPEAKER MCLEAN: My name is Marsha McLean. I live in Santa Clarita Valley. I'm a member of LASER.

I recently put together a report which gives some facts and figures as to why the crisis is not upon us within the next one or two years, as the County of L.A. and the City of L.A. would like to have us believe.

I would be happy to supply you with that report rather than bore you with all the numbers at this particular time.

What I would like to tell you is that there are four separate rail haul companies, each with the ability in the future to take 20,000 tons of garbage. In all of Southern California, there is

produced 85,000 tons of garbage. That's in all -- the entire state, excuse me.

Recycle companies, rail haul companies, can be up and running in the next two to five years, each one taking 20,000 tons of garbage.

If we adhere to the rules of AB 939, in all of California there should only be about, with the growth, population growth, 50,000 tons per day to get rid of. Therefore, we have an overabundance of capacity for our garbage. They are going to be fighting for places to put it. Urban landfills are not the place to put it. You put too many normal citizens in jeopardy by urban landfills. Therefore, you must come up with alternatives.

I submit that the City of Los Angeles, before they start expanding dumps, before they want to put them out in areas adjacent to Sunshine Canyon, five miles as the crow flies -- and I'm talking about Elsmere Canyon -- you better start taking care of your own garbage first. You need to recycle. You need to reduce. You are not doing it. You can't expand Sunshine Canyon and you can't open up a new landfill until you start taking care of your own garbage. So I would like you to place in your report, in your EIR, the need and the necessity for the expansion of

Sunshine Canyon or the opening of any new landfill. It's not necessary.

Thank you.

MR. FREEMAN: Anyone else who would care to speak who hasn't done so yet?

SPEAKER VAN STEEN: I wanted to ask a question.

When will the city address our concerns about tonight?

MR. FREEMAN: I don't know if everybody heard the question. When will the city address the concerns heard tonight.

The last opportunity to submit written comments to supplement what you may have said this evening is May 11. A draft Supplemental Environmental Impact Report will be released by the end of this calendar year; is that correct?

Mid 1993, excuse me.

At that point, you'll have an opportunity to review that document. If you filled out a card that was in your packet, you'll be notified when that document is coming out. You can review it and comment on it. At that point, your comments dictate some response.

Is there anyone else who wants to comment who hasn't done so yet?

Yes?

SPEAKER EHMKE: My name is Sally Ehmke, 17219 Courbet Street.

I agree with the participants this evening, and my neighbors. I have one additional request in your Environmental Impact Report. I would like, please, an explanation for the fire that occurred two and a half years ago. It's the only fire in my life. I have never heard a reason of what started it.

MS. BOK: Would you tell me more about the fire?

SPEAKER EHMKE: Well, I'll tell you what, if you want to give me your address, I have it on tape from the TV.

MS. BOK: Was the fire on the site, the landfill site?

SPEAKER EHMKE: It started --

UNIDENTIFIED SPEAKER: It started on the landfill.

UNIDENTIFIED SPEAKER: I believe it's December '89 was the fire. It caused $24 million worth of damage.

MS. BOK: If you could please send me a letter explaining something of these things in detail, I would be very appreciative.

SPEAKER EHMKE: Thank you. Thank you for your time.

MR. FREEMAN: Anyone else who would care to testify that hasn't done so yet?

UNIDENTIFIED SPEAKER: May I ask a question?

MR. FREEMAN: Sure.

UNIDENTIFIED SPEAKER: You commented that the period closed on May 31?

MR. FREEMAN: May 11.

UNIDENTIFIED SPEAKER: Mr. Daniels asked you for an extension. Can we take it you have already turned down his request for an extension?

MS. BOK: We are making individual arrangements with him at this time, and we will be in phone contact tomorrow with him. So we are going to accommodate his request as much as we can.

UNIDENTIFIED SPEAKER: Thank you.

MR. FREEMAN: At this point, seeing that no one else has volunteered to testify that hasn't done so yet, I would just encourage anyone who wants to expand on their earlier comments to come up to the microphone and do so.

SPEAKER WOODLOCK: Rosemary Woodlock. I gave you my address earlier; attorney for the North Valley Coalition.

Whatever document you determine to do, we would request -- and I would like to state that we will be expanding on these comments in writing; so they will be there. But one of the things that we have had to learn, very painfully, is the fact that this landfill is subject to a number of new state laws. So we would request that the city incorporate the record of proceedings from the California State Integrated Waste Management Board when BFI went before them for their operating permit while the EIR was literally in trial.

At that point the local enforcement agency, which is the county Department of Health, requested the Integrated Waste Management Board to allow them to unilaterally expand the number of tons per day to 17,500. The board put an absolute cap on it of 8,500. And yet, now, today, tonight, we are hearing that it's going to be upwards, again of about 11,000.

Recycling materials were not included in that 8,500. I think it has to be made clear what the estimated recycling terms are going to be because of the traffic impacts.

In addition, I think it came as a surprise to me, and it will probably come as a horrendous surprise to most of the neighbors right now, although the operating hours are something like 7:00 A.M. to

5:00 P.M., the recycling trucks are allowed to start lining up at 4:00 A.M. I don't think that kind of information was ever provided to the public. It must be made absolutely clear.

There was also reference before the board that the leachate recovery system would not be available for a year -- up to a year after the dump started operating. I think, again, that must be discussed and it must be explained, because that is a crucial element of any kind of possible mitigation, if it is possible at all.

Secondly, before the Army Corps of Engineers, BFI, although directed by the Board of Supervisors to do mitigation for their destruction of oak trees and for the wetlands, chose to be a good corporate citizen of where their local headquarters are, the city of Pasadena, 40 miles east of where they are going to be destroying the natural environment. The City of Los Angeles must discuss that, and it must be made public as to why BFI decided to do that kind of mitigation instead of mitigating here.

We are hearing about the stream right underneath the landfill being full of red gunk. I think that must be discussed by the City of Los Angeles.

Finally, under the new state law, the local enforcement agency will be the county health department. There is no longer an opportunity under the law for a joint enforcement agency because this is a state law. It probably will supersede all of the zoning conditions that the City of Los Angeles could put on in the future. I'm not conceding that BFI is off the hook on what was put on the prior dump that is closed -- I want that very clear -- but the BZA proceedings in which, over and over again BFI stood up and said, "Our permit is finished. We do not have to comply with these conditions anymore on the closure issue," and the fact that the county's agency will be enforcing it and the city may not have a legal say anymore on the very bad record that BFI has produced so far.

Thank you.

SPEAKER DUBOIS: Excuse me. Eugene Dubois, from Sesnon Boulevard.

Two doors from us there is a catch basin. During this heavy rain that we had -- it's still there, I reported it twice to the city -- there is cups, there are cans, there is paper and everything that has come down from somewhere.

MR. FREEMAN: I'm sorry. Could you please use

the microphone?

SPEAKER DUBOIS: Two doors from where I live on Sesnon Boulevard there is a catch basin. It was during that rain that it almost filled clear to the top. Now, it never happened before, but now the debris is still there. There are paper cups. There is all kind of paper, pieces of wood and everything you can think of. It's polluted. There is no water in it now. It's settled down to like dry mud. Still, the city has not bothered to clean it up, and it's been reported several times after the rain.

Now, the second issue I'd like to talk about is why does the north end of this Valley have to have so many dumps? Seems like we are polluted with dumps. There is a Lopez Canyon dump. The Bradley dump, the Sunshine Canyon dump, there is wrecking yards, asphalt reclaiming, cement reclaiming dust. BFI has a reclamation dump in Sun Valley where they reclaim paper, plastic and bottles and cans, and you see city trucks going in there all the time.

I have been in the Bradley dump, and it's like the Grand Canyon. You should take a visit and take a look at it. Also I saw BFI trucks in that dump, the Bradley dump. It's really deep. It's quite a thrill to see how deep that is.

We don't need anymore dumps in the northern end of the Valley. These people are right. We should have a right to enjoy our lives; that's all I'm saying, and it's true.

They are on a fault. This should not be permitted to be a dump because if -- they call that dump the Methane Mountain, where I live. If that thing ever went off, it's hard to say what would happen. It would be one of the worst disasters in California.

Thank you.

SPEAKER SMITH: Greg Smith, Councilman Bernson's office, for a second time.

In May 1989, a significant wind event occurred in this area; winds of approximately 60 miles per hour were blowing dust and rubbish as much as a thousand feet in the air, trash collected a mile away bore addresses from Beverly Hills and Culver City. Both cities use the Sunshine Canyon dump. At that time over 80 phone calls were registered with the AQMD complaining of the contamination that was taking place. AQMD refused to cite Browning-Ferris Industries for the pollution they were causing on that date because under Fugitive Dust Rule 23, the Air Quality Management District requires any wind above 25 miles per hour is an act of God and cannot be cited.

We know, as residents of this area, it's not infrequent to have winds of at least 50 miles per hour. We have wind gusts over 75 miles per hour on regular occasions in this area.

God knows how much dust and trash blew into our water supply that day or in the subsequent days after that. We have photographs of that event for your records, if you would like to see them.

There is no amount of mitigation that Browning-Ferris Industries and all their megabucks can provide to stop God's actions. It's going to blow there. It's going to blow hard. It's going to blow the dust in our water, in our homes, in our neighborhoods. There is no avoiding that, and there is no mitigation possible to stop it.

I would only repeat what I said earlier: When John Parker made his ruling in 1988 in view of the winds that blow from the north, this dump is probably in a bad location.

Thank you.

MR. FREEMAN: Anyone else who would care to comment?

SPEAKER EDWARDS: I didn't get enough the last time. I would like to add a few more things.

MR. FREEMAN: State your name again.

SPEAKER EDWARDS: Mary Edwards.

I wanted to reinforce what Greg was saying. You have in the record -- it is said that BFI didn't have a lot of violations as far as air quality. The reason they didn't have violations was because of the 25 mile per hour rule.

We have also, on many occasions, asked for the readings from the anemometer that was required by the AQMD for the records. We would hope you would incorporate that into your record. What we got instead was an averaging. It's almost the same way when they average the pollutants in the water -- by putting a lot of the clean water with it. They averaged it out with the summer winds, and it's not going to be the same as the readings of the very, very high winds we get in this area, which they were not cited for because of that particular ruling.

Also, they were not cited for problems with methane gas because they were under a variance for a considerable period of time. Because they were not in compliance with the rule -- and so they hopped down and got a variance from AQMD.

Unless they will get certain facilities built in the interim -- it was indeed probably their large incinerator, which they had in the canyon,

exactly where that fire started, had flames shooting out of it -- and we have picture proof of this -- eight feet above the stack on windy days. There is really no mystery how that fire started, and the fire department did in fact say it was in that area.

Another problem is, as you can see, where the reservoir is located on that if map, being downwind. That is post-treated drinking water. We went and confirmed this. The city is busy trying to cover the reservoirs all over the city, but they can't because of the physical size of the L.A.-Van Norman -- I guess it's called the L.A. Reservoir. They can't cover it. All the dust and pollutants and bird pollutants that go into that reservoir converts something from any landfill, forming something called THM's, which are carcinogens. This is a very dangerous situation. I'm sure the MWD is aware of it.

We are very worried about the Balboa Inlet tunnel, which hydrogeologists said -- and the MWD has said -- runs across where the drainage from the landfill is. They don't -- the MWD doesn't even know where the areas of the liner are on that tunnel. This carries all the water from Northern California. Now -- so this is a tremendous -- the water issues are tremendous.

The runoff water -- it says in the EIR that it goes to the Los Angeles River. Well it does not. In fact, it goes into a cracked channel. It goes to the channel at the Jenson filtration plant. I hope you walk down there where -- walk that passageway from where the runoff surface water goes -- it goes into around on a cracked liner down into the -- into ground right there at the Jenson filtration plant. So, in fact, it does not go into the L.A. River, except maybe by some circuitous route.

I think, also, we need to talk about MWD found chloride contamination down in the great wells. This has got to be addressed. No project should go forward. That project should not go forward, the whole county project, until that was corrected or at least until they found the source of the contamination.

This has never been done. The way they got the county approval was, again, splitting the project. When we went and tried to testify in front of the regional water quality board, they said, "Wait, wait. We are just considering the county. It has nothing to do with the city and the downgraded wells in the city." Now we are in the position of saying we want to consider it all as a whole, and yet every time we have come before a regulatory agency they say,

"Indeed, this is an independent and separate project."

Also, the portion of the significant ecological area -- which is a designated a significant ecological area in the city -- that was illegally destroyed and never removed from any map. I'm sure this has got to be considered. BFI removed it by erasing it, but it is still there. As the gentleman pointed out before, the homes are not on the maps you circulated. You didn't put the proximity of the homes that have been there for 20 years on this map. How are these even valid maps? When we look through the document, almost every map in the original EIR is faulted. This was definitely a biased document, prepared by a consultant who is being paid for by the proponent of a project. We would ask you to do independent review of substantive issues.

We have hired our own hydrogeologists who have given us completely different information than the information contained in the county EIR. We would ask the city not to consult our hydrogeologist. Find one of your own that is impartial -- we want impartial answers -- but certainly not one on the payroll of BFI. We need to have that certainly in hydrogeology, certainty in seismicity, certainly in biota, where things that were done, as Mike pointed out, with biotic

impact tantamount to -- they were ridiculous. They wanted -- I won't even go into the details.

Not to count under an oak tree ordinance. We demand you count. They estimated. They are going to find the heritage oaks as they cut them down. That's when they are going to be identified. That is certainly contrary to the intent of any oak tree ordinance.

We are talking here about a company that has destroyed, without a 404 permit, significant wetlands within the City of Los Angeles. We know that those permits do not exist because we went to the Army Corps of Engineers and found they have never had permits to destroy significant amounts of wetlands in this area.

They have destroyed significant oak forest outside of their variance. They can't say they were grandfathered in; boundaries show they are not. I have two pages of violations on this report that I'm going to give to you, and I know that you can substantiate every one of them. They need to be put in that EIR. I'm only frustrated tonight because time doesn't allow me to go into all the errors of this fallacious document.

Thank you.

MR. FREEMAN: Is there anyone else who would care to comment?

SPEAKER BURNS: I have a question.

MR. FREEMAN: Sure, go ahead.

SPEAKER BURNS: Nancy Burns. I live at 10450 Zelzah in Northridge. Although I won't add any comments to those of my neighbors with regard to the proposed EIR, I really have a statement and a question for you, Susan, and perhaps a request if that's appropriate.

It has to do with the noticing requirements.

I was informed of this meeting tonight by a notice that I received in the mail yesterday. It came in an unmarked envelope, no return address, bulk mail. It's from the City of Los Angeles Planning Department.

There are a couple of phone numbers on it -- planning commission, planning department. I called those numbers, and no one at those numbers knew anything about this meeting tonight. I was seeking further information. There was no name of a contact person.

Someone at the downtown planning department gave me the name of a Frank Fielding, in the

Valley, an 818 number. I called that office, and Mr. Fielding was not there. I left a message. I did not get a return call today. No one else there seemed to know anything about this meeting tonight.

So I'd like you to be aware that fortunately I was able to rearrange my schedule and come. There may be many people who wanted to, who received the notice, as I did yesterday, a scant 24 hours before this meeting.

So my question to you is: What are the noticing requirements?

MS. BOK: Thank you for your question. It's a good question.

Let me explain.

The legal requirement is that the city issue a notice of preparation; that this notice of preparation be sent to public agencies and known persons who are -- who have any past involvement that we can readily reach, major homeowners groups in the area and so on and so forth.

We sent approximately a 15-page document, the notice of preparation, to approximately 200 individuals and agencies, which is far higher than is normal. Normally it goes to no more than 50.

In addition to that, we decided to hold

this public scoping meeting, which is not required by law, which we are doing voluntarily.

The noticing requirements for the scoping meeting do not exist. There are no requirements that we have to notice whatsoever. What we did, however, was several things.

We notified, with the notice that you received -- and I apologize that the correct phone numbers were not on there -- we notified to a one half mile radius, but we didn't pick up enough people. We extended that to approximately a two and a half mile radius, encompassing 10,000 households. That was all done in the space of about two weeks, and some of the mail, as you obviously noted, got in late. Again, we apologize for that. We also ran legal ads in the Daily News and in the Signal last weekend and the weekend before that.

We did make every effort to try to notify, and I apologize that you did not receive your notice earlier.

SPEAKER BURNS: Thank you very much.

I have no further request. I assume you have followed appropriate procedures. I have been out of town, and I have a stack of newspapers to go through. At least I got through this part of my mail.

SPEAKER HUNTER: Wayde Hunter. I'm back again.

The issue of the winds, as we said, it was never fully addressed. We have heard winds of 50, 60, 70 miles per hour.

On the landfill is a wind meter. The AQMD was over there one day. It goes up to 100 miles per hour. That wind meter was holding steady at 100 miles per hour, and they estimated it was gusting 125. That's gale force winds. Nowhere in this Environmental Impact Report was that done for the county portion, was this ever addressed properly.

You can turn around and say, "Well, you know, we are not going to have a big open area; we are going to keep our cut faces very small, cover our garbage, things like that." When that wind blows, whatever is there, it physically sucks it up like a vacuum and deposits it in our house. My gutters were full of dust, my car covered, my rock roof, in our house, in the curtains, dust everywhere. The only peace that I have known in the 17 years I've been here is since September of last year when that place closed.

There was one occasion when it did come down; that was when they started taking the dirt from Jenson. They dumped it up on top again, and it blew

down on us for a couple of days. You can't run a landfill operation in a wind tunnel. The pass there, Newhall-Saugus Pass, is a wind tunnel. It's well documented. A gentleman wrote a book, "The Winds Of The Newhall-Saugus Pass." I think his name was Cooperman. That should be included in there. How can they possibly address all this as not being included in the Environmental Impact Report?

I just want to point out to you because I brought this aerial shot with me -- if you know where the landfill is, it's on the left-hand side, about a third of the way down. As you can see, there is the water which is two-thirds of the way down, in the right corner. Prevailing winds go through that area. This is a point of reference for you.

Now, one of the things that we told you is they have a very poor record of compliance. I don't know if you are aware that they have totally refused to do any of the conditions. They say the city has no jurisdiction over them anymore because their permit has ceased. There were 13 conditions that needed to be complied with. Among them, they were to make that land available to Parks and Recreation once that landfill closed.

I don't even know why we are here. I was

concerned when you say we are going to do this SEIR and it will be out in 1993. I thought one of the things we were going to have is input. We don't want an SEIR. We want a full Environmental Impact Report that takes into account just not the city-side but the county, the full project, 215 million tons. That's what you have to assess the impacts on. You can't say, well, there is going to be 1,500 trucks coming over here to the city landfill and 3,000 trucks coming over here to the county landfill. We have the whole thing. We can't tell the difference.

I want to tell you something that happened. Part of the condition was a limitation on their operating hours. If you would like to look this up, Susan, you might find it in the North Valley Coalition's November 1990 response to BFI's comments, Volume 8, dated July 13, 1990, Comment 41. Again, "Proponent has failed to answer or satisfactorily address specific questions issued or posed in Comment 41."

They made a statement that the current permit for the existing landfill allows operations from 6:00 A.M. to 4:30 P.M., Monday through Friday, and 7:00 A.M. to 4:30 P.M. on Saturdays. That's not true. Never was true.

They deliberately misled the county. They unilaterally extended their hours so they could get better operating hours.

Now, those hours were set to protect the residents who live right outside that landfill. Instead, the county approved additional operating hours. They even suggested taking in night dumping.

What is the city going to do? How are you going to control that entranceway? Are we going to have reduced operating hours for our landfill? You see, you can't do it. You have got two entities here, and you are trying to address them separately. They are all coming in through the same entrance.

These were set up to protect us. That needs to be addressed. As a matter of fact, I got so mad at these people, I sent copies of their permit because they refused to acknowledge what their operating hours were.

Those are the kind of things you need to go into. BFI has lied to every agency that is in the city and in the county in order to get this project through. We want to get all of these issues addressed. I suggest you, strongly, read all of the North Valley Coalition's questions relating to the city.

By the way, they didn't include ours in the original EIR. In the FEIR they happen to forget all of our pertinent comments. So they got them, and in two days they reviewed them, typed them up, put them in the thing and got them to the Board of Supervisors. They never addressed Granada Hills or Sylmar residents' concerns about that county portion and the city portion of the landfill.

Thank you very much.

SPEAKER HECHT: My name is Allen Hecht, still.

Susan, I have just a couple of questions. I missed the beginning of this meeting. My first question is I don't know who these other people are up on the platform since they were not identified to us. Could you do that for me?

MS. BOK: To my left Paul Freeman, the independent facilitator. To my right is Betsy Lindsay, the EIR preparer with Ultrasystems company. To her right is a court reporter.

SPEAKER HECHT: Is he employed -- who is paying him? Does he work for the city?

MS. BOK: He's being retained through Ultrasystems, not at taxpayer expense.

SPEAKER HECHT: Can I ask also, just so I can understand, on what basis they are up on the podium and

the people that are attending from the community are not? Could you explain that to me?

MS. BOK: We are just up here listening.

SPEAKER HECHT: That doesn't answer my question. Looks like you are being trained by BFI.

I want to understand why they, who are an independent party representing one of the parties, is part of this presentation group, if you will, or listening group.

MS. BOK: Let me explain something.

SPEAKER HECHT: Sure.

MS. BOK: When the city publishes the EIR -- or the Supplemental Environmental Impact Report, we have to take responsibilities for its contents. We take the information provided by Ultrasystems, we look at it, we review it, we edit it; thus we take responsibility for it.

I would like to have the consultant, who will prepare the EIR, here to listen to this testimony because it's important. It's important this be done for technical reasons. It has nothing to do with politics, nothing to do with anything else.

SPEAKER HECHT: Well, first of all, in addition, let me say that we have heard those kinds of claims, if you will, by other people preparing EIR's -- EIR's that

they have given us, that we already have. I would like to make you an offer at this point in time because the community in which I live has the true experts of what goes on in Sunshine Canyon. And considering the many hundreds of hours and thousands of hours they have put into the detail studies they have made, the experts they have consulted, I want to make sure you are aware that they are available to you at any time in the process. We can save a lot of aggravation if you will use that resource as you go along as opposed to waiting until the last moment to dump another 20,000 pages on us and have us go through it.

We have true experts who really care, who, as you heard tonight, are willing to point out to you the shortcomings of what was already there and probably could already guess what the shortcomings will be in any future document. Again, I just want you to understand that that resource is available to you. This is your city as well as ours.

MR. FREEMAN: Is there anyone else who would care to comment?

SPEAKER DAMES: Roger Dames, Granada Hills. I wanted to ask a question.

Am I correct in interpreting the previous comments that Ultrasystems has definitely been retained

to assist the city in the Supplemental Environmental Impact Report?

MS. BOK: That's correct.

SPEAKER DAMES: My question is: What process did the city go through in deciding to select them as the consultant?

MS. BOK: We did not select them. They were selected by the applicant, which is Browning-Ferris Industries.

SPEAKER DAMES: Thank you.

SPEAKER HUNTER: Wayde Hunter, again. I did have a question I missed.

I'd like to know if the transcript is going to be made part of the public record, if it will be made available to us.

MS. BOK: Yes, it will be in the public file.

SPEAKER HUNTER: Thank you.

SPEAKER DUBOIS: I want to say good night to you and also thank you for your coming. I thank Wayde Hunter.

I think BFI should be restricted to city trucks only. I've been behind some trucks that are dripping and smell like dead meat or lard going up in there. So it's true, they don't -- whatever goes up there, they don't follow their rules and regulations

all the time.

I, myself, and a couple of neighbors went in with some hazardous waste to see if they would stop us. They just let us go right on through. We paid for it. So we have evidence that they do violate their rules and regulations.

So, as everybody has said -- been saying, the winds are very bad up there. We get the full brunt of it.

So, anyway, thank you for inviting us and hearing our comments. I've got to go home and get some rest. Thank you.

SPEAKER ORMSBY: One issue that got missed --

MR. FREEMAN: Please identify yourself again.

SPEAKER ORMSBY: Michael Ormsby, Save Our Sylmar, Sylmar, California.

One issue that didn't get addressed, and it should definitely be in the city EIR, would be the fact that the current landfill, which is closed, was closed in September, is leaking or portions thereof are leaking into the O'Melveny Park. That is to say that plastic, paper, including pesticide containers, have washed in with the heavy rains of February. I believe this was discovered towards the end of February.

I wrote a letter to Parks and Recreation

in March. I have not received an answer. I would like, if possible, with your clout, Susan, to look into the possibility of the Browning-Ferris Industries cleaning up that mess. It's a really disgusting site to walk into a canyon, hike into a canyon and see literally a carpet of plastic bags and other, probably, airborne material that blew in but then later washed down with the heavy rains.

What it looks like is actual garbage cells where the garbage was buried. I don't believe that's what it is. I do believe it blew in and washed out of the landfill.

One other important issue that was missed tonight was the fact that it did rain 22 inches this year, and we have been perhaps lucky that there has been a drought for five years and the landfill is now closed. The rain took a terrible toll on the Sunshine Canyon city facility that exists in terms of erosion, and, in fact, on occasion in February when I was up at a friend's house near the dump, the roads were closed leading to the landfill due to the washout of a tremendous amount of the material out of the dump, including weeds, and some people say newspaper and other materials that probably came from trucks along the side of the road, a tremendous amount of the mud.

This was in a heavy rain. I'm not saying that is all BFI's fault, but I'm pointing to the possibility that this will continue to happen with a landfill at that site. That is a tremendously, as mentioned tonight, heavily trafficked area.

One other note on the rainfall as it relates to the biotic survey. I was talking to the biologist that did our independent biotic survey. She pointed out when you are going to have to do a new biotic survey for the city and probably the county as well, you are going to find new species that heretofore were not able to germinate due to the fact that the rains weren't around. We have had, as everybody knows, especially the City of Los Angeles, a six-year or more drought. That drought is officially terminated, and now you have some very, of course, lush greenery up in Sunshine Canyon. Some of that lush greenery may be endangered plants that will attract animals that weren't seen in Mr. Weintraub's study in 1988 or 1989. So we do need an update on the biotic study for the city, and I would like to see BFI do one for the county as well.

Thank you.

SPEAKER NAVICKAS: I just have a question. My name is Francis Navickas, Gilletta Avenue, Granada

Hills.

MR. FREEMAN: Would you spell your name for us, please.

SPEAKER NAVICKAS: N-a-v-i-c-k-a-s, first name Francis, 13046 Gilletta Avenue in Granada Hills. I would just like to ask a question.

Most enlightened people in California and perhaps the United States are aware of the fact that we are going to have the big one some time. Our city and our county make all kind of preparations that requires that public buildings and other facilities used by the public be reinforced to take care of that event, should it happen. Again, nobody denies it's going to happen. We just don't know when.

My question is: What preparations are being required of BFI to reinforce the landfill so that it doesn't open up and affect the drinking water of all of Los Angeles, plus whatever else it might expose us to?

I'd like to see that addressed in the EIR. I'd like to know just what size earthquake they will be prepared for when they make these reinforcements.

Thank you.

MR. FREEMAN: Thank you.

Is there anyone else that would care to comment?

SPEAKER DUDOW: I'd like to say a few words. Irwin Dudow, Granada Hills resident.

It seems to me if we have a law that says we can't penalize a company for any violation when the wind factor is over 25 miles per hour, that we should suspend their operation at any time that it would exceed this amount. And in doing so, I think you can find, in Granada Hills, we have enough wind that it would not be possible to keep a project like that going.

As a homeowner over the last 20 years, I have seen my own fences, that we have built new, blow down three times. I like to take walks around the block, and while their system was in operation, I one time counted something over 400 individual pieces of paper that -- or debris that had blown in the air, littering my backyard and the area as I walked around the block. It was really -- it let you know that there was not enough being done.

They did try an abatement type of procedure where they tried to keep stuff from blowing out. That helped, but there has always been a very large amount of silt that comes out of the air from the

particular matter that is blowing. That fills my pool and it's a constant problem.

Gosh, we painted our house, and we had to -- we just turned a hose on our house, and we got a very large amount of material coming off of it. These are not normal kinds of situations, and I'd like to have you people address this.

One other point is if in fact the original Environmental Impact Report was so bad and found legislatively to be illegal, how can you start with something that is not legally able to stand up? This should require a full Environmental Impact Report. I would like to get an answer to that.

So that pretty much summarizes my points at this time. Thank you.

MR. FREEMAN: Thank you.

Does anyone else care to come up?

Last call, here, if anyone would care to comment; otherwise, we are going to go ahead and close the meeting.

There is an opportunity for you to recycle tonight. We have boxes out in the lobby for your folders. On the way out you may care to place them in there.

SPEAKER TODD: Teresa Todd, a resident of

Granada Hills. I have a couple of questions and a few short points.

First of all, my questions is -- there have been a number of references to the fact that we do not believe that Environmental Impact Report that was previously done is valid. Will that issue even be considered by you, or are you just going to go ahead and do a Supplemental Environmental Impact Report because that's the job you were hired to do?

MS. BOK: Well, you are right, in part. This is my job, which I don't always like, but let me tell you a little about what is going on with the Supplemental Environmental Impact Report because there has been a lot said tonight, and I guess I would like to explain a little bit about what the city staff is doing.

As you know, the county EIR was found inadequate. I have read the judge's ruling, every word of it, very carefully and discussed it with others. There were 13 counts brought. The EIR was found inadequate on 4, not all 13.

And the judge said, "I want you to go back and correct these four items and bring it back to me."

As I understand it, those items are going to be brought back to the judge this week or next week.

SPEAKER WOODLOCK: No.

MS. BOK: Well, at any rate, at some point. Let me finish what I'm saying.

The judge has left this as an open book and has not yet closed the book on it. The judge is going to consider these corrections and decide whether or not they are adequate for making the EIR recertified. Until that issue is resolved, we are legally obligated, per the advice of our city attorney's office, to treat the county's EIR as adequate or at least as an open book.

SPEAKER WOODLOCK: Which city attorney are we talking about? Keith Pritzger?

MS. BOK: Let me finish.

SPEAKER WOODLOCK: I'd just like to know the name of the attorney.

MS. BOK: I will give it to you. Please hold on.

Therefore, it's my job to consider the county EIR as adequate until otherwise instructed, until these issues are resolved completely. We don't know what is going to happen with an appeal process, if there is an appeal. At this point in time, this is what we are legally obligated to do.

The city attorney who has been advising us is us is the city attorney in charge of this project,

which is Keith Pritzger.

SPEAKER WOODLOCK: In the event these four items, or however many items are redone and approved, will there be an opportunity for any further rebuttal? Will the public be made aware it's now been accepted? What is the next step that goes on?

MS. BOK: From the legal point of view or the EIR point of view?

SPEAKER WOODLOCK: From our point of view as citizens, concerned citizens.

MS. BOK: I won't be coming back to you to tell you the results of it. I suspect the North Valley Coalition, which is a party to the lawsuit, will be notifying its constituency.

SPEAKER TODD: A couple of other recent concerns that are -- or changes that I noticed and maybe would benefit your addressing in your report -- part of what BFI did on that flat ridge -- I don't know whether you are familiar with it -- is that at one time they planted these exotic little palm trees which didn't make it. Since then, what appear to be some form of evergreen or pine tree have been planted. What is natural to that area has been shrubs and things that dry out, that if they were burned or cleared, don't create real deep fire hazards, even though they do burn

quickly. My concern as a neighbor or resident is I'm watching these trees growing, not just on the ridge, but now coming on over the hill.

As much as I love trees, those trees were not natural to that area. Will that forest continue to grow down the side of the hill and encroach the homes in the area, therefore, if in the event there is another fire in that vicinity, will it be a greater detriment because we have the wind there that compounds, plus these kinds of trees which burn differently than the shrubbery that was natural to that terrain? Will we be subject to the same thing that happened in Glendale? That concerns me for the safety of the people in the community.

An issue that was lightly touched upon was regarding traffic. The traffic of Balboa and San Fernando Road has increased tremendously over the last five or ten years because of the increased population in the Granada Hills area and the North Valley, but also because of the migration of people moving out to the Santa Clarita and Palmdale and Agua Dulce and still driving to work into the San Fernando Valley and L.A. areas. My concern is that the traffic there directly goes past the entrance to BFI. We have excessive high traffic levels as early as 5:30 in the morning. We are

being told BFI is already parking trucks 4:00 in the morning, 5:00 in the morning, whatever their hours are. There is not a traffic signal, no control there. They will be making turns directly affecting that traffic flow. It's a dangerous intersection, very dangerous, where the roads split off from San Fernando Road and where Foothill comes through and all migrating there from Balboa. We have had a lot of traffic back up, both ways, entrance and exit, from that area. I'm concerned about the traffic flow there and the increased potential for accidents.

Also, I wonder if there is going to be any provision for analysis of the soil for any contamination as a result of the BFI presence. It's my understanding from some other reports that Granada Hills has some very unique little soil problems that affect lungs, and that's part of where the health issues came up with the cancer. I want to know if you are actually going to do an analysis of that soil as well as the air quality. It would be something to consider, if that's not part of what your original plans are.

Thank you.

SPEAKER WOODLOCK: Rosemary Woodlock, attorney for the North Valley Coalition, again.

I am very concerned about when you may have spoken to Mr. Pritzger about treating the EIR as adequate. The judgment was signed by the judge on April 22, 1992. At that point the EIR's approval was vacated.

Furthermore, the city, if it chooses to do so, as a subsequent agency has the right to begin to prepare an entire new EIR if it is unhappy with what the lead agency -- which is the County of Los Angeles -- did. That was what we thought the city was in court for.

At this point, what we are hearing is the city itself has spent some hundreds of thousands of dollars to roll over and play dead after the judgment is signed.

The hearing that is coming up next week is on attorneys' fees. The county is going to have to pay for North Valley Coalition's attorney's fees. It is not on the return of the writ of mandate because the county has not taken any action. If you could tell me, the Board of Supervisors cannot have sent back an EIR, have it incorporate Mr. Bernson's comments, have it deal with the state constitutional issue on equal protection, have it go to C-Tack when C-Tack committee has only scheduled it for next Monday, three days

before the judge's hearing, and will have approved of the revised EIR by May 7, possibly that issue is going to come up before this judge. This perception that you all are accepting from Ultrasystems, people who aren't lawyers, giving you advice and from the city attorneys' office, which has not served the people well -- we are going to find ourselves in court with our allies.

I think this is probably one of the most shocking statements I have ever heard in my life, that a public agency will spend the tax dollars it did to fight a battle and then roll over and play dead and say, "It's good, and we are going to continue treating it good." April 22, 1992 was the date that the county EIR dropped, dead and it hasn't been revised yet.

Thank you.

MS. BOK: I'll be glad to talk to Ms. Woodlock privately, but not here.

SPEAKER HALL: I guess I'd like to talk about the wind.

MR. FREEMAN: Would you state your name, for the record.

SPEAKER HALL: Warren Hall.

I feel the wind is of such high velocity and high intensity that it bears its own separate entry. It has been known -- somebody said 75 -- it has

been known to get to 85. I have lost many trees over the years. I have even had a box from a double-sided refrigerator, which was on my curb, completely removed and it was airborne. I went looking for it and could not find it. It was blown so far away from my house I couldn't find it. It had my name on the box. I had a vested interest in finding it.

I think the wind factor added to the fire hazards -- if you remember, someone spoke on the fire a couple of years ago. The embers with this wind -- the wind was present the night of that fire. The embers actually blow parallel to the ground, at Sesnon they dip down and they go up. It's very hard for anyone with contact lenses to go outside in this kind of wind. I don't even think the tile roofs are protected from embers that are flying sideways because they can go right underneath the tile roofs. I do believe one house burned down just off Jolette, or caught fire due to these high winds during the fire.

I don't believe anyone has ever properly recorded these winds because they come and go every ten years, every five years, every 20 years, but the wind factor is much bigger than it's ever been stated or studied before.

Another thing, under the human health

risk. This dump has been here for 32 years, or we are starting our 32nd year. I have caught various people dumping things on Balboa Boulevard and called the police and give them their license plate. Unless I have a video, they don't do anything about it. People go to the dump and find the dump closed, have a tendency, on their way out, to push it off their truck; therefore, it blows up and down Balboa Boulevard all the time. It would seem to me whoever runs this dump responsibly should be out picking this stuff up.

They are unattractive nuisances and nuisances to our health. I don't think it's fair we should have to go for God knows how many more years, probably another 32 years, with the dump. This is not a NIMBY situation, Not In Our Backyard for another 32 years. Nothing new in dumpsters is here. They should have to separate everything, compact it to its smallest particle. There has to be something new in dumps, and this is not it.

So I think you should spare us this dump and try to invent a new one somewhere else. Thank you.

MR. FREEMAN: Thank you very much for your coming out and offering your comments.

Once again, you do have until May 11 to get your written comments in.

Thank you very much. The meeting is closed.

(Attached hereto are various comments by members of the community.)

(Whereupon, the meeting was adjourned at 9:40 P.M.)

STATE OF CALIFORNIA)
) ss:
COUNTY OF LOS ANGELES)

I, George A. Haas, Certified Shorthand Reporter for the State of California, do hereby certify that the foregoing pages comprise a full, true and correct transcript of the proceedings had and that said transcript contains all the evidence, acts and statements of the parties made during the progress of said proceedings.

I am neither related to any parties involved nor interested in the outcome of the action.

IN WITNESS WHEREOF, I have subscribed my name this 6th day of May 1992.

Certified Shorthand Reporter # 5939
For the State of California

These are the comments I wish to have submitted to the Dept. of City Planning concerning the Sunshine Canyon Landfill:

I feel it is an unspeakable act with the smog problem in our city - why would any one even consider a dump in this community. I have a breathing problem & it actually comes down to a matter of life or death. Ask the people in the Pulmonary Rehab. at Granada Hills Comm. Hospital about all the people suffering from breathing problems.

Signature Dawn Benedict

Address 12451 Lithuania Dr.
Granada Hills Ca

These are the comments I wish to have submitted to the Dept. of City Planning concerning the Sunshine Canyon Landfill:

It is not ok to re open the dump for any kind of purpose. It is not ok for BFI's needs & intents to supercede those of the whole population of this area. It is only ok for the people of this community to live here in health, safety, & pleasure. It is a crime for BFI or anyone else to take this - which we have worked hard to achieve - away from us.

Signature Naomi C. Godfrey

Address 17309 Tennyson Pl.
Granada Hills 91344

Please take this with you in case I can't attend.

These are the comments I wish to have submitted to the Dept. of City Planning concerning the Sunshine Canyon

My name is Randi Mont-Weiner and due to prior committments involving activities with our children my husband and I possibly cannot attend the meeting regarding the BFI Landfill. Please know that many of us are in this position: we are deeply upset by what is going on. But we are hard working citizens dividing our time between earning our mortgage and raising our children and we try to go to as many meetings as possible. I have attended in the past and I don't think a "show" of bodies is an accurate gage of community sentiment. I need to stress that. BFI can pay bodies to show up and I understand this is a fact. So you are not comparing apples to apples.

For the same environmental and biological and moral reasons that have been discussed countless times I am opposed to the BFI issue (wind tunnel to carry toxic fumes straight into neighborhoods, contamination of water supply adjacent to landfill, destroying precious natural surroundings/recources, etc. etc.). I know in my heart there isn't a politician, citizen or member of BFI that doesn't know and agree how wrong this is. But what happens is special interest groups, public servants tempted by favors, and your basic dirty business that we as hard working citizens have become all too familiar with....money over environment, money over health, money over peoples lives in general, take precedent. One positive offshoot from this issue has been that I make myself very familiar and informed with local and national political candidates stands and platforms and I know many of my peers are doing the same and we vote accordingly. Money is very tight, but we have donated to the North Valley Coalition and they have my wholehearted support. Our community is so fortunate to have such a noble and selfless group of people representing all of our concerns.

There are other options and as our Dept of City Planning it is vital that you try to make them happen and not bow to the pressure from BFI. Wouldn't it be nice to hear people praising our local governments and really talking about their accomplishments instead of the terrible things I constantly hear our local legislatures/planning commissions being accused of. Between the state of our schools, local goverment, envirnmental issues, well we feel like we are being kicked every time we turn around and it just isn't fair and it just isn't right. Our tax dollars fund these commissions to serve citizens, not special interest groups.

As if you didn't know,

signed me angry and frustrated.

Randi Mont-Weiner

Signature Randi + Michael Weiner

Address 17300 Bronte Place

G.H. 91344

These are the comments I wish to have submitted to the Dept. of City Planning concerning the Sunshine Canyon Landfill:

serious doubts/ Remain pertaining to

(1) The pollution of the water table under the dump site, by The Landfill elements

(2) The odors will be noxious for residents of the area and their children

(3) KEEP THE LANDFILL CLOSED!!!

Signature Diane R Silverman

Address 17327 BRONTE Place
Granada Hills, CA 91344

These are the comments I wish to have submitted to the Dept. of City Planning concerning the Sunshine Canyon Landfill:

The GAS-fueled ODORS are ALWAYS blowing into the BRAXTON-MEADOWLARK-WESTRIDGE AREA - prompting telephone calls to So. Cal Gas to check & see if "GAS is LEAKING" in the AREA. The other smells - & headache-originated odors have caused a terrible SINUS REACTION requiring Regular Medical Attention & a PRESCRIPTION drug "ENTEX" to give me some Relief. It's a lousy SITUATION - & ANY Losses to [redacted] on ANY sale of PROPERTY - should be borne 100% by B.F.I.

Signature Robert B. Weiss

Address 17208 BRAXTON ST.

Walt and Erika Bachmann
12427 Nugent Drive
Granada Hills, CA 91344
(818) 360-5140

Dept. of City Planning

Our comments to the Planning Commission regarding the Sunshine Canyon:

The County seems to have forgotten the purpose of a trash dump. The intend of a dump is to take trash from the community and dispose of it in a remote place where it does not become a nuisance to the public.
What the County proposes is to destroy a pristine area with beautiful trees and dump trash next to the city's water supply and next door to a residential area.
We propose to the decision making body to take a hike to the top of Mission Peak and view the area of the dump and the surrounding scenery, then take a look at the water filtration plant which contains **their** drinking water and then take a hard look at the proposal of BFI.
Sitting in a downtown office and looking at maps is unrealistic to decide on the proposal. Let's face it, the city is growing, what once was a remote area, is now our neighborhood.
Unfortunately, we will be out of town when the meeting takes place, but we offer to lead the hike up the mountain for any member who has an interest in viewing the location. For others who can't walk the approx. 4 miles, there is a large flat area on top and behind the peak, for a helicopter to land. It has been done before.

Members of the County, please take a look at the environment and leave the dump closed. Find an other area remote from residences and plan it so it won't be in the way of the future expansion of the city. Let's think of the effect this will have on the population, before you count votes and Dollars.

Sincerely,

Walter A. and Erika Bachmann

GREIG SMITH
CHIEF DEPUTY

City Council
of the
City of Los Angeles
City Hall

HAL BERNSON
COUNCILMAN
TWELFTH DISTRICT

ROOM 236
200 N. SPRING ST
LOS ANGELES 90012-4878
(213) 485-3343

April 29,1992

Ms. Susan Bok
Environmental Coordinator
Los Angeles City Planning Department
Rm. 655, City Hall
200 North Spring Street
Los Angeles, California 90012

If at times it seems that I and the community are agitated or mad, please fogive us, but we are. We have been lied to, betrayed and ignored by Browning-Ferris Industries for years. This hearing is an insult to the law abiding citizens who trust that their City's laws will be adhered to, not blatently ignored as BFI has done.

The history of the existing operation of Sunshine Canyon MUST play an instrumental role in the preparation of this document. Let us review that history and how it applies to the environmental document you will prepare.

First and foremost, the EIR upon which you have been asked to rely upon in the Supplemental EIR is faulty to the point that Superior Court Judge Ronald Sohigian **SET IT ASIDE AND ORDERED THE COUNTY TO REVISE IT, because it FAILED to meet the standards of the California Enviornmental Quality Act (CEQA).** It is wholly impossible for the City to use these documents listed in your NOP since they legally do not exist any longer. It is therefore strongly recommended that a full and new EIR be conducted on this proposal, rather than an SEIR.

Secondly, there exist 15 conditions that were set by the City of Los Angeles for the former Sunshine Canyon Landfill that have never been completed. This list is attached for the file and was prepared by Mr. John Parker, the City's Zoning Administrator who heard all of the cases against BFI during the past four years. In his September 1988 ruling the Zoning Administrator made two very significant observations that must be part of this process.

FIRST: "that certain activities conducted on the property have <u>PROVEN</u> to be materially detrimental to

the occupants of surrounding property." (emphasis added)

SECOND: "In the context of the strong winds which blow from the North, this landfill is probably in a poor location."

Well, Miss Bok, nothing has changed since 1988. This landfill is still in a poor location. No EIR can change nature, and no EIR can fix the damage that BFI has already done to Granada Hills or will do if this new dump is permitted.

In Mr. Parker's 1988 ruling he ordered new condition #7 which states: "That within 60 days of the effective date of this determination, the operator shall initiate the following to evaluate the impacts, if any, upon health by the landfill operation: A systematic sampling and analysis of air and soils in the the area ... "

As we sit here, almost four years later **BFI HAS NEVER COMPLETED THAT REQUIREMENT**. How do we know if this landfill is safe. The Zoning Administrartor felt there was enough evidance and concern to order the study. But, as usual, BFI laughed in our faces. A full study of health impacts must be included in your report that conforms to the Condition #7 set by Mr. Parker in 1988.

It is important to note that when asked by the City Board of Zoning Appeals on November 11, 1991, as to why BFI had not completed conditions of it's CUZ, BFI attorney Linda Bozung replied, "Ah, good question...in order for us, at a later point, when we have to challenge these in court, so we have to exhaust our administrative remedies."

Later in the hearing Commissioner Patsaouras asked, "Why don't you (BFI) want to comply with #1 ?"

BFI attorney Bozung replied, "Because it's costly, very costly, and we don't see the reasons."

Needless to say the Board of Zoning Appeals ruled against BFI on all counts.

Miss Bok, the history of violations and deceipt on the part of BFI argue against any permits ever being issued within the City of Los Angeles ever again. However, I realize that by law we must "consider" this request. As the environmental officer for the City on this case it behoves you to make their enviromental clearance as detailed and in depth as possible. The outstanding 15 conditions must become a part of your review and the

administrative record. You must be diligent in seeing that every possible environmental aspect is reviewed carefully, for as surely as we sit here tonight, BFI will challenge every ruling and test every conclusion you reach--probably in a court of law.

You, unfortunately, must allow BFI the opportunity to get a permit, but we, the residents of Granada Hills, ask that you make it as hard as possible. It is indeed sad that the City of Los Angeles and the residents of Granada Hills had to file a lawsuit to stop this dump, only to be forced to allow them now to file for a new permit.

There are representatives of the North Valley Coalition and the community here tonight that have been working on the environmental disaster called Sunshine Canyon for many years. Listen to their objections. They are correct in their claims and that is why Judge Sohigian has sided with them and stopped the dump's expansion.

In closing, we ask you to give us a tough environmental document because we are sure that if you do that, we will have the tools to stop BFI's rape of Granada Hills once again.

Sincerley,

GREIG SMITH
Chief Deputy

LIST OF CONDITIONS NOT COMPLIED WITH
BFI SUNSHINE CANYON LANDFILL
As of February 1992

ZA M804 (ZV) 1966
Condition #8
Condition #14

BZA 1632 1966
Condition #2A

ZA M804 Revocation hearing (RV) 1989
Condition #3

11/2/88 Approval of plans (ZA M804-PAD)
Condition #3

8/3/90 Approval of plans - Board of Referred Powers action
Condition #3
Condition #5

ZA 89-1129/BZA 4336-4337 1991
Condition #1
Condition #2
Condition #3
Condition #7
Condition #8A
Condition #13

BZA 4484 (12/19/91 written action)
Condition #1
Condition #2

NORTH VALLEY COALITION'S COMMENTS
ON THE SCOPING PROCESS
SUPPLEMENTAL E.I.R.
CASE NO: SUP-91-0377-ZC/GPA(CUZ)(ZV)

1. It is not correct practice to prepare a supplementary E.I.R., based on an E.I.R. that has been vacated.

2. The E.I.R. must contain a discussion of a stand-alone, City-only, alternative and a discussion of the City/ County alternative that approximates the configuration advanced by the Coalition to the Board of Supervisors. The analysis of these configurations cannot be abdicated by the City and left to B.F.I.s consultants. Their obvious bias toward the largest possible, and most profitable, configuration will, again, cause them to put forward a specious analysis. It is incumbent upon the City to exercise independent judgment, as required by C.E.Q.A.

3. The mandated roll of the City to provide independent review must begin now. The City is currently litigating, in part, based on the County's failure to exercise independent judgment and the resultant errors in the E.I.R. In view of B.F.I.'s dismal record in the City, the City, itself, should retain the necessary consultants, at B.F.I.'s expense, to analyze substantive areas, *without ex-parte communication*, from the proponent or any other interested party.

4. City must prepare its own E.I.R. The following areas were deferred, or altered, in the existing County E.I.R., in order to avoid exceeding levels of significance:

   Biota:

   This section must deal with the portion of the S.E.A., previously illegally removed, as well as the remaining City S.E.A. area, as shown on the County maps. This portion of the S.E.A was excluded from the E.I.R. maps. This was based on the erroneous statement in the E.I.R. that S.E.A.s do not exist in the City. City trees must be counted, as required by the City Oak Tree Ordinance. The E.I.R. must also account for, and mitigate, the oak trees previously removed illegally. We call your attention to the fact, that City trees were deleted from the tree count in the E.I.R., in order to make the project seem

less onerous. The current proposal appears to seek exemption from the City Oak Tree Ordinance. All provisions must apply. The proposal to measure these trees, at a 4-ft. level, is not appropriate for these canyon oaks, that are on steep hillsides and often begin to divide below this height. This assessment would further subvert the intent of the Ordinance. The big cone spruce, California walnut, and other native trees should be mapped. A complete biotic report needs to be made by an <u>independent</u> biologist. This has not been done.

Wetlands:

This section should map the proposed destruction, as well as the illegal destruction that was done within the City without a 404 permit, as required by law. The mitigation proposal should include replacement of all wetlands, in areas close to the project.

Traffic:

The proposed C.I.W.M.B. permit calls for an inflow of 9000tpd into the County portion, the City is now being ask to allow an additional inflow of 5000tpd, which does not include additional vehicle trips to remove recycled products. The E.I.R. falsified data on historic inflow and deferred impacts of a greater project, to avoid surpassing levels of significance. Employee vehicles were also excluded.

Air Quality:

Cumulative impacts were never properly evaluated. Truck traffic, working equipment, emissions from incinerators, outgassing, both current and proposed, and emissions from proposed projects must be reasonably quantified, presented as cumulative totals and used as a basis for new risk assessments. These must include sulfur and other hydrocarbons excluded from the current E.I.R. We request that an <u>independent</u> consultant, other than Dames and Moore, do the health risk studies. The premises, on which their modeling was based, were flawed. This firm has become an apologist for industry, and should not be trusted with this important task. The women of Los Angeles stand a 37% greater chance of developing all cancers than do women living in areas with cleaner air (Loma Linda 20 year study). This statistic clearly demonstrates the historic quality of these risk models and their resultant mitigations.

Geology:

This section must reconcile the County's position that the Santa Susana Fault is active, ie. holocene in its entirety (as stated in the County Programmed E.I.R.), as it referred to Brown's Canyon, with the statements in the Sunshine E.I.R. that it is not. The seismic activity of the area must be evaluated by an independent geologist. The new landslides, triggered by the recent rains, must be included. The Preliminary Design Report that considered seismic risk was limited to a County-only assessment.

Hydrogeology:

This section must analyze the connection between the ground water of Sunshine Canyon and the major water treatment, storage, and transport systems lying downgradient. Proof of the origin and correction of chloride contamination at all downgradient wells must be included. A hydrogeologist, retained by the Coalition, sharply disagreed with B.F.I.'s finding, that there was not a significant amount of ground water underlying the site. This very important issue deserves independent review by a consultant hired directly by the City, and whose opinion would be untainted by improper communication. Provisions and specifications for a liner in the City portion were deferred in the County E.I.R. These must be included. The "Hydrogeologic Assessment" report dealt only with the County. This project requires a new E.I.R.

Surface Water:

This section must address the surface drainage pattern that currently channels runoff directly to ground, above the M.W.D. Jensen Filtration Plant. The E.I.R. indicates that runoff would be into the L.A. River. Will the proponent repair and connect the drainage channels? The problem of blowing dust, litter, and avian pollutants being carried into the post-treated drinking water at the Los Angeles Reservoir was never discussed in the County E.I.R. The Regional Water Board considered the County application as a separate project from the City, and all water issues dealing with the City were deferred to subsequent City review.

Visual Impacts:

The County found that the visual impacts from the County project, upon the Scenic Highway and the surrounding neighborhoods, would be mitigated by the reduced project size and its interior location. Obviously this would no longer be valid. A new analysis is required.

Meteorology:

During the last years of operation, the operators were required to install an anemometer and to keep a record of wind speeds. Although these records were requested many times during the E.I.R. process, the proponent chose to discuss only averages. These records must be included. Discussion of resultant dust impacts on City residents was inadequate or, again, differed.

While the areas we have specified represent only a few of the sections that require a new analysis they are indicative of the necessity for a new E.I.R. The reduction of the impacts identified in the County E.I.R., based on the assumption of a smaller project, is now invalid, in light of this proposed expansion. To embrace these assumptions, and fail to analyze the impacts of the combined projects, would be to put forward a document seeking incremental approval, in order to avoid surpassing levels of significance.

5. The composting center is a huge, new project, that was never discussed in the original E.I.R. The scope and character of this operation demands its own E.I.R. The impacts, identified in the Notice of Preparation, point to impacts of significance in the areas of traffic, health risk, grading, drainage, long (and short) term air emissions, traffic and facility noise, land use, storm drainage, aesthetics, and equestrian issues. The proponent must <u>not</u> be allowed to tag this project onto the existing E.I.R., in order to circumvent appropriate environmental review.

6. The E.I.R. must consider the history of B.F.I.'s violations in the City. The City must not abdicate its responsibility to prepare this record. This must not be left to Ultrasystems to prepare. Ultrasystems' clear financial motivation, as B.F.I.'s paid consultant, has caused them to prepare a tendentious and blatantly biased document, which trivialized or ignored B.F.I.'s record. This is a City record and the City must consult directly with the Zoning Administrator and incorporate that record.

It should include, but not be limited to:

Violations concerning height.

Violations concerning boundaries.

Violations concerning ridge lines.

Violations concerning landfilling too near a stream.

Violations concerning landfilling too near a roadway.

Violations causing conditions that were materially detrimental to the surrounding community.

Operating Permit violations as follows:

Exceeding tonnage limitations.

Exceeding hours of operation.

Failure to complete a 5-year permit review.

Failure to complete mandated closure plan.

Failure to comply with the parameters set forth in the current Report of Waste Discharge.

Failure to remove structures, as directed by the Z.A.

Failure to offer the land to the Park Dept. as required by Zoning Permit

Failure to comply with the mitigations ordered by the city as follows:

* Counting and planting oaks removed from the north canyon, two to one.

* Wetlands restoration and stream bed enhancement of the main watercourse.

* Preparation of a survey, by an <u>independent</u> surveyor. (This has delayed action on the replacement of hundreds of oaks removed in the west end.)

* Preparation of a health study.

7. The E.I.R. must include a health survey of the community. A strong body of evidence suggests that the community has a much higher, than average, incidence of cancer and respiratory disease.

8. The City's Environmental Assessment Form requires, under VI.B., that: "All projects, that are required to obtain A.Q.M.D. permits - are required to submit written clearance from the A.Q.M.D., indicating no significant impact will be created from the proposed project." The proponent states that the F.E.I.R. indicated no significant impacts would be created. THIS FINDING WAS PREDICATED ON THE SMALLER PROJECT , and cannot be allowed to suffice for your required clearance.

9. The Topical Responses in the current E.I.R. became a method used by Ultrasystems, to avoid answering direct, relevant questions. This attempt to hide requested information, or obfuscate fact with irrelevant and self-serving statements, frustrated the public's attempts to gain answers. This E.I.R. must not use, or refer the reader to, these seriously flawed sections.

10. The E.I.R. should avoid the use of the word "approximate" in all its forms, as it applies to elevations, boundaries, tonnage, acreage and all other limits that must be clearly quantified. This and the symbol ± leaves the door open for great mischief as we have seen in prior Zoning Hearings.

11. The proposal in the Environmental Assessment Form for hours of operation (certain activities being allowed from 4:00 am until 9:00 pm) is unacceptable. The impacts of these nighttime operations (noise,glare etc.) on residents and wildlife were never evaluated in the E.I.R.

Appendix A12
PUBLIC SCOPING MEETING ATTENDEE AND SPEAKER CARDS

COPIES OF ATTENDEE AND SPEAKER CARDS
PUBLIC SCOPING MEETING (APRIL 29, 1992)

002

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: GREIG SMITH

Address: Rm. 237 City Hall
200 N. Spring, LA, CA 90012

Telephone No.: 485-3343

Organization: (if applicable) Councilman Halbertson

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

003

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Eugene L. DeBois

Address: 17172 Sesnon Blvd

Telephone No.: (818) 360-4047

Organization: (if applicable) Home Owner

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 004
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Mary Edwards

Address: 17219 Orozco ST

Telephone No.: (818) 360-7635

Organization: (if applicable) North Valley Coalition

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 005
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: LORIN & MARIAN FIFE

Address: 11450 CURRY AVE. GRANADA HILLS CA. 91344

Telephone No.: (818) 363-2216

Organization: (if applicable) NONE (RESIDENT)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

006

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Ann M. Messina

Address: 13145 Whitter Ave. Granada Hills 91344

Telephone No.: 818-360-0731

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

007

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Mary Ellen Crosby

Address: 17246 Van Dyke

Telephone No.: 818-363-2685

Organization:
(if applicable) Friends of the Parks Sheinoaks

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 008
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: DIANE LIBERMAN

Address: 17327 BRONTE PLACE
Granada Hills, CA 91344

Telephone No.: (818) 831-7935

Organization: North Valley Coalition against the Sunshine Canyon Landfill
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 009
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: LEO INGACIA

Address: 4590 COLORADO BL., L.A. 90039

Telephone No.: (213) 237-0806

Organization: BD. OF SANITATION
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 010
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: SYLVIA LIBIS

Address: 13126 COURBET LANE, S.H.

Telephone No.: 818-363-9761

Organization: NO. VALLEY COALITION OF
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 011
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: GERALD E. WALTERS

Address: 12521 Aristo Place
Granada Hills CA 91344

Telephone No.: (818) 360-5295

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

012

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: DOUG MARTIN

Address: 13066 SHENLEY ST SYLMAR CA. 91342

Telephone No.: (818) 367-8967

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

013

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Frances Walters

Address: 12521 Aristo Pl. G.Gt.

Telephone No.: 818-360-5295

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

014

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: TOM & MARXANNA KIENHOLZ

Address: 13130 WHISTLER AVE. G.H 91344

Telephone No.: 818-360-9404

Organization: (if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

016

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: John COKER

Address: 12772 Joliette Av. GH

Telephone No.: (818) 368-5240

Organization: (if applicable) North Valley Coalition

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 017
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: AUDREY BOURGHOLTZER

Address: 12660 DARLA AV. G.H. 91344

Telephone No.: (818) 368-1734

Organization:
(if applicable) GRANADA HILLS HOMEOWNER'S ASSOC.

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 018
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: VINCE ROJAS

Address: 13001 Jolette Ave GH 91344

Telephone No.: (818) 366-6665

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 019
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Sheila Cole

Address: 11700 Odessa, Granada Hills 91344

Telephone No.: 818-368-8891

Organization: (If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 020
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: MARILYN SECKAR

Address: 13031 JOLETTE AVE

Telephone No.: GRANADA HILLS 818-363-1725

Organization: (If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 021
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: JOHN SECKAR

Address: 13031 JOLETTE AV GH. 91344

Telephone No.: 818 363-1725

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 022
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: M/M ALBERT H. JOHNSTON

Address: 17306 TENNYSON PLACE GH

Telephone No.:

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

025

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Maria Holl

Address: 13344 Canyon Ridge Ln

Telephone No.: Granada Hills 91344

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

026

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: RICHARD TRESIERRAS

Address: 17235 OROZCO ST. G.H. 91344

Telephone No.: (818) 363-3429

Organization:
(If applicable) NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 029
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: DAVID Thompson

Address: 200 N. Spring St, Rm 1500 MS 177

Telephone No.: (213) 485-9989

Organization: (if applicable) L.A - Environmental Affairs Dept.

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 030
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: IRWIN SEILER

Address: 15455 GLENOAKS BLVD (#543)

Telephone No.: (818) 367-0459

Organization: (if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [✓]

031

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Burton F. Siskin

Address: 10210 Farralone Av. Chats.

Telephone No.: (818) 882 3462

Organization: North Valley Coalition
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

032

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Salvatore J. Luongo

Address: 17256 - Tennyson Pl., Granada Hills 91344

Telephone No.:

Organization: No. Valley Coalition
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 033
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: JANICE VAN STEEN

Address: 17268 TENNYSON PLACE

Telephone No.: (818) 368-4677

Organization: (If applicable) Private Residence

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 034
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Kenneth M. Wasserman

Address: 10 Universal City Plaza Suite 2055
Universal City CA 91608

Telephone No.: (818) 506-8705

Organization: (If applicable) Santa Susana Property Owners Association

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

039

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: FRANCIS W. NAVICKAS

Address: 13046 JOLETTE AV, GRANADA HILLS

Telephone No.: (818) 363-6381

Organization: (if applicable) TREE PEOPLE, THE NATURE CONSERVANCY
NORTH GRANADA HILLSIDE HOMEOWNER'S ASSN
NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

040

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: BARRETT & LINDA ROSS

MAILING **Address:** 17939 CHATSWORTH ST #505
G.H. 91344

Telephone No.: 818-363-4072

Organization: (if applicable) 17457 GOLDEN LANE - G.H. 91344

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

044

All Attendees Please Fill Out!

Name: Nancy Burns

Address: 10450-E Zelzah Av., Northridge 91326

Telephone No.: (818) 360-7611

Organization: (If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

045

All Attendees Please Fill Out!

Name: WAYDE HUNTER

Address: 12354 EL ORO WAY GRANADA HILLS

Telephone No.: (818) 363-3597

Organization: (If applicable) NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 046
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: MR. & MRS. ALBERT LAX

Address: 12297 WOODLEY AVENUE, GRANADA HILLS, CA.

Telephone No.: (818) ———

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 047
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: GEORGE EDWARDS

Address: 17219 OROZCO ST. GRANADA HILLS CA 91344

Telephone No.: 818 360-7635

Organization:
(if applicable) NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 048
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Marjorie Champawat

Address: 17149 Lisette St G.H. 91344

Telephone No.: (818) 360-5479

Organization:
(if applicable) _____

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 049
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: NARAYAN CHAMPAWAT

Address: 17149 LISETTE ST. GRANADA HILLS, CA.

Telephone No.: (818) 360-5479

Organization:
(if applicable) _____

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 050
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Brenda Mosler

Address: 13172 Courbet Ln, G.H. 91344

Telephone No.: 818/363-2215 w/818/785-7425

Organization: (If applicable) N. Valley Coalition

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 051
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: RAY PRICE

Address: 12936 WINTHROP AVE
GRANADA HILLS 91344

Telephone No.: 818 366 9019

Organization: (If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

053

All Attendees Please Fill Out!

Name: Michael Dorsey

Address: 13024 Nomis Av

Telephone No.: 1-818 367-5997

Organization: (If applicable) Save Our Sylmar

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

057

All Attendees Please Fill Out!

Name: ROGER F. DAMES

Address: 12552 NEON WAY
GRANADA HILLS, CA 91344

Telephone No.: (818) 363-5696 HOME
(213) 244-6769 WORK

Organization: (If applicable) N/A

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

058

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: John Manning

Address: 13129 Constable

Telephone No.: (818) 366-3448

Organization: North Valley Collection
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

059

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Giesela Manning

Address: 13129 Constable Ave

Telephone No.: 366-3448

Organization: North Valley [redacted] Co.
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES **061**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: ROSEMARY WOODLOCK

Address: 21015 Mulholland DR.

Telephone No.: Woodland Hills CA 91364
818-703-7609

Organization:
(If applicable) ATTORNEY FOR NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES **062**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: IRWIN R. DUDOW

Address: 12758 Deon Place, Granada Hills CA

Telephone No.: 818 363-6660

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

063

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Ernest & Mary Hilberg

Address: 17133 Van Gogh St

Telephone No.: 818 360 5513

Organization: (if applicable) NVC

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

064

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: ROSINA IANNETTA

Address: 17419 TUSCAN Dr. C.H.

Telephone No.: 363-6145

Organization: (if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

065

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Camillo Iannetta

Address: 17419 Tuscan Dr.

Telephone No.: 363-6145

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

066

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Teresa Todd

Address: 13338 Canyon Ridge Lane

Telephone No.: (818) 368-8890

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

068

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: LARRY ROFE

Address: 17238 VAN GOGH ST
GRANADA HILLS CA 91344

Telephone No.: 818 366-1660

Organization: N/A
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

069

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Anne Feldmann

Address: 17201- Orozco ST, Granada Hills, Ca 91344

Telephone No.: 818- 363-4479

Organization: North Valley Coalition
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES **070**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: HANK FELDMANN

Address: 17301 OROZCO ST, GRANADA HILLS

Telephone No.: (818) 363-4479

Organization: —
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES **075**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Sally Ehorka

Address: 17219 COURBET ST.

Telephone No.: 360-0452

Organization: North Valley Coalition
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

078

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: PETER Daniels

Address: 2543 W. 6th St LA 90057

Telephone No.: 1-213-387-1211

Organization: (If applicable) Solid Waste Citizen Advisory Group

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

079

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: ANDREA & BARRY MANN

Address: 12838 MEADOWLARK AVE.
GRANADA HILLS, CA 91344

Telephone No.: 818-360-8881

Organization: (If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

084

All Attendees Please Fill Out!

Name: Martha Bayer

Address: 17364 Angelaine Way

Telephone No.: (818) 360-4048 GH 91344

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

085

All Attendees Please Fill Out!

Name: MARIA SIMS CARPENTER

Address: 10738 Gerald Ave, Granada Hills, CA. 91344

Telephone No.: 818-366-6386

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

086

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Jody Nuckolls

Address: 44169 Dewol St Lancaster CA 93535

Telephone No.: 805-942-9739

Organization: (If applicable) Concern Citizen

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

087

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Sharie Swallow-Buckley

Address: 3319 Feltham Ct., Palmdale CA 93551

Telephone No.: 805-266-1581

Organization: (If applicable) Concerned citizen

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 091
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Jennie Jachien-Ning Wu

Address: 17723 Candia Court, Granada Hills CA 91344

Telephone No.: 818-363-0357

Organization: (If applicable) WE STRONGLY AGAINST THAT THE LANDFILL OPERATION, TOO MUCH WINDS ON THIS AREA

Would you like to be included on the mailing list for this proposed project? Yes [Y] No [ ]

CITY OF LOS ANGELES 092
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: HOWARD WANG

Address: 17423 TUSCAN DR. GRANADA HILLS CA 91344

Telephone No.: (818) 368-8189

Organization: (If applicable) THE LANDFILL SHOULD BE STOPPED, TOO MUCH WINDS IN THIS AREA

Would you like to be included on the mailing list for this proposed project? Yes [Y] No [ ]

CITY OF LOS ANGELES 093
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: TAO WANG,

Address: 17423 TUSCAN DR. ~~GRANADA HILLS~~ CA 91344

Telephone No.: (818) 368-8189

Organization: (If applicable) DEPT. OF City Planning STAFF

CONSIDER THE WINDS IN THIS ~~AREA~~ AREA LESS MUCH STRONGER THAN ANY OTHER

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 094
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: LINDA SMALDINO

Address: 17711 ARVIDA DR., GRANADA HILLS CA 91344-1306

Telephone No.: (818) 368-3636

Organization: (If applicable) GRANADA HILLSIDE PROPERTY OWNERS ASSN.
+ GRANADA HILLS CHAMBER OF COMMERCE

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

095

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Stella E. Valdez

Address: 12874 WINTHROP AVE

Telephone No.: 818 360 7388

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

096

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Cynthia S. Taylor

Address: 17405 Tuscan Dr., Granada Hills, CA

Telephone No.: (818) 363-0255

Organization:
(If applicable) North Valley Coalition & Homeowner

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 097
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Paul E. Sperrazza

Address: 17405 Tuscan Dr., Granada Hills, CA

Telephone No.: (213) 956-5516

Organization: N.V.C. + Homeowner
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 099
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: JORGE L. JUAREZ

Address: 13138 Constable Avenue, GRANADA Hills 91344

Telephone No.: (818) 363-8557

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

100

All Attendees Please Fill Out!

Name: SUZANNE TAKAHASHI

Address: 13138 CONSTABLE AVENUE, GRANADA Hills, CA 91344

Telephone No.: (818) 368-1528

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

101

All Attendees Please Fill Out!

Name: MAX TURELL

Address: 12307 JOLETTE AVE

Telephone No.: (818) 363 8316

Organization:
(If applicable) NORTH VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 102
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Mrs. Mildred J. Turell

Address: 12307 Joliette Avenue
Granada Hills CA 91344

Telephone No.: 818 363-8316

Organization: North Valley Coalition
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 103
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Catharina M. S. Schram

Address: 12700 Darla Ave
Granada Hills CA 91344

Telephone No.: (818) 368-8950

Organization: none
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [X]

CITY OF LOS ANGELES 104
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: WILLEM J. SCHRAM

Address: 12700 DARLA AVE, GRANADA HILLS

Telephone No.: (818) 368-8950

Organization:
(If applicable) /

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 105
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: WALTER N. PRINCE

Address: 19025 PARTHENIA ST #200
NORTHRIDGE CA 91324

Telephone No.: 818 993-6300

Organization:
(If applicable)

Would you like to be included on the mailing list for this proposed project? Yes [X] No [ ]

CITY OF LOS ANGELES 10
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: EV GARFINKLE

Address: 6073 CALVIN AVE, TARZANA 91356

Telephone No.: (818) 881-6318

Organization: (if applicable) TARZANA PROPERTY OWNERS ASSOCIATION

*Transmitted 5/4/92 from Susan Bok, City of L.A.

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 110
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Norene M. Charnofsky

Address: 12636 Meadowlark Ave

Telephone No.: 818-360-8153

Organization: (if applicable) North Valley Coalition

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

111

All Attendees Please Fill Out!

Name: PAULA BECKER

Address: 24448 W. VALENCIA BLVD
VALENCIA 91355

Telephone No.: (805) 254-0456

Organization: (if applicable) N/A

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

113

All Attendees Please Fill Out!

Name: Keith Larson

Address: 13640 Simshaw, Sylmar 91342

Telephone No.: (818) 998-5238

Organization: (if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES 114
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Lynne Plambeck

Address: PO Box 110

Telephone No.: Burbank Ca 91503

Organization: (if applicable) LASER (Landfill Alternatives Save Environmental Resources)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 115
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Frank Bua

Address: 11552 Gothic Ave. G.H. 91344-2933

Telephone No.: 818-360-3666

Organization: (if applicable) San Fernando Valley Board of Realtors

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

116

All Attendees Please Fill Out!

Name: SIEYED A. ROOHOLAMINI

Address: 17243 OROZCO STREET
GRANADA HILLS, CA 91344

Telephone No.: (818) 360-9635

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [✓] No [ ]

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

117

All Attendees Please Fill Out!

Name: FATEMEH ROOHOLAMINI

Address: 17243 OROZCO STREET
GRANADA HILLS, CA 91344

Telephone No.: (818) 360-9635

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [✓]

CITY OF LOS ANGELES 118
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: Maria Reynoso

Address: 15476 Roxford St Sylmar, C.A. 91342

Telephone No.: 818 - 362-2549

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 120
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: MARGE FEINBERG

Address: 16875 ENCINO HILLS DR.

Telephone No.: (818) 784-2455

Organization:
(if applicable) RIM OF THE VALLEY COALITION

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 122
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Attendees Please Fill Out!

Name: WARREN J. HALL

Address: 17546 TUSCAN DR
GRANADA Hills, CA 91344

Telephone No.: 818/363-4567

Organization:
(if applicable)

Would you like to be included on the mailing list for this proposed project? Yes [ ] No [ ]

CITY OF LOS ANGELES 001
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out! - letter in lieu of testimony

Name: Mary Ellen Hughes

Address: 14550 Archwood Street, Van Nuys CA 91405

Telephone No.: (818) 374-3240

Organization: (if applicable) Apartment Association - Executive Director

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 002
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Greig Smith

Address: Rm 237 City Hall
200 N. Spring,
LA CA 90012

Telephone No.: 485-3343

Chief Deputy

Organization: (if applicable) Councilman Hal Bernson

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 003
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Evelyn L. DuBois

Address: 17172 Sesnon Blvd.

Telephone No.: (818) 360-4047

Organization: (if applicable) Home Owner

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 004
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Mary Edwards

Address: 17219 Orozco ST

Telephone No.: (818) 360-7635

Organization: (if applicable) North Valley Coalition

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **007**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Mary Ellen Crosby

Address: 17246 Van Gogh St.

Telephone No.: 818-363-2685

Organization: Friends of the Parks Chairman
(If applicable)

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **010**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: SYLVIA LIBS

Address: 13126 COURBET LN.

Telephone No.: 818-363-9961

Organization: NO. VALLEY COALITION
(If applicable)

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **028**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: K M Bell

Address: 13180 Courbet Ln

Telephone No.: 360 7465

Organization: (if applicable) N. V. C.

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **033**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: JANICE VAN STEEN

Address: 17268 TENNYSON PLACE

Telephone No.: (818) 368-4677

Organization: (if applicable)

Note: ***Comments are limited to 3 minutes!***

042

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Barbara Baerg

Address: 5824 Nagle Ave., Van Nuys 91401

Telephone No.: (818) 994-9688

Organization: (if applicable) Mid San Fernando Valley Chamber of Commerce

Note: ***Comments are limited to 3 minutes!***

045

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: WAYDE HUNTER

Address: 12354 EL ORO WAY G.H.

Telephone No.: (818) 363-3597

Organization: (if applicable) NORTH VALLEY COALITION

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **053**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Michael W. Ormsby

Address: 13024 Norris Ave Sylmar

Telephone No.: 1-818-367-5997

Organization: (If applicable) Save Our Sylmar

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **057**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Roger F. Dames

Address: 12552 Neon Way
Granada Hills, CA 91344

Telephone No.: (818) 363-5696 Home
(213) 244-6769 Work

Organization: (If applicable) N/A

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 060
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Don Worsham

Address: 17235 Stewarton Dr. Nr.

Telephone No.: 818-366-5887

Organization: (if applicable) PRIDE

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 061
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Rosemary Woodlock

Address: 21015 Mulholland Dr., Woodland Hills 91364

Telephone No.: 818-703-7609

Organization: (if applicable) Attorney for North Valley Coalition

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

063

All Speakers Please Fill Out!

Name: Ernest Hilborg

Address: 17133 Van Gogh St

Telephone No.: 818 360-5513

Organization:
(If applicable)

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

066

All Speakers Please Fill Out!

Name: Teresa Todd

Address: 13338 Canyon Ridge Lane

Telephone No.: (818) 368-1890

Organization:
(If applicable)

Note: ***Comments are limited to 3 minutes!***

070

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: HANK FECOMANN

Address: 17901 OROZCO ST, GRANADA HILLS

Telephone No.: (818) 363-4479

Organization: —
(if applicable)

Note: ***Comments are limited to 3 minutes!***

078

CITY OF LOS ANGELES
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Peter Daniels

Address: 2543 W. 6TH ST LA, CA 90057

Telephone No.: 213-387-1211

Organization: Solid Waste Citizen Advisory Group
(if applicable)

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES **082**
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: Allen R Hecht

Address: 13360 MEADOW WOOD

Telephone No.: 368-6211

Organization: (If applicable) L.A. S.W.C.A.C

Note: ***Comments are limited to 3 minutes!***

CITY OF LOS ANGELES 092
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: HOWARD WANT

Address: 17423 TUSCAN DR.
GRANADA HILLS CA 91344

Telephone No.: (818) 368-8189

Organization: (If applicable) IT IS NECESSARY THAT THE CITY OF PLANNING SEEMS CONSIDER THE FACT THAT THE

Note: ***Comments are limited to 3 minutes!***

STRONG WINDS IN GRANADA HILLS AREA. IT IS MUCH STRONGER THAN ANY OTHER AREA IN L.A.

CITY OF LOS ANGELES 109
PUBLIC SCOPING MEETING - SUNSHINE CANYON LANDFILL
SUP. EIR NO. 91-0377-ZC/GPA(CUZ)(ZV)
APRIL 29, 1992

All Speakers Please Fill Out!

Name: David Gerred

Address: 5554 Case Ave N.H.

Telephone No.: (818) 505-8257

Organization: (if applicable) N.H. Kiwanis

Note: ***Comments are limited to 3 minutes!***

Appendix A13
NOTICE OF PREPARATION (NOP)
MAILING LIST

SEIR NOP CERTIFIED MAIL DISTRIBUTION LIST FOR FEDERAL, STATE, REGIONAL, LOCAL AGENCIES, ORGANIZATIONS, AND INTERESTED PARTIES

Sunshine Canyon Landfill
City of Los Angeles
SEIR 91-0377-ZC/GPA (CUZ)(ZV)

Federal Agencies

U.S. Army Corps of Engineers
Office of the Chief, Regulatory Branch
Attn: Diane Noda, Acting Chief, Northern Section
P.O. Box 2711
Los Angeles, CA 90053-2325

U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
Attn: Richard Zembal, Deputy Field Supervisor
20730 Loker Avenue West
Carlsbad, CA 92008

National Park Service
Santa Monica National Recreation Area
Land Use and Planning Section
Attn: Nancy Arkin, Chief
30401 Agoura Road, Suite 100
Agoura Hills, CA 91301

U. S. Forestry Service
Angeles National Forest Headquarters
Planning Section
Attn: Bernice Bigelow, Resource and Planning Officer
701 North Santa Anita Avenue
Arcadia, CA 91006

State Agencies/Representatives

California Department of Fish & Game
Environmental Services, Region 5
Attn: Michael Giusti, Associate Fisheries Biologist
330 Golden Shore, Suite 50
Long Beach, CA 90802

State Department of Health
Environmental Management Branch
1449 West Temple Street
Los Angeles, CA 90026

State Agencies/Representatives (Cont.)

California Integrated Waste Management Board
Permits and Compliance Division
Jeannie H. Blakeslee, Facility Review
8800 Cal Center Drive
Sacramento, CA 95826

California Air Resources Board
Stationary Source Division
Attn: Peter Venturini, Chief
P.O. Box 2815
Sacramento, CA 95812

State Water Resources Control Board
Basin Planning Unit
Attn: John Ladd, Chief
P.O. Box 100
Sacramento, CA 95812-0100

Public Utilities Commission
Attn: Environmental Review
107 S. Broadway Street
Los Angeles, CA 90012

State Department of Conservation
Division of Oil and Gas
Attn: Richard Corbaley, Technical Support Supervisor
245 West Broadway, Suite 475
Long Beach, CA 90802-4455

State Department of Parks and Recreation
P.O. Box 942886
Sacramento, CA 94296-0001

Native American Heritage Commission
915 Capitol Hall, Room 288
Sacramento, CA 95814

Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

State of California
Caltrans/District 7
Advanced Planning Branch
Attn: Wilford Melton, Senior Transportation Planner
120 South Spring Street
Los Angeles, CA 90012

State Agencies/Representatives (Cont.)

Honorable Ed Davis, State Senator
Nineteenth Senatorial District
11145 Tampa Avenue, Suite 21B
Northridge, CA 91326

Honorable Richard Katz, Assemblyman
Thirty-Ninth Assembly District
9140 Van Nuys Boulevard, Suite 109
Panorama City, CA 91402

Honorable Marian W. LaFollette, Assemblywoman
Thirty-Eight Assembly District
11145 Tampa Avenue, Suite 17A
Northridge, CA 91326

Regional Agencies

Southern California Association of Governments
Attn: Laureen Farley, Clearinghouse Coordinator
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017-3435

California Regional Water Quality Control Board
Los Angeles Region
Attn: Rodney H. Nelson, Senior Engineering Geologist
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Metropolitan Water District of Southern California
Attn: Dr. Roberta L. Soltz, Manager of Environmental Affairs
11 Sunset Boulevard
Los Angeles, CA 90012

South Coast Air Quality Management District
Office of Planning and Technolgy Advancement
Attn: Cindy S. Greenwald, Manager
21865 East Copley Drive, 2nd Floor South
Diamond Bar, CA 91765-4182

County of Los Angeles

Honorable Gloria Molina, Supervisor
County of Los Angeles
First Supervisorial District
Hall of Administration
500 West Temple Street, Suite 856
Los Angeles, CA 90012

County of Los Angeles (Cont.)

Honorable Yvonne Brathwaite Burke, Supervisor
County of Los Angeles
Second Supervisorial District
Hall of Administration
500 West Temple Street, Suite 866
Los Angeles, CA 90012

Honorable Edmund D. Edelman, Supervisor
County of Los Angeles
Third Supervisorial District
Hall of Administration
500 West Temple Street, Suite 821
Los Angeles, CA 90012

Honorable Deane Dana, Supervisor
County of Los Angeles
Fourth Supervisorial District
Hall of Administration
500 West Temple Street, Suite 822
Los Angeles, CA 90012

Honorable Michael D. Antonovich, Supervisor
County of Los Angeles
Fifth Supervisorial District
Hall of Administration
500 West Temple Street, Suite 869
Los Angeles, CA 90012

County of Los Angeles
Department of Regional Planning
Environmental Impact Analysis Section
Attn: Frank Meneses, Section Head
320 West Temple Street
Los Angeles, CA 90012

County of Los Angeles
Department of Public Works
Waste Management Division
Attn: Mike Mohajer, Assistant Division Engineer
900 South Fremont Avenue
Alhambra, CA 91803

Sanitation Districts of Los Angeles County
Solid Wate Management Department
Attn: Don S. Nellor, Planning/Engineering Section Head
1955 Workman Mill Road
Whittier, CA 90601

County of Los Angeles (Cont.)

County of Los Angeles
Department of Health Services
Attn: Dr. Frank Gomez, Training Coordinator
2525 Corporate Place
Monterey Park, CA 91754

County of Los Angeles
Department of Health Services
Solid Waste Management Program
Attn: Richard Hanson, Director
2525 Corporate Center
Monterey Park, CA 91754

County of Los Angeles
Fire Department/Forester and Fire Warden
Attn: Joseph Ferrara, Chief, Forestry Division
1320 North Eastern Avenue
Los Angeles, CA 90063-3294

City of Los Angeles

Honorable Mike Hernandez, Councilman
First Council District
City of Los Angeles
Room 380, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Joel Wachs, Councilman
Second Council District
City of Los Angeles
Room M-39
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Joy Picus, Councilwoman
Third Council District
City of Los Angeles
Room 281
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable John Ferraro, President
Fourth Council District
City of Los Angeles
Room M-30
200 North Spring Street
Los Angeles, CA 90012-4856

City of Los Angeles (Cont.)

Honorable Zev Yaroslavsky, Councilman
Fifth Council District
City of Los Angeles
Room 318
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Ruth Galanter, Councilwoman
Sixth Council District
City of Los Angeles
Room 239
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Ernani Bernardi, Councilman
Seventh Council District
City of Los Angeles
Room 240
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Mark Ridley-Thomas, Councilman
Eighth Council District
City of Los Angeles
Room 290
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Rita Walters, Councilwoman
Ninth Council District
City of Los Angeles
Room 260
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Nate Holden, Councilman
Tenth Council District
City of Los Angeles
Room 236
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Marvin Braudi, Councilman
Eleventh Council District
City of Los Angeles
Room 275
200 North Spring Street
Los Angeles, CA 90012-4856

City of Los Angeles (Cont.)

Honorable Hal Bernson, Councilman
Twelfth Council District
City of Los Angeles
Room 237, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Michael Woo, Councilman
Thirteenth Council District
City of Los Angeles
Room 218
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Richard Alatorre, Councilman
Fourteenth Council District
City of Los Angeles
Room 375
200 North Spring Street
Los Angeles, CA 90012-4856

Honorable Joan Milke Flores, Councilwoman
Fifteenth Council District
City of Los Angeles
Room 230
200 North Spring Street
Los Angeles, CA 90012-4856

City of Los Angeles
Department of Transportation/Traffic Mitigation Department
City Hall, Room 1200
Attn: Harold Vellins, Senior Transportation Engineer
200 North Spring Street
Los Angeles, CA 90012-4856

City of Los Angeles
Bureau of Sanitation
Attn: Delwin A. Biagi, Director
200 North Main Street
City Hall East, Room 1400
Los Angeles, CA 90012-4856

City of Los Angeles
Department of Recreation and Parks
Attn: Mr. Alonzo Carmichael, Planning Officer
Room 1330, City Hall East
200 North Main Street
Los Angeles, CA 90012

City of Los Angeles (Cont.)

City of Los Angeles
Department of Water and Power
Environmental and Governmental Affairs
Attn: Edward Karapetian, Manager
111 North Hope Street, Room 1121
Los Angeles, CA 90012

Other Cities/Counties

County of Ventura
Planning Division
Attn: Scott Ellison, Senior Planner
800 South Victoria Avenue
Ventura, CA 93009

City of San Fernando
Community Development Department
Attn: Jack Cook, Associate Planner
117 MacNeil Street
San Fernando, CA 91340

City of Santa Clarita
Community Development Department
Attn: Lynn Harris, Director
23920 Valencia Boulevard
Santa Clarita, CA 91355

Interested Organizations/Groups

Sierra Club - Angeles Chapter
Attn: Howard Strauss, Chairman
3345 Wilshire Boulevard, Suite 508
Los Angeles, CA 90010

State of California
Santa Monica Mountains Conservancy
Attn: Rorie Skei, Program Manager
3700 Solstice Canyon Road
Malibu, CA 90265

The California Native Plant Society
Los Angeles-Santa Monica Mountain Chapter
Attn: Betsey Landis, Manager
3908 Mandeville Canyon
Los Angeles, CA 90049

North Valley Coalition
Attn: Mary Edwards
13171 Courbet Lane
Granada Hills, CA 91344

Libraries

Granada Hills Library
Attn: Tina Hanson, Senior Librarian
10640 Petit Avenue
Granada Hills, CA 91344

Sylmar Library
Attn: Bernice Sterne, Branch Librarian
13509 Glen Oaks Boulevard
Sylmar, CA 91342

San Fernando Library
Attn: Judith Babke, Head Librarian
1050 Library Street
San Fernando, CA 91340

Northridge Library
Attn: Lynn Daukas, Senior Librarian
9051 Darby Avenue
Northridge, CA 91352

Central Library - Science Technology and Patent Department
Attn: Billy Conners, Department Manager
630 West 5th Street
Los Angeles, CA 90071

Valencia Library
Attn: Josie Reyes, Community Library Manager
23743 West Valencia Boulevard
Valencia, CA 91355

Culver City Library
Attn: Josie Zoretich, Head Librarian
4975 Overland Avenue
Culver City, CA 90230

SEIR MAILING LIST FOR CITY DEPARTMENTS/ORGANIZATIONS

Sunshine Canyon Landfill
City of Los Angeles
SEIR 91-0377-ZC/GPA(CUZ)(ZV)

Mail Stop 220
Honorable Hal Bernson
Twelfth District
Room 237, City Hall

Mail Stop 395
Jack Sedwick
Plan Implementation Division
3rd and Figueroa Street

Mail Stop 380
Department of Cultural Affairs
Attn: Barbara Goldstein
433 S. Spring Street, 10th Floor

Mail Stop 370
Michael Bodaken
Mayor's Office
Room M-1, City Hall
Mail Stop 250

Mail Stop 490
Bureau of Engineering
Environmental Management Section
Attn: Ara Kasparian
Room 807, City Hall

Mail Stop 182
Rich Macias
Environmental Review Unit
CRA
354 South Spring Street, Suite 700

Mail Stop 625
Department of Recreation and Parks
Attn: Marilyn Rawlings
Room 1290, City Hall East

Los Angeles Unified School District
Attn: Joan Friedman, Realty Division
1425 S. San Pedro Street, Room 101
P.O. Box 2298 - Terminal Annex
Los Angeles, CA 90015

Oak Tree Coalition
% Anson Burlingame
10058 Sunland Boulevard
Shadow Hills, CA 91040-1649

Mail Stop 549
Wallace E. Stokes, III
Consultant - Wastewater Program
Management Division
Bureau of Engineering
Room 600, City Hall East

Regional Planning Department
County of Los Angeles
Impact Analysis Section
320 Temple Street, Room 1354
Los Angeles, CA 90012

Mail Stop 442
Los Angeles Police Department
Planning Section
207 South Broadway, Room 200

Mail Stop 250
Fire Department
Environmental Review Section
Room 920, City Hall East

Mail Stop 901
Land Developing/Mapping Division
Bureau of Engineering
Attn: LaGronie Wyatt
Room 705, City Hall

Mail Stop 800
Department of Water and Power
Attn: Edward Karapetian
111 North Hope Street, Room 1121
Los Angeles, CA 90012

Mail Stop 464
Office of Water Reclamation
Attn: Bahman Sheidh, Director
Room 366, City Hall

Mail Stop 769
Department of Transportation
City Traffic Engineer
Attn: Haripal Vir
7166 West Manchester Avenue
West Los Angeles, CA

State Clearinghouse
Office of Planning and Research
Attn: Glenn Stober
1400 10th St., Room 121
Sacramento, CA 95814

Mail Stop 397C
G. David Lessley
Neighborhood Planning Division
3rd and Figueroa Street

Mail Stop 177
Environmental Affairs
Attn: Gary Gero
Room 1500, City Hall

Mail Stop 370
Jane Blumenfeld
Mayor's Office
Room M-1, City Hall

Mail Stop 397
Ann Siracusa
Citywide Planning Division
221 South Figueroa Street, 4th Floor

Mail Stop 115
Building & Safety Department
Chief, Building Bureau
Coordinating Division
Room M-50, City Hall

Mail Stop 725
Department of Transportation
City Traffic Engineer
Attn: Harold Vellins
Room 1200, City Hall

Mail Stop 800
Department of Water and Power
Attn: Ronald A. McCoy
111 North Hope St., Room 1432
Los Angeles, CA 90012

Los Angeles Bio Diversity Project
Attn: Barbara Eales
8334 Kenyon Avenue
Los Angeles, CA 90045

Gary McSweeney
CalTrans
District 7 IGR/CEQA Coordinator
Transportation Planning & Analysis Branch
120 South Spring Street
Los Angeles, CA 90012

Mr. Joel Woodhull
Environmental Section
Rapid Transit District, Planning Department
425 South Main Street
Los Angeles, CA 90013

United States Army Corps of Engineers
Environmental Resources Branch
P.O. Box 2711
Los Angeles, CA 90053-2325

Environmental Protection Agency
Attn: Paul DeFalco, Jr.
215 Fremont Street
San Francisco, CA 94105

Ventura Blvd. - Canoga Avenue - Winnetka
and Mulholland Vista De Ore
Homeowners Assoc.
Attn: Mr. Robert McKnight
5170 Kelvin Avenue
Woodland Hills, CA 91364

Save the Hills
Sandy Enfield, President
22385 Algunas Road
Woodland Hills, CA 91364

Woodland Hills Resident Association
Dorothy Peisner, President
4330 Greer Road
Woodland Hills, CA 91364

Encino Property Owners
P.O. Box 17778
Encino, CA 91316

Ms. Gottimain
North Valley Coalition
13171 Courbet Lane
Granada Hills, CA 91344

U.S. Forest Service Resource/Planning Section
Attn: Bernice Bigelow
701 North Santa Anita Avenue
Arcadia, CA 91006

South Coast Air Quality Management District
Local Government/CEQA
Attn: Connie Day
21885 Copley Dr., 2nd Floor South
Diamond Bar, CA 91765

Santa Monica Mountains Conservancy
Mr. John Diaz
3700 Solstice Canyon Road
Mailbu, CA 90265

Director of Planning
City of San Fernando
117 MacNeil
San Fernando, CA 91340

Pacoima Property Owner's Association
P.O. Box 7431
Pacoima, CA 91331

Woodland Hills Homeowners' Organization
(WHHO)
4157 Morro Drive
Woodland Hills, CA 91364

Chatsworth Beautiful
P.O. Box 62
Chatsworth, CA 91311

Homeowners of Encino
Gerald Silver
4944 Gaviota Avenue
Encino, CA 91436

Director of Planning
City of Hidden Hills
24549 Long Valley Road
Hidden Hills, CA 91302

U.S. Fish and Wildlife Service
370 Amapola Avenue, Suite 114
Torrance, CA 90501

Los Angeles County
Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

County Clerk, EIR Desk
111 North Hill Street, Room 106
Los Angeles, CA 90012

Hidden Hills Property Owner's Association
24549 Long Valley Road
Hidden Hills, CA 91302

Angeles National Forest Headquarters
701 North Santa Anita Avenue
Arcadia, CA 91006

Woodland Hills Property Owners' Association
P. Kahn
23120 Mulholland Drive
Woodland Hills, CA 91364

Rockpoint Homeowner's Association
P.O. Box 714
Chatsworth, CA 91311

West Hills Property Homeowners
P.O. Box 4758
West Hills, CA 91308

Director of Planning
City of Simi Valley
2929 Tapo Canyon Road
Simi Valley, CA 93063

North Hollywood H.O.A.
P.O. Box 4052
N. Hollywood, CA 91607

Reseda Homeowners' Association
Attn: Rose Conley
18649 Calvert Street
Reseda, CA 91335

Reseda Community Assoc.
J. J. & J. L. Mackinson
17934 Hutton St.
Reseda, CA 91335

Santa Susana Mountain Park Association
P.O. Box 4831
Chatsworth, CA 91313-4831

Tarzana Property Owners' Association
P.O. Box 17778
Encinco, CA 91416

Granada Hills Property Owners' Assoc.
P.O. Box 33461
Granada Hills, CA 91344

Northridge Plateau, POA
18917 Nordhoff Street, Suite 10
Northridge, CA 91366

Director of Planning
City of Burbank
P.O. Box 6459
Burbank, CA 91510

Reseda/W. Van Nuys #20
Van Nuys HOA
P.O. Box 3528
Van Nuys, CA 91407

Briar Cliff Improvement Assoc.
11968 Lockridge Road
Studio City, CA 91504

East Valley Horse Owners' Assoc.
Phyllis Hines, Land Use Chair
11511 Orcas Avenue
Lakeview Terrace, CA 91342

Homeowners of Encino
P.O. Box 453
Encino, CA 91426

Mrs. Melissa Lovelady
10758 Forbes Avenue
Granada Hills, CA 91344

Sepulveda H.O.A.
P.O. Box 2008
Sepulveda, CA 91343

North Valley Homeowners Federation
P.O. Box 7717
Northridge, CA 91321

Sharon Pierce
Northridge Urban Homeowners Assoc.
4311 Louise Avenue
Encino, CA 91316

Studio City Residents' Assoc.
San B. Ozin, President
P.O. Box 1374
Studio City, CA 91604

La Tuna Canyon Community
Awareness Association
10338 La Tuna Canyon Road
Sun Valley, CA 91352

Toluca Lake H.O.A.
P.O. Box 2013
Toluca Lake Station
Toluca Lake, CA 91602

NE Valley Residents Assoc.
% Dan Cox
11742 Stagg St.
North Hollywood, CA 91605

Sunland Tujunga Assoc. of Residents
Sylvia Gross
P.O. Box 278
Tujunga, CA 91403

Olive View Neighborhood Watch Assoc.
Keith Allyn, Chairman
P.O. Box 7662
Mission Hills, CA 91346

Sylmar Women's Club
P.O. Box 4661
North Annex Branch
Sylmar, CA 91342

Sylmar Residents Assoc.
Mrs. Charlene Lyell
14506 Bledsoe Avenue
Sylmar, CA 91342

Federation of Hillside and Canyon Assoc.
Carol Stevens
16611 Park Lane Circle
Los Angeles, CA 90049

George Caravalho, City Manager
City of Santa Clarita
23920 Valencia Boulevard
Santa Clarita, CA 91355

Hillside Homeowners Coalition
3675 Avenida del Sol
Studio City, CA 91604

East Valley Horse Owners' Assoc.
Dennis N. Schneider, President
P.O. Box 113
Sunland, CA 91040

Tujunga Residents Assoc.
Attn: Pat Koeler
10517 Haines Canyon Avenue
Tujunga, CA 91402

Sun Valley Homeowners Assoc.
P.O. Box 1303
Sun Valley, CA 91353

Sylmar Chamber of Commerce
13251 Gladstone Avenue
Sylmar, CA 91342

Director of Planning
City of Glendale
633 East Broadway
Glendale, CA 91206

Van Nuys Homeowners Assoc.
P.O. Box 3528
Van Nuys, CA 91407

Sherman Oaks Homeowners' Assoc.
Richard H. Close, President
14843 Jadestone Drive
Sherman Oaks, CA 91103

Citizens for K Districting
Attn: Ed Duvall
13443 Bradley Avenue
Sylmar, CA 91342-0244

Shadow Hills Property Owner's Association
Attn: Tina Eick
9647 Stonehurst Avenue
Sun Valley, CA 91352

Sylmar Landowners Association
for Fair Development
P.O. Box 4543
Sylmar, CA 91342

Sylmar Civic Association
Attn: Dean B. Cohen, President
P.O. Box 4111
Sylmar, CA 91342

Federation of Hillside and Canyon Association
Attn: Jerome Daniel
15530 Hamner Dr.
Los Angeles, CA 90024

Lois Arkin
CRSP
3551 Whitehouse Place
Los Angeles, CA 90004

Honorable Michael D. Antonovich, Supervisor
Fifth Supervisorial District
Room 869, Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Honorable Ed Davis, State Senator
Nineteenth Senatorial District
11145 Tampa Avenue, Suite 21B
Northridge, CA 91326

Citizens for a Better Environment
122 Lincoln Boulevard, No. 201
Los Angeles, CA 90291

Judy Boarsh, President
LWV/LAC
9611 High Ridge Drive
Beverly Hills, CA 90210

VICA
21800 Oxnard Street, Suite 470
Woodland Hills, CA 91347

Salvatore Grammatico
4737 Marshall Drive
Del Ray, CA 90230

Linnie Corn
16710 Donmetz Street
Granada Hills, CA 91344

Nita Rosenfeld
2401 Arbutus Drive
Los Angeles, CA 90049

SCOPE
P.O. Box 1182
Canyon Country, CA 91351

Federation of Hillside & Canyon Association
100 Bel Air Road
Los Angeles, CA 90077

Honorable Marian W. LaFollette,
Assemblywoman
Thirty-Eight Assembly District
11145 Tampa Avenue, Suite 17A
Northridge, CA 91326

Metropolitan Water District
P.O. Box 54153
Pasadena, CA 90054

Mary Ellen Crosby, President
Freinds of the Park
17246 Van Gogh Street
Granada Hills, CA 91344

TOPAX Refuse Removal
7715 Burnet Avenue
Van Nuys, CA 91405

Crystall A. Russell
15260 Ventura Boulevard, No. 300
Sherman Oaks, CA 91403

P.G. Thyamagondalu, P.E.
13313 Canyon Ridge Lane
Granada Hills, CA 91344

Betsey Landis
3908 Mandeville Canyon Road
Los Angeles, CA 90049

Dorothy Riley
21224 Placerita Canyon Road
Newhall, CA 91321

Tom Seal
3435 Ocean Park Boulevard, #201-256
Santa Monica, CA 90405

Elsmere Corporation
2550 237th Street
Torrance, CA 90505

Defenders of Wildlife
5604 Rosedale Way
Sacramento, CA 95822

Los Angeles Area
Chamber of Commerce
404 South Bixel Street
Los Angeles, CA 90017

Betty Walkey
11534 Balboa Boulevard
Granada Hills, CA 91344

Heal the Bay
1650A Tenth Street
Santa Monica, CA 90404

Dr. Timothy G. Hare
12901 Louise Avenue
Granada Hills, CA 91344

The Santa Clarity Valley
Oak Conservancy
28533 Bud Court
Saugus, CA 91350

Natural Resources Defense Council
617 South Olive Street
Los Angeles, CA 90014

Elizabeth Rhone
266 South Madison Avenue
Pasadena, CA 91101

Friends of Sunshine Forest
P.O. Box 33004
Granada Hill, CA 91394

North Valley Coalition
13171 Courbet Lane
Granada Hills, CA 91344

C.O.A.S.T.
6147 Via Escondido
Malibu, CA 90265

Sara J. Wan
Malibu Township Council, Inc.
P.O. Box 803
Malibu, CA 90265-0803

Aran H. Dokovna
13000 Barto Drive
Granada Hills, CA 91344

State Department of Health
Environmental Management Branch
1449 W. Temple Street
Los Angeles, CA 90026

Sierra Club
3550 West 6th Street, Suite 321
Los Angeles, CA 90020

County of Los Angeles
Department of Public Works
Planning Division
900 South Fremont Avenue
Alhambra, CA 91803

Michael Nagao
Sec. Head Environmental Defense Fund
Rockridge Market Hall
5655 College Avenue
Oakland, CA 94618

California Regional Water Quality
Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Arthur A. Rich
6445 Lubao Avenue
Woodland Hills, CA 91367

Don P. Mullally
10418 Gothic Avenue
Granada Hills, CA 91344

Native American Heritage Commission
915 Capitol Mall Room 288
Sacramento, CA 95814

The California Native Plant Society
4444 Longridge Avenue
Sherman Oaks, CA 91423

Attn: Paul Prestia
County of Los Angeles
County Sanitation Districts
P.O. Box 4998
Whittier, CA 90607-4998

Van Nuys Homeowners Association
P.O. Box 3528
Van Nuys, CA 91407

Allison C. Fuller
1959 Meadowbrook Road
Altadena, CA 91001

Frank MacArthur
13154 Courbet Lane
Granada Hills, CA 91344

Willis E. Simms
6251 Jumilla Avenue
Woodland Hills, CA 91367

Marsha McLean
24519 Breckenridge Place
Newhall, CA 91321

MAILING DISTRIBUTION LIST FOR INTERESTED PARTIES
SCOPING MEETING
Sunshine Canyon Landfill
City of Los Angeles
SEIR 91-0377-ZC/GPA (CUZ)(ZV)

Walter & Erica Bachmann
12427 Nugent Drive
Granada Hills, CA 91344

Martha Bayer
17364 Angelaine Way
Granada Hills, CA 91344

Dawn Benedict
12451 Lithuania Drive
Granada Hills, CA 91344

Nancy Burns
10450 E. Zelzah Avenue
Northridge, CA 91326

Maria Sims Carpenter
10738 Gerald Avenue
Granada Hills, CA 91344

Narayan Champawat
17149 Lisette Street
Granada Hills, CA 91344

Norene M. Charnofsky
12636 Meadowlark Avenue
Granada Hills, CA 91344

John Coker
12772 Jolette Avenue
Granada Hills, CA 91344

Roger F. Dames
12552 Neon Way
Granada Hills, CA 91344

Irwin R. Dudow
12758 Deon Place
Granada Hills, CA 91344

George Edwards
17219 Orozco Street
Granada Hills, CA 91344

Sally Ehmke
17219 Courbet Street
Granada Hills, CA 91344

Ev Garfinkle
6073 Calvin Avenue
Tarzana, CA 91356

Naomi C. Godfrey
17309 Tennyson Place
Granada Hills, CA 91344

Maria Holl
13344 Canyon Ridge Lane
Granada Hills, CA 91344

Leo Ingalla
4590 Colorado Blvd.
Los Angeles, CA 90039

Jorge L. Juarez
13138 Constable Avenue
Granada Hills, CA 91344

Tom & Maryanna Kienholz
13130 Whistler Avenue
Granada Hills, CA 91344

Keith Larson
13640 Simshaw
Sylmar, CA 91342

Mr. & Mrs. Albert Lax
12297 Woodley Avenue
Granada Hills, CA 91344

Diane Liberman
17327 Bronte Place
Granada Hills, CA 91344

Salvatore & Jan Luongo
17256 Tennyson Place
Granada Hills, CA 91344

Andrea & Barry Mann
12838 Meadowlark Ave.
Granada Hills, CA 91344

John Manning
13129 Constable Avenue
Granada Hills, CA 91344

Doug Martin
13066 Shenley Street
Sylmar, CA 91342

Ann M. Messina
13145 Whistler Avenue
Granada Hills, CA 91344

Brenda Mosler
13172 Courbet Lane
Granada Hills, CA 91344

Francis W. Navickas
13046 Jolette Avenue
Granada Hills, CA 91344

Jody Nuckolls
44169 Devol Street
Lancaster, CA 93535

Ray Price
12936 Winthrop Avenue
Granada Hills, CA 91344

Walter N. Prince
19025 Parthenia St. #200
Northridge, CA 91324

Larry Rofe
17238 Van Gogh Street
Granada Hills, CA 91344

Seyed A. Rooholamini
17243 Orozco Street
Granada Hills, CA 91344

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12700 Darla Avenue
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Granada Hills, CA 91344

Linda Smaldino
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Granada Hills, CA 91344

Paul E. Sperrazza
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Sharie Swallow-Buckey
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Granada Hills, CA 91344

Stella E. Valdez
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Granada Hills, CA 91344

Frances Walters
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Granada Hills, CA 91344

Gerald E. Walters
12521 Aristo Place
Granada Hills, CA 91344

Howard and Tao Wang
17423 Tuscan Drive
Granada Hills, CA 91344

Kenneth M. Wasserman
10 Universal City Plaza, Suite 2055
Universal City, CA 91608

Randi & Michael Weiner
17300 Bronte Place
Granada Hills, CA 91344

Robert B. Weiss
17208 Braxton Street
Granada Hills, CA 91344

Jennie Juchien-niuj Wu
17723 Courdia Court
Granada Hills, CA 91344

Appendix A14
NOTICE OF EARLY CONSULTATION (NOEC) MAILING LIST AND RESPONSES

SEIR NOTICE OF EARLY CONSULTATION (NOEC) DISTRIBUTION LIST

Mr. Alonzo Carmichael, Planning Officer
City of Los Angeles
Department of Recreation and Parks
Room 1330, City Hall East
200 N. Main Street
Los Angeles, CA 90012

Ms. Elizabeth Harris, Realty Agent
Los Angeles Unified School District
Real Estate Branch, Room 101
1425 South San Pedro Street
Los Angeles, CA 90051

Captain David J. Kalish, Commander
City of Los Angeles Police Department
Planning and Research Division
207 South Broadway, Suite 200
Los Angeles, CA 90012

Mr. Edward Karapetian, Manager
Environmental and Governmental Affairs
Department of Water and Power
Room 1121
P.O. Box 111
Los Angeles, CA 90051

Captain Leo Leon, Division Commander
City of Los Angeles Fire Department
Hydrant Unit
City Hall East, Room 920
200 North Main Street
Los Angeles, CA 90012

Mr. David Palma, Trails Coordinator
Los Angeles County Parks Department
433 South Vermont Avenue
Los Angeles, CA 90020

Mr. Bill Piazza, Senior Safety Engineer
Los Angeles Unified School District
Environmental Health and Safety Division
P. O. Box 2298
Los Angeles, CA 90051

Mr. Alan Taylor
Senior Right of Way Agent
Southern California Edison Company
P.O. Box 900
2425 South Blackstone
Tulare, CA 93275

Table A14-1
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
NOTICE OF EARLY CONSULTATION RESPONSES

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Regional			
Connie Day, Program Supervisor **South Coast Air Quality Management District** Local Government - CEQA/Planning and Technology Advancement 21865 East Copley Drive Diamond Bar, CA 91765-0939	January 25, 1993	**Air** • Composting impacts • Odor • Health Risk • GPA and AQMP Consistency Analysis • Mitigation Measures	Section 4.2, Air Quality
County			
Joan A. Rupert, Departmental Facilities Planner I **County of Los Angeles,** **Department of Parks and Recreation** 433 South Vermont Avenue Los Angeles, CA 90020-1975	October 20, 1992	**Parks** • Local park land • Regional park land • East Canyon Dedication Agreement	Section 4.14.4, Parks and Recreational Resources
Dr. Paul J. Papanek, Jr., Chief **County of Los Angeles,** **Department of Health Services** Toxics Epidemiology Program 2615 South Grand Avenue, Room 607 Los Angeles, CA 90007	February 22, 1993	**Risk of Upset** • Human health • Need for epidemiological study	Section 4.9.5, Human Health

Table A14-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
NOTICE OF EARLY CONSULTATION RESPONSES

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
City			
Dal L. Howard, Assistant Fire Marshall **City of Los Angeles,** **Fire Department** Bureau of Fire Prevention and Public Safety 200 North Main Street Los Angeles, CA 90012	August 11, 1992	**Fire Service** • Fire-flow • Response distance • Firefighting access • Fire hazard area	Section 4.14.1, Fire and Emergency Medical Services
Captain David J. Kalish, Commanding Officer **City of Los Angeles,** **Police Department** Planning and Research Division P.O. Box 30158 Los Angeles, CA 90030	August 11, 1992	**Police Service** • Response time • Private security • Prevention	Section 4.9.4, Employee Safety and Site Security Section 4.14.2, Police
David Griffith, Realty Agent **Los Angeles Unified School District** Business Services Division 1425 South San Pedro Street, Room 101 Los Angeles, CA 90051	October 21, 1992 (Updated February 8, 1995)	**Schools** • Existing facilities • Student generation rates • Facility costs	Section 4.14.3, Schools Appendix C10, Additional Correspondence
Alonzo Carmichael, Planning Officer **City of Los Angeles** **Department of Recreation and Parks** Room 1330, City Hall East 200 North Main Street Los Angeles, CA 90012	Received January 4, 1993	**Parks** • Existing facilities • Future ancillary facilities • Nuisance issues	Section 4.14.4, Parks and Recreational Resources

Table A14-1 (Cont.)
SUNSHINE CANYON LANDFILL (SEIR 91-0377-ZC/GPA)
NOTICE OF EARLY CONSULTATION RESPONSES

Agency Contact	Date of Letter	Issues of Concern	Applicable Draft SEIR Reference Section(s)
Edward Karapetian, Manager **City of Los Angeles,** **Department of Water and Power** Environmental and Governmental Affairs Box 111 Los Angeles, CA 90051-0100	March 2, 1993	**Utilities** • Electrical service	Section 4.16.1, Electricity
Individuals/Organizations/Others			
Rosemary B. Jones **Southern California Edison Company** 500 North State College, Suite 750 Orange, CA 92668-9605	February 10, 1993	**Utilities** • Existing facilities • Elevation of transmission lines	Section 4.16.1, Electricity

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

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JAN 26 1993
ENVIRONMENTAL
UNIT

January 25, 1993

Susan L. Bok
Project Coordinator
Department of City Planning
Room 655, City Hall
Los Angeles, California 90012-4856

Dear Ms. Bok:

RE: Notice of Preparation for the Sunshine Canyon Landfill and Yard Waste Composting Facility
SCAQMD# LAC 9212230-01

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the Notice of Preparation (NOP) for the preparation of a Supplemental Environmental Impact Report (SEIR) for the Sunshine Canyon Landfill and Yard Waste Composting facility in the City of Los Angeles. The proposed project consists of the development and operation of the city portion of a combined Los Angeles County/City landfill project as well as a composting facility.

In February 1991, an Original Environmental Impact Report (OEIR) was certified by the Los Angeles County Board of Supervisors for a "down-sized" version of the project. As a condition of that previous approval, the landfill project is required to seek City approval to further expand the landfill operations within the City boundaries. The SCAQMD has already responded (copy enclosed) to the landfill portion of the City's Notice of Preparation (NOP). Additionally, the SCAQMD staff has met with the City's consultant who is preparing the environmental document. SCAQMD had briefly re-reviewed the OEIR, and had given SCAQMD's comments to City's consultants. The response in this letter will, therefore, address only those issues which were not discussed in the previous response to the NOP or in the meeting.

The SEIR should analyze construction and operation related impacts from the yard waste composting facility, and construction related impacts associated with the landfill portion of the proposed project. Operation related impacts associated with the landfill portion of the proposed project should be revised, if necessary, and combined with impacts associated with operation of the composting facility to determine project significance.

Composting Facility

Composting facility emissions should be estimated for vehicles (material hauling and workers' travel), yard waste trimming, sorting, and shredding equipment, open windrow forming, turning and transferring equipment, and compost loading equipment in addition to storage pile emissions. Additional emissions from the operation of water trucks, water sprayers, mobile equipment, pumps, boilers, generators used in buildings, wells, septic tanks, etc. should be estimated and mitigated.

The composting process may release ethane, methane and ammonia into the atmosphere. The SEIR should clarify how liquid waste from the composting facility will be handled and disposed of If water run-off is allowed to evaporate naturally, the SEIR should clarify how ethane and methane emissions will be prevented during this evaporation process.

Odor Nuisance

The NOP notes that there are landfill emissions and odors from the "previous landfill" in the area, and gives the impression that any additional significant volatile and odorous contaminants associated with the proposed landfilling and composting would not be discernible. SCAQMD recommends to model or measure pre- and post-operation odor levels at various downwind sensitive receptors. If it is determined that modeled post-operation odor levels would exceed the measured pre-operation levels, additional mitigation measures should be included. These measures could include installation of windbreaks, or odor control systems on the exhaust of enclosed operations.

Health Risk

The SEIR should identify locations of all schools, hospitals and long-term care facilities within the vicinity of the proposed project. The SEIR should also include a compliance discussion of Rule 212 and AB 3205 relative to the sensitive receptors notification requirement. Health risk to these sensitive receptors from PM10 and hazardous (toxic) materials should be analyzed in the SEIR, and mitigation measures should be included to reduce potential health risk to the maximum extent feasible. SCAQMD's PM10 State Implementation Plan for the Coachella Valley should be consulted on the adverse health effects associated with exposure to airborne PM10, and Supplemental Guidelines for Preparing Risk Assessment to Comply with the Air Toxic "Hot Spot" Information and Assessment Act, Assembly Bill (AB) 2588, and Analysis of Ambient Data from Potential Toxic "Hot-spots" in the South Coast Air Basin may be used for health risk analysis.

General Plan Amendments and AQMP Consistency Analysis

SCAQMD believes that the proposed General Plan amendments in the NOP may make the city portion of the original project inconsistent with the 1991 AQMP projections. The OEIR discussed the conformity issue under the AQMP consistency section. SCAG should be consulted to determine the need for including a revised conformity analysis. The SEIR should address the AQMP and other regional plan consistency issues. The SEIR, also, should compare the proposed yard waste composting project with the 1991 AQMP's waste handling control measure A-D-1 (Biodegradable Solid Waste). The SCAQMD is aware that the control measure may not be directly related to the proposed project, however, this AQMP control measure may provide guidelines to reduce adverse impact on air quality from the proposed project, or alternatives to the proposed project.

Mitigation Measures

Anaerobic conditions will enhance emissions of ethane, methane and ammonia from composting facilities; therefore, aerobic conditions should be encouraged. The SCAQMD believes that all suggested mitigation measures listed in Exhibit A are feasible and relatively easy to implement. If these mitigation measures are collectively applied, SCAQMD estimates that ethane and methane emissions will be reduced by 20 percent and particulate matter by 7 percent.

Attached is also a listing of potential and feasible mitigation measures the project could incorporate to reduce air quality impacts. For additional mitigation measures please refer to the SCAQMD's 1987 Air Quality Handbook for Preparing Environmental Impact Reports. SCAQMD is in the process of revising this air quality impact analysis handbook. The September 1992 Draft Handbook is available, which includes the updated list of mitigation measures, and mitigation quantification methodologies.

To assist the Lead Agency in the preparation of the air quality analysis for the SEIR, this response to the NOP describes the preferred methodology for evaluating air quality impacts. Upon completion of the Draft SEIR, please forward two copies to: Office of Planning & Rules, South Coast Air Quality Management District, 21865 Copley Drive, P. O. Box 4939, Diamond Bar, California 91765-0939, Attn: Local Government - CEQA. If you have any questions, please call Connie Day, Program Supervisor, at (714) 396-3055.

Sincerely,

Connie Day
Program Supervisor
Local Government - CEQA
Planning and Technology Advancement

CG:CAD:SRG
Attachment
(SG12SSC1.DOC)

EXHIBIT A

Promote aerobic conditions in the detention basin and in the yard waste stockpiles or windrows:

- Clean the composting yard at least three times a year. Cleaning should include removing and scarifying the surface layer, and subsequently spraying it with a one percent solution of potassium permanganate ($KMnO_4$) solution. For effective cleaning and odor removal process, potassium permanganate treatments should amount to 60 pounds of KMnO4 per acre per year;
- Drain excess moisture from the composting yard with the minimum slope equivalent to 2 to 4 percent;
- Form windrows 4 to 6 feet high, long, narrow and crowned;
- Aerate windrows. For effective aeration, windrows should be turned over every three to seven days and by injecting air into windrows;
- Water or mix windrows with dust suppressants;
- Aerate the detention basin or run-off ponds;
- Remove solids from run-offs. Solids may be filtered out and mixed with windrows;
- Cover or continuously empty the detention basin and septic tanks; and,
- Feed the liquid waste into an existing industrial waste pipeline, or into interceptors which will transport the liquid waste to the local sewage or waste treatment facility.

ATTACHMENT

POTENTIAL MITIGATION MEASURES

To reduce particulate emissions from paved and unpaved roads, construction activities, and agricultural operations:

MITIGATION MEASURES

- Use low-emission mobile construction equipment (e.g., tractor, scraper, dozer etc.).
- Develop trip reduction plan to achieve 1.5 AVR for construction employees.
- Water site and clean equipment morning and evening.
- Spread soil binders on site, unpaved roads and parking areas.
- Apply District-approved chemical soil stabilizers, according to manufacturer's specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
- Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak hours.
- Sweep streets if silt is carried over to adjacent public thoroughfares.
- Suspend grading operations during first and second stage smog alerts.
- Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- Wash off trucks leaving the site.
- Maintain construction equipment engines by keeping them adequately tuned.
- Use low sulfur fuel for stationary construction equipment.
- Utilize existing power sources (e.g., power poles) or clean-fuel generators rather than temporary power generators.
- Use low-emission on-site stationary equipment (e.g. methanol powered internal combustion engines).

To reduce automobile emissions by reducing the number of vehicles driven to a work site on a daily basis:

MITIGATION MEASURES

- Provide local shuttle services and access to regional transit systems and transit shelters.
- Provide bicycle lanes, storage areas, and amenities.
- Ensure efficient parking management.
- Provide preferential parking to high-occupancy vehicles and shuttle services.

To reduce vehicular emissions through traffic flow improvements:

MITIGATION MEASURES

- o Configure parking to minimize traffic interference.
- o Minimize obstruction of through-traffic lanes.
- o Provide a flagperson to guide traffic and ensure safety at construction sites.
- o Schedule operations affecting traffic for off-peak hours.
- o Develop a traffic plan to minimize traffic flow interference from construction activities. Plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- o Schedule goods movements for off-peak traffic hours.
- o Provide dedicated turn lanes as appropriate.

To reduce the length of work trips while expanding the supply of affordable housing and creating an urban form that efficiently utilizes urban infrastructure and services:

MITIGATION MEASURES

- o Achieve a job/housing balance compatible with the Regional Growth Management Plan.
- o Encourage growth in and around activity centers, transportation nodes and corridors.

To reduce stationary emissions of operation related activities:

MITIGATION MEASURES

- o Require development practices which maximize energy conservation as a prerequisite to permit approval.
- o Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.
- o Introduce window glazing, wall insulation, and efficient ventilation methods.
- o Introduce energy efficient heating and cooling appliances, such as water heaters, cooking equipment, refrigerators, air conditioners, furnaces and boiler units.
- o Incorporate appropriate passive solar design and solar heaters.
- o Use devices that minimize the combustion of fossil fuels.
- o Capture waste heat and reemploy it in nonresidential buildings.
- o Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.

To protect sensitive land uses from major sources of toxic air pollutants:

MITIGATION MEASURES

- o Require design features, operating procedures, preventive maintenance, operator training, and emergency response planning to prevent the release of toxic pollutants.

COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION

433 South Vermont Avenue - Los Angeles, California 90020-1975 - (213) 738-2961

Rodney E. Cooper . . . . Director

COUNTY OF LOS ANGELES
BOARD OF SUPERVISORS

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Fifth District

PARK AND RECREATION COMMISSION

James Bishop

Arturo Chayra

George Ray

Douglas Washington

October 20, 1992

Betsy Lindsay, Project Manager
Ultrasystems Engineers & Constructors, Inc.
2030 Main Street
Irvine, California 92714-7240

Dear Ms. Lindsay:

SUNSHINE CANYON LANDFILL
REQUEST FOR INFORMATION FOR
SUBSEQUENT EIR

Thank you for John Arnau's letter of September 22, 1992 regarding the project cited above. To answer your questions concerning trails, the Attachment of this transmittal contains a marked up copy of pages 69-71 of the Final EIR. The trails map (page 70) remains the same.

The "Master Plan for Parks & Recreation" has been finalized by the department and is officially titled "A Parks and Recreation Strategic Plan for 2010". A copy of the Strategic Plan has been purchased by your company and was mailed to Margaret Shekell on October 13, 1992.

Local Park Land

In terms of the "Strategic Plan", the proposed project of Sunshine Canyon Landfill is located in Park Planning Area #34, Oat Mountain; Exhibit 4.4.24. Acquisition of local park land is rated as a low priority for this planning area due to the low population density. (See page 80.)

Regional Park Land

There is a deficiency of 13,296 acres of regional park land within Los Angeles County as a whole. The Department classifies "Natural Areas" as regional park land. If the pending East Canyon

PARKS ARE FOR PEOPLE

Recycled Paper

Agreement is approved and accepted by the County, approximately 502 acres of a "Natural Area" would be added to the inventory thereby decreasing the deficiency.

Also contained in the East Canyon Agreement is a provision which allows the County to designate any public agency as the recipient of the 502 acres. If this provision is acted upon, the 502 acres would remain in the public domain due to the mandate of the public agency.

Another aspect of the East Canyon Agreement provides for the future acquisition of Bee Canyon. If this is acted on, it will also serve to decrease the deficiency of regional park land.

If you have any questions concerning this matter, please contact me at (213) 738-2960.

Sincerely,

Joan Rupert

Joan A. Rupert
Departmental Facilities Planner I

Attachment

sclseir.c

Refer reply to: **TOXICS EPIDEMIOLOGY PROGRAM**
2615 S. Grand Ave., Room 607, Los Angeles, CA 90007
(213) 744-3235
FAX (213) 744-3858

ROBERT C. GATES, Director

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
313 N. Figueroa, Los Angeles, CA 90012

February 22, 1993

RECEIVED
FEB 25 1993
ENVIRONMENTAL SERVICES

Susan Bok, AICP
EIR Project Coordinator, Department of City Planning
City of Los Angeles
Room 561, City Hall
200 N. Spring St.
Los Angeles, CA 90012-4801

Dear Ms. Bok:

Thank you for your letter of January 28, 1993, regarding an environmental impact report for the proposed Sunshine Canyon Landfill, located in Sylmar. In your letter, you asked me for comments about an epidemiologic investigation in the neighborhood.

During my previous conversations with you and your consultant, Betsy Lindsay, I stressed the great difficulties one would face in carrying out a community epidemiologic study in this setting. Among the enormous problems to be surmounted would be the following:

1) There is no specific hypothesis to be tested in a scientific way here. In particular, your consultants and advisors apparently do not have a concrete list of adverse health effects which can be credibly linked to landfill exposures. Of course, one could speculate that any number of health effects might in theory be linked with some unidentified pollutant from a landfill. However, in practice it is all but impossible to demonstrate a cause-and-effect relationship without some starting point.
2) There are no accurate measures of pollutant exposures for individual citizens. In general we would not expect exposure measurements for a broad range of volatile compounds, either outdoors or inside homes, to vary much from ambient levels. Therefore, precise longitudinal measurements to quantify exposures which are likely to be close to ordinary ambient levels would be prohibitively expensive, if not practically impossible. Estimates of population exposures, based simply on distance and direction of one's home from the site, are notoriously unreliable.
3) From a methodological standpoint, getting valid questionnaire data retrospectively about reversible symptoms in residents is extremely difficult because of well known problems with recall bias and selection bias. We would also have the problem of population mobility. For health effects which take a long time to develop after an exposure, as for cancer, one could not do a proper study without tracking down people who have long since moved away and excluding those in the neighborhood who more recently moved in.

4) For many objectively measurable health effects which might be of theoretical interest following exposure, we can roughly estimate how great the incremental risk due to landfill exposures is likely to be. These risks are likely to be very small, well below the threshold for detection in an epidemiologic study.

For example, airborne carcinogens which theoretically might be coming to the landfill could produce an additional cancer risk in the surrounding population. However, given what we know about the potency of various carcinogenic pollutants from many studies, this incremental cancer risk even in a worst case scenario is likely to be so low that even if one very carefully studied a population of,say, 10,000 people living adjacent to a landfill, one would have to wait decades for the first extra cancer case to show up. By way of background, in an average population of 10,000 Californians, one would normally expect more than 300 cases of cancer to develop over the course of a decade, without any unusual environmental exposures. Thus, for this setting, cancer risk is likely to fall very far below the threshold for epidemiologic detection.

For these and other reasons, I do not think that a general epidemiologic study will be useful here. That is, I do not recommend a study which would involve door-to-door questionnaires, asking residents whether they had experienced various symptoms or illnesses. Of course, if some community group or others persons were to identify a particular type of illness which might reasonably be linked to such exposures, I would be willing to re-evaluate this recommendation, but at this time I frankly cannot think of a specific counter-example.

Instead, I think that resources which would otherwise go into epidemiologic surveillance would be better spent on environmental monitoring, or in setting up a system to keep track of odor complaints or other nuisance complaints. Our public health goal overall should be to keep airborne concentrations of landfill-derived pollutants as reasonably close to background ambient levels as possible, and to control odor nuisances in the neighborhood so that they are no worse than slight and very infrequent.

I hope this is helpful. Please let me know if you have questions or need more information.

Sincerely,

Paul J. Papanek, Jr., MD MPH
Chief, Toxics Epidemiology Program

cc: Dr. Shirley Fannin
Betsy Lindsay

CITY OF LOS ANGELES
CALIFORNIA

CITY PLANNING COMMISSION

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3447

TOM BRADLEY
MAYOR

DEPARTMENT OF
CITY PLANNING
ROOM 561, CITY HALL
200 N. SPRING ST.
LOS ANGELES, CA 90012-4801

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FAX (213) 237-0552

January 28, 1993

Dr. Paul J. Papanek, Chief
Toxics Epidemiology Program
Disease Control Programs
County of Los Angeles
Department of Health Services
2615 South Grand Avenue, 6th Floor
Los Angeles, California 90007

Re: Sunshine Canyon Landfill, City of Los Angeles Epidemiological Study

Dear Dr. Papanek:

The City of Los Angeles (City) Department of City Planning is responsible (i.e., Lead Agency) for the preparation of the subsequent environmental impact report for the proposed Sunshine Canyon Landfill, located in Sylmar. The City is requesting your participation to ensure the technical accuracy of the pending Human Health/Risk of Upset section which will become part of the environmental assessment of that project. That section along with City input was prepared by Ultrasystems Engineers & Constructors (Ultrasystems), acting in the capacity of environmental consultant to the City for this project. This letter is submitted to solicit your comments, and to transmit for your review and consideration, that applicable portion of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA) and the City's CEQA guidelines.

Enclosed for your review is a portion of the environmental write-up derived from the Human Health/Risk of Upset section of the *Subsequent Environmental Impact Report Sunshine Canyon Landfill (SEIR)*. Key discussion items (pertaining to epidemiological issues) have been incorporated into this section based upon informal meetings that both Betsy Lindsay (Ultrasystems) and I attended. For accuracy and clarity of this write-up, I am asking that you review and comment on this information. If you feel that relevant issues have been inadvertently left out or inaccurately portrayed, please forward those comments to my attention by February 15, 1993.

As you are aware, the City initially requested that Browning-Ferris Industries of California, Inc. prepare an epidemiological study to address concerns (pertaining to human health issues) raised by area residents

(i.e., Granada Hills community) and to further address comments received during the public scoping and the Notice of Preparation pre-circulation period on the *SEIR*.

Ultrasystems, in collaboration with City staff has prepared a discussion that addresses epidemiological issues and more specifically, describes the research and investigations (meetings with yourself and Dr. Thomas Mack) undertaken by the City. This information is presented as pages 3 through 6 of this letter and is intended to satisfy the following objectives: (1) to document why preparing an epidemiological study is not an appropriate approach, in this case; (2) to present a risk assessment of this issue within the *SEIR*, informing the reader about any human health concerns; and (3) to incorporate discussions with technical experts about the appropriateness of conducting an epidemiological study for this specific project.

The City has identified potential mitigation measures for this particular issue which may warrant inclusion in the *SEIR*. One measure would be the utilization of an existing citizens advisory committee (established for the County/landfill, per conditions of project grant) to serve as a sounding-board for the community for these issues. This committee's primary objective would be to discuss problems associated with the landfill facilities and to notify the appropriate regulatory agencies as appropriate.

As a follow-up to Ms. Lindsay's December telephone conversation with you, the City is requesting from you (via written correspondence), a discussion, addressing the appropriateness of an epidemiological study for this proposed project. As the County's leading medical expert in this field, your knowledge about epidemiology will be useful in the City's final determination of potential impact. Please direct your correspondence to me at:

Susan Bok, A.I.C.P.
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, CA 90012-4856
(213) 485-5776

May I extend the City's appreciation for all your time and effort regarding this matter. If you have any questions, please give me a call at (213) 485-5776.

Sincerely,

Susan Y. Bok

Susan Bok, A.I.C.P.
EIR Project Coordinator
Department of City Planning

SB:djp
4651\PAPANEK.LTR

cc: Betsy Lindsay
Thomas Mack

(714) 955-4129

Ultrasystems
Environmental Sciences Div.
2030 Main St - 14th Flr
Irvine, CA 92714-7216

Component of the Human Health/Risk of Upset section of the *SEIR*
Epidemiological Background

During the *SEIR* pre-circulation period, comments were received pertaining to the potential human health impacts (e.g., incidence of cancer, respiratory ailments and diseases, allergies, skin disorders, air borne toxins) of the proposed project. These concerns were raised by homeowners and interested parties that reside in the area of the proposed project. As a follow-up to these concerns, City Planning staff initiated investigations to determine how best to examine these claims of potential health impacts.

After careful study and consultation with leading health experts in the County it was determined that the most appropriate approach would be to conduct a health risk assessment of pollutants generated by the site. City Planning staff formally determined that a full-scale epidemiological study (originally suggested by the City in response to comments received during the Notice of Preparation pre-circulation period) would not be warranted for the proposed Sunshine Canyon Landfill. This formal determination was reached after extensive investigations by City Planning staff and meetings with experts in this field.

Specifically, City staff contacted professional medical authorities (i.e., Paul J. Papanek, M.D., M.P.H., Chief, Toxics Epidemiology Program, Disease Control Programs of the County of Los Angeles, Department of Health Services and Thomas M. Mack, M.D., M.P.H., Professor of Preventive Medicine, University of Southern California, School of Medicine) who are specialists in the field of epidemiology to discuss human health issues and the feasibility of an epidemiological study or a human health survey to address potential human health impacts on residents in the area of the project site (i.e., Granada Hills/Knollwood community). Based on the advice of these authorities, the City concluded that an epidemiological study or a human health survey would not be the most effective research vehicle to analyze human health issues raised by the residents living in the Granada Hills area. A summary of the meetings undertaken by City Planning staff and the City's environmental consultant are provided below.

On July 16, 1992, City Planning staff and a representative of Ultrasystems met with Dr. Paul Papanek (County of Los Angeles). Dr. Papanek's professional background encompasses an extensive medical career and includes specific medical expertise pertaining to epidemiological issues. Dr. Papanek is widely recognized in the County as a leading medical authority in this particular field. The intent of this meeting with Dr. Papanek was to: (1) inform him of the existing and proposed landfill project; (2) discuss the epidemiological study proposed by the City; and (3) address the feasibility of preparing an epidemiological study concerning the proposed project.

Dr. Papanek stated that the potential for significant human health risk impacts to be statistically attributable to a Class III landfill is low. His comments were based upon his review of published scientific studies of other landfills located throughout California. Dr. Papanek suggested that the City should not conduct an epidemiological study for the Sunshine Canyon Landfill because this type of study would be unwarranted on scientific grounds. As noted by Dr. Papanek, an epidemiological study must be carefully designed and researched so that reporting biases which are inherent during study preparation are minimized. Additionally, both control and background variables are difficult to determine. Baseline information would need to be collected, compiled and analyzed prior to incorporation within the project-specific study. Even with such preparation, research findings would be questionable. Moreover, the results of an epidemiological study are not likely to address area

residents' "emotional" concerns about health issues because of preconceived prejudices about a particular project.

In the opinion of Dr. Papanek, the time and effort allocated to the preparation of an epidemiological study would be better utilized on mitigation monitoring features or environmental control systems for the landfill, thereby minimizing potential human health risks.

On October 19, 1992, City Planning staff also met with Dr. Thomas Mack (University of Southern California, School of Medicine) to discuss various aspects of health issues, the feasibility of an epidemiological study and, in particular, cancer incidence rates. Dr. Mack is a noted medical authority and recognized medical expert in Southern California in the field of epidemiology. Dr. Mack was instrumental in the establishment (1973) of the University of Southern California, Cancer Database Registry for Los Angeles County. This cancer registry is utilized by health institutions, public health agencies and organizations to access cancer information and cancer-related statistics for Los Angeles County. As noted by Dr. Mack, the primary focus of the cancer database registry is to ascertain known causes and incidence of cancer (over 100 strains of cancer are utilized in this database) in the County and to register these cancer cases in a database format. The database utilizes federal census tract listings and is updated as census tract information is redefined and updated by the federal government. Changes to census tracts (e.g., subtracts, classifications, etc.) are typically reflective of the population increases in the Southern California region.

Dr. Mack has designed, researched and prepared a number of epidemiological studies for hazardous waste landfills (Class I) and other facilities. These epidemiological studies include: (1) the Operating Industries Landfill; (2) the Del Amo/Cadillac Fairview Site, (3) the Space Ordnance Systems/Sand Canyon Facility; and (4) the BKK Landfill.

Dr. Mack agreed with Dr. Papanek that it is unlikely that an epidemiological study for the Sunshine Canyon Landfill would produce a definitive finding linking health problems of area residents to the landfill. The ability to confirm any relationship would be extremely weak. The population base in the area of the proposed site was relatively small at the time the landfill was originally sited. During the past 20 years the population base has not remained stable, with some residents leaving and others moving into the area. Since cancer population clusters take from 10 to 20 years to be established, changes in the population base would make it difficult to define the study group. Dr. Mack also stated that establishing a causal relationship between health problems and the existing landfill would be next to impossible.

It was suggested by City Planning staff that a citizens' technical advisory committee be established to address residents' health concerns about the existing and proposed landfill project. This committee's mandate would include the discussion of such issues with appropriate technical experts and regulatory agencies responsible for onsite/offsite monitoring activities at the landfill. As indicated by City Planning staff, the technical advisory committee members would be responsible for conveying the findings made by the regulatory agencies back to community residents through planned public meetings.

[Additional Information Forthcoming]

CITY OF LOS ANGELES
CALIFORNIA

BOARD OF
FIRE COMMISSIONERS
485-6032

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TOM BRADLEY
MAYOR

DEPARTMENT OF FIRE
200 NORTH MAIN STREET
LOS ANGELES, CA 90012

DONALD O. MANNING
CHIEF ENGINEER
AND
GENERAL MANAGER

August 11, 1992

Betsy Lindsay, Senior Project Manager
Ultrasystems Engineers and Constructors, Inc.
Environmental Services Division
2030 Main Street
Irvine, CA 92714-7240

Dear Ms. Lindsay:

Subsequent Environmental Impact Report
Sunshine Canyon Landfill, City of Los Angeles
SUP 91-0377-ZC/GPA(CUZ)(ZV)

The proposed project consists of two elements:

- To develop and operate a landfill connecting the landfill located in the County with the landfill facility in the City;
- On-site composting facility consisting of a wood waste processing facility and an open pile composting area.

The following comments are furnished in response to your request for this Department to review the proposed development:

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area.

A. FIRE-FLOW

The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

The required fire-flow for this project has been set at 2,000 gallons per minute (G.P.M.) from three fire hydrants flowing simultaneously.

Improvements to the water system in this area may be required to provide 2,000 G.P.M. fire-flow. The cost of improving the water system may be charged to the developer. For more detailed information regarding water main improvements, the developer shall contact the Water Services Section of the Department of Water and Power at (213) 580-8411.

Adequate public and private fire hydrants shall be required.

B. RESPONSE DISTANCE

Based on a required fire-flow of 2,000 G.P.M., the first-due Engine Company should be within 1.5 miles, the first-due Truck Company within 2.0 miles.

The Fire Department has existing fire stations at the following locations for initial response into the area of the proposed development:

Fire Station No. 18
Single Engine Company
12050 Balboa Boulevard
Staffing - 4
Miles - 2.5

Fire Station No. 91
Single Engine Company
Paramedic Ambulance
14430 Polk Street
Staffing - 6
Miles - 4.1

Fire Station No. 75
Task Force Station - Truck and Engine Company
EMT Ambulance
15345 San Fernando Mission Boulevard
Staffing - 12
Miles - 4.3

The above distances were computed to 14747 San Fernando Mission Boulevard.

Based on this criteria (response distance from existing fire stations), fire protection would be considered inadequate.

C. FIREFIGHTING PERSONNEL ACCESS

No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.

Any person owning or having control of any facility, structure, group of structures or premises shall provide and maintain Fire Department access.

D. FIREFIGHTING APPARATUS ACCESS

Access for Fire Department apparatus and personnel to and into all structures shall be required.

Construction of public or private roadways in the proposed development shall not exceed 15 percent in grade.

Private development shall conform to the standard street dimensions shown on Department of Public Works Standard Plan D-22549.

E. FIRE HAZARD AREA

This project is located in the Mountain Fire District, an area subject to extremely hazardous brush fires.

The Fire Department requires that the following items be incorporated into the design of any structure built on this property:

a. Boxed-in eaves.

b. Single pane, double thickness (minimum 1/8" thickness) or insulated windows.

c. Nonwood siding.

d. Exposed wooden members to be two inches nominal thickness.

e. Noncombustible finishes.

CONCLUSION

In order to mitigate the inadequacy of fire protection in travel distance, automatic fire sprinklers will be required throughout any structure to be built.

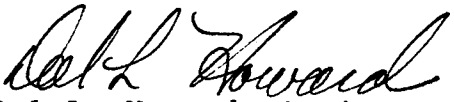
The proposed project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708).

Definitive plans and specifications shall be submitted to this Department and requirements for necessary permits satisfied prior to commencement of any portion of this project.

For any additional information, please contact our Hydrant Unit, at (213) 485-5964.

Very truly yours,

DONALD O. MANNING
Chief Engineer and General Manager



Dal L. Howard, Assistant Fire Marshal
Bureau of Fire Prevention and Public Safety

DLH:ASM:cec:3140E

cc: Hal Bernson, Twelveth Council District
Merryl Edelstein, Department of City Planning
Environmental Affairs Commission
Fire Department Planning Section

LOS ANGELES FIRE DEPARTMENT
BRUSH CLEARANCE UNIT
14555 SYLVAN STREET
VAN NUYS, CA 91411

RECEIVED
OCT 19 1992
ENVIRONMENTAL SERVICES

HAZARDOUS NATIVE BRUSH

	LATIN NAME	COMMON NAME
1.	Adenostoma fasciculatum	chamise or greasewood
2.	Artemisia californica	california sagebrush
3.	Baccharis viminea	mule fat
4.	Cercocarpus betuloides	mountain mahogany
5.	Cytisus monsepessulanus	spanish broom
6.	Eriogonum fasciculatum	california buckwheat
7.	Lonicera johnstonii	southern honeysuckle
8.	Quercus demosa	california scrub oak
9.	Rhus diversiloba	poison oak
10.	Ricinus communis	castor bean
11.	Salvia apiana	white sage
12.	Salvia leucophylla	purple sage
13.	Salvia mellifera	black sage

A:BCU\HAZARD.NTV

PLANTS RECOMENDED FOR FIRE RETARDANT AND EROSION CONTROL PLANTING

LOS ANGELES FIRE DEPARTMENT
BRUSH CLEARANCE UNIT
14555 SYLVAN STREET
VAN NUYS, CA 91411

SUCCULENTS

DELOSPERMA "Alba" (White Trailing Ice Plant)

DROSANTHEMUM floribundum (Rosea Ice Plant)

LAMPRANTHUS spectabilis (Trailing Ice Plant)

MALEPHORA crocea (Croceum Ice Plant)

PLANTS

ARCTOTHECA calendula (Cape Weed)

ATRIPLEX semibaccata (Creeping Austrailian Saltbush)

~~BACCHARIS pilularis var. prostrata (Dwarf Coyote Bush)~~

CEANOTHUS griseus horizontalis (Carmel Creeper)

CEANOTHUS prostratus occidentalis

CERASTIUM tomentosum (Snow in Summer)

CISTUS incanus (Rockrose)

GAZANIA rigens leucolaena (Trailing Gazania)

HEDERA canariensis (Algerian Ivy)

HEDERA helix (English Ivy)

HELIANTHEMUM nummularium (Sunrose)

HYPERICUM calycinum (Aaron's Beard)

MYOPORUM parvifolium

OSTEOSPERMUM fruticosum (Trailing South African Daisy)

PELARGONIUM peltatum (Ivy Geranium)

ROSMARINUS officinalis prostratus (Dwarf Rosemary)

SANTOLINA chamaecyparissus (Gray Lavender Cotton)

SANTOLINA virens (Green Lavender Cotton)

TEUCRIUM chamaedrys (Germander)

VINCA minor (Dwarf Running Myrtle)

MAT:bk/1553N (Rev. 8/23/90)

0863N

LOS ANGELES FIRE DEPARTMENT
BRUSH CLEARANCE UNIT
14555 SYLVAN STREET
VAN NUYS, CA 91411

ACCEPTABLE EVERGREEN TREES FOR BUFFER ZONE PLANTING

NAME	HEIGHT	ZONE
Acer paxii (maple)	30'	14-24
Arbutus unido (strawberry tree)	35'	4-24
Arbutus menziesii (madrone)	20-100'	18-19
Callistemon sp. (bottle brush)	20-25'	12-24
Castanospermum australe (moreton bay chestnut)	20-25'	18-22
Ceratonia siliqua (carob, st.johns bread)	30-40'	13-16,18-24
Citrus sp.	30'	8,9,12-24
Cryptocarya rubra	30-40'	14-17,20-24
Ficus sp. (ornimental fig)	20-30'	19-24
Hakea sp.	10-30'	9,12-17,19-24
Hetromeles arbutifolia (toyon)	15-25'	5-24
Hoheria populnea (new zeland lacebark)	50-60'	15-17,21-24
Hymenosporum flavum (sweetshade)	20-40'	8,9,14-23
Ilex sp. (holly)	10-40'	4-9,14-24
Lagunaria patersonii (primrose tree)	20-40'	13,15-24
Ligustrum lucidum (glossy privet)	35-40'	8-24
Lithocarpus densiflorus (tanbark oak)	60-90'	4-7,14-24
Luma apiculata	6-20'	14-24
Magnolia sp.	20-80'	14-24
Maytenus boaria (mayten tree)	30-50'	8,9,14-24
Olea europaea (olive)	25-30'	8,9,11-24
Pittosporum sp.	15-40'	9-24
Prunus sp.	15-40'	12-24
Quercus sp.	20-70'	12-24
Rhus sp.	15-30'	14-24
Tristania sp.	15-60'	19-24
Umbellularia californica (ca.laurel, ca.bay, oregon myrtle, pepperwood)	75'+	12-24

LOS ANGELES FIRE DEPARTMENT
BRUSH CLEARANCE UNIT
14555 SYLVAN STREET
VAN NUYS, CA 91411

PROHIBITED PLANTS FOR FIRE BUFFER ZONES

TREES

1. All trees of the taxonomic classification of CONIFER.
   This includes but is not limited to:
   ABIES (Fir)
   CUPRESSUS (Cypress)
   PINUS (Pine)

2. EUCALYPTUS.
   Exception: Eucalyptus citriodora

SHRUBS OR GROUND COVER

1. All native "soft chaparal" including but not limited to:
   Adenostoma fasciculatum (chamise or greasewood)
   Eriogonum (buckwheat)
   Salvia (sage)

2. Junipers (all)

LOS ANGELES POLICE DEPARTMENT

RECEIVED
AUG 17 1992
ENVIRONMENTAL SERVICES

WILLIE L. WILLIAMS
Chief of Police

P.O. Box 30158
Los Angeles, Calif. 90030
Telephone:
(213) 485-2636
Ref #: 9.4

TOM BRADLEY
Mayor

August 11, 1992

Ms. Betsy Lindsay
Senior Project Manager
Environmental Services Division
Ultrasystems Engineers & Constructors, Inc.
2030 Main Street
Irvine, California 92714-7240

Dear Ms. Lindsay:

The Sunshine Canyon Landfill project has been reviewed. The project is located in the Los Angeles Police Department's Devonshire Area, Reporting District (RD) 1705. The address of Devonshire Area station is 10250 Etiwanda Avenue, Northridge, CA 91325. Past annual crime statistics for RD 1705 indicate it has a crime rate below the Citywide average. The predominate crimes in the area are larceny, burglary and auto theft. The current average response time to emergency calls in Devonshire Area is 8.7 minutes. The Citywide average response time to emergency calls in 1991 was 6.9 minutes. Devonshire Area currently has 219 sworn officers assigned over three watches.

The proposed project will have no impact on police service in the concerned area. However, strong security measures will be necessary to mitigate a potential crime increase in the area. Private security guards should be used to monitor and patrol the development during the construction phase as well as when the complex is completed. Parking areas should be controlled by an electronic card-key gate in conjunction with a closed-circuit television system. Elevators, lobbies, and parking areas should be well illuminated and designed with minimum dead space to eliminate areas of concealment.

The Department's Crime Prevention Unit, (213) 485-3134, is available to advise the developer on additional crime prevention features appropriate to the design of the project.

Upon completion of the project, the developer should be encouraged to provide the Devonshire Area commanding officer with a diagram of the project. The diagram should include access routes, unit numbers, and any information that might facilitate

police response. Any questions regarding environmental impact reports may be referred to Officer Guillermo Galvan, Long-Range Planning Unit, Planning and Research Division at (213) 237-1653.

Very truly yours,

WILLIE L. WILLIAMS
Chief of Police

DAVID J. KALISH, Captain
Commanding Officer
Planning and Research Division

Los Angeles Unified School District

Business Services Division

SIDNEY A. THOMPSON
Superintendent of Schools

ROBERT BOOKER
Chief Business & Financial Officer

DAVID W. KOCH
Division Administrator, Business Services

C. DOUGLAS BROWN
Deputy Administrator, Business Services

BOB NICCUM
Director of Facilities Planning & Real Estate

Sunshine Canyon Landfill
Environmental Review File

RECEIVED
OCT 28 1992
ENVIRONMENTAL SERVICES

October 21, 1992

Margaret Shekell
Ultrasystems Engineers
2030 Main St.
Irvine, CA 92214-7240

Dear Ms. Shekell:

RE: SUNSHINE CANYON LANDFILL

Pursuant to our recent conversation, I have enclosed some of the material we discussed. The District has no comment at this time on the project, but we do want to review the Draft SEIR.

There are no new facilities planned which would be in proximity to the project. To find out if there are developer fees, you may call the District at 213-742-7461. There are no additional studies, requirements or mitigation measures recommended by the District at this time.

Enclosed are enrollment projections for nearby schools and data regarding student generation methods.

Very truly yours,

David Griffith
Realty Agent

DG:rr

Enclosures

c: Ms. Wong

INTER-OFFICE CORRESPONDENCE
LOS ANGELES UNIFIED SCHOOL DISTRICT

TO: Bob Niccum **Date:** September 10, 1992

FROM: Grant Langan

SUBJECT: INFORMATION REQUEST FOR AN ENVIRONMENTAL IMPACT REPORT

Project Name: Sunshine Canyon Landfill

Project Description: Development of a class III nonhazardous solid waste landfill in conjunction with an on-site composting facility, to expand existing landfill sites in the area.

Project Location: Approximately 494 acres, located westerly and Southerly of 14747 San Fernando Road in Sylmar.

Tentative Tract#: N/A

The project is served by:

SCHOOL	GRADES	OPERATING ACCOMMODATION	MULTI-TRACK PROGRAM	SCHOOL CAPPED	1ST MONTH OCTOBER 5, 1991 ENROLLMENT RESIDENT	ACTUAL
El Dorado Ave. Elem.	K-6	784	YES	NO	657	657
Van Gogh St. Elem.	K-5	627	NO	NO	353	444
Frost Middle School	6-8	2010	NO	NO	865	1645
Kennedy High School	9-12	3200	NO	NO	1519	2174

Attached are current boundary descriptions for the schools indicated above.

Please be aware that by the 1995-96 school year, our 5-year enrollment projections indicate that the district as a whole will have reached maximum capacity; any schools with apparent future available space will be filled with pupils from an overcrowded school.

R-3 Enrollment = Number of students enrolled in the district living within the school's attendance area.

03:sclf.wp5

STUDENT GENERATION RATE

The student generation rate (SGR) is the average number of students enrolled in public schools per household. It provides a bridge from household projections to projections of increased enrollment. There are two approaches for calculating SGRs. One approach develops SGRs for children from new households. The alternative approach is based on the understanding developed earlier in this report that some children from new housing will have relocated from elsewhere in the District, i.e. that the expansion of the housing supply results in some additional households located in existing housing. This approach, which is employed in this report, suggests using District-wide average SGRs.

The 1990 SGRs used in this report were derived by dividing actual first school month (September 1990) enrollment for each grade by the estimated total number of households in the District in 1990. It is estimated that there were approximately 1,465,000 households in the District at that time. It should be noted that the 1990-91 data was used because it was the latest year for which the District had actual enrollment data available. The SGRs are shown in Table 7, on page 25.

The SGRs represent a general relationship between overall student enrollment and total amounts of housing. They indicate that for every 100 households in the District, almost 43 children attend LAUSD schools[1]. The overall (K-12) SGR is slightly more than it

[1] The calculated SGR also reflects the net impact of "Allen Bill" [AB 149, 1985-1986 legislative session] or interdistrict transfer students. Based on this law, which was extended by AB 2071 in 1990, parents may elect to enroll their children in public school districts whose boundaries encompass the parents' place of work, rather than the parents' place of residence. The effect of inter-district transfer students in and out of LAUSD during the past six years has been a net decrease in student enrollment.

TABLE 7

RATES OF STUDENT GENERATION
LOS ANGELESUNIFIED SCHOOL DISTRICT

		Elementary							
Grade	K	1	2	3	4	5	6	SDC/ Special Programs[1]	Total
SGR	.0356	.0373	.0361	.0356	.0344	.0331	.0312	.0060	.2493

	Junior High School		
Grade			
SGR	7	8	Total
	.0300	.0300	.0600

	High School					
Grade						
SGR	9	10	11	12	Grades 7-12	Total
	.0320	.0367	.0231	.0169	0.009	.1177

Total SGR	Total
	.4270

Note[1] SGRs by grades do not includes Special Day Class (SDC), Special Education, Non-Public, Continuation, or Opportunity School enrollment. These are calculated separately as shown in the second to last column.

Source: Recht Hausrath & Associates

Table 25

AVERAGE COST OF FACILITIES AND AVERAGE FEE REVENUE PER NEW HOUSING UNIT LOS ANGELES UNIFIED SCHOOL DISTRICT 1990-2010

Total Facility Costs	$3,371,099,600
New Housing Units 1991 to 2010	325,162
Average Cost Per Housing Unit	$10,367
Total Projected Residential Fee Revenue	$698,522,100
Total Projected New Housing Units	325,162
Average Fee Revenue Per Unit	$2,148
Unfunded Facility Cost Per Housing Unit	$8,219

Source: Tables 13, 16, and 17.

The unfunded cost per worker is calculated using the three steps described below:

Percent Total Workers Living In District (Local Workers)
New non-residential development in the District will add to the local workforce, but only a portion of new employees will also live in the District. These employees are termed "local workers" in this analysis. Workers that live outside the District (non-local workers) will have no impact on school facilities within LAUSD and therefore must be excluded from the analysis. The most current data source for the percentage of local workers in LAUSD is the 1980 Journey to Work Census which indicates a figure of 62 percent.

District Households Per Worker

The number of households added to the District by local workers can range from a high of one per worker, to as low as perhaps 0.5 households per worker, depending on how local workers group themselves into households. On average, in 1980, in the Los Angeles-Long Beach SMSA, households with at least one worker had 1.8 workers. Inversely, there are 0.55 households per worker throughout the District among households with at least one worker. If local workers only form households with other local workers, an extremely conservative premise, then the number of households in the District generated by each new employee is equivalent to 62 percent of new employment times 0.55 households per worker, or 0.34 households per worker.

Unfunded Facility Cost Per Worker

The unfunded school facility cost per unit was identified in Table 25 (page 53) as $8,219. To arrive at the unfunded cost per worker, this number is multiplied by the number of households per worker, 0.34. Thus, approximately $2,794 of unfunded costs can be attributed to each worker, according to this methodology.

This set of calculations is shown in Table 26 below.

Table 26

LOS ANGELES UNIFIED SCHOOL DISTRICT
CALCULATION OF UNFUNDED FACILITY COST PER WORKER

Percent Local Workers	62%
Average Households per Worker	0.55
District Households per Worker	0.34
Unfunded Facility Cost per Household	$8,219
Unfunded Facility Cost per Worker	$2,794

Source: Recht Hausrath & Associates

INTER-OFFICE CORRESPONDENCE

Los Angeles Unified School District

TO: Bob Niccum **Date:** 2-8-95

FROM: Grant Keegan

SUBJECT: INFORMATION REQUEST FOR AN ENVIRONMENTAL IMPACT REPORT

Project Name: Sunshine Canyon Landfill

Project Description: Development of a class III nonhazardous solid waste landfill in conjunction with an on-site composting facility, to expand existing landfill sites in the area.

Project Location: Approximately 949 acres, located westerly and Southerly of 14747 San Fernando Road in Sylmar.

Tentative Tract#: N/A

The project is served by:

SCHOOL	GRADES	OPERATING ACCOMMODATION	MULTI-TRACK PROGRAM	SCHOOL CAPPED	1ST MONTH OCTOBER ENROLLMENT RESIDENT 10-5-93	1ST MONTH OCTOBER ENROLLMENT ACTUAL 10-4-94
El Oro Way	K-5	654	NO	NO	260	365
Van Gogh St. Elem.	K-5	622	NO	NO	324	356
Frost Middle School	6-8	2010	NO	NO	758	1233
Kennedy High School	9-12	3064	NO	NO	1685	2321

Attached are current boundary descriptions for the schools indicated above.

LOS ANGELES UNIFIED SCHOOL DISTRICT
STUDENT GENERATION FACTORS

TYPE	NO. OF BEDROOMS	GENERATION FACTORS				
		ELEMENTARY		MIDDLE	HIGH	
		K-6	K-5	7-9 & 6-8	10 '- 12	9'-12
Lower Income Areas						
Single-family	2	0.300	0.260	0.150	0.150	0.200
	3 or more	0.600	0.520	0.250	0.250	0.340
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.100	0.086	0.040	0.040	0.054
	3 or more	0.400	0.340	0.200	0.200	0.280
Medium Income Areas						
Single-family	2	0.250	0.220	0.100	0.100	0.140
	3 or more	0.500	0.430	0.250	0.250	0.340
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.080	0.070	0.040	0.040	0.054
	3 or more	0.300	0.260	0.150	0.150	0.200
Higher Income Areas						
Single-family	2	0.200	0.170	0.100	0.100	0.140
	3 or more	0.400	0.350	0.200	0.200	0.270
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.060	0.052	0.040	0.040	0.054
	3 or more	0.150	0.130	0.060	0.060	0.080
Multiple (Rented)	1	0.000	0.000	0.000	0.000	0.000
	2	0.250	0.220	0.100	0.100	0.140
	3 or more	0.600	0.520	0.200	0.200	0.270

SGF

Revised November 23, 1994

Table 7

LAUSD
CURRENT (1993/94) AND FUTURE PROJECTED (2010/11)
ENROLLMENT AND STUDENT GENERATION RATES

1993/94	K-6	7-8	9-12	K-12[1]
Enrollment	378,520	91,430	169,724	639,687
SGR	0.26	0.06	0.12	0.44
2010/11				
Enrollment	483,948	116,626	213,963	814,537
SGR	0.28	0.07	0.12	0.47

Note: [1] Does not include students counted as "non-public" for enrollment purposes.
Source: Los Angeles Unified School District; Recht Hausrath & Associates.

The SGRs represent a general relationship between overall student enrollment and total amounts of housing. They indicate that currently for every 100 households in the District, almost 44 children attend LAUSD schools.[3] The overall (K-12) SGR can be contrasted to what it was in 1988, when the SGR was approximately 0.41 students per household. Furthermore, the total SGR is anticipated to rise to approximately 0.47 by 2010. These changes in the SGR reflect the effect of the baby boom echo. The discussion above indicated that the enrollment forecasts, including the SGR of approximately 0.47 in 2010, are based on the assumption that although birth rates will stabilize slightly below their 1989 to 1992 level the overall SGR will still increase as the larger kindergarten and elementary classes gradually progress through the higher grades. The actual SGR of any individual household will likely vary over the life of the housing unit (see Appendix B). However, the current SGRs of

[3] The calculated SGR also reflects the net impact of "Allen Bill" [AB 149, 1985-1986 legislative session] or interdistrict transfer students. Based on this law, which was extended by AB 2071 in 1990, parents may elect to enroll their children in public school districts whose boundaries encompass the parents' place of work, rather than the parents' place of residence. The effect of inter-district transfer students in and out of LAUSD in the past has been a net decrease in student enrollment.

of local workers in LAUSD is the 1990 Census mobility data which, analyzed by SCAG, indicates a figure of 77.7 percent for the LAUSD geographical area.

District Households Per Worker

The number of households added to the District by local workers can range from a high of one per worker, to as low as perhaps 0.5 households per worker, depending on how workers group themselves into households. On average, in 1990, in the city of Los Angeles households with at least one worker had 1.56 workers. Inversely, there are 0.641 households per worker throughout the District among households with at least one worker. The number of households in the District generated by each new employee is equivalent to 77.7 percent of new employment times 0.641 households per worker, or 0.498 households per worker.

Unfunded Facility Cost Per Worker

The unfunded school facility cost per unit was identified in Table 25 (Page 54) as $8,723. To arrive at the unfunded cost per worker, this number is multiplied by the number of households per worker, 0.498. Thus, approximately $4,344 of unfunded costs can be attributed to each worker, according to this methodology.

This set of calculations is shown in Table 26 below.

Table 26

Percent Local Workers	77.7%
Average Households per Worker	0.641
District Households per Worker	0.498
Unfunded Facility Cost per Household	$8,723
Unfunded Facility Cost per Worker	$4,344

Source: Recht Hausrath & Associates

Table 27 (Page 57) calculates the impact per square foot based on an unfunded cost per worker of $4,344 and the employment densities established by SANDAG and presents the maximum fee per square foot that can be charged. The impact per square foot represents the amount of funding, after accounting for the residential contribution, that the District must secure to accommodate the employee-related students associated with each building type. The maximum fee is the lesser of the impact per square foot, or the $0.28 maximum allowable fee for commercial/industrial development.

Mr. John J. Arnau, Associate
Planner
Environmental Service Division
Ultrasystems Engineers &
Constructors, Inc.
2030 Main Street
Irvine, California 92714-7240

RECEIVED
JAN - 4 1993
ENVIRONMENTAL SERVICES

Attention: Ms. Margaret Shekell

Dear Mr. Arnau:

In a recent letter you requested information from the Department of Recreation and parks relative to the proposed Sunshine Canyon Landfill project in the northern San Fernando Valley. Following are our responses to your inquiry:

1) The two Department properties located within the vicinity of the Sunshine Canyon property are O'Melveny Park and Bee Canyon Park. The two parcels are indicated on the attached map.

2) There is an existing and City-approved 12th Council District Trails Plan. Your organization has a copy of the plan.

3) This agency currently has funds for both the development of a Nature Center/Ranger Headquarters structure and an outdoor park development project at O'Melveny Park. The Nature Center/ Ranger building has not, as yet, been considered at any community meeting. It is unlikely that either project will be in construction prior to the conclusion of Fiscal Year 1992/93.

4) The official City standard for local park and recreation facilities is four (4) acres of park land for each one thousand (1,000) residents. Neither the dedication of park land nor the payment of in lieu fees are required for landfill projects.

5) It is reasonable to assume that a landfill operation the scale of the proposed Sunshine Canyon facility will generate a certain amount of vehicular traffic, odors, air-borne debris, etc. However, in the absense of specific information we cannot comment on the prospective cumulative impacts of the project.

Should you need additional information, please contact the undersigned at (213) 485-2451.

Vty

AAC

attachment

Department of Water and Power the City of Los Angeles

TOM BRADLEY
Mayor

Commission
MICHAEL J. GAGE, *President*
RICK J. CARUSO, *Vice President*
ANGEL M. ECHEVARRIA
DOROTHY GREEN
CONSTANCE L. RICE
JUDITH K. DAVISON, *Secretary*

DANIEL W. WATERS, *General Manager and Chief Engineer*
ELDON A. COTTON, *Assistant General Manager - Power*
JAMES F. WICKSER, *Assistant General Manager - Water*
PHYLLIS E. CURRIE, *Chief Financial Officer*

RECEIVED
MAR - 5 1993
ENVIRONMENTAL SERVICES

March 2, 1993

Ms. Margaret Shekell
Environmental Planner
Environmental Services Division
Ultrasystems Engineers
& Constructors, Inc.
2030 Main Street
Irvine, California 92714-7240

Dear Ms. Shekell:

Sunshine Canyon Landfill, City of Los Angeles (City)
Subsequent Environmental Impact Report
Request for Comments

This is in reply to your letter dated December 9, 1992 requesting comments concerning the above project.

The proposed project consists of the development and operation of the City portion of a combined Los Angeles County/City landfill project as well as composting facilities adjacent to the prior landfill.

The following is information requested regarding electrical service:

1. What substation serves the project site and where is it located?

Answer: The existing electrical loads at the Sunshine Canyon Landfill are supplied from the Los Angeles Department of Water and Power's (Department) 4.8-kV distribution system. The 4.8-kV distribution system for this region is supplied from Balboa Distributing Station 86 located at 12960 Balboa Boulevard.

2. Where are the major transmission/distribution lines located and what are their capacities?

Answer: The 4.8-kV distribution lines are located adjacent to the property on San Fernando Road. The 34.5-kV distribution lines are located on San Fernando Road east of Balboa Boulevard.

Recyclable and made from recycled waste

3. Are there any known deficiencies or proposed improvements planned which are unrelated to project implementation?

Answer: There are plans to extend the 34.5-kV distribution line to a new 34.5-kV customer station which will supply an electrical load increase at UMC Petroleum adjacent to the Sunshine Canyon Landfill. This 34.5-kV distribution line may also be extended to a 5-MW generation facility proposed by Genesis Energy Systems, Inc., at the Sunshine Canyon Landfill.

4. Is the electrical power capacity sufficient to provide for the volume of electricity the project is anticipated to consume?

Answer: The electrical requirements of the project are not known at this time so it is not possible to comment on this question.

5. Has a "will serve" letter been issued to the project applicant?

Answer: The only recent service request for the Sunshine Canyon Landfill has been for service to some fire pumps. There has not been a service request for any other additional load at this time.

6. Are any design and project operation guidelines or mitigation measures recommended in addition to the listing of "Commercial Energy Conservation Measures" previously provided in order to reduce or eliminate any potential impact to electrical facilities?

Answer: "The Commercial Energy Conservation Measures" that were previouly provided to Ms. Bok on June 19,1992 have not changed. If you or members of your staff would like to meet and discuss conservation measures specifically for your project, please contact Mr. Brian Belier, Manager of the New Construction Unit of Energy Services Subsection, at (213)481-5735.

Electrical services will be provided in accordance with the Department's rules and regulations. Facility construction may cause limited temporary impact on the surrounding communities in the form of unavoidable noise, air pollution, and traffic congestion during construction.

If you or your staff have any questions regarding this matter, please contact Mr. Charles C. Holloway of my staff at (213) 481-4886.

Sincerely,

EDWARD KARAPETIAN
Manager of Environmental and
Governmental Affairs

c: Ms. Susan L. Bok
Project Coordinator
Department of City Planning
Room 655, City Hall
200 North Spring Street
Los Angeles, California 90012-4856

Mr. Brian Belier

Mr. Charles C. Holloway

Southern California Edison Company

500 NORTH STATE COLLEGE

SUITE 750

ORANGE, CALIFORNIA 92668-9605

SOUTHERN REGION
LAND SERVICES DIVISION
REAL PROPERTIES AND
ADMINISTRATIVE SERVICES

TELEPHONE
(714) 939-4791
FACSIMILE
(714) 939-4772

RECEIVED
FEB 16
ENVIRONMENTAL SERVICES

February 10, 1993

Ultrasystems Engineers & Constructors
Environmental Services
2030 Main Street, 14th Floor
Irvine, CA 92714

Attention: Ms. Betsy Lindsay
Senior Project Manager

SUBJECT: Proposed BFI Landfill Expansion Project
Newhall-Chatsworth-San Fernando-Mac Neil,
East Saugus-San Fernando-Mac Neil &
West Saugus-Chatsworth-San Fernando-Mac Neil
66kV Transmission Lines
RP File No. R87S507-3-59RJ

In response to your inquiries regarding Edison's facilities within the proposed landfill expansion the following is offered:

1. What substation serves the project site and where is it located?

   BFI's project will be served by the Los Angeles Department of Water & Power.

2. Where are the major transmission/distribution lines located and what are their capacities?

   There are two (2) transmission corridors that traverse the proposed project. The first was previously identified as the Newhall-Chatsworth-San Fernando-Mac Neil 66kV (50-feet wide) Transmission Line. This facility is generally located at the City of Los Angeles boundary line along the northerly side of the project.

   Upon review of subsequent information, it appears a second transmission line (two circuits) is affected. The East

Saugus-San Fernando-Mac Neil & West Saugus-Chatsworth-San Fernando-Mac Neil 66kV T/L (60-feet wide) located on the easterly side of the proposed project, generally paralleling the Golden State Freeway near the current entrance to BFI's existing facilities off San Fernando Road. Edison has requested it be provided mapping showing its existing towers in relationship to BFI's proposed development in that area.

Both transmission lines are 66,000 volt capacity.

3. Are there any known deficiencies or proposed improvements planned which are unrelated to project implementation?

None are known which are unrelated to project at this time.

4. What procedures will be required by Edison to determine if relocation will be required? What recommendations are provided for development within Edison's easement areas?

Should relocation and/or raising of the transmission line(s) be necessary, it would be determined after review of final plans for the project. Edison would be considering its access, ground clearances, general operating and safety concerns, etc.

Recommendations for development within the fifty (50) and sixty (60) foot-wide strips would be based on access, ground clearances, general operating and safety concerns. Existing easement rights and restrictions would also be a determining factor.

5. What design or project operation guidelines are recommended to reduce or eliminate any potential impact to Edison facilities or easements?

Either relocate the transmission line (s) out of the proposed development area or eliminate/severely restrict development within Edison's fifty (50) & sixty (60) foot-wide transmission line right of ways.

Generally speaking the summary items provided in Edison's letter of March 29, 1987 (attached) are still valid; however, it currently takes 18 to 24 months to order materials and complete construction from the time the materials order is placed. This time frame is largely dependent upon the magnitude of the relocation work necessary, and may be adversely affected by unexpected delays, such as, environmental issues, availability of steel, etc.

Should you have any questions or require further information, please contact me at (714) 939-4730.

Very truly yours,

Rosemary B. Jones

RBJ

Attachment

Southern California Edison Company

P O BOX 900

2425 SOUTH BLACKSTONE

TULARE CALIFORNIA 93275

REAL PROPERTIES DEPARTMENT

RECEIVED

MAR 31 1987

Mr. Don M. DeMars
Vice President
Environmental Systems Division
Ultrasystems, Inc.
16845 Von Karman Avenue
Irvine, CA 92714

March 29, 1987

Dear Mr. DeMars:

SUBJECT: BFI Landfill Expansion Project
Newhall - Chatsworth - San Fernando - Mac Neil
66 kV Transmission Line
File 870207/559AT

In response to your letters of February 19 and 27, 1987, we currently have an existing 66 kV transmission line located within a 50-foot wide easement which crosses the BFI Landfill Project. As you know, our facilities and easements are generally located along the City of Los Angeles boundary line.

In your letters and our discussions, you asked if relocation of our facilities is feasible, and if so, what process should be followed to implement such a relocation. The following will summarize the various steps:

- Payment of a $50,000 engineering advance. These funds would be used to determine if feasible alternative routes are available, perform engineering/design studies, and prepare estimates for the total cost of the job.

- Obtain replacement right of way for the new alignment and access roads at no cost and in a form acceptable to Edison. As discussed in our meeting, the new alignment would have to be entirely within the property of BFI.

- Order materials for the new facilities. As a matter of information, it takes from 18 to 24 months to obtain the materials from the time the order is placed. Also, BFI would be expected to pay for the materials prior to placing the order.

° After the materials are received and payment for the balance of the job is received, we would proceed with the actual work.

The above gives a brief overview of the requirements for performing a relocation. As you can see, because of the magnitude of this project it can become a very lengthy process. If BFI wishes to proceed, we would prepare a relocation contract detailing the specific requirements to accomplish the relocation. When BFI is ready to proceed, please write me at the above address.

If you have any questions or need further information, please call me at (209) 685-3287.

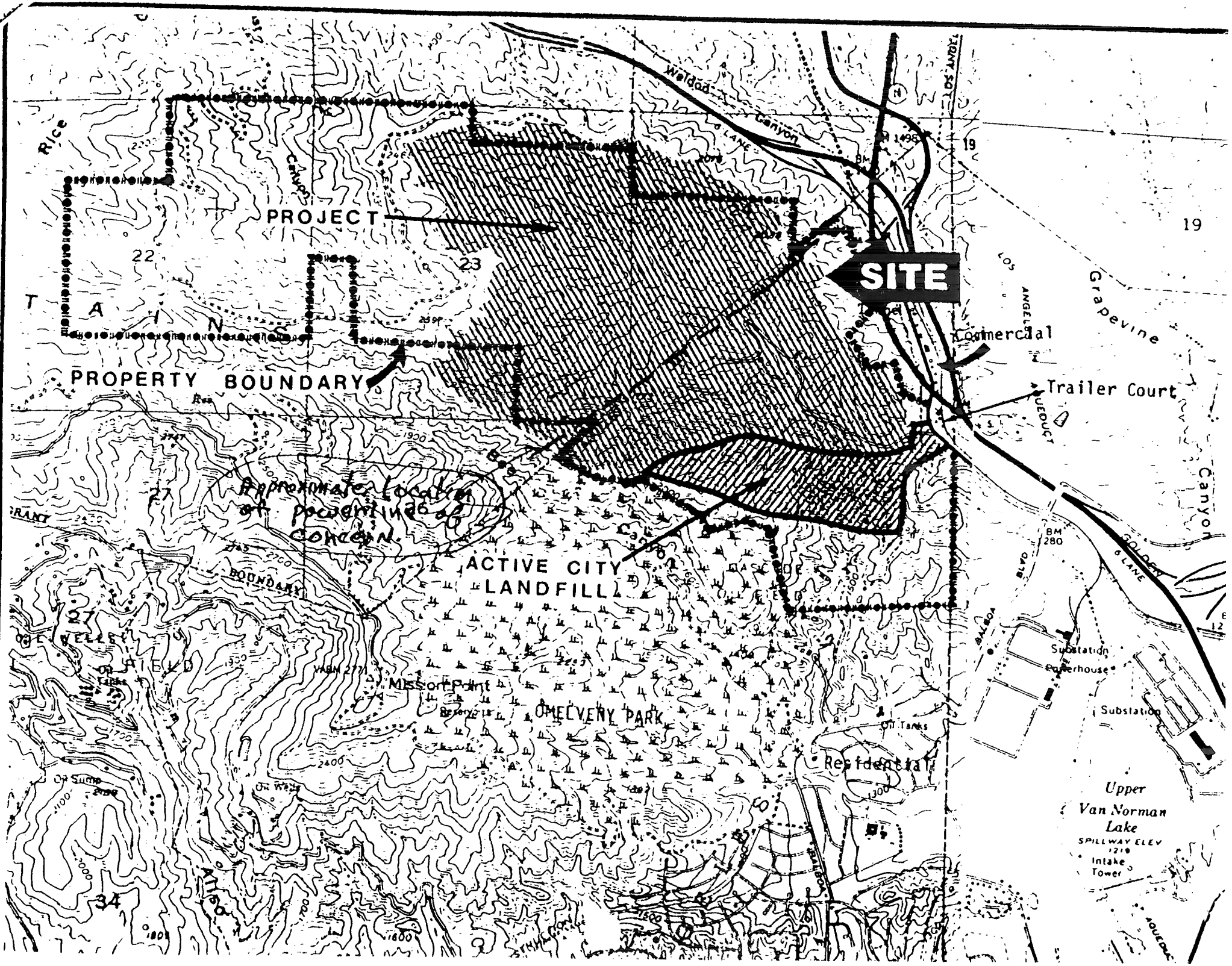
Very truly yours,

Allan C. Taylor

ALAN C. TAYLOR
Senior Right of Way Agent

cs

cc: Andy Anderson


PROJECT
SITE
PROPERTY BOUNDARY
Approximate Location of Property Line of Concern
ACTIVE CITY LANDFILL
Commercial
Trailer Court
Residential
Upper Van Norman Lake
SPILLWAY ELEV 1219
Intake Tower
Substation
Powerhouse
Oil Tanks
Oil Wells
Oil Sump
Missor Point
OMELVENY PARK
Weldon Canyon
Rice Canyon
Grapevine Canyon
Los Angeles Aqueduct
Balboa Blvd
Golden State Freeway
T A I N S
22
23
27
34
19

Appendix A15
CEQA TIME EXTENSIONS

Table A15
CEQA TIME EXTENSIONS ON THE DRAFT SEIR

Date of Request (correspondence)	Information Pertaining to CEQA Time Extensions
12/15/92	Request by environmental consultant for a 4-month extension due to outstanding litigation on the County Landfill FEIR. Time extension granted by City Planning staff from 12/13/92 through 4/12/93.
4/2/93	Request for a 5-month extension due to outstanding County Landfill FEIR litigation and postponements in the traffic/circulation study for the City Landfill SEIR. City granted extension from 4/12/93 through 9/12/93.
8/12/93	Request for a 6-month extension due to continuing County Landfill litigation and the Board of Supervisors' pending approval of the County Landfill FEIR and entitlements. Request granted by City Planning staff. Extension period from 9/13/93 to 3/14/94.
3/2/94	Request for a 6-month extension due to outstanding litigation on the County Landfill FEIR. City Planning staff granted extension from 3/15/94 through 9/15/94.
8/18/94	Meeting held with City staff and the environmental consultant to discuss various issues pertaining to the proposed project and request by environmental consultant for an extension on Database I (first screencheck document submitted to the City for review).
9/7/94	Request for a 6-month extension on the SEIR due to outstanding litigation on the County Landfill FEIR. Request granted by City Planning staff from 9/15/94 to 3/16/95.
3/22/95	Request for a 3-month extension due to unresolved traffic issues and delays in biological field studies being performed due to inclement weather conditions. Time extension granted by City Planning staff from 3/16/95 to 6/17/95.

Source: Ultrasystems Environmental Incorporated

Note: Information pertaining to CEQA time extensions is contained in the administrative record for this proposed project and is available at the Department of City Planning.

Appendix A16
LEAD AGENCY, PROJECT PROPONENT, AND RESPONSIBLE AGENCIES

LEAD AGENCY, PROJECT PROPONENT, AND RESPONSIBLE AGENCIES

The entities listed below are associated with this project and may be contacted should the reader have any questions or comments concerning either the proposed project or the environmental analyses contained within this Draft SEIR. Although it has been the intention of the City to present a complete list of Responsible Agencies that may be required to utilize this environmental analysis and/or any and all related documents as the environmental basis for subsequent discretionary actions upon the project, other Responsible Agencies and required discretionary actions not identified herein may exist. Failure to identify those agencies and/or related permits, approvals, or associated entitlements does not preclude those agencies from utilizing this Draft SEIR in their decision-making process.

Lead Agency: **City of Los Angeles Department of City Planning** Attn: Irene Paul, Associate Planner 221 N. Figueroa Street, 15th Floor Los Angeles, CA 90012-2601 Telephone: (213) 580-5555 E-mail: ipaul@planning.ci.la.ca.us	**California Department of Health Services** Attn: Kim Dinh, Sanitary Engineer Environmental Management Branch 601 North 7th Street Sacramento, CA 94234-7320 Telephone: (916) 323-6111
Environmental Consultant: **Ultrasystems Environmental Incorporated** Attn: Betsy Lindsay, Principal/Project Director 26461 Crown Valley Parkway, Suite 140 Mission Viejo, CA 92691-6377 Telephone: (714) 367-8888 E-mail: blindsay@ultrasystems.com www.ultrasystems.com	**California Department of Water Resources, Southern District** Attn: Charles R. White, Chief 770 Fairmont Avenue Glendale, CA 91209-9068 Telephone: (818) 543-4600
Project Proponent/Facility Operator: **Browning-Ferris Industries of California, Inc.** Attn: James T. Aidukas, Director of Env. Affairs 14747 San Fernando Road Sylmar, CA 91342 Telephone: (818) 362-1567	**California Regional Water Quality Control Board, Los Angeles Region 4** Attn: John L. Lewis, Senior Env. Specialist IV 101 Centre Plaza Drive Monterey Park, CA 91754-2156 Telephone: (213) 266-7556
Responsible Agencies: **U.S. Department of the ArmyCorps of Engineers** Attn: Richard Schubel, Acting Chief, Northern Section Office of the Chief, Regulatory Branch 911 Wilshire Boulevard, 10th Floor Los Angeles, CA 90017-3401 Telephone: (213) 452-3908	**South Coast Air Quality Management District** Attn: Steve Smith, Ph.D., Program Supervisor Local Government – CEQA 21865 East Copley Drive Diamond Bar, CA 91765-0939 Telephone: (909) 396-3600
California Department of Transportation, District 7 Attn: Steve Buswell, Senior Transportation Planner Advanced Planning Branch 120 South Spring Street Los Angeles, CA 90012-3606 Telephone: (213) 897-6610	**Los Angeles County Department of Health Services** Attn: Richard Hanson, Director Solid Waste Management Program 2525 Corporate Place, Room 150 Monterey Park, CA 91754 Telephone: (213) 881-4149
California Integrated Waste Management Board Attn: Jeanne Blakeslee, Waste Management Specialist Permitting and Enforcement Division 8800 Cal Center Drive Sacramento, CA 95826 Telephone: (916) 255-4708	**County of Los Angeles Department of Regional Planning** Attn: Frank Meneses, Section Head Impact Analysis Section 320 West Temple Street Los Angeles, CA 90012 Telephone: (213) 974-6446

State Water Resources Control Board Attn: Wayne Hubbard, Environmental Specialist III Environmental Services Unit 2014 T Street, Suite 130 Sacramento, CA 94244-2120 Telephone: (916) 227-4308	**City of Los Angeles Environmental Affairs Department** Attn: Wayne Tsuda, Director 201 N. Figueroa Street, 2nd Floor, MS 248 Los Angeles, CA 90012-2601 Telephone: (213) 570-1070

Source: Ultrasystems Environmental Incorporated

Appendix B
TECHNICAL REPORTS

B1 LADOT/City Planning Staff Correspondence and Traffic Impact Study Report

B2 Biological Assessment

B3 Biological Resources Wetlands/Riparian Habitat Section

B4 Tree Report

B5 Potential Liner Systems for the Proposed City/County Landfill Project

B6 Low-Level Health Risk Assessment

B7 Noise Modeling

B8 Air Quality Modeling and Wind Speed and Direction Summary

B9 Paleontological Survey Report

Appendix B1
LADOT/CITY PLANNING STAFF CORRESPONDENCE AND TRAFFIC IMPACT STUDY REPORT

LADOT/CITY PLANNING STAFF CORRESPONDENCE

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

San Fernando Rd
& Sunshine Canyon
Landfill Access Rd

Date: March 12, 1996

REC'D MAR 1 5 1996

To: Darryl Fisher, Associate Zoning Administrator
Department of City Planning

From: Robert T. Takasaki, Senior Transportation Engineer
Department of Transportation

Subject: **TRAFFIC IMPACT STUDY FOR PROPOSED SUNSHINE CANYON CITY LANDFILL EXTENSION PROJECT (SEIR 91-0377-ZC/GPA)**

The Department of Transportation (DOT) has reviewed the project traffic impact study, dated June 13, 1995, prepared by traffic consultant Linscott, Law & Greenspan, Engineers, for the proposed Sunshine Canyon City Landfill Extension project located west of San Fernando Road and the Interstate-5 Freeway (I-5). The study concludes that five of the thirteen intersections analyzed would be significantly impacted by project related traffic. Except as noted, the study adequately evaluates the project's anticipated impacts on the surrounding community.

PROJECT DESCRIPTION

The proposed City Landfill Extension project consists of the development and operation of a Class III nonhazardous solid waste landfill facility and an on-site green waste/wood waste recycling area on a 205 acre site. The project is contiguous with the previously approved Sunshine Canyon County Landfill Extension project located in the unincorporated County area of Sunshine Canyon and utilizing a common access driveway on San Fernando Road south of the I-5 southbound off-ramp and south of Sierra Highway. The proposed City Landfill project would have an estimated net airspace volume of approximately 31 million tons and with an average solid waste disposal intake of approximately 5,000 tons per day. The maximum daily intake for the proposed City landfill is 5,500 tons per day. The City landfill operation will be open for refuse disposal from 6:00 AM to 6:00 PM, Monday through Saturday, excluding Sundays and holidays. This project as described above will generate approximately 1,180 daily trips with approximately 129 trips during the AM peak hour and approximately 150 trips during the PM peak hour.

MITIGATION

The study identifies that the proposed City landfill project will have significant traffic impacts during peak hours at the following five intersections (see Attachment):

1. Roxford Street and I-5 Southbound On/Off Ramps
2. Roxford Street and Encinitas Avenue/I-5 Northbound Ramps
3. San Fernando Road and Balboa Boulevard
4. San Fernando Road and Sierra Highway
5. San Fernando Road and Project Driveway

DOT has received comments from the State of California Department of Transportation (Caltrans) pertaining to preliminary mitigation plans prepared for the above intersections. Caltrans approval is also required for proposed mitigation measures at locations involving their on and off ramps. The following comments incorporate both DOT and Caltrans comments:

- Roxford Street and I-5 Southbound On/Off Ramps
  The proposed mitigation to install dual left-turn channelization for westbound Roxford Street at the southbound Interstate-5 Freeway (I-5) on/off ramps is acceptable to DOT. This would be accomplished by re-striping the section of Roxford Street from west of the I-5 southbound ramps to just east of Encinitas Avenue/I-5 northbound ramps to provide for two left-turn lanes and one through lane at the westbound approach of Roxford Street.

  Caltrans comments - The left-turn lane on Roxford Street should be 12 feet in width. Existing stop sign control at the intersection of Roxford Avenue and I-5 southbound on/off ramps may not be adequate for the smooth flow of traffic. A traffic analysis should be conducted at this critical intersection to provide additional information to show the expected increase in volume for westbound Roxford Street to the southbound I-5 on-ramp. Furthermore the proposed mitigation measures should be expended to include more than just restriping. State standards as well as geometric and operational capacity needs must be considered and satisfied for all improvements within the State right-of-way and affecting State facilities. If the proposed cost of modifying any of the State facilities exceeds $1,000,000.00, a Project Study Report (PSR) should be prepared.

- Roxford Street and Encinitas Avenue/I-5 Northbound Ramps
  The proposed mitigation to install left-turn channelization for the westbound approach of Encinitas Avenue and to re-stripe the northbound approach of Encinitas Avenue for a left-turn lane, a shared left/through lane and a shared through/right-turn lane is acceptable to DOT.

  Caltrans comments - The left-turn lane on Roxford Street at Encinitas Avenue should be 12 feet in width.

- San Fernando Road and Balboa Boulevard
  The proposed mitigation to contribute to the design, construction and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) System for this intersection is acceptable to DOT. The current cost of ATSAC for the Northeast Valley System is $79,000 per intersection. The contribution to ATSAC should be made prior to the start of construction for this ATSAC System which is scheduled for the year 2003.

- San Fernando Road and Sierra Highway
  The proposed mitigation to re-stripe the northbound approach of San Fernando Road to provide a shared through/right-turn lane and a right-turn lane and to re-stripe the westbound approach of Sierra Highway for a 12-foot curb lane (centerline off-center) is acceptable to DOT.

  Caltrans comments - The left-turn lane on San Fernando Road at Sierra Highway should be 12 feet in width.

- San Fernando Road and Project Driveway
  The proposed mitigation to install a new traffic signal, to widen and re-stripe northbound San Fernando Road with dual left-turn lanes and contribute to the design, construction and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) System for the project driveway intersection is acceptable to DOT. The current cost of ATSAC for the Northeast Valley System is $79,000 per intersection. The contribution to ATSAC should be made prior to the start of construction for this ATSAC System which is scheduled for the year 2003.

The required street improvements and signal modifications shall be guaranteed before the issuance of any building permit for this project through the B-Permit process of the Bureau of Engineering, Department of Public Works and the Encroachment Permit process of Caltrans (where applicable). Construction of the improvements to the satisfaction of DOT, the Bureau of Engineering and Caltrans (where applicable) must be completed before issuance of any certificate of occupancy. Prior to setting the bond amount the Bureau of Engineering shall require that the developer's engineer or contractor contact DOT's B-Permit Coordinator, telephone (213) 580-5336, to arrange a pre-design meeting to finalize the proposed geometric and traffic signal designs needed for the project.

CONSTRUCTION TRAFFIC

The Sunshine Canyon Landfill project will be constructed in phases and will generate approximately 140 daily trips. Construction traffic would be short-term, lasting approximately six to eight months beginning in 1998. Construction at the site would occur five days per week, during the hours of 6:00 AM to 6:00 PM and maintenance on construction vehicles would take place during the hours of 6:00 PM to 9:00 PM. It is anticipated that a majority of construction-related traffic will utilize the freeways (I-5, I-210 and SR-14) to gain regional access to the site. DOT concurs with the study that the traffic impact to the adjacent roadway network will be minimal and not long-term.

COMMENTS

In Exhibit 2, Existing Roadway Conditions, the lane configuration for westbound traffic on Encinitas Avenue at Roxford Street; and southbound traffic on Yarnell Street at the Foothill Freeway (I-210) westbound on/off ramps are incorrect. The correct lane configuration for both these intersections should indicate a shared through/left-turn lane and a (de-facto) right-turn lane. These corrections are not expected to change the results of the study.

San Fernando Road is classified as a major highway. The developer should contact the Bureau of Engineering, Valley District Office, for any highway dedication and street widening requirements.

If any questions should arise, please contact John Sam of my staff at (213) 580-5206.

JSS2\wpwin\sunshine

c: Council District No. 12
West Valley District, DOT
Design Division, DOT
Citywide Planning Coordination Section, Counter "O", DOT
Valley District, Bureau of Engineering
Stephen Buswell, Caltrans
Betsy Lindsay, Utrasystems Environmental Incorporated
Linscott, Law & Greenspan, Engineers

Attachment

SUMMARY OF VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE AM AND PM PEAK HOUR

SUNSHINE CANYON LANDFILL

INT. NO.	INTERSECTION	PEAK HOUR	[1] 1995 EXISTING V/C	[1] 1995 EXISTING LOS	[2] YEAR 1998 W/O PROPOSED PROJECT V/C	[2] YEAR 1998 W/O PROPOSED PROJECT LOS	[3] YEAR 1998 W/PROPOSED PROJECT V/C	[3] YEAR 1998 W/PROPOSED PROJECT LOS	CHANGE IN V/C RATIO [3 - 2]	CHANGE IN V/C RATIO IMPACT	[4] YEAR 1998 W/PROJECT MITIGATION V/C	[4] YEAR 1998 W/PROJECT MITIGATION LOS	CHANGE IN V/C RATIO [4 - 2]	CHANGE IN V/C RATIO MITIGATED
1	Roxford Street & I-5 S/B On/Off Ramps	AM	1.118	F	1.340	F	1.372	F	0.032	IMPACT	1.161	F	-0.179	MITIGATED
		PM	0.779	C	1.217	F	1.265	F	0.048	IMPACT	0.927	E	-0.290	MITIGATED
2	Roxford Street & Encinitas Ave / I-5 N/B Ramps	AM	0.661	B	0.838	D	0.845	D	0.027	IMPACT	0.738	C	-0.061	MITIGATED
		PM	0.646	B	0.867	D	0.871	D	0.022	IMPACT	0.742	C	-0.056	MITIGATED
3	Roxford Street & I-5 N/B Off Ramp	AM	0.571	A	0.739	C	0.757	C	0.018		0.757	C	0.018	
		PM	0.599	A	0.799	C	0.817	D	0.018		0.817	D	0.018	
4	Roxford Street & San Fernando Road	AM	0.408	A	0.484	A	0.491	A	0.007		0.491	A	0.007	
		PM	0.425	A	0.533	A	0.545	A	0.012		0.545	A	0.012	
5	Sepulveda Boulevard & San Fernando Road	AM	0.169	A	0.275	A	0.303	A	0.028		0.303	A	0.028	
		PM	0.134	A	0.220	A	0.251	A	0.031		0.251	A	0.031	
6	Balboa Boulevard & San Fernando Road	AM	0.825	D	1.039	F	1.053	F	0.014	IMPACT	0.983	E	-0.056	MITIGATED
		PM	0.870	D	1.060	F	1.079	F	0.019	IMPACT	1.009	F	-0.051	MITIGATED
7	San Fernando Road & I-5 S/B Off Ramp	AM	0.525	A	0.595	A	0.600	B	0.005		0.600	B	0.005	
		PM	0.708	C	0.776	C	0.786	C	0.010		0.786	C	0.010	
8	San Fernando Road & Sierra Highway	AM	0.625	B	0.659	B	0.661	B	0.002		0.661	B	0.002	
		PM	0.863	D	0.981	E	0.996	E	0.015	IMPACT	0.740	C	-0.241	MITIGATED
9	San Fernando Road & Project Driveway	AM	0.524	A	0.827	D	0.976	E	0.149	IMPACT	0.810	D	-0.017	MITIGATED
		PM	0.556	A	0.733	C	0.829	D	0.096	IMPACT	0.759	C	0.026	MITIGATED
10	Foothill Boulevard & Sierra Highway	AM	0.519	A	0.704	C	0.713	C	0.009		0.713	C	0.009	
		PM	0.656	B	0.811	D	0.823	D	0.012		0.823	D	0.012	
11	Yarnell Street & Foothill Boulevard	AM	0.324	A	0.740	C	0.750	C	0.010		0.750	C	0.010	
		PM	0.233	A	0.669	B	0.680	B	0.011		0.680	B	0.011	
12	Yarnell Street & I-210 E/B On/Off Ramps	AM	0.244	A	0.559	A	0.561	A	0.002		0.561	A	0.002	
		PM	0.197	A	0.581	A	0.584	A	0.003		0.584	A	0.003	
13	Yarnell Street & I-210 W/B Off Ramps	AM	0.217	A	0.385	A	0.390	A	0.005		0.390	A	0.005	
		PM	0.196	A	0.465	A	0.469	A	0.004		0.469	A	0.004	

3/12/96

CITY OF LOS ANGELES
CALIFORNIA

E.E. (ED) ROWE
GENERAL MANAGER

DEPARTMENT OF TRANSPORTATION
ROOM 1200 CITY HALL
LOS ANGELES CA 90012
(213) 485-2265
FAX (213) 237-0960

TOM BRADLEY
MAYOR

Date: 9/24/92
Ref. No. —

This memorandum acknowledges requirements of Los Angeles Department of Transportation (LADOT) for traffic impact analysis for the proposed APPROX. 250 ACRES Sq.Ft. (Acre) (use) LAND FILL at (Address) 14747 SAN FERNANDO RD., SYLMAR

Geographic Distribution: N ✓ S ✓ E ✓ W ✓ Study Hours: AM ✓ PM ✓

Study Method: (CMA) / Other — Year of Occupancy 1996

Trip Generation Rate(s): (ITE 5th Edition) / Other —

Ambient Growth 2 % Per Yr. Related Projects: To be researched by consultant under approval by LADOT

Critical Intersections

(Subject to revision after related projects, trip generation and distribution are determined)

FOOTHILL BLV. / SIERRA HWY	ROXFORD/ON-OFF RAMPS S/B GOLDEN STATE FWY
SAN FERNANDO RD. / SIERRA HWY	ROXFORD/ON-OFF RAMPS N/B GOLDEN STATE FWY
SAN FERNANDO RD / RANCH RD.	ROXFORD / SAN FERNANDO RD
SAN FERNANDO RD / GOLDEN STATE FWY S/B	YARNEL / FOOTHILL BLV.
SAN FERNANDO RD. / CONN. RD. TO BALBOA	BL. YARNEL / ON-OFF RAMPS E/B FOOTHILL FWY
SAN FERNANDO RD. / DE PULVEDA BLV.	YARNEL / ON-OFF RAMPS W/B FOOTHILL FWY
DEPULVEDA BLV. / ROXFORD ST	* OTHER I/S SUBJECT TO INVESTIGATION *

This analysis must follow LADOT guidelines for a traffic study (July 1991) and for geometric standards (July 1990).

Project Developer _____ Address _____
Telephone No. ( ) _____

Traffic Consultant LINSCOTT, LAW & GREENSPAN Address 1580 CORPORATE DR. SUIT 122
Telephone No. (714) 641-1587 COSTA MESSA, CA. 92626

LADOT Representative HAROLD VELLINS Title SR. TRANSP. ENGINEER
AZIZ MASHIAN TRANSP. ENGINEERING ASSOCIATE
Telephone No. (213) 485-2295

AM:am 9/92

* 1. CONSULTANT TO FORMULATE A TRIP GENERATION RATE FOR LAND FILL TO BE APPROVED BY LADOT
2. SEE PAGE 2 FOR LATEST LADOT GUIDELINES FOR IMPACTED I/S.

F. SIGNIFICANT TRANSPORTATION IMPACT

1. A transportation impact on an intersection shall be deemed "significant" in accordance with the following table and formula:

Significant Transportation Impact

Level of Service	Final V/C Ratio	Project-Related Increase In V/C
A, B	0.00 - 0.70	equal to or greater than 0.06
C	> 0.70 - 0.80	equal to or greater than 0.04
D	> 0.80 - 0.90	equal to or greater than 0.02
E, F	> 0.90 or greater	equal to or greater than 0.01

For CMP arterial intersection and Freeway monitoring locations (see CMP guidelines):

> 1.00	greater than 0.00

For purposes of this calculation, the Final V/C Ratio shall mean the future V/C Ratio at an intersection considering impacts with project, ambient and related project growth and without proposed Traffic Impact Mitigation, if any.

2. A transportation impact on a local residential street shall be deemed "significant" based on an increase in the projected average daily traffic (ADT) volumes:

Projected Average Daily Traffic (ADT)	Project-Related Increase In ADT
1,000 or more	12 percent or more
2,000 or more	10 percent or more
3,000 or more	8 percent or more

ROBERT R. YATES
GENERAL MANAGER

CITY OF LOS ANGELES
CALIFORNIA

RICHARD J. RIORDAN
MAYOR

DEPARTMENT OF
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ROOM 1200, CITY HALL
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JAN 16 1995

January 12, 1995

Betsy Lindsay, Principal Project Manager
ULTRASYSTEMS ENVIRONMENTAL INCORPORATED
8 Corporate Park, Suite 300
Irvine, CA 92714-5117

RE: **SUNSHINE CANYON LANDFILL SEIR**

Dear Betsy:

The Related Projects Lists and the Related Projects Location Map prepared for the Sunshine Canyon Landfill SEIR, City of Los Angeles, dated January 3, 1995 is approved for use in the preparation of the Traffic Impact Study report.

If you should have any questions, please contact John Sam of my staff at (213) 485-2295.

Sincerely,

Robert T. Takasaki

ROBERT T. TAKASAKI
Senior Transportation Engineer

JSS1\wp51\sunshcyn.1

c: Helene Ly, City Planning
Jay Nelson, Linscott, Law & Greenspan, Engineers

CITY OF LOS ANGELES
CALIFORNIA

CITY PLANNING COMMISSION

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December 29, 1993

Betsy Lindsay, Senior Project Manager
LG&E Power Engineers and Constructors Inc.
Environmental Services Division
2030 Main Street
Irvine, CA 92714-7240

RECEIVED
JAN - 4 1994
ENVIRONMENTAL SERVICES

RE: SUNSHINE CANYON LANDFILL SEIR
SEIR 91-0377-ZC/GPA and SCH #92041053

Dear Betsy:

The attached related projects list, dated December 8, 1993, has been approved for use in the preparation of the Sunshine Canyon Landfill subsequent environmental impact report.

Under Section 3.3.2 of the Environmental Impact Report Preparation Manual, "approval of the DEIR for publication shall be subject to Environmental Review Section management determination. Such determination shall include review of the related projects list by the project coordinator to insure accurate and complete project listings. The applicant/ consultant shall be responsible for requesting written confirmation letters from city agencies and submitting them to the Planning Department stating that: a) additional projects have not been filed; and/or, b) any projects which have been filed would not alter the analysis or conclusions of the DEIR." Further, if the DEIR data base preparation extends six months beyond the preparation date of the approved related projects list [December 8, 1993], revalidation of the related projects list by DOT and ERS project coordinators shall be required prior to release of the document for publication... Addition of projects to the RP list may require revision of impact analysis, mitigation measures, and cumulative impact discussion in the DEIR (i.e. traffic, air, utilities, energy consumption)."

Sincerely,

Robert S. Heredia

ROBERT S. HEREDIA
EIR Coordinator

cc: Aziz Mashian

TABLE 1
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

CITY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	Status[12]
1	EIR 85-0606-ZC(SUB)[1] 91-435 ZC/GPA	Sunset Farms 1,895,000 sq. ft. industrial 105,000 sq. ft. commercial 34 single-family units 120 recreational vehicle spaces 249.4 acres	16400-16700 Foothill Boulevard Sylmar	Approved. No construction or grading on site.
2	MND 87-461-ZC[1]	16,000 sq. ft. general office	14401 Balboa Boulevard Granada Hills	Approved. No construction or grading on site.
3	93-054-ZC[10] CPC 93-0081-ZC	162,000 sq. ft. storage facility 55,000 sq. ft. commercial retail 2.8 acres	16011-16061 Foothill Boulevard Sylmar	Approved but not constructed. Site graded.
4	MND 89-281-ZC[2] CPC 89-0376-ZC	102,000 sq. ft. storage facility 1.57 acres	16000 Foothill Boulevard Sylmar	Approved. No construction or grading on site.
5	MND 91-0146-ZC[11] CPC 91-0162-ZC	22 space mobile home park ±2.7 acres[13]	16151 Yarnell Street Sylmar	Approved. Site graded.
6	MND 88-928-SUB(ZC)[2] CPC 88-0802	Tract Map No. 47020 21 single-family lots 8.9 acres 14 units constructed and occupied 7 lots graded	13511-13525 Bradley Avenue Sylmar	Partially constructed and occupied.
7	MND 86-0793-ZC[1] CPC 87-250	46,600 sq. ft. light industrial 2.15 acres	15774 Olden Street Sylmar	Approved but not constructed. Site graded.
8	87-927-ZC/GPA[2] CPC 88-0095	60,000 sq. ft. manufacturing bldg. 2.51 acres	13258 Ralston Avenue Sylmar	Approved but not constructed. Site graded.
9	N/A	43,600 sq. ft. industrial[14] .67 acres	13264 Ralston Avenue Sylmar	Potential.
10	MND 88-279-ZC(BL)[2] CPC 88-474 CPC 88-475	5,136 sq. ft. industrial .25 acres	15543 Roxford Street Sylmar	Approved but not constructed. Site graded.
11	MND 87-430-ZC(BL)[2] CPC 87-793	12,000 sq. ft. light industrial .50 acres	15524 Roxford Street Sylmar	Approved but not constructed. Site graded.

TABLE 1
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

CITY OF LOS ANGELES (continued)

Map No.	Case No./Project No.	Description	Address/Location	Status[12]
12	N/A	Valley Gateway Industrial Center[14] 200,000 sq. ft. light industrial 10.4 acres	15600 Roxford Street Sylmar	Proposed. Site graded.
13	EIR 91-354 ZC/GPA[3] CPC 91-0211 (PPR)	Roxford/Encinitas Shopping Center[15] 142,544 sq. ft. commercial 6.6 acres	12800 Encinitas Avenue 15869, 15879 & 15888 Larkspur St. 15944 and 15934 Roxford Street 15835 and 15824 Cobalt Street	Proposed. Site graded.
14	90-0682-SUB(ZC)[4]	Tentative Tract Map No. 49713[16] 17 single-family units 11 units occupied 6 units vacant 2.98 acres	15844 Larkspur Street Sylmar	Constructed and partially occupied.
15	MND 93-0280-ZV[15] ZA 93-0750	169,724 sq. ft. industrial 6 buildings 7.2 acres	12601 Encinitas Avenue Sylmar	Proposed. Site partially graded.
16	MND 90-0008-ZC[5] CPC 90-0115-ZC	Zone change from A2-1 to RA-1 6 single-family lot subdivision 2.49 acres	16035 Yarnell Street Sylmar	Approved. No construction or grading on site.
17	MND 89-1007-SUB[5]	Tentative Tract Map No. 48529[17] 5 single- family lot subdivision Zone change from A2-1-K to RA-1-K and RE11-K 1.78 acres	13455 Bradley Avenue Sylmar	Planned. No construction or grading on site.
18	MND 90-0769-PM[5]	Preliminary Parcel Map No. 6794[18] Parcel "B" 30,000 sq. ft. light industrial 2.24 acres	13115 Telfair Sylmar	Approved. Site graded.
19	EAF 90-441-SUB[9]	Tentative Tract Map No. 49416[17] 5 Single-Family Lots 2.53 acres	13610 Glenoaks Boulevard Sylmar	Planned. No construction or grading on site.
20	MND 89-729-ZC(SUB)[9]	28 Condominium Units 1.39 acres	15051 Foothill Boulevard Sylmar	Approved. Site graded.
21	MND 92-0056(CUZ)[9] ZA 92-0369(CUZ)	6,000 sq. ft. to existing 26,700 sq. ft. guide dog training facility. 6.6 acres	13479 Glenoaks Boulevard Sylmar	Approved.
22	90-1042-ZC/GPA[9] EAF 91-0672(PPR)[11] CPC 91-0126-ZC	54 Townhouse Units 4 Condominium Units 2.3 acres	13765 and 13771 Glenoaks Blvd. Sylmar	Proposed.

TABLE 1
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

CITY OF LOS ANGELES (continued)

Map No.	Case No./Project No.	Description	Address/Location	Status[12]
23	90-0101 ZC/GPA[11] CPC 90-0429-ZC	33 Condominium Units 6 Single-family lots 5 existing single-family dwelling units 2.5 acres	15115-15139 Roxford Street Sylmar	Approved.
24	88-BS-225[9]	92 Apartment Units (4 story building)	15155 Tyler Street	Proposed. Site paved and graded.
25	MND 93-0306-SUB[15]	Tentative Tract Map No. 51713 12 residential units .83 acres	14560 Foothills Boulevard Sylmar	Proposed.
26	MND 93-0321-SUB[15]	Tentative Tract Map No. 51636 7 condominium units 9.8 acres	15810 Larkspur Street	Proposed.
27	MND 93-181 ZC/GPA[19]	84 condominium units 4.6 acres	15232-50, 15314 and 15326 Foothill Boulevard	Proposed.
28	MND 93-182[19]	36 multiple residential units 5 acres	13470-86 Dronfield Avenue	Proposed.

COUNTY OF LOS ANGELES

29	CP 2556[6] SP 86312	Sunshine Canyon landfill extension comprised of 17 million ton capacity on approx. 215± acres, with an average daily tonnage of approximately 6,000 tons per day.	14747 San Fernando Road Sylmar	Approved but not constructed.
30	88595[20] ZC 88595 CP 88595	Open storage for heavy equipment 54 acres Zone change A2-1 to M-1	22400 The Old Road Newhall	Approved. Current vehicle storage on site.
31	90071[7] CP90071 ZC90071 LP90071	159,600 sq. ft. manufacturing/ industrial 9 buildings	22200 Sierra Highway Newhall	Proposed.
32	88573[8] CP88573 ZC88573 LP88573 SP88573 DA88573 OT88573	Elsmere Canyon Landfill with a proposed capacity of 190 million tons within approximately 650 acres fill area with a solid waste disposal intake estimated to be between 10,000 to 16,500 tons per day.	Approximately 2 miles northeast of the I-5 and Antelope Valley (SR-14) Freeway.	Proposed.

TABLE 1
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

COUNTY OF LOS ANGELES (continued)				
Map No.	Case No./Project No.	Description	Address/Location	Status[12]
33	N/A[8]	Towsley Canyon Landfill with an estimated capacity of 100 million tons.	West of the Golden State Freeway (I-5) at Calgrove Boulevard.	Potential.
34	90475[20] OT90475 PM 22696	Parcel Map for 4 Single-family lots 58.8 acres	Approx. 1 mi. south at terminus of Wildwood Canyon between Menford Avenue and San Francisco.	Approved.

NOTES:

[1] Source: DEIR Sunshine Canyon Landfill Extension, Volume I, County of Los Angeles, April 1989, Table 33, updated April 1992 with City of Los Angeles Department of Planning, Environmental Review Section and City of Los Angeles Department of Transportation.

[2] Source: Environmental Review Project Book and Card Files, City of Los Angeles Planning Department, Environmental Review Section, Room 655, City Hall, April 1992.

[3] Source: Initial Studies Project Book, City of Los Angeles, Department of Transportation, Room 1200, City Hall, April 1992.

[4] Source: Environmental Review Project Book and Card Files, *op. cit.*, June 1992.

[5] Source: Susan Bok, EIR Coordinator, City of Los Angeles Planning Department, Environmental Review Section, August 11, 1992.

[6] Source: Addendum to FEIR for the Los Angeles County Board of Supervisors, Sunshine Canyon Landfill Extension, County of Los Angeles, May 1992.

[7] Source: County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1381, June 1992.

[8] Source: Puente Hills Waste Management Facilities Draft EIR (June 1992) and Integrated Solid Waste Management System for Los Angeles County Program EIR (August 1990).

[9] Source: Linscott, Law & Greenspan Engineers, November 1992.

[10] Source: Initial Studies Project Book, *op. cit.*, April 22, 1993.

[11] Source: Environmental Review Project Book and Card Files, *op. cit.*, April 22, 1993.

[12] Source: Field Survey, December 1, 1993.

[13] Source: Virginia Loring, Real Estate Agent, Boland Realty Inc., telephone conversation, November 2, 1993.

[14] Source: Mike Tingus, Broker, the Seely Company, telephone conversation, November 3, 1993.

[15] Source: Environmental Review Project Book and Card Files, *op. cit.*, November 24, 29, 30 and December 1, 1993.

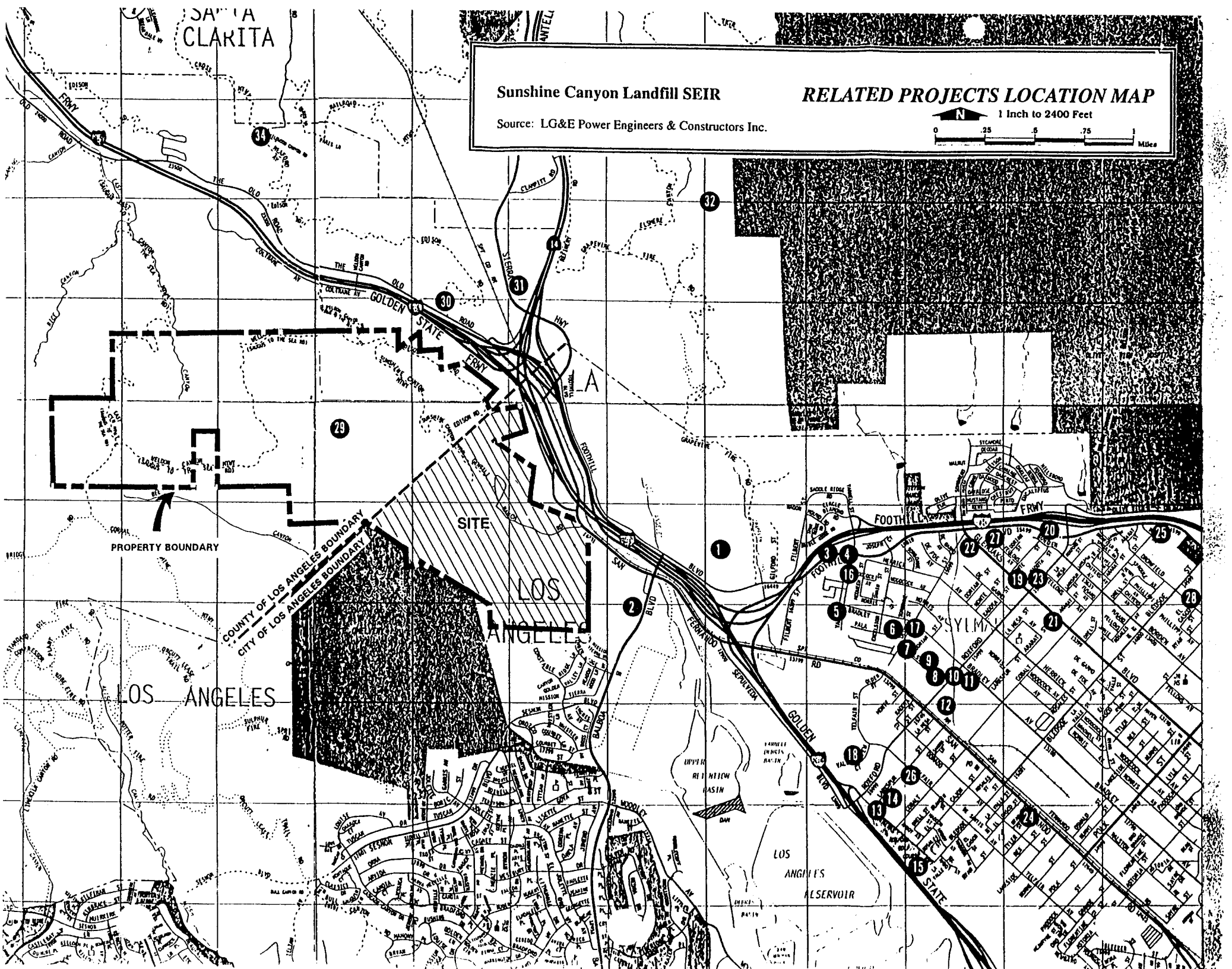
[16] Source: Penny Dokter, Real Estate Agent, David Spiegel Associates, telephone conversation, December 3, 1993.

[17] Source: City of Los Angeles Planning Department, Subdivision Counter, Room 655, November 24, 29, 30 and December 1, 1993.

[18] Source: City of Los Angeles Subdivision Counter, *op. cit.*, and Chris Sullivan, Real Estate Agent, Daum, telephone conversation, December 2, 1993.

[19] Source: Initial Studies Project Book, *op. cit.*, November 24, 29, 30 and December 1, 1993.

[20] Source: County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1101, November 23, 1993.


Sunshine Canyon Landfill SEIR
RELATED PROJECTS LOCATION MAP
Source: LG&E Power Engineers & Constructors Inc.
N
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SANTA CLARITA
PROPERTY BOUNDARY
COUNTY OF LOS ANGELES BOUNDARY
CITY OF LOS ANGELES BOUNDARY
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LOS ANGELES
GOLDEN STATE FRWY
FOOTHILL FRWY
SAN FERNANDO BLVD
SYLMAR
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CITY OF LOS ANGELES
CALIFORNIA

CITY PLANNING COMMISSION

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TOM BRADLEY
MAYOR

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JUN - 4 1993
ENVIRONMENTAL SERVICES

June 2, 1993

Betsy Lindsay, Senior Project Manager
ULTRASYSTEMS ENGINEERS & CONSTRUCTORS, INC.
Environmental Services Division
2030 Main Street, 14th Floor
Irvine, CA 92714-7240

RE: SUNSHINE CANYON LANDFILL SEIR
SEIR 91-0377-ZC/GPA
SCH #92041053

Dear Betsy:

The attached related projects list, date stamped June 2, 1993, has been approved for use in the preparation of the Sunshine Canyon Landfill subsequent environmental impact report.

Under Section 3.3.2 of the Environmental Impact Report Preparation Manual, "approval of the DEIR for publication shall be subject to Environmental Review Section management determination. Such determination shall include review of the related projects list by the project coordinator to insure accurate and complete project listings. The applicant/consultant shall be responsible for requesting written confirmation letters from city agencies and submitting them to the Planning Department stating that: a) additional projects have not been filed; and/or, b) any projects which have been filed would not alter the analysis or conclusions of the DEIR." Further, "if the DEIR data base preparation extends six months beyond the preparation date of the approved related projects list [June 2, 1993], revalidation of the related projects list by DOT and ERS project coordinators shall be required prior to release of the document for publication... Addition of projects to the RP list may require revision of impact analysis, mitigation measures, and cumulative impact discussion in the DEIR (i.e. traffic, air, utilities, energy consumption)."

Sincerely,

Susan Y. Bok

Susan Bok, AICP
EIR Coordinator

cc: Aziz Mashian

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Recyclable and made from recycled waste

TABLE 1
SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST

CITY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	Status
1	EIR 85-0606-ZC(SUB)[1] 91-435 ZC/GPA	Sunset Farms 1,895,000 sq. ft. industrial 105,000 sq. ft. commercial 34 single-family units 120 recreational vehicle spaces 6,230 parking stalls	16400-16700 Foothill Boulevard Sylmar	Approved No construction or grading on site
2	87-461-ZC[4]	16,000 sq. ft. general office	14401 Balboa Boulevard Granada Hills	Proposed
3	ND 87-488-ZC[2] 93-054[10]	162,000 sq. ft. storage facility 55,000 sq. ft. commercial retail	16011-16061 Foothill Boulevard Sylmar	Approved but not constructed
4	MND 89-281-ZC[2] CPC 89-0376	102,000 sq. ft. storage facility	16000 Foothill Boulevard Sylmar	Approved but not constructed
5	MND 87-794-CUP[1] 91-0146-ZC[11]	22 space mobile home park	16151 Yarnell Street Sylmar	Approved[12] (site graded)
6	MND 88-928-SUB(ZC)[2] CPC 88-0802	Tract Map No. 47020 21 single-family lots	13511-13525 Bradley Avenue Sylmar	Approved but not constructed
7	MND 86-0793-ZC[1] CPC 87-250	46,600 sq. ft. light industrial	15774 Olden Street Sylmar	Approved but not constructed
8	87-927-ZC/GPA[2] CPC 88-0095	60,000 sq. ft. manufacturing building	13258 Ralston Avenue Sylmar	Approved but not constructed
9	86-0578-ZC[4]	7,100 sq. ft. auto facility	13264 Ralston Avenue Sylmar	Proposed
10	MND 88-279-ZC(BL)[2]	5,136 sq. ft. industrial	15543 Roxford Street Sylmar	Approved but not constructed
11	MND 87-430-ZC(BL)[2] CPC 87-793	12,000 sq. ft. light industrial	15524 Roxford Street Sylmar	Approved but not constructed
12	MND 87-670-ZC[2] CPC 87-889 ZC	244,300 sq. ft. warehouse	15900 Olden Street Sylmar	Approved but not constructed
13	87-BS-114[3]	275,000 sq. ft. manufacturing 4 buildings	15600 Roxford Street Sylmar	Proposed

JUN 2 1993

TABLE 1
SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST

CITY OF LOS ANGELES (continued)				
Map No.	Case No./Project No.	Description	Address/Location	Status
14	MND 86-0206-SUB(Rec)[1]	Tract Map No. 44622 12 lot office/industrial 230,000 sq. ft. existing dev. 632,142 sq. ft. potential dev.	15801 Roxford Street Sylmar	Potential[13]
15	91-354 ZC/GPA[3]	63,200 sq. ft. commercial	12650 Encinitas Avenue Sylmar	Approved (site graded)
16	90-0682-SUB(ZC)[4]	Tentative Tract No. 49713 17 single-family units	15844 Larkspur Street Sylmar	Constructed[12] not occupied
17	MND 87-521-SUB(ZC)[1]	Tract Map No. 45643 29 single-family units	15844-15888 Larkspur Street Sylmar	Proposed
18	87-898-PPR[2]	250,000 sq. ft. industrial	12601 Encinitas Avenue Sylmar	Approved but not constructed
19	MND 90-0008-ZC[5]	Zone change from A2-1 to RA-1 for a 6 single-family lot subdivision.	16035 Yarnell Street Sylmar	Proposed
20	MND 89-1007-SUB[5]	Tentative Tract for a 5 single-family lot subdivision with zone change from A2-1-K to RA-1-K and RE11-K.	13455 Bradley Avenue Sylmar	Proposed
21	MND 90-0769-PM[5]	Preliminary Parcel Map No. 6794 (formerly Lot 9 of Tract Map No. 44622) 1 lot division into 2 parcels for construction of 67,424 sq. ft. industrial building on Parcel "A"	15881 and 15885 Valley View Court Sylmar	Planned[13]
22	EAF 90-441-SUB[9]	5 Single-Family Lots	13610 Glenoaks Boulevard Sylmar	Approved[12]
23	MND 89-729-ZC(SUB)[9]	28 Condominium Units	15051 Foothill Boulevard Sylmar	Proposed
24	EAF 92-0056(CUZ)[9]	6,000 sq. ft. Guide dog training facility	13479 Glenoaks Boulevard Sylmar	Proposed
25	86-0365-SUB[9]	Tentative Tract No. 44655 32 single-family lots	16150 Yarnell Street Sylmar	Proposed
26	90-1042-ZC/GPA[9] EAF 91-0672(PPR)[11]	54 Townhouse Units 4 Condominium Units	13765 & 13771 Glenoaks Blvd. Sylmar	Proposed
27	90-0101 ZC/GPA[11]	33 Condominium Units 6 Single-family lots	15115-15139 Roxford Street Sylmar	Proposed

JUN 2 1993

TABLE 1
SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST

CITY OF LOS ANGELES (continued)				
Map No.	**Case No./Project No.**	**Description**	**Address/Location**	**Status**
28	EAF 89-0597 ZC/GPA[9]	20,010 sq. ft. retail 4,300 sq. ft. drive-through restaurant	13290-98 Glenoaks Boulevard Sylmar	Proposed
29	88-BS-225[9]	92 Apartment Units (4 story building)	15155 Tyler Street	Proposed
30	N/A[10]	Tentative Tract 44940 57 single-family units	Northwest of Constable Avenue and Session Boulevard	Proposed
COUNTY OF LOS ANGELES				
31	CP 2556[6] SP 86312	Sunshine Canyon landfill extension comprised of 17 million ton capacity on approx. 215 ± acres, with an average daily tonnage of approximately 6,000 tons per day.	14747 San Fernando Road Sylmar	Approved but not constructed
32	91086[7] CP91086 TR90584	Tentative Tract No. 50584 68 single-family lots	22400 The Old Road Newhall	Proposed
33	90071[7] CP90071 ZC90071 LP90071	159,600 sq. ft., 9 buildings manufacturing/industrial	22200 Sierra Highway Newhall	Proposed
34	88573[8] CP88573 ZC88573 LP88573 SP88573 DA88573 OT88573	Elsmere Canyon Landfill with a proposed capacity of 190 million tons within approximately 650 acres fill area with a solid waste disposal intake estimated to be between 10,000 to 16,500 tons per day.	Approximately 2 miles northeast of the I-5 and Antelope Valley (SR-14) Freeway.	Proposed
35	N/A[8]	Towsley Canyon Landfill with an estimated capacity of 100 million tons.	West of the Golden State Freeway (I-5) at Calgrove Boulevard.	Preliminary

JUN 2 1993

NOTES:

1 Source: DEIR Sunshine Canyon Landfill Extension, Volume I, County of Los Angeles, April 1989, Table 33, updated April 1992 with City of Los Angeles Department of Planning, Environmental Review Section and City of Los Angeles Department of Transportation.

2 Source: Environmental Review Project Book and Card Files, City of Los Angeles Planning Department, Environmental Review Section, Room 655, City Hall, April 1992.

3 Source: Initial Studies Project Book, City of Los Angeles, Department of Transportation, Room 1200, City Hall, April 1992.

4 Source: Environmental Review Project Book and Card Files, Op. Cit., June 1992.

5 Source: Susan Bok, EIR Coordinator, Environmental Review Section, City of Los Angeles Planning Department, August 11, 1992.

6 Source: Addendum to FEIR for the Los Angeles County Board of Supervisors, Sunshine Canyon Landfill Extension, County of Los Angeles, May 1992.

7 Source: County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1381, June 1992.

8 Source: Puente Hills Waste Management Facilities Draft EIR (June 1992) and Integrated Solid Waste Management System for Los Angeles County Program EIR (August 1990).

9 Source: Linscott, Law & Greenspan Engineers, November 1992.

10 Source: Initial Studies Project Book, Op. Cit., April 22, 1993.

11 Source: Environmental Review Project Book and Card Files, Op. Cit., April 22, 1993.

12 Source: Field Survey April 22, 1993.

13 Source: Environment Review Project Book and Card Files, City of Los Angeles Environment Review Section; and Tract Map and Parcel Map Files, Subdivision Counter May 24, 1992.

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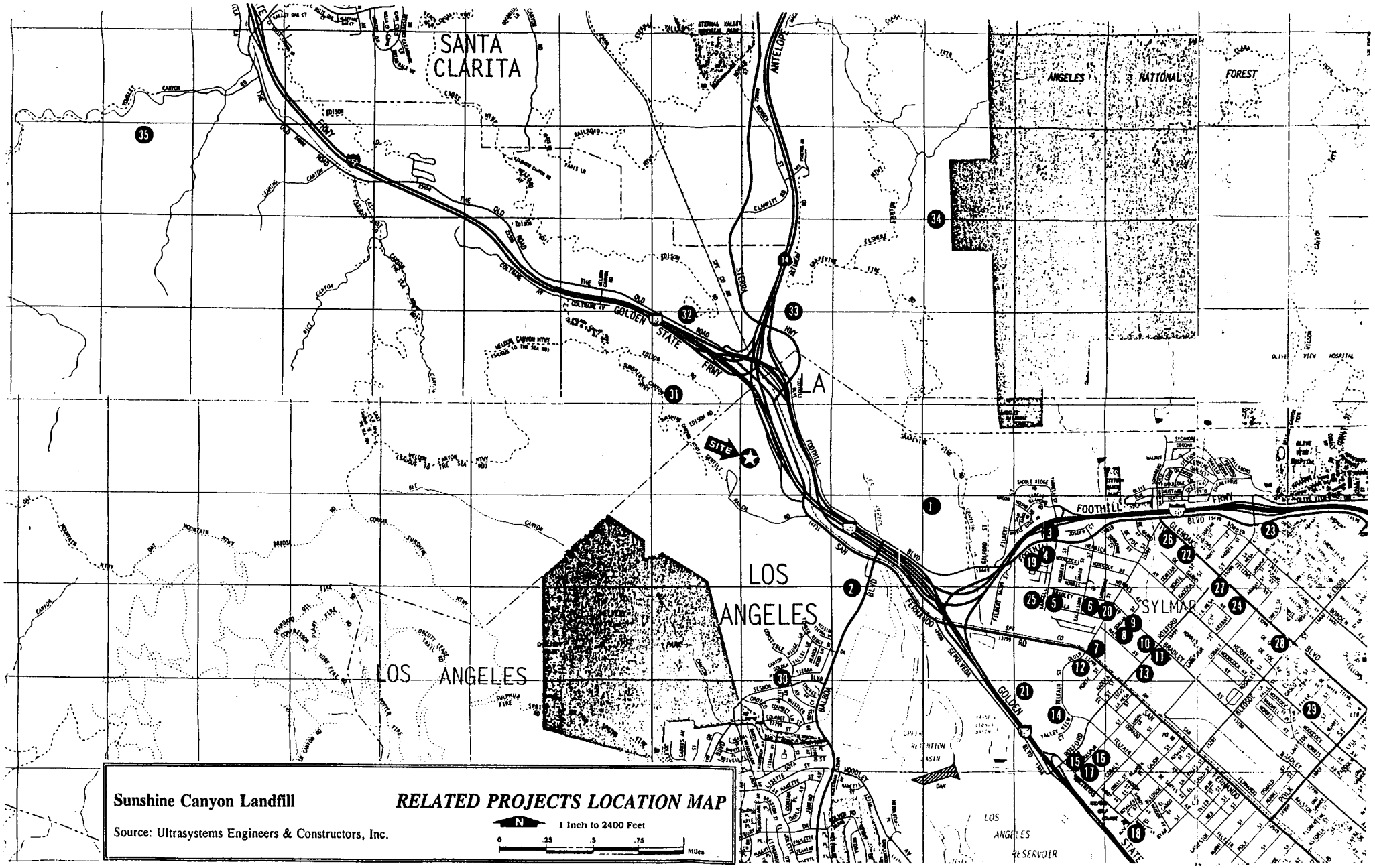

Sunshine Canyon Landfill

RELATED PROJECTS LOCATION MAP

Source: Ultrasystems Engineers & Constructors, Inc.

N

1 Inch to 2400 Feet

0 .25 .5 .75 Miles

CITY OF LOS ANGELES
CALIFORNIA

CITY PLANNING COMMISSION

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THEODORE STEIN, JR
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TOM BRADLEY
MAYOR

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CITY PLANNING
ROOM 561, CITY HALL
200 N. SPRING ST.
LOS ANGELES, CA 90012-4801

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(213) 237-1986
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ROBERT H. SUTTON
DEPUTY DIRECTOR
(213) 237-1818
FAX (213) 237-0552

September 29, 1992

Betsy Lindsay, Senior Project Manager
ULTRASYSTEMS ENGINEERS & CONSTRUCTORS, INC.
Environmental Services Division
2030 Main Street, 14th Floor
Irvine, CA 92714-7240

RE: SUNSHINE CANYON LANDFILL SEIR
SEIR 91-0377-ZC/GPA

Dear Betsy:

The attached related projects list, date stamped September 29, 1992, has been approved for use in the preparation of the Sunshine Canyon Landfill subsequent environmental impact report.

Under Section 3.3.2 of the Environmental Impact Report Preparation Manual, "approval of the DEIR for publication shall be subject to Environmental Review Section management determination. Such determination shall include review of the related projects list by the project coordinator to insure accurate and complete project listings. The applicant/consultant shall be responsible for requesting written confirmation letters from city agencies and submitting them to the Planning Department stating that: a) additional projects have not been filed; and/or, b) any projects which have been filed would not alter the analysis or conclusions of the DEIR." Further, "if the DEIR data base preparation extends six months beyond the preparation date of the approved related projects list [September 29, 1992], revalidation of the related projects list by DOT and ERS project coordinators shall be required prior to release of the document for publication... Addition of projects to the RP list may require revision of impact analysis, mitigation measures, and cumulative impact discussion in the DEIR (i.e. traffic, air, utilities, energy consumption)."

Sincerely,

Susan Bok

Susan Bok, AICP
Project Coordinator

cc: Aziz Mashian

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SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST

CITY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	Status
1	EIR 85-0606-ZC(SUB)[1] 91-435 ZC/GPA	Tract Map No. 45863 Sunset Farms 1,895,000 sq. ft. industrial 105,000 sq. ft. office space 54 single-family lots 120 recreational vehicle spaces 6,230 parking stalls	16400-16700 Foothill Boulevard Sylmar	Approved No construction or grading on site
2	87-461-ZC[1]	16,000 sq. ft. general office	14401 Balboa Boulevard Granada Hills	Proposed
3	ND 87-488-ZC[2]	80,000 sq. ft. storage facility	16061 Foothill Boulevard Sylmar	Approved but not constructed
4	MND 89-281-ZC[2] CPC 89-0376	102,000 sq. ft. storage facility	16000 Foothill Boulevard Sylmar	Approved but not constructed
5	MND 87-794-CUP[1]	22 space mobile home park	16151 Yarnell Street Sylmar	Proposed
6	MND 88-928-SUB(ZC)[2] CPC 88-0802	Tract Map No. 47020 21 single-family lots	13511-13525 Bradley Avenue Sylmar	Approved but not constructed
7	MND 86-0793-ZC[1] CPC 87-250	46,600 sq. ft. light industrial	15774 Olden Street Sylmar	Approved but not constructed
8	87-927-ZC/GPA[2] CPC 88-0095	60,000 sq. ft. manufacturing building	13258 Ralston Avenue Sylmar	Approved but not constructed
9	86-0578-ZC[2]	7,100 sq. ft. auto facility	13264 Ralston Avenue Sylmar	Proposed
10	MND 88-279-ZC(BL)[2]	5,136 sq. ft. industrial	15543 Roxford Street Sylmar	Approved but not constructed
11	MND 87-430-ZC(BL)[2] CPC 87-793	12,000 sq. ft. light industrial	15524 Roxford Street Sylmar	Approved but not constructed

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ENVIRONMENTAL
UNIT

SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST (Continued)

CITY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	Status
12	MND 87-670-ZC[2] CPC 87-889 ZC	244,300 sq. ft. warehouse	15900 Olden Street Sylmar	Approved but not constructed
13	87-BS-114[3]	275,000 sq. ft. manufacturing 4 buildings	15600 Roxford Street Sylmar	Proposed
14	MND 86-0206-SUB (REC)[1]	Tract Map No. 44662 13 lot office/industrial 230,900 sq. ft. (existing) 699,566 sq. ft. (proposed)	15801 Laurel Canyon Boulevard Sylmar	Built and partially occupied
15	91-354 ZC/GPA[3]	63,200 sq. ft. commercial	12650 Encinitas Avenue Sylmar	Approved (site graded)
16	90-0682-SUB(ZC)[4]	Tentative Tract No. 49713 21 dwelling units	15844 Larkspur Street Sylmar	Proposed
17	MND 87-521-SUB(ZC)[1]	Tract Map No. 45643 29 units single-family	15844-15888 Larkspur Street Sylmar	Proposed
18	87-898-PPR[2]	250,000 sq. ft. industrial	12601 Encinitas Avenue Sylmar	Appro but not constructed
19	MND 90-0008-ZC[5]	Zone change from A2-1 to RA-1 for a 6-lot single family subdivision.	16035 Yarnell Street Sylmar	Proposed
20	MND 89-1007-SUB[5]	Tentative Tract for a 5-lot single family subdivision with zone change from A2-1-K to RA-1-K and RE11-K.	13455 Bradley Avenue Sylmar	Proposed
21	MND 90-0769-PM[5]	Parcel Map No. 6794 to divide one lot into two parcels for construction of a 67,424 sq. ft. industrial building.	15881 and 15885 Valleyview Ct. Sylmar	Proposed

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SUNSHINE CANYON LANDFILL EXTENSION RELATED PROJECTS LIST (Continued)

COUNTY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	Status
22	SP 86312[6] CP 2556	Landfill extension comprised of 17 million ton capacity on approx. 215± acres, with a solid waste disposal intake of approx. 6,600 tons per day.	14747 San Fernando Road Sylmar	Approved but not constructed
23	91086[7] CP91086 TR90584	Tentative Tract No. 50584 68 single-family lots	22400 The Old Road Newhall	Proposed
24	90071[7] CP90071 ZC90071 LP90071	159,600 sq. ft., 9 buildings manufacturing/industrial	22200 Sierra Highway Newhall	Proposed
25	88573[8] CP88573 ZC88573 LP88573 SP88573 DA88573 OT88573	Elsmere Canyon Landfill with a proposed capacity of 190 million tons within approximately 650 acres fill area with a solid waste disposal intake estimated to be between 10,000 to 16,500 tons per day.	Approximately 2 miles northeast of the I-5 and Antelope Valley (SR-14) Freeway.	Proposed
26	N/A[8]	Towsley Canyon Landfill with an estimated capacity of 100 million tons.	West of the Golden State Freeway (I-5) at Calgrove Boulevard.	Preliminary

1 Source: DEIR Sunshine Canyon Landfill Extension, Volume I, County of Los Angeles, April 1989, Table 33, updated April 1992 wi City of Los Angeles Department of Planning, Environmental Review Section and City of Los Angeles Department Transportation.

2 Source: Environmental Review Project Book and Card Files, City of Los Angeles Planning Department, Environmental Review Sectio Room 655, City Hall, April 1992.

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4 Source: Environmental Review Project Book and Card Files, Op. Cit., June 1992.

5 Source: Susan Bok, EIR Coordinator, Environmental Review Section, City of Los Angeles Planning Department, August 11, 1992.

6 Source: Addendum to FEIR for the Los Angeles County Board of Supervisors, Sunshine Canyon Landfill Extension, County of L Angeles, May 1992.

7 Source: County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1381, June 1992.

8 Source: Puente Hills Waste Management Facilities Draft EIR (June 1992) and Integrated Solid Waste Management System for L Angeles County Program EIR (August 1990).

Los Angeles City Planning Department

Room 561 City Hall

MEMORANDUM

To: Betsy Lindsay
Ultrasystems

From: Susan Bok
LA City Planning Dept.

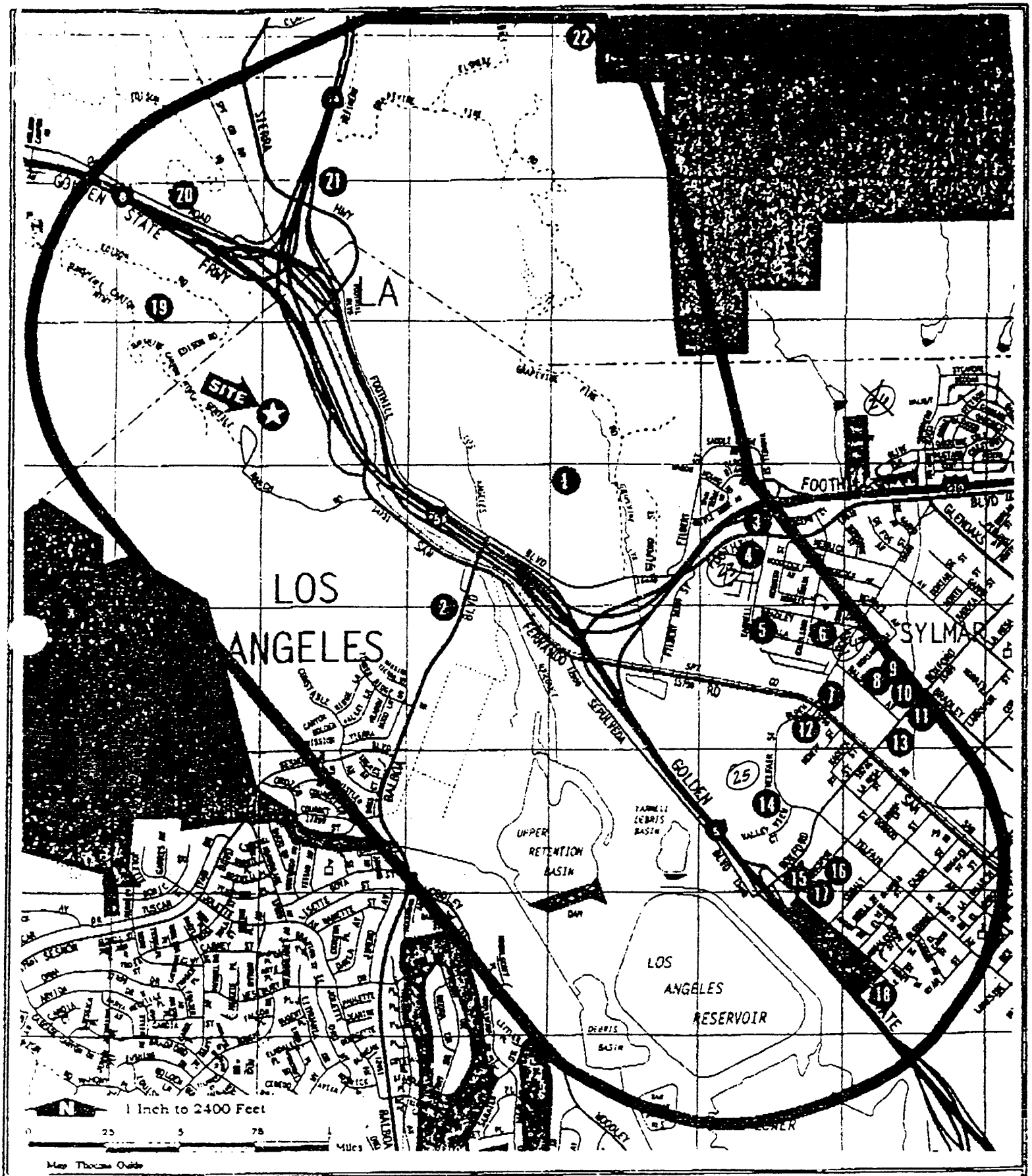
Date: August 11, 1992

Subject: Sunshine Canyon Landfill EIR
Related Projects List

Please add the attached projects #23 to #25 to the related projects list. With these additions and DOT approval, the list will be deemed approved by the Planning Dept. and an approval date established.

If the draft EIR is released within six months of this approval date, no updating will be required. If the draft EIR is released after six months of the approval date, the list will have to be updated and revalidated.

The new EIR Preparation Manual, Part II, Sec. 3.3.2, and Part III, Sec. 5.4, describes the related projects list revalidation procedure in greater detail.



Sunshine Canyon Landfill

RELATED PROJECTS LOCATION MAP

Source: Ultrasystems Engineers & Constructors, Inc.

FIGURE 1

SUNSHINE CANYON RELATED PROJECTS LIST (Continued)

CITY OF LOS ANGELES

Map No.	Case No./Project No.	Description	Address/Location	St·
16	90-0682-SUB(ZC)	Tentative Tract No. 49713 21 dwelling units	15844 Larkspur Street Sylmar	Proposed
17	MND 87-521-SUB(ZC)	Tract Map No. 45643 29 units single-family	15844-15888 Larkspur Street Sylmar	Proposed
18	87-898-PPR	250,000 sq. ft. industrial	12601 Encinitas Avenue Sylmar	Approved but not constructed

COUNTY OF LOS ANGELES

19	SP 86312 CP 2556	Landfill extension comprised of 17 million ton capacity on approx. 215± acres, with a solid waste disposal intake of approx. 6,600 tons per day.	14747 San Fernando Road Sylmar	Approved but not constructed
20	91086 CP91086 TR90584	Tentative Tract No. 50584 68 single-family lots	22400 The Old Road Newhall	Proposed
21	90071 CP90071 ZC90071 LP90071	159,600 sq.ft., 9 buildings manufacturing/industrial	22200 Sierra Highway Newhall	Proposed
22	88573 CP88573 ZC88573 LP88573 SP88573 DA88573 OT88573	Elsmere Canyon Landfill with a proposed capacity of 190 million tons on approximately 650 acres with a solid waste disposal intake estimated to be between 10,000 to 16,500 tons per day.	Approximately 2 miles northeast of the I-5 and Antelope Valley (SR-14) Freeway.	Propos…

23	MND 90-0008-ZC	Zone change from A2-1 to RA-1 for a 6-lot single family subdivision	16035 Yarnell Street Sylmar	Proposed
24	MND 89-1007-SUB	Tentative tract for a 5-lot single family subdivision with zone change from A2-1-K to RA-1-K & RE11-K	13455 Bradley Ave. Sylmar	Proposed
25	MND 90-0769-PM	Parcel Map No. 6794 to divide one lot into two parcels ~~and~~ for construction of a 63,424 sq ft. ~~new~~ industrial building	15881 & 15885 Valleyview Court Sylmar	Proposed
26	ND 91-0170-ZC CPC 88-0332-ZC	Council-initiated zone change from A-1, A-2 to RMP-1 on 238 acres, to the 2 Mobile Home Park Zone	~~Sylmar~~, north of Foothill Fwy.	?

TRAFFIC IMPACT STUDY REPORT

TRAFFIC IMPACT STUDY REPORT
SUNSHINE CANYON LANDFILL
BROWNING-FERRIS INDUSTRIES
OF CALIFORNIA, INC.
(SEIR 91-0377-ZC/GPA)
Los Angeles, California

Prepared For:

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED
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(800) 908-EIRS

Prepared By:

LINSCOTT, LAW & GREENSPAN, ENGINEERS
1580 Corporate Drive, Suite 122
Costa Mesa, CA 92626
Phone: (714) 641-1587
FAX: (714) 641-0139

2-921591-2

June 13, 1995

Prepared By:
Richard E. Barretto
Transportation Engineer III

Under the Supervision of:
Paul W. Wilkinson, P.E.
Principal

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EXECUTIVE SUMMARY
TRAFFIC IMPACT STUDY REPORT
SUNSHINE CANYON LANDFILL
(SEIR 91-0377-ZC/GPA)
Los Angeles, California

INTRODUCTION

This Traffic Impact Study Report addresses the potential traffic impacts associated with the proposed Sunshine Canyon Landfill project (City Landfill Extension). The potential traffic impacts of the City Landfill Extension project have been evaluated in a near-term traffic setting by analyzing the future Levels of Service (LOS) during the AM and PM peak hours at thirteen existing key intersections.

Future background (1998) traffic volumes were forecast, assuming a one percent ambient growth rate per year, plus, the addition of traffic associated with planned and/or approved related projects.' The Sunshine Canyon Landfill project traffic generation forecast was derived based on anticipated landfill operations, current waste management strategies/practices of Browning-Ferris Industries (BFI), and the origin of refuse.

Intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service, and/or mitigate the impact of project-related traffic have been identified.

PROJECT DESCRIPTION AND TRAFFIC CHARACTERISTICS

- The project site is located west of San Fernando Road and the Golden State (I-5) Freeway. The proposed City Landfill Extension project is located in the City of Los Angeles. Direct access to the project site is provided via San Fernando Road.

- The proposed City Landfill Extension project would allow for the development and operation of a Class III nonhazardous solid waste landfill facility (landfill footprint located on 205 acres) and an on-site green waste/wood waste recycling area.

- The proposed project would be contiguous to the approved Sunshine Canyon Landfill Extension or County Landfill facility located in the unincorporated County area of Sunshine Canyon, which has a landfill footprint of 215 acres.

- The proposed City Landfill would have an estimated net airspace volume of approximately 31 million tons and allows for an average solid waste disposal intake of approximately 5,000 tons per day. The maximum daily intake for the proposed City landfill is 5,500 tons per day.

- The Sunshine Canyon Landfill project is expected to generate a total of 1,180 trip ends (one half arriving, one half departing) on a daily basis with 1,110 of these trips forecast to be truck trips. The City Landfill Extension project is expected to generate 129 trips during the AM peak hour and 150 trips during the PM peak hour. This forecast is based on the maximum peak daily intake of 5,500 tons of refuse. This is a worst case analysis, because the average daily intake will not exceed 5,000 tons per day.

EXISTING TRAFFIC CONDITIONS

- Based on existing traffic volumes and current street geometry, twelve of the thirteen key intersection currently operate at LOS D or better during the AM and/or PM peak hour.

- The Roxford Street/I-5 southbound on-ramp intersection operates at LOS F during the AM peak hour and the San Fernando Road/Balboa Boulevard intersection operates at LOS E during the PM peak hour.

FUTURE TRAFFIC CONDITIONS

- 1998 horizon year background traffic estimates have been calculated by incorporating an ambient growth factor of 1% per year and the traffic generated by a total of thirty-three related projects. The traffic generated by these related projects will be additive to the adjacent roadway system as the projects are completed and occupied.

- The thirty-three related projects are expected to generate a total of 68,320 daily trips, with 5,390 trips (3,365 inbound, 2,025 outbound) forecast during the AM peak hour and 7,570 trips (3,115 inbound, 4,455 outbound) during the PM peak hour.

Peak Hour Intersection Capacity Analysis

- With the addition of ambient traffic and related projects traffic, ten of the thirteen key intersections are expected to operate at LOS D or better during both the morning and evening peak hours. The intersections Roxford Street/I-5 SB ramps, San Fernando Road/Balboa Boulevard and San Fernando Road/Sierra Highway are expected to operate at LOS E or F during one or both of the peak periods in 1998.

- Based on LADOT criteria, the addition of project-related traffic is expected to significantly impact the forecast 1998 background LOS E/F conditions at the intersections of Roxford Street/I-5 SB ramps, San Fernando Road/Balboa Boulevard

and San Fernando Road/Sierra Highway, in addition to deteriorating the 1998 background service levels at Roxford Street/Encinitas/I-5 NB ramps and San Fernando Road/Project Driveway.

Construction Traffic

- The majority of the construction-related traffic will utilize the I-5, I-210, and SR-14 Freeways to gain regional access to the site. Traffic impact to the adjacent roadway network will be minimal and <u>not</u> long-term.

Queuing Analysis

- A queuing evaluation was performed for the Roxford Street @ I-5 SB Ramps, Roxford Street @ Encinitas/I-5 NB Ramps, Roxford Street @ I-5 NB Off-ramp, and San Fernando Road @ I-5 SB Off-ramp to determine the adequacy of off-ramp storage.

- The results of the queuing analysis indicate that existing ramp storage provided at the four study intersections is sufficient and can easily accommodate forecast 1998 traffic volumes.

Freeway Segment (Mainline) CMP Analysis

- Since AM and PM peak hour project generated trips are well below the LA County CMP threshold criteria required for the freeway segment analysis, no analysis was performed. Per CMP TIA criteria, mainline freeway monitoring stations where the project will ***add 150 or more trips, in either direction***, during the AM or PM peak hours, will require evaluation.

PROJECT SPECIFIC MITIGATION MEASURES

The following intersection improvements are recommended to offset the impact of project traffic and/or mitigate unsatisfactory operating conditions to acceptable service levels.

1) **Roxford St @ I-5 SB Ramps:** Restripe southbound approach on Roxford Street to provide dual left turn lanes and one through lane.

2) **Roxford St @ Encinitas/I-5 NB Ramps:** Restripe westbound through lane on Encinitas Avenue to left/through option lane.

6) **San Fernando Rd @ Balboa Blvd:** This key intersection features two through lanes in each direction on San Fernando Road and two northbound approach lanes, striped as an exclusive left-turn lane and an option left-right turn lane, are provided on

Balboa Connector. A separate westbound left-turn lane as well as protected left-turn phasing is provided. Existing pavement widths and physical constraints (i.e. hillside encroachment) do not allow for any physical improvements, such as providing an exclusive eastbound right-turn lane on San Fernando Road for heavy existing and forecast right-turn volumes.

Given the lack of available physical improvements, it is recommended that ***Automatic Traffic Surveillance and Control (ATSAC)*** signal equipment be installed at this intersection. LADOT believes that the overall capacity of an intersection increases seven percent (7%) by allowing a computer signal control system to improve the efficiency of operations. Preliminary discussions with LADOT staff indicate that this is a possible mitigation measure that could be implemented to off-set the impact of Sunshine Canyon Landfill project traffic.

8) **San Fernando Rd @ Sierra Hwy:** Restripe northbound through lane on San Fernando Road to through/right option lane.

9) **San Fernando Rd @ Project Dwy:** Restripe San Fernando Road to provide a second northbound left-turn lane. The installation of ***ATSAC*** signal equipment is recommended at this intersection.

TRAFFIC IMPACT STUDY REPORT
SUNSHINE CANYON LANDFILL
(SEIR 91-0377-ZC/GPA)
Los Angeles, California

INTRODUCTION

This Traffic Impact Study Report addresses the potential traffic impacts associated with the proposed Sunshine Canyon Landfill[1] project (City Landfill Extension). The proposed project is located northwest of the Golden State Freeway (I-5) and Foothill Freeway (I-210) interchange at 14747 San Fernando Road, in Sylmar, California. Direct access to the project site is provided via San Fernando Road.

METHODOLOGY SUMMARY

The transportation system that may be affected by the proposed project includes existing local roadways and regional highway systems in the City of Los Angeles. Thirteen key intersections have been identified as the locations that have the potential to be impacted by the City Landfill Extension project. Site area roadways and key study intersections have been inventoried with respect to existing geometrics and traffic controls. To satisfy the Los Angeles County (LAC) Congestion Management Program (CMP) Traffic Impact Analysis (TIA) requirements, the potential traffic impacts of the project at three CMP freeway monitoring stations on the I-5 Freeway and one on the I-405 Freeway have been investigated.

Further, to supplement count data available from the City, daily traffic counts and morning and evening peak hour turning movement counts were conducted by Linscott, Law & Greenspan, Engineers (LLG) at key roadways and intersections. Future background (1998) traffic volumes were forecast, assuming a one percent ambient growth rate per year, plus, the addition of traffic associated with related projects (located in the general vicinity of the proposed project) that would impact the study area.

Site-specific traffic generation forecasts were completed for the project on a daily and peak hour basis. The project traffic generation forecast was derived based on anticipated landfill operations, current waste management strategies/practices of Browning-Ferris Industries (BFI), and the origin of refuse. The anticipated project traffic was then distributed and assigned to the surrounding street system.

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[1] The existing landfill is located in Sunshine Canyon within the jurisdiction of the City. This landfill closed on September 21, 1991, due to the expiration of a zoning variance.

The existing and future operating conditions for a near-term (1998) traffic setting at twelve key intersections, plus the intersection of the landfill access road and San Fernando Road (i.e. landfill entrance), were then evaluated by using the Critical Movement Analysis (CMA) methodology, as directed by the Los Angeles Department of Transportation (LADOT).

The key intersections selected for evaluation are listed below.

1) Roxford St @ I-5 SB Ramps
2) Roxford St @ Encinitas/I-5 NB Ramps
3) Roxford St @ I-5 NB Off-Ramp
4) Roxford St @ San Fernando Rd
5) San Fernando Rd @ Sepulveda Blvd
6) San Fernando Rd @ Balboa Blvd
7) San Fernando Rd @ I-5 SB Off-Ramp
8) San Fernando Rd @ Sierra Hwy
9) San Fernando Rd @ Project Dwy
10) Foothill Blvd @ Sierra Hwy
11) Yarnell St @ Foothill Blvd
12) Yarnell St @ I-210 EB Ramps
13) Yarnell St @ I-210 WB Ramps

The Volume-Capacity (V/C) characteristics and Level of Service (LOS) investigations for the AM and PM peak hours at these study intersections were used to evaluate the potential traffic-related impacts associated with the anticipated area growth, adjacent cumulative developments and the proposed project. Further, intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service, and/or mitigate the impact of project-related traffic have been identified.

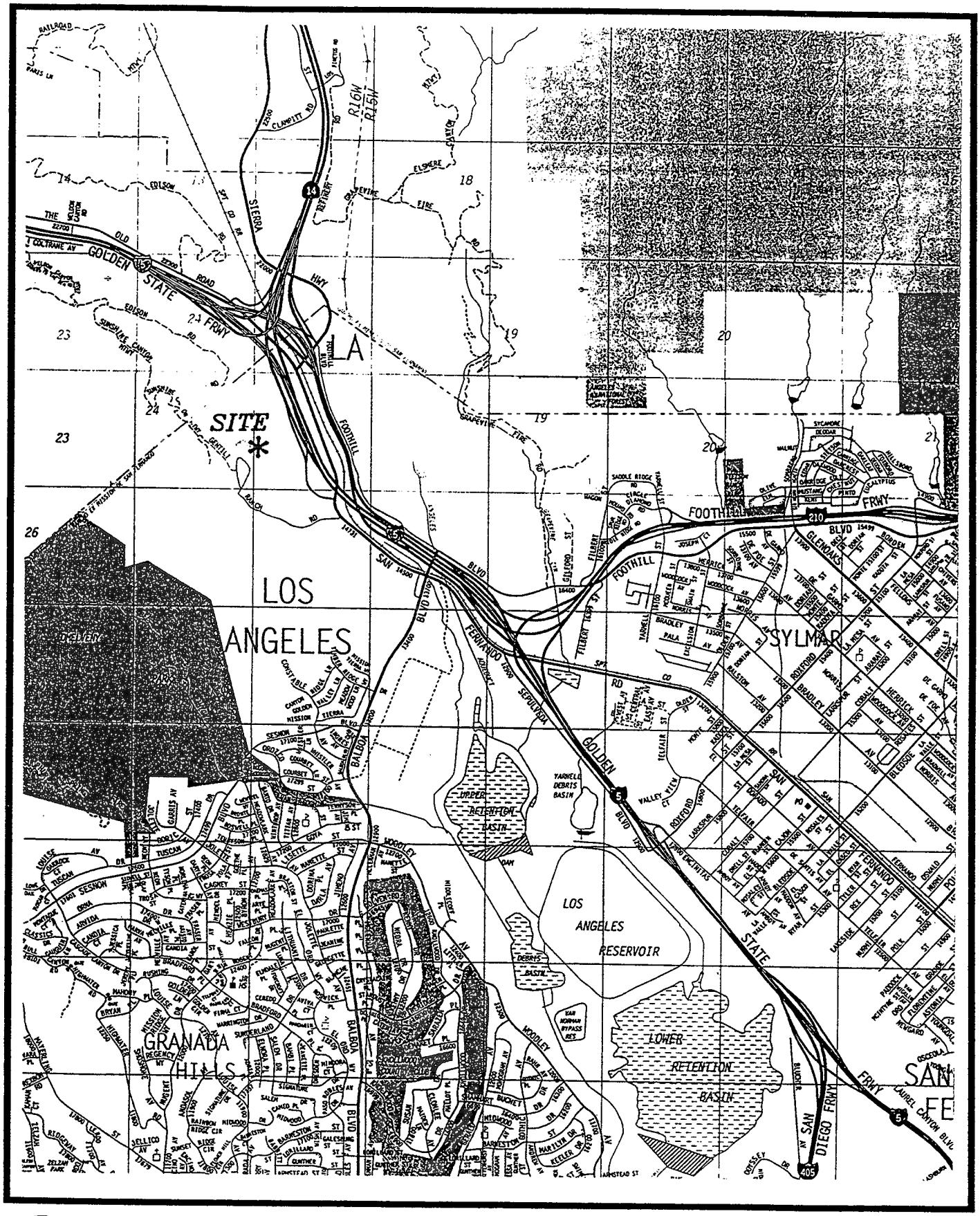
Local area circulation needs, as well as site access and on-site circulation, have been examined, and further recommendations made in that regard.

Included in this traffic impact study report are:

- Existing traffic counts
- Estimated cumulative project traffic generation/distribution/assignment
- Estimated project traffic generation/distribution/assignment
- AM/PM peak hour analyses for existing conditions and future conditions without and with project traffic
- Recommended Project-specific traffic mitigation measures

PROJECT LOCATION

The project site is located west of San Fernando Road and the Golden State (I-5) Freeway. The proposed City Landfill Extension project is located in the City of Los Angeles. Direct access to the project site is provided via San Fernando Road. **Exhibit 1** presents the vicinity map, which illustrates the general location of the project site and depicts the surrounding street system.



SOURCE: THOMAS BROS.

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VICINITY MAP

SUNSHINE CANYON LANDFILL

PROJECT DESCRIPTION

The proposed City Landfill Extension project would allow for the development and operation of a Class III nonhazardous solid waste landfill facility (landfill footprint located on 205 acres) and an on-site green waste/wood waste recycling area. The on-site recycling facility would be located within the project site boundaries, consisting of approximately 494 acres, but would not encompass acreage within the designated 205 acre landfill footprint. The proposed City Landfill Extension project would overlap portions of the existing landfill (also known as the Sunshine Canyon Landfill and located within the jurisdiction of the City) and would encompass undeveloped acreage located in the City.

The proposed project would be contiguous to the approved Sunshine Canyon Landfill Extension or County Landfill facility located in the unincorporated County area of Sunshine Canyon, which has a landfill footprint of 215 acres. The City and County portions of Sunshine Canyon Landfill have a common entry/exit on San Fernando Road south of the southbound Interstate-5 Freeway (I-5) off-ramp and north of Balboa Boulevard.

The proposed City Landfill would have an estimated net airspace volume of approximately 31 million tons and allows for an average solid waste disposal intake of approximately 5,000 tons per day. The maximum daily intake for the proposed City landfill is 5,500 tons per day.

The Draft Environmental Impact Report (DEIR) Sunshine Canyon Extension, Volume 1 (April 1989) Traffic Report, analyzed the worst case scenario of waste intake of 17,500 tons per day (70,000 cubic yards) for the combined County/City landfill project. On February 19, 1991, the County of Los Angeles Board of Supervisors initially approved the Sunshine Canyon Landfill Extension, Conditional Use Permit and Oak Tree Permit 86-312-(5)(CUP). This landfill project was subsequently reapproved by the Board of Supervisors on July 28, 1992 and on November 30, 1993. The County's approval for the County Landfill provides for a maximum net tonnage on non-exempt waste of 6,600 tons per day and provides for a maximum weekly capacity of 36,000 tons per day (6,000 tons/day average based on six working days per week).

The CUP does not specify the amount of inert waste (e.g. asphalt, concrete, soil, rock, wood chips) or green waste that could be accepted at the landfill. These wastes have been categorized as "Exempt Wastes" in the Solid Waste Facilities Permit, Sunshine Canyon Landfill Extension 19-AA-0853.[2] Exempt wastes are not included in the net daily tonnage limit. Furthermore, exempt wastes would not be disposed of at the working face, instead they would be used at the landfill facility or transported off-site for reuse purposes. The

[2] Exempt Wastes would be weighed in at a special scale (Exempt Scale). Exempt Wastes such as inert wastes would be directed to specific areas of the landfill site, stockpiled for use as roadway topping, working pads for wet weather disposal and other construction applications. Green wastes would also be directed to a specified area of the landfill site, where the material would be inspected and if found suitable, recycled on-site as daily cover material or revegetation cover mix.

maximum intake of total waste in the approved County portion of the landfill is 8,800 tons per day for a maximum period of one year.

The County portion of the Sunshine Canyon Landfill is included as a related project in this traffic analysis. The City portion of the landfill is expected to provide for a maximum intake of 5,500 tons per day of non-exempt waste, resulting in a total County/City intake of 12,100 tons per day, with a 66,000 tons per week maximum intake.

LANDFILL OPERATIONS

Sunshine Canyon Landfill will be open for refuse disposal from 6:00 AM to 6:00 PM, Monday through Saturday, excluding Sunday and Holidays. The entrance gate to the site is located off of San Fernando Road, and will be open by 5:00 AM (one hour before the scales are open) to prevent trucks and vehicles from queuing on San Fernando Road. Hours of operation will be posted at the entrance to the site.

EXISTING STREET SYSTEM

Regional access to the project site is provided by the Antelope Valley (SR 14), Foothill (I-210), Simi Valley (SR 118), Golden State (I-5), and San Diego (I-405) Freeways. The Golden State (I-5) Freeway has a northwest-southeast alignment and is located east of the project site. The Antelope Valley Freeway extends north from the Golden State Freeway to the communities of Palmdale and Lancaster. Access for both the Golden State Freeway and the Antelope Valley Freeway are provided north of the project via a southbound off-ramp at San Fernando Road and a northbound on-ramp from Foothill Boulevard. Southeast of the project, access to I-5 is provided at Roxford Street.

Approximately three miles southeast of the landfill, the San Diego Freeway joins the Golden State Freeway. The Foothill Freeway extends east from Interstate 5. The Foothill Freeway access closest to Sunshine Canyon Landfill is located at Yarnell Street, approximately one and a half miles southeast of the site. The Simi Valley-San Fernando Valley Freeway is located approximately 3 miles south of the project site and extends west from Foothill Freeway.

Immediate ingress-egress to the project site is provided from San Fernando Road. Site generated traffic is also expected to use the following roadways in the vicinity of the project site. They include: Sepulveda Boulevard; Roxford Street; Balboa Boulevard (limited use only); Foothill Boulevard; and Yarnell Street. Most of these roadways are classified by LADOT as major roadways, except Yarnell Street which is classified as a secondary roadway.

San Fernando Road is a four-lane roadway (two lanes in each direction) with a posted speed limit of 45 miles per hour. No parking/no stopping anytime is permitted along most sections

of this roadway. Near the landfill, San Fernando Road is west of and parallel to the Golden State Freeway. North of the Antelope Valley Freeway, San Fernando Road continues as the Old Road. The average daily two-way volume on San Fernando Road near the project site is approximately 19,700 vehicles.

Sepulveda Boulevard is located south of the project between San Fernando Road and Roxford Street. Sepulveda Boulevard generally has a north-south alignment, with one travel lane in each direction and a posted speed limit of 45 miles per hour.

Roxford Street has one travel lane in each direction between Encinitas Avenue and San Fernando Road. However, two through lanes and a left-turn lane are provided on Roxford at these two intersections. The posted speed limit on Roxford Street is 35 miles per hour. Access to and from the Golden State Freeway is provided at Roxford.

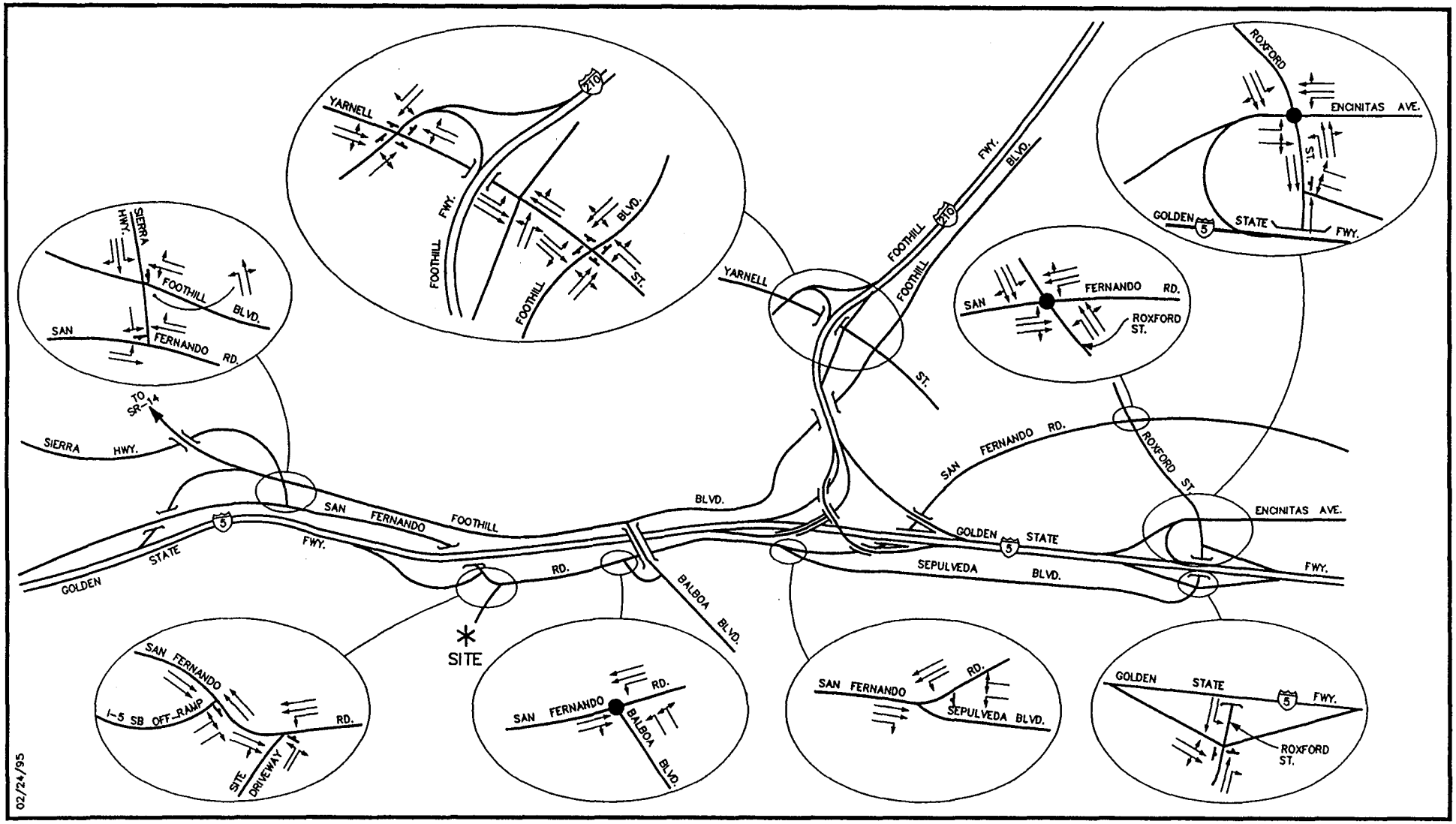
Balboa Boulevard extends south from Foothill Boulevard over the Golden State Freeway and San Fernando Road and continues south into the City of Los Angeles. A connector road provides access between Balboa Boulevard and San Fernando Road. Balboa Boulevard is posted with signs prohibiting trucks in excess of 6,000 pounds south of San Fernando Road (local service/delivery/trash trucks are allowed to use Balboa Blvd.) Balboa Boulevard has two to three lanes in each direction with a two-way left-turn lane between San Fernando Boulevard and Rinaldi Street. Balboa provides a north/south route parallel to the San Diego Freeway and is located less than two miles west of the San Diego Freeway.

Foothill Boulevard is located south of the Foothill Freeway where it has an east-west alignment. This roadway extends under the Foothill Freeway and continues parallel to Interstate 5 northeast of the freeway. Between Sierra Highway and Yarnell Street, Foothill Boulevard has one lane in each direction.

Yarnell Street is a four-lane roadway near the Foothill Freeway where both eastbound and westbound on and off-ramps are provided. South of Foothill Boulevard, Yarnell Street continues as a two-lane roadway.

EXISTING TRAFFIC LANES AND INTERSECTION CONTROLS

The number of existing traffic lanes and type of traffic control at key area intersections is presented in **Exhibit 2.** The majority of the intersections in the study area are currently stop controlled. As illustrated in Exhibit 2, traffic signals exist at the San Fernando Road/Balboa Boulevard, San Fernando Road/Roxford Street, and Roxford Street/Encinitas Avenue/I-5 northbound ramp intersections.



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KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL
- ⊣ = STOP SIGN

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EXISTING ROADWAY CONDITIONS
SUNSHINE CANYON LANDFILL

EXISTING TRAFFIC COUNT DATA

Exhibit 3 summarizes the available existing daily traffic volumes on key roadways near the project. The mainline freeway and ramp volumes were obtained from 1993 Caltrans Traffic Volume Book, with additional machine counts conducted by LLG in November 1992 and April 1993 on eight key roadways near the landfill.

The AM and PM peak hour traffic volumes at key intersections are presented in **Exhibits 4 and 5**, respectively. The manual turning movement counts were conducted by LLG in October 1992 and March 1993. The detailed daily and peak hour count sheets are included in Appendix A of this report.

It should be noted that although LADOT traffic study guidelines require that existing count data be updated every two years (data should not be over two years old), LADOT has no objections to using prior 1992 and 1993 traffic volumes counts since new traffic count data conducted in January 1995 at two key intersections on San Fernando Road at Balboa Boulevard and Sierra Highway generally showed much lower volumes. Hence, the 1992 and 1993 traffic volumes are referred to as 1995 traffic count data.

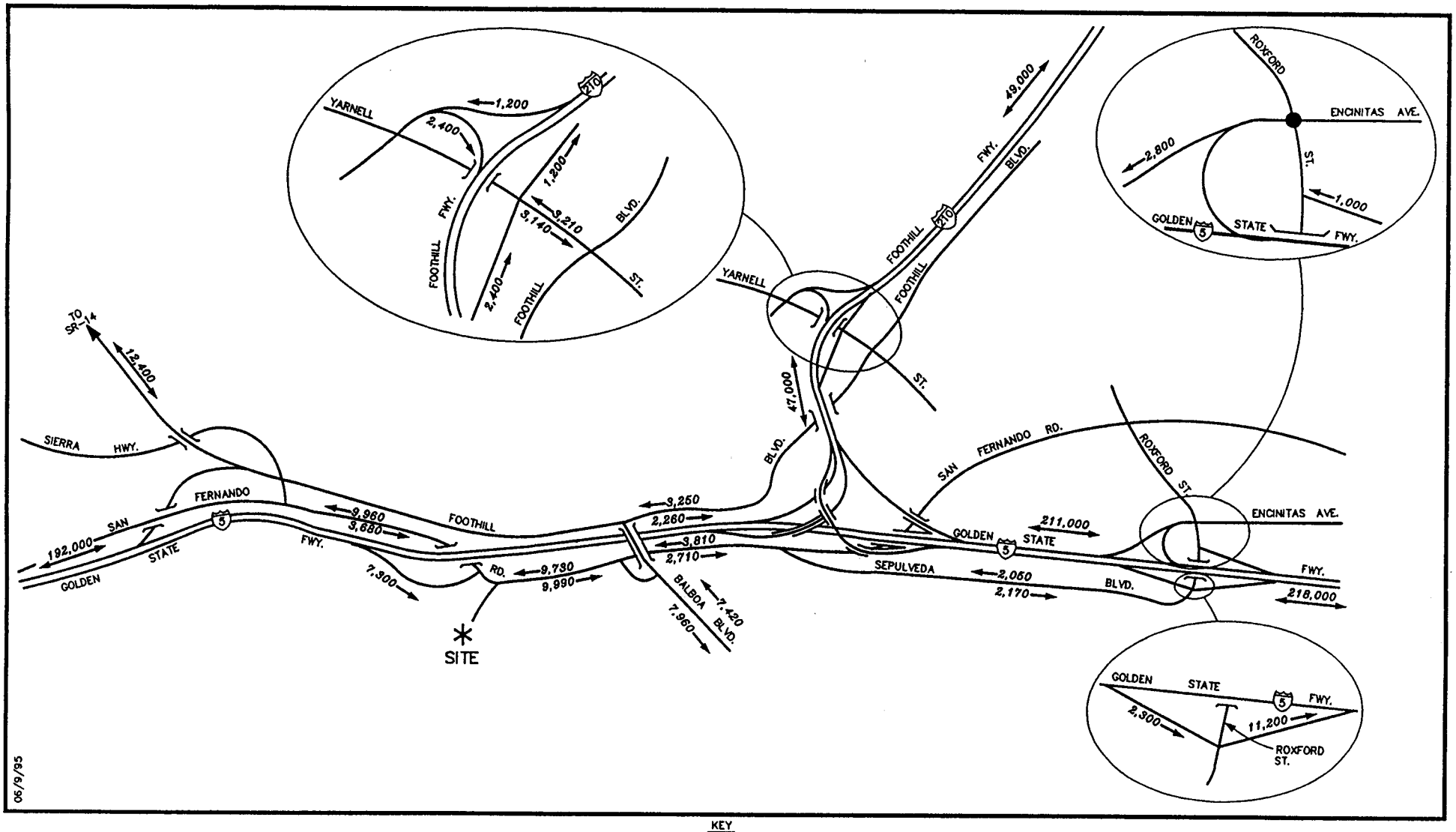
EXISTING INTERSECTION CONDITIONS

CMA Method of Analysis

Existing AM and PM peak hour operating conditions for the thirteen (13) key intersections have been investigated according to the Critical Movement Analysis (CMA) method. The CMA technique is a procedure which provides a capacity and level of service determine for signalized intersections. The analysis incorporates the effects of geometry and traffic signal operation and results in a Level of Service (LOS) determination for the intersection as a whole. This method is utilized for the evaluation of key study intersections unless otherwise specified by LADOT Staff.

The CMA technique reflects the traffic flow characteristics of signalized intersections and estimates the volume-to-capacity (V/C) ratio for an intersection based on individual CMA values for key conflicting movements. This methodology is presented in Interim Materials on Highway Capacity, Transportation Research Circular No. 212, January 1980. The CMA value translates to a Level of Service (LOS) condition which is a relative measure of the performance of the intersection. Criteria for six LOS conditions at intersections have been defined and are shown in **Table 1.**

The CMA value is calculated by dividing the sum of the critical movement volumes at the intersection by the appropriate capacity value for the existing proposed type of signal control at the study intersection. These critical movement volume ranges are presented in **Table 2.**



KEY

←X,XXX = ONE WAY VOLUME

←→XX,XXX = TWO WAY VOLUME

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EXISTING (1993) DAILY TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

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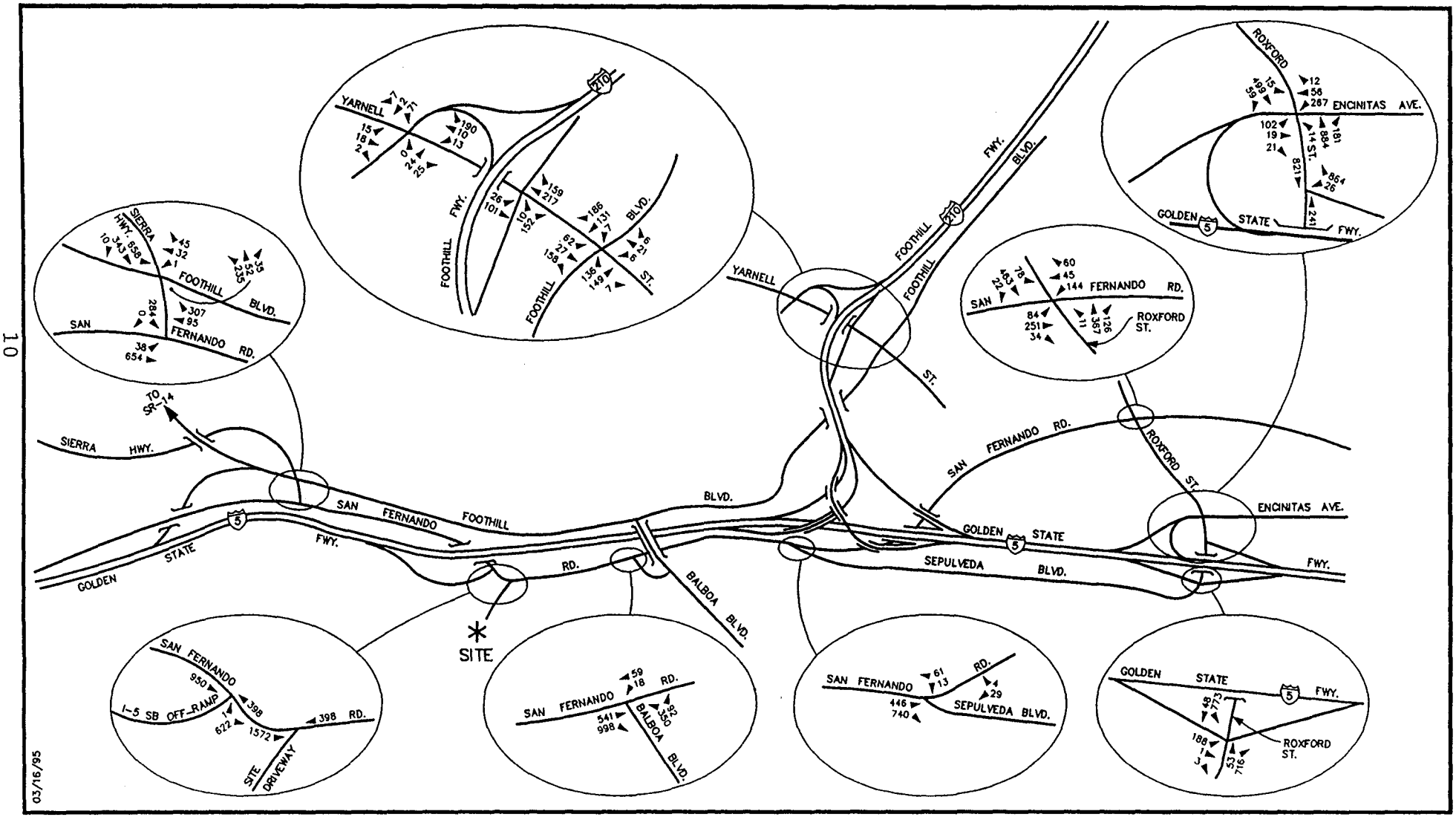

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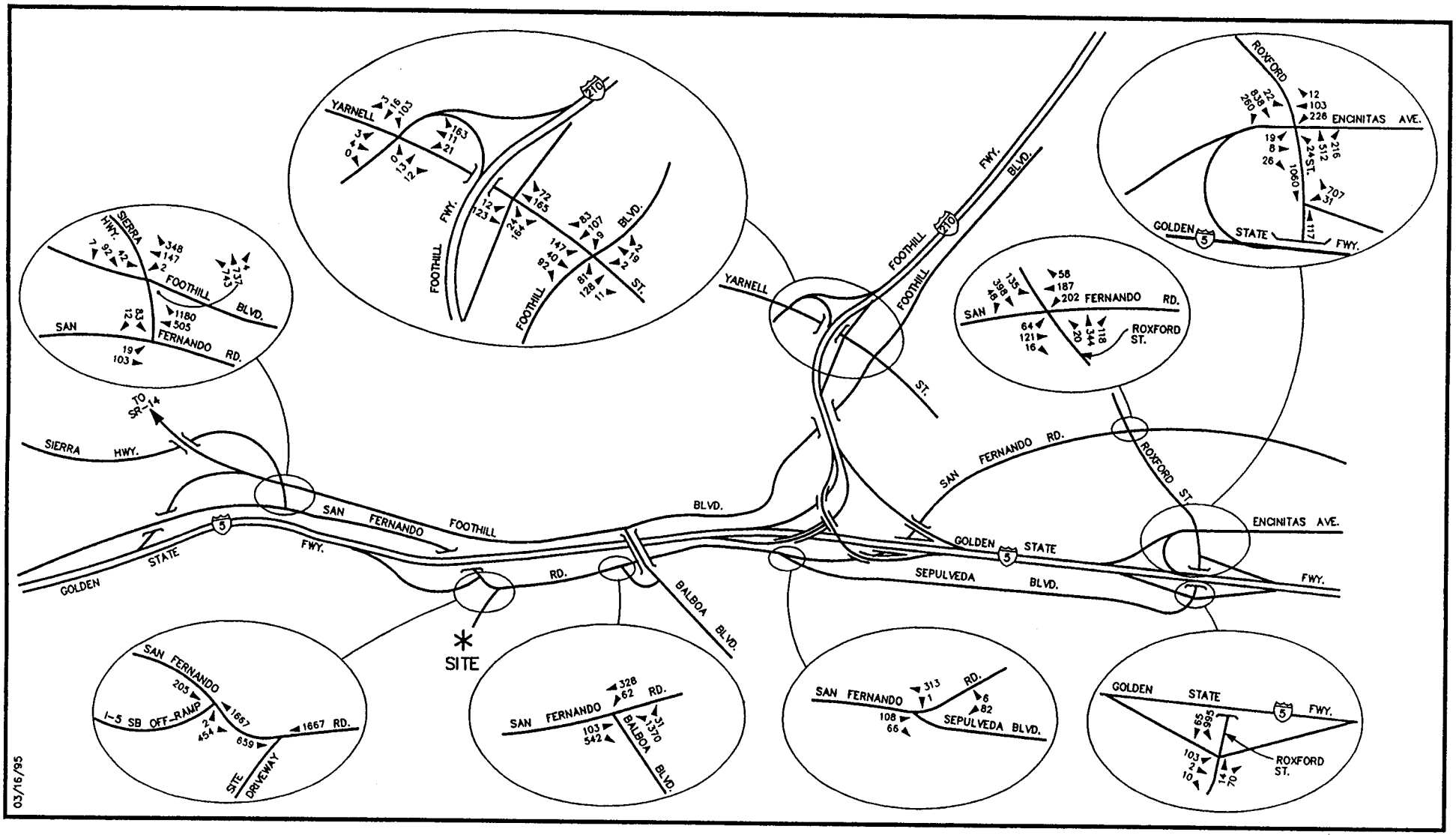
EXISTING 1995 AM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL



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EXISTING 1995 PM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

TABLE 1

LEVEL OF SERVICE CRITERIA[1]
Sunshine Canyon Landfill

CMA (V/C) Value	LOS	LEVEL OF SERVICE DESCRIPTION
0.000 - 0.600	A	EXCELLENT. No vehicle waits longer than on red light and no approach phase is fully used.
0.601 - 0.700	B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
0.701 - 0.800	C	GOOD. Occasionally, drivers may have to wait through more than one red light backups may develop behind turning vehicles.
0.801 - 0.900	D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
0.901 - 1.000	E	POOR. Represents the most vehicles that intersections approaches can accommodate; may be ling lines of waiting vehicles through several signal cycles.
1.001 +	F	VERY POOR. Forced flow with stoppages of long duration.

TABLE 2

CRITICAL MOVEMENT VOLUME RANGES
MAXIMUM SUM OF CRITICAL VOLUMES (IN VPH)[1]
Sunshine Canyon Landfill

LOS	Two Phases	Three Phases	Four or more Phases
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	N/A	N/A	N/A

N/A = Not Applicable
VPH = Volumes per Hour

[1] Source: Transportation Research Board, Interim Materials on Highway Capacity, Transportation Research Circular No. 212, January 1980.

1995 Existing Levels of Service

Table 3 summarizes the peak hour service level calculations for each of the thirteen key intersections based on existing traffic volumes depicted in Exhibits 4 and 5 and current street geometrics. As shown, twelve of the thirteen key intersection currently operate at LOS D or better during the AM and/or PM peak hour.

Only the Roxford Street/I-5 southbound on-ramp intersection operates at LOS F during the AM peak hour and the San Fernando Road/Balboa Boulevard intersection operates at LOS E during the PM peak hour.

TABLE 3

1995 EXISTING LEVEL OF SERVICE SUMMARY (CMA/LOS)[1]
Sunshine Canyon Landfill

Key Intersection	AM Peak Hour		PM Peak hour	
	V/C	LOS	V/C	LOS
1) Roxford St @ I-5 SB Ramps	**1.118**	F	0.779	C
2) Roxford St @ Encinitas/I-5 NB Ramps	0.600	A	0.585	A
3) Roxford St @ I-5 NB Off-Ramp	0.619	B	0.636	B
4) Roxford St @ San Fernando Rd	0.407	A	0.424	A
5) San Fernando Rd @ Sepulveda Blvd	0.168	A	0.134	A
6) San Fernando Rd @ Balboa Blvd	0.825	D	**0.905**	E
7) San Fernando Rd @ I-5 SB Off-Ramp	0.565	A	0.737	C
8) San Fernando Rd @ Sierra Hwy	0.625	B	0.855	D
9) San Fernando Rd @ Project Dwy	0.524	A	0.556	A
10) Foothill Blvd @ Sierra Hwy	0.519	A	0.775	C
11) Yarnell St @ Foothill Blvd	0.279	A	0.232	A
12) Yarnell St @ I-210 EB Ramps	0.244	A	0.196	A
13) Yarnell St @ I-210 WB Ramps	0.193	A	0.162	A

[1] See Appendix B for a detailed explanation for the CMA methodology and LOS concept plus CMA/LOS calculation sheets for key study intersections.

TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed City Landfill Extension project, a multi-step evaluation process has been utilized. The first step in this process involves traffic generation, which estimates the total arriving and departing traffic at the project site during peak hours and on a daily basis. Typically, the traffic generation potential of the proposed project is estimated by multiplying accepted traffic generation rates by the number of square feet in the proposed development, or by applying the appropriate vehicle trip generation equations for the desired land use. As acknowledged by LADOT, specific traffic counts at Sunshine Canyon Landfill were used to develop the trip generation rates for the site.

The second step of the evaluation process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are based on existing demographic characteristics and existing travel patterns in the area.

The third step is traffic assignment, which involves the allocation of project traffic estimates to area streets and intersections. Traffic assignment is typically based on minimization of travel time which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment is based on specific volume forecasts related to development conditions.

Once the forecasting process is completed and project traffic assignments are developed, the impact of the project is evaluated by comparing the operational conditions at key intersections near the project based on the future traffic conditions with and without the forecasted project traffic.

Future background traffic volumes are forecast by increasing the existing traffic volumes by one percent per year for ambient traffic growth plus the addition of all anticipated related project traffic. The operating conditions during both the AM and PM peak hours were evaluated based on the Critical Movement Analysis (CMA) explained previously. The need for site-specific and/or cumulative local area traffic improvements are then evaluated based on the CMA analysis.

PROJECT TRAFFIC CHARACTERISTICS

Project Generation Forecast

Traditional sources for traffic generation factors, including Trip generation: An Informational Report published by the Institute of Transportation Engineers (ITE) and various Progress Reports on Trip Ends Generation Research Counts by Caltrans, do not include traffic generation data specific to landfill projects. Therefore, prior traffic counts taken at Sunshine Canyon Landfill were used to calculate the traffic generation rates for the proposed project.

These traffic generation rates, shown in **Table 4**, were also used in the 1989 DEIR for the Sunshine Canyon Landfill Extension (combined County/City landfill project). However, because of changes in the operation of landfills, waste management practices and the origin of the refuse, the rates reflected in Table 4 no long apply to the proposed project.

As proposed, the primary types of trucks that will be used to deliver waste to the Sunshine Landfill project include transfer trucks that bring in materials from transfer stations, and curb-side collection trucks that obtain wastes from the local populous.

Based on information provided by Ultrasystems Environmental and BFI, the waste brought in from transfer stations will compose approximately 46.4% of the materials brought into the site. Based on a maximum daily intake of 5,500 tons at the proposed project site, approximately 2,550 tons of refuse would originate from transfer stations. The transfer trucks are approximately 60 feet long and have a volume capacity of 23.5 tons per truck.

Refuse delivered by curb-side collection trucks will comprise about 51.8% of the 5,500 tons of waste or 2,850 tons per day of peak intake. The curbside collection trucks are approximately 40 feet in length and have a 9 ton capacity. The remaining 1.8% of peak daily intake or 100 tons/day is expected to originate from local deliveries (i.e.landscapers, gardeners, etc...). BFI estimates that, on average, approximately 125 half-ton, and three-quarter ton trucks will make deliveries to the Sunshine Canyon Landfill site.

According to BFI, transfer trucks (or even transfer stations) were not used in 1985-1986 when the daily traffic counts were taken at the landfill entrance. The majority of the materials brought into the site were delivered by curb-side collection trucks in 1985. Hence, the rates developed from these counts, if used, will overestimate the trip generation potential of the proposed Sunshine Canyon Landfill project.

TABLE 4

TRIP GENERATION RATES[1]
Sunshine Canyon Landfill

Land Use	AM Peak Hour			PM peak hour			Daily 2-Way
	In	Out	Total	In	Out	Total	
Landfill (truck/cubic yd of refuse)	0.0047	0.0038	0.0085	0.0045	0.0055	0.0100	0.0795
Landfill (truck/ton of refuse)	0.0188	0.0152	0.034	0.018	0.022	0.040	0.318
Percent of Daily traffic	5.9%	4.8%	10.69%	5.7%	6.9%	12.58%	—
Percent Split (In:Out)	.55	.45	1.00	.45	.55	1.0	—

[1] The daily and peak hour rates were based on actual count data taken at the landfill entrance by Browning-Ferris Industries (BFI) in July and August 1985, January 1986, and updated in February 1988.

Table 5 summarizes the updated trip generation forecast of the Sunshine Canyon Landfill project that LLG has prepared based on the above information. The methodology utilized in the derivation of this forecast is detailed in the calculation sheets in **Appendix C.** LADOT has reviewed this current forecasting methodology as well as the traffic forecast shown in Table 5 and has approved the project traffic projections for use in this traffic study.

Traffic generation is expressed in terms of vehicle trip ends (TE). A trip end is a one-way vehicular movement either entering or departing the project site. The traffic generation factors used for the landfill are based upon the number of truck trip ends per cubic yard of daily refuse intake, plus the amount of traffic generated by employees at the project site.

As presented in Table 5, during the morning peak hour 55% of the project traffic is expected to be inbound and 45% outbound, and during the evening peak hour, the split between inbound and outbound is reversed with 45% inbound and 55% outbound. The proposed City Landfill is forecast to generate 119 truck trips (65 inbound, 54 outbound), during the AM peak hour and 140 truck trips (63 inbound, 77 outbound) during the PM peak hour based on the maximum peak daily intake.

The majority of the employee-related traffic (TE/Employee) at the landfill is expected to occur before or after the typical morning and evening peak commuter period. Approximately ten (10) inbound trips in the morning and ten (10) outbound trips in the evening are forecast during the peak hours as a result of additional employees at the landfill. On a daily basis, this project is forecast to generate an additional 70 employee trips.

The proposed project is expected to generate a total of 1,180 trip ends (one half arriving, one half departing) on a daily basis with 1,110 of these trips forecast to be truck trips. The City Landfill Extension project is expected to generate 129 trips during the AM peak hour and 150 trips during the PM peak hour. This forecast is based on the maximum peak daily intake of 5,500 tons of refuse. This is a worst case analysis, because the average daily intake will not exceed 5,000 tons per day.

The truck traffic generated by the proposed City Landfill Extension project has been converted to its Passenger Car Equivalent (PCE) based on the methodology in the Highway Capacity Manual, Special Report No. 209, published in 1985 by the Transportation Research Board. For this purposes of this analysis that one transfer truck has approximately the same impact on normal traffic operations as three passenger cars, while one curb-side collection trash truck is equivalent to two passenger cars. The number of equivalent passenger cars generated by the project is also presented in Table 5. The proposed project is forecast to result in a total PCE of 2,260 trip ends, with 245 PCE trip ends generated during the AM peak hour and 285 PCE trip ends produced in the PM peak hour.

TABLE 5

PROJECT TRAFFIC GENERATION FORECAST
Sunshine Canyon Landfill

Description	AM Peak Hour			PM Peak Hour			Daily 2-Way
	In	Out	Total	In	Out	Total	
Current Generation Forecasts: [1] **Proposed City Landfill (5,500 Tons/Day)**							
Truck Transfer Stations (2,550 Tons/Day)							
Truck Trips	13	11	24	13	15	28	220
Truck-PCE[2]	39	32	71	37	46	83	660
Curbside Collections (2,850 Tons/Day)							
Truck Trips	37	31	68	36	45	81	640
Truck-PCE[3]	75	62	137	72	89	161	1,280
Local Deliveries (100 Tons/Day)	15	12	27	14	17	31	250
Employee Traffic (35 Employees)	10	0	10	0	10	10	70
TOTAL PROJECT TRIPS (current)	**75**	**54**	**129**	**63**	**87**	**150**	**1,180**
TOTAL PCE TRIPS (current)	**139**	**106**	**245**	**123**	**162**	**285**	**2,260**

1 Daily traffic forecast for the Sunshine Canyon Landfill project based on expected operations of the landfill facility and traffic rates developed from information provided by BFI. Peak hour traffic forecast based on the calculated peak hour percentage rates utilized previously; 10.69% (45:55) of daily landfill traffic occurs in the AM peak hour and 12.58% (55:45) of daily landfill traffic is generated during the PM peak hour. Employee generation factors are expressed as trip ends (TE) per employee and based on employee arrival/departure characteristics at the landfill.

2 Transfer truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one transfer truck (60 feet long, 23.5 ton capacity) is equal to three passenger cars.

3 Curbside Collection truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one truck (40 feet in length, 9 ton capacity) is equal to two passenger cars.

Project Traffic Distribution and Assignment

Traffic distribution is the determination of the directional orientation of traffic and is based on the relative demographics of the surrounding area and region. **Exhibit 6**, identifies the general distribution pattern for the proposed project. With the site envisioned to serve the local and sub-regional area, 12% of the project-related traffic is expected to be distributed north of the project site on the I-5 Freeway (10%) and Sierra Highway (2%), with the 68% oriented to the on the I-5% Freeway (45%), San Fernando Road (21%) and Balboa Boulevard (2%) and the remaining 20% east of the site on the I-210 Freeway (5%), Foothill Boulevard (5%) and Roxford Street (10%).

The anticipated daily project traffic volumes are presented in **Exhibit 7** and the AM and PM peak hour project traffic volumes are shown in **Exhibits 8** and **9**, respectively. These volumes were estimated by applying the distribution pattern shown in Exhibit 6 to the daily and peak hour PCE traffic forecast presented in Table 4. It is important to note that the project traffic volumes in Exhibits 7, 8 and 9 represent the total PCE and the actual number of new project trips on the street system are approximately half the volume shown in these three exhibits.

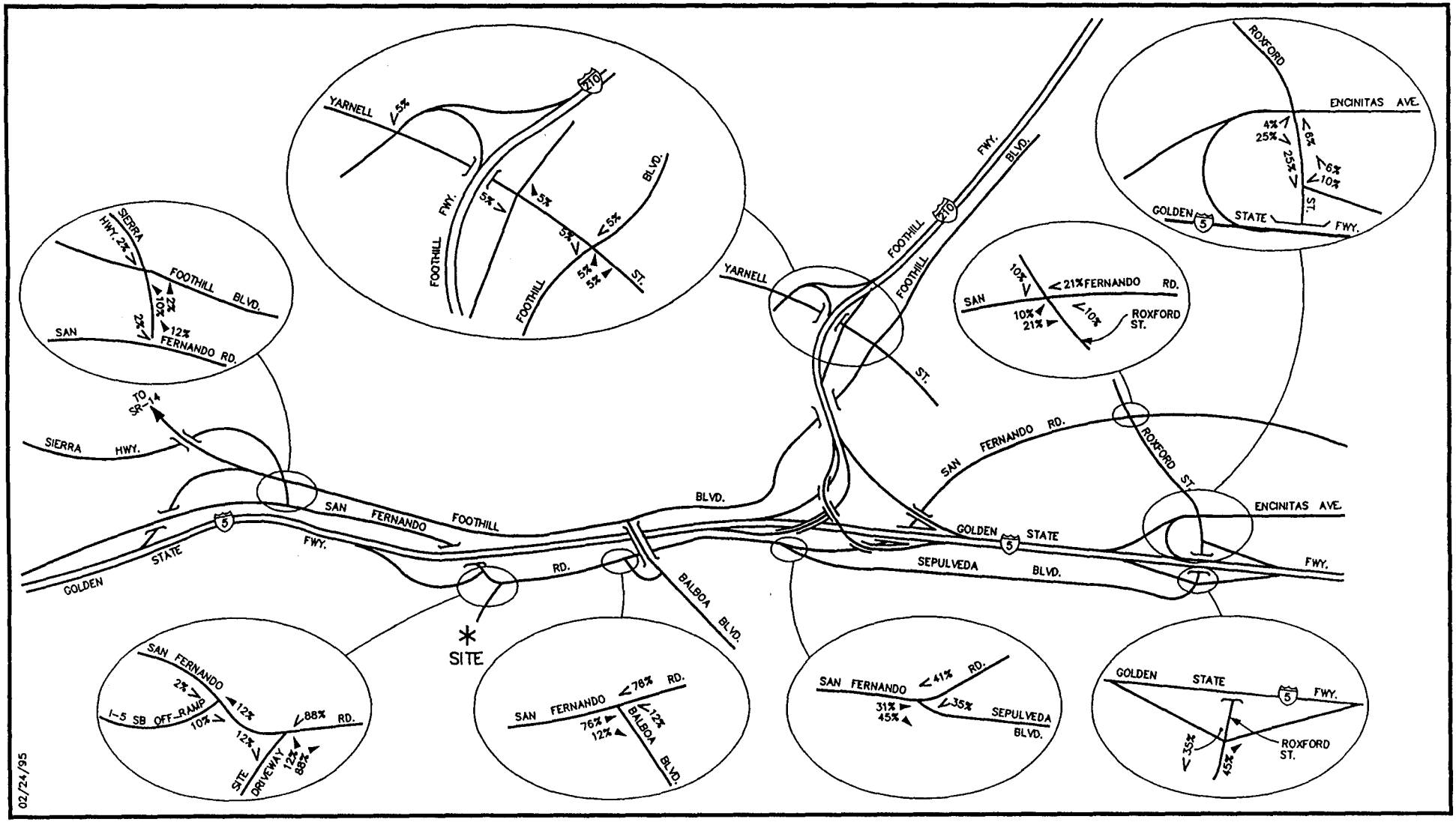
A majority of the daily traffic generated by the landfill will be truck traffic (approximately 94% truck traffic and 6% from employee-related vehicles). The intersection analysis used for this study assumes most of the traffic is from passenger cars. Therefore, the truck volumes expected to be generated by the landfill have been converted to PCE.

RELATED PROJECTS AND TRAFFIC CHARACTERISTICS

Related Projects Traffic Generation

In addition to incorporating an ambient growth factor (1% per year), a total of thirty-three related projects were included in the cumulative traffic forecast, including the County portion of Sunshine Canyon Landfill (Zone VIII, Map No. 28). The traffic generated by these sites will be additive to the adjacent roadway system as the projects are completed and occupied. The projects are considered in the traffic analysis and forecast trips generated by these sites are referred to as Related Projects traffic.

The related projects have been grouped into eight distinct traffic analysis zones for this traffic study. The location of each of the related projects and the traffic analysis zones are shown in **Exhibit 10.**



02/24/95

SCHEMATIC
NOT TO SCALE
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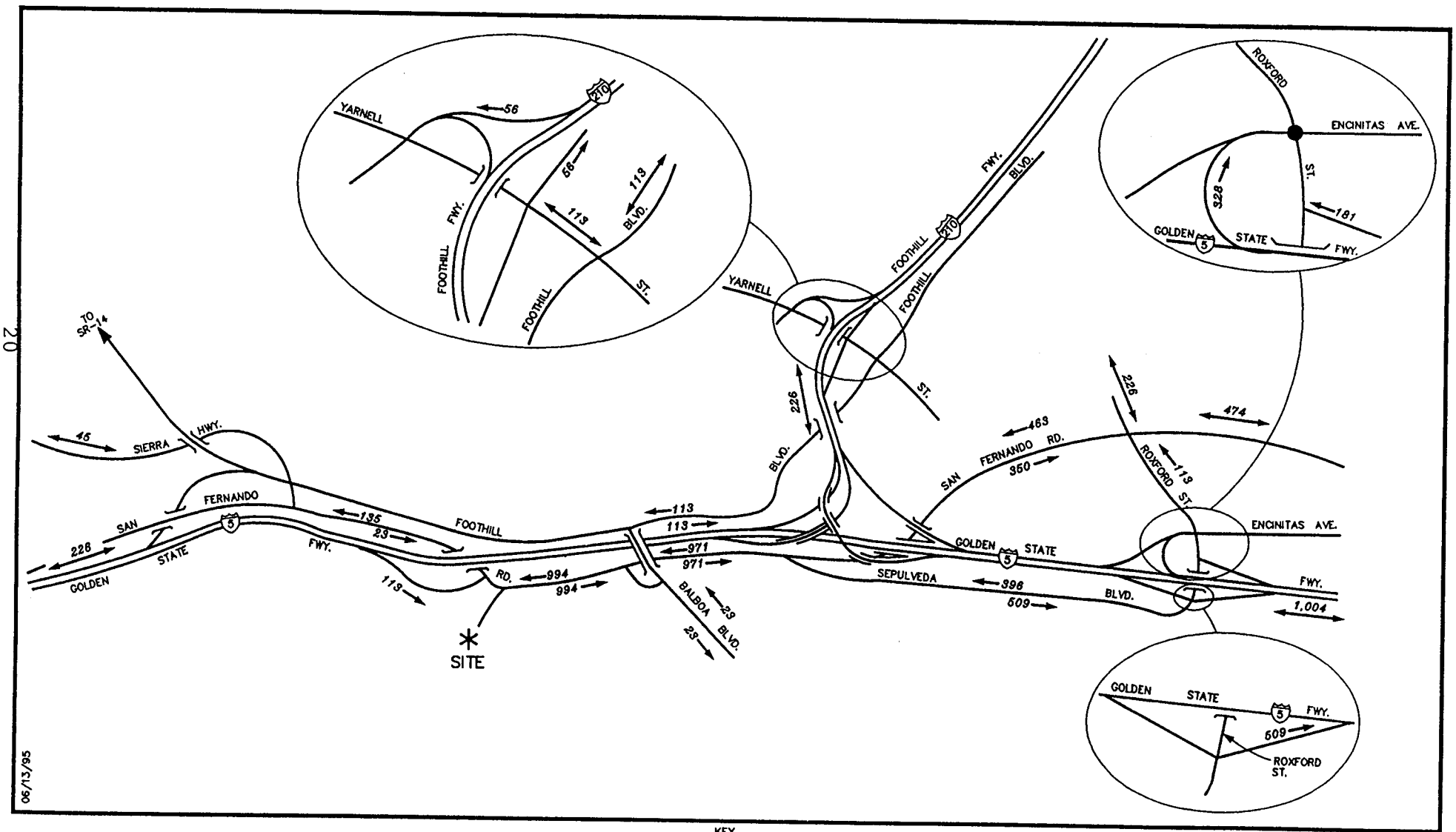
KEY
< XX% = INBOUND PERCENTAGE
◄ XX% = OUTBOUND PERCENTAGE

6

PROJECT TRAFFIC DISTRIBUTION
SUNSHINE CANYON LANDFILL

LG Linscott, Law & Greenspan, Engineers



KEY

←X,XXX = ONE WAY VOLUME

XX,XXX ↔ = TWO WAY VOLUME

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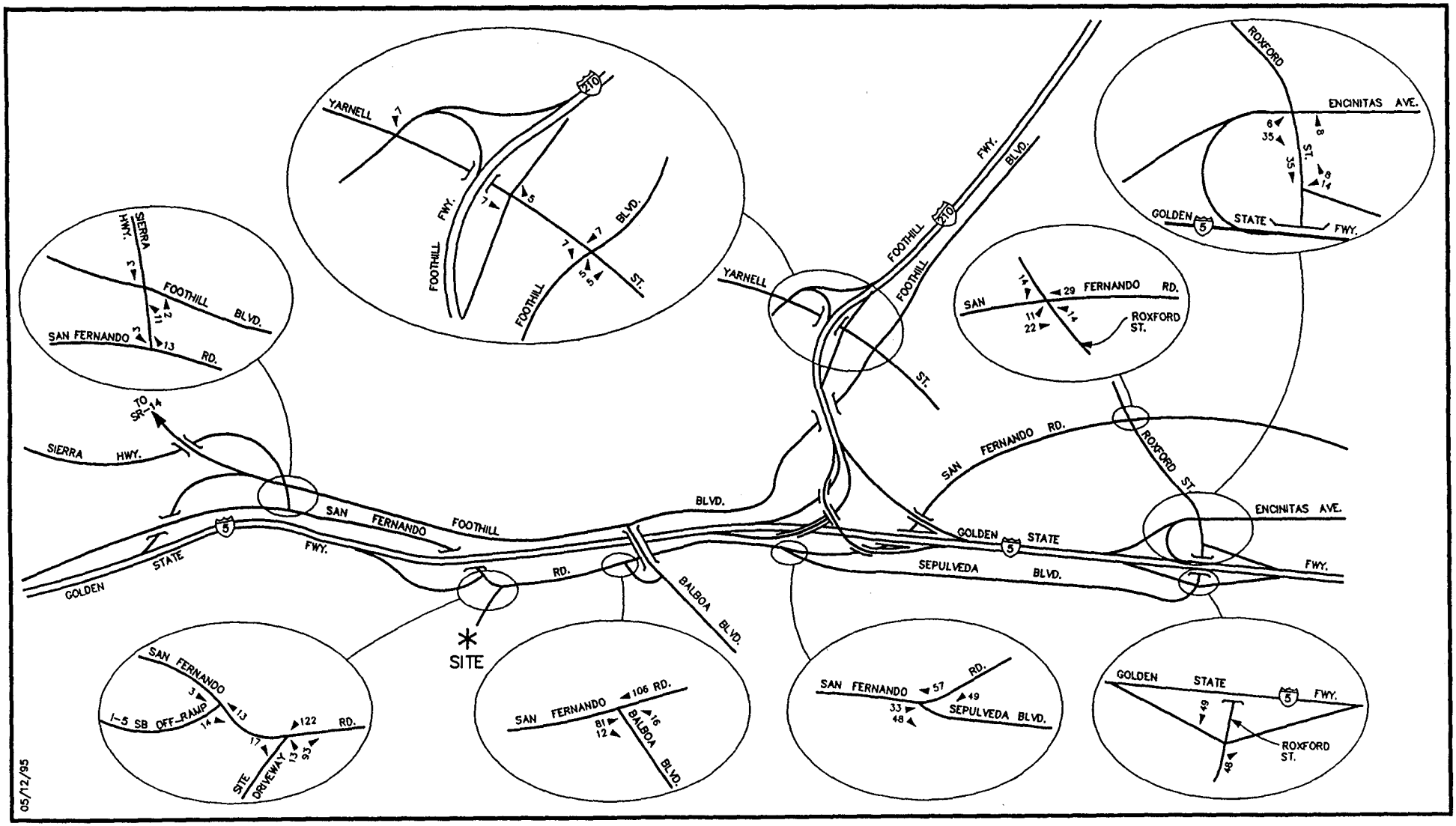
NOT TO SCALE

7

LG Linscott, Law & Greenspan, Engineers

PROJECT DAILY TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL



KEY

XX = AM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

SCHEMATIC
NOT TO SCALE
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8

AM PEAK HOUR PROJECT TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

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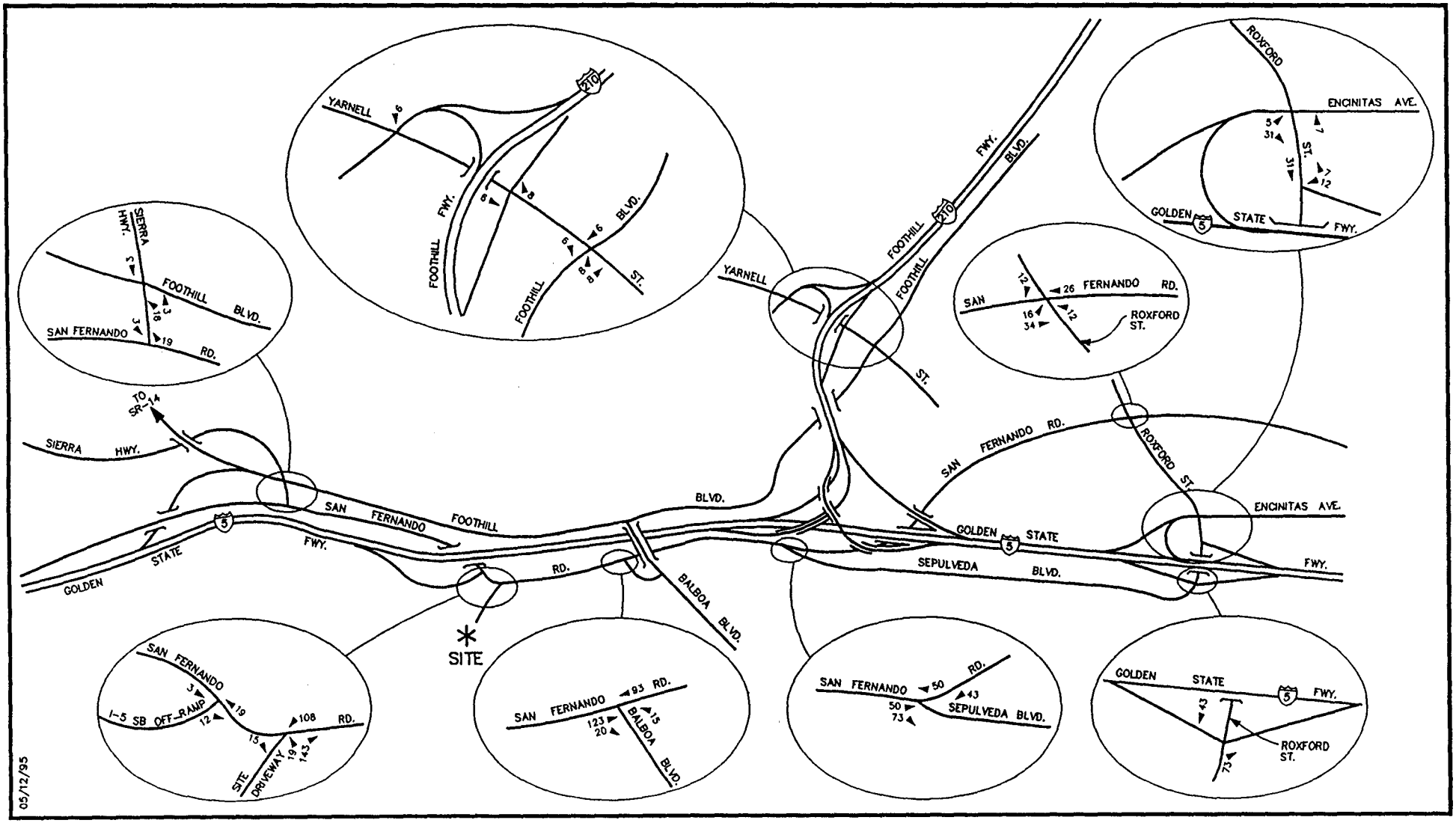

KEY

XX = PM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

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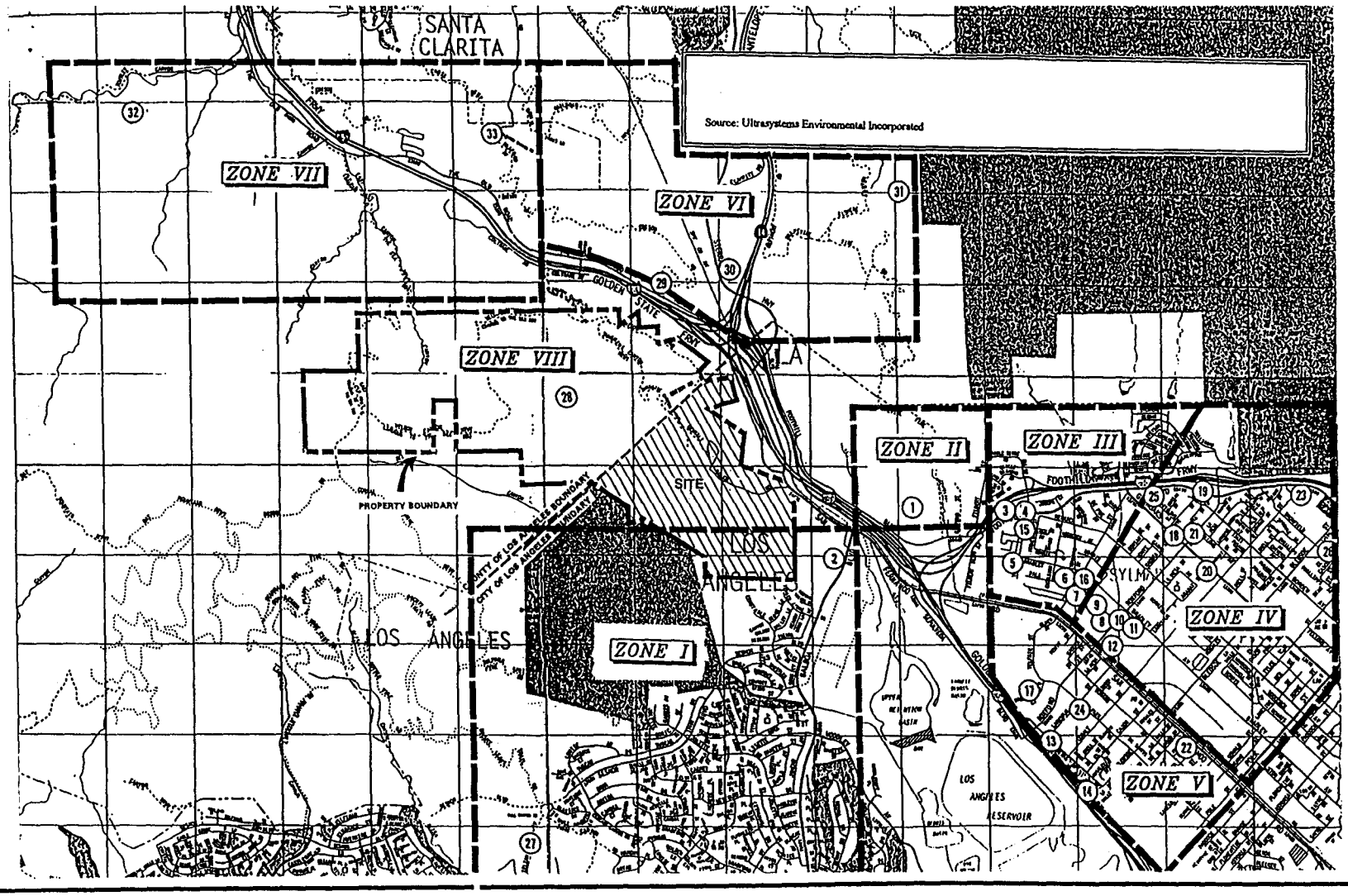
SCHEMATIC
NOT TO SCALE

9

PM PEAK HOUR PROJECT TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

LG Linscott, Law & Greenspan, Engineers



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SCHEMATIC
NOT TO SCALE
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10

RELATED PROJECTS LOCATION MAP
SUNSHINE CANYON LANDFILL

LG Linscott, Law & Greenspan, Engineers

Table 6 provides the trip generation forecast for each individual related project. A brief description of the type of development and size of each project is also included in Table 5. The traffic forecast for the landfills (approved and potential) included in the cumulative forecast were based on the same traffic generation rates used for Sunshine Canyon Landfill, and have been converted to PCE. As shown in Table 6, the related projects are expected to generate a total of 68,320 daily trips, with 5,390 trips (3,365 inbound, 2,025 outbound) forecast during the AM peak hour and 7,570 trips (3,115 inbound, 4,455 outbound) during the PM peak hour.

Related Projects Traffic Distribution and Assignment

Exhibits 11 and **12** present the total peak hour traffic forecasts at the key study intersections for the related projects in the Sylmar Community of Los Angeles. The traffic assignment patterns for the related projects were developed based on existing travel patterns, local area residential concentrations and location of area commercial/business centers.

BACKGROUND TRAFFIC CONDITIONS

Year 1998

As mentioned previously, the background traffic condition incorporates a one percent annual ambient growth rate which has been applied to all turning movements of the key intersections. The one percent annual growth rate is expected to account for projects outside the study area and regional traffic growth. **Exhibits 13** and **14** illustrate the existing traffic volumes plus ambient growth traffic for the AM and PM peak hours, respectively.

The 1998 peak hour background traffic volumes (existing + ambient growth + related project traffic) for the morning and evening peak hours are shown in **Exhibits 15** and **16.** The total 1998 peak hour traffic volumes (background + project traffic) are illustrated in **Exhibits 17** and **18.**

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TABLE 6

TRIP GENERATION FOR RELATED PROJECTS
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK			PM PEAK		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
I	2	MND 87-461-ZC	Gen Office	16 KSF	350	40	5	45	10	40	50
I	27	MND 94-0012-SUB(ZC)	S Family Dwell	13 Units	120	5	10	15	10	5	15
SUBTOTAL ZONE I					470	45	15	60	20	45	65
II	1	91-435 ZC/GPA (1)	Industrial	1,895 KSF	13270	1025	305	1330	360	1120	1480
		EIR 85-0606-ZC(SUB)	Commercial	105 KSF	7000	95	85	180	305	325	630
			Recreational (RV)	120 Sp	640	5	20	25	30	30	60
			S Family Dwell	34 Units	340	5	20	25	20	15	35
SUBTOTAL ZONE II					21250	1130	430	1560	715	1490	2205
III	3	93-054-ZC	Storage	162 KSF	420	0	0	0	20	20	40
		CPC 93-0081-ZC	Retail	55 KSF	4860	70	40	110	225	225	450
III	4	MND 89-281-ZC	Storage	102 KSF	270	10	5	15	15	15	30
		CPC 89-0376-ZC									
III	5	MND 87-794-CUP	Mobile Home	22 Units	110	5	5	10	10	5	15
		CPC 91-0162-ZC									
III	6	MND 88-928-SUB(ZC)	S Family Dwell	21 Units	250	5	15	20	20	10	30
		CPC 88-0802									
III	7	MND 86-0793-ZC	Lt Industrial	46.6 KSF	330	35	10	45	5	40	45
		CPC 87-250									
III	15	MND 90-0008-ZC	S Family Dwell	6 Units	80	0	5	5	5	5	10
		CPC 90-0115-ZC									
III	16	MND 89-1007-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10
SUBTOTAL ZONE III					6390	125	85	210	305	325	630
IV	8	87-927-ZC/GPA	Manufacturing	60 KSF	230	45	5	50	25	25	50
		CPC 88-0095									
IV	9	N/A	Industrial (2)	43.6 KSF	300	30	10	40	10	30	40
IV	10	MND 88-279-ZC(BL)	Industrial	5.136 KSF	40	5	0	5	0	5	5
		CPC 88-474									
		CPC 88-475									
IV	11	MND 87-430-ZC(BL)	Lt Industrial	12 KSF	80	10	0	10	0	10	10
IV	12	N/A	Lt Industrial	200 KSF	1390	120	25	145	15	110	125
IV	18	EAF 90-441-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10
IV	19	MND 89-729-ZC(SUB)	Condos	28 Units	220	5	15	20	15	10	25
IV	20	MND 92-0056(CUZ)	Training Facility (3)	6 KSF	0	0	0	0	0	0	0
		ZA 92-0369(CUZ)									
IV	21	90-0101 ZC/GPA	Condos	33 Units	250	5	20	25	20	10	30
		CPC 90-0429-ZC	S Family Lots	6 Units	80	0	5	5	10	5	15
			S Family Dwell	5 Units	70	0	5	5	5	0	5
IV	23	MND 93-0306-SUB	Condos	12 Units	70	0	5	5	5	0	5
IV	25	MND 93-181 ZC/GPA	Condos	67 Units	390	5	25	30	25	15	40
		CPC 93-0322 ZC/GPA									
IV	26	MND 93-182	Mult. Residential	24 Units	150	5	10	15	10	5	15
		CPC 93-0323 ZC/GPA									
SUBTOTAL ZONE IV					3340	230	130	360	145	230	375
V	13	EIR 91-354 ZC/GPA	Commercial	142.544 KSF	8820	125	75	200	410	410	820
		CPC 94-0062 ZC/GPA									
V	14	MND 93-0280-ZV	Industrial (2)	169.724 KSF	1180	120	25	145	30	120	150
		ZA 93-0750-ZV									
V	17	MND 90-0769-PM	Lt Industrial	30 KSF	210	25	5	30	5	25	30
V	22	88-BS-225	Apartments	92 Units	570	10	35	45	40	20	60
V	24	MND 93-0321-SUB	Condos	7 Units	40	0	5	5	5	0	5
SUBTOTAL ZONE V					10820	280	145	425	490	575	1065
Page 1 Total (Zones I-V)					42270	1810	805	2615	1675	2665	4340

TABLE 6 (continued)

TRIP GENERATION FOR RELATED PROJECTS
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL
VI	30	90071 (CP,ZC,LP)	Manufact/Indust	159.6 KSF	1090	85	15	100	10	55	65
VI	33	90475	S Family Dwell	4 Units	40	0	0	0	5	0	5
		OT90475 & PM22696									
VI	29	88595	Heavy Equip Storage	10 acres	100	15	15	30	20	20	40
		ZC88595 & CP88595									
SUBTOTAL ZONE VI					1230	100	30	130	35	75	110
VII	32	N/A	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320
VII	31	88573	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320
		(CP,ZC,LP,SP,DA,OT)									
SUBTOTAL ZONE VII					21000	1230	1010	2240	1190	1450	2640
VIII	28	CP2556 (Sunshine Cyn)	Landfill (4)	6,000 T/D	3820	225	180	405	215	265	480
		SP 86312									
SUBTOTAL ZONE VIII					3820	225	180	405	215	265	480
Page 2 Total (Zones VI-VIII)					26050	1555	1220	2775	1440	1790	3230
Page 1 Total (Zones I-V)					42270	1810	805	2615	1675	2665	4340
TOTAL ZONES I - VIII					68320	3365	2025	5390	3115	4455	7570

(1) The traffic forecast for Sunset Farms is from the Traffic Study completed for this project.
(2) Industrial Park.
(3) The existing training facility is not anticipated to generate new traffic. This is an in-hours expansion for breeding of guide dogs for the blind.
(4) Forecast based on passenger car equivalents (PCE), with one truck equivalent to two passenger cars.

Forecast rounded to the nearest 5 vehicles on a peak hour basis and to the nearest 10 vehicles on a daily basis.
Source: Trip Generation, 5th Edition, Institute of Transportation Engineers, Washington, D.C., 1991.

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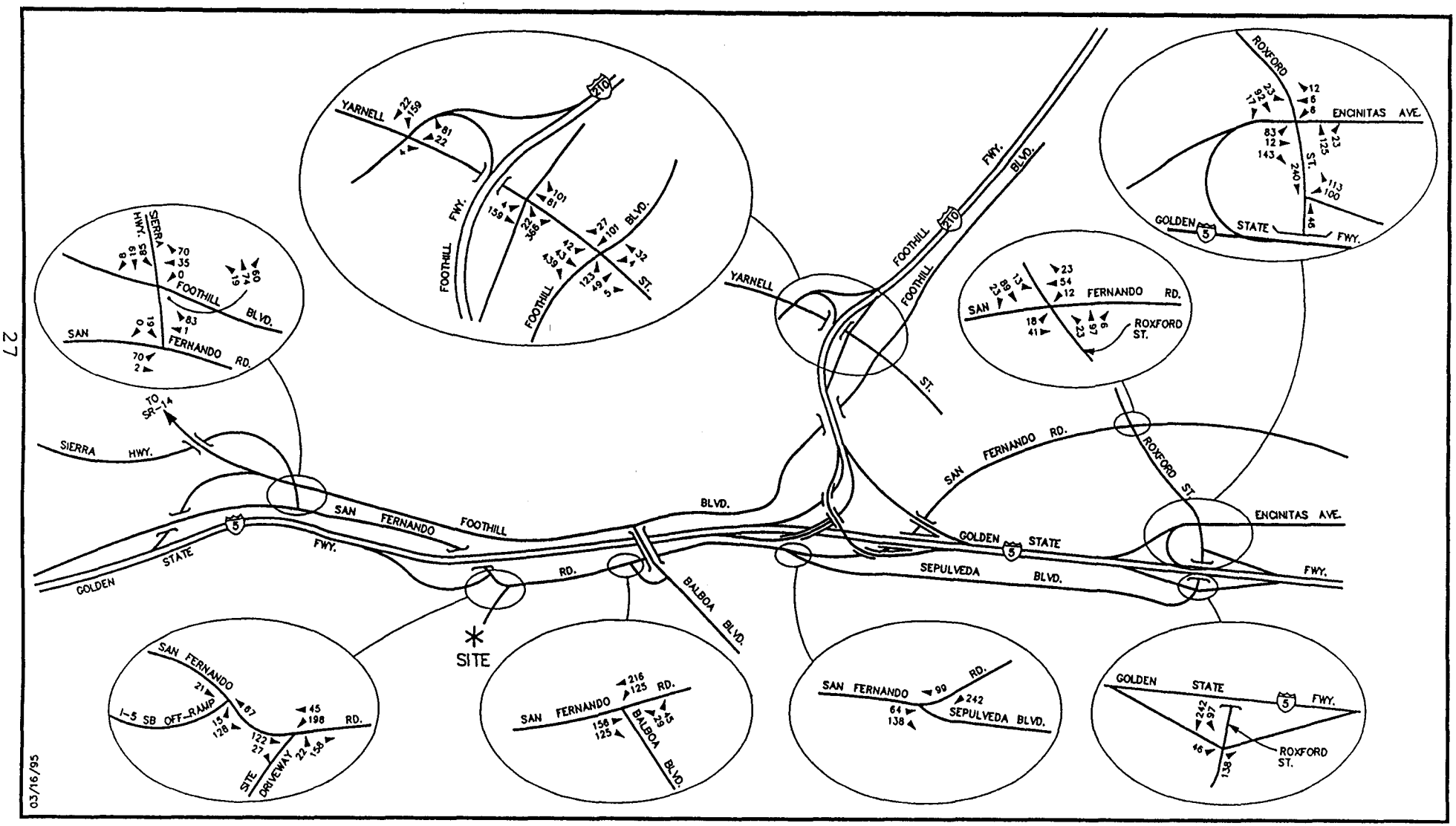

KEY

XX = AM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

SCHEMATIC
NOT TO SCALE
NORTH

11

TOTAL RELATED PROJECTS
AM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

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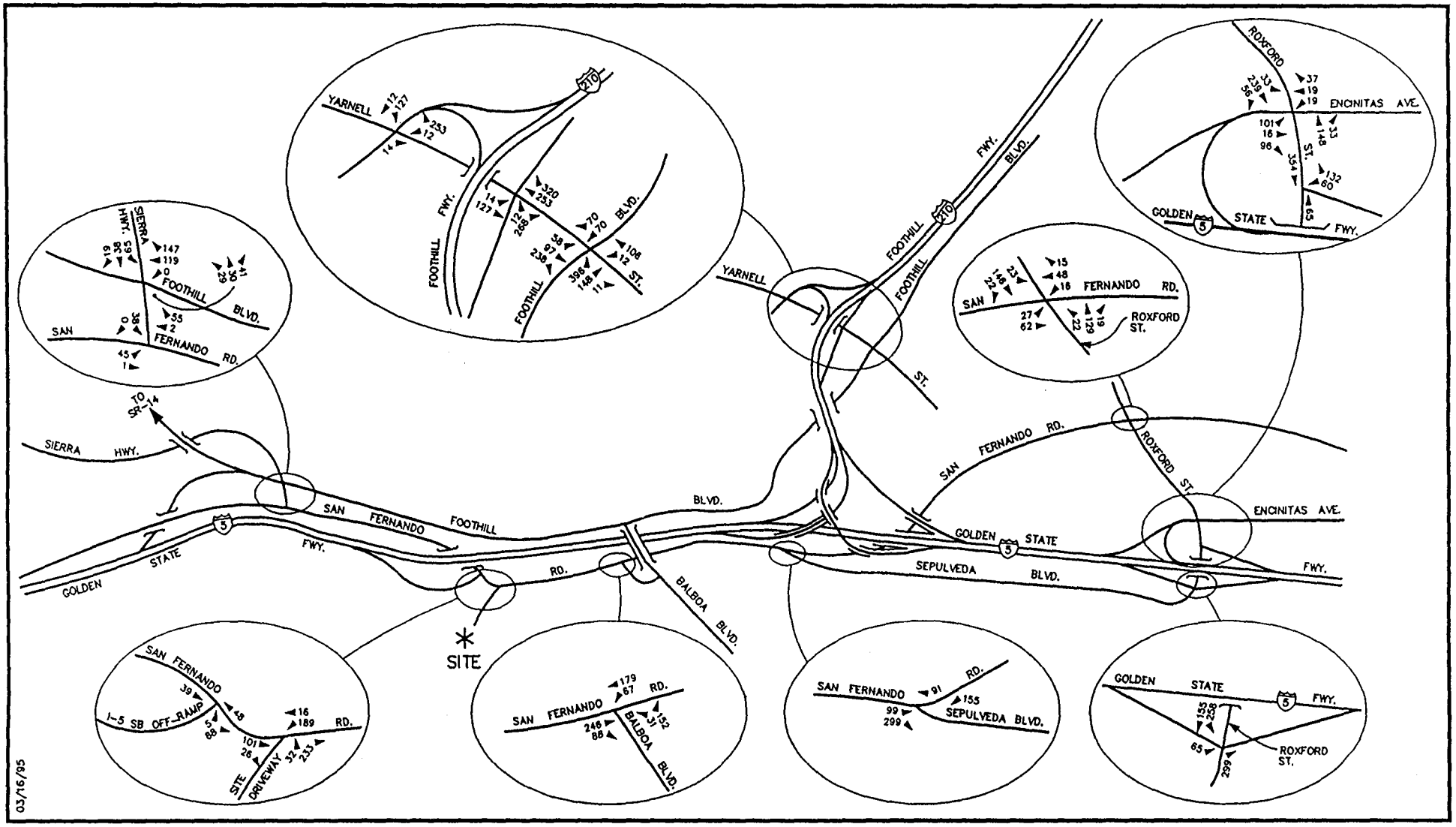

KEY

XX = PM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

SCHEMATIC
NOT TO SCALE

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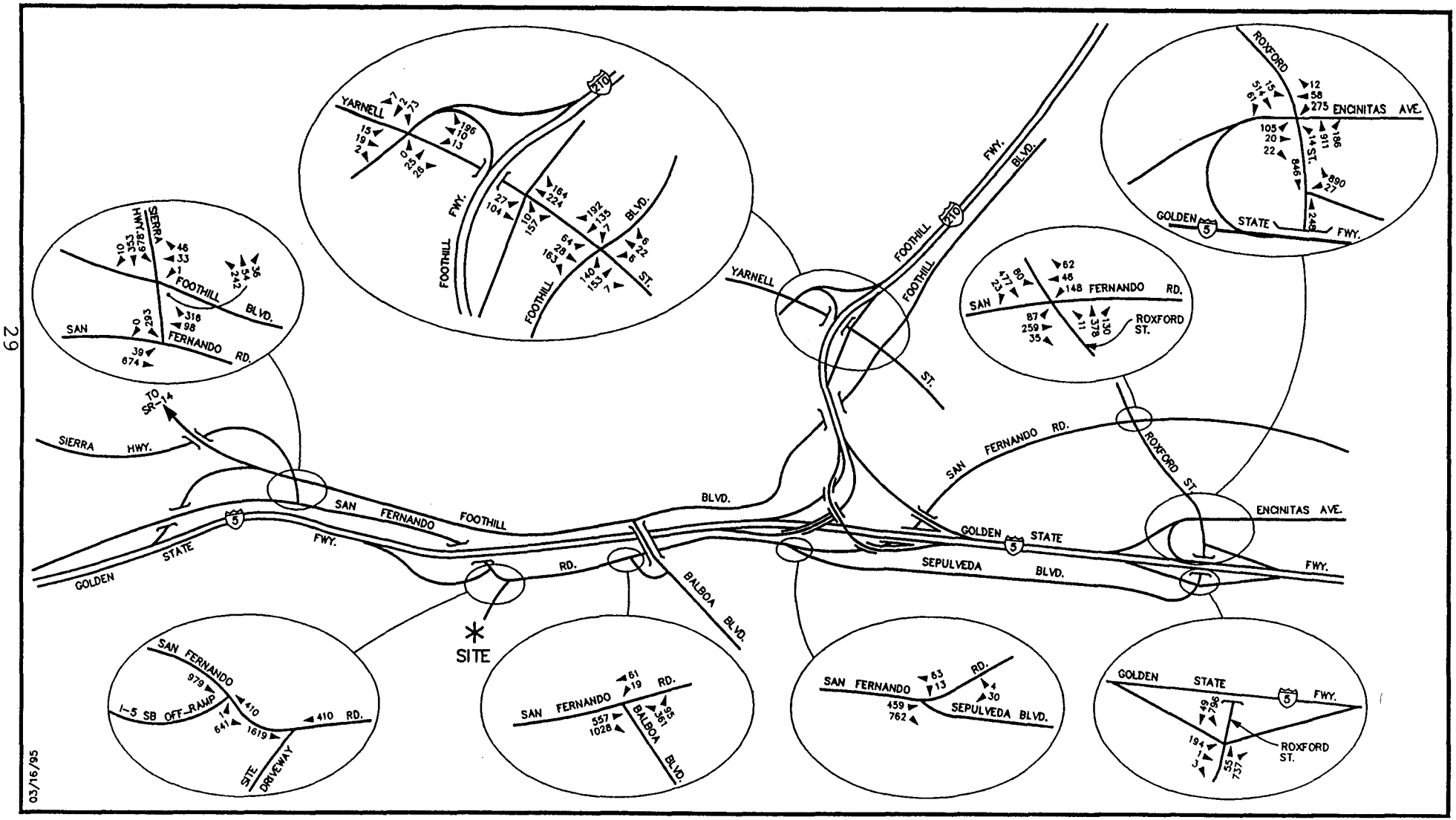
12

TOTAL RELATED PROJECTS
PM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

Linscott, Low & Greenspan, Engineers



SCHEMATIC
NOT TO SCALE
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13

EXISTING PLUS AMBIENT GROWTH(1998)
AM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

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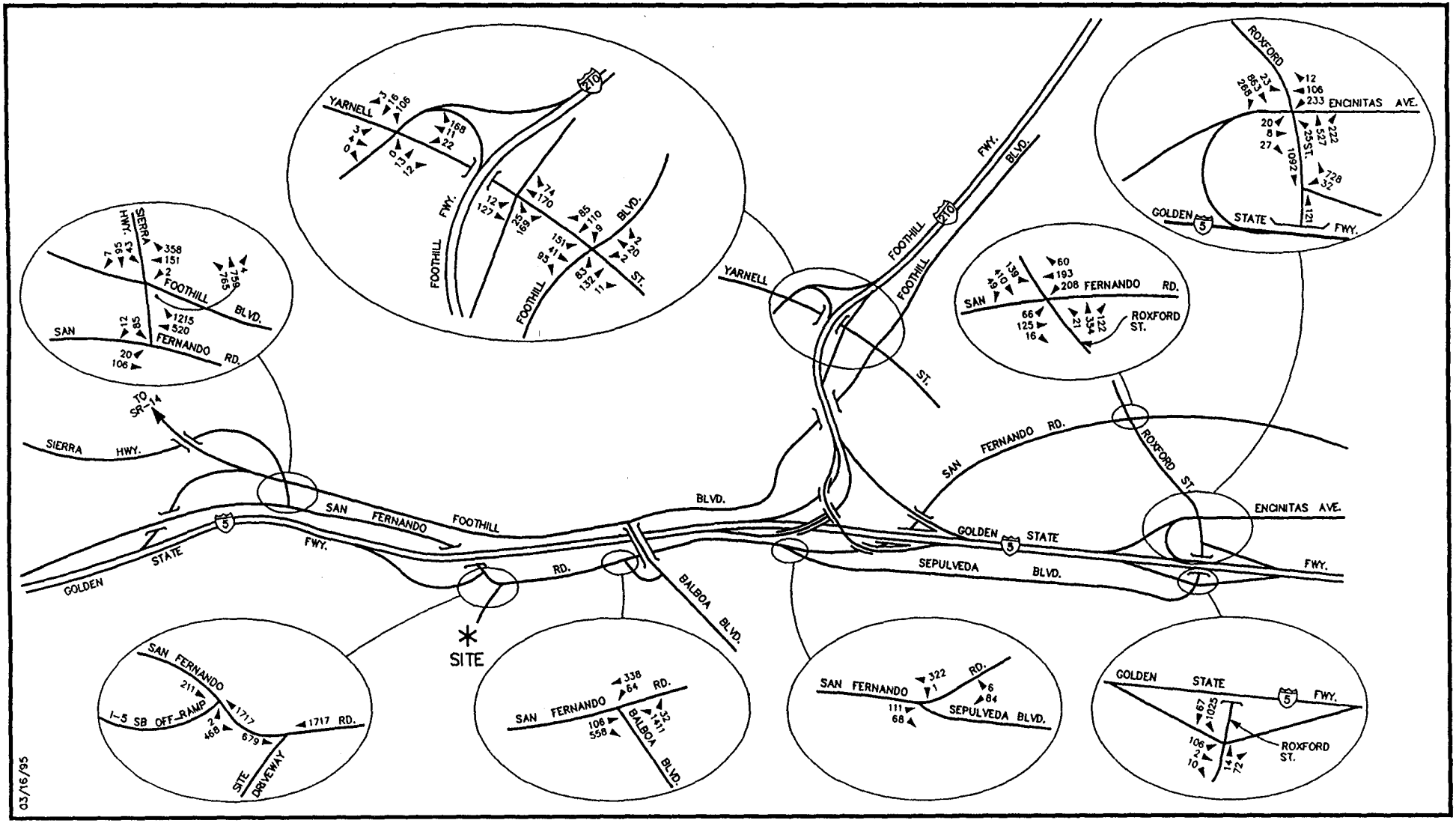

SCHEMATIC
NOT TO SCALE
NORTH

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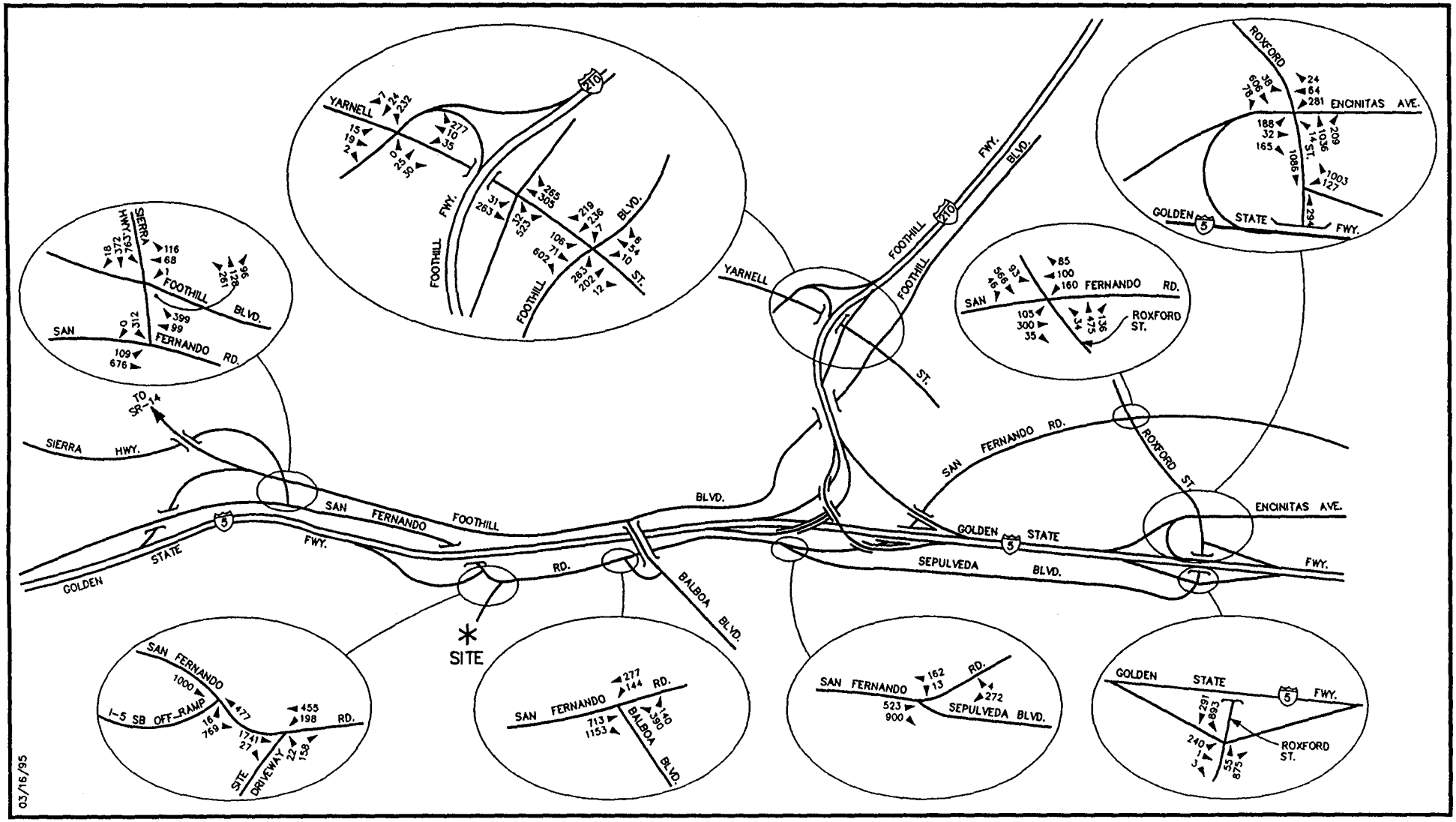
14

EXISTING PLUS AMBIENT GROWTH(1998)
PM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL

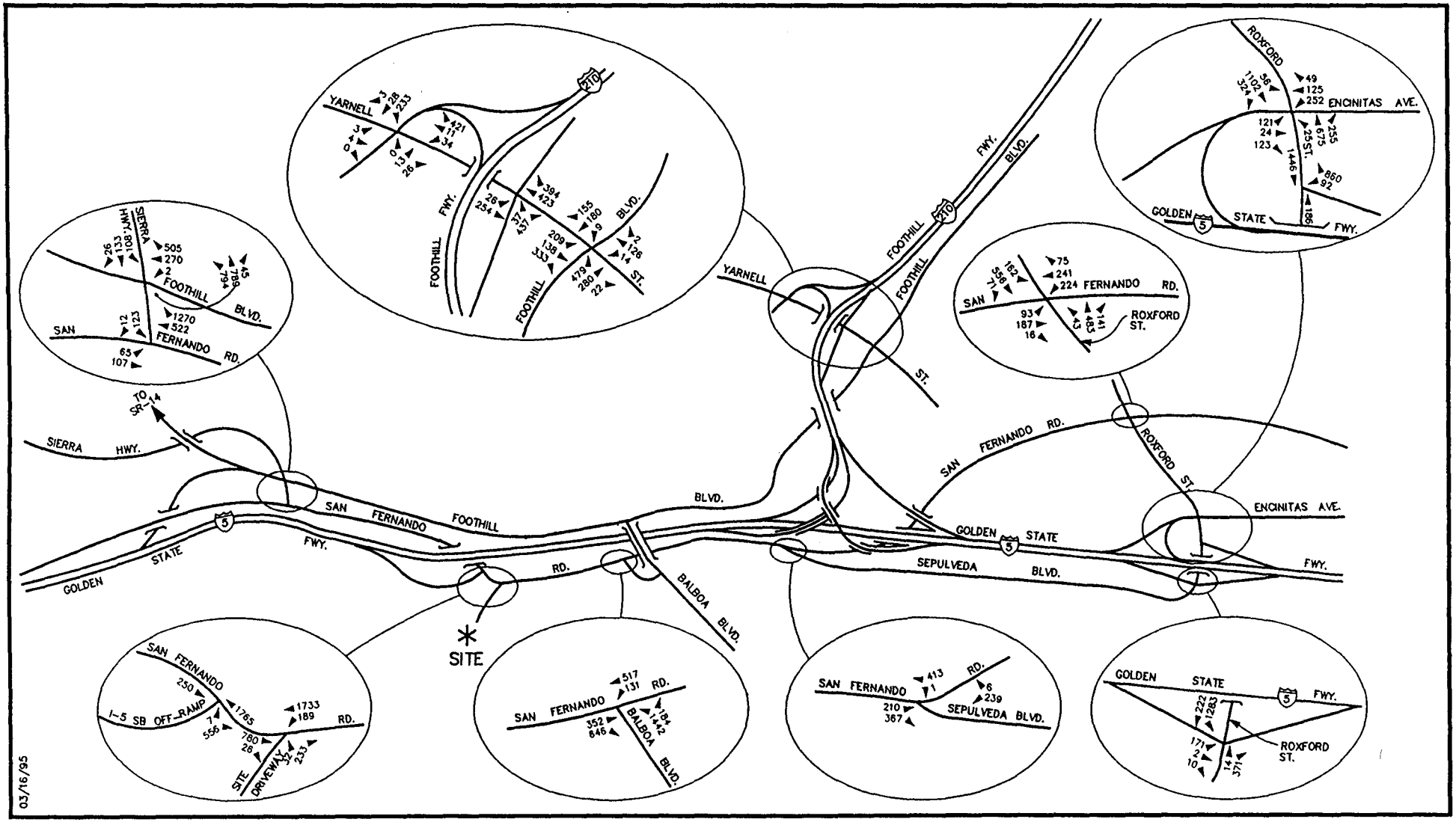


SCHEMATIC
NOT TO SCALE
NORTH

15

1998 AM PEAK HOUR BACKGROUND TRAFFIC VOLUMES
(EXISTING + AMBIENT GROWTH + RELATED PROJECTS)
SUNSHINE CANYON LANDFILL

LG Linscott, Law & Greenspan, Engineers



SCHEMATIC
NOT TO SCALE
NORTH

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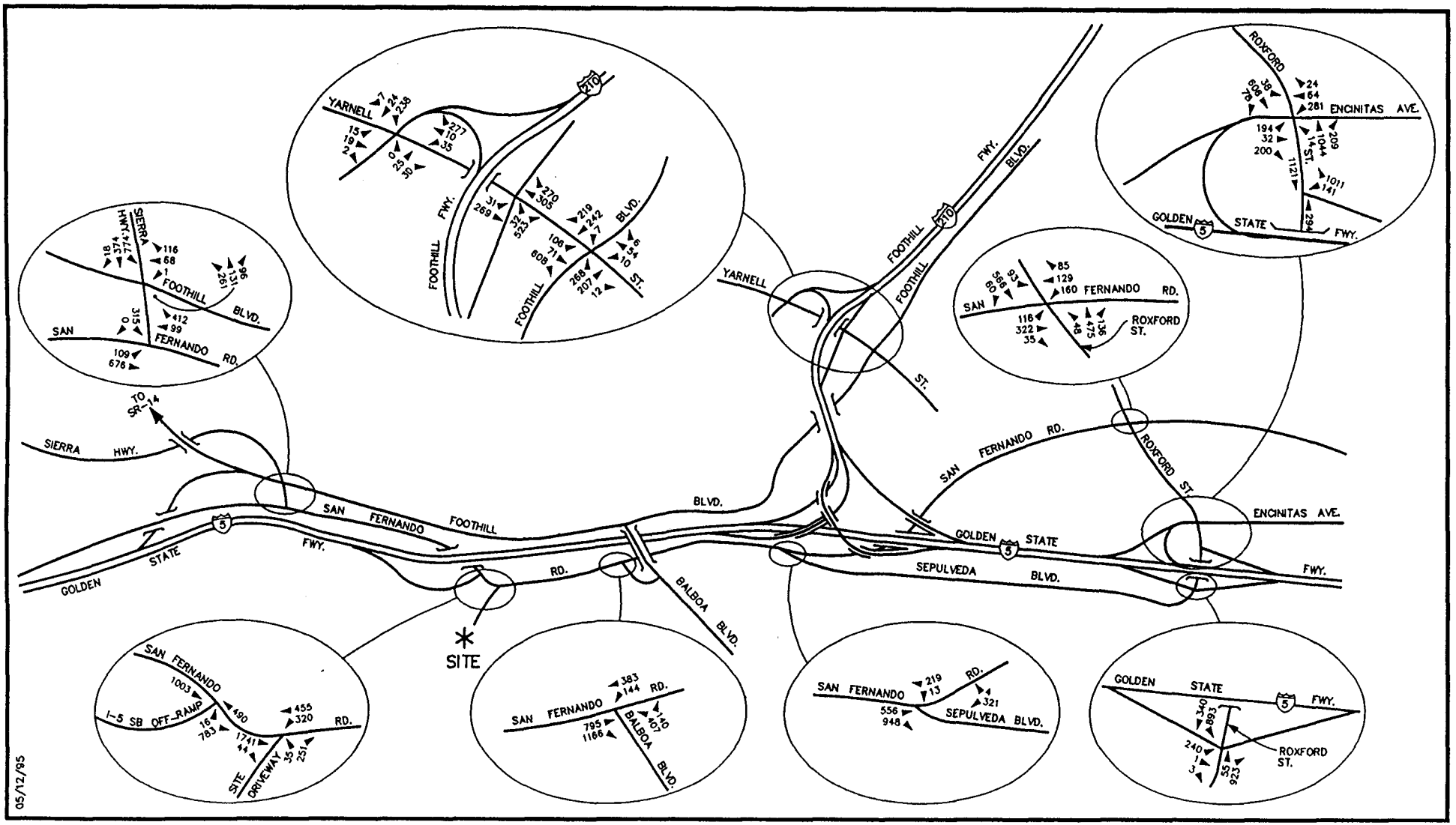
16

1998 PM PEAK HOUR BACKGROUND TRAFFIC VOLUMES
(EXISTING + AMBIENT GROWTH + RELATED PROJECTS)
SUNSHINE CANYON LANDFILL



KEY

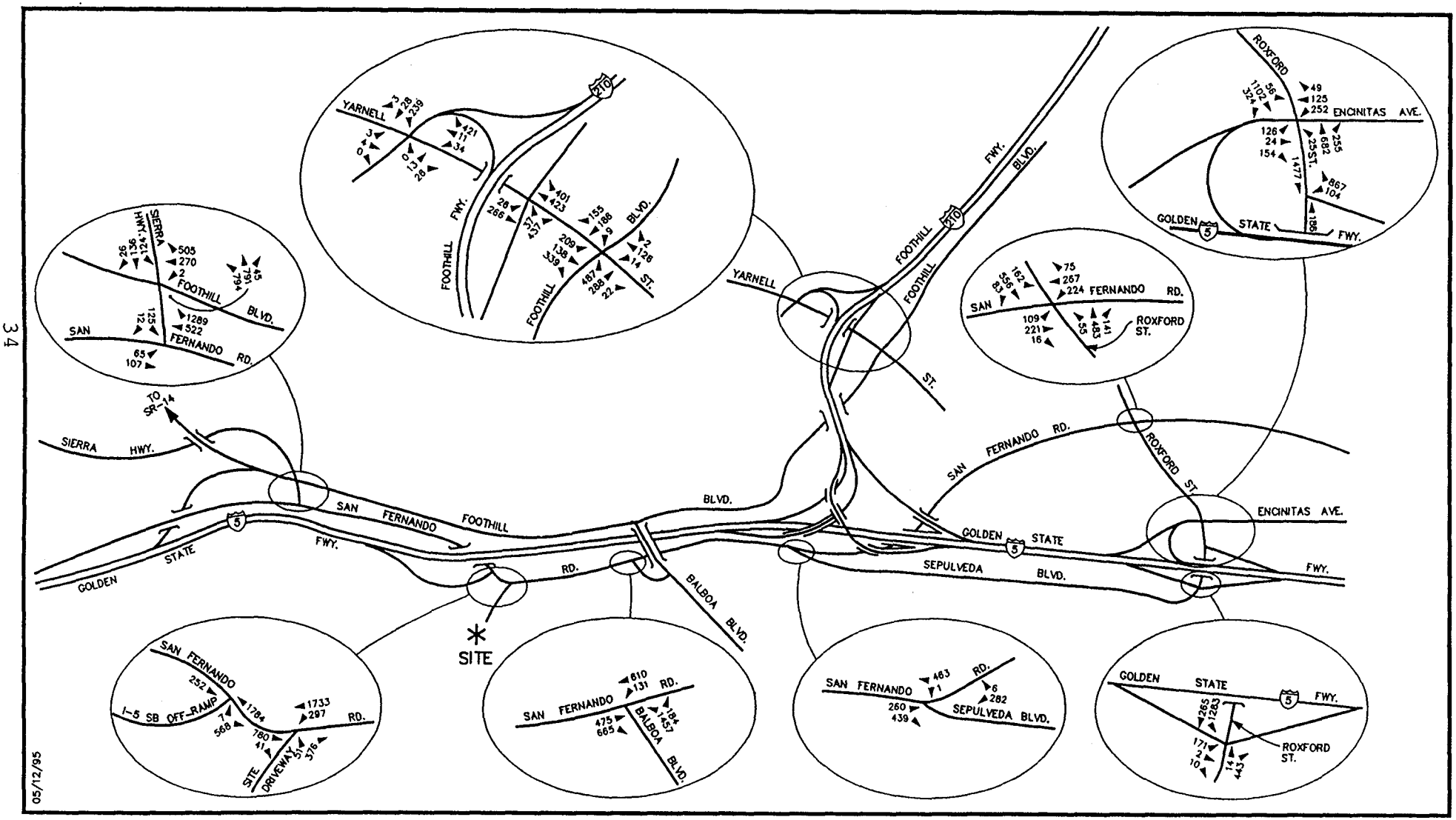
XX = AM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

SCHEMATIC
NOT TO SCALE
NORTH

17

TOTAL 1998 AM PEAK HOUR TRAFFIC VOLUMES
(BACKGROUND + PROJECT TRAFFIC)
SUNSHINE CANYON LANDFILL

LG Linscott, Law & Greenspan, Engineers



KEY

XX = PM PEAK HOUR VOLUME(PASSENGER CAR EQUIVALENT)

SCHEMATIC
NOT TO SCALE

NORTH

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18

TOTAL 1998 PM PEAK HOUR TRAFFIC VOLUMES
(BACKGROUND + PROJECT TRAFFIC)
SUNSHINE CANYON LANDFILL

TRAFFIC IMPACT ANALYSIS METHODOLOGY

Impact Criteria and Threshold

The relative impact of the added Sunshine Canyon project traffic volumes during the AM and PM peak hours have been evaluated based on the analysis of future 1998 operating conditions at thirteen (13) study area intersections. Operating levels at the key intersections were evaluated during the AM and PM peak hours for existing (1995) and future (1998) conditions. The CMA method, as previously discussed, was utilized to determine existing and future traffic conditions in the study area without, then with traffic generated by the proposed project .

The significance of the potential traffic impacts of the proposed City Landfill Extension project at each of the study intersections was then evaluated using the traffic impact criteria of the LADOT Traffic Study Policies and Procedures.

Significant Criteria:

LADOT Traffic Study Policies and Procedures have defined a "significant" transportation impact on an intersection in accordance with the following LOS, final V/C ratio, project-related increase in V/C, as depicted in **Table 7**:

TABLE 7

LADOT CRITERIA FOR SIGNIFICANT TRANSPORTATION IMPACT
Sunshine Canyon Landfill

Level of Service	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	equal to or greater than 0.040
D	> 0.800 - 0.900	equal to or greater than 0.020
E, F	> 0.900 or greater	equal to or greater than 0.010

Traffic Impact Analysis Scenarios

The following scenarios are those for which volume-to-capacity calculations have been performed at the key intersections for the 1998 horizon year:

(1) 1995 Existing Conditions;
(2) 1998 Ambient Conditions (Existing Plus Ambient Growth - 1% year until 1998);
(3) 1998 Background Conditions (Ambient Conditions + Cumulative Development);
(4) 1998 Background Conditions + Project Traffic; and
(5) 1998 Background + Project with Intersection Improvements (if significantly impacted by project-related traffic).

Appendix B, at the end of this report, contains the CMA calculations for the study area intersections.

PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Table 8 summarizes the peak hour Level of Service results for the thirteen study intersections for the existing (1995), background (1998), and background plus project scenarios. The first column of V-C/LOS values in Table 8 presents a summary of existing peak hour traffic conditions (which were also presented in Table 3). The second column presents the 1998 background traffic V-C/LOS values with the addition of related projects traffic based on existing intersection configurations. The third column indicates the expected service levels with the addition of traffic generated by the proposed City Landfill Extension project. The fourth column of Table 8 identifies the increase in V/C ratio due to added project trips and indicates whether project traffic will have a significant impact based on LADOT criteria. The fifth column presents the operating conditions at the study intersections with the implementation of project mitigation measures, if required by LADOT.

1995 Existing Traffic Conditions

As depicted in column 1, the 1995 existing LOS indicates that the Roxford Street/I-5 southbound on-ramp intersection operates at LOS F during the AM peak hour and the San Fernando Road/Balboa Boulevard intersection operates at LOS E during the PM peak hour. The remaining key intersections all currently operate at LOS D or better.

1998 Background Traffic Conditions

Review of column 2 of Table 8 indicates that ten of the thirteen key intersections are expected to operate at LOS D or better during both the morning and evening peak hours, and the remaining three intersections are expected to operate at LOS E or F during one or both of the peak periods in 1998, prior to the addition of any project-related traffic. The

TABLE 8

YEAR 1998 LEVEL OF SERVICE SUMMARY

Sunshine Canyon Landfill

Intersection	Peak Hour	(1) 1995 Existing V/C	(1) 1995 Existing LOS	(2) 1998 Background V/C	(2) 1998 Background LOS	(3) 1998 with Project V/C	(3) 1998 with Project LOS	(4) Project Impact V/C ratio Increase	(4) Project Impact Significant Yes/No	(5) 1998 w/ Mitigation V/C	(5) 1998 w/ Mitigation LOS	(6) Project Impact Post Mit
Roxford St @												
I-5 SB Ramps	AM	1.118	F	1.339	F	1.371	F	**0.032**	**Yes**	1.161	F	-0.178
	PM	0.779	C	1.217	F	1.265	F	**0.048**	**Yes**	0.927	E	-0.290
Encinitas/I-5 NB Ramps	AM	0.600	A	0.799	C	0.826	D	**0.027**	**Yes**	0.767	C	-0.032
	PM	0.585	A	0.798	C	0.819	D	**0.021**	**Yes**	0.766	C	-0.032
I-5 NB Off Ramp	AM	0.619	B	0.763	C	0.778	C	0.015	No	-	-	-
	PM	0.636	B	0.826	D	0.839	D	0.013	No	-	-	-
San Fernando Rd	AM	0.407	A	0.484	A	0.492	A	0.008	No	-	-	-
	PM	0.424	A	0.533	A	0.544	A	0.011	No	-	-	-
San Fernando Rd @												
Sepulveda Blvd	AM	0.168	A	0.283	A	0.312	A	0.029	No	-	-	-
	PM	0.134	A	0.226	A	0.258	A	0.032	No	-	-	-
Balboa Blvd	AM	0.825	D	1.041	F	1.054	F	**0.013**	**Yes**	0.984	E	-0.057
	PM	0.905	E	1.060	F	1.078	F	**0.018**	**Yes**	1.008	F	-0.052
I-5 SB Off Ramp	AM	0.565	A	0.641	B	0.647	B	0.006	No	-	-	-
	PM	0.737	C	0.811	D	0.822	D	0.011	No	-	-	-
Sierra Hwy	AM	0.625	B	0.658	B	0.660	B	0.002	No	0.660	B	0.002
	PM	0.855	D	0.972	E	0.986	E	**0.014**	**Yes**	0.733	C	-0.239
Project Driveway	AM	0.524	A	0.761	C	0.869	D	**0.108**	**Yes**	0.794	C	0.033
	PM	0.556	A	0.670	B	0.729	C	**0.059**	**Yes**	0.745	C	***0.075***
Foothill Blvd @												
Sierra Hwy	AM	0.519	A	0.704	B	0.713	C	0.009	No	-	-	-
	PM	0.655	B	0.809	D	0.821	D	0.012	No	-	-	-
Yarnell St @												
Foothill Blvd	AM	0.279	A	0.650	B	0.657	B	0.007	No	-	-	-
	PM	0.232	A	0.659	B	0.667	B	0.008	No	-	-	-
I-210 EB Ramps	AM	0.244	A	0.559	A	0.560	A	0.001	No	-	-	-
	PM	0.196	A	0.581	A	0.584	A	0.003	No	-	-	-
I-210 WB Ramp	AM	0.193	A	0.308	A	0.310	A	0.002	No	-	-	-
	PM	0.162	A	0.387	A	0.389	A	0.002	No	-	-	-

1591T8.XLS

9/20/95 12:55

Linscott, Law & Greenspan, Engineers

following intersections are anticipated to operate at LOS E or LOS F during at least one peak hour (AM or PM) based on the forecast 1998 background traffic volumes:

- Roxford Street/I-5 SB ramps;
- San Fernando Road/Balboa Boulevard; and
- San Fernando Road/Sierra Highway;

1998 Background Traffic Conditions with Project Traffic

As shown in column 3 of Table 8, the addition of project-related traffic is expected to significantly impact the forecast 1998 background LOS E/F conditions at three intersections:

- Roxford Street/I-5 SB ramps;
- San Fernando Road/Balboa Boulevard; and
- San Fernando Road/Sierra Highway.

Further the addition of proposed City Landfill Extension project traffic will deteriorate the 1998 background service levels at another two key locations:

- Roxford Street/Encinitas/I-5 NB ramps; and
- San Fernando Road/Project Driveway.

Based on LADOT criteria, five key intersections identified experience significant CMA (V/C ratio) increases in the AM and/or PM peak hour. The fourth column in Table 8 identifies the expected CMA value increment with the addition of project traffic and indicates whether proposed City Landfill Extension project traffic will have a significant impact when compared to LADOT criteria.

The mitigations measures identified in the following sections are recommended as a means to offset the impact of the proposed City Landfill Extension project. Column 5 of Table 8 presents the expected CMA values and LOS values for the impacted intersections after recommended improvements have been implemented. As shown in columns 5 and 6, project traffic impacts at the four of the five critical intersections are mitigated below significant levels.

The one exception is the San Fernando/Project Driveway intersection. Notwithstanding, this intersection is expected to operate at LOS C during the AM and PM peak hours. The improvements recommended at San Fernando and the BFI project entrance consists of the installation of a traffic signal (traffic signal warrant worksheet is provided in **Appendix E**),

protected left-turn phasing[3]. Please note that the queuing capacity calculations to determine left-turn storage length for the northbound left-turn lane at the BFI driveway (whether it is a single lane or dual left-turn lane) is included in **Appendix D.**

CONSTRUCTION TRAFFIC

The proposed City Landfill project will be constructed in phases to accommodate the following construction-related activities: 1) site clearance of the landfill footprint and ancillary facilities areas; 2) provide water to the site; 3) construct sedimentation dam; 4) construct perimeter drainage system; 5) excavate in canyon, maintenance corridor; 6) construct leachate treatment facility; 7) provide electrical power to site area; 8) construct southern toe berm; 9) construct incinerator; 10) construct waste disposal area (side slope/bottom liner system); 11) and provide utilities to the project site.

Construction traffic would be short-term, lasting approximately six to eight months, beginning in 1998. Construction at the project site would occur five days per week, during the hours of 6:00 AM to 6:00 PM and maintenance on construction vehicles would take place during the hours of 6:00 PM to 9:00 PM.

During construction, anticipated personnel would not exceed 70 persons. Personnel (i.e. construction) would include: five management support, 30 operating engineers and approximately 35 subcontractors during the construction phasing of the City Landfill project. Assuming one person per vehicle (worse-case), this amount of personnel would generate 140 trips (70 inbound trips and 70 outbound trips) per day.

Further, it is anticipated that the following heavy equipment (43 vehicles) would be utilized during the construction phase, including: one (1) Haptic excavator 1100; two (2) loader b; ten to twelve (10-12) scaler 637; ten to twelve (10-12) rock trucks 769; three dozer D9L; one to two (1-2) dozer D6H; two (2) compactor 834; two (2) compactor 25; two (2) water trucks; and five (5) site vehicles (e.g. Ford F150's/Ford Ranger).

It is expected that the majority of these construction vehicles will not be utilized at any one time; rather, as construction needs warrant their use. All heavy equipment would be stored and maintained on-site. Moreover, the amount of trucks bringing construction-related material on-site would be limited to three daily deliveries, with a maximum of five vehicles per day. This amount of vehicles would generate 16 trips (eight inbound, eight outbound) per day.

---

[3] Mitigation measure previously conditioned by LADOT for the County portion of the Sunshine Canyon Landfill Extension consists of widening of San Fernando Road to provide a southbound acceleration lane, provide two outbound lanes on the BFI driveway, provide sufficient queuing capacity northbound single left-turn lane. Install traffic signal when warranted.

Based on the location of the site, and the proximity of the I-5, I-210, and SR-14 Freeways, it is anticipated that a majority of the construction-related traffic will utilize these freeways to gain regional access to the site. Traffic impact to the adjacent roadway network will be minimal and **not** long-term.

QUEUING ANALYSIS

As part of the intersection capacity analysis, a queuing evaluation was performed for the four study intersections which intersect with the I-5 Freeway. The four locations consists of the Roxford Street @ I-5 SB Ramps, Roxford Street @ Encinitas/I-5 NB Ramps, Roxford Street @ I-5 NB Off-ramp, and San Fernando Road @ I-5 SB Off-ramp. **Table 9** summarizes the results for key intersection queuing analysis where ramp storage appeared constrained and could be a problem. **Appendix D**, at the end of this report, contains the queuing capacity calculations for the four study I-5 Freeway off-ramp locations.

The results of the queuing analysis indicate that existing ramp storage provided at the four study intersections is sufficient and can easily accommodate forecast 1998 traffic volumes. Each location provides over 1000± feet of ramp storage. Review of Table 9 shows that the most heavily used off-ramp is the Roxford/I-5 NB Off-ramp. Approximately 971 vehicles and 1152 vehicles are forecast to use this off-ramp during the AM and PM peak hour, respectively. A maximum queue of 14 vehicles per lane can be expected, which results in a total queue of 700 feet. Approximately 1000 feet of storage is provided at this key location.

PROJECT SPECIFIC MITIGATION MEASURES

For those intersections where project traffic volumes are expected to create poor operating conditions and/or significantly impact the operating conditions of the study intersections, this report recommends improvements which change intersection/roadway geometry to increase intersection/roadway capacity. These capacity improvements usually involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a key intersection.

Table 8 presented the forecast operating conditions at the study intersections with the implementation of suggested mitigation measures. As shown, acceptable service levels are anticipated in both the AM and PM peak hours with the implementation of recommended 1998 project specific mitigation measures.

Table 10 summarizes the intersection improvements required at the five study intersections recommended to offset the impact of project traffic and/or mitigate unsatisfactory operating conditions to acceptable service levels. **Exhibit 19** illustrates the 1998 recommended mitigation measures schematically.

Table 9

QUEUING ANALYSIS SUMMARY
Sunshine Canyon Landfill

Key Intersection	Time Period	1998 Vol	Av. 'Q' (veh/lane)	Max. 'Q' (veh/lane)	Max.'Q' length/lane	Total Ramp Storage[1]	Sufficient (Yes/No)
Roxford St @ I-5 SB Ramps							
EBL	AM	240	4 veh	8 veh	200 ft.	1050 ft.	YES
	PM	171	1 veh	2 veh	50 ft.		
Roxford St @ Encinitas/I-5 NB Rmps							
EBL	AM	177	3 veh	6 veh	150 ft.	1200 ft.	YES
	PM	126	3 veh	6 veh	150 ft.		
EBT-R	AM	246	5 veh	10 veh	250 ft.		
	PM	178	4 veh	8 veh	200 ft.		
Roxford St @ I-5 NB Off-Ramp							
WBL-R	AM	971	7 veh	14 veh	350 ft.	1000 ft.	YES
	PM	1152	7 veh	14 veh			
San Fernando Rd @ I-5 SB Off-Ramp							
EBL-R	AM	799	6 veh	12 veh	300 ft.	3575 ft.	YES
	PM	575	5 veh	10 veh	250 ft.		

Note: Max "Q" = 2 x Average "Q".
Max "Q" Length = Max "Q" x 25 feet (average car length).

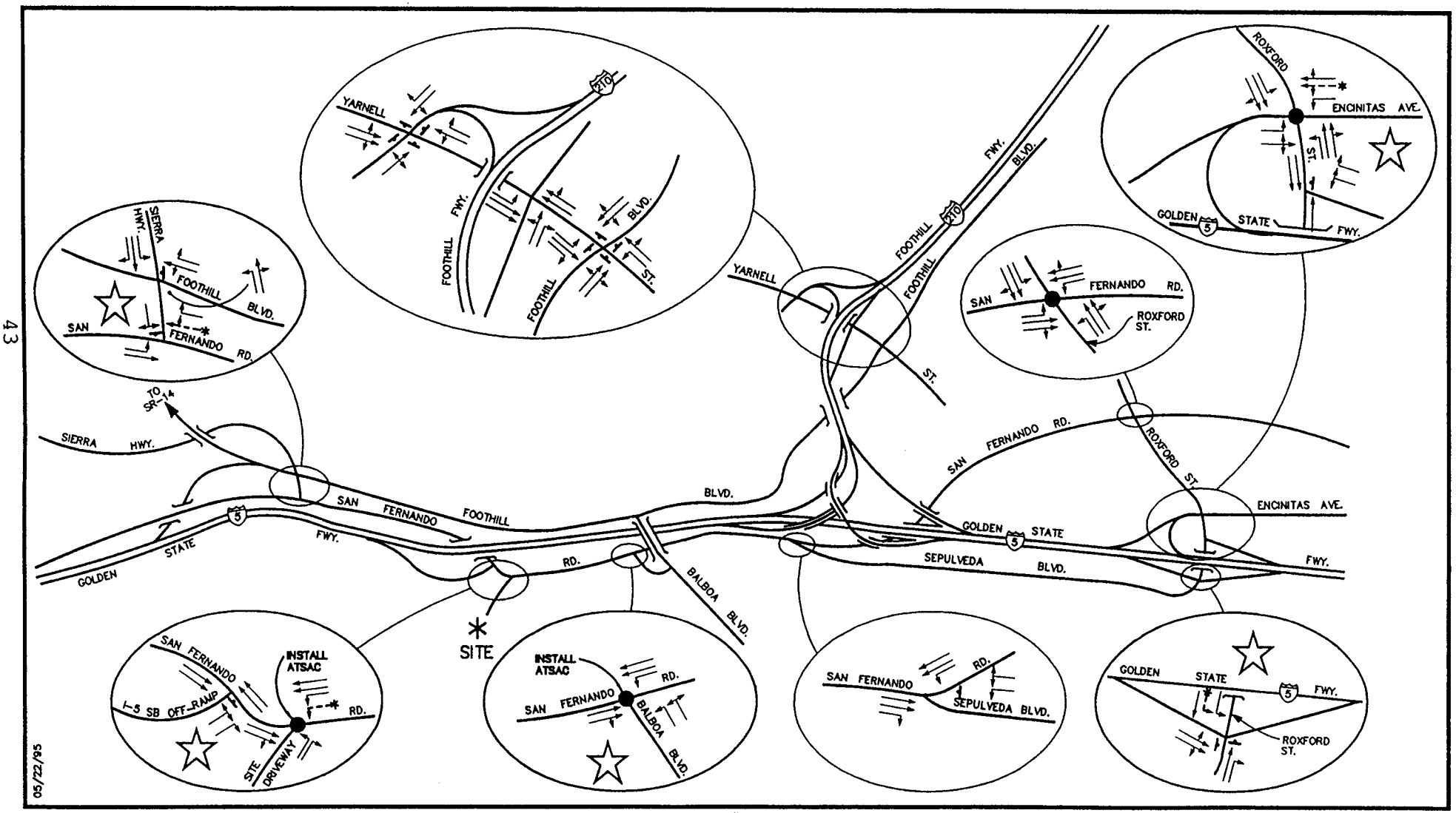
[1] Total storage calculated based on review of "as-built" plans obtained from Caltrans and LADOT.

Appendix F contains the conceptual mitigations plans which illustrate the recommended intersection improvements for Roxford Street @ I-5 SB ramps, Roxford Street @ Encinitas/I-5 NB ramps, San Fernando Road @ Balboa Boulevard, San Fernando Road @ Sierra Highway, and San Fernando Road @ Project Driveway.

TABLE 10

PROJECT SPECIFIC MITIGATION MEASURES SUMMARY[1]
Sunshine Canyon Landfill

Key Intersection	Recommended Mitigation Measure
1) Roxford St @ I-5 SB Ramps	• Restripe southbound approach on Roxford Street to provide dual left turn lanes and one through lane.
2) Roxford St @ Encinitas/I-5 NB Ramps	• Restripe westbound through lane on Encinitas Avenue to left/through option lane.
6) San Fernando Rd @ Balboa Blvd	• This key intersection features two through lanes in each direction on San Fernando Road and two northbound approach lanes, striped as an exclusive left-turn lane and an option left-right turn lane, are provided on Balboa Connector. A separate westbound left-turn lane as well as protected left-turn phasing is provided. Existing pavement widths and physical constraints (i.e. hillside encroachment) do not allow for any physical improvements, such as providing an exclusive eastbound right-turn lane on San Fernando Road for heavy existing and forecast right-turn volumes. Given the lack of available physical improvements, it is recommended that **Automatic Traffic Surveillance and Control (ATSAC)** signal equipment be installed at this intersection. LADOT believes that the overall capacity of an intersection increases seven percent (7%) by allowing a computer signal control system to improve the efficiency of operations. Preliminary discussions with LADOT staff indicate that this is a possible mitigation measure that could be implemented to off-set the impact of Sunshine Canyon Landfill project traffic.
8) San Fernando Rd @ Sierra Hwy	• Restripe northbound through lane on San Fernando Road to through/right option lane.
9) San Fernando Rd @ Project Dwy	• Restripe San Fernando Road to provide a second northbound left-turn lane. The installation of **ATSAC** signal equipment is recommended at this intersection.



KEY

- ← = EXISTING APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL
- ⊣ = STOP SIGN
- ----* = ADDITIONAL LANE REQUIRED TO MITIGATE TRAFFIC IMPACTS
- ☆ = IMPACTED INTERSECTION

NORTH

SCHEMATIC
NOT TO SCALE

19

PRELIMINARY POTENTIAL MITIGATION MEASURES

SUNSHINE CANYON LANDFILL

FREEWAY SEGMENT (MAINLINE) CMP ANALYSIS

The Congestion Management Program (CMP) is a state mandated program providing a framework for addressing state-wide congestion concerns. In Los Angeles County, the CMP is administered by the Los Angeles Metropolitan Transportation Authority (LACMTA). The CMP includes a Land Use Analysis Program that sets the warrants and procedure for the transportation impact analysis (TIA) of new development, the generated trips of which have a potential for impacting the adopted CMP highway and arterial network significantly. The objective of this mainline freeway analysis is to identify the potential project traffic impacts on the CMP network within the immediate vicinity of this project.

Per CMP TIA criteria, mainline freeway monitoring stations where the project will ***add 150 or more trips, in either direction,*** during the AM or PM peak hours, will require evaluation. The four freeway monitoring stations closest to the project that could potentially be impacted by project traffic consists of the following:

1) CMP Station 1006: Post Mile 29.97
   I-5 Freeway at Burbank Boulevard

2) CMP Station 1007: Post Mile 36.90
   I-5 Freeway at Osborne Street

3) CMP Station 1008: Post Mile R46.55
   I-5 Freeway n/o State Route 14

4) CMP Station 1070: Post Mile 44.27
   I-405 Freeway n/o Roscoe Boulevard

However, since AM and PM peak hour project generated trips are well below the threshold of 150 trips required for the freeway segment analysis, no analysis was performed. Review of the peak hour project traffic assignments on Exhibits 8 and 9 show that the proposed City Landfill Extension project will add a maximum of 73 trips in either direction of the I-5 Freeway during the AM or PM peak hours.

APPENDICES

APPENDIX A

EXISTING TRAFFIC COUNT DATA

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET	DAY:	TUESDAY
E/W ROADWAY:	I-5 SB ON/OFF RAMPS	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'1AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	0	3	70	0	149	10	0	0	23	0	0	0	0	0	0	0	255	1693
*	7:15 AM	7:30 AM	0	13	126	0	195	17	0	0	44	1	1	0	0	0	0	0	397	1782
*	7:30 AM	7:45 AM	0	17	259	0	235	3	0	0	38	0	1	0	0	0	0	0	553	1623
*	7:45 AM	8:00 AM	0	17	223	0	174	14	0	0	59	0	1	0	0	0	0	0	488	1258
*	8:00 AM	8:15 AM	0	6	108	0	169	14	0	0	47	0	0	0	0	0	0	0	344	971
	8:15 AM	8:30 AM	0	2	31	0	133	17	0	0	54	0	1	0	0	0	0	0	238	
	8:30 AM	8:45 AM	0	3	23	0	114	9	0	0	37	2	0	0	0	0	0	0	188	
	8:45 AM	9:00 AM	0	3	23	0	129	11	0	0	34	0	1	0	0	0	0	0	201	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	53	716	0	773	48	0	0	188	1	3	0	0	0	0	0	**1782**

TOTAL RIGHT TURNS	716	0	3	0

A-1

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET	DAY:	TUESDAY
E/W ROADWAY:	I-5 SB ON/OFF RAMP	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'1PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	0	9	14	0	165	13	0	0	35	1	2	0	0	0	0	0	239	1084
	4:15 PM	4:30 PM	0	5	22	0	148	14	0	0	40	1	1	0	0	0	0	0	231	1210
*	4:30 PM	4:45 PM	0	4	26	0	272	12	0	0	22	0	0	0	0	0	0	0	336	1259
*	4:45 PM	5:00 PM	0	3	11	0	218	16	0	0	26	0	4	0	0	0	0	0	278	1186
*	5:00 PM	5:15 PM	0	3	15	0	293	23	0	0	25	1	5	0	0	0	0	0	365	1103
*	5:15 PM	5:30 PM	0	4	18	0	212	14	0	0	30	1	1	0	0	0	0	0	280	
	5:30 PM	5:45 PM	0	3	21	0	209	11	0	0	18	1	0	0	0	0	0	0	263	
	5:45 PM	6:00 PM	0	4	6	0	146	14	0	0	25	0	0	0	0	0	0	0	195	

PEAK HOUR FROM: 4:30-5:30 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	14	70	0	995	65	0	0	103	2	10	0	0	0	0	0	**1259**

TOTAL RIGHT TURNS	70	0	10	0

A-2

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	SEPULVEDA BLVD	DAY:	TUESDAY
E/W ROADWAY:	SAN FERNANDO ROAD	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'2AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	6	0	0	0	0	0	0	0	0	31	48	0	0	6	0	0	91	1136
*	7:15 AM	7:30 AM	9	0	2	0	0	0	0	0	0	92	133	0	4	14	0	0	254	1293
*	7:30 AM	7:45 AM	6	0	0	0	0	0	0	0	0	103	266	0	2	10	0	0	387	1109
*	7:45 AM	8:00 AM	7	0	0	0	0	0	0	0	0	157	224	0	4	12	0	0	404	806
*	8:00 AM	8:15 AM	7	0	2	0	0	0	0	0	0	94	117	0	3	25	0	0	248	470
	8:15 AM	8:30 AM	7	0	0	0	0	0	0	0	0	24	23	0	0	16	0	0	70	
	8:30 AM	8:45 AM	11	0	1	0	0	0	0	0	0	31	23	0	2	16	0	0	84	
	8:45 AM	9:00 AM	6	0	0	0	0	0	0	0	0	28	24	0	0	10	0	0	68	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	29	0	4	0	0	0	0	0	0	446	740	0	13	61	0	0	**1293**

TOTAL RIGHT TURNS	4	0	740	0

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	SEPULVEDA BLVD	DAY:	TUESDAY
E/W ROADWAY:	SAN FERNANDO ROAD	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'2PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	14	0	0	0	0	0	0	0	0	29	22	0	1	52	0	0	118	470
	4:15 PM	4:30 PM	13	0	0	0	0	0	0	0	0	28	12	0	0	40	0	0	93	543
*	4:30 PM	4:45 PM	11	0	0	0	0	0	0	0	0	31	26	0	0	73	0	0	141	576
*	4:45 PM	5:00 PM	26	0	2	0	0	0	0	0	0	22	9	0	0	59	0	0	118	552
*	5:00 PM	5:15 PM	22	0	1	0	0	0	0	0	0	35	16	0	1	116	0	0	191	529
*	5:15 PM	5:30 PM	23	0	3	0	0	0	0	0	0	20	15	0	0	65	0	0	126	
	5:30 PM	5:45 PM	21	0	0	0	0	0	0	0	0	25	11	0	1	59	0	0	117	
	5:45 PM	6:00 PM	16	0	0	0	0	0	0	0	0	19	8	0	2	50	0	0	95	

PEAK HOUR FROM: 4:30-5:30 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	82	0	6	0	0	0	0	0	0	108	66	0	1	313	0	0	**576**
TOTAL RIGHT TURNS				6				0				66				0	

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD ROAD	DAY:	TUESDAY
E/W ROADWAY:	ENCINITAS AVE / I-5 NB ON/OFF RAMPS	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'3AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	1	96	21	6	4	78	6	1	1	0	6	0	52	16	0	1	289	1885
*	7:15 AM	7:30 AM	8	201	43	6	3	133	10	6	14	2	3	2	63	10	1	1	506	2129
*	7:30 AM	7:45 AM	3	231	22	5	0	130	11	3	14	3	1	1	90	20	2	2	538	1987
*	7:45 AM	8:00 AM	3	248	30	14	5	104	12	1	53	8	5	1	58	6	2	2	552	1779
*	8:00 AM	8:15 AM	0	204	46	15	7	132	12	4	21	6	4	4	56	20	1	1	533	1502
	8:15 AM	8:30 AM	7	152	16	18	0	85	5	0	5	2	2	4	56	8	4	0	364	
	8:30 AM	8:45 AM	7	121	32	7	1	86	11	3	6	0	2	1	43	8	1	1	330	
	8:45 AM	9:00 AM	2	98	19	7	3	82	7	4	1	1	5	0	31	10	3	2	275	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	14	884	141	40	15	499	45	14	102	19	13	8	267	56	6	6	**2129**
TOTAL RIGHT TURNS				181				59				21				12	

A-5

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET	DAY:	TUESDAY
E/W ROADWAY:	ENCINATAS AVE / I-5 NB ON/OFF RAMPS	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'3PM1591	ABNORMAL CONDITIONS:	CUT THROUGH TRAFFIC THROUGH CHEVRON (ROXFOR

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	8	140	47	15	9	112	42	10	7	1	2	1	46	22	3	2	467	1998
*	4:15 PM	4:30 PM	5	154	48	11	5	130	30	7	7	2	2	3	40	29	2	0	475	2266
*	4:30 PM	4:45 PM	8	118	37	11	7	239	48	12	5	5	2	1	72	31	1	3	600	2192
*	4:45 PM	5:00 PM	8	136	43	16	5	111	37	5	6	1	7	5	53	21	1	1	456	1995
*	5:00 PM	5:15 PM	3	104	40	10	5	358	90	31	1	0	6	0	61	22	3	1	735	1900
	5:15 PM	5:30 PM	4	115	35	10	6	109	23	8	0	1	1	0	43	41	2	3	401	
	5:30 PM	5:45 PM	6	92	39	14	3	140	25	10	3	2	1	2	44	17	3	2	403	
	5:45 PM	6:00 PM	2	90	41	14	7	107	22	9	2	2	3	0	32	22	5	3	361	

PEAK HOUR FROM: 4:15-5:15 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	24	512	168	48	22	838	205	55	19	8	17	9	226	103	7	5	**2266**
TOTAL RIGHT TURNS			216				260				26				12		

A-6

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET (NO COUNT)	DAY:	TUESDAY
E/W ROADWAY:	I-5 NB OFF RAMP	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'4AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	0	45	0	0	0	129	0	0	0	0	0	0	5	0	116	0	295	1609
*	7:15 AM	7:30 AM	0	57	0	0	0	172	0	0	0	0	0	0	10	0	204	0	443	1952
*	7:30 AM	7:45 AM	0	91	0	0	0	198	0	0	0	0	0	0	2	0	202	0	493	1843
*	7:45 AM	8:00 AM	0	30	0	0	0	77	0	0	0	0	0	0	4	0	267	0	378	1644
*	8:00 AM	8:15 AM	0	63	0	0	0	374	0	0	0	0	0	0	10	0	191	0	638	1513
	8:15 AM	8:30 AM	0	55	0	0	0	132	0	0	0	0	0	0	6	0	141	0	334	
	8:30 AM	8:45 AM	0	39	0	0	0	117	0	0	0	0	0	0	10	0	128	0	294	
	8:45 AM	9:00 AM	0	32	0	0	0	105	0	0	0	0	0	0	9	0	101	0	247	

PEAK HOUR FROM: 7:15-8:15 AM

PEAK HOUR	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	241	0	0	0	821	0	0	0	0	0	0	26	0	864	0	**1952**

TOTAL RIGHT TURNS	0	0	0	864

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET (NO COUNT)	DAY:	TUESDAY
E/W ROADWAY:	I-5 NB ON/OFF RAMP	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'4PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
*	4:00 PM	4:15 PM	0	29	0	0	0	206	0	0	0	0	0	0	8	0	167	0	410	1915
*	4:15 PM	4:30 PM	0	22	0	0	0	251	0	0	0	0	0	0	9	0	193	0	475	1906
*	4:30 PM	4:45 PM	0	33	0	0	0	324	0	0	0	0	0	0	5	0	169	0	531	1768
*	4:45 PM	5:00 PM	0	33	0	0	0	279	0	0	0	0	0	0	9	0	178	0	499	1556
	5:00 PM	5:15 PM	0	20	0	0	0	215	0	0	0	0	0	0	12	0	154	0	401	1336
	5:15 PM	5:30 PM	0	23	0	0	0	160	0	0	0	0	0	0	8	0	146	0	337	
	5:30 PM	5:45 PM	0	21	0	0	0	149	0	0	0	0	0	0	12	0	137	0	319	
	5:45 PM	6:00 PM	0	38	0	0	0	94	0	0	0	0	0	0	11	0	136	0	279	

PEAK HOUR FROM: 4:00-5:00 PM

PEAK HOUR	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	117	0	0	0	1060	0	0	0	0	0	0	31	0	707	0	**1915**

TOTAL RIGHT TURNS	0	0	0	707

A-8

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/20/92
N/S ROADWAY:	ROXFORD STREET	DAY:	TUESDAY
E/W ROADWAY:	SAN FERNANDO ROAD	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'5AM1591	ABNORMAL CONDITIONS:	METROLINK RAIL LINE N

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND		
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG
	7:00 AM	7:15 AM	2	55	18	0	14	91	0	0	23	41	4	0	31	7	6
*	7:15 AM	7:30 AM	1	103	23	0	12	112	3	0	21	44	9	0	37	8	10
*	7:30 AM	7:45 AM	4	84	40	0	25	131	5	0	22	66	4	0	31	7	17
*	7:45 AM	8:00 AM	3	109	27	0	23	111	8	0	26	84	9	0	43	16	17
*	8:00 AM	8:15 AM	3	71	36	0	18	109	6	0	15	57	12	0	33	14	16
	8:15 AM	8:30 AM	1	50	38	0	16	75	2	0	6	15	3	0	28	11	12
	8:30 AM	8:45 AM	1	26	21	0	9	63	6	0	7	27	8	0	11	8	5
	8:45 AM	9:00 AM	1	18	8	0	13	74	3	0	7	26	5	0	12	4	6

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND		
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG
VOLUMES	11	367	126	0	78	463	22	0	84	251	34	0	144	45	60

TOTAL RIGHT TURNS	126	22	34

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	2-92-1591-1
INTERSECTION:		DATE:	10/20/92
N/S ROADWAY:	ROXFORD ST	DAY:	TUESDAY
E/W ROADWAY:	SAN FERNANDO RD	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	5PM1591	ABNORMAL CONDITIONS:	METROLINK RAIL LINE N

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	3	77	20	0	18	59	6	0	5	17	5	0	44	35	13	0	302	1525
*	4:15 PM	4:30 PM	7	85	28	0	14	60	4	0	7	25	2	0	41	35	18	0	326	1711
*	4:30 PM	4:45 PM	5	87	35	0	66	153	18	0	15	24	2	0	63	66	15	0	549	1710
*	4:45 PM	5:00 PM	5	85	27	0	18	69	8	0	15	26	5	0	39	39	12	0	348	1505
*	5:00 PM	5:15 PM	3	87	28	0	37	116	18	0	27	46	7	0	59	47	13	0	488	1414
	5:15 PM	5:30 PM	4	93	22	0	10	55	3	0	13	20	3	0	41	49	12	0	325	
	5:30 PM	5:45 PM	6	74	25	0	11	88	6	0	7	20	5	0	52	37	13	0	344	
	5:45 PM	6:00 PM	3	60	26	0	11	46	3	0	5	12	3	0	34	41	13	0	257	

PEAK HOUR FROM: 4:15-5:15 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	20	344	118	0	135	398	48	0	64	121	16	0	202	187	58	0	1711

TOTAL RIGHT TURNS	118	48	16	58

A-10

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	BALBOA BLVD	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'6AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	1	6	0	0	0	53	138	0	30	0	13	0	0	0	0	0	241	2160
*	7:15 AM	7:30 AM	2	10	0	0	0	172	312	0	87	0	23	0	0	0	0	0	606	2444
*	7:30 AM	7:45 AM	3	19	0	0	0	223	267	0	93	0	19	0	0	0	0	0	624	2241
*	7:45 AM	8:00 AM	9	14	0	0	0	227	268	0	110	0	61	0	0	0	0	0	689	1957
*	8:00 AM	8:15 AM	6	22	0	0	0	138	245	0	90	0	24	0	0	0	0	0	525	1571
	8:15 AM	8:30 AM	2	12	0	0	0	63	231	0	85	0	10	0	0	0	0	0	403	
	8:30 AM	8:45 AM	4	16	0	0	0	43	180	0	86	0	11	0	0	0	0	0	340	
	8:45 AM	9:00 AM	7	12	0	0	0	33	171	0	64	0	16	0	0	0	0	0	303	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	20	65	0	0	0	760	1092	0	380	0	127	0	0	0	0	0	**2444**

TOTAL RIGHT TURNS	0	1092	127	0

A-11

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	BALBOA BLVD	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'6PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	9	52	0	0	0	28	96	0	233	0	9	0	0	0	0	0	427	2155
	4:15 PM	4:30 PM	15	54	0	0	0	37	121	0	272	0	6	0	0	0	0	0	505	2315
	4:30 PM	4:45 PM	24	101	0	0	0	29	135	0	270	0	8	0	0	0	0	0	567	2502
*	4:45 PM	5:00 PM	23	68	0	0	0	31	164	0	361	0	9	0	0	0	0	0	656	2625
*	5:00 PM	5:15 PM	-23	101	0	0	0	15	142	0	343	0	9	0	0	0	0	0	587	2605
*	5:15 PM	5:30 PM	48	77	0	0	0	26	161	0	370	0	10	0	0	0	0	0	692	
*	5:30 PM	5:45 PM	17	86	0	0	0	27	142	0	414	0	4	0	0	0	0	0	690	
	5:45 PM	6:00 PM	22	54	0	0	0	18	133	0	405	0	4	0	0	0	0	0	636	

PEAK HOUR FROM: 4:45-5:45 PM

PEAK HOUR	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	65	332	0	0	0	99	609	0	1488	0	32	0	0	0	0	0	**2625**

TOTAL RIGHT TURNS	0	609	32	0

A-12

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	I-5 SB OFF RAMP	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'7AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	0	61	0	0	0	158	0	0	1	0	146	0	0	0	0	0	366	2038
*	7:15 AM	7:30 AM	0	103	0	0	0	315	0	0	0	0	164	0	0	0	0	0	582	2141
*	7:30 AM	7:45 AM	0	97	0	0	0	299	0	0	0	0	165	0	0	0	0	0	561	1896
*	7:45 AM	8:00 AM	0	112	0	0	0	268	0	0	0	0	149	0	0	0	0	0	529	1662
*	8:00 AM	8:15 AM	0	97	0	0	0	185	0	0	2	0	185	0	0	0	0	0	469	1385
	8:15 AM	8:30 AM	0	125	0	0	0	86	0	0	0	0	126	0	0	0	0	0	337	
	8:30 AM	8:45 AM	0	104	0	0	0	81	0	0	1	0	141	0	0	0	0	0	327	
	8:45 AM	9:00 AM	0	64	0	0	0	58	0	0	1	0	129	0	0	0	0	0	252	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	409	0	0	0	1067	0	0	2	0	663	0	0	0	0	0	**2141**

TOTAL RIGHT TURNS	0	0	663	0

A-13

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	I-5 SB OFF RAMP	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'7PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	0	251	0	0	0	44	0	0	1	0	85	0	0	0	0	0	381	1953
	4:15 PM	4:30 PM	0	299	0	0	0	49	0	0	2	0	100	0	0	0	0	0	450	2331
	4:30 PM	4:45 PM	0	421	0	0	0	60	0	0	2	0	123	0	0	0	0	0	606	2460
	4:45 PM	5:00 PM	0	327	0	0	0	63	0	0	1	0	125	0	0	0	0	0	516	2462
*	5:00 PM	5:15 PM	0	577	0	0	0	41	0	0	1	0	140	0	0	0	0	0	759	2551
*	5:15 PM	5:30 PM	0	383	0	0	0	59	0	0	1	0	136	0	0	0	0	0	579	
*	5:30 PM	5:45 PM	0	441	0	0	0	53	0	0	1	0	113	0	0	0	0	0	608	
*	5:45 PM	6:00 PM	0	450	0	0	0	42	0	0	0	0	113	0	0	0	0	0	605	

PEAK HOUR FROM: 5:00-6:00 PM

PEAK HOUR	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	1851	0	0	0	195	0	0	3	0	502	0	0	0	0	0	**2551**

TOTAL RIGHT TURNS	0	0	502	0

A-4

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	SIERRA HWY	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'8AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
*	7:00 AM	7:15 AM	0	8	70	0	7	142	0	0	0	0	0	0	100	0	0	0	327	1495
*	7:15 AM	7:30 AM	0	7	84	0	10	151	0	0	0	0	0	0	118	0	0	0	370	1414
*	7:30 AM	7:45 AM	0	29	82	0	11	187	0	0	0	0	0	0	101	0	0	0	410	1243
*	7:45 AM	8:00 AM	0	21	90	0	7	162	0	0	0	0	0	0	108	0	0	0	388	999
	8:00 AM	8:15 AM	0	25	68	0	4	74	0	0	0	0	0	0	73	0	2	0	246	761
	8:15 AM	8:30 AM	0	17	76	0	6	66	0	0	0	0	0	0	34	0	0	0	199	
	8:30 AM	8:45 AM	0	19	70	0	4	47	0	0	0	0	0	0	25	0	1	0	166	
	8:45 AM	9:00 AM	0	25	59	0	5	27	0	0	0	0	0	0	33	0	1	0	150	

PEAK HOUR FROM: 7:00-8:00 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	65	326	0	35	642	0	0	0	0	0	0	427	0	0	0	**1495**

TOTAL RIGHT TURNS	326	0	0	0

A-15

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	WEDNESDAY
E/W ROADWAY:	SIERRA HWY	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'8PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	0	71	211	0	7	32	0	0	0	0	0	0	13	0	3	0	337	1630
	4:15 PM	4:30 PM	0	94	268	0	3	35	0	0	0	0	0	0	26	0	3	0	429	1839
	4:30 PM	4:45 PM	0	90	270	0	1	24	0	0	0	0	0	0	18	0	1	0	404	1946
	4:45 PM	5:00 PM	0	104	296	0	1	35	0	0	0	0	0	0	22	0	2	0	460	2028
*	5:00 PM	5:15 PM	0	130	361	0	4	27	0	0	0	0	0	0	24	0	0	0	546	2080
*	5:15 PM	5:30 PM	0	136	339	0	2	28	0	0	0	0	0	0	29	0	2	0	536	
*	5:30 PM	5:45 PM	0	105	325	0	4	35	0	0	0	0	0	0	17	0	0	0	486	
*	5:45 PM	6:00 PM	0	103	362	0	2	25	0	0	0	0	0	0	18	0	2	0	512	

PEAK HOUR FROM: 5:00-6:00 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	474	1387	0	12	115	0	0	0	0	0	0	88	0	4	0	**2080**

TOTAL RIGHT TURNS	1387	0	0	4

A-16

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	FOOTHILL BLVD	DAY:	WEDNESDAY
E/W ROADWAY:	SIERRA HWY	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'9AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
*	7:00 AM	7:15 AM	0	3	5	0	0	0	0	0	24	7	7	0	126	51	0	0	223	1411
*	7:15 AM	7:30 AM	0	3	17	0	0	0	0	0	64	8	10	0	193	100	2	0	397	1386
*	7:30 AM	7:45 AM	0	12	12	0	0	0	0	0	84	25	9	0	220	116	5	0	483	1182
*	7:45 AM	8:00 AM	1	14	11	0	0	0	0	0	63	12	9	0	119	76	3	0	308	841
	8:00 AM	8:15 AM	0	10	15	0	0	0	0	0	53	15	4	0	67	31	3	0	198	646
	8:15 AM	8:30 AM	0	12	12	0	0	0	0	0	64	18	2	0	48	36	1	0	193	
	8:30 AM	8:45 AM	0	16	15	0	0	0	0	0	38	13	3	0	29	27	1	0	142	
	8:45 AM	9:00 AM	0	2	3	0	0	0	0	0	12	4	4	0	63	25	0	0	113	

PEAK HOUR FROM: 7:00-8:00 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	1	32	45	0	0	0	0	0	235	52	35	0	658	343	10	0	**1411**
TOTAL RIGHT TURNS			45				0				35				10		

A-17

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	FOOTHILL BLVD	DAY:	WEDNESDAY
E/W ROADWAY:	SIERRA HWY	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'9PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	2	20	50	0	0	0	0	0	153	63	1	0	10	12	0	0	311	1435
	4:15 PM	4:30 PM	0	26	41	0	0	0	0	0	167	69	0	0	21	29	2	0	355	1556
	4:30 PM	4:45 PM	1	14	66	0	0	0	0	0	190	108	0	0	13	16	1	0	409	1781
	4:45 PM	5:00 PM	0	18	35	0	0	0	0	0	162	111	1	0	9	22	2	0	360	1939
*	5:00 PM	5:15 PM	0	22	50	0	0	0	0	0	184	143	1	0	9	21	2	0	432	2122
*	5:15 PM	5:30 PM	1	40	99	0	0	0	0	0	228	165	2	0	11	33	1	0	580	
*	5:30 PM	5:45 PM	1	43	116	0	0	0	0	0	143	231	0	0	13	17	3	0	567	
*	5:45 PM	6:00 PM	0	42	83	0	0	0	0	0	188	198	1	0	9	21	1	0	543	

PEAK HOUR FROM: 5:00-6:00 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	2	147	348	0	0	0	0	0	743	737	4	0	42	92	7	0	**2122**

TOTAL RIGHT TURNS	348	0	4	7

A-16

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	YARNELL STREET	DAY:	WEDNESDAY
E/W ROADWAY:	FOOTHILL BLVD	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'10AM1591	ABNORMAL CONDITIONS:	FOUR WAY STOP INTERSECTION

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	4	7	1	0	5	4	21	0	14	16	2	0	0	21	26	0	121	803
*	7:15 AM	7:30 AM	4	2	1	0	10	4	35	0	36	31	1	0	1	29	43	0	197	896
*	7:30 AM	7:45 AM	0	7	1	0	18	10	49	0	57	42	2	0	1	40	76	0	303	874
*	7:45 AM	8:00 AM	0	6	4	0	13	8	30	0	26	35	3	0	2	18	37	0	182	756
*	8:00 AM	8:15 AM	2	6	0	0	21	5	44	0	17	41	1	0	3	44	30	0	214	720
	8:15 AM	8:30 AM	1	11	3	0	13	3	32	0	21	25	1	0	1	26	38	0	175	
	8:30 AM	8:45 AM	1	9	1	0	21	2	28	0	20	26	0	0	2	34	41	0	185	
	8:45 AM	9:00 AM	0	2	1	0	9	1	30	0	24	20	1	0	2	24	32	0	146	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	6	21	6	0	62	27	158	0	136	149	7	0	7	131	186	0	**896**
TOTAL RIGHT TURNS			6				158				7				186		

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CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/21/92
N/S ROADWAY:	YARNELL STREET	DAY:	WEDNESDAY
E/W ROADWAY:	FOOTHILL BLVD	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'10PM1581	ABNORMAL CONDITIONS:	FOUR WAY STOP INTERSECTION

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	0	2	0	0	33	6	13	0	28	25	1	0	0	16	20	0	144	682
	4:15 PM	4:30 PM	0	1	0	0	41	5	13	0	22	25	4	0	0	19	12	0	142	684
*	4:30 PM	4:45 PM	0	5	0	0	49	10	31	0	29	46	5	0	2	41	21	0	239	721
*	4:45 PM	5:00 PM	0	6	1	0	37	7	21	0	15	30	1	0	2	15	22	0	157	643
*	5:00 PM	5:15 PM	0	5	1	0	34	6	16	0	17	17	3	0	3	23	21	0	146	647
*	5:15 PM	5:30 PM	2	3	0	0	27	17	24	0	20	35	2	0	2	28	19	0	179	
	5:30 PM	5:45 PM	0	1	1	0	34	8	17	0	18	26	3	0	1	21	31	0	161	
	5:45 PM	6:00 PM	1	1	2	0	34	9	22	0	15	28	1	0	2	21	25	0	161	

PEAK HOUR FROM: 4:30-5:30 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	2	19	2	0	147	40	92	0	81	128	11	0	9	107	83	0	**721**
TOTAL RIGHT TURNS			2				92				11				83		

A-2

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	YARNELL STREET	DAY:	THURSDAY
E/W ROADWAY:	I-210 EB ON/OFF RAMPS	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'11AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	0	34	23	0	5	12	0	0	2	0	19	0	0	0	0	0	95	625
*	7:15 AM	7:30 AM	0	62	44	0	3	20	0	0	2	0	27	0	0	0	0	0	158	665
*	7:30 AM	7:45 AM	0	64	45	0	11	24	0	0	5	0	43	0	0	0	0	0	192	646
*	7:45 AM	8:00 AM	0	44	49	0	4	34	0	0	1	0	48	0	0	0	0	0	180	556
*	8:00 AM	8:15 AM	0	47	21	0	8	23	0	0	2	0	34	0	0	0	0	0	135	490
	8:15 AM	8:30 AM	0	49	27	0	5	13	0	0	3	0	42	0	0	0	0	0	139	
	8:30 AM	8:45 AM	0	38	20	0	5	11	0	0	2	0	26	0	0	0	0	0	102	
	8:45 AM	9:00 AM	0	43	21	0	5	11	0	0	3	0	31	0	0	0	0	0	114	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	217	159	0	26	101	0	0	10	0	152	0	0	0	0	0	**665**

TOTAL RIGHT TURNS	159	0	152	0

A-21

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	YARNELL STREET	DAY:	THURSDAY
E/W ROADWAY:	I-210 EB ON/OFF RAMPS	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'11PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	0	34	21	0	4	20	0	0	10	0	48	0	0	0	0	0	137	537
	4:15 PM	4:30 PM	0	44	13	0	4	28	0	0	8	0	47	0	0	0	0	0	144	540
	4:30 PM	4:45 PM	0	47	17	0	1	21	0	0	3	0	29	0	0	0	0	0	118	540
*	4:45 PM	5:00 PM	0	43	18	0	4	28	0	0	7	0	38	0	0	0	0	0	138	560
*	5:00 PM	5:15 PM	0	49	17	0	2	28	0	0	4	0	40	0	0	0	0	0	140	539
*	5:15 PM	5:30 PM	0	42	22	0	2	32	0	0	5	0	41	0	0	0	0	0	144	
*	5:30 PM	5:45 PM	0	31	15	0	4	35	0	0	8	0	45	0	0	0	0	0	138	
	5:45 PM	6:00 PM	0	38	13	0	3	28	0	0	8	0	27	0	0	0	0	0	117	

PEAK HOUR FROM: 4:45-5:45 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	165	72	0	12	123	0	0	24	0	164	0	0	0	0	0	**560**

TOTAL RIGHT TURNS	72	0	164	0

A-22

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	YARNELL STREET	DAY:	THURSDAY
E/W ROADWAY:	DIAMOND CIRCLE / I-210 WB ON/OFF RAMP	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'12AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	0	3	40	0	2	2	0	0	0	6	6	0	12	0	0	0	71	363
*	7:15 AM	7:30 AM	3	3	48	0	3	4	0	0	0	4	4	0	16	1	1	0	87	377
*	7:30 AM	7:45 AM	2	2	65	0	6	8	1	0	0	8	12	0	21	1	1	0	127	358
*	7:45 AM	8:00 AM	4	4	38	0	3	3	1	0	0	5	2	0	16	0	2	0	78	307
*	8:00 AM	8:15 AM	4	1	39	0	3	3	0	0	0	7	7	0	18	0	3	0	85	294
	8:15 AM	8:30 AM	3	2	44	0	0	4	0	0	0	2	1	0	11	1	0	0	68	
	8:30 AM	8:45 AM	2	1	44	0	1	3	0	0	0	7	2	0	12	2	2	0	76	
	8:45 AM	9:00 AM	1	0	41	0	1	0	0	0	0	4	5	0	13	0	0	0	65	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	13	10	190	0	15	18	2	0	0	24	25	0	71	2	7	0	**377**
TOTAL RIGHT TURNS			190				2				25				7		

A-23

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	THURSDAY
E/W ROADWAY:	RANCH ROAD (LANDFILL DRIVEWAY)	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'13AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	1	90	0	0	0	329	1	0	0	0	0	0	0	0	0	0	421	1877
	7:15 AM	7:30 AM	0	106	0	0	0	342	0	0	0	0	0	0	0	0	0	0	448	1988
	7:30 AM	7:45 AM	0	100	0	0	0	369	1	0	0	0	0	0	0	0	0	0	470	2076
	7:45 AM	8:00 AM	3	122	0	0	0	408	5	0	0	0	0	0	0	0	0	0	538	1948
*	8:00 AM	8:15 AM	1	105	0	0	0	422	1	0	1	0	2	0	0	0	0	0	532	2123
*	8:15 AM	8:30 AM	1	101	0	0	0	428	6	0	0	0	0	0	0	0	0	0	536	
*	8:30 AM	8:45 AM	2	100	0	0	0	235	2	0	1	0	2	0	0	0	0	0	342	
*	8:45 AM	9:00 AM	1	112	0	0	0	598	2	0	0	0	0	0	0	0	0	0	713	

PEAK HOUR FROM: 8:00-9:00 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	5	418	0	0	0	1683	11	0	2	0	4	0	0	0	0	0	**2123**
TOTAL RIGHT TURNS			0				11				4				0		

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CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	SAN FERNANDO ROAD	DAY:	THURSDAY
E/W ROADWAY:	RANCH ROAD (LANDFILL DRIVEWAY)	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'13PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
*	4:00 PM	4:15 PM	0	359	0	0	0	122	0	0	0	0	1	0	0	0	0	0	482	2551
*	4:15 PM	4:30 PM	0	529	0	0	0	140	0	0	3	0	1	0	0	0	0	0	673	2490
*	4:30 PM	4:45 PM	0	543	0	0	0	153	0	0	0	0	0	0	0	0	0	0	696	2261
*	4:45 PM	5:00 PM	0	414	0	0	0	286	0	0	0	0	0	0	0	0	0	0	700	2147
	5:00 PM	5:15 PM	0	232	0	0	0	184	0	0	1	0	4	0	0	0	0	0	421	1844
	5:15 PM	5:30 PM	0	301	0	0	0	140	0	0	3	0	0	0	0	0	0	0	444	
	5:30 PM	5:45 PM	0	244	0	0	0	338	0	0	0	0	0	0	0	0	0	0	582	
	5:45 PM	6:00 PM	0	180	0	0	0	216	0	0	1	0	0	0	0	0	0	0	397	

PEAK HOUR FROM: 4:00-5:00 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	0	1845	0	0	0	701	0	0	3	0	2	0	0	0	0	0	**2551**
TOTAL RIGHT TURNS				0				0				2				0	

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CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'10/22/92
N/S ROADWAY:	YARNELL STREET	DAY:	THURSDAY
E/W ROADWAY:	DIAMOND CIRCLE / I-210 WB ON/OFF RAMP	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'12PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	5	5	27	0	0	2	0	0	0	2	5	0	13	2	0	0	61	315
	4:15 PM	4:30 PM	2	7	35	0	1	4	0	0	0	4	6	0	18	1	1	0	79	347
*	4:30 PM	4:45 PM	2	5	53	0	1	1	0	0	0	4	3	0	28	9	1	0	107	349
*	4:45 PM	5:00 PM	4	3	35	0	1	0	0	0	0	0	4	0	19	1	1	0	68	342
*	5:00 PM	5:15 PM	8	3	46	0	0	0	0	0	0	3	5	0	24	3	1	0	93	349
*	5:15 PM	5:30 PM	7	0	29	0	1	3	0	0	0	6	0	0	32	3	0	0	81	
*	5:30 PM	5:45 PM	11	3	34	0	4	2	3	0	1	1	3	0	34	1	3	0	100	
*	5:45 PM	6:00 PM	9	2	27	0	1	3	0	0	1	1	0	0	22	5	4	0	75	

PEAK HOUR FROM: 4:30-5:30 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	21	11	163	0	3	4	0	0	0	13	12	0	103	16	3	0	**349**

TOTAL RIGHT TURNS	163	0	12	3

A-26

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'11/15/92
N/S ROADWAY:	BALBOA AVENUE	DAY:	THURSDAY
E/W ROADWAY:	RINALDI STREET	TIME:	7:00 AM - 9:00 AM
CCC FILE NAME:	'20AM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	7:00 AM	7:15 AM	20	107	9	0	17	505	91	4	65	96	64	20	25	65	9	0	1097	5166
*	7:15 AM	7:30 AM	16	112	13	0	31	528	100	14	41	118	63	16	26	102	14	0	1194	5577
*	7:30 AM	7:45 AM	48	165	8	1	45	536	74	28	50	150	88	19	27	115	24	1	1379	5150
*	7:45 AM	8:00 AM	53	147	14	0	46	586	116	16	66	141	94	21	28	136	24	8	1496	4705
*	8:00 AM	8:15 AM	51	217	10	0	45	628	105	15	61	118	80	33	38	78	21	8	1508	4094
	8:15 AM	8:30 AM	16	119	10	0	47	297	36	6	31	66	34	27	23	43	8	4	767	
	8:30 AM	8:45 AM	33	169	15	0	26	359	63	11	46	60	38	30	24	50	5	5	934	
	8:45 AM	9:00 AM	58	146	22	1	20	329	53	14	25	49	30	34	24	68	11	1	885	

PEAK HOUR FROM: 7:15-8:15 AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	168	641	45	1	167	2278	395	73	218	527	325	89	119	431	83	17	**5577**

TOTAL RIGHT TURNS	46	468	414	100

4-21

CAR COUNTER COMPANY 1580 CORPORATE DRIVE, SUITE 122 COSTA MESA , CA 92626

MANUAL COUNT SUMMARY

PREPARED FOR:	0	JOB NO.:	'2-921591-1
INTERSECTION:		DATE:	'11/5/92
N/S ROADWAY:	BALBOA AVENUE	DAY:	THURSDAY
E/W ROADWAY:	RINALDI STREET	TIME:	4:00 PM - 6:00 PM
CCC FILE NAME:	'20PM1591	ABNORMAL CONDITIONS:	0

	TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL VOLUME	
	FROM	TO	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	15 MIN.	HOURLY
	4:00 PM	4:15 PM	63	464	37	3	26	296	39	17	147	125	16	10	45	80	33	6	1407	5105
	4:15 PM	4:30 PM	62	382	18	4	22	206	44	17	97	90	15	5	28	69	33	4	1096	5112
	4:30 PM	4:45 PM	68	466	28	2	17	254	35	16	117	71	11	7	38	96	21	2	1249	5325
	4:45 PM	5:00 PM	86	496	25	3	21	219	49	18	143	86	10	7	30	119	36	5	1353	5550
*	5:00 PM	5:15 PM	95	530	20	5	29	209	41	23	157	94	21	4	45	108	31	2	1414	5632
*	5:15 PM	5:30 PM	68	467	15	3	27	203	55	12	160	95	17	7	41	113	23	3	1309	
*	5:30 PM	5:45 PM	79	522	26	1	22	245	68	13	171	117	18	15	34	102	34	7	1474	
*	5:45 PM	6:00 PM	98	494	37	1	17	231	48	16	172	124	18	18	32	92	36	1	1435	

PEAK HOUR FROM: 5:00-6:00 PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
PEAK HOUR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	LEFT	THRU	RTOG	RTOR	VOLUME
VOLUMES	340	2013	98	10	95	888	212	64	660	430	74	44	152	415	124	13	**5632**
TOTAL RIGHT TURNS			108				276				118				137		

A-18

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: BALBOA BL

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

TIME	SOUTH BOUND RIGHT	SOUTH BOUND THRU	SOUTH BOUND LEFT	WEST BOUND RIGHT	WEST BOUND THRU	WEST BOUND LEFT	NORTH BOUND RIGHT	NORTH BOUND THRU	NORTH BOUND LEFT	EAST BOUND RIGHT	EAST BOUND THRU	EAST BOUND LEFT
PM 4:15	105	17	0	0	0	0	0	59	13	12	0	230
4:30	139	40	0	0	0	0	0	47	9	5	0	247
4:45	150	22	0	0	0	0	0	87	19	10	0	255
5:00	144	26	0	0	0	0	0	81	13	9	0	285
TOTAL	538	105	0	0	0	0	0	274	54	36	0	1017
5:15	124	30	0	0	0	0	0	119	22	7	0	309
5:30	154	32	0	0	0	0	0	68	13	5	0	391
5:45	120	15	0	0	0	0	0	60	14	10	0	385
6:00	122	20	0	0	0	0	0	29	13	11	0	349
TOTAL	520	97	0	0	0	0	0	276	62	33	0	1434
PM PEAK HOUR 4:45-5:45 TOTAL	542	103	0	0	0	0	0	328	62	31	0	1370

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: SIERRA HWY

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

TIME	SOUTH BOUND RIGHT	SOUTH BOUND THRU	SOUTH BOUND LEFT	WEST BOUND RIGHT	WEST BOUND THRU	WEST BOUND LEFT	NORTH BOUND RIGHT	NORTH BOUND THRU	NORTH BOUND LEFT	EAST BOUND RIGHT	EAST BOUND THRU	EAST BOUND LEFT
AM 7:15	0	148	4	0	0	85	60	27	0	0	0	0
7:30	0	178	11	0	0	67	69	14	0	0	0	0
7:45	0	212	15	0	0	80	79	25	0	0	0	0
8:00	0	116	8	0	0	52	99	29	0	0	0	0
TOTAL	0	654	38	0	0	284	307	95	0	0	0	0
8:15	0	69	4	1	0	51	72	22	0	0	0	0
8:30	0	66	4	0	0	36	65	22	0	0	0	0
8:45	0	36	3	2	0	36	61	19	0	0	0	0
9:00	0	30	4	0	0	28	44	16	0	0	0	0
TOTAL	0	201	15	3	0	151	242	79	0	0	0	0
AM PEAK HOUR 7:00 - 8:00 TOTAL	0	654	38	0	0	284	307	95	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: SIERRA HWY

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

	SOUTH BOUND			WEST BOUND			NORTH BOUND			EAST BOUND		
TIME	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
PM 4:15	0	21	3	3	0	25	230	58	0	0	0	0
4:30	0	26	1	1	0	20	237	34	0	0	0	0
4:45	0	40	2	5	0	30	310	53	0	0	0	0
5:00	0	17	18	5	0	32	265	94	0	0	0	0
TOTAL	0	104	24	14	0	107	1042	239	0	0	0	0
5:15	0	31	4	5	0	22	300	119	0	0	0	0
5:30	0	32	6	2	0	20	313	144	0	0	0	0
5:45	0	23	5	2	0	20	311	115	0	0	0	0
6:00	0	17	4	3	0	21	256	127	0	0	0	0
TOTAL	0	103	19	12	0	83	1180	505	0	0	0	0
PM PEAK HOUR 5:00-6:00 TOTAL	0	103	19	12	0	83	1180	505	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: I-5 S/B RAMP

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

	TIME	SOUTH BOUND RIGHT	SOUTH BOUND THRU	SOUTH BOUND LEFT	WEST BOUND RIGHT	WEST BOUND THRU	WEST BOUND LEFT	NORTH BOUND RIGHT	NORTH BOUND THRU	NORTH BOUND LEFT	EAST BOUND RIGHT	EAST BOUND THRU	EAST BOUND LEFT
AM	7:15	0	233	0	0	0	0	0	87	0	164	0	0
	7:30	0	254	0	0	0	0	0	83	0	167	0	1
	7:45	0	294	0	0	0	0	0	114	0	152	0	0
	8:00	0	169	0	0	0	0	0	114	0	139	0	0
	TOTAL	0	950	0	0	0	0	0	398	0	622	0	1
	8:15	0	116	0	0	0	0	0	101	0	173	0	1
	8:30	0	101	0	0	0	0	0	90	0	156	0	0
	8:45	0	71	0	0	0	0	0	76	0	156	0	0
	9:00	0	59	0	0	0	0	0	61	0	114	0	0
	TOTAL	0	347	0	0	0	0	0	328	0	599	0	1
AM PEAK HOUR 7:00-8:00	TOTAL	0	950	0	0	0	0	0	398	0	622	0	1

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: I-5 S/B RAMP

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

TIME	SOUTH BOUND RIGHT	SOUTH BOUND THRU	SOUTH BOUND LEFT	WEST BOUND RIGHT	WEST BOUND THRU	WEST BOUND LEFT	NORTH BOUND RIGHT	NORTH BOUND THRU	NORTH BOUND LEFT	EAST BOUND RIGHT	EAST BOUND THRU	EAST BOUND LEFT
PM 4:15	0	35	0	0	0	0	0	295	0	94	0	0
4:30	0	61	0	0	0	0	0	281	0	106	0	2
4:45	0	62	0	0	0	0	0	349	0	127	0	0
5:00	0	61	0	0	0	0	0	362	0	127	0	0
TOTAL	0	219	0	0	0	0	0	1287	0	454	0	2
5:15	0	46	0	0	0	0	0	430	0	119	0	0
5:30	0	58	0	0	0	0	0	442	0	113	0	2
5:45	0	40	0	0	0	0	0	433	0	95	0	0
6:00	0	40	0	0	0	0	0	395	0	115	0	0
TOTAL	0	184	0	0	0	0	0	1700	0	442	0	2
PM PEAK HOUR 4:45-5:45 TOTAL	0	205	0	0	0	0	0	1667	0	454	0	2

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CITY: SYLMAR
NORTH-SOUTH ST: SAN FERNANDO RD
EAST-WEST ST: BALBOA BL

DATE: 3-31-93
DAY: WEDNESDAY
PROJ NO:

TIME	SOUTH BOUND RIGHT	SOUTH BOUND THRU	SOUTH BOUND LEFT	WEST BOUND RIGHT	WEST BOUND THRU	WEST BOUND LEFT	NORTH BOUND RIGHT	NORTH BOUND THRU	NORTH BOUND LEFT	EAST BOUND RIGHT	EAST BOUND THRU	EAST BOUND LEFT
AM 7:15	280	138	0	0	0	0	0	12	4	20	0	69
7:30	268	147	0	0	0	0	0	12	5	27	0	81
7:45	262	157	0	0	0	0	0	22	4	17	0	108
8:00	188	99	0	0	0	0	0	13	5	28	0	92
TOTAL	998	541	0	0	0	0	0	59	18	92	0	350
8:15	249	58	0	0	0	0	0	15	5	16	0	93
8:30	233	48	0	0	0	0	0	12	11	15	0	66
8:45	188	36	0	0	0	0	0	15	1	8	0	66
9:00	133	30	0	0	0	0	0	12	3	7	0	41
TOTAL	803	172	0	0	0	0	0	54	20	46	0	266
AM PEAK HOUR 7:00 - 8:00 TOTAL	998	541	0	0	0	0	0	59	18	92	0	350

6C

CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA (714) 556-6698

Machine Traffic Count for LL&G - COSTA MESA

Location . . . YARNELL ST BET 210 FWY/FOOTHILL SYLMAR

Count Began . . . THURSDAY 11/12/92 at 12:00 AM

Abnormal Conditions - None

SUMMARY

Direction	24-Hour Volume	AM Peak Hour Began	AM Peak Hour Volume	PM Peak Hour Began	PM Peak Hour Volume
NORTH-BD	3,207	1:15	197	3:30	395
SOUTH-BD	3,140	11:30	229	1:45	290
TOTAL	6,347	5:30	253	3:30	663

PERIOD BEGAN	AM NORTH-BD 15'	AM NORTH-BD HOUR	AM SOUTH-BD 15'	AM SOUTH-BD HOUR	AM TOTAL 15'	AM TOTAL HOUR	PM NORTH-BD 15'	PM NORTH-BD HOUR	PM SOUTH-BD 15'	PM SOUTH-BD HOUR	PM TOTAL 15'	PM TOTAL HOUR
12:00	47	176	2	6	49	182	2	21	57	225	59	246
12:15	36	178	2	9	38	187	6	30	59	216	65	246
12:30	42	194	1	13	43	207	11	38	45	224	56	262
12:45	51	196	1	15	52	211	2	49	64	235	66	284
1:00	49	186	5	18	54	204	11	89	48	259	59	348*
1:15	52	197	6	14	58	211	14	114	67	275	81	389
1:30	44	183	3	9	47	192	22	157	56	274	78	431
1:45	41	176	4	9	45	185	42	224	88	290	130	514
2:00	60	171	1	9	61	180	36	247	64	268	100	515*
2:15	38	153	1	21	39	174	57	283	66	282	123	565
2:30	37	138	3	36	40	174	89	296	72	264	161	560
2:45	36	133	4	59	40	192	65	310	66	261	131	571
3:00	42	119	13	111	55	230	72	331	78	271	150	602*
3:15	23	86	16	147	39	233	70	372	48	249	118	621
3:30	32	85	26	144	58	229	103	395	69	268	172	663
3:45	22	65	56	152	78	217	86	357	76	250	162	607
4:00	9	56	49	118	58	174	113	347	56	239	169	586*
4:15	22	64	13	85	35	149	93	293	67	225	160	518
4:30	12	56	34	100	46	156	65	252	51	196	116	448
4:45	13	55	22	118	35	173	76	238	65	174	141	412
5:00	17	54	16	147	33	201	59	212	42	141	101	353*
5:15	14	50	28	177	42	227	52	200	38	126	90	326
5:30	11	63	52	190	63	253	51	195	29	114	80	309
5:45	12	80	51	172	63	252	50	190	32	118	82	308
6:00	13	83	46	151	59	234	47	194	27	117	74	311*
6:15	27	77	41	146	68	223	47	177	26	122	73	299
6:30	28	60	34	142	62	202	46	156	33	131	79	287
6:45	15	38	30	140	45	178	54	156	31	128	85	284
7:00	7	28	41	134	48	162	30	147	32	145	62	292*
7:15	10	31	37	123	47	154	26	155	35	144	61	299
7:30	6	22	32	133	38	155	46	181	30	129	76	310
7:45	5	29	24	120	29	149	45	183	48	127	93	310
8:00	10	27	30	120	40	147	38	172	31	91	69	263*
8:15	1	18	47	120	48	138	52	166	20	74	72	240
8:30	13	20	19	124	32	144	48	141	28	62	76	203
8:45	3	9	24	142	27	151	34	127	12	43	46	170
9:00	1	7	30	157	31	164	32	124	14	42	46	166
9:15	3	7	51	166	54	173	27	144	8	34	35	178
9:30	2	4	37	159	39	163	34	176	9	29	43	205
9:45	1	5	39	162	40	167	31	190	11	21	42	211
10:00	1	7	39	156	40	163	52	192	6	16	58	208
10:15	0	9	44	155	44	164	59	183	3	15	62	198
10:30	3	10	40	147	43	157	48	171	1	15	49	186
10:45	3	11	33	168	36	179	33	176	6	17	39	193
11:00	3	13	38	187	41	200	43	204	5	12	48	216
11:15	1	12	36	206	37	218	47	161	3	9	50	170
11:30	4	17	61	229	65	246	53	114	3	8	56	122
11:45	5	24	52	213	57	237	61	61	1	6	62	67

6C

CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA (714) 556-6698

Machine Traffic Count for LL&G - COSTA MESA

Location . . . FOOTHILL BET YARNELL/BALBOA
SYLMAR

Count Began . . . THURSDAY 11/12/92 at 12:00 AM

Abnormal Conditions - None

SUMMARY

Direction	24-Hour Volume	AM Peak Hour Began	AM Peak Hour Volume	PM Peak Hour Began	PM Peak Hour Volume
EAST-BD	2,260	12:30	239	3:15	220
WEST-BD	3,249	12:00	175	3:30	411
TOTAL	5,509	12:30	405	3:30	622

PERIOD BEGAN	AM EAST-BD 15'	AM EAST-BD HOUR	AM WEST-BD 15'	AM WEST-BD HOUR	AM TOTAL 15'	AM TOTAL HOUR	PM EAST-BD 15'	PM EAST-BD HOUR	PM WEST-BD 15'	PM WEST-BD HOUR	PM TOTAL 15'	PM TOTAL HOUR
12:00	0	129	44	175	44	304	2	9	2	21	4	30
12:15	0	181	50	170	50	351	1	7	2	23	3	30
12:30	55	239	34	166	89	405	3	17	8	42	11	59
12:45	74	221	47	175	121	396	3	26	9	87	12	113
1:00	52	195	39	168	91	363*	0	46	4	158	4	204
1:15	58	181	46	158	104	339	11	78	21	243	32	321
1:30	37	157	43	159	80	316	12	118	53	254	65	372
1:45	48	139	40	154	88	293	23	133	80	245	103	378
2:00	38	115	29	153	67	268	32	151	89	215	121	366*
2:15	34	96	47	148	81	244	51	152	32	184	83	336
2:30	19	83	38	127	57	210	27	141	44	221	71	362
2:45	24	78	39	109	63	187	41	166	50	264	91	430
3:00	19	72	24	86	43	158	33	195	58	326	91	52[illegible]*
3:15	21	69	26	80	47	149	40	220	69	376	109	5[illegible]
3:30	14	62	20	65	34	127	52	211	87	411	139	6[illegible]
3:45	18	63	16	64	34	127	70	199	112	409	182	608
4:00	16	57	18	58	34	115	58	162	108	363	166	525*
4:15	14	55	11	49	25	104	31	130	104	307	135	437
4:30	15	54	19	45	34	99	40	133	85	243	125	376
4:45	12	54	10	53	22	107	33	122	66	195	99	317
5:00	14	63	9	84	23	147	26	108	52	171	78	279
5:15	13	66	7	96	20	162	34	111	40	164	74	275
5:30	15	68	27	98	42	166	29	110	37	165	66	275
5:45	21	71	41	83	62	154	19	122	42	167	61	289
6:00	17	54	21	57	38	111	29	124	45	165	74	289
6:15	15	41	9	41	24	82	33	112	41	165	74	277
6:30	18	31	12	37	30	68	41	112	39	167	80	279
6:45	4	18	15	27	19	45	21	97	40	182	61	279
7:00	4	16	5	18	9	34	17	106	45	180	62	286
7:15	5	15	5	21	10	36	33	138	43	172	76	310
7:30	5	21	2	18	7	39	26	149	54	163	80	312
7:45	2	20	6	17	8	37	30	157	38	152	68	309
8:00	3	20	8	12	11	32	49	154	37	151	86	305*
8:15	11	18	2	6	13	24	44	131	34	165	78	296
8:30	4	7	1	5	5	12	34	112	43	185	77	297
8:45	2	4	1	4	3	8	27	98	37	202	64	300
9:00	1	2	2	5	3	7	26	110	51	242	77	352*
9:15	0	1	1	6	1	7	25	119	54	237	79	356
9:30	1	4	0	6	1	10	20	133	60	224	80	357
9:45	0	4	2	6	2	10	39	146	77	211	116	357
10:00	0	5	3	9	3	14	35	151	46	181	81	332*
10:15	3	5	1	7	4	12	39	165	41	190	80	355
10:30	1	4	0	13	1	17	33	182	47	206	80	388
10:45	1	4	5	16	6	20	44	208	47	209	91	417
11:00	0	4	1	14	1	18	49	212	55	237	104	449*
11:15	2	6	7	15	9	21	56	163	57	226	113	389
11:30	1	5	3	10	4	15	59	107	50	219	109	326
11:45	1	7	3	15	4	22	48	48	75	203	123	2[illegible]

CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Location : SUNSHINE CYN-SYLMAR - ST 51 SAN FERNANDO N/O SEPULVEDA

Count began Thursday, 11-12-92 at 12:00AM

SUMMARY

Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
South Bd	23	12:00	0	12:00	0
South Bd	2,715	12:00	0	12:00	0
Totals	2,738	12:00	0	12:00	0

Time	South Bd 15' Hour AM		South Bd 15' Hour AM		Total 15' Hour AM		South Bd 15' Hour PM		South Bd 15' Hour PM		Total 15' Hour PM	
12:00	0	0	5	0	5	0*	0	0	110	0	110	0
1:00	1	0	6	0	7	0	2	0	97	0	99	0
2:00	0	0	5	0	5	0	2	0	119	0	121	0
3:00	0	0	5	0	5	0	5	0	213	0	218	0
4:00	0	0	13	0	13	0	1	0	146	0	147	0
5:00	1	0	91	0	92	0	0	0	96	0	96	0
6:00	0	0	322	0	322	0	0	0	66	0	66	0
7:00	4	0	764	0	768	0	2	0	28	0	30	0
8:00	0	0	254	0	254	0	1	0	33	0	34	0
9:00	0	0	78	0	78	0	2	0	30	0	32	0
10	0	0	74	0	74	0	0	0	47	0	47	0
11:00	2	0	99	0	101	0	0	0	14	0	14	0*

Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST1 SAN FERNANDO RD S/O BALBOA BLVD

Count began Tuesday, 04-06-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
North Bd	3,805	5:30	234	5:15	999
South Bd	0	12:00	0	12:00	0
Totals	3,805	5:30	234	5:15	.999

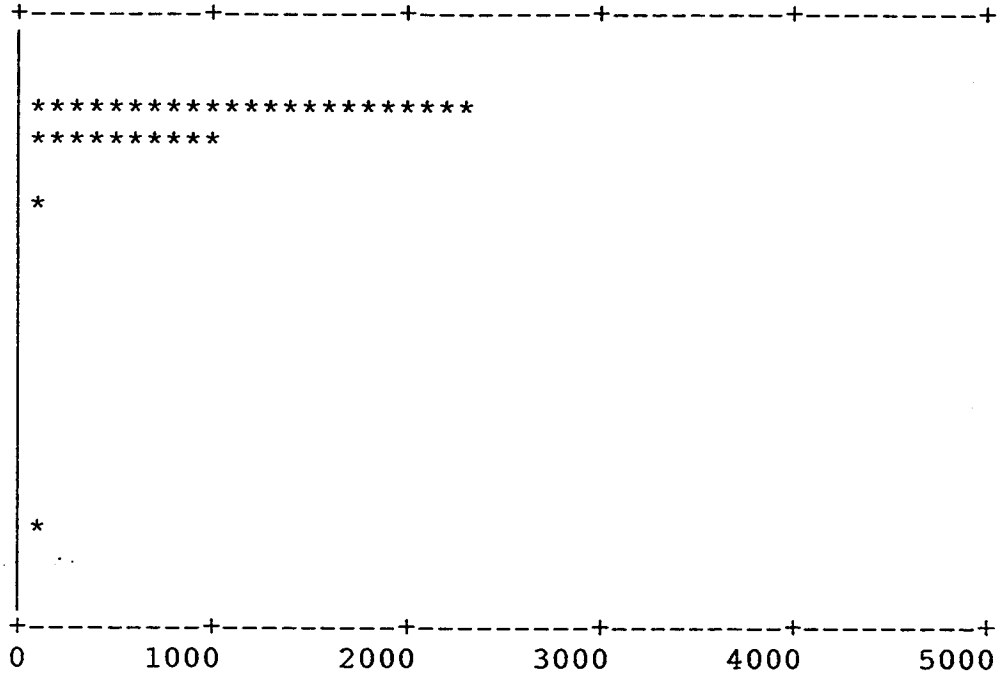
Time	North Bd 15'	Hour	South Bd 15'	Hour	Total 15'	Hour	North Bd 15'	Hour	South Bd 15'	Hour	Total 15'	Hour
	AM					AM	PM					PM
12:00	4	16	0	0	4	16	33	127	0	0	33	127*
12:15	6	13	0	0	6	13	35	122	0	0	35	122
12:30	2	9	0	0	2	9	37	113	0	0	37	113
12:45	4	8	0	0	4	8	22	103	0	0	22	103
1:00	1	6	0	0	1	6	28	111	0	0	28	111
1:15	2	8	0	0	2	8	26	124	0	0	26	124
1:30	1	7	0	0	1	7	27	139	0	0	27	139
1:45	2	12	0	0	2	12	30	159	0	0	30	159
2:00	3	10	0	0	3	10	41	179	0	0	41	179*
2:15	1	10	0	0	1	10	41	187	0	0	41	187
2:30	6	10	0	0	6	10	47	185	0	0	47	18'
2:45	0	6	0	0	0	6	50	236	0	0	50	236
3:00	3	7	0	0	3	7	49	252	0	0	49	252*
3:15	1	4	0	0	1	4	39	259	0	0	39	259
3:30	2	5	0	0	2	5	98	291	0	0	98	291
3:45	1	3	0	0	1	3	66	278	0	0	66	278
4:00	0	8	0	0	0	8	56	286	0	0	56	286*
4:15	2	15	0	0	2	15	71	385	0	0	71	385
4:30	0	23	0	0	0	23	85	577	0	0	85	577
4:45	6	63	0	0	6	63	74	761	0	0	74	761
5:00	7	117	0	0	7	117	155	913	0	0	155	913*
5:15	10	187	0	0	10	187	263	999	0	0	263	999
5:30	40	234	0	0	40	234	269	969	0	0	269	969
5:45	60	230	0	0	60	230	226	860	0	0	226	860
6:00	77	196	0	0	77	196*	241	771	0	0	241	771*
6:15	57	146	0	0	57	146	233	581	0	0	233	581
6:30	36	106	0	0	36	106	160	389	0	0	160	389
6:45	26	97	0	0	26	97	137	247	0	0	137	247
7:00	27	91	0	0	27	91	51	121	0	0	51	121
7:15	17	81	0	0	17	81	41	98	0	0	41	98
7:30	27	92	0	0	27	92	18	71	0	0	18	7'
7:45	20	85	0	0	20	85	11	65	0	0	11	6
8:00	17	84	0	0	17	84	28	65	0	0	28	65
8:15	28	96	0	0	28	96	14	50	0	0	14	50
8:30	20	100	0	0	20	100	12	51	0	0	12	51

9:00	29	117	0	0	29	117	13	57	0	0	13	57
9:15	32	104	0	0	32	104	15	52	0	0	15	52
9:30	27	97	0	0	27	97	14	43	0	0	14	43
9:45	29	90	0	0	29	90	15	35	0	0	15	35
1 0	16	90	0	0	16	90	8	31	0	0	8	31
10:15	25	106	0	0	25	106	6	26	0	0	6	26
10:30	20	112	0	0	20	112	6	27	0	0	6	27
10:45	29	129	0	0	29	129	11	26	0	0	11	26
11:00	32	126	0	0	32	126*	3	24	0	0	3	24
11:15	31	127	0	0	31	127	7	21	0	0	7	21
11:30	37	131	0	0	37	131	5	14	0	0	5	14
11:45	26	131	0	0	26	131	9	9	0	0	9	9

Data File : D0406001.PRN
Station : 490601
Identification : 1225101 Interval : 15 minutes
Start date : Apr 6, 93 Start time : 00:00
Stop date : Apr 6, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST1 SAN FERNANDO RD S/O BALBOA BLVD

Tue - Apr 6, 93

Type	Volume
Cycle	24
Cars	2359
2a-4T	1016
Buses	5
2A-SU	111
3A-SU	17
4A-SU	23
4A-ST	36
5A-ST	11
6A-ST	5
5A-MT	25
6A-MT	2
7A-MT	7
None	0
Other	164
Total	3805



CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST2 SAN FERNANDO RD N/O BALBOA BLVD

Count began Tuesday, 04-13-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
South Bd	9,989	7:00	1,442	4:45	654
North Bd	0	12:00	0	12:00	0
Totals	9,989	7:00	1,442	4:45	654

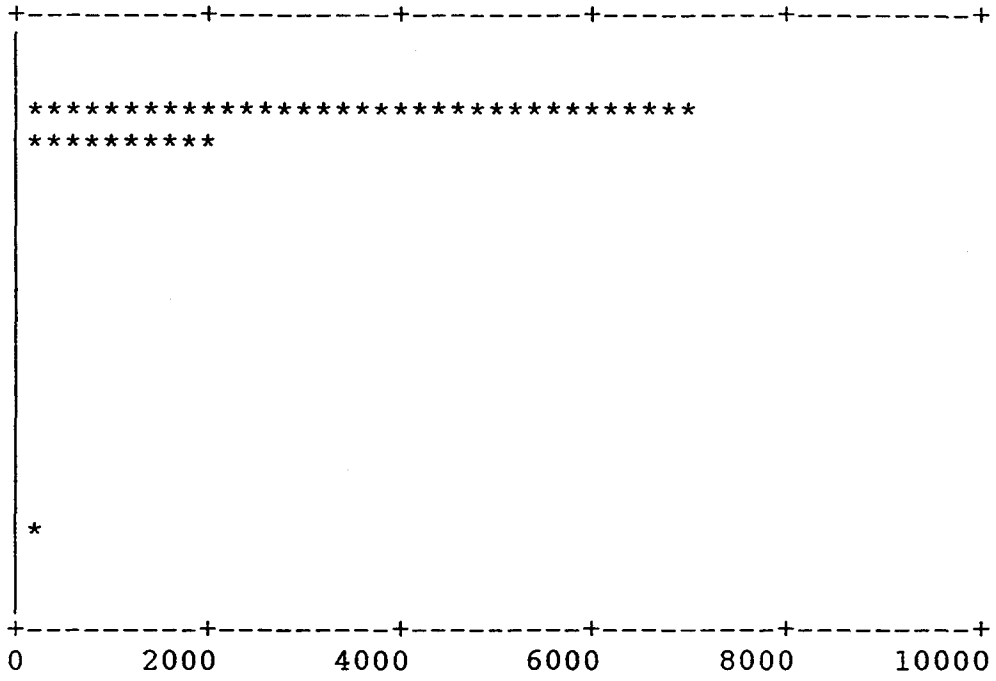
Time	South Bd 15'	Hour	North Bd 15'	Hour	Total 15'	Hour	South Bd 15'	Hour	North Bd 15'	Hour	Total 15'	Hour
	AM					AM	PM					PM
12:00	12	46	0	0	12	46	97	436	0	0	97	436
12:15	17	42	0	0	17	42	104	449	0	0	104	449
12:30	10	34	0	0	10	34	124	449	0	0	124	449
12:45	7	29	0	0	7	29	111	435	0	0	111	435
1:00	8	30	0	0	8	30	110	397	0	0	110	397
1:15	9	29	0	0	9	29	104	393	0	0	104	393
1:30	5	25	0	0	5	25	110	407	0	0	110	407
5	8	26	0	0	8	26	73	421	0	0	73	421
2:00	7	25	0	0	7	25	106	465	0	0	106	465
2:15	5	25	0	0	5	25	118	467	0	0	118	467
2:30	6	26	0	0	6	26	124	472	0	0	124	472
2:45	7	35	0	0	7	35	117	483	0	0	117	483
3:00	7	36	0	0	7	36	108	537	0	0	108	537*
3:15	6	38	0	0	6	38	123	551	0	0	123	551
3:30	15	46	0	0	15	46	135	589	0	0	135	589
3:45	8	58	0	0	8	58	171	610	0	0	171	610
4:00	9	88	0	0	9	88	122	605	0	0	122	605*
4:15	14	132	0	0	14	132	161	619	0	0	161	619
4:30	27	215	0	0	27	215	156	637	0	0	156	637
4:45	38	335	0	0	38	335	166	654	0	0	166	654
5:00	53	454	0	0	53	454	136	640	0	0	136	640*
5:15	97	592	0	0	97	592	179	633	0	0	179	633
5:30	147	730	0	0	147	730	173	579	0	0	173	579
5:45	157	857	0	0	157	857	152	519	0	0	152	519
6:00	191	1020	0	0	191	1020*	129	476	0	0	129	476
6:15	235	1150	0	0	235	1150	125	430	0	0	125	430
6:30	274	1298	0	0	274	1298	113	397	0	0	113	397
6 '5	320	1429	0	0	320	1429	109	364	0	0	109	364
7:00	321	1442	0	0	321	1442*	83	320	0	0	83	320
7:15	383	1346	0	0	383	1346	92	296	0	0	92	296
7:30	405	1161	0	0	405	1161	80	269	0	0	80	269
7:45	333	943	0	0	333	943	65	242	0	0	65	242

8:00	225	780	0	0	225	780*	59	240	0	0	59	240
8:15	198	712	0	0	198	712	65	244	0	0	65	244
8:30	187	661	0	0	187	661	53	241	0	0	53	2
8:45	170	606	0	0	170	606	63	236	0	0	63	2-
9:00	157	553	0	0	157	553*	63	214	0	0	63	214
9:15	147	524	0	0	147	524	62	196	0	0	62	196
9:30	132	515	0	0	132	515	48	168	0	0	48	168
9:45	117	489	0	0	117	489	41	164	0	0	41	164
10:00	128	491	0	0	128	491*	45	161	0	0	45	161
10:15	138	478	0	0	138	478	34	150	0	0	34	150
10:30	106	447	0	0	106	447	44	144	0	0	44	144
10:45	119	442	0	0	119	442	38	123	0	0	38	123
11:00	115	434	0	0	115	434	34	99	0	0	34	99
11:15	107	416	0	0	107	416	28	65	0	0	28	65
11:30	101	413	0	0	101	413	23	37	0	0	23	37
11:45	111	436	0	0	111	436	14	14	0	0	14	14

Data File : D0413002.PRN
Station : 377022
Identification : 12251022 Interval : 15 minutes
Start date : Apr 13, 93 Start time : 00:00
Stop date : Apr 13, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST2 SAN FERNANDO RD N/O BALBOA BLVD

Tue - Apr 13, 93

Type	Volume
Cycle	61
Cars	7089
2a-4T	2029
Buses	5
2A-SU	108
3A-SU	129
4A-SU	125
4A-ST	53
5A-ST	16
6A-ST	1
5A-MT	1
MT	2
7A-MT	17
None	0
Other	353
Total	9989



Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST3 SAN FERNANDO RD S/O SIERRA HWY

Count began Tuesday, 04-06-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
North Bd	9,964	7:30	330	5:15	2,056
South Bd	0	12:00	0	12:00	0
Totals	9,964	7:30	330	5:15	2,056

Time	North Bd 15'	Hour	South Bd 15'	Hour	Total 15'	Hour	North Bd 15'	Hour	South Bd 15'	Hour	Total 15'	Hour
	AM					AM	PM					PM
12:00	13	49	0	0	13	49	83	313	0	0	83	313*
12:15	15	41	0	0	15	41	71	293	0	0	71	293
12:30	13	30	0	0	13	30	81	296	0	0	81	296
12:45	8	21	0	0	8	21	78	309	0	0	78	309
1:00	5	18	0	0	5	18	63	312	0	0	63	312*
1:15	4	19	0	0	4	19	74	340	0	0	74	340
1:30	4	20	0	0	4	20	94	366	0	0	94	366
1:45	5	26	0	0	5	26	81	393	0	0	81	393
2:00	6	25	0	0	6	25	91	456	0	0	91	456*
2:15	5	21	0	0	5	21	100	512	0	0	100	512
2:30	10	21	0	0	10	21	121	565	0	0	121	56
2:45	4	16	0	0	4	16	144	637	0	0	144	63.
3:00	2	15	0	0	2	15	147	689	0	0	147	689*
3:15	5	13	0	0	5	13	153	808	0	0	153	808
3:30	5	12	0	0	5	12	193	940	0	0	193	940
3:45	3	15	0	0	3	15	196	1044	0	0	196	1044
4:00	0	25	0	0	0	25	266	1175	0	0	266	1175*
4:15	4	38	0	0	4	38	285	1304	0	0	285	1304
4:30	8	50	0	0	8	50	297	1549	0	0	297	1549
4:45	13	66	0	0	13	66	327	1800	0	0	327	1800
5:00	13	84	0	0	13	84	395	2038	0	0	395	2038*
5:15	16	104	0	0	16	104	530	2056	0	0	530	2056
5:30	24	138	0	0	24	138	548	1965	0	0	548	1965
5:45	31	206	0	0	31	206	565	1887	0	0	565	1887
6:00	33	250	0	0	33	250	413	1728	0	0	413	1728*
6:15	50	297	0	0	50	297	439	1539	0	0	439	1539
6:30	92	310	0	0	92	310	470	1257	0	0	470	1257
6:45	75	309	0	0	75	309	406	883	0	0	406	883
7:00	80	309	0	0	80	309	224	556	0	0	224	556*
7:15	63	317	0	0	63	317	157	422	0	0	157	422
7:30	91	330	0	0	91	330	96	333	0	0	96	3
7:45	75	308	0	0	75	308	79	308	0	0	79	3
8:00	88	293	0	0	88	293	90	284	0	0	90	284
8:15	76	270	0	0	76	270	68	262	0	0	68	262
8:30	69	272	0	0	69	272	71	250	0	0	71	250

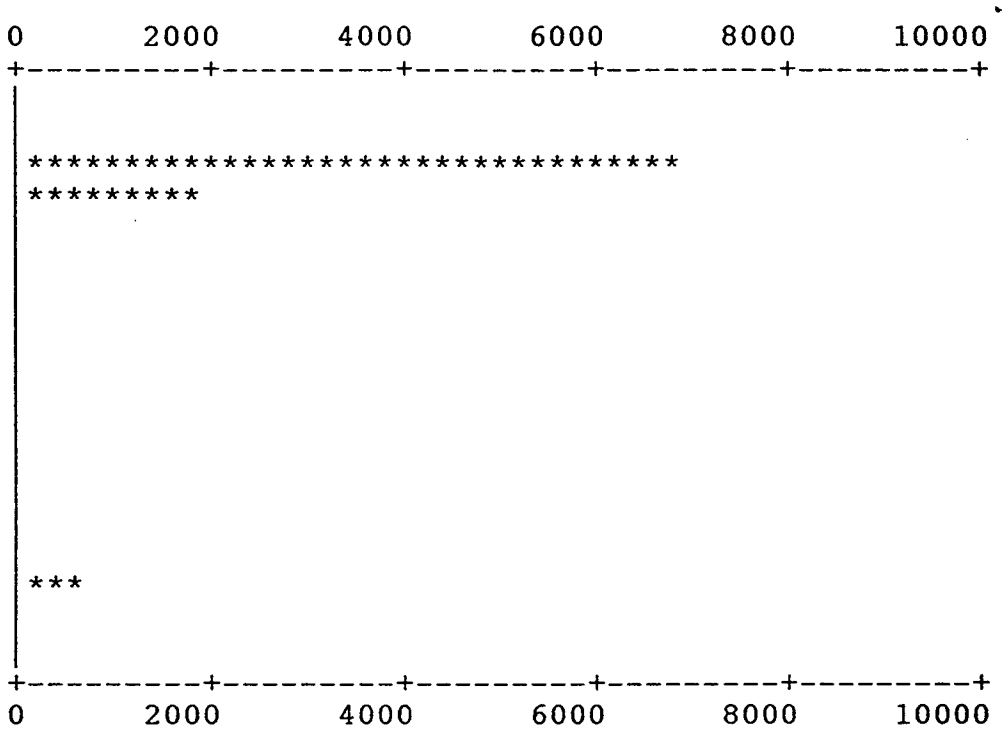
9:00	65	294	0	0	65	294	68	265	0	0	68	265
9:15	78	276	0	0	78	276	56	241	0	0	56	241
9:30	75	253	0	0	75	253	77	225	0	0	77	225
9:45	76	247	0	0	76	247	64	189	0	0	64	189
10)	47	227	0	0	47	227	44	160	0	0	44	160
10:15	55	252	0	0	55	252	40	139	0	0	40	139
10:30	69	252	0	0	69	252	41	131	0	0	41	131
10:45	56	268	0	0	56	268	35	116	0	0	35	116
11:00	72	285	0	0	72	285	23	114	0	0	23	114
11:15	55	296	0	0	55	296	32	91	0	0	32	91
11:30	85	312	0	0	85	312	26	59	0	0	26	59
11:45	73	308	0	0	73	308	33	33	0	0	33	33

b:D0406002.PRN ST3 SAN FERNANDO RD S/O SIERRA HWY 1225-2

Data File : D0406002.PRN
Station : 458603
Identification : 1225103 Interval : 15 minutes
Start date : Apr 6, 93 Start time : 00:00
Stop date : Apr 6, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST3 SAN FERNANDO RD S/O SIERRA HWY

Tue - Apr 6, 93

Type	Volume
Cycle	47
Cars	6912
2a-4T	1936
Buses	13
2A-SU	135
3A-SU	26
4A-SU	101
4A-ST	83
5A-ST	12
6A-ST	3
5A-MT	1
6A-MT	0
7A-MT	13
None	0
Other	682
Total	9964



Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST4 BALBOA BLVD W/O SAN FERNANDO RD

C t began Tuesday, 04-06-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
East Bd	7,418	7:30	367	5:30	1,153
West Bd	0	12:00	0	12:00	0
Totals	7,418	7:30	367	5:30	1,153

Time	East Bd 15'	Hour	West Bd 15'	Hour	Total 15'	Hour	East Bd 15'	Hour	West Bd 15'	Hour	Total 15'	Hour
	AM					AM	PM					PM
12:00	12	42	0	0	12	42	63	266	0	0	63	266
12:15	8	35	0	0	8	35	66	260	0	0	66	260
12:30	14	30	0	0	14	30	70	257	0	0	70	257
12:45	8	21	0	0	8	21	67	269	0	0	67	269
1:00	5	17	0	0	5	17	57	273	0	0	57	273
1:15	3	14	0	0	3	14	63	275	0	0	63	275
1:30	5	16	0	0	5	16	82	292	0	0	82	292
1:45	4	19	0	0	4	19	71	297	0	0	71	297
2:00	2	18	0	0	2	18	59	342	0	0	59	342*
2:15	5	20	0	0	5	20	80	374	0	0	80	374
:0	8	17	0	0	8	17	87	420	0	0	87	420
:.45	3	14	0	0	3	14	116	456	0	0	116	456
3:00	4	13	0	0	4	13	91	496	0	0	91	496*
3:15	2	9	0	0	2	9	126	596	0	0	126	596
3:30	5	12	0	0	5	12	123	672	0	0	123	672
3:45	2	15	0	0	2	15	156	755	0	0	156	755
4:00	0	25	0	0	0	25	191	849	0	0	191	849*
4:15	5	37	0	0	5	37	202	903	0	0	202	903
4:30	8	54	0	0	8	54	206	982	0	0	206	982
4:45	12	72	0	0	12	72	250	1062	0	0	250	1062
5:00	12	99	0	0	12	99	245	1105	0	0	245	1105*
5:15	22	137	0	0	22	137	281	1139	0	0	281	1139
5:30	26	173	0	0	26	173	286	1153	0	0	286	1153
5:45	39	230	0	0	39	230	293	1136	0	0	293	1136
6:00	50	273	0	0	50	273	279	1091	0	0	279	1091*
6:15	58	315	0	0	58	315	295	984	0	0	295	984
6:30	83	330	0	0	83	330	269	811	0	0	269	811
6:45	82	342	0	0	82	342	248	626	0	0	248	626
7:00	92	358	0	0	92	358*	172	456	0	0	172	456*
7:15	73	363	0	0	73	363	122	344	0	0	122	344
7 :0	95	367	0	0	95	367	84	283	0	0	84	283
5	98	344	0	0	98	344	78	262	0	0	78	262
8:00	97	304	0	0	97	304*	60	231	0	0	60	231
8:15	77	269	0	0	77	269	61	230	0	0	61	230
8:30	72	259	0	0	72	259	63	219	0	0	63	219

9:00	62	247	0	0	62	247	59	227	0	0	59	227
9:15	67	234	0	0	67	234	50	207	0	0	50	207
9:30	58	218	0	0	58	218	65	199	0	0	65	199
9:45	60	218	0	0	60	218	53	172	0	0	53	172
10:00	49	210	0	0	49	210	39	149	0	0	39	14
10:15	51	216	0	0	51	216	42	133	0	0	42	133
10:30	58	214	0	0	58	214	38	121	0	0	38	121
10:45	52	211	0	0	52	211	30	109	0	0	30	109
11:00	55	223	0	0	55	223	23	104	0	0	23	104
11:15	49	231	0	0	49	231	30	81	0	0	30	81
11:30	55	248	0	0	55	248	26	51	0	0	26	51
11:45	64	263	0	0	64	263	25	25	0	0	25	25

b:D0406003.PRN ST4 BALBOA BLVD W/O SAN FERNANDO RD 1225-2

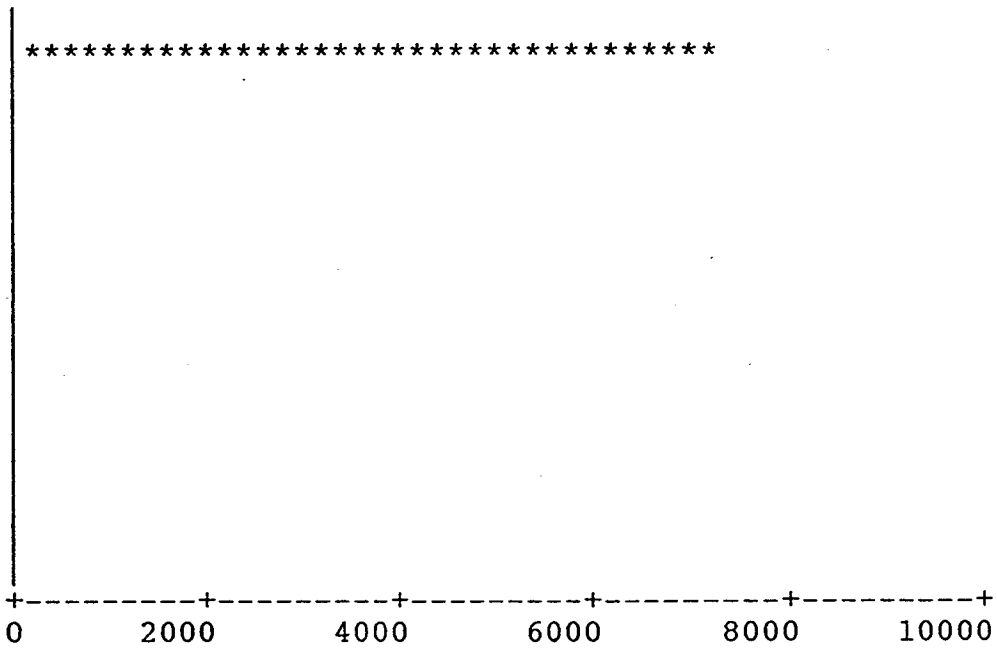
****

Data File : D0406003.PRN
S ion : 278004
Identification : 1225104 Interval : 15 minutes
Start date : Apr 6, 93 Start time : 00:00
Stop date : Apr 6, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST4 BALBOA BLVD W/O SAN FERNANDO RD

****

Tue - Apr 6, 93

Type	Volume
Cycle	7394
Cars	0
2a-4T	0
Buses	0
2A-SU	0
3A-SU	0
4A-SU	0
4A-ST	0
5A-ST	0
6A-ST	0
5A-MT	0
6A-MT	0
7A-MT	0
None	0
C r	0
Total	7394



CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST1 SAN FERNANDO RD S/O BALBOA BLVD

Count began Tuesday, 04-13-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
South Bd	2,711	7:00	599	2:45	293
North Bd	0	12:00	0	12:00	0
Totals	2,711	7:00	599	2:45	293

Time	South Bd 15' Hour		North Bd 15' Hour		Total 15' Hour		South Bd 15' Hour		North Bd 15' Hour		Total 15' Hour	
	AM					AM	PM					PM
12:00	4	9	0	0	4	9	41	161	0	0	41	161*
12:15	3	5	0	0	3	5	34	160	0	0	34	160
12:30	1	4	0	0	1	4	50	150	0	0	50	150
12:45	1	5	0	0	1	5	36	149	0	0	36	149
1:00	0	6	0	0	0	6	40	146	0	0	40	146*
1:15	2	6	0	0	2	6	24	134	0	0	24	134
1:30	2	5	0	0	2	5	49	142	0	0	49	142
1:45	2	5	0	0	2	5	33	127	0	0	33	127
2:00	0	6	0	0	0	6	28	152	0	0	28	152
2:15	1	7	0	0	1	7	32	268	0	0	32	268
2:30	2	7	0	0	2	7	34	279	0	0	34	279
2:45	3	8	0	0	3	8	58	293	0	0	58	293
3:00	1	7	0	0	1	7	144	274	0	0	144	274*
3:15	1	8	0	0	1	8	43	157	0	0	43	157
3:30	3	10	0	0	3	10	48	119	0	0	48	119
3:45	2	13	0	0	2	13	39	83	0	0	39	83
4:00	2	20	0	0	2	20	27	51	0	0	27	51
4:15	3	31	0	0	3	31	5	29	0	0	5	29
4:30	6	52	0	0	6	52	12	41	0	0	12	41
4:45	9	78	0	0	9	78	7	44	0	0	7	44
5:00	13	114	0	0	13	114	5	42	0	0	5	42
5:15	24	165	0	0	24	165	17	40	0	0	17	40
5:30	32	217	0	0	32	217	15	24	0	0	15	24
5:45	45	285	0	0	45	285	5	10	0	0	5	10
6:00	64	378	0	0	64	378*	3	6	0	0	3	6
6:15	76	448	0	0	76	448	1	11	0	0	1	11
6:30	100	507	0	0	100	507	1	28	0	0	1	28
6:45	138	587	0	0	138	587	1	30	0	0	1	30
7:00	134	599	0	0	134	599*	8	29	0	0	8	[illegible]
7:15	135	555	0	0	135	555	18	22	0	0	18	22
7:30	180	477	0	0	180	477	3	4	0	0	3	4
7:45	150	359	0	0	150	359	0	1	0	0	0	1

8:00	90	266	0	0	90	266*	1	1	0	0	1	1
8:15	57	220	0	0	57	220	0	1	0	0	0	1
8:30	62	200	0	0	62	200	0	1	0	0	0	1
8:45	57	168	0	0	57	168	0	4	0	0	0	4
9:00	44	143	0	0	44	143	1	5	0	0	1	5
9:15	37	131	0	0	37	131	0	4	0	0	0	4
9:30	30	139	0	0	30	139	3	4	0	0	3	4
9:45	32	138	0	0	32	138	1	2	0	0	1	2
10:00	32	145	0	0	32	145	0	2	0	0	0	2
10:15	45	145	0	0	45	145	0	3	0	0	0	3
10:30	29	136	0	0	29	136	1	3	0	0	1	3
10:45	39	143	0	0	39	143	1	2	0	0	1	2
11:00	32	148	0	0	32	148*	1	1	0	0	1	1
11:15	36	157	0	0	36	157	0	0	0	0	0	0
11:30	36	155	0	0	36	155	0	0	0	0	0	0
11:45	44	169	0	0	44	169	0	0	0	0	0	0

b:D0413001.PRN ST1 SAN FERNANDO RD S/O BALBOA BLVD 1225-1

SYLMAR
LL&G - COSTA MESA
Graph of Vehicle Types for Lane 1 Page

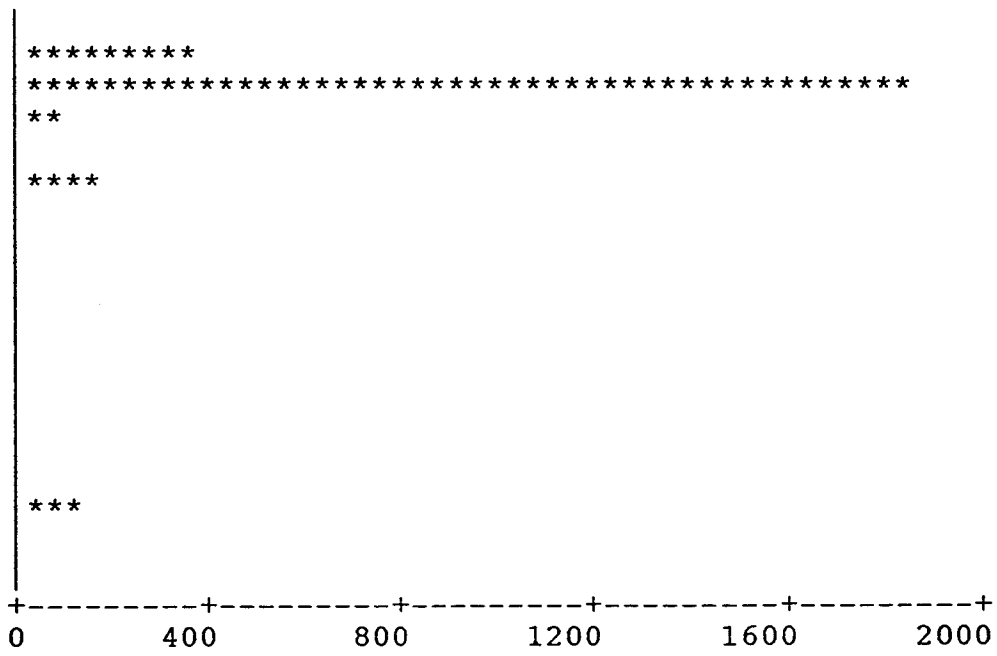
****

Data File : D0413001.PRN
Station : 4906012
Identification : 1225012 Interval : 15 minutes
Start date : Apr 13, 93 Start time : 00:00
Stop date : Apr 13, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST1 SAN FERNANDO RD S/O BALBOA BLVD

****

Tue - Apr 13, 93

Type	Volume
Cycle	384
Cars	1856
2a-4T	100
Buses	1
2A-SU	167
3A-SU	10
4A-SU	10
4A-ST	20
5A-ST	7
6A-ST	2
5A-MT	6
6A-MT	0
7A-MT	3
None	0
Other	145
Total	2711



Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST2 SAN FERNANDO RD N/O BALBOA BLVD

Count began Tuesday, 04-06-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
North Bd	9,726	7:30	317	5:30	2,160
South Bd	0	12:00	0	12:00	0
Totals	9,726	7:30	317	5:30	2,160

Time	North Bd 15'	North Bd Hour	South Bd 15'	South Bd Hour	Total 15'	Total Hour		North Bd 15'	North Bd Hour	South Bd 15'	South Bd Hour	Total 15'	Total Hour	
	AM						AM	PM						PM
12:00	14	50	0	0	14	50		85	313	0	0	85	313	*
12:15	16	42	0	0	16	42		69	293	0	0	69	293	
12:30	13	30	0	0	13	30		87	294	0	0	87	294	
12:45	7	22	0	0	7	22		72	300	0	0	72	300	
1:00	6	20	0	0	6	20		65	305	0	0	65	305	*
1:15	4	19	0	0	4	19		70	327	0	0	70	327	
1:30	5	21	0	0	5	21		93	349	0	0	93	349	
1:45	5	26	0	0	5	26		77	372	0	0	77	372	
2:00	5	25	0	0	5	25		87	429	0	0	87	429	*
15	6	22	0	0	6	22		92	481	0	0	92	481	
30	10	20	0	0	10	20		116	536	0	0	116	536	
2:45	4	15	0	0	4	15		134	602	0	0	134	602	
3:00	2	14	0	0	2	14		139	656	0	0	139	656	*
3:15	4	12	0	0	4	12		147	758	0	0	147	758	
3:30	5	12	0	0	5	12		182	873	0	0	182	873	
3:45	3	17	0	0	3	17		188	966	0	0	188	966	
4:00	0	24	0	0	0	24		241	1074	0	0	241	1074	*
4:15	4	41	0	0	4	41		262	1200	0	0	262	1200	
4:30	10	52	0	0	10	52		275	1397	0	0	275	1397	
4:45	10	67	0	0	10	67		296	1592	0	0	296	1592	
5:00	17	88	0	0	17	88		367	1778	0	0	367	1778	*
5:15	15	107	0	0	15	107		459	2091	0	0	459	2091	
5:30	25	140	0	0	25	140		470	2160	0	0	470	2160	
5:45	31	202	0	0	31	202		482	2096	0	0	482	2096	
6:00	36	249	0	0	36	249		680	1985	0	0	680	1985	*
6:15	48	289	0	0	48	289		528	1522	0	0	528	1522	
6:30	87	308	0	0	87	308		406	1145	0	0	406	1145	
6:45	78	309	0	0	78	309		371	828	0	0	371	828	
7:00	76	303	0	0	76	303		217	541	0	0	217	541	*
15	67	313	0	0	67	313		151	411	0	0	151	411	
30	88	317	0	0	88	317		89	319	0	0	89	319	
7:45	72	297	0	0	72	297		84	301	0	0	84	301	
8:00	86	284	0	0	86	284		87	265	0	0	87	265	
8:15	71	263	0	0	71	263		59	246	0	0	59	246	

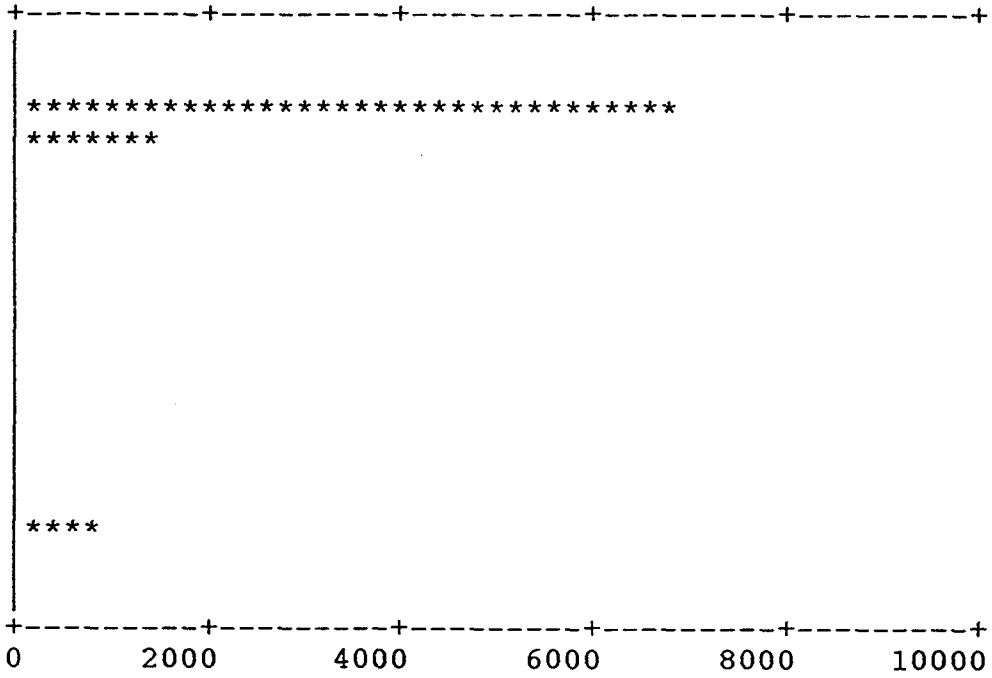
9:00	65	286	0	0	65	286	68	257	0	0	68	257
9:15	75	273	0	0	75	273	57	234	0	0	57	234
9:30	69	247	0	0	69	247	71	217	0	0	71	217
9:45	77	250	0	0	77	250	61	187	0	0	61	187
10:00	52	226	0	0	52	226	45	159	0	0	45	159
10:15	49	243	0	0	49	243	40	140	0	0	40	140
10:30	72	251	0	0	72	251	41	134	0	0	41	134
10:45	53	264	0	0	53	264	33	117	0	0	33	117
11:00	69	278	0	0	69	278	26	117	0	0	26	117
11:15	57	294	0	0	57	294	34	91	0	0	34	91
11:30	85	306	0	0	85	306	24	57	0	0	24	57
11:45	67	308	0	0	67	308	33	33	0	0	33	33

b:D0406004.PRN ST2 SAN FERNANDO RD N/O BALBOA BLVD 1225-2

Data File : D0406004.PRN
Station : 37702
Identification : 1225102 Interval : 15 minutes
Start date : Apr 6, 93 Start time : 00:00
Stop date : Apr 6, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST2 SAN FERNANDO RD N/O BALBOA BLVD

Tue - Apr 6, 93

Type	Volume
Cycle	34
Cars	6861
2a-4T	1440
Buses	2
2A-SU	92
3A-SU	32
4A-SU	171
4A-ST	82
5A-ST	28
6A-ST	1
5A-MT	14
6A-MT	0
7A-MT	62
None	0
Other	907
Total	9726



CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST3 SAN FERNANDO RD S/O SIERRA HWY

Count began Tuesday, 04-13-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
South Bd	3,675	6:45	794	3:45	217
North Bd	0	12:00	0	12:00	0
Totals	3,675	6:45	794	3:45	217

Time	South Bd 15' Hour		North Bd 15' Hour		Total 15' Hour		South Bd 15' Hour		North Bd 15' Hour		Total 15' Hour	
	AM					AM	PM					PM
12:00	2	10	0	0	2	10	41	155	0	0	41	155
12:15	6	10	0	0	6	10	26	147	0	0	26	147
12:30	2	4	0	0	2	4	45	160	0	0	45	160
12:45	0	3	0	0	0	3	43	158	0	0	43	158
1:00	2	5	0	0	2	5	33	145	0	0	33	145
1:15	0	6	0	0	0	6	39	151	0	0	39	151
1:30	1	7	0	0	1	7	43	147	0	0	43	147
1:45	2	8	0	0	2	8	30	138	0	0	30	13
2:00	3	8	0	0	3	8	39	141	0	0	39	141
2:15	1	8	0	0	1	8	35	139	0	0	35	139
2:30	2	8	0	0	2	8	34	142	0	0	34	142
2:45	2	7	0	0	2	7	33	151	0	0	33	151
3:00	3	5	0	0	3	5	37	179	0	0	37	179*
3:15	1	6	0	0	1	6	38	194	0	0	38	194
3:30	1	8	0	0	1	8	43	216	0	0	43	216
3:45	0	13	0	0	0	13	61	217	0	0	61	217
4:00	4	23	0	0	4	23	52	202	0	0	52	202*
4:15	3	39	0	0	3	39	60	188	0	0	60	188
4:30	6	61	0	0	6	61	44	186	0	0	44	186
4:45	10	98	0	0	10	98	46	187	0	0	46	187
5:00	20	152	0	0	20	152	38	194	0	0	38	194*
5:15	25	219	0	0	25	219	58	202	0	0	58	202
5:30	43	309	0	0	43	309	45	184	0	0	45	184
5:45	64	408	0	0	64	408	53	165	0	0	53	165
6:00	87	500	0	0	87	500*	46	141	0	0	46	141
6:15	115	593	0	0	115	593	40	121	0	0	40	121
6:30	142	699	0	0	142	699	26	106	0	0	26	106
6:45	156	794	0	0	156	794	29	102	0	0	29	10
7:00	180	780	0	0	180	780*	26	92	0	0	26	92
7:15	221	677	0	0	221	677	25	85	0	0	25	85
7:30	237	530	0	0	237	530	22	70	0	0	22	70
7:45	142	354	0	0	142	354	19	58	0	0	19	58

8:00	77	268	0	0	77	268*	19	57	0	0	19	57
8:15	74	239	0	0	74	239	10	53	0	0	10	53
30	61	201	0	0	61	201	10	61	0	0	10	61
45	56	191	0	0	56	191	18	61	0	0	18	61
9:00	48	171	0	0	48	171*	15	55	0	0	15	55
9:15	36	163	0	0	36	163	18	47	0	0	18	47
9:30	51	168	0	0	51	168	10	41	0	0	10	41
9:45	36	149	0	0	36	149	12	40	0	0	12	40
10:00	40	159	0	0	40	159	7	38	0	0	7	38
10:15	41	163	0	0	41	163	12	42	0	0	12	42
10:30	32	160	0	0	32	160	9	37	0	0	9	37
10:45	46	168	0	0	46	168	10	33	0	0	10	33
11:00	44	166	0	0	44	166*	11	29	0	0	11	29
11:15	38	163	0	0	38	163	7	18	0	0	7	18
11:30	40	151	0	0	40	151	5	11	0	0	5	11
11:45	44	156	0	0	44	156	6	6	0	0	6	6

SYLMAR
LL&G - COSTA MESA
Graph of Vehicle Types for Lane 1 Page

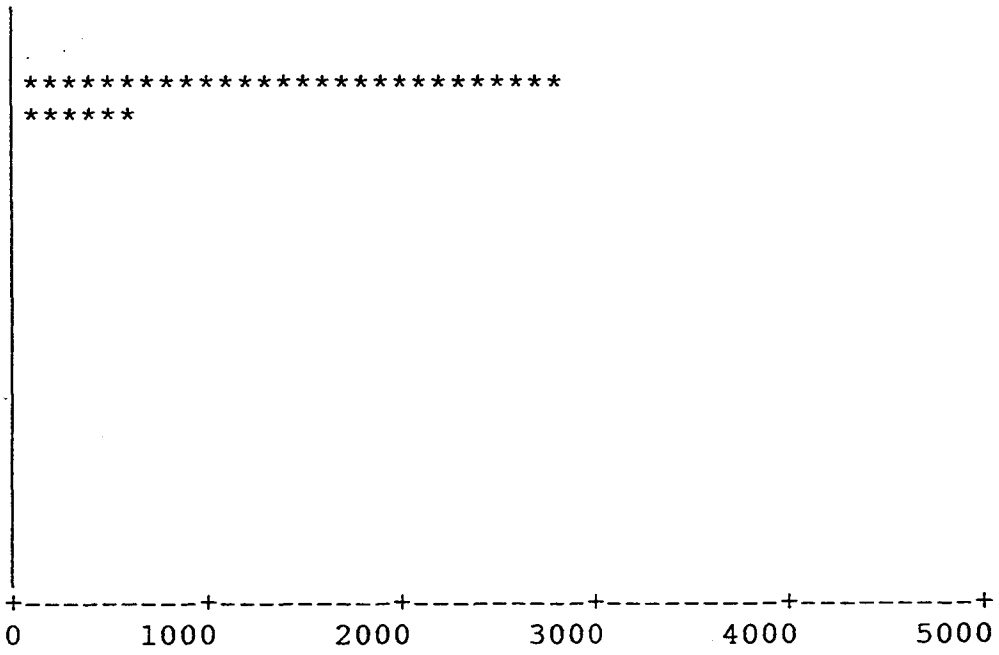
****

Data File : D0413003.PRN
Station : 4586032
Identification : 12251032 Interval : 15 minutes
Start date : Apr 13, 93 Start time : 00:00
Stop date : Apr 13, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST3 SAN FERNANDO RD S/O SIERRA HWY

****

Tue - Apr 13, 93

Type	Volume
Cycle	36
Cars	2853
2a-4T	620
Buses	4
2A-SU	72
3A-SU	8
4A-SU	10
4A-ST	18
5A-ST	7
6A-ST	0
5A-MT	4
6A-MT	0
7A-MT	0
None	0
Other	43
Total	3675



CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Location : SYLMAR - ST4 BALBOA BLVD W/O SAN FERNANDO RD

Count began Tuesday, 04-13-93 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
West Bd	7,959	7:00	888	4:45	583
East Bd	0	12:00	0	12:00	0
Totals	7,959	7:00	888	4:45	583

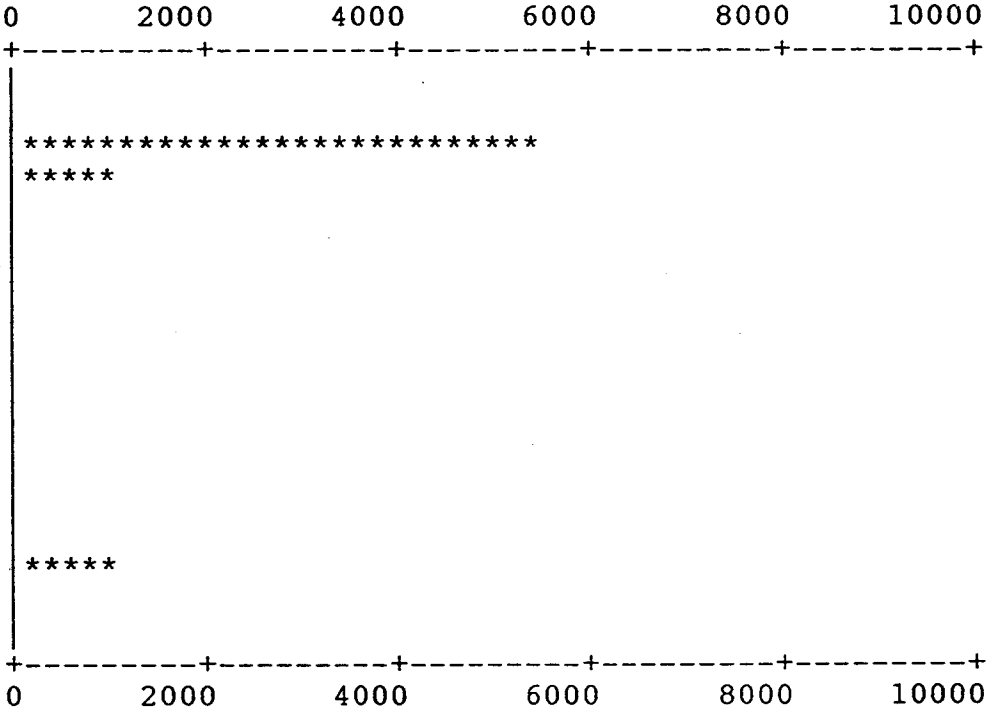
Time	West Bd 15'	West Bd Hour	East Bd 15'	East Bd Hour	Total 15'	Total Hour	West Bd 15'	West Bd Hour	East Bd 15'	East Bd Hour	Total 15'	Total Hour
	AM					AM	PM					PM
12:00	11	43	0	0	11	43	90	360	0	0	90	360
12:15	14	39	0	0	14	39	91	361	0	0	91	361
12:30	10	34	0	0	10	34	91	359	0	0	91	359
12:45	8	27	0	0	8	27	88	358	0	0	88	358
1:00	7	26	0	0	7	26	91	331	0	0	91	331
1:15	9	26	0	0	9	26	89	331	0	0	89	331
1:30	3	23	0	0	3	23	90	345	0	0	90	345
1:45	7	26	0	0	7	26	61	367	0	0	61	367
2:00	7	24	0	0	7	24	91	405	0	0	91	405
2:15	6	23	0	0	6	23	103	410	0	0	103	410
2:30	6	23	0	0	6	23	112	404	0	0	112	404
2:45	5	30	0	0	5	30	99	415	0	0	99	415
3:00	6	32	0	0	6	32	96	450	0	0	96	450*
3:15	6	32	0	0	6	32	97	465	0	0	97	465
3:30	13	37	0	0	13	37	123	513	0	0	123	513
3:45	7	48	0	0	7	48	134	541	0	0	134	541
4:00	6	69	0	0	6	69	111	546	0	0	111	546*
4:15	11	103	0	0	11	103	145	568	0	0	145	568
4:30	24	172	0	0	24	172	151	577	0	0	151	577
4:45	28	257	0	0	28	257	139	583	0	0	139	583
5:00	40	322	0	0	40	322	133	576	0	0	133	576*
5:15	80	414	0	0	80	414	154	561	0	0	154	561
5:30	109	493	0	0	109	493	157	531	0	0	157	531
5:45	93	550	0	0	93	550	132	487	0	0	132	487
6:00	132	651	0	0	132	651*	118	459	0	0	118	459*
6:15	159	728	0	0	159	728	124	422	0	0	124	422
6:30	166	801	0	0	166	801	113	385	0	0	113	385
6:45	194	866	0	0	194	866	104	347	0	0	104	347
7:00	209	888	0	0	209	888*	81	304	0	0	81	304
7:15	232	844	0	0	232	844	87	268	0	0	87	268
7:30	231	761	0	0	231	761	75	237	0	0	75	237
7:45	216	682	0	0	216	682	61	212	0	0	61	212

8:00	165	601	0	0	165	601*	45	209	0	0	45	209
8:15	149	559	0	0	149	559	56	221	0	0	56	221
8:30	152	531	0	0	152	531	50	220	0	0	50	2[illegible]
8:45	135	498	0	0	135	498	58	213	0	0	58	21[illegible]
9:00	123	462	0	0	123	462*	57	193	0	0	57	193
9:15	121	448	0	0	121	448	55	176	0	0	55	176
9:30	119	444	0	0	119	444	43	155	0	0	43	155
9:45	99	415	0	0	99	415	38	148	0	0	38	148
10:00	109	414	0	0	109	414	40	146	0	0	40	146
10:15	117	401	0	0	117	401	34	128	0	0	34	128
10:30	90	371	0	0	90	371	36	118	0	0	36	118
10:45	98	374	0	0	98	374	36	99	0	0	36	99
11:00	96	374	0	0	96	374	22	74	0	0	22	74
11:15	87	368	0	0	87	368	24	52	0	0	24	52
11:30	93	372	0	0	93	372	17	28	0	0	17	28
11:45	98	370	0	0	98	370	11	11	0	0	11	11

Data File : D0413004.PRN
Station : 2780042
Identification : 12251042 Interval : 15 minutes
Start date : Apr 13, 93 Start time : 00:00
Stop date : Apr 13, 93 Stop time : 24:00
City/Town : SYLMAR County : LOS ANGELES
Location : ST4 BALBOA BLVD W/O SAN FERNANDO RD

Tue - Apr 13, 93

Type	Volume
Cycle	41
Cars	5447
2a-4T	1021
Buses	1
2A-SU	77
3A-SU	136
4A-SU	36
4A-ST	88
5A-ST	5
6A-ST	0
5A-MT	2
6A-MT	0
7A-MT	8
None	0
Other	1097
Total	7959



6C

CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA (714) 556-6698

Machine Traffic Count for LL&G - COSTA MESA

Location . . . SAN FERNANDO RD BET ROXFORD/SEPULVEDA
SYLMAR

Count Began . . . THURSDAY 11/12/92 at 12:00 AM

Abnormal Conditions - None

SUMMARY

Direction	24-Hour Volume	AM Peak Hour Began	AM Peak Hour Volume	PM Peak Hour Began	PM Peak Hour Volume
NORTH-BD	1,681	5:15	122	4:00	316
SOUTH-BD	2,425	12:00	136	3:15	493
TOTAL	4,106	5:15	140	3:45	706

PERIOD BEGAN	AM NORTH-BD 15'	AM NORTH-BD HOUR	AM SOUTH-BD 15'	AM SOUTH-BD HOUR	AM TOTAL 15'	AM TOTAL HOUR	PM NORTH-BD 15'	PM NORTH-BD HOUR	PM SOUTH-BD 15'	PM SOUTH-BD HOUR	PM TOTAL 15'	PM TOTAL HOUR
12:00	2	2	30	136	32	138	24	92	0	9	24	101
12:15	0	0	46	131	46	131	27	97	1	17	28	114
12:30	0	2	33	113	33	115	24	70	2	27	26	97
12:45	0	4	27	111	27	115	17	46	6	37	23	83
1:00	0	4	25	105	25	109	29	29	8	70	37	99
1:15	2	4	28	93	30	97	0	40	11	81	11	121
1:30	2	3	31	86	33	89	0	63	12	106	12	169
1:45	0	2	21	70	21	72	0	92	39	141	39	233
2:00	0	3	13	62	13	65	40	120	19	221	59	341*
2:15	1	3	21	60	22	63	23	141	36	295	59	436
2:30	1	3	15	49	16	52	29	160	47	364	76	524
2:45	1	4	13	45	14	49	28	169	119	434	147	60[illegible]
3:00	0	3	11	43	11	46	61	188	93	450	154	6[illegible]
3:15	1	3	10	44	11	47	42	204	105	493	147	6[illegible]
3:30	2	6	11	38	13	44	38	235	117	454	155	689
3:45	0	13	11	35	11	48	47	301	135	405	182	706
4:00	0	22	12	32	12	54	77	316	136	306	213	622*
4:15	4	37	4	27	8	64	73	296	66	195	139	491
4:30	9	58	8	27	17	85	104	269	68	158	172	427
4:45	9	85	8	23	17	108	62	192	36	117	98	309
5:00	15	112	7	24	22	136	57	160	25	116	82	276*
5:15	25	122	4	18	29	140	46	128	29	108	75	236
5:30	36	111	4	24	40	135	27	95	27	114	54	209
5:45	36	90	9	28	45	118	30	80	35	104	65	184
6:00	25	74	1	23	26	97	25	62	17	84	42	146*
6:15	14	69	10	26	24	95	13	48	35	105	48	153
6:30	15	78	8	25	23	103	12	44	17	95	29	139
6:45	20	82	4	19	24	101	12	45	15	105	27	150
7:00	20	78	4	16	24	94	11	48	38	118	49	166*
7:15	23	76	9	15	32	91	9	42	25	116	34	158
7:30	19	63	2	7	21	70	13	39	27	123	40	162
7:45	16	57	1	6	17	63	15	37	28	122	43	159
8:00	18	53	3	6	21	59	5	32	36	115	41	147*
8:15	10	46	1	3	11	49	6	31	32	112	38	143
8:30	13	50	1	2	14	52	11	29	26	117	37	146
8:45	12	61	1	2	13	63	10	22	21	122	31	144
9:00	11	67	0	4	11	71	4	13	33	125	37	138
9:15	14	69	0	4	14	73	4	12	37	116	41	128
9:30	24	69	1	5	25	74	4	11	31	100	35	111
9:45	18	77	3	5	21	82	1	7	24	100	25	107
10:00	13	78	0	4	13	82	3	8	24	103	27	111
10:15	14	87	1	5	15	92	3	11	21	167	24	178
10:30	32	89	1	6	33	95	0	19	31	218	31	237
10:45	19	79	2	5	21	84	2	28	27	229	29	257
11:00	22	91	1	5	23	96	6	26	88	248	94	274*
11:15	16	93	2	4	18	97	11	20	72	160	83	18[illegible]
11:30	22	104	0	3	22	107	9	9	42	88	51	[illegible]
11:45	31	106	2	5	33	111	0	0	46	46	46	[illegible]

CAR COUNTER CO. 1580 CORPORATE DR. COSTA MESA, CA 92626 (714) 556-6698

Machine Traffic Count for: LL&G - COSTA MESA

Lo ion : SUNSHINE CYN-SYLMAR - ST 42 SEPULVEDA BLVD S/O SAN FERNANDO

Count began Thursday, 11-12-92 at 12:00AM

SUMMARY Direction	24 Hour Volume	AM Peak Hour Begin	AM Peak Hour Volume	PM Peak Hour Begin	PM Peak Hour Volume
North Bd	799	12:00	0	12:00	0
North Bd	468	12:00	0	12:00	0
Totals	1,267	12:00	0	12:00	0

Time	North Bd 15' Hour AM		North Bd 15' Hour AM		Total 15' Hour AM		North Bd 15' Hour PM		North Bd 15' Hour PM		Total 15' Hour PM	
12:00	3	0	0	0	3	0*	17	0	56	0	73	0
1:00	7	0	0	0	7	0	16	0	47	0	63	0
2:00	2	0	0	0	2	0	17	0	85	0	102	0
3:00	2	0	0	0	2	0	35	0	107	0	142	0
4:00	7	0	0	0	7	0	35	0	45	0	80	0
5:00	36	0	0	0	36	0	29	0	13	0	42	0
6:00	120	0	1	0	121	0	15	0	6	0	21	0
7:00	186	0	12	0	198	0	11	0	0	0	11	0
8:00	102	0	5	0	107	0	22	0	4	0	26	0
9:00	38	0	8	0	46	0	12	0	1	0	13	0
10	34	0	24	0	58	0	29	0	1	0	30	0
11:00	19	0	51	0	70	0	5	0	2	0	7	0*

a:D1112001.PRN ST 42 SEPULVEDA BLVD S/O SAN FERNANDO 1225

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APPENDIX B

CRITICAL MOVEMENT ANALYSIS (CMA) METHOD AND LEVEL OF SERVICE (LOS) CONCEPT

APPENDIX B

CMA/LOS CALCULATION SHEETS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-1

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD STREET @ I-5 SB ON/OFF RAMPS
Peak Hour:AM PEAK HOUR
Annual Growth: 1%

N-S St: ROXFORD STREET
E-W St: I-5 SB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R ->v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	53	1	53	2	55	1	55	0	55	1	55	0	55	1	55	0	55	1	55	0	55	1	55
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	716	1	716	21	737	1	737	57	794	1	794	81	875	1	875	48	923	1	923	0	923	1	923
		0				0				0				0				0				0	
SB Left	773	1	773	23	796	1	796	97	893	1	893	0	893	1	893	0	893	1	893	0	893	2	491
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	48	1	48	1	49	1	49	163	212	1	212	79	291	1	291	49	340	1	340	0	340	1	340
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	188	0	-	6	194	0	-	46	240	0	-	0	240	0	-	0	240	0	-	0	240	0	-
		1	188			1	194			1	240			1	240			1	240			1	240
EB Thru	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-
		1	4			1	4			1	4			1	4			1	4			1	4
EB Right	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	1489		N-S:	1534		N-S:	1688		N-S:	1769		N-S:	1817		N-S:	1415						
	E-W:	188		E-W:	194		E-W:	240		E-W:	240		E-W:	240		E-W:	240						
	SUM:	1677		SUM:	1727		SUM:	1927		SUM:	2008		SUM:	2056		SUM:	1654						
No. of Phases:		2			2			2			2			2			3						
Volume / Capacity:		1.118			1.152			1.285			1.339			1.371			1.161						
Level of Service:		F			F			F			F			F			F						

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.032
Significant: Yes

Mitigation: Add 2nd SBL

8-1

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-1

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD STREET @ I-5 SB ON/OFF RAMPS

N-S St: ROXFORD STREET
E-W St: I-5 SB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	70	1	70	2	72	1	72	180	252	1	252	119	371	1	371	73	444	1	444	0	444	1	444
		0				0				0				0				0				0	
SB Left	995	1	995	30	1025	1	1025	258	1283	1	1283	0	1283	1	1283	0	1283	1	1283	0	1283	2	706
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	65	1	65	2	67	1	67	80	147	1	147	75	222	1	222	43	265	1	265	0	265	1	265
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	103	0	-	3	106	0	-	65	171	0	-	0	171	0	-	0	171	0	-	0	171	0	-
		1	103			1	106			1	171			1	171			1	171			1	171
EB Thru	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
		1	12			1	12			1	12			1	12			1	12			1	12
EB Right	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	1065		N-S:	1097		N-S:	1535		N-S:	1654		N-S:	1727		N-S:	1150						
	E-W:	103		E-W:	106		E-W:	171		E-W:	171		E-W:	171		E-W:	171						
	SUM:	1168		SUM:	1203		SUM:	1706		SUM:	1825		SUM:	1898		SUM:	1321						
No. of Phases:		2			2			2			2			2			3						
Volume / Capacity:		0.779			0.802			1.137			1.217			1.265			0.927						
Level of Service:		C			C			F			F			F			E						

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.048
Significant: Yes

Mitigation: Add 2nd SBL

B-2

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-3A

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD ST @ ENCINITAS AVE/I-5 NB ON/OFF RAMPS

N-S St: ROXFORD ST
E-W St: ENCINITAS AVE/I-5 NB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

	EXISTING TRAFFIC			1998 W/AMBIENT GROWTH				1998 W/OTHER PROJECTS				COUNTY APPROVED 1998 SUNSHINE CANYON				PROPOSED 1998 SUNSHINE CANYON				1998 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	884	1	533	27	911	1	548	111	1022	1	615	14	1036	1	622	8	1044	1	626	0	1044	1	626
		1	533			1	548			1	615			1	622			1	626			1	626
NB Right	181	0	-	5	186	0	-	23	209	0	-	0	209	0	-	0	209	0	-	0	209	0	-
		0				0				0				0				0				0	
SB Left	15	1	15	0	15	1	15	23	38	1	38	0	38	1	38	0	38	1	38	0	38	1	38
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	499	1	279	15	514	1	287	92	606	1	342	0	606	1	342	0	606	1	342	0	606	1	342
		1	279			1	287			1	342			1	342			1	342			1	342
SB Right	59	0	-	2	61	0	-	17	78	0	-	0	78	0	-	0	78	0	-	0	78	0	-
		0				0				0				0				0				0	
EB Left	102	1	71	3	105	1	74	74	179	1	160	9	188	1	188	6	194	1	194	0	194	1	194
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	19	0	71	1	20	0	73	12	32	0	160	0	32	0	196	0	32	0	231	0	32	0	231
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	21	0	-	1	22	0	-	87	109	0	-	56	165	0	-	35	200	0	-	0	200	0	-
		1				1				1				1				1				1	
WB Left	267	1	267	8	275	1	275	6	281	1	281	0	281	1	281	0	281	1	281	0	281	1	197
	0	0	-			0	-			0	-			0	-			0	-			1	86
WB Thru	56	1	34	2	58	1	35	6	64	1	44	0	64	1	44	0	64	1	44	0	64	0	-
	0	1	34			1	35			1	44			1	44			1	44			1	86
WB Right	12	0	-	0	12	0	-	12	24	0	-	0	24	0	-	0	24	0	-	0	24	0	-
		0				0				0				0				0				0	
Crit. Volumes:		N-S:	548			N-S:	564			N-S:	654			N-S:	661			N-S:	665			N-S:	665
		E-W:	307			E-W:	316			E-W:	421			E-W:	477			E-W:	512			E-W:	428
		SUM:	855			SUM:	880			SUM:	1075			SUM:	1138			SUM:	1177			SUM:	1093
No. of Phases:			3				3				3				3				3				3
Volume / Capacity:			0.600				0.618				0.754				0.799				0.826				0.767
Level of Service:			A				B				C				C				D				C

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.027
Significant: Yes

Mitigation: Restripe WBT WBL/T option lane.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-3A

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD ST @ ENCINITAS AVE/I-5 NB ON/OFF RAMPS

N-S St: ROXFORD ST
E-W St: ENCINITAS AVE/I-5 NB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	24	1	24	1	25	1	25	0	25	1	25	0	25	1	25	0	25	1	25	0	25	1	25
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	512	1	364	15	527	1	375	135	662	1	459	13	675	1	465	7	682	1	469	0	682	1	469
		1	364			1	375			1	459			1	465			1	469			1	469
NB Right	216	0	-	6	222	0	-	33	255	0	-	0	255	0	-	0	255	0	-	0	255	0	-
		0				0				0				0				0				0	
SB Left	22	1	22	1	23	1	23	33	56	1	56	0	56	1	56	0	56	1	56	0	56	1	56
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	838	1	549	25	863	1	565	239	1102	1	713	0	1102	1	713	0	1102	1	713	0	1102	1	713
		1	549			1	565			1	713			1	713			1	713			1	713
SB Right	260	0	-	8	268	0	-	56	324	0	-	0	324	0	-	0	324	0	-	0	324	0	-
		0				0				0				0				0				0	
EB Left	19	1	19	1	20	1	20	92	112	1	102	9	121	1	121	5	126	1	126	0	126	1	126
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	8	0	34	0	8	0	35	16	24	0	102	0	24	0	147	0	24	0	178	0	24	0	178
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	26	0	-	1	27	0	-	42	69	0	-	54	123	0	-	31	154	0	-	0	154	0	-
		1				1				1				1				1				1	
WB Left	226	1	226	7	233	1	233	19	252	1	252	0	252	1	252	0	252	1	252	0	252	1	176
		0	-			0	-			0	-			0	-			0	-			1	125
WB Thru	103	1	58	3	106	1	59	19	125	1	87	0	125	1	87	0	125	1	87	0	125	0	-
		1	58			1	59			1	87			1	87			1	87			1	125
WB Right	12	0	-	0	12	0	-	37	49	0	-	0	49	0	-	0	49	0	-	0	49	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	573		N-S:		590		N-S:		738		N-S:		738		N-S:		738		N-S:		738	
	E-W:	260		E-W:		268		E-W:		345		E-W:		399		E-W:		430		E-W:		354	
	SUM:	833		SUM:		858		SUM:		1082		SUM:		1136		SUM:		1167		SUM:		1092	
No. of Phases:		3				3				3				3				3				3	
Volume / Capacity:		0.585				0.602				0.760				0.798				0.819				0.766	
Level of Service:		A				A				C				C				D				C	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.021
Significant: Yes

Mitigation: Restripe WBT WBL/T option lane.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-4

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD STREET @ I-5 NB OFF RAMP
Peak Hour:AM PEAK HOUR
Annual Growth: 1%

N-S St: ROXFORD STREET
E-W St: I-5 NB OFF RAMP
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	241	1	241	7	248	1	248	46	294	1	294	0	294	1	294	0	294	1	294	0	294	1	294
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	821	2	411	25	846	2	423	184	1030	2	515	56	1086	2	543	35	1121	2	560	0	1121	2	560
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
WB Left	26	0	-	1	27	0	-	77	104	0	-	23	127	0	-	14	141	0	-	0	141	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	372	0	0	0	383	0	0	0	499	0	0	0	528	0	0	0	545	0	0	0	545
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	864	1	518	26	890	1	534	99	989	1	593	14	1003	1	602	8	1011	1	607	0	1011	1	607
		1				1				1				1				1				1	
Crit. Volumes:	N-S:		411		N-S:		423		N-S:		515		N-S:		543		N-S:		560		N-S:		560
	E-W:		518		E-W:		534		E-W:		593		E-W:		602		E-W:		607		E-W:		607
	SUM:		929		SUM:		957		SUM:		1108		SUM:		1145		SUM:		1167		SUM:		1167
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.619				0.638				0.739				0.763				0.778				0.778
Level of Service:			B				B				C				C				C				C

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 60% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.015
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-4

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS
ROXFORD STREET @ I-5 NB OFF RAMP

N-S St: ROXFORD STREET
E-W St: I-5 NB OFF RAMP
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":
Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	117	1	117	4	121	1	121	65	186	1	186	0	186	1	186	0	186	1	186	0	186	1	186
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	1060	2	530	32	1092	2	546	300	1392	2	696	54	1446	2	723	31	1477	2	738	0	1477	2	738
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
WB Left	31	0	-	1	32	0	-	38	70	0	-	22	92	0	-	12	104	0	-	0	104	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	314	0	0	0	323	0	0	0	409	0	0	0	436	0	0	0	451	0	0	0	451
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	707	1	424	21	728	1	437	119	847	1	508	13	860	1	516	7	867	1	520	0	867	1	520
		1				1				1				1				1				1	
Crit. Volumes:	N-S:		530		N-S:		546		N-S:		696		N-S:		723		N-S:		738		N-S:		738
	E-W:		424		E-W:		437		E-W:		508		E-W:		516		E-W:		520		E-W:		520
	SUM:		954		SUM:		983		SUM:		1204		SUM:		1239		SUM:		1259		SUM:		1259
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.636				0.655				0.803				0.826				0.839				0.839
Level of Service:			B				B				C				D				D				D

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 60% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.013
Significant: No

9-61

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-5

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD ST @ SAN FERNANDO RD

N-S St: ROXFORD ST
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ---->
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	11	1	11	0	11	1	11	0	11	1	11	23	34	1	34	14	48	1	48	0	48	1	48
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	367	1	247	11	378	1	254	97	475	1	305	0	475	1	305	0	475	1	305	0	475	1	305
		1	247			1	254			1	305			1	305			1	305			1	305
NB Right	126	0	-	4	130	0	-	6	136	0	-	0	136	0	-	0	136	0	-	0	136	0	-
		0				0				0				0				0				0	
SB Left	78	1	78	2	80	1	80	13	93	1	93	0	93	1	93	0	93	1	93	0	93	1	93
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	463	1	243	14	477	1	250	89	566	1	294	0	566	1	306	0	566	1	313	0	566	1	313
		1	243			1	250			1	294			1	306			1	313			1	313
SB Right	22	0	-	1	23	0	-	0	23	0	-	23	46	0	-	14	60	0	-	0	60	0	-
		0				0				0				0				0				0	
EB Left	84	1	84	3	87	1	87	0	87	1	87	18	105	1	105	11	116	1	116	0	116	1	116
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	251	1	143	8	259	1	147	3	262	1	148	38	300	1	167	22	322	1	178	0	322	1	178
		1	143			1	147			1	148			1	167			1	178			1	178
EB Right	34	0	-	1	35	0	-	0	35	0	-	0	35	0	-	0	35	0	-	0	35	0	-
		0				0				0				0				0				0	
WB Left	144	1	144	4	148	1	148	12	160	1	160	0	160	1	160	0	160	1	160	0	160	1	160
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	45	1	45	1	46	1	46	7	53	1	53	47	100	1	93	29	129	1	107	0	129	1	107
		1	60			1	62			1	85			1	93			1	107			1	107
WB Right	60	0	-	2	62	0	-	23	85	0	-	0	85	0	-	0	85	0	-	0	85	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:		325		N-S:		334		N-S:		399		N-S:		399		N-S:		399		N-S:		399
	E-W:		287		E-W:		295		E-W:		309		E-W:		328		E-W:		339		E-W:		339
	SUM:		611		SUM:		629		SUM:		707		SUM:		726		SUM:		737		SUM:		737
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.407				0.420				0.472				0.484				0.492				0.492
Level of Service:			A				A				A				A				A				A

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.008
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-5

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

ROXFORD ST @ SAN FERNANDO RD

N-S St: ROXFORD ST
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ---v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	20	1	20	1	21	1	21	0	21	1	21	22	43	1	43	12	55	1	55	0	55	1	55
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	344	1	231	10	354	1	238	129	483	1	312	0	483	1	312	0	483	1	312	0	483	1	312
		1	231			1	238			1	312			1	312			1	312			1	312
NB Right	118	0	-	4	122	0	-	19	141	0	-	0	141	0	-	0	141	0	-	0	141	0	-
		0				0				0				0				0				0	
SB Left	135	1	135	4	139	1	139	23	162	1	162	0	162	1	162	0	162	1	162	0	162	1	162
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	398	1	223	12	410	1	230	146	556	1	303	0	556	1	314	0	556	1	320	0	556	1	320
		1	223			1	230			1	303			1	314			1	320			1	320
SB Right	48	0	-	1	49	0	-	0	49	0	-	22	71	0	-	12	83	0	-	0	83	0	-
		0				0				0				0				0				0	
EB Left	64	1	64	2	66	1	66	0	66	1	66	27	93	1	93	16	109	1	109	0	109	1	109
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	121	1	69	4	125	1	71	6	131	1	74	56	187	1	102	34	221	1	119	0	221	1	119
		1	69			1	71			1	74			1	102			1	119			1	119
EB Right	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-
		0				0				0				0				0				0	
WB Left	202	1	202	6	208	1	208	16	224	1	224	0	224	1	224	0	224	1	224	0	224	1	224
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	187	1	123	6	193	1	126	3	196	1	135	45	241	1	158	26	267	1	171	0	267	1	171
		1	123			1	126			1	135			1	158			1	171			1	171
WB Right	58	0	-	2	60	0	-	15	75	0	-	0	75	0	-	0	75	0	-	0	75	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	366		N-S:	377			N-S:	474			N-S:	474			N-S:	474			N-S:	474		
	E-W:	271		E-W:	279			E-W:	298			E-W:	326			E-W:	343			E-W:	343		
	SUM:	637		SUM:	656			SUM:	772			SUM:	800			SUM:	817			SUM:	817		
No. of Phases:		2			2				2				2				2						2
Volume / Capacity:		0.424			0.437				0.514				0.533				0.544						0.544
Level of Service:		A			A				A				A				A						A

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.011
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-2

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SEPULVEDA BLVD @ SAN FERNANDO RD

N-S St: SEPULVEDA BLVD
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":	Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
Exclusive L ----^	NB Left	29	1	17	1	30	1	17	163	193	1	106	79	272	1	150	49	321	1	176	0	321	1	176
Comb. L-T --^->			0	-			0	-			0	-			0	-			0	-			0	-
Exclusive T ---->	NB Thru	0	0	17	0	0	0	17	0	0	0	91	0	0	0	126	0	0	0	149	0	0	0	149
Comb. T-R --v->			0	-			0	-			0	-			0	-			0	-			0	-
Exclusive R ----v	NB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -v-^->			1				1				1				1				1				1	
	SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0				0				0				0				0				0	
	EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	EB Thru	446	2	223	13	459	2	230	8	467	2	234	56	523	2	262	33	556	2	278	0	556	2	278
			0	-			0	-			0	-			0	-			0	-			0	-
Free Right	EB Right	740	0	-	22	762	0	-	57	819	0	-	81	900	0	-	48	948	0	-	0	948	0	-
			0				0				0				0				0				0	
	WB Left	13	1	13	0	13	1	13	0	13	1	13	0	13	1	13	0	13	1	13	0	13	1	13
			0	-			0	-			0	-			0	-			0	-			0	-
	WB Thru	61	2	31	2	63	2	31	7	70	2	35	92	162	2	81	57	219	2	109	0	219	2	109
			0	-			0	-			0	-			0	-			0	-			0	-
	WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0				0				0				0				0				0	
	Crit. Volumes:		N-S:	17			N-S:	17			N-S:	106			N-S:	150			N-S:	176			N-S:	176
			E-W:	236			E-W:	243			E-W:	247			E-W:	275			E-W:	292			E-W:	292
			SUM:	253			SUM:	260			SUM:	353			SUM:	425			SUM:	468			SUM:	468
	No. of Phases:			2				2				2				2				2				2
	Volume / Capacity:			0.168				0.173				0.235				0.283				0.312				0.312
	Level of Service:			A				A				A				A				A				A

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.029
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-2

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SEPULVEDA BLVD @ SAN FERNANDO RD

N-S St: SEPULVEDA BLVD
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":	Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
Exclusive L ----^	NB Left	82	1	45	2	84	1	46	80	164	1	90	75	239	1	132	43	282	1	155	0	282	1	155
Comb. L-T --^->			0	-			0	-			0	-			0	-			0	-			0	-
Exclusive T ---->	NB Thru	0	0	43	0	0	0	44	0	0	0	80	0	0	0	114	0	0	0	133	0	0	0	133
Comb. T-R --v->			0	-			0	-			0	-			0	-			0	-			0	-
Exclusive R ----v	NB Right	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -v-^->			1				1				1				1				1				1	
	SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0				0				0				0				0				0	
	EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0	-			0	-			0	-			0	-			0	-			0	-
	EB Thru	108	2	54	3	111	2	56	17	128	2	64	82	210	2	105	50	260	2	130	0	260	2	130
			0	-			0	-			0	-			0	-			0	-			0	-
Free Right	EB Right	66	0	-	2	68	0	-	180	248	0	-	119	367	0	-	73	439	0	-	0	439	0	-
			0				0				0				0				0				0	
	WB Left	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1
			0	-			0	-			0	-			0	-			0	-			0	-
	WB Thru	313	2	157	9	322	2	161	3	325	2	163	88	413	2	207	50	463	2	232	0	463	2	232
			0	-			0	-			0	-			0	-			0	-			0	-
	WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
			0				0				0				0				0				0	
	Crit. Volumes:	N-S:	45		N-S:		46		N-S:		90		N-S:		132		N-S:		155		N-S:		155	
		E-W:	157		E-W:		161		E-W:		163		E-W:		207		E-W:		232		E-W:		232	
		SUM:	202		SUM:		208		SUM:		253		SUM:		338		SUM:		387		SUM:		387	
	No. of Phases:		2				2				2				2				2				2	
	Volume / Capacity:		0.134				0.138				0.169				0.226				0.258				0.258	
	Level of Service:		A				A				A				A				A				A	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.032
Significant: No

B-10

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-6

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

BALBOA BLVD @ SAN FERNANDO RD

N-S St: BALBOA BLVD
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v<-
Exclusive R ---->
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	350	1	221	11	361	1	228	2	363	1	251	27	390	1	265	16	406	1	273	0	406	1	273
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	221	0	0	0	228	0	0	0	251	0	0	0	265	0	0	0	273	0	0	0	273
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	92	0	-	3	95	0	-	45	140	0	-	0	140	0	-	0	140	0	-	0	140	0	-
		1				1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	541	1	541	16	557	1	557	19	576	1	576	137	713	1	713	81	794	1	794	0	794	1	794
		1	998			1	1028			1	1131			1	1153			1	1165			1	1165
EB Right	998	0	-	30	1028	0	-	103	1131	0	-	22	1153	0	-	12	1165	0	-	0	1165	0	-
		0				0				0				0				0				0	
WB Left	18	1	18	1	19	1	19	125	144	1	144	0	144	1	144	0	144	1	144	0	144	1	144
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	59	2	30	2	61	2	30	45	106	2	53	171	277	2	138	106	383	2	191	0	383	2	191
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:		221		N-S:		228		N-S:		251		N-S:		265		N-S:		273		N-S:		273
	E-W:		1016		E-W:		1046		E-W:		1274		E-W:		1296		E-W:		1308		E-W:		1308
	SUM:		1237		SUM:		1274		SUM:		1526		SUM:		1561		SUM:		1581		SUM:		1581
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.825				0.849				1.017				1.041				1.054				0.984
Level of Service:			D				D				F				F				F				E

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.013
Significant: Yes

Mitigation: Install ATSAC

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-6

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

BALBOA BLVD @ SAN FERNANDO RD

N-S St: BALBOA BLVD
E-W St: SAN FERNANDO RD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->
Comb. L-T-R -v-^->

	EXISTING TRAFFIC			1998 W/AMBIENT GROWTH				1998 W/OTHER PROJECTS				COUNTY APPROVED 1998 SUNSHINE CANYON				PROPOSED 1998 SUNSHINE CANYON				1998 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	1370	1	754	41	1411	1	776	5	1416	1	800	26	1442	1	813	15	1457	1	821	0	1457	1	821
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	647	0	0	0	667	0	0	0	800	0	0	0	813	0	0	0	821	0	0	0	821
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	31	0	-	1	32	0	-	152	184	0	-	0	184	0	-	0	184	0	-	0	184	0	-
		1				1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	103	1	103	3	106	1	106	45	151	1	151	201	352	1	352	123	475	1	475	0	475	1	475
		1	542			1	558			1	614			1	646			1	666			1	666
EB Right	542	0	-	16	558	0	-	56	614	0	-	32	646	0	-	20	666	0	-	0	666	0	-
		0				0				0				0				0				0	
WB Left	62	1	62	2	64	1	64	67	131	1	131	0	131	1	131	0	131	1	131	0	131	1	131
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	328	2	164	10	338	2	169	16	354	2	177	163	517	2	258	93	610	2	305	0	610	2	305
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:		N-S:	754			N-S:	776			N-S:	800			N-S:	813			N-S:	821			N-S:	821
		E-W:	604			E-W:	622			E-W:	745			E-W:	777			E-W:	797			E-W:	797
		SUM:	1358			SUM:	1398			SUM:	1545			SUM:	1590			SUM:	1618			SUM:	1618
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.905				0.932				1.030				1.060				1.078				1.008
Level of Service:			E				E				F				F				F				F

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 55% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.018
Significant: Yes

Mitigation: Install ATSAC

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-7

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SAN FERNANDO RD @ I-5 SB OFF RAMP
Peak Hour:AM PEAK HOUR
Annual Growth: 1%

N-S St: SAN FERNANDO RD
E-W St: I-5 SB OFF RAMP
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":
Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	398	2	199	12	410	2	205	45	455	2	227	22	477	2	238	13	490	2	245	0	490	2	245
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	950	2	475	29	979	2	489	16	995	2	497	5	1000	2	500	3	1003	2	501	0	1003	2	501
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	1	0	-	0	1	0	-	15	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	250	0	0	0	257	0	0	0	314	0	0	0	323	0	0	0	329	0	0	0	329
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	622	1	373	19	641	1	384	105	746	1	447	23	769	1	461	14	783	1	470	0	783	1	470
		1				1				1				1				1				1	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	475		N-S:	489			N-S:	497			N-S:	500			N-S:	501			N-S:	501		
	E-W:	373		E-W:	384			E-W:	447			E-W:	461			E-W:	470			E-W:	470		
	SUM:	848		SUM:	874			SUM:	945			SUM:	961			SUM:	971			SUM:	971		
No. of Phases:		2			2				2				2				2					2	
Volume / Capacity:		0.565			0.582				0.630				0.641				0.647					0.647	
Level of Service:		A			A				B				B				B					B	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 60% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.006
Significant : No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-7

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SAN FERNANDO RD @ I-5 SB OFF RAMP

N-S St: SAN FERNANDO RD
E-W St: I-5 SB OFF RAMP
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ---v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	1667	2	834	50	1717	2	859	16	1733	2	867	32	1765	2	883	19	1784	2	892	0	1784	2	892
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	205	2	103	6	211	2	106	35	246	2	123	4	250	2	125	3	252	2	126	0	252	2	126
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	2	0	-	0	2	0	-	5	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	184	0	0	0	189	0	0	0	221	0	0	0	229	0	0	0	234	0	0	0	234
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	454	1	272	14	468	1	281	66	534	1	320	22	556	1	333	12	568	1	341	0	568	1	341
		1				1				1				1				1				1	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	834		N-S:		859		N-S:		867		N-S:		883		N-S:		892		N-S:		892	
	E-W:	272		E-W:		281		E-W:		320		E-W:		333		E-W:		341		E-W:		341	
	SUM:	1106		SUM:		1139		SUM:		1187		SUM:		1216		SUM:		1233		SUM:		1233	
No. of Phases:		2				2				2				2				2				2	
Volume / Capacity:		0.737				0.759				0.791				0.811				0.822				0.822	
Level of Service:		C				C				C				D				D				D	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 60% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.011
Significant : No

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-8

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS
SAN FERNANDO RD @ SIERRA HWY

N-S St: SAN FERNANDO RD
E-W St: SIERRA HWY
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":
Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	95	1	95	3	98	1	98	1	99	1	99	0	99	1	99	0	99	1	99	0	99	0	-
		0	-			0	-			0	-			0	-			0	-			1	223
NB Right	307	1	307	9	316	1	316	61	377	1	377	22	399	1	399	13	412	1	412	0	412	1	289
		0				0				0				0				0				0	
SB Left	38	1	38	1	39	1	39	70	109	1	109	0	109	1	109	0	109	1	109	0	109	1	109
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	654	1	654	20	674	1	674	2	676	1	676	0	676	1	676	0	676	1	676	0	676	1	676
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
WB Left	284	0	-	9	293	0	-	14	307	0	-	5	312	0	-	3	315	0	-	0	315	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	284	0	0	0	293	0	0	0	307	0	0	0	312	0	0	0	315	0	0	0	315
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		1				1				1				1				1				1	
Crit. Volumes:	N-S:		654			N-S:	674			N-S:	676			N-S:	676			N-S:	676			N-S:	676
	E-W:		284			E-W:	293			E-W:	307			E-W:	312			E-W:	315			E-W:	315
	SUM:		938			SUM:	966			SUM:	982			SUM:	987			SUM:	990			SUM:	990
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.625				0.644				0.655				0.658				0.660				0.660
Level of Service:			B				B				B				B				B				B

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.002
Significant: No

Mitigation: Restripe NBT NBT-R option lane.

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-8

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SAN FERNANDO RD @ SIERRA HWY

N-S St: SAN FERNANDO RD
E-W St: SIERRA HWY
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	505	1	505	15	520	1	520	2	522	1	522	0	522	1	522	0	522	1	522	0	522	0	-
		0	-			0	-			0	-			0	-			0	-			1	909
NB Right	1180	1	1180	35	1215	1	1215	23	1238	1	1238	32	1270	1	1270	19	1289	1	1289	0	1289	1	903
		0				0				0				0				0				0	
SB Left	19	1	19	1	20	1	20	45	65	1	65	0	65	1	65	0	65	1	65	0	65	1	65
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	103	1	103	3	106	1	106	1	107	1	107	0	107	1	107	0	107	1	107	0	107	1	107
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
WB Left	83	0	-	2	85	0	-	34	119	0	-	4	123	0	-	3	125	0	-	0	125	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	95	0	0	0	98	0	0	0	132	0	0	0	136	0	0	0	138	0	0	0	138
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	12	0	-	0	12	0	-	0	12	0	-	0	12	0	-	0	12	0	-	0	12	0	-
		1				1				1				1				1				1	
Crit. Volumes:	N-S:	1199		N-S:		1235		N-S:		1303		N-S:		1335		N-S:		1354		N-S:		974	
	E-W:	83		E-W:		85		E-W:		119		E-W:		123		E-W:		125		E-W:		125	
	SUM:	1282		SUM:		1320		SUM:		1422		SUM:		1458		SUM:		1479		SUM:		1099	
No. of Phases:		2				2				2				2				2				2	
Volume / Capacity:		0.855				0.880				0.948				0.972				0.986				0.733	
Level of Service:		D				D				E				E				E				C	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.014
Significant: No

Mitigation: Restripe NBT NBT-R option lane.

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-13

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

SAN FERNANDO RD @ RANCH ROAD (LANDFILL DRWY)

N-S St: SAN FERNANDO RD
E-W St: RANCH ROAD (LANDFILL DRWY)
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	1	-	0	0	1	-	0	0	1	-	198	198	1	198	122	320	1	320	0	320	2	176
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	398	2	199	12	410	2	205	45	455	2	227	0	455	2	227	0	455	2	227	0	455	2	227
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	1572	1	786	47	1619	1	810	122	1741	1	871	0	1741	1	884	0	1741	1	893	0	1741	1	893
		1	786			1	810			1	871			1	884			1	893			1	893
SB Right	0	0	-	0	0	0	-	0	0	0	-	27	27	0	-	17	44	0	-	0	44	0	-
		0				0				0				0				0				0	
EB Left	0	1	-	0	0	1	-	0	0	1	-	22	22	1	22	13	35	1	35	0	35	1	35
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	1	0	0	0	1	0	0	0	1	0	158	158	1	158	93	251	1	251	0	251	1	251
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	786		N-S:		810		N-S:		871		N-S:		1082		N-S:		1213		N-S:		1069	
	E-W:	0		E-W:		0		E-W:		0		E-W:		59		E-W:		91		E-W:		163	
	SUM:	786		SUM:		810		SUM:		871		SUM:		1141		SUM:		1304		SUM:		1232	
No. of Phases:		2				2				2				2				2				3	
Volume / Capacity:		0.524				0.540				0.580				0.761				0.869				0.794	
Level of Service:		A				A				A				C				D				C	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.108
Significant: Yes

Mitigation: Add 2nd NBL & install ATSAC.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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(714) 641-1587

FILE NO. 1591-13

CRITICAL MOVEMENT ANALYSIS

SAN FERNANDO RD @ RANCH ROAD (LANDFILL DRWY)

N-S St: SAN FERNANDO RD
E-W St: RANCH ROAD (LANDFILL DRWY)
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

	EXISTING TRAFFIC			1998 W/AMBIENT GROWTH				1998 W/OTHER PROJECTS				COUNTY APPROVED 1998 SUNSHINE CANYON				PROPOSED 1998 SUNSHINE CANYON				1998 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	1	-	0	0	1	-	0	0	1	-	189	189	1	189	108	297	1	297	0	297	2	163
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	1667	2	834	50	1717	2	859	16	1733	2	867	0	1733	2	867	0	1733	2	867	0	1733	2	867
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	659	1	330	20	679	1	339	101	780	1	390	0	780	1	403	0	780	1	410	0	780	1	410
		1	330			1	339			1	390			1	403			1	410			1	410
SB Right	0	0	-	0	0	0	-	0	0	0	-	26	26	0	-	15	41	0	-	0	41	0	-
		0				0				0				0				0				0	
EB Left	0	1	-	0	0	1	-	0	0	1	-	32	32	1	32	19	51	1	51	0	51	1	51
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	0	1	0	0	0	1	0	0	0	1	0	233	233	1	233	143	376	1	376	0	376	1	376
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:		N-S:	834			N-S:	859			N-S:	867			N-S:	867			N-S:	867			N-S:	867
		E-W:	0			E-W:	0			E-W:	0			E-W:	139			E-W:	228			E-W:	294
		SUM:	834			SUM:	859			SUM:	867			SUM:	1005			SUM:	1094			SUM:	1161
No. of Phases:			2				2				2				2				2				3
Volume / Capacity:			0.556				0.572				0.578				0.670				0.729				0.745
Level of Service:			A				A				A				B				C				C

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.059
Significant: Yes

Mitigation: Add 2nd NBL & install ATSAC.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-9

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

FOOTHILL BLVD @ SIERRA HWY
Peak Hour:AM PEAK HOUR
Annual Growth: 1%

N-S St: FOOTHILL BLVD
E-W St: SIERRA HWY
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-
		1	33			1	34			1	69			1	69			1	69			1	69
NB Thru	32	0	-	1	33	0	-	35	68	0	-	0	68	0	-	0	68	0	-	0	68	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB FREE	45	0	-	1	46	0	-	70	116	0	-	0	116	0	-	0	116	0	-	0	116	0	-
Right		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	235	1	235	7	242	1	242	1	243	1	243	18	261	1	261	0	261	1	261	0	261	1	261
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	52	0	-	2	54	0	-	70	124	0	-	4	128	0	-	3	131	0	-	0	131	0	-
		1	87			1	90			1	220			1	224			1	227			1	227
EB Right	35	0	-	1	36	0	-	60	96	0	-	0	96	0	-	0	96	0	-	0	96	0	-
		0				0				0				0				0				0	
WB Left	658	1	658	20	678	1	678	85	763	1	763	0	763	1	763	11	774	1	774	0	774	1	774
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	343	1	343	10	353	1	353	14	367	1	367	5	372	1	372	2	374	1	374	0	374	1	374
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	10	1	10	0	10	1	10	8	18	1	18	0	18	1	18	0	18	1	18	0	18	1	18
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	33		N-S:	34		N-S:	69		N-S:	69		N-S:	69		N-S:	69		N-S:	69		N-S:	69
	E-W:	745		E-W:	767		E-W:	982		E-W:	986		E-W:	1000		E-W:	1000		E-W:	1000		E-W:	1000
	SUM:	778		SUM:	801		SUM:	1051		SUM:	1055		SUM:	1069		SUM:	1069		SUM:	1069		SUM:	1069
No. of Phases:		2			2			2			2			2			2			2			2
Volume / Capacity:		0.519			0.534			0.701			0.704			0.713						0.713			
Level of Service:		A			A			B			B			C						C			

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.009
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-9

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

FOOTHILL BLVD @ SIERRA HWY

N-S St: FOOTHILL BLVD
E-W St: SIERRA HWY
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: May-94
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":
Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
		1	149			1	153			1	272			1	272			1	272			1	272
NB Thru	147	0	-	4	151	0	-	119	270	0	-	0	270	0	-	0	270	0	-	0	270	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB FREE	348	0	-	10	358	0	-	147	505	0	-	0	505	0	-	0	505	0	-	0	505	0	-
Right		0				0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	743	1	743	22	765	1	765	2	767	1	767	27	794	1	794	0	794	1	794	0	794	1	794
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	737	0	-	22	759	0	-	25	784	0	-	5	789	0	-	3	792	0	-	0	792	0	-
		1	741			1	763			1	829			1	834			1	837			1	837
EB Right	4	0	-	0	4	0	-	41	45	0	-	0	45	0	-	0	45	0	-	0	45	0	-
		0				0				0				0				0				0	
WB Left	42	1	42	1	43	1	43	65	108	1	108	0	108	1	108	16	124	1	124	0	124	1	124
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	92	1	92	3	95	1	95	34	129	1	129	4	133	1	133	3	136	1	136	0	136	1	136
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	7	1	7	0	7	1	7	19	26	1	26	0	26	1	26	0	26	1	26	0	26	1	26
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	147		N-S:	151			N-S:	270			N-S:	270			N-S:	270			N-S:	270		
	E-W:	835		E-W:	860			E-W:	937			E-W:	942			E-W:	961			E-W:	961		
	SUM:	982		SUM:	1011			SUM:	1208			SUM:	1213			SUM:	1232			SUM:	1232		
No. of Phases:		2			2				2				2				2						2
Volume / Capacity:		0.655			0.674				0.805				0.809				0.821						0.821
Level of Service:		B			B				D				D				D						D

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.012
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-10

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS
YARNELL ST @ FOOTHILL BLVD

N-S St: YARNELL ST
E-W St: FOOTHILL BLVD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ----v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	6	1	6	0	6	1	6	4	10	1	10	0	10	1	10	0	10	1	10	0	10	1	10
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	21	0	-	1	22	0	-	32	54	0	-	0	54	0	-	0	54	0	-	0	54	0	-
		1	27			1	28			1	60			1	60			1	60			1	60
NB Right	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
		0				0				0				0				0				0	
SB Left	62	1	62	2	64	1	64	42	106	1	106	0	106	1	106	0	106	1	106	0	106	1	106
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	27	1	27	1	28	1	28	43	71	1	71	0	71	1	71	0	71	1	71	0	71	1	71
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	158	1	158	5	163	1	163	429	592	1	592	10	602	1	602	7	608	1	608	0	608	1	608
		0				0				0				0				0				0	
EB Left	136	0	-	4	140	0	-	114	254	0	-	9	263	0	-	5	268	0	-	0	268	0	-
		1	146			1	150			1	254			1	263			1	268			1	268
EB Thru	149	0	-	4	153	0	-	40	193	0	-	9	202	0	-	5	207	0	-	0	207	0	-
		1	146			1	150			1	206			1	215			1	220			1	220
EB Right	7	0	-	0	7	0	-	5	12	0	-	0	12	0	-	0	12	0	-	0	12	0	-
		0				0				0				0				0				0	
WB Left	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
		1	138			1	142			1	226			1	231			1	234			1	234
WB Thru	131	0	-	4	135	0	-	91	226	0	-	10	236	0	-	7	242	0	-	0	242	0	-
		1	186			1	192			1	226			1	231			1	234			1	234
WB Right	186	0	-	6	192	0	-	27	219	0	-	0	219	0	-	0	219	0	-	0	219	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	96		N-S:		99		N-S:		475		N-S:		480		N-S:		484		N-S:		484	
	E-W:	322		E-W:		332		E-W:		480		E-W:		494		E-W:		502		E-W:		502	
	SUM:	418		SUM:		431		SUM:		955		SUM:		974		SUM:		986		SUM:		986	
No. of Phases:		2				2				2				2				2				2	
Volume / Capacity:		0.279				0.287				0.637				0.650				0.657				0.657	
Level of Service:		A				A				B				B				B				B	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.007
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-10

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS
YARNELL ST @ FOOTHILL BLVD

N-S St: YARNELL ST
E-W St: FOOTHILL BLVD
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	1	2	0	2	1	2	12	14	1	14	0	14	1	14	0	14	1	14	0	14	1	14
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	19	0	-	1	20	0	-	106	126	0	-	0	126	0	-	0	126	0	-	0	126	0	-
		1	21			1	22			1	128			1	128			1	128			1	128
NB Right	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
		0				0				0				0				0				0	
SB Left	147	1	147	4	151	1	151	58	209	1	209	0	209	1	209	0	209	1	209	0	209	1	209
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	40	1	40	1	41	1	41	97	138	1	138	0	138	1	138	0	138	1	138	0	138	1	138
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	92	1	92	3	95	1	95	228	323	1	323	10	333	1	333	6	339	1	339	0	339	1	339
		0				0				0				0				0				0	
EB Left	81	0	-	2	83	0	-	384	467	0	-	12	479	0	-	8	487	0	-	0	487	0	-
		1	110			1	113			1	467			1	479			1	487			1	487
EB Thru	128	0	-	4	132	0	-	136	268	0	-	12	280	0	-	8	288	0	-	0	288	0	-
		1	110			1	113			1	290			1	302			1	310			1	310
EB Right	11	0	-	0	11	0	-	11	22	0	-	0	22	0	-	0	22	0	-	0	22	0	-
		0				0				0				0				0				0	
WB Left	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-
		1	100			1	102			1	167			1	172			1	175			1	175
WB Thru	107	0	-	3	110	0	-	60	170	0	-	10	180	0	-	6	186	0	-	0	186	0	-
		1	100			1	102			1	167			1	172			1	175			1	175
WB Right	83	0	-	2	85	0	-	70	155	0	-	0	155	0	-	0	155	0	-	0	155	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:		168		N-S:		173		N-S:		337		N-S:		337		N-S:		337		N-S:		337
	E-W:		181		E-W:		186		E-W:		635		E-W:		652		E-W:		663		E-W:		663
	SUM:		349		SUM:		359		SUM:		972		SUM:		989		SUM:		1000		SUM:		1000
No. of Phases:			2				2				2				2				2				2
Volume / Capacity:			0.232				0.239				0.648				0.659				0.667				0.667
Level of Service:			A				A				B				B				B				B

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.008
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-11

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(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

YARNELL ST @ I-210 EB ON/OFF RAMPS
Peak Hour:AM PEAK HOUR
Annual Growth: 1%

N-S St: YARNELL ST
E-W St: I-210 EB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R --v->
Exclusive R ---v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	217	1	188	7	224	1	194	81	305	1	280	0	305	1	285	0	305	1	287	0	305	1	287
		1	188			1	194			1	280			1	285			1	287			1	287
NB Right	159	0	-	5	164	0	-	92	256	0	-	9	265	0	-	5	270	0	-	0	270	0	-
		0				0				0				0				0				0	
SB Left	26	1	26	1	27	1	27	4	31	1	31	0	31	1	31	0	31	1	31	0	31	1	31
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	101	2	51	3	104	2	52	148	252	2	126	11	263	2	132	7	269	2	135	0	269	2	135
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	10	0	-	0	10	0	-	22	32	0	-	0	32	0	-	0	32	0	-	0	32	0	-
		1	10			1	10			1	32			1	32			1	32			1	32
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	152	1	152	5	157	1	157	366	523	1	523	0	523	1	523	0	523	1	523	0	523	1	523
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	214		N-S:		220		N-S:		311		N-S:		315		N-S:		318		N-S:		318	
	E-W:	152		E-W:		157		E-W:		523		E-W:		523		E-W:		523		E-W:		523	
	SUM:	366		SUM:		377		SUM:		833		SUM:		838		SUM:		840		SUM:		840	
No. of Phases:		2				2				2				2				2				2	
Volume / Capacity:		0.244				0.251				0.556				0.559				0.560				0.560	
Level of Service:		A				A				A				A				A				A	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.001
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-11

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

YARNELL ST @ I-210 EB ON/OFF RAMPS

N-S St: YARNELL ST
E-W St: I-210 EB ON/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	165	1	119	5	170	1	122	253	423	1	402	0	423	1	409	0	423	1	412	0	423	1	412
		1	119			1	122			1	402			1	409			1	412			1	412
NB Right	72	0	-	2	74	0	-	307	381	0	-	13	394	0	-	8	401	0	-	0	401	0	-
		0				0				0				0				0				0	
SB Left	12	1	12	0	12	1	12	14	26	1	26	0	26	1	26	0	26	1	26	0	26	1	26
		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	123	2	62	4	127	2	63	116	243	2	121	11	254	2	127	6	260	2	130	0	260	2	130
		0	-			0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	24	0	-	1	25	0	-	12	37	0	-	0	37	0	-	0	37	0	-	0	37	0	-
		1	24			1	25			1	37			1	37			1	37			1	37
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	164	1	164	5	169	1	169	268	437	1	437	0	437	1	437	0	437	1	437	0	437	1	437
		0				0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	131		N-S:		134		N-S:		428		N-S:		435		N-S:		438		N-S:		438	
	E-W:	164		E-W:		169		E-W:		437		E-W:		437		E-W:		437		E-W:		437	
	SUM:	295		SUM:		303		SUM:		865		SUM:		872		SUM:		875		SUM:		875	
No. of Phases:		2				2				2				2				2				2	
Volume / Capacity:		0.196				0.202				0.577				0.581				0.584				0.584	
Level of Service:		A				A				A				A				A				A	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.003
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-12

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

YARNELL ST @ I-210 WB/OFF RAMPS

N-S St: YARNELL ST
E-W St: I-210 WB/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour:AM PEAK HOUR
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

	EXISTING TRAFFIC			1998 W/AMBIENT GROWTH				1998 W/OTHER PROJECTS				COUNTY APPROVED 1998 SUNSHINE CANYON				PROPOSED 1998 SUNSHINE CANYON				1998 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	13	0	-	0	13	0	-	22	35	0	-	0	35	0	-	0	35	0	-	0	35	0	-
		1	23			1	24			1	46			1	46			1	46			1	46
NB Thru	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	190	1	190	6	196	1	196	81	277	1	277	0	277	1	277	0	277	1	277	0	277	1	277
		0				0				0				0				0				0	
SB Left	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-
		1	18			1	18			1	18			1	18			1	18			1	18
SB Thru	18	0	-	1	19	0	-	0	19	0	-	0	19	0	-	0	19	0	-	0	19	0	-
		1	18			1	18			1	18			1	18			1	18			1	18
SB Right	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	24	0	49	1	25	0	50	0	25	0	54	0	25	0	54	0	25	0	54	0	25	0	54
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	25	0	-	1	26	0	-	4	30	0	-	0	30	0	-	0	30	0	-	0	30	0	-
		1				1				1				1				1				1	
WB Left	71	0	-	2	73	0	-	148	221	0	-	11	232	0	-	7	238	0	-	0	238	0	-
		1	73			1	75			1	245			1	256			1	262			1	262
WB Thru	2	0	-	0	2	0	-	22	24	0	-	0	24	0	-	0	24	0	-	0	24	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	7	1	7	0	7	1	7	0	7	1	7	0	7	1	7	0	7	1	7	0	7	1	7
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	170		N-S:	175			N-S:	182			N-S:	176			N-S:	173			N-S:	173		
	E-W:	120		E-W:	124			E-W:	276			E-W:	287			E-W:	293			E-W:	293		
	SUM:	290		SUM:	298			SUM:	457			SUM:	463			SUM:	466			SUM:	466		
No. of Phases:		2			2				2				2				2						2
Volume / Capacity:		0.193			0.199				0.305				0.308				0.310						0.310
Level of Service:		A			A				A				A				A						A

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.002
Significant: No

LINSCOTT, LAW & GREENSPAN, ENGINEERS
FILE NO. 1591-12

1580 Corporate Dr. Suite 122, Costa Mesa, CA 92626
(714) 641-1587

CRITICAL MOVEMENT ANALYSIS

YARNELL ST @ I-210 WB/OFF RAMPS

N-S St: YARNELL ST
E-W St: I-210 WB/OFF RAMPS
Project:SUNSHINE CANYON LANDFILL 2-92-1591-1

Peak Hour: PM
Annual Growth: 1%

Date: Apr-95
Date of Count: 1995
Projection Year: 1998

Per Counts by: LL&G ENGINEERS

Lane Assignments for "No. of Lanes":

Exclusive L ----^
Comb. L-T --^->
Exclusive T ---->
Comb. T-R -->v->
Exclusive R ---->v
Comb. L-T-R -v-^->

Movement	EXISTING TRAFFIC Volume	No. of Lanes	Lane Volume	1998 W/AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	COUNTY APPROVED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	PROPOSED 1998 SUNSHINE CANYON Added Volume	Total Volume	No. of Lanes	Lane Volume	1998 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	21	0	-	1	22	0	-	12	34	0	-	0	34	0	-	0	34	0	-	0	34	0	-
		1	32			1	33			1	45			1	45			1	45			1	45
NB Thru	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
NB Right	163	1	163	5	168	1	168	253	421	1	421	0	421	1	421	0	421	1	421	0	421	1	421
		0				0				0				0				0				0	
SB Left	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
		1	4			1	4			1	4			1	4			1	4			1	4
SB Thru	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
		1	4			1	4			1	4			1	4			1	4			1	4
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	13	0	25	0	13	0	26	0	13	0	40	0	13	0	40	0	13	0	40	0	13	0	40
		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	12	0	-	0	12	0	-	14	26	0	-	0	26	0	-	0	26	0	-	0	26	0	-
		1				1				1				1				1				1	
WB Left	103	0	-	3	106	0	-	116	222	0	-	11	233	0	-	6	239	0	-	0	239	0	-
		1	119			1	123			1	251			1	262			1	268			1	268
WB Thru	16	0	-	0	16	0	-	12	28	0	-	0	28	0	-	0	28	0	-	0	28	0	-
		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3	0	3	1	3
		0				0				0				0				0				0	
Crit. Volumes:	N-S:	115		N-S:	118			N-S:	313			N-S:	307			N-S:	304			N-S:	304		
	E-W:	128		E-W:	132			E-W:	262			E-W:	273			E-W:	279			E-W:	279		
	SUM:	243		SUM:	250			SUM:	575			SUM:	580			SUM:	583			SUM:	583		
No. of Phases:		2			2				2				2				2						2
Volume / Capacity:		0.162			0.167				0.383				0.387				0.389						0.389
Level of Service:		A			A				A				A				A						A

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.002
Significant: No

B-26

APPENDIX C

SUNSHINE CANYON LANDFILL
TRIP GENERATION CALCULATIONS

PROJEC T TRAFFIC GENERATION CALCULATIONS
Sunshine Canyon Landfill

Sunshine Canyon Landfill
Maximum Peak Daily Intake: 5500 tons/day
22000 cubic yards/day

Source/Origin of Waste Materials Refuse

***Transfers Stations:**

Provide 2550 tons/day
46.4% of max peak daily intake

Delivered via transfer trucks: 23.5 ton capacity (60 feet long)
Total transfer trucks: 109
Daily Transfer truck trips: 218 (109 x 2)
say 220 daily transfer truck trips
Conversion to PCE trips: 660 daily PCE trips (220 x 3)
(1 transfer truck = 3 PCE)

Truck Transfer Stations Trip Generation

	TOTAL		% SPLIT IN	% SPLIT OUT
AM Peak Hour:	10.69%	of Daily Traffic	0.55	0.45
PM Peak Hour:	12.58%	of Daily Traffic	0.45	0.55
Truck Trips				
AM Peak Hour	24		13	11
PM Peak Hour	28		13	15
Truck PCE Trips				
AM Peak Hour	71		39	32
PM Peak Hour	83		37	46

***Curbside Collections**

Provide 2850 tons/day
51.8% of max peak daily intake

Delivered via curbside collection trucks: 9 ton capacity (40 feet in length)
Total curbside collection trucks: 317
Daily truck trips: 634 (317 x 2)
say 640 daily curbside collection truck trips
Conversion to PCE trips: 1280 daily PCE trips (640 x 2)
(1 curbside collection truck = 2 PCE)

Curbside Collection Trucks Trip Generation

			% SPLIT	
	TOTAL		IN	OUT
AM Peak Hour:	10.69%	of Daily Traffic	0.55	0.45
PM Peak Hour:	12.58%	of Daily Traffic	0.45	0.55
Truck Trips				
AM Peak Hour	68		37	31
PM Peak Hour	81		36	45
Truck PCE Trips				
AM Peak Hour	137		75	62
PM Peak Hour	161		72	89

***Local Deliveries**

Provide 100 tons/day
1.8% of max peak daily intake

Anticipate waste materials to be delivered:

	50	1 1/2 ton truck
	75	3/4 ton truck
Total local trucks:	125	trucks
Daily truck trips:	250	(125 x 2)

Local Deliveries Trip Generation

			% SPLIT	
	TOTAL		IN	OUT
AM Peak Hour:	10.69%	of Daily Traffic	0.55	0.45
PM Peak Hour:	12.58%	of Daily Traffic	0.45	0.55
Truck Trips				
AM Peak Hour	27		15	12
PM Peak Hour	31		14	17

Total Trip Generation Potential of Sunshine Canyon Landfill

Total Project Truck Trips

	In	Out	Total
AM Peak Hour	65	54	119
PM Peak Hour	63	77	140
Daily	-----	-----	1110

Total Project PCE Trips

	In	Out	Total
AM Peak Hour	129	106	235
PM Peak Hour	123	152	275
Daily	-----	-----	2190

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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PHILIP M. LINSCOTT, P.E.
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LEON D. WARD, P.E.
JOHN P. KEATING, P.E.

May 1, 1995

Mr. Robert Takasaki, Senior Transportation Engineer
LADOT
221 North Figueroa, Suite 600
Los Angeles CA 90012

VIA FAX: (213) 580-5208

Subject: **UPDATED TRIP GENERATION INFORMATION**
Sunshine Canyon Landfill - City of Los Angeles
SEIR 91-0377-ZC/GPA

Dear Mr. Takasaki:

Linscott, Law & Greenspan, Engineers (LLG) is submitting the following information for your review and approval as it relates to the trip generation potential for the Sunshine Canyon Landfill/SEIR traffic analysis report.

As you recall, the trip generation forecast for the Sunshine Canyon Landfill project was based on generation factors that were developed based on actual count data taken at the landfill entrance by Browning-Ferris Industries (BFI) in July and August 1985, and January 1986 and were utilized in the prior Sunshine Canyon Landfill Extension FEIR. The resulting daily and peak hour trip generation rates for the landfill are presented in **Table A.** Please note that the truck traffic factors are expressed as truck trip ends per cubic yard of daily refuse and per ton of daily refuse.

However, because of changes in the operation of landfills, waste management practices and the origin of the refuse, we believe that the rates reflected in Table A no long apply to the proposed project.

As proposed, the primary types of trucks that will be used to deliver waste to the Sunshine Landfill project include transfer trucks that bring in materials from transfer stations, and curb-side collection trucks that obtain wastes from the local populous.

OTHER OFFICES: PASADENA TELEPHONE: (213) 681-2629 • FAX: (818) 792-0941
SAN DIEGO TELEPHONE: (619) 299-3090 • FAX: (619) 299-7041
AN LG2WB COMPANY

Based on discussions with Betsy Lindsay (Ultrasystems Environmental) and Jim Aidukas (BFI), the waste brought in from transfer stations will compose approximately 46.4% of the materials brought into the site. Based on a maximum daily intake of 5,500 tons at the proposed project site, approximately 2,550 tons of refuse would originate from transfer stations. The transfer trucks are approximately 60 feet long and have a volume capacity of 23.5 tons per truck.

Further, refuse delivered by curb-side collection trucks will comprise about 51.8% of the 5,500 tons of waste or 2,850 tons per day of peak intake. The curbside collection trucks are approximately 40 feet in length and have a 9 ton capacity. The remaining 1.8% of peak daily intake or 100 tons/day is expected to originate from local deliveries (i.e.landscapers, gardeners, etc...). BFI estimates that, on average, approximately 125 half-ton, and three-quarter ton trucks will make deliveries to the Sunshine Canyon Landfill site.

According to BFI, transfer trucks (or even transfer stations) were not used in 1985-1986 when the daily traffic counts were taken at the landfill entrance. The majority of the materials brought into the site were delivered by curb-side collection trucks in 1985. Hence, in LLG's opinion, the rates developed from these counts, if used, will overestimate the trip generation potential of the proposed Sunshine Canyon Landfill project.

The upper portion of **Table B** summarizes the updated trip generation forecast of the Sunshine Canyon Landfill project that LLG has prepared based on the above information. The methodology utilized in the derivation of this forecast is detailed in the calculation sheets attached at the end of this letter. Also shown, in lower portion of this table, is the trip generation potential for the project based on the rates shown in Table A.

Comparison of the two set of figures indicate that if the trip generation rates developed previously are utilized, the trip generation potential for the now-proposed Sunshine Canyon Landfill project will be overestimated by approximately 51% on a daily PCE basis and 55% and 57% during the AM peak hour and PM peak hour, respectively. This inflated estimation will not be an accurate predictor of the project's impacts at the critical study intersections and will result in "over mitigation" by the project.

Hence, we request your approval on the current methodology used in the forecasting the trips associated with the proposed Sunshine Canyon Landfill project as well as the traffic forecast shown in upper portion of Table B.

* * * * * * * * * *

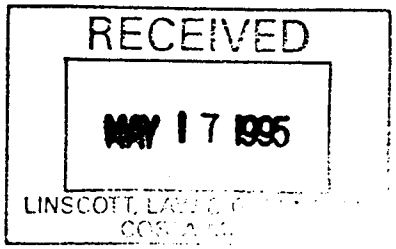
If you have any questions regarding the trip generation calculations provided in this letter or need any clarification on the enclosed information, please call me. A prompt response indicating your review and approval of using updated trip generation forecast information would be greatly appreciated.

Very truly yours,
LINSCOTT, LAW & GREENSPAN, ENGINEERS

Richard E. Barretto
Transportation Engineer

Robert Takasaki
Approved by: Robert Takasaki, LADOT

5-10-95
Date



CC: John Sam, LADOT
Betsy Lindsay, ULTRASYSTEMS
Jim Aidukas, BFI
Paul Wilkinson, LLG

TABLE A

TRIP GENERATION RATES[1]
Sunshine Canyon Landfill

Land Use	AM Peak Hour			PM peak hour			Daily 2-Way
	In	Out	Total	In	Out	Total	
Landfill (truck/cubic yard of refuse)	0.0047	0.0038	0.0085	0.0045	0.0055	0.0100	0.0795
Landfill (truck/ton of refuse)	0.0188	0.0152	0.034	0.018	0.022	0.040	0.318
Percent of Daily traffic	5.9%	4.8%	10.69%	5.7%	6.9%	12.58%	—
Percent Split (In:Out)	.55	.45	1.00	.45	.55	1.0	—

[1] The daily and peak hour rates were based on actual count data taken at the landfill entrance by Browning-Ferris Industries (BFI) in July and August 1985, January 1986, and updated in February 1988

TABLE B

PROJECT TRAFFIC GENERATION FORECAST
Sunshine Canyon Landfill

Description	AM Peak Hour			PM Peak Hour			Daily 2-Way
	In	Out	Total	In	Out	Total	
Current Generation Forecasts: [1] **Proposed City Landfill (5,500 Tons/Day)**							
Truck Transfer Stations (2,550 Tons/Day)							
Truck Trips	13	11	24	13	15	28	220
Truck-PCE[2]	39	32	71	37	46	83	660
Curbside Collections (2,850 Tons/Day)							
Truck Trips	37	31	68	36	45	81	640
Truck-PCE[3]	75	62	137	72	89	161	1,280
Local Deliveries (100 Tons/Day)	15	12	27	14	17	31	250
Employee Traffic (35 Employees)	10	0	10	0	10	10	70
TOTAL PROJECT TRIPS (current)	**75**	**54**	**129**	**63**	**87**	**150**	**1,180**
TOTAL PCE TRIPS (current)	**139**	**106**	**245**	**123**	**162**	**285**	~~2,360~~ 1160 REB 6/5
Prior Generation Forecasts: [4] **Proposed City Landfill (5,500 Tons/Day or 22,000 Cubic Yards/Day)**							
Truck Trips	100	85	185	100	120	220	1,750
Truck-PCE[3]	200	170	370	200	240	440	3,500
Employee Traffic (35 Employees)	10	0	10	0	10	10	70
TOTAL PROJECT TRIPS (prior)	**110**	**85**	**195**	**100**	**130**	**230**	**1,820**
TOTAL PCE TRIPS (prior)	**210**	**170**	**380**	**200**	**250**	**450**	**3,570**
DIFFERENCE - PROJECT TRIPS	**-35**	**-31**	**-66**	**-37**	**-43**	**-80**	**-640**
DIFFERENCE - PROJECT PCE TRIPS	**-71**	**-64**	**-135**	**-77**	**-88**	**-165**	~~-1,210~~ -1310 REB

1 Daily traffic forecast for the Sunshine Canyon Landfill project based on expected operations of the landfill facility and traffic rates developed from information provided by BFI. Peak hour traffic forecast based on the calculated peak hour percentage rates utilized previously; 10.69% (45:55) of daily landfill traffic occurs in the AM peak hour and 12.58% (55:45) of daily landfill traffic is generated during the PM peak hour. Employee generation factors are expressed as trip ends (TE) per employee and based on employee arrival/departure characteristics at the landfill.

2 Transfer truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one transfer truck (60 feet long, 23.5 ton capacity) is equal to three passenger cars.

3 Curbside Collection truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one truck (40 feet in length, 9 ton capacity) is equal to two passenger cars.

4 Generation factors are based on existing average loads per vehicle calculated from counts taken by Browning-Ferris Industries in 1985-1988 at the Sunshine Canyon Landfill. See Table A.

APPENDIX D

QUEUING CAPACITY CALCULATION SHEETS

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING REQUIRED CYCLE TIME

ROXFORD ST / I-5 SB ON/OFF RAMPS — A.M Peak Hour

FLN:15911AM
Scenario 1

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 12 secs	X	X	X	-	-	-	-	-	-	-	-	-
Phase 2 - 36 secs	-	-	-	X	X	-	-	-	-	-	-	-
Phase 3 - 68 secs	-	-	-	X	-	-	-	-	-	X	-	X
Phase 4 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 5 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**	****				****							****
Peak 15 Vol -vph	1	240	3	340	893					55		923
Saturation -vph	3200	Shrd	Shrd	1600	3200					1600		1600
Lost time -sec	2.00	-	-	2.00	2.00					2.00		2.00
Relative Sat 'X'	0.88	-	-	0.24	0.95					0.06		1.01
Effective Gr-sec	10	-	-	102	34					66		66
Move Time -sec	12	-	-	104	36					68		68
Min/Ped Time-sec	10	-	-	10	10					10		10
Prog Factor PAF	1.00	-	-	1.00	1.00					1.00		1.00
AvDelay/veh -sec	59	-	-	1	44					8		46
Level of Service	E-	-	-	A	E+					B+		E
Av. Q / lane veh	4	-	-	1	10					1		14
Veh Stopping %	99	-	-	15	98					45		100
Do Veh Clear ?	YES	-	-	YES	YES					YES		NO

>>>> Intersection Unstable <<<<

Whole Intersection - Weighted Av Delay (sec) = 39 Level of Service = D-
Critical Movements - Weighted Av Delay (sec) = 47 Level of Service = E
- Intersection Capacity Utilization (ICU) = 0.98

Required Cycle Length is 116 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING REQUIRED CYCLE TIME

FLN:15911AM

ROXFORD ST / I-5 SB ON/OFF RAMPS — P.M Peak Hour — Scenario 2

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 10 secs	X	X	X	-	-	-	-	-	-	-	-	-
Phase 2 - 32 secs	-	-	-	X	X	-	-	-	-	-	-	-
Phase 3 - 22 secs	-	-	-	X	-	-	-	-	-	X	-	X
Phase 4 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 5 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**	****				****							****
Peak 15 Vol -vph	2	171	10	265	1283					14		444
Saturation -vph	3200	Shrd	Shrd	1600	3200					1600		1600
Lost time -sec	2.00	-	-	2.00	2.00					2.00		2.00
Relative Sat 'X'	0.46	-	-	0.20	0.86					0.03		0.89
Effective Gr-sec	8	-	-	52	30					20		20
Move Time -sec	10	-	-	54	32					22		22
Min/Ped Time-sec	10	-	-	10	10					10		10
Prog Factor PAF	1.00	-	-	1.00	1.00					1.00		1.00
AvDelay/veh -sec	20	-	-	1	15					12		28
Level of Service	C-	-	-	A	C+					B-		D+
Av. Q / lane veh	1	-	-	1	6					0		6
Veh Stopping %	93	-	-	22	89					69		95
Do Veh Clear ?	YES	-	-	YES	YES					YES		YES

Whole Intersection - Weighted Av Delay (sec) = 16 Level of Service = C+
Critical Movements - Weighted Av Delay (sec) = 19 Level of Service = C+
- Intersection Capacity Utilization (ICU) = 0.81

Required Cycle Length is 64 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING REQUIRED CYCLE TIME

ROXFORD ST / ENCINITAS AVE/I-5 N — A.M Peak Hour

FLN:15913AM
Scenario 1

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 18 secs	X	X	X	-	-	-	-	-	-	-	-	-
Phase 2 - 18 secs	-	-	-	-	-	-	X	X	X	-	-	-
Phase 3 - 5 secs	-	-	-	-	X	-	-	-	-	-	X	-
Phase 4 - 43 secs	-	-	-	X	-	X	-	-	-	X	-	X
Phase 5 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**	****				****			****		****		
Peak 15 Vol -vph	31	177	215	601	38	77	63	278	24	1057	14	208
Saturation -vph	1600	1600	Shrd	3200	1600	Shrd	1600	3200	Shrd	3200	1600	Shrd
Lost time -sec	2.00	2.00	-	2.00	2.00	-	2.00	2.00	-	2.00	2.00	-
Relative Sat 'X'	0.81	0.58	-	0.43	0.66	-	0.29	0.46	-	0.81	0.25	-
Effective Gr-sec	16	16	-	41	3	-	16	16	-	41	3	-
Move Time -sec	18	18	-	43	5	-	18	18	-	43	5	-
Min/Ped Time-sec	18	18	-	18	5	-	18	18	-	18	5	-
Prog Factor PAF	1.00	1.00	-	1.00	1.00	-	1.00	1.00	-	1.00	1.00	-
AvDelay/veh -sec	35	26	-	11	47	-	22	23	-	16	30	-
Level of Service	D	D+	-	B-	E	-	C-	C-	-	C+	D	-
Av. Q / lane veh	5	3	-	4	1	-	2	3	-	8	0	-
Veh Stopping %	96	91	-	65	99	-	86	89	-	85	97	-
Do Veh Clear ?	YES	YES	-	YES	YES	-	YES	YES	-	YES	YES	-

Whole Intersection - Weighted Av Delay (sec) = 18 Level of Service = C+
Critical Movements - Weighted Av Delay (sec) = 20 Level of Service = C-
- Intersection Capacity Utilization (ICU) = 0.73

Required Cycle Length is 84 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING REQUIRED CYCLE TIME

ROXFORD ST / ENCINITAS AVE/I-5 N — P.M Peak Hour — FLN:15913AM Scenario 2

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 18 secs	X	X	X	.	.	.	.	.	.	.	.	.
Phase 2 - 18 secs	.	.	.	.	.	.	X	X	X	.	.	.
Phase 3 - 7 secs	.	.	.	.	X	.	.	.	.	.	X	.
Phase 4 - 60 secs	.	.	.	X	.	X	.	.	.	X	.	X
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Critical Mvmt-**	****			****	****		****					
Peak 15 Vol -vph	24	126	154	1102	56	324	125	252	49	682	25	255
Saturation -vph	1600	1600	Shrd	3200	1600	Shrd	1600	3200	Shrd	3200	1600	Shrd
Lost time -sec	2.00	2.00	-	2.00	2.00	-	2.00	2.00	-	2.00	2.00	-
Relative Sat 'X'	0.72	0.51	-	0.79	0.72	-	0.70	0.51	-	0.52	0.32	-
Effective Gr-sec	16	16	-	58	5	-	16	16	-	58	5	-
Move Time -sec	18	18	-	60	7	-	18	18	-	60	7	-
Min/Ped Time-sec	18	18	-	18	5	-	18	18	-	18	5	-
Prog Factor PAF	1.00	1.00	-	1.00	1.00	-	1.00	1.00	-	1.00	1.00	-
AvDelay/veh -sec	38	32	-	15	54	-	37	31	-	11	37	-
Level of Service	D-	D	-	C+	E	-	D-	D	-	B-	D-	-
Av. Q / lane veh	4	3	-	9	2	-	4	3	-	6	1	-
Veh Stopping %	95	92	-	79	99	-	95	92	-	62	97	-
Do Veh Clear ?	YES	YES	-	YES	YES	-	YES	YES	-	YES	YES	-

Whole Intersection - Weighted Av Delay (sec) = 19 Level of Service = C+
Critical Movements - Weighted Av Delay (sec) = 21 Level of Service = C-
- Intersection Capacity Utilization (ICU) = 0.76

Required Cycle Length is 103 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING PREDETERMINED CYCLE TIMES

05-15-95

FLN:15914AM
Scenario 1

ROXFORD ST / I-5 NB OFF RAMP — P.M Peak Hour

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 35 secs	-	-	-	-	-	-	-	X	X	-	-	-
Phase 2 - 55 secs	-	-	-	X	-	-	-	-	-	X	-	-
Phase 3 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 4 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 5 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	-	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**				****					****			
Peak 15 Vol -vph				1477				104	867	186		
Saturation -vph				3200				Shrd	3200	1600		
Lost time -sec				2.00				-	2.00	2.00		
Relative Sat 'X'				0.78				-	0.74	0.20		
Effective Gr-sec				53				-	33	53		
Move Time -sec				55				-	35	55		
Min/Ped Time-sec				18				-	20	18		
Prog Factor PAF				1.00				-	1.00	1.00		
AvDelay/veh -sec				12				-	21	7		
Level of Service				B-				-	C-	B+		
Av. Q / lane veh				8				-	7	2		
Veh Stopping %				76				-	87	47		
Do Veh Clear ?				YES				-	YES	YES		

Whole Intersection - Weighted Av Delay (sec) = 16 Level of Service = C+
Critical Movements - Weighted Av Delay (sec) = 15 Level of Service = C+
- Intersection Capacity Utilization (ICU) = 0.77

Predetermined Cycle Length is 90 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING PREDETERMINED CYCLE TIMES

ROXFORD ST / I-5 NB OFF RAMP — A.M Peak Hour

FLN:15914AM
Scenario 1

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 44 secs	.	.	.	.	.	.	.	X	X	.	.	.
Phase 2 - 46 secs	.	.	.	X	.	.	.	.	.	X	.	.
Phase 3 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 4 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Critical Mvmt-**				****					****			
Peak 15 Vol -vph				1121				141	1011	294		
Saturation -vph				3200				Shrd	3200	1600		
Lost time -sec				2.00				-	2.00	2.00		
Relative Sat 'X'				0.72				-	0.68	0.38		
Effective Gr-sec				44				-	42	44		
Move Time -sec				46				-	44	46		
Min/Ped Time-sec				18				-	20	18		
Prog Factor PAF				1.00				-	1.00	1.00		
AvDelay/veh -sec				15				-	15	11		
Level of Service				B-				-	C+	B-		
Av. Q / lane veh				7				-	7	4		
Veh Stopping %				79				-	78	63		
Do Veh Clear ?				YES				-	YES	YES		

Whole Intersection - Weighted Av Delay (sec) = 17 Level of Service = C+
Critical Movements - Weighted Av Delay (sec) = 15 Level of Service = B-
- Intersection Capacity Utilization (ICU) = 0.70

Predetermined Cycle Length is 90 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING PREDETERMINED CYCLE TIMES

SAN FERNANDO RD / I-5 SB OFF RAM — A.M Peak Hour

FLN:15917AM
Scenario 1

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 40 secs	.	X	X	.	-	-	-	-	-	.	-	-
Phase 2 - 50 secs	.	-	-	X	-	-	-	-	-	X	-	-
Phase 3 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 4 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 5 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**			****	****								
Peak 15 Vol -vph		16	783	1003						490		
Saturation -vph		Shrd	3600	3200						3200		
Lost time -sec		-	2.00	2.00						2.00		
Relative Sat 'X'		-	0.52	0.59						0.29		
Effective Gr-sec		-	38	48						48		
Move Time -sec		-	40	50						50		
Min/Ped Time-sec		-	18	18						18		
Prog Factor PAF		-	1.00	1.00						1.00		
AvDelay/veh -sec		-	15	11						9		
Level of Service		-	B-	B-						B+		
Av. 'Q'/ lane veh		-	6	6						3		
Veh Stopping %		-	74	68						55		
Do Veh Clear ?		-	YES	YES						YES		

Whole Intersection - Weighted Av Delay (sec) = 12 Level of Service = B-
Critical Movements - Weighted Av Delay (sec) = 13 Level of Service = B-
- Intersection Capacity Utilization (ICU) = 0.56

Predetermined Cycle Length is 90 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

05-15-95

CITY OF LOS ANGELES/CALTRANS
1998 FORECAST TRAFFIC VOLUMES
SOLUTION USING PREDETERMINED CYCLE TIMES

FLN:15917AM
Scenario 2

SAN FERNANDO RD / I-5 SB OFF RAM P.M Peak Hour

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 24 secs	.	X	X	.	-	-	-	-	-	.	-	-
Phase 2 - 66 secs	.	-	-	X	-	-	-	-	-	X	-	-
Phase 3 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 4 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 5 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Phase 6 - 0 secs	.	-	-	-	-	-	-	-	-	-	-	-
Critical Mvmt-**			****							****		
Peak 15 Vol -vph		7	568	252						1784		
Saturation -vph		Shrd	3600	3200						3200		
Lost time -sec		-	2.00	2.00						2.00		
Relative Sat 'X'		-	0.65	0.11						0.78		
Effective Gr-sec		-	22	64						64		
Move Time -sec		-	24	66						66		
Min/Ped Time-sec		-	18	18						18		
Prog Factor PAF		-	1.00	1.00						1.00		
AvDelay/veh -sec		-	24	3						8		
Level of Service		-	C-	A						B+		
Av. Q / lane veh		-	5	1						6		
Veh Stopping %		-	90	31						65		
Do Veh Clear ?		-	YES	YES						YES		

Whole Intersection - Weighted Av Delay (sec) = 11 Level of Service = B-
Critical Movements - Weighted Av Delay (sec) = 12 Level of Service = B-
- Intersection Capacity Utilization (ICU) = 0.75

Predetermined Cycle Length is 90 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

SAN FERNANDO ROAD @ BFI DRIVEWAY
QUEUING CAPACITY CALCULATIONS
Sunshine Canyon Landfill

Sunshine Canyon Landfill
1) Calculate Average Vehicle Length

	AM peak Inbound (a)	PCE Conv Factor (b)	PCE Trips (a x b)	Car/Truck Length (ft) (c)	Total Veh Length (ft) (a x c)
EMP. AUTO	10	1	10	22	220
LOCAL DEL.	15	1	15	22	330
TRASH TR.	37	2	75	45	1665
TRANSFER TR.	13	3	39	65	845
Totals	75		139		3060

Average Vehicle Length = (3060 ÷ 75) = 40.8
say **41** feet

Average PCE factor = (139 ÷ 75) = 1.853333
say **1.85**

2) Calculate Queuing Capacity Reservoir for Northbound Left-Turn Lane on San Fernando at BFI Driveway (Single Left-Turn Lane)

***Average 'Q'/lane veh* = 6 PCE**
(based on Capssi Analysis prepared for the project intersection - See Attachment)

Convert PCE to equivalent auto/truck mix using average PCE factor

Auto/Truck Mix = (6 ÷ 1.85)
3.24 vehicles

Average 'Q/lane veh = 3.24 vehicles
Average 'Q' length = 3.24 vehicle x 41 feet/vehicle
132.84 feet
say 133 feet

Maximum 'Q' length = 1.5 x Average 'Q'

200 feet required for single northbound left-turn lane.

3) Calculate Queuing Capacity Reservoir for Northbound Left-Turn Lane on San Fernando at BFI Driveway (Dual Left-Turn Lanes)

***Average 'Q'/lane veh* = 4 PCE**
(based on Capssi Analysis prepared for the project intersection - See Attachment)

Convert PCE to equivalent auto/truck mix using average PCE factor

Auto/Truck Mix = (4 ÷ 1.85)
2.16 vehicles

Average 'Q/lane veh = 2.16 vehicles
Average 'Q' length = 2.16 vehicle x 41 feet/vehicle
88.56 feet
say 89 feet

Maximum 'Q' length = 1.5 x Average 'Q'
134 feet
say **135 feet required per northbound left-turn lane.**
270 feet required for reservoir space.

Sunshine Canyon Landfill
4) Calculate Average Vehicle Length

	PM peak Inbound (a)	PCE Conv Factor (b)	PCE Trips (a x b)	Car/Truck Length (ft) (c)	Total Veh Length (ft) (a x c)
EMP. AUTO	0	1	0	22	0
LOCAL DEL.	14	1	14	22	308
TRASH TR.	36	2	72	45	1620
TRANSFER TR.	13	3	37	65	845
Totals	63		123		2773

Average Vehicle Length = (2773 ÷ 63)
44.0
say **44** feet

Average PCE factor = (123 ÷ 63)
1.952381
say **1.95**

5) Calculate Queuing Capacity Reservoir for Northbound Left-Turn Lane on San Fernando at BFI Driveway (Single Left-Turn Lane)

***Average 'Q'/lane veh* = 5 PCE**
(based on Capssi Analysis prepared for the project intersection - See Attachment)

Convert PCE to equivalent auto/truck mix using average PCE factor

Auto/Truck Mix = (5 ÷ 1.95)
2.56 vehicles

Average 'Q/lane veh = 2.56 vehicles
Average 'Q' length = 2.56 vehicle x 44 feet/vehicle
112.64 feet
say 113 feet

Maximum 'Q' length = 1.5 x Average 'Q'
170
170 feet required for single northbound left-turn lane.

6) Calculate Queuing Capacity Reservoir for Northbound Left-Turn Lane on San Fernando at BFI Driveway (Dual Left-Turn Lanes)

***Average 'Q'/lane veh* = 3 PCE**
(based on Capssi Analysis prepared for the project intersection - See Attachment)

Convert PCE to equivalent auto/truck mix using average PCE factor

Auto/Truck Mix = (3 ÷ 1.95)
1.54 vehicles

Average 'Q/lane veh = 1.54 vehicles
Average 'Q' length = 1.54 vehicle x 44 feet/vehicle
67.76 feet
say 70 feet

Maximum 'Q' length = 1.5 x Average 'Q'
105 feet
say **105 feet required per northbound left-turn lane.**
210 feet required for reservoir space.

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

09-20-95

CITY OF LOS ANGELES
1998 FUTURE TRAFFIC WITH BFI PROJECT
SOLUTION USING PREDETERMINED CYCLE TIMES

FLN:B:1591

SAN FERNANDO ROAD @ BFI DRIVEWAY — A.M Peak Hour — Scenario 1

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 8 secs	.	X	X	.	.	.	.	.	.	.	.	.
Phase 2 - 22 secs	.	.	X	.	.	.	.	.	.	X	X	.
Phase 3 - 61 secs	.	.	.	X	.	X	.	.	.	X	.	.
Phase 4 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Critical Mvmt-**		****		****							****	
Peak 15 Vol -vph		35	251	1741		44				455	320	
Saturation -vph		1700	1800	3200		Shrd				3200	1700	
Lost time -sec		2.00	2.00	2.00		-				2.00	2.00	
Relative Sat 'X'		0.31	0.45	0.86		-				0.16	0.86	
Effective Gr-sec		6	28	59		-				81	20	
Move Time -sec		8	30	61		-				83	22	
Min/Ped Time-sec		7	7	25		-				25	10	
Prog Factor PAF		1.00	1.00	1.00		-				1.00	1.00	
AvDelay/veh -sec		31	20	12		-				0	38	
Level of Service		D	C+	B-		-				A	D-	
Av. 'Q'/ lane veh		1	4	8		-				1	6	
Veh Stopping %		95	80	80		-				13	98	
Do Veh Clear ?		YES	YES	YES		-				YES	YES	

Whole Intersection - Weighted Av Delay (sec) = 14 Level of Service = B-
Critical Movements - Weighted Av Delay (sec) = 17 Level of Service = C+
- Intersection Capacity Utilization (ICU) = 0.82

Predetermined Cycle Length is 91 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I 09-20-95
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

CITY OF LOS ANGELES
1998 FUTURE TRAFFIC WITH BFI PROJECT
SOLUTION USING PREDETERMINED CYCLE TIMES

FLN:B:1591
SAN FERNANDO ROAD @ BFI DRIVEWAY P.M Peak Hour Scenario 2

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 7 secs	.	X	X	.	.	.	.	.	.	.	.	.
Phase 2 - 29 secs	.	.	X	.	.	.	.	.	.	X	X	.
Phase 3 - 57 secs	.	.	.	X	.	X	.	.	.	X	.	.
Phase 4 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Critical Mvmt-**		****								****		
Peak 15 Vol -vph		51	376	780		41				1733	297	
Saturation -vph		1700	1800	3200		Shrd				3200	1700	
Lost time -sec		2.00	2.00	2.00		-				2.00	2.00	
Relative Sat 'X'		0.56	0.57	0.43		-				0.60	0.60	
Effective Gr-sec		5	34	55		-				84	27	
Move Time -sec		7	36	57		-				86	29	
Min/Ped Time-sec		7	7	25		-				25	10	
Prog Factor PAF		1.00	1.00	1.00		-				1.00	1.00	
AvDelay/veh -sec		38	19	8		-				1	23	
Level of Service		D-	C+	B+		-				A	C-	
Av. 'Q' / lane veh		1	6	4		-				2	5	
Veh Stopping %		98	80	55		-				21	86	
Do Veh Clear ?		YES	YES	YES		-				YES	YES	

Whole Intersection - Weighted Av Delay (sec) = 7 Level of Service = B+
Critical Movements - Weighted Av Delay (sec) = 2 Level of Service = A
" " - Intersection Capacity Utilization (ICU) = 0.60

Predetermined Cycle Length is 93 seconds (Min. times may not be satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

09-20-95

CITY OF LOS ANGELES
1998 FUTURE TRAFFIC WITH BFI PROJECT MITIGATION
SOLUTION USING PREDETERMINED CYCLE TIMES

FLN:B:1591

SAN FERNANDO ROAD @ BFI DRIVEWAY — A.M Peak Hour — Scenario 3

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 7 secs	.	X	X	.	.	.	.	.	.	.	.	.
Phase 2 - 15 secs	.	.	X	.	.	.	.	.	.	X	X	.
Phase 3 - 66 secs	.	.	.	X	.	X	.	.	.	X	.	.
Phase 4 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.

Critical Mvmt-**		****	****	****				
Peak 15 Vol -vph		35	251	1741	44		455	320
Saturation -vph		1700	1800	3200	Shrd		3200	3200
Lost time -sec		2.00	2.00	2.00	-		2.00	2.00
Relative Sat 'X'		0.39	0.66	0.83	-		0.17	0.73
Effective Gr-sec		5	20	64	-		79	13
Move Time -sec		7	22	66	-		81	15
Min/Ped Time-sec		7	7	25	-		25	10
Prog Factor PAF		1.00	1.00	1.00	-		1.00	1.00
AvDelay/veh -sec		35	29	11	-		1	34
Level of Service		D	D+	B-	-		A	D
Av. 'Q'/ lane veh		1	5	8	-		1	4
Veh Stopping %		97	92	74	-		20	96
Do Veh Clear ?		YES	YES	YES	-		YES	YES

Whole Intersection - Weighted Av Delay (sec) = 14 Level of Service = B-
Critical Movements - Weighted Av Delay (sec) = 13 Level of Service = B-
" " - Intersection Capacity Utilization (ICU) = 0.74

Predetermined Cycle Length is 95 seconds (All Minimum times are satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

C A P S S I
COMPREHENSIVE ANALYSIS PROGRAM
FOR A SINGLE SIGNALIZED INTERSECTION *

09-20-95

CITY OF LOS ANGELES
1998 FUTURE TRAFFIC W/BFI MITIGATION
SOLUTION USING PREDETERMINED CYCLE TIMES

FLN:B:1591

SAN FERNANDO ROAD @ BFI DRIVEWAY — P.M Peak Hour — Scenario 4

Movement	EBT	EBL	EBR	SBT	SBL	SBR	WBT	WBL	WBR	NBT	NBL	NBR
Phase 1 - 7 secs	.	X	X	.	.	.	.	.	.	.	.	.
Phase 2 - 29 secs	.	.	X	.	.	.	.	.	.	X	X	.
Phase 3 - 57 secs	.	.	.	X	.	X	.	.	.	X	.	.
Phase 4 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 5 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.
Phase 6 - 0 secs	.	.	.	.	.	.	.	.	.	.	.	.

Critical Mvmt-**		****								****	
Peak 15 Vol -vph		51	376	780		41				1733	297
Saturation -vph		1700	1800	3200		Shrd				3200	3200
Lost time -sec		2.00	2.00	2.00		-				2.00	2.00
Relative Sat 'X'		0.56	0.57	0.43		-				0.60	0.32
Effective Gr-sec		5	34	55		-				84	27
Move Time -sec		7	36	57		-				86	29
Min/Ped Time-sec		7	7	25		-				25	10
Prog Factor PAF		1.00	1.00	1.00		-				1.00	1.00
AvDelay/veh -sec		38	19	8		-				1	20
Level of Service		D-	C+	B+		-				A	C+
Av.'Q'/ lane veh		1	6	4		-				2	3
Veh Stopping %		98	80	55		-				21	78
Do Veh Clear ?		YES	YES	YES		-				YES	YES

Whole Intersection - Weighted Av Delay (sec) = 7 Level of Service = B+
Critical Movements - Weighted Av Delay (sec) = 2 Level of Service = A
" " - Intersection Capacity Utilization (ICU) = 0.60

Predetermined Cycle Length is 93 seconds (Min. times may not be satisfied)

* CAPSSI (Release 10) - Based on Delay Methodology Per 1985 Highway Capacity Manual

APPENDIX E

TRAFFIC SIGNAL WARRANT WORKSHEETS

Figure 9-4
TRAFFIC SIGNAL WARRANTS

SAN FERNANDO ROAD @ BFI PROJECT DRIVEWAY
FORECAST 1998 TRAFFIC VOLUMES

(Based on Estimated Average Daily Traffic - See Note)

URBAN ..... RURAL ..X..

	Minimum Requirements EADT	
1. Minimum Vehicular Satisfied ✓ Not Satisfied _____	Vehicles per day on major street (total of both approaches)	Vehicles per day on higher-volume minor street approach (one direction only)
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	8,000 / 5,600	2,400 / 1,680
2 or more / 1	9,600 / 6,720	2,400 / 1,680
2 or more (25,040) / 2 or more (3040)	9,600 / (6,720)	3,200 / (2,240)
1 / 2 or more	8,000 / 5,600	3,200 / 2,240
2. Interuption of Continuous Traffic Satisfied ✓ Not Satisfied _____	Vehicles per day on major street (total of both approaches)	Vehicles per day on higher-volume minor street approach (one direction only)
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban / Rural	Urban / Rural
1 / 1	12,000 / 8,400	1,200 / 850
2 or more / 1	14,400 / 10,080	1,200 / 850
2 or more (25,040) / 2 or more (3040)	14,400 / (10,080)	1,600 / (1,120)
1 / 2 or more	12,000 / 8,400	1,600 / 1,120
3. Combination Satisfied _____ Not Satisfied _____ No one warrant satisfied, but following warrants fulfilled 80% or more ..... 1 _____ 2 _____	2 Warrants	2 Warrants

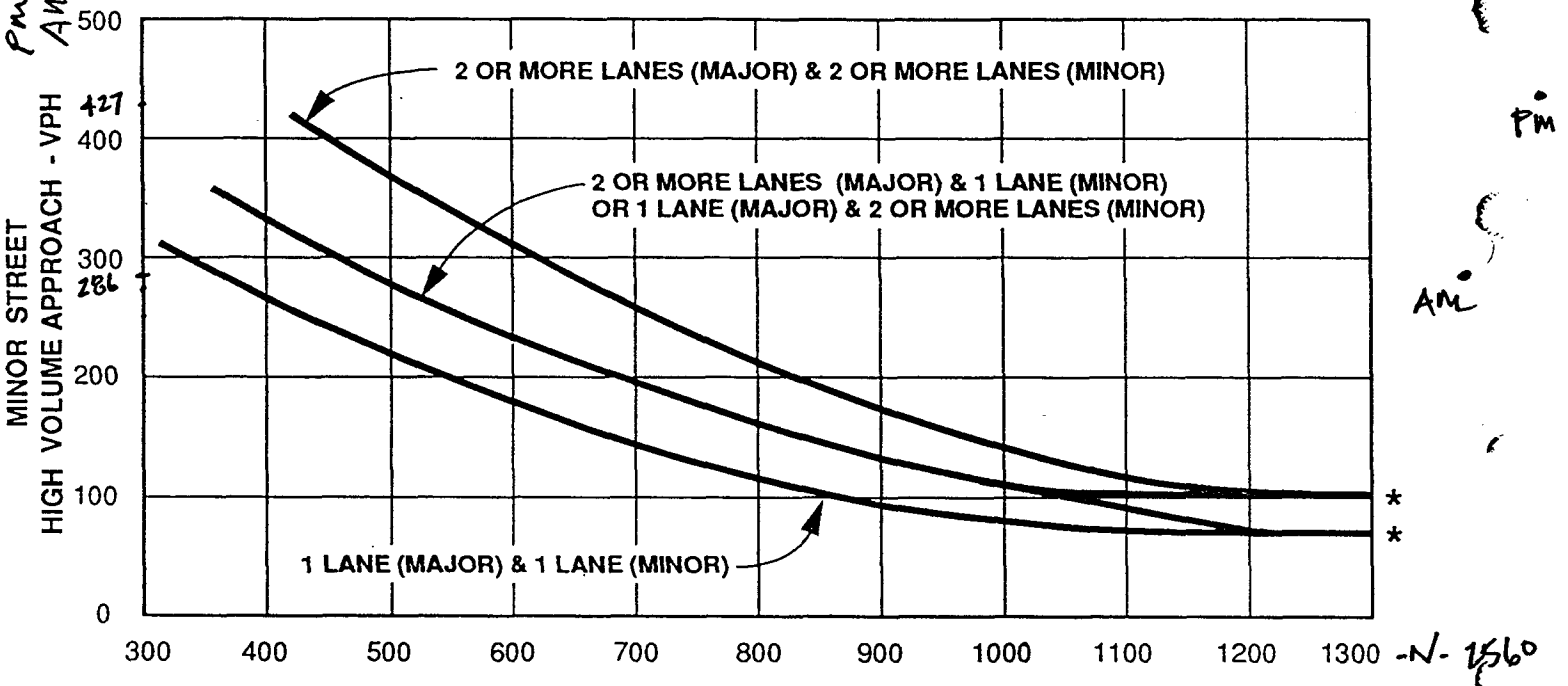
NOTE: To be used only for NEW INTERSECTIONS or other locations where actual traffic volumes cannot be counted.

TRAFFIC SIGNAL WARRANTED
BASED ON EST ADT TRAFFIC VOLUMES

Figure 9-9
PEAK HOUR VOLUME WARRANT
(Rural Areas)

1998 FORECAST CONDITIONS
SAN FERNANDO ROAD & BEI PROJECT DRIVEWAY
AM PEAK HOUR
PM PEAK HOUR

PM 427
AM 286



PM
AM
-N- 2560
2851

AM 2560
PM 2851

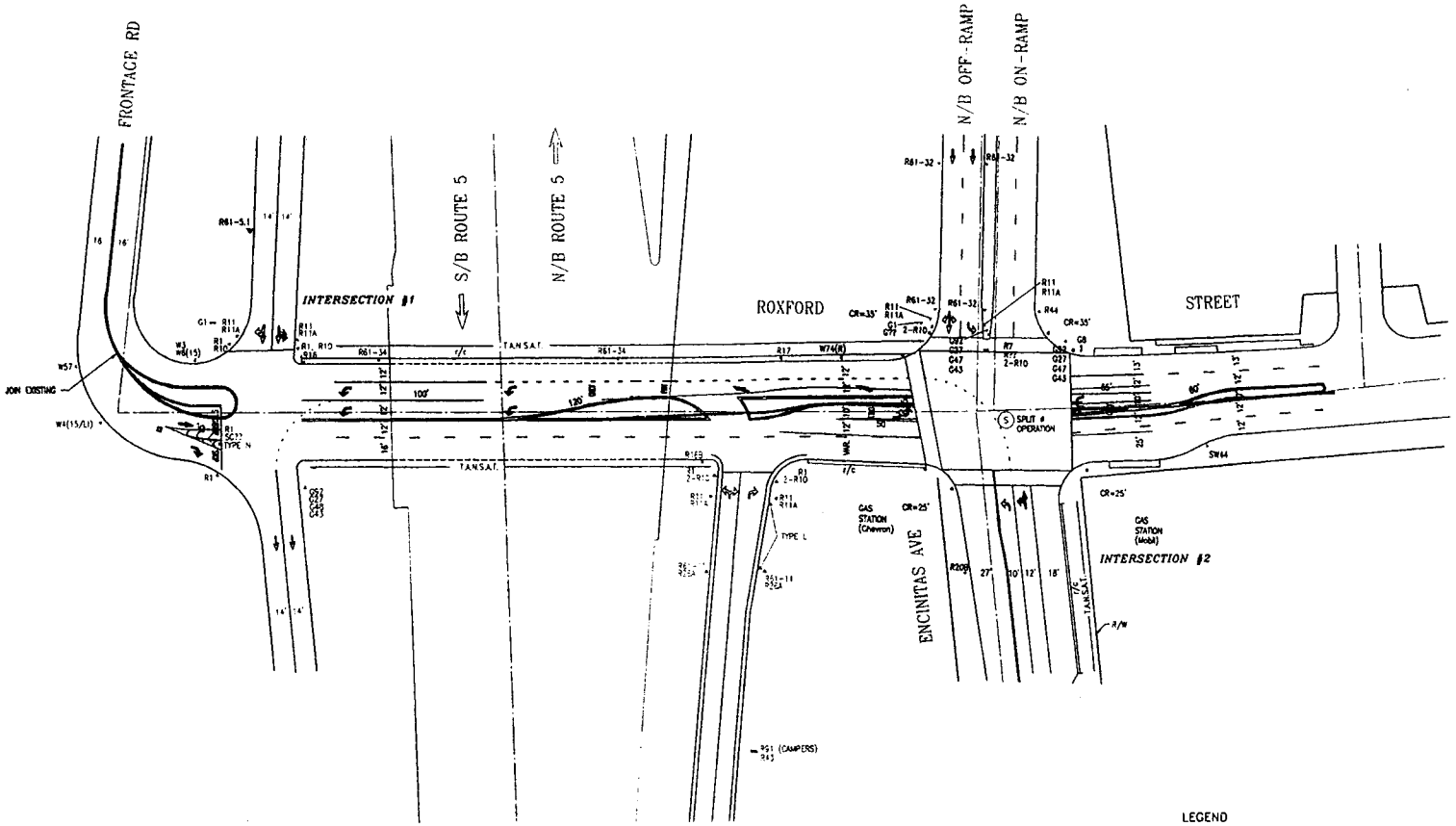
* NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

TRAFFIC SIGNAL WARRANTED
BASED ON AM/PM PEAK HOUR VOLUMES

APPENDIX F

CONCEPTUAL MITIGATION PLANS



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
   EXISTING STRIPING & MARKINGS TO BE REMOVED
   PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS ▸ PROPOSED SIGNS
3. (S) SIGNALIZED INTERSECTION

SUBMITTED ____ 19__	REVIEWED ____ 19__	ACCEPTED ____ 19__
Geometric Design Engineer	Senior Design Engineer	Principal Transp. Engineer

AS BUILT
MARKOUT INSTALLED
BY | DATE

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
ROBERT R. YATES, GENERAL MANAGER

MITIGATION CONCEPT PLAN: SUNSHINE CANYON LANDFILL PROJECT ROXFORD STREET

I-5 SB ON/OFF RAMP TO ENCINITAS AVE
INTERSECTIONS #1 & #2

Thomas Guide | District: THOMAS | DISTRICT
PROJECT NO. | DRAWING NO. A-20090 | SHEET 1 / 4

INDEX NUMBER

CITY OF LOS ANGELES
ROBERT S. HORII, CITY ENGINEER

DATE

NO.	REVISION DESCRIPTION (NON CADD PLANS ONLY)	T.E.	SR. T.E.	PR. TRANS. ENGR.	DATE

	BY	DATE	SUPERVISOR
BASE			
FIELD		DATE	S.T.A.R.
DRAFTING		DATE	DISTRICT
CHECK		DATE	SIGNALS
DESIGN		DATE	SIGNS/STR.

LINSCOTT, LAW, & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING - TRAFFIC ENGINEERING - PARKING

■ 1580 CORPORATE DRIVE, SUITE 132, COSTA MESA, CA 92626 (714) 641-1587
□ 100 SOUTH MENTOR AVENUE, SUITE 100, PASADENA, CA 91106 (213) 681-2629
□ 8689 RIO SAN DIEGO DRIVE, SUITE 133, SAN DIEGO, CA 92108 (619) 298-3090

CONSULTANT BUSINESS TAX REGISTRATION NUMBER 33-0049673

PLAN PREPARED BY:
REGISTERED TRAFFIC ENGINEER
DATE:

PLAN RECOMMENDED BY:
REGISTERED CIVIL ENGINEER
DATE:

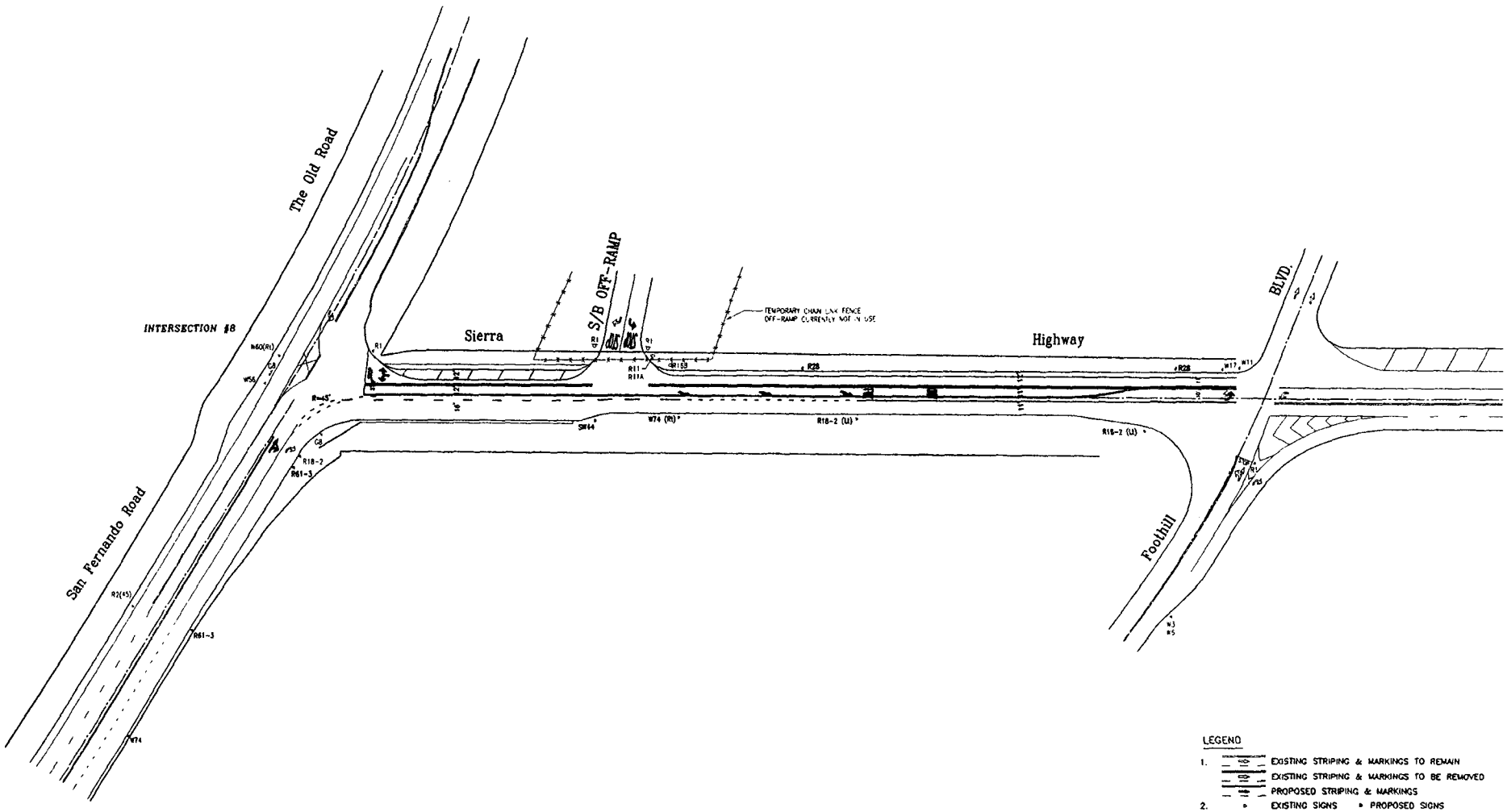
SCALE: 1"=40'

SCALES: HORIZ. 1"= VERT. 1"=

1"=20' ORIGINAL MAP SCALE 1"=40'

20 10 0 20 40 60 80 100 FEET
40 20 0 40 80 120 160 200 FEET

\DWG\1581\C1581MD1.DWG LDP 08/05/85 JAD



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
   EXISTING STRIPING & MARKINGS TO BE REMOVED
   PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS PROPOSED SIGNS
3. SIGNALIZED INTERSECTION

SUBMITTED ____ 19 ____ | REVIEWED ____ 19 ____ | ACCEPTED ____ 19 ____

Geometric Design Engineer | Senior Design Engineer | Principal Transp. Engineer

AS BUILT
WORKOUT INSTALLED
BY | DATE

Reference:

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
ROBERT R. YATES, GENERAL MANAGER

MITIGATION CONCEPT PLAN:
SUNSHINE CANYON LANDFILL PROJECT
SIERRA HIGHWAY
FOOTHILL BLVD TO SAN FERNANDO RD
INTERSECTION #8

Thomas Guide | District: THOMAS | DISTRICT

PROJECT NO. 00000 | DRAWING NO. [illegible] | 2 / 4

CITY OF LOS ANGELES
ROBERT S. HORII, CITY ENGINEER | DATE

NO. | REVISION DESCRIPTION (NON CADD PLANS ONLY) | DATE | BY | APPROVED | DATE

BASE | FIELD | DRAFTING | CHECK | DESIGN

LINSCOTT, LAW, & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING - TRAFFIC ENGINEERING - PARKING
1580 CORPORATE DRIVE, SUITE 122, COSTA MESA, CA 92626 (714) 641-1587
108 SOUTH MENTOR AVENUE, SUITE 100, PASADENA, CA 91106 (213) 681-2626
8989 RIO SAN DIEGO DRIVE, SUITE 135, SAN DIEGO, CA 92108 (619) 299-3360

PLAN PREPARED BY: | REGISTERED TRAFFIC ENGINEER | DATE:

PLAN RECOMMENDED BY: | REGISTERED CIVIL ENGINEER | DATE:

SCALE: 1"=40'

D:\DWG\1561\C1561M05.DWG LDP 08/08/95 JJO

CONSULTANT BUSINESS TAX REGISTRATION NUMBER : 33-0089972

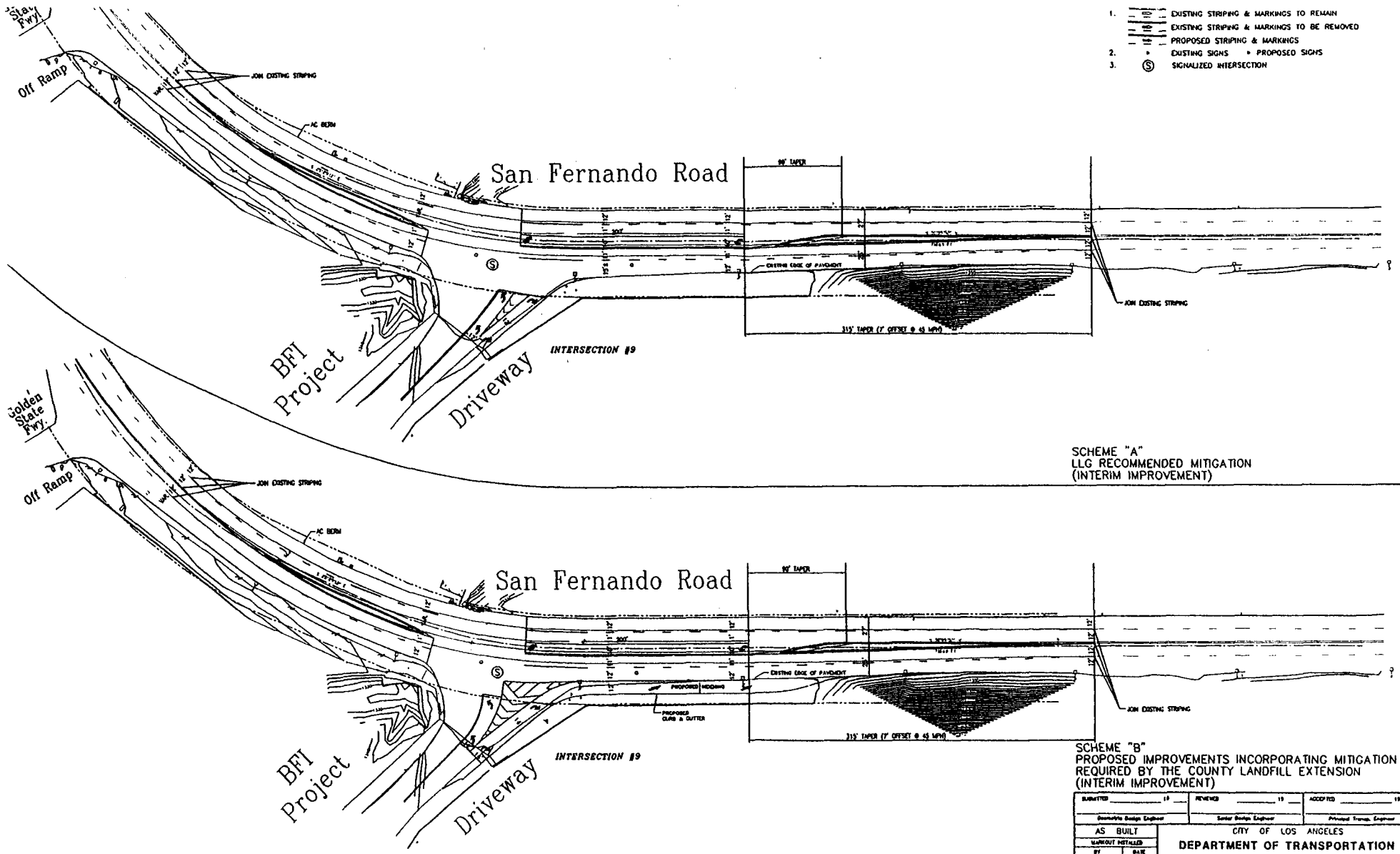
1"=20' ORIGINAL MAP SCALE 1"=40'

20 10 0 20 40 80 120 160 100 FEET 200 FEET

SCALES | HORIZ. 1"= | VERT. 1"=

SHEET

INDEX NUMBER



1. EXISTING STRIPING & MARKINGS TO REMAIN
   EXISTING STRIPING & MARKINGS TO BE REMOVED
   PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS • PROPOSED SIGNS
3. Ⓢ SIGNALIZED INTERSECTION

SCHEME "A"
LLG RECOMMENDED MITIGATION
(INTERIM IMPROVEMENT)

SCHEME "B"
PROPOSED IMPROVEMENTS INCORPORATING MITIGATION
REQUIRED BY THE COUNTY LANDFILL EXTENSION
(INTERIM IMPROVEMENT)

LINSCOTT, LAW, & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING - TRAFFIC ENGINEERING - PARKING

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
ROBERT R. YATES, GENERAL MANAGER

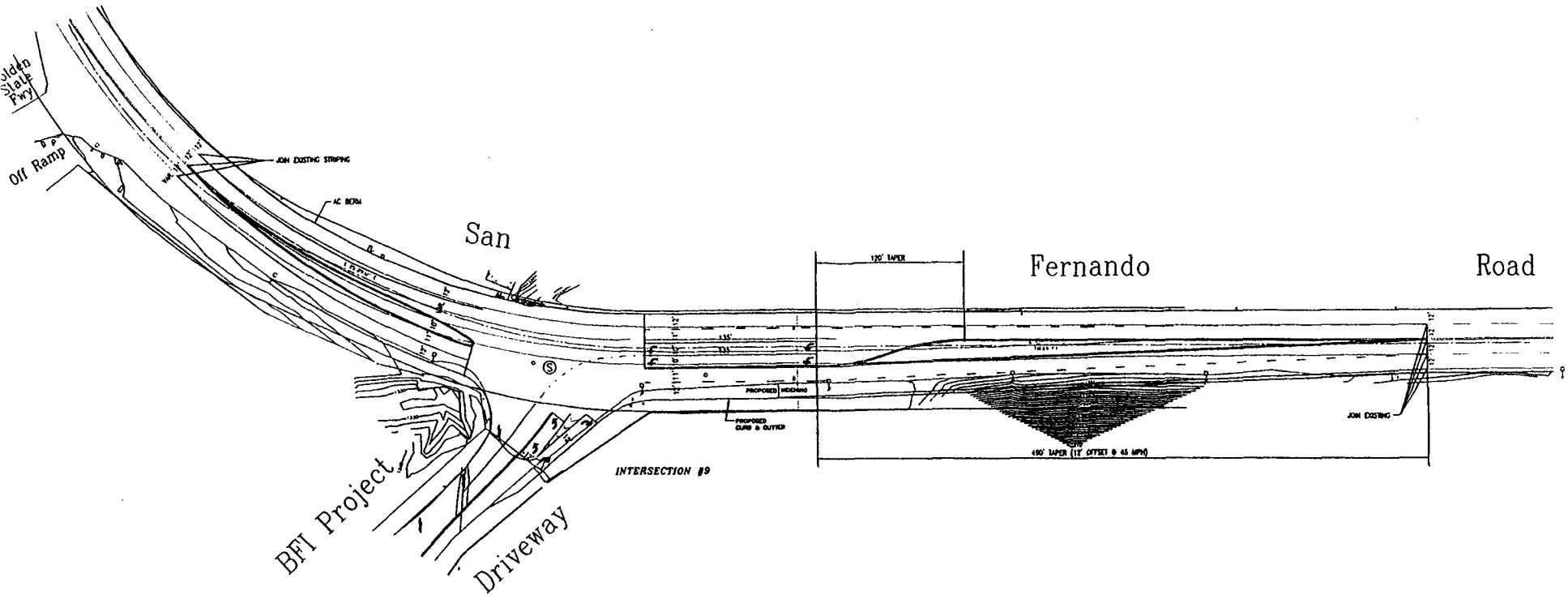
MITIGATION CONCEPT PLAN:
SUNSHINE CANYON LANDFILL PROJECT
SAN FERNANDO ROAD
GOLDEN STATE FWY. OFF RAMP TO POINT EAST OF PROJECT DRIVEWAY - INTERSECTION #9

AS BUILT
MARKOUT INSTALLED

THOMAS | DISTRICT | PROJECT NO. 00000 | DRAWING NO. A-00 | SHEET 3 | INDEX NUMBER 4

SCALE: 1"=40'

CITY OF LOS ANGELES
CITY ENGINEER
ROBERT S. HORII



LEGEND

1. EXISTING STRIPING & MARKINGS TO REMAIN
   EXISTING STRIPING & MARKINGS TO BE REMOVED
   PROPOSED STRIPING & MARKINGS
2. EXISTING SIGNS + PROPOSED SIGNS
3. (S) SIGNALIZED INTERSECTION

ULTIMATE IMPROVEMENT PLAN

SUBMITTED ____ 19__	REVIEWED ____ 19__	ADOPTED ____ 19__
Geotechnical Design Engineer	Senior Design Engineer	Principal Transp. Engineer

AS BUILT
MARKOUT INSTALLED
BY | DATE

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
ROBERT R. YATES, GENERAL MANAGER

MITIGATION CONCEPT PLAN:
SUNSHINE CANYON LANDFILL PROJECT
SAN FERNANDO ROAD
GOLDEN STATE FWY OFF RAMP TO 750'± EAST OF PROJECT DRIVEWAY - INTERSECTION #9

Thomas Guide	District	PROJECT NO.	DRAWING NO.	
THOMAS	DISTRICT	00000	A-00000	4/4

INDEX NUMBER

CITY OF LOS ANGELES
CITY ENGINEER
ROBERT S. HORII
DATE ____ 19__

NO.	REVISION DESCRIPTION (NON CADD PLANS ONLY)	DATE
	T.E.	
	SR. T.E.	
	PR. TRAN. ENGR.	

BY	DATE	SUPERVISOR
		S.T.A.R.
		DISTRICT
		SIGNALS
		SPECIALTY

BASE | FIELD | DRAFTING | CHECK | DESIGN

LINSCOTT, LAW, & GREENSPAN, ENGINEERS
TRANSPORTATION PLANNING - TRAFFIC ENGINEERING - PARKING
1580 CORPORATE DRIVE, SUITE 123, COSTA MESA, CA 92626 (714) 641-1587
108 SOUTH MENTOR AVENUE, SUITE 100, PASADENA, CA 91106 (213) 681-2029
8989 RIO SAN DIEGO DRIVE, SUITE 135, SAN DIEGO, CA 92108 (619) 291-3065

PLAN PREPARED BY:
REGISTERED TRAFFIC ENGINEER
DATE:

PLAN RECOMMENDED BY:
REGISTERED CIVIL ENGINEER
DATE:

SCALE: 1"=40'

SCALES HORIZ 1"=

SHEET

SYS\1391\C1391MDH.DWG LDP 08/22/95 JMD

Appendix B2
BIOLOGICAL ASSESSMENT

DRAFT BIOLOGICAL ASSESSMENT OF SUNSHINE CANYON LANDFILL

CITY OF LOS ANGELES AND PORTIONS OF 42± ACRES - COUNTY OF LOS ANGELES

Prepared for:

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March 1997

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SECTION 1
INTRODUCTION

At the request of Ultrasystems Environmental Incorporated (UEI), Thomas A. Leslie, Ph.D., REA, Principal, L&L Environmental, Incorporated (L&L) conducted a review of a 1995 biological assessment prepared by Tierra Madre Consultants, Inc. (TMC) for the proposed Sunshine Canyon Landfill within the City of Los Angeles (TMC 1995). The review, conducted on September 1, 1996, was performed to (1) determine if any part of the 16-month-old assessment required updating, (2) ascertain the adequacy of the impact analysis, and (3) determine if additional biological investigations are necessary. As a result of the review, it was determined that portions of that assessment needed updating. Additional biological investigations were also deemed necessary. Therefore, this updated, 1997 biological assessment was recommended and authorized.

The results of the updated biological assessment will be suitable for use by UEI to prepare the biological resources section of a Subsequent Environmental Impact Report (SEIR) for the revised project.

1.1 PROJECT DESCRIPTION

Browning-Ferris Industries of California, Inc. (BFI) proposes to develop, operate, and monitor the Sunshine Canyon Landfill on a 194± acre site within the City of Los Angeles, portions of land area (42+ acres) within the County, and connect with operational County Landfill.

1.2 PROJECT LOCATION

The property is at the southeastern end of the Santa Susana Mountains, just west of the Golden State Freeway (I-5) southwest of the Antelope Valley Freeway (SR-14) interchange (Exhibit 1). The project site is located in portions of Section 24, 25, and 26, Range 16 West, Township 3 North of the 1952 (Photorevised 1969) U.S. Geological Survey (USGS) Oat Mountain, California, 7.5 minute topographic map (Exhibit 2). Onsite elevations range from approximately 1,375 feet at the San Fernando Road entrance to about 2,125 feet on a ridge at the southwestern boundary of the project site. The city landfill project site encompasses 494 acres within the City of Los Angeles, and 205 acres of the 494 acres are covered by the existing landfill and associated ancillary facilities. The proposed landfill footprint and associated facilitates would cover 225 acres, including 122.4 acres of existing vegetation and 107.6 acres overlapping the existing landfill. The county project site encompasses 41.8 acres. Twenty one acres of the 41.8 acres are covered by existing landfill and facilities. The proposed county landfill footprint and associated facilities would cover 41.8 acres, including 20.8 acres of existing vegetation.

SECTION 2
METHODS

The updated biological assessment describes and maps existing biological resources on the project site, analyzes potential impacts related to development and operation of the proposed landfill facility within the City of Los Angeles, and proposes mitigation measures to avoid or if necessary, compensate for impacts. Data used to prepare the updated assessment were obtained during literature reviews, records searches, and two reconnaissance level field surveys by L&L Environmental, Incorporated. Focused surveys for sensitive plant and wildlife species were not conducted, by L&L Environmental, Incorporated. However, focused surveys were conducted May - June 1995 by TMC for sensitive plant and wildlife species. The findings of their surveys are presented in their document.

2.1 LITERATURE REVIEW

An updated literature review was prepared by incorporating the most current information provided by the following sources: TMC's 1995 Biological Assessment Proposed Sunshine Canyon Landfill in the City of Los Angeles (TMC 1995), which includes information from P&D Environmental Services (1992), Hanes (1990), Ultrasystems, Inc. (1986), Weintraub (no date), and Bloom (1990); other sources reviewed include California Native Plant Society (CNPS) (Skinner and Pavlik 1994), U.S. Fish and Wildlife Service (USFWS) (1993a, 1993b, 1994, 1996a), California Department of Fish and Game (CDFG) (1988, 1990a, 1990b, 1992a, 1992b,1994, 1996a, 1996b, and 1996c), and Holland (1986).

2.2 RECORDS SEARCHES

The California Natural Diversity Data Base (CNDDB) records were examined for the Oat Mountain and San Fernando USGS quadrangles to determine if any "new" records for sensitive biological resources (species or habitat types) have been recorded on or in the immediate vicinity of project site since TMC's February 7, 1995 general field surveys and focused field surveys conducted for three plant species and four wildlife species between May and June 1995.

2.3 FIELD RECONNAISSANCE

A general plant and wildlife field survey of the entire project site was conducted by L&L Environmental, Incorporated on October 4, 1996, and March 27, 1997. The primary objective of the October field survey was to field check and update the plant and wildlife inventories and general site descriptions provided in TMC's 1995 biological assessment report regarding the project site. This site visit concentrated exclusively on areas within the landfill footprint of the proposed project within the City of Los Angeles. The March 27, 1997 survey was conducted in and around the 42 acre county site to determine locations and types of vegetation communities. All plant and wildlife species observed onsite were recorded.

Survey Limitations

Focused surveys were not conducted in 1996 for sensitive plant or wildlife species and surveys were not conducted during the flowering period for many plant species potentially occurring onsite. However, TMC's findings of their May - June 1995 focused field survey are presented in their document. If necessary, (and at the agencies discretion) these findings will be reconfirmed in 1997.

2.4 VEGETATION MAPPING

A comprehensive vegetation mapping study of the project site was conducted on December 4, 1996, and March 27, 1997. The primary objectives of the December and March habitat mapping study were to (1) field check the present status and accuracy of plant community types and boundaries plotted on P&D's 1992 vegetation map, (2) determine if significant changes had occurred to onsite plant communities since 1992 requiring preparation of an updated vegetation map, (3) incorporate any changes and/or discrepancies on a revised, updated vegetation map, and (4) calculate the acreages of each habitat type identified/mapped onsite in 1996 and 1997. The vegetation mapping study was performed by Thomas A. Leslie, Principal, L&L Environmental, Incorporated and Robert Lauri, Restoration Ecologist/Landscape Architect (State License #4120).

P&D Environmental Services originally mapped vegetation on the project site (Exhibit 3) in 1992, using Holland's (1986) and Sawyer and Keeler-Woff (1995) descriptions for most vegetation, and O'Leary's (1990) description of Venturan coastal sage scrub. Plant communities were mapped on a 1"=400' aerial photograph, and acreages were calculated by P&D personnel. P&D's vegetational map and acreage calculations were incorporated in TMC's 1995 draft report.

2.5 FLORA

All obvious, identifiable plant species observed within the boundaries of the project site, during the October 4, December 4, 1996, and March 27, 1997, field surveys, were recorded. Previous botanical studies conducted onsite were consulted for comparison purposes and to check/confirm field identifications. Scientific nomenclature and common names of plants used in this report follow Hickman (1993). Additionally, common names are taken from Beauchamp (1986), Munz (1974), or Abrams (1923 and 1944) and Abrams and Ferris (1951 and 1960). A complete list of the plant species identified within the boundaries of the Project Site is provided in the floral compendium of this report (Appendix A).

2.6 WILDLIFE

All wildlife species identifiable by sight, calls, scat, tracks, or other sign, within the boundaries of the project site, during the 1996 field surveys, were recorded. In addition, observations recorded in previous surveys are noted in this report. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (1990) for reptiles and amphibians, American Ornithologists' Union (1983, with supplements in 1985, 1987, 1989, 1991, 1993, and 1995) for birds, and Jameson and Peeters (1988) for mammals. A complete list of the wildlife species identified within the boundaries of the project site is provided in the faunal compendium of this report (Appendix B).

2.7 SENSITIVE PLANTS AND ANIMALS

Based on the results of the literature review, records searches, and field survey, tables listing all sensitive plants and animals potentially occurring within the project site vicinity were updated. The tables summarize the range and habitat, status, and likelihood of occurrence onsite of each species for which potentially suitable habitat might occur on the project site.

2.8 ANTICIPATED PROJECT IMPACTS

This updated assessment report also evaluates anticipated project impacts on biological resources in terms of the California Environmental Quality Act (CEQA), and recommends mitigation measures to minimize these impacts below a level of significance. In addition to CEQA, the proposed project is subject to California Fish and Game Code Section 1600, federal Clean Water Act Section 404 (both regulate impacts to streambeds, wetlands, and jurisdictional waters of the United States), and the City of Los Angeles Oak Tree Ordinance. The 14± acres of closure post-closure maintenance areas are shown on the final impact map, that accompanies this report. These maintenance areas are shown in red and encompass existing inactive landfill, Arroyo willow series, southern willow scrub, coast live oaks woodland, and chamise chaparral areas. This report addresses oak woodlands and riparian areas as vegetation and habitat (i.e., as biological resources) but ***does not*** address regulations listed above; these issues are addressed in the following two reports and will be included in the FEIR: the *Sunshine Canyon City Landfill Extension Tree Assessment Report* (*Report*), April 21, 1995, prepared by Ralph Osterling Consultants, Inc. (Ralph Osterling Consultants, Inc. 1995); the *Biological Resources Wetlands/Riparian Habitat Section Sunshine Canyon Landfill Extension City Jurisdiction* (April 1995), (*Wetlands/Riparian Report)* prepared by the consulting firm of Zander Associates (Zander Associates 1995).

SECTION 3
EXISTING CONDITIONS

3.1 PLANT COMMUNITIES

Plant communities observed onsite are identified according to Holland (1986) and Sawyer and Keeler-Wolf (1995). Nine plant communities occur within the study area including Venturan coastal sage scrub, coast live oak woodland, walnut woodland, chamise chaparral, arroyo willow series, southern willow scrub, mulefat scrub, bigcone Douglas-fir forest, non-native grassland. Three other categories include ornamental plantings, existing landfill, and an unclassified mitigation area. Exhibit 4 illustrates the distribution of plant communities within the study area. This area is not located in the 100+ acre buffer area. Big Cone Douglas fir forest habitat (Holland 1986) was not previously identified separately but was included in the coast live oak woodland. No actual forest of big cone trees occurs within the boundaries of the project site. The big cone trees present onsite occur in small, isolated groupings as remnants of big cone fir "forest" habitat. Acreages of each of the plant communities located on the city site are depicted in Table 3-1. Each of the 10 onsite plant communities are briefly discussed below. Discussion of plant communities and acreages located on the county site are depicted in Table 3-2.

TABLE 3-1

TEN PLANT COMMUNITIES AND ORNAMENTAL PLANTINGS, MITIGATION AREA, AND EXISTING LANDFILL SUNSHINE CANYON LANDFILL/CITY OF LOS ANGELES

Plant Community	Total Acreage
Arroyo Willow Series	4.8
Southern Willow Scrub	1.9
Mulefat Scrub	1.5
Coast Live Oak Woodland	39.3
Walnut Woodland	1.9
Venturan Coastal Sage Scrub	149.1
Chamise Chaparral	8.6
Big Cone Douglas-Fir Forest	3.1
Non-native Grassland	16.7
Ornamental Plantings	9.0
Mitigation Area	0.3
Existing Inactive Landfill	257.9
Total	494.1

TABLE 3-2
FIVE PLANT COMMUNITIES AND EXISTING 42 ACRE COUNTY LANDFILL

Plant Community	Total Acreage
Coast live oak woodland	6.0
Ventura coastal sage scrub	10.9
Chamise chaparral	0.9
Non-native grassland	3.0
Existing inactive landfill	21.0
Total	41.8

3.1.1 ARROYO WILLOW SERIES

Arroyo willow series is not listed as a habitat type in Holland (1986), and the woodland onsite does not demonstrate characteristics of Holland's habitat descriptions; it resembles the arroyo willow series described by Sawyer and Keeler-Wolf (1995). This community is typically found in streambeds and consists of willows (*Salix* ssp.) with a variety of other trees and understory species.

Arroyo willow series covers approximately 4.8 acres. This plant community occurs along stream channels where water is present at or near the surface throughout the year. Dominant plant species within this vegetation community include: western sycamore (*Plantanus racemosa*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). Common understory includes mulefat (*Baccharis salicifolia*) and coyote brush (*Baccharis pilularis*). There is a 7.3-acre discrepancy between the 1992 and 1996 surveys for this plant community. This discrepancy occurred because (1) the current survey has been ground-truthed instead of aerial-photo interpreted; and (2) this vegetation community has expanded.

3.1.2 SOUTHERN WILLOW SCRUB

Southern willow scrub is typically associated with major rivers and intermittent streams of coastal southern California. Southern riparian scrub consists of a variety of willows and mulefat which may vary in density depending on the amount of available water (Holland 1986); it resembles the red willow series described by Sawyer and Keeler-Wolf (1995).

Southern willow scrub covers 1.9 acres and consists of open stands of red willow, arroyo willow, Mexican elderberry (*Sambucus mexicana*), and mugwort (*Artemisia douglasiana*). The stands are adjacent to the existing landfill and are fed by runoff from the landfill and nearby roads. The 0.2-acre discrepancy between the 1992 and 1996 surveys for this plant community is due to intrusion of other plant communities such as

arroyo willow series.

3.1.3 MULEFAT SCRUB

Mulefat scrub is associated with intermittent streams of canyon areas. It consists of mainly mulefat (*Baccharis salicifolia*) and surrounding vegetation from the neighboring plant communities. Because the mulfat scrub community on this site contains western sycamores (*Platanus racemosa*), arroyo willow (*Salix lasiolepis*), and mugwort (*Artemisia douglasiana*) it is labeled as a transitional dominance phase to an eventual sycamore dominated riparian woodland.

There are 1.5 acres of mulefat scurb exist on this site south-east of the entrance road in a single canyon. This comminity is adjacent to and mingles with walnut woodland, and Venturan coastal sage scrub.

3.1.4 COAST LIVE OAK WOODLAND

Coast live oak woodland is a sparse-to-dense, broad-leaved woodland dominated by coast live oaks (*Quercus agrifolia*). These evergreen trees reach 30 to 80 feet in height and usually occur on north-facing slopes or south-facing slopes within shaded ravines (Holland 1986); it is incorporated into Sawyer and Keeler-Wolf's coast live oak series.

Coast live oak woodland occurs on the north-facing slopes and within shaded ravines onsite, and totals 39.3 acres on the city site and 6 acres on the county site. Dominant plant species include coast live oak and scattered southern California black walnut trees (*Juglans californica var. californica*). The understory is comprised of toyon (*Heteromeles arbutifolia*), chaparral currant (*Ribes malvaceum*), laurel sumac (*Malosma laurina*), poison oak (*Toxicodendron diversilobum*), and Mexican elderberry. A small amount of non-native weedy plant species, such as ripgut grass (*Bromus diandrus*) and horehound (*Marrubium vulgare*), occur within the herbaceous layer but are not dominant. The 17.4-acre discrepancy between the 1992 and 1996 surveys for this plant community is due in part to the separation of the big cone Douglas-fir forest from the coast live oak woodland and the resulting ground-truthed survey which found less oak woodland community acreage.

3.1.5 SOUTHERN CALIFORNIA BLACK WALNUT WOODLAND

Black walnut woodland is a dense, deciduous woodland dominated by black walnuts (*Juglans californica var. californica*). The walnuts reach 25 to 50 feet in height and usually occur on cooler eastern and southern slopes, or in canyon bottoms. These can either be pure stands of walnut trees or mixed forests with coast live

oaks.

1.9 acres of walnut woodland occur on the city site within one canyon situated south-east of the entrance to the landfill. The dominant plant species in this area are the walnut and understory material including material from Venturan coastal sage scrub, and some chamise chaparral. Poison oak and giant wild rye (*Leymus condensatus*) are common in the canyon area as well.

3.1.6 VENTURAN COASTAL SAGE SCRUB

Venturan coastal sage scrub is typically found on dry, often rocky slopes, below 3,000 feet. This community ranges from Point Conception south through coastal areas of Ventura and Los Angeles counties and extends inland to Cajon and San Gorgonio passes. Vegetation consists of low-growing shrubs, with patches of bare ground beneath the shrubs (Holland 1986); it has been incorporated into the California sagebrush series described by Sawyer and Keeler-Wolf (1995).

The dominant natural plant community onsite is Venturan coastal sage scrub which comprises approximately 149.1 acres on the city site and 10.9 acres on the county site. Coastal sage scrub occurs north, east, and south of the existing inactive landfill on exposed slopes and is dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), thick-leaved yerba santa (*Eriodictyon crassifolium*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*). Other plant species which occur within the Venturan sage scrub include Mexican elderberry, cudweed aster (*Lessingia filaginifolia*), pinebush (*Ericameria pinifolia*), and Our Lord's candle (*Yucca whipplei*). The 17.4-acre discrepancy between the 1992 and 1996 surveys for this plant community is due to intrusion of nonnative grasslands, rising disturbance levels, and planting of ornamentals.

3.1.7 CHAMISE CHAPARRAL

Chamise chaparral is dominated by chamise (*Adenostoma fasciculatum*), a 3- to 10-foot-tall shrub. Chamise chaparral is the predominant chaparral community in Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties (Holland 1986); it is incorporated into the chamise series by Sawyer and Keeler-Wolf (1995). This community is common in the project vicinity.

Chamise chaparral occurs on the north-facing slopes and ridges and totals 8.6 acres on the city site and .9 acres on the county site. It occurs mostly in pockets to the northeast and southwest of the existing inactive landfill. It is dominated by chamise . Other common shrubs include toyon, mesa bushmallow (*Malacothamnus fasciculatus*), and scrub oak (*Quercus berberidifolia*). The 7.2-acre discrepancy between the 1992 and 1996 surveys for this plant community is due to the site confirmation that some of this community is actually the understory material for coast live oak woodland, and big cone Douglas-fir.

3.1.8 BIG CONE DOUGLAS-FIR FOREST

Although no actual forests occur onsite, species characteristics of Big cone Douglas-fir "forest" habitat (Sawyer and Keeler-Wolf 1995) occurs in small, isolated patches within the project site. This plant community is found in mountain ranges in coastal southern and central California; it is not described as a habitat by Holland (1986).

Big cone Douglas-fir habitat covers approximately 3.1 acres. It is dominated by big cone Douglas-fir (*Pseudotsuga macrocarpa*) with a subcanopy of canyon live oak (*Quercus chrysolepis*). The understory consists of a chaparral matrix including poison oak, Mexican elderberry, laurel sumac, and toyon. This plant community was not mentioned as a separate plant community in the 1992 report. It has been given a separate community status due to the understory material identified onsite.

3.1.9 NON-NATIVE GRASSLAND

Non-native grassland consists of non-native, annual grasses often associated with native annual forbs. These grasses begin to germinate with the fall rains, grow during the winter and spring, and wither in the early summer. This community is often found on clay soils (Holland 1986); it is incorporated into the California annual grassland series described by Sawyer and Keeler-Wolf (1995).

Non-native grassland covers approximately 16.7 acres within the city site and 3 acres within the county site. Dominant plant species include wild oat (*Avena fatua*), slender wild oat (*Avena barbata*), ripgut grass, black mustard (*Brassica nigra*), short-podded mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), and broad-lobed filaree (*Erodium botrys*). The 4.3-acre discrepancy between the 1992 and 1996 surveys for this plant community is due to further disturbance to the site and this

plant community's aggressive nature of intruding upon native plant communities.

3.1.10 ORNAMENTAL PLANTINGS

Ornamental plantings occur on 9.0 acres of the project site and are dominated by eucalyptus trees (*Eucalyptus* spp.), aleppo pine (*Pinus halepensis*), Canary Island pine (*Pinus canariensis*), Italian cypress (*Cupressus sempervirens*), flaxleaf paper bark (*Melaleuca linarifolia*), silk oak (*Grevillea robusta*), juniper (*Juniperus* sp.), and bald cypress (*Taxodium districhum*). Ornamental plantings are not described as a habitat type by either Holland (1986) or Sawyer and Keeler-Wolf (1995). Ornamental plantings were included as part of landfill facilities in the 1992 report.

3.1.11 MITIGATION AREA

This 0.3-acre area was planted approximately 2 to 3 years ago and consists of coast live oaks with a non-native grassland understory. The area was previously irrigated. The mitigation area was not included in the 1992 survey report because plantings of the coast live oak trees occurred after the survey.

3.1.12 EXISTING INACTIVE LANDFILL

Much of the project site is occupied by an existing inactive landfill and associated ancillary facilities. The existing landfill covers approximately 257.9 acres on the city landfill and 21 acres on the county landfill. Plant cover is sparse and includes a scatter of non-native weedy species such as Russian thistle (*Salsola tragus*), bull thistle (*Cirsium vulgare*), horseweed (*Conyza canadensis*), nettle-leaved goosefoot (*Chenopodium murale*), and telegraph weed (*Heterotheca grandiflora*). This type of vegetational association is best described as ruderal; it is not listed as a vegetation community by Holland (1986) or Sawyer and Keeler-Wolf (1995).

3.2 WILDLIFE

The wildlife species potentially and actually occurring within the Sunshine Canyon Landfill site are discussed below. A complete list of the faunal species is located in Appendix B, with those observed by sight, call, scat, or track noted. Sensitive wildlife species occurring or potentially occurring onsite are discussed in the Sensitive Biological Resources section.

3.2.1 AMPHIBIANS

Amphibians require moisture for at least a portion of their life cycle, requiring standing or flowing water for reproduction. Although the majority of the site is dry for most of the year, freshwater marsh habitat occurs onsite and there are a number of amphibians species that occur, or could potentially occur, onsite. Terrestrial amphibians may or may not require standing water for reproduction. Terrestrial amphibians avoid desiccation by burrowing underground: within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Many amphibians are adapted to the arid conditions of the site and can be locally abundant to common in almost all available habitat types. In addition, soil moisture conditions can remain high within habitat types depending on such factors as amount of vegetation cover, elevation, and the aspect of slope.

There are 10 species of amphibians associated with the habitats identified onsite: five species of newts and salamanders, three species of toads, and two species of treefrogs. Of these, four species were actually observed within the property boundaries: ensatina (*Ensatina eschscholtzi*), black-bellied slender salamander (*Batrachoseps nigriventris*), western toad (*Bufo boreas*), and Pacific chorus frog (*Pseudacris regilla*).

3.2.2 REPTILES

Reptilian diversity and abundance typically varies with vegetation type and character. Many species prefer only one or two plant communities; however, most will forage in a variety of vegetation types. Most species occurring in open habitats use rodent burrows for cover and protection from predators and extreme weather conditions.

A large diversity of reptiles potentially occur onsite, however, only five species of lizards were actually observed: western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and southern alligator lizard (*Gerrhonotus multicarinatus*). The western fence lizard and side-blotched lizard are fairly ubiquitous and were observed in several of the vegetation communities identified onsite, whereas the other three species were observed more infrequently. The San Diego horned lizard and coastal western whiptail are sensitive, former Candidate 2 species. They are not presently candidates for listing.

3.2.3 BIRDS

The variety of vegetation habitats support a great diversity of bird species. A total of 94 species was observed onsite with an additional 49 species identified as potentially occurring within the project boundaries.

Birds observed commonly in the Arroyo willow series and southern willow scrub habitats include black

phoebe (*Sayornis nigricans*), black-headed grosbeak (*Pheucticus melanocephalus*), bushtit (*Psaltriparus minimus*), lesser goldfinch (*Carduelis psaltria*), Bewick's wren (*Thryomanes bewickii*), song sparrow (*Melospiza melodia*), and house finch (*Carpodacus mexicanus*).

The coast live oak woodland habitat supports a wide diversity of birds including the following species which were commonly observed onsite: western scrub-jay (*Aphelocoma californica*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), plain titmouse (*Parus inornatus*), and phainopepla (*Phainopepla nitens*).

Coastal sage scrub provides habitat for many species. Birds commonly observed include California quail (*Callipepla californica*), Bewick's wren, California towhee (*Pipilo crissalis*), and lesser goldfinch. No coastal cactus wrens (*Campylorhynchus brunneicapillus*) were observed onsite due to nonexistant cactus scrub habitat.

The bird species commonly observed in the chamise chaparral habitat include Anna's hummingbird (*Calypte anna*), western scrub-jay, Bewick's wren, bushtit, wrentit (*Chamaea fasciata*), and spotted towhee (*Pipilo maculatus*).

Within the non-native grasslands, red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and house finch were commonly observed.

The existing inactive landfill and ornamental planting areas of the property contain minimal habitat that is suitable for supporting a diversity of bird species. Those observed are birds that have adapted to disturbed areas or that are able to use the non-native ornamental plants onsite. The birds commonly identified in these areas include rock dove (*Columba livia*), Say's phoebe (*Sayornis saya*), common raven, house finch, lesser goldfinch, Anna's hummingbird, and mourning dove.

3.2.4 RAPTORS

Several raptor species were observed foraging or perching onsite. These include white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk, golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), and prairie falcon (*Falco mexicanus*). In addition, northern harrier (*Circus cyaneus*) was observed in an area adjacent to the project site and turkey vultures (*Cathartes aura*) were observed onsite.

The site's woodlands provide breeding habitat for raptors, including white-tailed kite, Cooper's hawk, and owls. No California spotted owls (*Strix occidentalis occidentalis*) were observed in the site surveys due to patchy nature of habitat present.

3.2.5 MAMMALS

Mammals rely on a variety of habitats for foraging and cover. Seventeen species of mammals were observed within the 10 habitats identified onsite with 38 additional species considered to be potentially occurring. Mammals most commonly observed include western gray squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), Merriam's chipmunk (*Tamias merriami*), desert cottontail (*Sylvilagus audubonii*), racoon (*Procyon lotor*), and mule deer (*Odocoileus hemionus*). No ringtails (*Bassariscus astutus*) were present onsite due to the marginal habitat found onsite.

3.3 SENSITIVE BIOLOGICAL RESOURCES

3.3.1 DEFINITIONS

Sensitive habitats are vegetation communities/associations that support concentrations of sensitive plant or wildlife species, are of relatively limited distribution, or are of particularly high value to wildlife. Sensitive habitats are not afforded legal protection unless they support protected species, except for wetland habitats which cannot be filled without authorization from the U.S. Army Corps of Engineers (Corps) and CDFG.

A federally endangered species is one facing extinction throughout all or a significant portion of its geographic range. A federally threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in a "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

Proposed species are those officially proposed by USFWS for addition to the federal threatened and endangered species list. Because proposed species may soon be listed as threatened or endangered, these species could become listed prior to or during implementation of a proposed project. Candidate species are those for which existing biological information indicates a listing may be warranted and for which substantial information exists to support the listing; however, candidate species are not protected under the Endangered Species Act. Several plant species that were formerly Category 2 candidates for listing are now considered to be Species of Concern (CDFG 1996c).

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species only applies to California native plants. State threatened and endangered species include both plant and animal species and are fully protected against take,

as defined above.

Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not state candidates. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

Species designated as California Fully Protected include those protected by special legislation prior to the creation of the State Endangered Species Act, such as the white-tailed kite.

The California Native Plant Society (CNPS) is a local resource conservation organization that has developed an inventory of California's sensitive plant species (Skinner and Pavlik 1994). This inventory is the summary of information on the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory is comprised of four lists. CNPS presumes that List 1A plant species are extinct in California because they have not been seen in the wild for many years. CNPS List 1B species are considered rare, threatened, or endangered throughout their range. CNPS considers List 2 plants as rare, threatened, or endangered in California, but more common in other states. Plant species on lists 1A, 1B, and 2 meet CDFG criteria for endangered, threatened, or rare listing. Plant species for which CNPS needs additional information are included on List 3. List 4 plant species are those of limited distribution in California whose susceptibility to threat appears low at this time.

In addition to providing an inventory of sensitive plant and animal species, CNDDB also provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups (such as CNPS). Determination of the level of sensitivity is based on CNDDB classification that rank plant communities on a statewide basis according to the number and size of remaining occurrences as well as recognized threats (e.g., proposed developments, habitat degradation, and invasion by nonnative species) (Table 3-3).

TABLE 3-3
NATURAL DIVERSITY DATA BASE STATUS RANKS

	State Rank
S1:	Fewer than 6 viable occurrences statewide and/or less than 800 ha (1,976 ac)
S2:	6-20 viable occurrences statewide and/or 800-4,000 ha (1,976 to 9,880 ac)
S3:	21-100 viable occurrences statewide and/or 4,000-20,000 ha (9,880 to 49,400 ac)
S4:	Greater than 100 viable occurrences statewide and/or greater than 20,000 ha (49,400 ac)
S5:	Community demonstrably secure due to statewide abundance
	Threat Rank
0.1	Very Threatened
0.2	Threatened
0.3	No Current Threats Known

3.3.2 SENSITIVE PLANT SPECIES

Sensitive plants that are known to occur onsite or are known to occur adjacent to the site are described below. During the literature review, 30 sensitive plant taxa occurring in the project site's general region were identified (Table 3-4). During field surveys, only two of these plants were located (Exhibit 5), and it is assumed that the other 28 special status plant species do not occur onsite.

TABLE 3-4

SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON[1]

Species	USFWS	CDFG	CNPS	Habitat	Life Form	Blooming Period	Project Site Occurrence
Acanthomintha obovata ssp. *cordata* heart-leaved thorn-mint	--	--	List 4	Dry slopes; chaparral, cismontane woodland, pinion-juniper woodland, valley foothill grassland; between 1,000 and 5,000 feet	annual herb	April - July	Suitable habitat present; not observed during previous surveys
Androsace elongata ssp. *acuta* California androsace	--	--	List 4	Coastal sage scrub, chaparral, cismontane woodland; below 4,000 feet	annual herb	March - June	Marginal habitat present; not observed during previous surveys
Aster greatae Greata's aster	--	--	List 4	Moist or dry places in canyons; chaparral; between 2,000 and 4,000 feet	perennial herb	August - October	Suitable habitat present; not observed during previous surveys
Astragalus brauntonii Braunton's milkvetch	PE	--	List 1B	carbonate soils, recently burned areas; coastal sage scrub, chaparral, grasslands; below 2,000 feet	perennial herb	March - July	Suitable habitat present; not observed during previous surveys
Berberis nevinii Nevin's barberry	PE	CE	List 1B	Sandy and gravelly places; chaparral, cismontane woodland, coastal sage scrub, riparian scrub; below 2,000 feet	shrub	March - April	Suitable habitat present; not observed during previous surveys
Boykinia rotundifolia round-leaved boykinia	--	--	List 4	Wet places in canyons; chaparral, riparian woodland; below 6,000 feet	perennial herb	June - July	Suitable habitat present; not observed during previous surveys
Calandrinia breweri Brewer's calandrinia	--	--	List 4	Disturbed sites, recent burns, gravelly slopes; coastal sage scrub, chaparral; below 3500 feet	annual herb	March - June	Suitable habitat present; not observed during previous surveys
Calochortus catalinae Catalina mariposa lily	--	--	List 4	Heavy soils; grassland, woodlands, coastal sage scrub, chaparral; below 2,000 feet	perennial herb	February - May	Suitable habitat present; not observed during previous surveys
Calochortus clavatus var. *clavatus* club-haired mariposa lily	--	--	List 4	Serpentine soils; chaparral, cismontane woodland, valley foothill grassland; below 4,200 feet	perennial herb	April - June	No suitable habitat present due to absence of serpentine soils; not observed during previous surveys
Calochortus clavatus var *gracilis* slender mariposa lily	SC	--	List 1B	Canyons; chaparral; below 2,500 feet	perennial herb	March	Suitable habitat present; two populations observed during previous surveys

[1]Results of sensitive plant surveys are based on 1995 surveys performed by Tierra Madre Consultants.

Species	USFWS	CDFG	CNPS	Habitat	Life Form	Blooming Period	Project Site Occurrence
Calochortus plummerae Plummer's mariposa lily	SC	--	List 1B	Dry, rocky places, often in brush; chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley foothill grassland; below 5,000 feet	perennial herb	May - July	Suitable habitat present; not observed during previous surveys
Calystegia peirsonii Peirson's morning-glory	SC	--	List 4	Dry slopes; chaparral, canopied scrub, cismontane woodland, coastal sage scrub, lower montane coniferous forests; 3,000 - 4,500 feet	perennial herb	May - June	Suitable habitat present; not observed during previous surveys
Cercocarpus betuloides var. *blancheae* island mountain-mahogany	--	--	List 4	Chaparral; below 2,000 feet.	Shrub	March - May	Suitable habitat present; not observed during previous surveys
Chamaebatia australis southern mountain misery	--	--	List 4	Dry slopes; chaparral; below 2,200 feet	shrub	November - May	Suitable habitat present; not observed during previous surveys
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	SC	--	List 1A	Sandy soils; coastal sage scrub; below 2,500 feet	annual herb	April - June	Marginal habitat present; not observed during previous surveys
Chorizanthe procumbens prostrate spineflower	--	--	List 4	Gabbroic clay, granitic soils; coastal sage scrub, chaparral, pinion and juniper woodland, valley foothill grassland; below 2,500 feet	annual herb	April - June	Marginal habitat present; not observed during previous surveys
Convolvulus simulans small-flowered mourning glory	--	--	List 4	Serpentine ridges and clay soils; valley foothill grassland, coastal sage scrub; below 1,000 feet	annual herb	March - June	Marginal habitat present; not observed during previous surveys
Crossosoma californicum Catalina crossosoma	--	--	List 4	Dry rocky slopes and canyons; coastal sage scrub, chaparral; below 1,650 feet	shrub	February - May	Suitable habitat present; not observed during previous surveys
Dodecahema leptoceras slender-horned spineflower	FE	CE	List 1B	Sandy soils; coastal sage scrub, chaparral; between 660 - 2,300 feet	annual herb	April - June	No suitable habitat present; not observed during previous surveys
Hemizonia minthornii Santa Susana tarplant	SC	CR	List 1B	Rocky soils; chaparral, coastal sage scrub; between 1,000 and 1,600 feet	shrub	July - November	Suitable habitat present; previous surveys were performed out of blooming period; high potential to occur
Juglans californica var. *californica* Southern California black walnut	--	--	List 4	Chaparral, cismontane woodland, coastal sage scrub; below 4,500 feet	tree	March - May	Suitable habitat present; observed during previous surveys

Species	USFWS	CDFG	CNPS	Habitat	Life Form	Blooming Period	Project Site Occurrence
Lepechinia fragrans fragrant pitcher sage	--	--	List 4	Occasional in canyons; chaparral; below 3,000 feet	shrub	March - May	Suitable habitat present; not observed during previous surveys
Lilium humboldtii ssp. *ocellatum* ocellated Humboldt lily	SC	--	List 4	Open areas and canyons; chaparral, cismontane woodland, lower coniferous forests; below 6,000 feet	perennial herb	April - July	Suitable habitat present; not observed during previous surveys
Malacothamnus davidsonii Davidson's bush mallow	SC	--	List 1B	Sandy washes and slopes; coastal sage scrub; between 800 and 2,300 feet	shrub	June - September	Marginal habitat present; not observed during previous surveys
Microseris douglasii var. *platycarpha* small-flowered microseris	--	--	List 4	Clay soils; coastal sage scrub, cismontane woodland, valley foothill grassland	annual herb	March - May	Marginal habitat present; not observed during previous surveys
Monardella viridis ssp. *saxicola* rock monardella	SC	--	List 4	dry rocky places; chaparral, lower montane coniferous forests; between 1,700 and 6,000 feet	perennial herb	June - September	Marginal habitat present; not observed during previous surveys
Mucronea californica California spineflower	--	--	List 4	Sandy soils; chaparral, coastal sage scrub, cismontane woodland, coastal dunes, and valley foothill grasslands; below 4,600 feet	annual herb	March - August	Suitable habitat present; not observed during previous surveys
Nemacladus gracilis slender nemacladus	--	--	List 4	Rocky slopes, sandy washes; cismontane woodland, valley foothill grassland; below 6,200 feet	annual herb	March - May	Marginal habitat present; not observed during previous surveys
Perideridia pringlei adobe yampah	SC	--	List 4	chaparral, cismontane woodland, coastal sage scrub	perennial herb	April - July	Suitable habitat present; not observed during previous surveys
Polygala cornuta var. *fishae* Fish's milkwort	--	--	List 4	Shaded, rocky places in canyons below 3,000 feet; chaparral, cismontane woodland; riparian woodland	shrub	May - August	Suitable habitat present; not observed during previous surveys
Romneya coulteri Coulter's matilija poppy	--	--	List 4	Dry washes and canyons; coastal sage scrub, chaparral; below 4,000 feet	perennial herb	May - July	Suitable habitat present; not observed during previous surveys

Species	USFWS	CDFG	CNPS	Habitat	Life Form	Blooming Period	Project Site Occurrence

U.S. Fish and Wildlife Service

FE	Federal Endangered
FT	Federal Threatened
PE	Proposed Endangered
PT	Proposed Threatened
FC	Federal Candidate
SC	Species of Concern

California Department of Fish and Game

CE	California Endangered
CT	California Threatened
CR	California Rare

California Native Plant Society

1A	Plants presumed extinct in California.
1B	Plants rare, threatened, or endangered in California and elsewhere.
2	Plants rare, threatened, or endangered in California, but more common elsewhere.
3	Plants about which we need more information.
4	Plants of limited distribution.

The southern California black walnut (*Juglans californica* var. *californica*) is a CNPS List 4 species. California black walnut is a deciduous tree that grows in Southern California at elevations below 4,500 feet. It grows in several habitats including alluvial fan sage scrub, chaparral, and cismontane woodlands from Ventura County south to Orange County (Skinner and Pavlik 1994, Munz 1974). Walnuts occur occasionally onsite, especially in or near riparian and oak woodland communities.

Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) is a CNPS List 1B species. Slender mariposa lily is a perennial herb that grows at elevations below 2,500 feet. This plant is restricted to the southern base of the San Gabriel Mountains (Munz 1974). The slender mariposa lily grows in canyons within chaparral vegetation and was found in two locations within the project boundaries during previous surveys (TMC 1995).

3.3.3 SENSITIVE WILDLIFE SPECIES

Forty-seven sensitive species known to or potentially occur onsite are listed in Table 3-5. During field surveys 10 sensitive species were observed (Exhibit 5).

TABLE 3-5
SENSITIVE STATUS WILDLIFE SPECIES
POTENTIALLY OCCURRING AT SUNSHINE CANYON LANDFILL

Species	Status		Habitat	Potential for Occurrence
	USFWS[a]	CDFG		
Amphibians				
Taricha torosa torosa coast range newt	--	SSC	Ponds, reservoirs, slow flowing streams	Low; marginal habitat present
Scaphiopus hammondii western spadefoot	--	SSC	Grasslands, valley-foothill hardwood woodlands with shallow temporary pools	Low; marginal habitat present
Rana aurora draytonii California red-legged frog	FE	SSC	Riparian vegetation with deep, still, or slow-moving water	No suitable habitat present; not expected to occur
Bufo microscaphus californicus arroyo southwestern toad	FE	SSC	Overflow pools with sand or gravel substrates near sandbars	No suitable habitat present; not expected to occur
Reptiles				
Clemmys marmorata pallida southwestern pond turtle	--	SSC	Slow moving streams and perennial ponds	No suitable habitat present; not expected to occur

Species	Status		Habitat	Potential for Occurrence
	USFWS[a]	CDFG		
Aniella pulchra pulchra silvery legless lizard	--	SSC	Chaparral, coastal scrub, valley-foothill coastal dune; sandy or loose soils with leaf litter	High; suitable habitat present
Phrynosoma coronatum blainvillei San Diego horned lizard	--	SSC	Coastal sage scrub, washes, open grasslands	Observed onsite
Cnemidophorus tigris multiscutatus coastal western whiptail	--	--	coastal sage scrub, woodlands	Observed onsite
Lichanura trivirgata coastal rosy boa	--	--	coastal sage scrub, chaparral, woodlands, rock outcrops	Low; marginal habitat present
Diadophus punctatus modestus San Bernardino ringneck snake	--	--	Chaparral, grasslands	High; suitable habitat present
Salvadora hexalepis virgultea coast patch-nosed snake	--	SSC	Chaparral, desert scrub, sandy and rocky areas	High; suitable habitat present
Thamnophis hammondii two-striped garter snake	--	*	Perennial streams and ponds and adjacent riparian vegetation	Low; suitable habitat present
Coleonyx variegatus abbotti San Diego banded gecko	--	--	Granite or rock outcrops in coastal scrub and chaparral	High; suitable habitat present
Birds				
Chaetura vauxi Vaux's swift	--	SSC	Coniferous forests, woodlands, coastal lowlands	Moderate; suitable habitat present; occasional migrant
Empidonax traillii extimus southwestern willow flycatcher	FE	CE	Riparian woodlands with willows	Suitable habitat present; absent during 1995 breeding season focused surveys
Eremophilia alpestris actia California horned lark	--	SSC	Grasslands, open areas	Observed onsite
Campylorhynchus brunneicapillus coastal cactus wren	--	SSC	coastal sage scrub with cactus patches	No suitable habitat, not expected to occur
Polioptila californica californica coastal California gnatcatcher	FT	SSC	coastal sage scrub	Suitable habitat present; absent during 1995 breeding season focused surveys

Species	Status		Habitat	Potential for Occurrence
	USFWS[a]	CDFG		
Lanius ludovicianus loggerhead shrike	--	SSC	Grasslands, coastal sage scrub, woodlands	Observed onsite
Vireo bellii pusillus least Bell's vireo	FE	FE	Riparian woodlands with willows	Suitable habitat present; absent during 1995 breeding season focused surveys
Dendroica petechia yellow warbler	--	SSC	Riparian woodlands	Observed onsite during migration; not observed during breeding surveys
Icteria virens yellow-breasted chat	--	SSC	Riparian woodlands	Low; suitable habitat present; not observed during breeding surveys
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	--	SSC	coastal sage scrub, chaparral; steep hillsides with scattered shrubs	Observed onsite
Amphispiza belli belli Bell's sage sparrow	--	SSC	coastal sage scrub, chaparral	Low; suitable habitat present; not observed during breeding surveys
Agelaius tricolor tricolored blackbird	--	SSC	Marshes, ponds, and grasslands	No suitable breeding habitat present; may forage onsite
Raptors				
Gymnogyps californianus California condor	FE	CE/FP	Open savannah, grasslands, foothill chaparral with cliffs, large trees, snags	Low; suitable foraging habitat present, species very rare
Elanus leucurus white-tailed kite	--	FP	Grasslands, woodlands	Observed onsite
Circus cyaneus northern harrier	--	SSC	Grasslands, marshes, open scrub habitats	High; suitable winter foraging habitat present; observed adjacent site
Accipiter striatus sharp-shinned hawk	--	SSC	Woodlands	High; suitable winter foraging habitat present
Accipiter cooperii Cooper's hawk	--	SSC	Oak woodlands, riparian woodlands	Observed onsite
Buteo regalis ferruginous hawk	--	SSC	grasslands, open shrublands	Moderate; suitable winter foraging habitat present
Aquila chrysaetos golden eagle	--	SSC/FP	Grasslands, woodlands, open scrub habitats	Observed onsite
Falco columbarius merlin	--	SSC	Grassland, wetlands, woodlands	High; winter foraging habitat present

Species	Status		Habitat	Potential for Occurrence
	USFWS[a]	CDFG		
Falco mexicanus prairie falcon	--	SSC	Grasslands, open scrub habitats	Observed onsite
Strix occidentalis occidentalis California spotted owl	--	SSC	Dense conifer, oak, riparian forest	Suitable habitat present; determined absent in focused surveys
Asio otus long-eared owl	--	SSC	Woodlands	Low; marginal habitat present
Speotyto cunicularia hypugaea western burrowing owl	--	SSC	Grasslands	Moderate; suitable habitat present
Mammals				
Euderma maculatum spotted bat	--	SSC	Roosts in rock crevices, forages in many habitats	Low; suitable foraging habitat present, but species is very rare
Plecotus townsendii pallescens pale big-eared bat	--	SSC	Roosts in rocky crevices, caves, mines, tunnels, and buildings; forages mainly in mesic habitats	Moderate; suitable foraging habitat present
Eumops perotis californicus California mastiff bat	--	SSC	Roosts in steep rocky cliffs, trees, buildings; forages in several habitats	Moderate; suitable foraging habitat present
Antrozous pallidus pallid bat	--	SSC	roosts in dry rocky habitats, mines, caves, and hollow trees; forages in open habitats	Moderate; suitable foraging habitat present
Perognathus longimembris brevinasus Los Angeles little pocket mouse	--	SSC	Coastal sage scrub, sagebrush, desert riparian desert scrub	Moderate; suitable habitat present
Lepus californicus bennettii San Diego black-tailed jackrabbit	--	SSC	Coastal sage scrub, chaparral, grasslands	High; suitable habitat present
Onychomys torridus ramona southwestern grasshopper mouse	--	SSC	Coastal sage scrub, chaparral, grasslands	Low; suitable habitat present
Neotoma lepida intermedia San Diego desert woodrat	--	SSC	Shrub habitats, rock outcrops	High; suitable habitat present
Bassariscus astutus ringtail	--	FP	Riparian, forest, shrub land, rocky habitats	Low; marginal habitat present
Taxidea taxus American badger	--	*	grasslands, open coastal sage scrub, and chaparral	High; suitable habitat present

Species	Status		Habitat	Potential for Occurrence
	USFWS[a]	CDFG		

[a] U.S. Fish and Wildlife Service
- FE Federal Endangered
- FT Federal Threatened
- FC Federal Candidate

[b] California Department of Fish and Game
- CE California Endangered
- CT California Threatened
- SSC Species of Special Concern
- FP Fully Protected
- * Tracked by CNDDB

Endangered and Threatened Wildlife Species Potentially Occurring Onsite

California condor (*Gymnogyps californianus*) is both federally- and state-listed as endangered. This large carrion-feeder historically ranged from British Columbia to Baja California. By the late 1980s, condors were restricted to an area between Los Angeles and San Luis Obispo counties on the coast to the Sierra Nevada foothills in Tulare County. All condors in the wild were captured in 1987 for use in a captive breeding program. At that time, the total condor population consisted of 27 birds. Small numbers of condors have been released into the wild since 1992 (CDFG 1992) with a current population of 13 individuals (USFWS 1996b).

The project site is within the historic range of the California condor and suitable foraging habitat is present onsite. However, with the low numbers of animals released in the wild to date, the likelihood that they would use this site is low. This species has never been observed onsite.

Coastal California gnatcatcher (*Polioptila californica californica*) is federally-listed as threatened and is a CDFG Species of Special Concern. The California gnatcatcher is a species with restricted habitat requirements, being an obligate resident of coastal sage scrub habitats that are dominated by coastal sagebrush and generally occur below 750 feet elevation in coastal regions and below 1,500 feet inland (Atwood and Boisinger, 1992). It ranges from the Ventura County south to San Diego County and northern Baja California. It is less common in coastal sage scrub with a high percentage of tall shrubs such as laurel sumac, preferring habitat more low-growing vegetation. Population estimates indicate that there are approximately 1,600 to 2,290 pairs of gnatcatchers remaining (MBA 1991; Atwood 1992). Declines are attributed to loss of coastal sage scrub habitat through development, and there is some evidence of cowbird nest parasitism.

Sunshine Canyon Landfill is within the present range of California gnatcatcher. Focused surveys during this 1995 breeding season indicated the absence of this species from the project site.

Southwestern willow flycatcher (*Empidonax traillii extimus*) is listed as federally-endangered and all subspecies of willow flycatchers in California are listed as state-endangered. The southwestern willow flycatcher breeds in dense riparian thickets and trees. This subspecies is known to breed in only eight locations in Southern California, including the Santa Margarita and San Luis Rey rivers in San Diego County and the Santa Inez River in Santa Barbara County(San Diego Natural History Museum 1995). Willow flycatchers are fairly common migrants and most of the migrants are believed to be of the common subspecies, *E.t. brewsteri*, which breeds throughout southern Canada and the northern United States.

There is suitable breeding habitat for the southwestern willow flycatcher on the project site; however, no breeding individuals were observed during focused surveys conducted in spring 1995. A migrant willow flycatcher of an undetermined subspecies was observed by TMC (1995).

Least Bell's vireo (*Vireo bellii pusillus*) is listed as endangered by both USFWS and CDFG. This migratory songbird requires riparian woodlands with a dense understory. Least Bell's vireo was once common in California, ranging from southern California north throughout the Central Valley to Tehama County. This species has declined as a result of habitat loss and nest parasitism by brown-headed cowbirds (*Molothrus ater*) (Franzreb 1989).

There is suitable breeding habitat for the least Bell's vireo on the project site; however, no individuals were observed during focused surveys conducted in spring 1995.

Arroyo southwestern toad (*Bufo microscaphus californica*) is listed as endangered by USFWS and is a California Species of Special Concern. This amphibian historically occurred from San Luis Obispo County south into Baja California. There are records of the arroyo toad throughout coastal and desert regions of San Diego County. Arroyo toads are known to occur in the San Gabriel Mountains (Jennings and Hayes 1994).

Arroyo toads have very specific habitat requirements. Arroyo toads occur in and breed in pools with a depth of 12 inches or less, with extensive gravel beds (Sweet 1991). Suitable gravel beds and pools were not observed in the project site, and the arroyo toad is not expected to occur.

California red-legged frog (*Rana aurora draytonii*) is listed as endangered by USFWS and is a CDFG Species of Special Concern. According to Jennings and Hayes (1994), this species is extirpated from the San Gabriel Mountains.

California red-legged frogs require areas of deep, slow-moving water and dense vegetation such as ponds or deep pools in streams (Jennings and Hayes 1994). There is no suitable deep water habitat in the drainages located onsite for this species and it is not expected to occur.

Sensitive Wildlife Species Observed Within Sunshine Canyon

San Diego horned lizard (*Phrynosoma coronatum blainvillei*) is a California Species of Special Concern. It is a small, spiny, somewhat rounded lizard that occurs primarily in open or sparse coastal sage scrub and chaparral communities. This species prefers loose friable soil for burrowing. Three factors have contributed to its decline: loss of habitat, overcollecting, and the introduction of exotic ants. In some places, especially adjacent to urban areas, the introduced ants have displaced the native species upon which the lizard feeds (Hix 1990). San Diego horned lizards were identified onsite during previous field surveys.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*) is not considered sensitive by state or federal resource agencies; however, it is considered locally rare in southwestern California and until recently was a candidate 2 species for federal listing. It is a moderately large, slender lizard typically found in semi-arid areas or where vegetation is sparse. Coastal western whiptails inhabit open coastal sage scrub, chaparral, and woodland habitats. It eats insects, spiders, scorpions, and lizards. It is restricted to the western coast of North America from about Ventura County, California, south through the northern two-thirds of the Baja California peninsula. This subspecies apparently has declined in California as a result of loss of habitat to urban development. This species was observed during previous surveys of the project site.

California horned lark (*Eremophila alpestris actia*) is a California Species of Special Concern and is found along the coast of Northern California, in the San Joaquin Valley, in the Coast Ranges south of San Francisco Bay, and in Southern California west of the deserts. In Southern California, this subspecies is a fairly common breeding resident in grasslands and other dry, open habitats. Horned larks were observed within the non-native grassland habitat during previous field surveys.

The **loggerhead shrike** (*Lanius ludovicianus*) is a California Species of Special Concern. This species is a fairly common resident of lowlands and foothills in Southern California. Shrikes inhabit grasslands and other dry, open habitats. They can often be found perched on fences and posts from which prey items (large insects, small mammals, lizards) can be seen. Loggerhead shrikes were observed within the project site during previous field surveys.

The **yellow warbler** (*Dendroica petechia*) breeds in riparian areas in Southern California but mainly occurs as migrants (Unitt 1984). This species is a CDFG California Species of Special Concern. Yellow warblers breed from southern British Columbia and western Washington south to northwestern Baja California and northwestern Texas (Curson 1994). In Southern California, yellow warblers breed locally in riparian woodlands. Yellow warblers were observed in wooded habitats during migration within the project site during previous surveys, but were not observed during breeding bird surveys.

Raptors

The **white-tailed kite** is a state Fully Protected species, a designation established prior to the adoption of the state and federal Endangered Species acts that protect the species from harassment or harm. The kite ranges over open grasslands, where it hovers until it locates small mammals or large insects. It nests in a variety of woodland habitats. Its status as fully protected in California was designated after populations had dropped to very low levels in the early part of this century. The population numbers of this species have increased in the last 20 years, but leveled off in recent years (Garrett and Dunn 1981) and have begun to decline again in some areas in the past 10 years. There have been several population fluctuations since the 1970s, and numbers remain below historic levels. White-tailed kites were observed onsite during previous surveys.

The **Cooper's hawk** is a California Species of Special Concern. Both resident and migratory populations exist in Southern California. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland habitats. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. Cooper's hawks in the region prey on small birds and rodents that live in woodland and occasionally scrub and chaparral habitats. Cooper's hawk was observed onsite during previous field surveys.

The **golden eagle** is a California Fully Protected Species, a California Species of Special Concern, and is also protected by the federal Bald Eagle Act. This species breeds in the mountains and foraging habitat is present onsite. A golden eagle was observed onsite during previous field surveys.

Prairie falcons are a California Species of Special Concern. Because of winter foraging and nesting habitat loss, few areas remain in Southern California where prairie falcons can be consistently observed, and no nest sites have been documented in the region in over 50 years. Preferred winter foraging habitat in Southern California includes grasslands, coastal sage scrub, and estuaries. A prairie falcon was observed onsite during previous field surveys.

WILDLIFE CORRIDORS

Wildlife corridors are belts or blocks of habitat that connect two or more larger habitat areas and are used by wildlife to travel between the two areas. They can reduce the effects of habitat fragmentation that otherwise result in loss of species that require large contiguous expanses of unbroken habitat to maintain viable populations. Fragmentation is an important ongoing effect of scattered land development and linear projects (e.g., freeways). It reduces functioning ecosystems to scattered pockets surrounded by developed areas. Small populations of native plants and animals become isolated and are susceptible to local extinction, leading to a systematic reduction in biodiversity (Soulé et al. 1988, Soulé 1991, Soulé et al. 1992). Habitat fragmentation may also lead to inbreeding and consequent loss of genetic diversity; movement routes can alleviate this problem by allowing gene flow between adjacent small populations.

Large wide-ranging mammals (e.g., mountain lions) are called "passage species," and may use corridors regularly to travel between detached portions of their territory. If corridors connect relatively distant habitat areas, some animals (e.g., small reptiles and mammals, called "resident species") might travel through a corridor over the course of a generation or more. Thus, a corridor must provide suitable habitat to allow resident species to carry out their entire life cycles (Beier and Loe 1992).

The Santa Susana Mountains are an important large-scale link between the San Gabriel Mountains to the east,

the Los Padres Mountains to the north, and the Santa Monica Mountains to the south. Links between each of these ranges have been isolated to some degree by major freeways which present nearly continuous barriers to wildlife movement. Two freeways (I-5 and SR-14) now present significant barriers to wildlife movement. Large mammals (American badger, mountain lion, and black bear; pers. comm., Rick Farris to Doug Willick, 1992) are occasionally killed on these freeways, illustrating their barrier effect to animal movement.

Where freeways or other linear barriers to wildlife movement interrupt movement routes, wildlife corridors must be designed to incorporate little-used underpasses or overpasses, equestrian tunnels, or large storm drain culverts. Rick Farris (pers. comm. to Doug Willick, 1992) has documented movement of amphibians and small to medium sized mammals beneath little-used underpasses beneath the I-5 and SR-14. Potentially viable wildlife corridors exist along these freeways where the Old Road and Sierra Highway cross beneath them (Briley 1991). The Old Road passes beneath I-5 twice in the vicinity of the project site: once at Towsley Canyon (three miles north of the I-5/SR-14 interchange) and again two miles north of the interchange near the mouth of East Canyon. Paved underpasses at both sites are relatively little used and open space is available on both sides of the freeway. The unpaved Los Pinetos underpass beneath SR-14, about two miles north of the I-5 interchange, is in a drainage with open space on both sides of the freeway. This combination of the two Old Road underpasses, the Los Pinetos underpass, and intervening open space, appear to provide the only functioning wildlife movement route between the Santa Susana and San Gabriel Mountains. This route does not cross the Sunshine Canyon site, and there is no evidence that wildlife can or do use the project site for significant local or regional movement.

Historically, Sunshine Canyon and adjacent canyons provided routes for wildlife movement between the western San Gabriel Mountains and the Santa Susana Mountains. Today, however, the site is adjacent to an operational landfill to the north and northwest and I-5 to the east. Also, to the north and northwest, the site is adjacent to a large area supporting oak woodlands, coastal sage scrub, and habitat comparable to those on-site. The project site does not connect with larger habitat areas because of development activities that have occurred within Sunshine Canyon as a result of landfilling.

3.3.4 SENSITIVE HABITATS

Four sensitive habitats are found within the project boundaries: Venturan coastal sage scrub, coast live oak woodland, southern willow scrub, and Arroyo willow series.

Venturan coastal sage scrub is ranked as highly threatened by the CNDDB because of development pressures. The CNDDB lists this scrub community as and S2.1 rank, which means having between 21-100 viable occurrences or covering between 4,000-20,000 hectares within California. In addition, this community is considered sensitive because of the high numbers of rare species that are found in coastal sage scrub.

Coast live oak woodland is ranked as S4 by the CNDDB, which means the plant community is a "secure" habitat, however, impacts to oak trees are regulated by the Los Angeles City Oak Tree Ordinance.

Arroyo willow series is ranked as very threatened by the CNDDB. As much as 95 to 97 percent of the riparian habitat, including Arroyo willow series, has been lost to activities such as channelization for flood control and sand and gravel mining (Faber et al. 1989). The CNDDB ranks this community as S2.1, which means having between 21-100 viable occurrences or covering between 4,000-20,000 hectares within California.

Southern willow scrub is ranked as very threatened by the CNDDB because of channelization for flood control and sand and gravel mining (Faber et al. 1989). The CNDDB ranks this community as S2.1, which means having between 21-100 viable occurrences or covering between 4,000-20,000 hectares within California.

SECTION 4
PROJECT IMPACTS

The proposed landfill development will result in the loss of 122.4 acres of native vegetation and wildlife habitat and the continued use of 108.0 acres of existing landfill (Table 4-1).

4.1 THRESHOLDS OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria which implement the policy statement contained in CEQA, and established California biological management guidelines pursuant to federal, state, local plans, and ordinances.

Significance thresholds for biological concerns were derived from a review of CEQA (Appendix G), important California biological management guidelines established by state and local agencies, and local/regional plans and ordinances. Using these guidelines, the proposed project was judged to have a significant impact on biological resources within the project site or immediately surrounding region if it would:

- Substantially affect a rare or endangered species of plant or animal or the habitat of such species.
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.
- Substantially diminish habitat for fish, wildlife, or plants.

Additional constraints on the proposed project posed by biological resources were evaluated with respect to the following sensitive biological issues.

- Federally- or state-listed endangered or threatened species of plants or wildlife.
- Streambeds, wetlands, and their associated vegetation.
- Habitats suitable to support a federally- or state-listed endangered or threatened species of plant or wildlife.
- Species designated as candidates for federal listing.
- Habitat, or other wetlands, considered sensitive by regulatory agencies or resource conservation organizations.
- Other species or issues of special concern to agencies.

- The species, subspecies or variety is limited in distribution in the County or region, and endemic (limited to a specific area) in the region.

- The species population is the extreme of its range or is disjunct from its known range.

- Species whose habitat requirements make them susceptible to local extinctions as a consequence of development, the introduction of barriers to movement, and/or accompanying increases in human activity.

- Populations of particular species which exhibit unusual adaptations or are quality examples of the species.

- Taxa which are considered sensitive by recognized monitoring groups (i.e., California Native Plan Society, California Department of Fish and Game, etc.).

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when "the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal."

Substantial impacts would be those that diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a populationwide, or regionwide, basis.

4.2 VEGETATION IMPACTS

Tables 4-1 and 4-2 depict the acreages of each vegetation community that will be removed and the acreage of each vegetation type that will remain following project implementation. The depictions are for the city and county sites, respectively. Exhibit 6 illustrates the project impacts.

The project will impact 4.8 acres of **Arroyo willow series**, and 1.9 acres of **southern willow scrub**. Because these communities are riparian in nature and are considered sensitive by resource agencies, these impacts are considered significant.

Approximately 34.6 acres of **coast live oak woodland** will be impacted by the project. Because oak trees are protected by the City of Los Angeles Oak Tree Ordinance, this impact is considered significant.

TABLE 4-1

IMPACTS TO PLANT COMMUNITIES
SUNSHINE CANYON LANDFILL/CITY OF LOS ANGELES

Plant Community	Existing Acres	Acres Impacted by Closure Activities	Acres Impacted by the Proposed Project	Total Acres to be Impacted	Acres to Remain
Arroyo Willow Series	4.8	2.2	2.6	4.8 (100%)	0 (.0%)
Southern Willow Scrub	1.9	1.6	0.3	1.9 (100%)	0 (0%)
Mulefat Scrub	1.5	0	0	0 (0%)	1.5 (100%)
Coast Live Oak Woodland	39.3	3.3	25.3	28.6 (73%)	10.7(27%)
Walnut Woodland	1.9	0	.3	.3 (16%)	1.6 (84%)
Venturan Coastal Sage Scrub	149.1		71.3	71.3 (48%)	77.0 (52%)
Chamise Chaparral	8.6	2.4	4.4	6.8 (79%)	1.8 (21%)
Big Cone Douglas-Fir Forest (no actual forest occurs onsite)	3.1		2.7	2.7 (87%)	0.4 (13%)
Non-native Grassland	16.7		5.5	5.5 (33%)	11.2 (67%)
Ornamental Plantings	9.0		0.7	0.7 (8%)	8.3 (92%)
Mitigation Area	0.3		0.3	0.3 (100%)	0 (0%)
Existing Landfill	257.9	4.5	103.5	108.0 (42%)	150.1 (58%)
Total	494.1	14.0	216.9	230.9 (47%)	263.2 (53%)

TABLE 4-2
IMPACTS TO PLANT COMMUNITIES
42 ACRE COUNTY SITE SUNSHINE CANYON LANDFILL

Plant Community	Existing Acres	Acres to be Impacted	Acres to Remain
Coast live oak woodland	6.0	6.0	0
Venturan coastal sage scrub	10.9	10.9	0
Chamise chaparral	0.9	0.9	0
Non-native grassland	3.0	3.0	0
Existing inactive landfill	21.0	21.0	0
Total	41.8	41.8	0

The project will impact 82.2 acres of **Venturan coastal sage scrub**. Venturan coastal sage scrub is considered to be sensitive by resource agencies, therefore, this impact is significant.

Impacts to 7.7 acres of **chamise chaparral**, 2.7 acres of small, isolated patches of **big cone Douglas-fir "forest" habitat**, 0.7 acre of **ornamental plantings**, and 8.5 acres of **non-native grassland** will occur as a result of the landfill development. Because these communities are regionally common, these impacts are not significant.

Impacts to 0.3 acre of **mitigation area** would be considered significant because it removes an existing mitigation measure.

Impacts to **existing inactive landfill** are not significant because these areas have already been disturbed and are not considered biologically important.

4.3 WILDLIFE IMPACTS

The primary impacts of project implementation on wildlife resources are the removal and disruption of habitat and displacement of wildlife, resulting in a less diverse and less abundant local faunal population. Adverse impacts on wildlife are generally associated with the degree of habitat loss from the standpoint of physical character, quality, diversity, and abundance of vegetation. Although a few species of wildlife are entirely dependent on a single vegetation community, it is important to recognize that the entire mosaic of vegetation communities within the development area, and adjoining areas, constitutes a functional ecosystem for species both within the immediate project area and within the larger regional ecosystem. Impacts that

will potentially disturb this functioning ecosystem need to be considered when addressing the effects of the proposed development on wildlife habitat.

Loss of Wildlife and Wildlife Habitat

The removal or alteration of the habitats that exist within the project site would result in the loss of small mammals, reptiles, amphibians, and other animals of slow mobility that live in habitats within the limits of the proposed landfill and its ancillary facilities. More mobile wildlife species now occupying and/or using the project site would be forced to move into remaining areas of open space, consequently increasing competition for available resources in those areas. This situation could result in the loss of individuals of wildlife populations that cannot successfully compete. Within a regional context, the displacement and loss of wildlife as a result of the project is not expected to significantly affect local non-sensitive wildlife populations. No significant impacts on non-sensitive wildlife species diversity are expected to occur.

Adverse indirect impacts to vegetation and wildlife include (1) increased landfill vehicular traffic and a corresponding increase in road kills and noise and (2) an increase in litter, pollutants, dust, oil, and other human debris into the area. These impacts by themselves would not be expected to reduce general wildlife populations below self-sustaining levels in the region and, therefore, are not considered to be significant.

Migratory Bird Treaty Act

In addition, all native breeding birds, whether or not they are considered sensitive by resource agencies, are protected by the Migratory Bird Treaty Act. Impacts to breeding birds and their nests during the breeding season, would be considered significant.

Raptor Nests

Project development could also potentially result in the removal of active raptor nests. All raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code. Loss of any active raptor nest would be considered a significant impact.

4.4 SENSITIVE BIOLOGICAL RESOURCES IMPACTS

4.4.1 SENSITIVE HABITATS

Five habitats onsite, **coast live oak woodland , Arroyo willow series, southern willow scrub, mulefat scrub and Venturan coastal sage scrub** are classified as sensitive by resource agencies. Impacts to these habitats are significant. Table 4-1 lists the acreage of each of these sensitive communities that will be impacted by the project.

4.4.2 SENSITIVE PLANT IMPACTS

Two sensitive plants, slender mariposa lily and Southern California black walnut, were located within the project site during sensitive plant surveys conducted May - June 1995 by TMC.

Two populations of **slender mariposa lily** were observed by Tierra Madre Consultants (1995). Exhibit 5 illustrates the locations of the populations within the proposed landfill footprint boundaries site. Because this plant is known from only a few locations, is a CNPS List 1B species, and as such meets the requirements for listing under the California Endangered Species Act (Skinner and Pavlik 1994), impacts to the slender mariposa lily are considered significant.

Southern California black walnuts occur onsite in scattered locations, but are mainly concentrated in canyon bottoms and the oak woodlands. Most of the walnuts are located south-east of the main entrance to the city landfill. There are no tree ordinances governing the removal of walnut trees. Because of the low density of walnuts onsite, and because the walnuts do not occur in a walnut woodland, which is a sensitive community, impacts to walnut trees are considered adverse, but not significant.

4.4.3 SENSITIVE WILDLIFE IMPACTS

Several species of Special Concern were located onsite during surveys; however, no species that are listed as threatened or endangered are known to breed onsite.

Threatened and Endangered Species Potentially Occurring Onsite

Suitable habitat exists in the site's coastal sage scrub for the threatened **California gnatcatcher**. This species was not detected during surveys conducted in 1995 (TMC 1995). However, the site is within this species' geographical and elevational range, and California gnatcatchers may move into the site prior to project implementation. If California gnatcatchers occupy the site, impacts to this species would be considered significant. If California gnatcatchers do not occupy the site, there will be no impacts to this species.

Potential breeding habitat for the endangered **least Bell's vireo** exist in the site's southern willow scrub and Arroyo willow series. This species was not detected during focused surveys conducted in 1995 (TMC 1995). However, as the population of least Bell's vireo continues to grow, this species may occupy suitable habitat areas that were previously unoccupied. If this species becomes a breeder onsite prior to project implementation, the impact to this species would be significant. If the site remains unoccupied, there will be no impacts to this species.

Potential habitat exists for the endangered **southwestern willow flycatcher** in the site's southern willow scrub and Arroyo willow series. In Southern California, this species is extremely rare and is restricted to large drainages (i.e., Santa Inez River, San Luis Rey River) with high quality riparian habitats. This species was not observed breeding onsite in 1995 (TMC 1995). Because no large drainages (such as river bed areas) are present onsite, this species is not expected to occur unless the population increases as did the population of least Bell's vireo in recent years. No impacts are anticipated for the southwestern willow flycatcher.

Although the site is within range of the endangered **arroyo southwestern toad** and **California red-legged frog**, there is no suitable habitat onsite for these species. No impacts to these species are expected to occur.

Species of Special Concern and Other Sensitive Species

Amphibians

The potential for **coast range newt** (*Toricha torosa torosa*) and **western spadefoot** (*Scaphiopus hammondii*) to occur is low, and if present, these species would occur in small numbers because habitat for these species is marginal. Impacts to these species, if present, would be considered not significant.

Reptiles

The **San Diego horned lizard** occurs onsite (TMC 1995). This species is considered to be threatened (Jennings and Hays 1994) and thus, impacts to this species are considered significant.

The **coastal western whiptail** was also observed onsite. Because this species is fairly common regionally, impacts to this species would be considered adverse, but not significant.

Suitable habitat is present for the **silvery legless lizard** (*Aniella pulchra pulchra*) , **San Diego banded gecko** (*Coleonyx variegatus abbottii*), **San Bernardino ringneck snake** (*Diadophus punctatus modestus*), **coast patch-nosed snake** (*Salvadora hexalepis virgultea*), **coastal rosy boa** (*Lichanura trivirgata roseofusca*), and **two-striped garter snake** (*Thamnophis hammondii*). Because available suitable habitat is present for these species in the mountains in the vicinity of the site, impacts to these species are adverse, but not significant.

Birds

California horned lark, Southern California rufous-crowned sparrow, and **loggerhead shrike** have been observed onsite and potentially breed onsite. Because suitable habitat exists for these species in the vicinity of the site, impacts to these birds are adverse, but not significant.

Potential nesting habitat is present for the **yellow warbler, yellow-breasted chat** (*Icteria virens*), and **Bell's sage sparrow** (*Amphispiza belli belli*). However, these species were not observed during breeding bird surveys conducted in 1995 (TMC 1995) and the potential for these species to occur is low. Impacts, if they occur, will be less than significant.

There is a low potential for the **tricolored blackbird** (*Agelaius tricolor*) and **coastal cactus wren** (*Campylorhynchus brunneicapillus*) to forage onsite. Impacts to these species would not be considered significant.

Raptors

Breeding and foraging habitat is present for **white-tailed kite, Cooper's hawk**, and **long-eared owl** (*Asio otus*). Because suitable habitat for these raptors is present in the vicinity of the site, these impacts are adverse, but not significant.

Although not observed, potential breeding habitat is present for **western burrowing owls** (*Speotyto cunicularia hypugaea*) and potential foraging habitat is present for **California spotted owls** (*Strix occidentalis occidentalis*). Because of the serious decline of the western burrowing owl in coastal Southern California, impacts to this species, if they occur, would be considered significant.

Winter foraging habitat is present for **northern harrier**, **ferruginous hawk** (*Buteo regalis*), **sharp-shinned hawk**, **merlin** (*Falco columbarius*), and **prairie falcon**. There is also year-round foraging habitat for **golden eagle**. Because of the large amount of foraging habitat available for these raptors in the vicinity of the site, impacts to foraging habitat are not significant.

Mammals

Foraging habitat exists for **pale big-eared bat** (*Plecotus townsendii pallescens*), **pallid bat** (*Antrozous pallidus*), and **California mastiff bat** (*Eumops perotis californicus*). The loss of foraging habitat for these species is not significant because of the large amount of suitable habitat present in the Santa Susana and San Gabriel Mountains.

Two small rodents, **Los Angeles pocket mouse** (*Perognathus longimembris brevinasus*) and **southern grasshopper mouse** (*Onychomys torridus ramona*) potentially occur onsite. The potential for these species to occur is low, and if present they would be found in small numbers. Impacts to these species would not be considered significant.

The **desert woodrat** (*Neotoma lepida intermedia*), **San Diego black-tailed jackrabbit** (*Lepus californicus bennettii*), and **American badger** (*Taxidea taxus*) potentially occur onsite. There is suitable habitat for these species in the vicinity of the site, but impacts to these species would not be considered significant. The habitat available for the **ringtail** (*Brassariscus astutus*) is not suitable and, therefore, no impact is expected for this species.

Closure and Post-closure Impacts

Information on the city portion of Sunshine Canyon existing inactive landfill closure and post-closure activities can be found within the draft SEIR. Construction of surface water drainage improvements (e.g., sedimentation basin and drainage channels) will impact 14± acres within the city landfill. No closure and post-closure impacts will occur on the county side of the landfill. As a result of disturbances on the

existing inactive landfill, 4.5± acres would occur. Impacts due to closure activities will occur even if the proposed city/county project is not implemented. Specific project impacts due to the closure and post-closure maintenance activities are discussed within the Sunshine Canyon Landfill closure and post-closure maintenance plans. Specific environmental documentation contained in the maintenance plans have been prepared and are on file with the city LEA and Department of City Planning.

Plant communities such as arroyo willow series, southern willow scrub, coast live oak woodland, chamise chaparral, and existing areas of the inactive landfilll would be disturbed through closure and post-closure activates (see Table 4-3)

TABLE 4-3
PLANT COMMUNITIES IMPACTED BY CLOSURE ACTIVITIES
(CITY ONLY)

Plant Communities	Existing Acres	(±) Acres Impacted	% of Total (±494)
Arroyo Willow Series	4.8	2.2	0.44
Southern Willow Scrub	1.9	1.6	0.32
Mulefat Scrub	1.5	--	--
Coast Live Oak Woodland	39.3	3.3	7.8
Walnut Woodland	1.9	--	--
Venturan Coastal Sage Scrub	149.1	--	--
Chamise Chaparral	8.6	2.4	0.49
Big-cone Douglas Fir Forest	3.1	--	--
Non-native Grassland	16.7	--	--
Ornamental	9.0	--	--
Mitigation Area	0.3	--	--
Inactive Landfill	257.9	4.5	0.91
Total	494.1	14.0	2.84

4.5 WILDLIFE MOVEMENT CORRIDORS

The proposed project will not impact wildlife movement corridors in the region as the project site does not function as a wildlife movement corridor.

SECTION 5
MITIGATION MEASURES

Mitigation measures are designed to mitigate significant impacts to a level of less than significant, if possible. Those impacts that cannot be mitigated to a level of less than significant are identified as unavoidable significant impacts.

Recommended mitigation generally follows a three-tiered approach: *avoidance*-this is the most effective type of mitigation, wherein important habitat or other resources are avoided through project design; *protection*-these are measures that allow the remaining habitat to continue to function in as close to the existing state as possible; and *habitat replacement*-replacement of sensitive habitat types lost by the development of the project.

Significant impacts are identified for Arroyo willow series, southern willow scrub, coast live oak woodland, Venturan coastal sage scrub, slender mariposa lily, and San Diego horned lizard. Potentially significant impacts are identified for coastal California gnatcatcher, least Bell's vireo, western burrowing owl, breeding birds' nests, and raptor nests.

5.1 SENSITIVE HABITATS

5.1.1 ARROYO WILLOW SERIES AND SOUTHERN WILLOW SCRUB

Impacts to these habitats require a Streambed Alteration Agreement with CDFG and 404 permits from Corps. Zander Associates have previously addressed regulatory issues for these habitats (Zander Associates 1995). Zander's report will be referred to in the Draft SEIR.

5.1.2 VENTURAN COASTAL SAGE SCRUB

Loss of Venturan coastal sage scrub typically requires restoration of this habitat. A detailed conceptual mitigation plan should be prepared that contains information on planting, maintenance, and a 5-year monitoring program. Coastal sage scrub restoration can feasibly be conducted onsite, on the top deck area of the landfill once the landfill has closed. This would lead to an unavoidable temporal loss of habitat; however, it will also provide onsite mitigation. In addition, if the habitat replacement to impact ratio is greater than 1:1, this will also offset the temporal loss of coastal sage scrub. Following mitigation, the impact to coastal sage scrub will be less than significant.

5.1.3 COAST LIVE OAK WOODLAND

Oak trees are regulated by the City of Los Angeles. In compliance with the City's oak tree ordinance, an updated Oak Tree Report was prepared by Ralph Osterling Consultants, Incorporated. Pursuant to the ordinance, all measures should be undertaken to avoid impacts to mature oak trees (i.e., trees whose trunk diameter at 4.5 feet above ground level exceeds 24 inches). Where oak trees are scheduled for preservation, the applicant should provide measures to avoid indirect impacts. Pursuant to the ordinance, where impacts cannot be avoided, the applicant would be required to provide an oak tree mitigation program for replacement at not less than three trees per tree removed. This mitigation program is required for submittal to the City of Los Angeles.

As part of the oak tree replacement, a conceptual mitigation plan should be created that details planting, maintenance, and a 5-year monitoring program for the oak woodland. Understory species should be planted among the oaks to increase wildlife habitat value. Following mitigation, this impact will be less than significant. Ralph Osterling Consultants, Inc. has addressed the regulatory issues for this habitat (Ralph Osterline Consultants, Inc. 1995). Osterling's report will be referred to in the Draft SEIR.

5.1.4 MITIGATION AREA

The mitigation area was planted with coast live oak trees. These trees should be replaced at a 1:1 ratio and monitored for 5 years. This mitigation should be incorporated into the oak tree conceptual mitigation plan.

5.2 SENSITIVE PLANTS

The slender mariposa lily lies within the proposed landfill footprint. For sensitive plants, the most effective mitigation alternative is avoidance. If the grading limits of the landfill footprint can be adjusted to avoid the population, there will be no impact to this species.

If both populations can not be avoided, then the larger population should be saved. Bulbs from the smaller population should be dug up and replanted in the area with the larger lily population. A conceptual mitigation plan for transplanting the lilies should be created that describes transplantation techniques, monitoring, and success criteria. If this option is used, then impacts to the slender mariposa lily would be reduced to less than significant.

If it is not possible to preserve the lily habitat onsite, a conceptual restoration plan for transplanting lily bulbs should be created. The plan should include soil studies, transplantation techniques, site maintenance, and a 5-year monitoring program. Because the transplanting of rare plants is not always successful, and no detailed microhabitat requirements for the lily are currently known, the success of

this mitigation measure can not be assured. Impacts to this species would be less than significant if transplantation succeeds, or remain significant if transplantation fails.

5.3 SENSITIVE WILDLIFE

5.3.1 SAN DIEGO HORNED LIZARD

Impacts to the San Diego horned lizard can be mitigated to a level of less than significant by restoring coastal sage scrub habitat as described in Section 5.1.2 of this report. This will create a temporal loss of the species, but the population should recover following restoration of coastal sage scrub habitat. Topsoils should be selected that are friable, to suit the lizard's habitat requirements. Following mitigation, impacts to this species will be less than significant.

5.3.2 CALIFORNIA GNATCATCHER

Surveys should be conducted for the California gnatcatcher 1 year prior to impact and immediately prior to grading to determine the status of this species in the project impact area. Surveys should be conducted in accordance with USFWS protocol. If present, the following mitigation measures would apply.

A Section 10(a) permit from USFWS would be required for take of California gnatcatcher if this species is present. A Habitat Conservation Plan would be required as part of the permitting process.

If grading activities are planned to occur during the nesting season for the California gnatcatcher (March through July), and the gnatcatcher is present, a federally permitted gnatcatcher biologist will survey suitable habitat in the grading area to determine if this species is present. If California gnatcatchers are present and direct impacts would occur, grading activities in this area will not occur during the nesting season.

Additional coastal sage scrub restoration or the purchase of suitable offsite coastal sage scrub may be required if California gnatcatchers are found onsite.

If no California gnatcatchers are found, there will be no impact to this species. If California gnatcatchers are found, impacts will be reduced to a level of less than significant following mitigation.

5.3.3 LEAST BELL'S VIREO

Surveys should be conducted for least Bell's vireo to determine the status of this species on the project site 1 year prior to impact and immediately prior to grading. Surveys should be conducted in all areas

of potential vireo habitat. If this species is present onsite, the following mitigation measures would apply.

A Section 10(a) permit from USFWS would be required for take of least Bell's vireo if this species will be impacted. A Habitat Conservation Plan would be required as part of the permitting process.

If grading activities are planned to occur during the nesting season for least Bell's vireo (April through July), a biologist (with least Bell's vireo experience) will survey suitable habitat in the grading area prior to the initiation of grading to determine if this species is present. If least Bell's vireo is present and direct impacts would occur, grading activities in this area will not occur during the nesting season.

Mitigation for southern willow scrub and Arroyo willow series would restore habitat for this species; however, if the site is occupied by least Bell's vireo, then USFWS may require that the replacement ratios for these communities increase to 5:1.

5.3.4 WESTERN BURROWING OWL

Western burrowing owls were not detected onsite during previous surveys; however, pre-construction surveys should be conducted within 30 days of grading to determine if the species has moved onto the project site. If surveys indicate the presence of western burrowing owls, a passive relocation program should be implemented prior to grading. Mitigation will reduce the potential impact to a level less than significant.

5.3.5 MIGRATORY BIRD TREATY ACT

The active nests of native bird species are protected under the Migratory Bird Treat Act and cannot be disturbed. To prevent the loss of an active bird nest, vegetation should not be cleared during the breeding season for birds. The breeding season is March 15 to August 1. If vegetation clearing needs to be completed during this time, surveys should be conducted for active bird nests. All active bird nests should be protected until the young become independent.

5.3.6 RAPTOR NESTS

If habitat removal is proposed during the raptor breeding season (March to July), a survey should be conducted during the breeding season for active raptor nests. If active nests are found, no construction activity should take place within 500 feet of an active nest until the young have fledged. The 500-foot perimeter around each active nest should be fenced by appropriate visible fencing material. Trees containing nests should be removed during the non-breeding season only.

5.4 SIGNIFICANT IMPACTS AFTER MITIGATION

After all required mitigation measures are completed, there will be no significant biological impacts associated with the proposed project, unless the proposed mitigation measures fail.

SECTION 6
REFERENCES

Abrams, L. 1923. *Illustrated Flora of the Pacific States, Vol. I.* Stanford University Press. Stanford, California.

Abrams, L. 1944. *Illustrated Flora of the Pacific States, Vol. II.* Stanford University Press. Stanford, California.

Abrams, L., and R. S. Ferris. 1951. *Illustrated Flora of the Pacific States, Vol. III.* Stanford University Press. Stanford, California.

Abrams, L., and R. S. Ferris. 1960. *Illustrated Flora of the Pacific States, Vol. IV.* Stanford University Press. Stanford, California.

American Ornithologists' Union. 1983 (and supplements 1985, 1987, 1989, 1991, 1993, and 1995). *The A.O.U. Check-List of North American Birds.* 6th ed. Allen Press. Lawrence, Kansas.

Atwood, J. L. 1992. A Maximum Estimate of the California Gnatcatcher's Population Size in the United States. In *Western Birds* 23: 1-9.

Atwood, J. L. 1993. California Gnatcatchers and Coastal Sage Scrub: The Biological Basis for Endangered Species Listing, *Interface Between Ecology and Land Development in California.* J. E. Keeley (ed.). Southern California Academy of Sciences. Los Angeles, California.

Atwood, J. L., and Bolsinger, J. S. 1992. Elevational Distrubution of California Gnatcatchers in the United States. *Journal of Field Ornithology* 63(2): 159-168.

Beier, P. and S. Loe. 1992. A Checklist for Evaluating Impacts to Wildlife Movement Corridors. In *Wildlife Society Bulletin* 20: 434-440.

Beauchamp, M.J. 1986. A flora of San Diego County, California. *A listing of native species of the region and the plant community associated with that taxon.* Sweetwater River Press. National City, California.

Briley, D. W. 1991. *Santa Clarita Wildlife Corridor. Regional Habitat Linkages for Species Movement between the Santa Susana and San Gabriel Mountains.* Prepared for the Santa Monica Mountains Conservancy, Malibu, California. (Not seen; cited by P&D 1993).

California Department of Fish and Game. 1988. *California's Wildlife.* Volume I: Amphibians and Reptiles. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. 1990a. *California's Wildlife.* Volume II: Birds. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. 1990b. *California's Wildlife.* Volume III: Mammals. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. 1992a. *Annual Report on the Status of California's State Listed Threatened and Endangered Plants and Animals*. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game. 1992b (Jan). *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.*

California Department of Fish and Game. 1994 (Aug). *Special Animals*. California Department of Fish and Game, State of California Resources Agency, Sacramento, California.

California Department of Fish and Game. 1996a (Jan). *Endangered Threatened, and Rare Plants of California*. State of California Resources Agency, Department of Fish and Game, natural Heritage Division, Endangered Plant Program. Sacramento, California.

California Department of Fish and Game. 1996b (Jan). *Special Plants List*. California Department of Fish and Game, Natural Heritage Division, Sacramento, California.

California Department of Fish and Game. 1996c (Jan). *Endangered and Threatened Animals of California*. State of California Resources Agency. Sacramento, California.

California Natural Diversity Data Base. 1992. *NDDB Rare Communities R-5*. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

California Natural Diversity Data Base. 1996. *Data Base Record Search for Information on Threatened, Endangered, Rare, or Otherwise Sensitive Species and Communities in the Vicinity of Oat Mountain and San Fernando*. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

California Office of Planning and Research. 1986. *CEQA: California Environmental Quality Act, Statutes and Guidelines 1986*. California Office of Planning and Research.

Collins, J. T. 1990. *Standard Common and Scientific Names for North American Amphibians and Reptiles*. Herpetological Circular No. 19. 3rd ed. Society for the Study of Amphibians and Reptiles. Lawrence, Kansas.

Curson, J., D. Quinn, and D. Beadle. 1994. *Warblers of the Americas: An Identification Guide.* Houghton Mifflin Company. Boston, New York.

Hix, A. B. 1990. *Sensitivity of San Diego's Biological Resources: An Informational Report*. City of San Diego Planning Department, Development and Environmental Planning Division.

Faber, P. M., E. Keller, A. Sands, and B. M. Massey. 1989. *The Ecology of Riparian Habitats in the Southern California Coastal Region: A Community Profile*. Biological Report 85(7.27), USDI Fish and Wildlife Service, Washington, D.C.

Fiedler, P. L. 1991. *Mitigation-related Transplantation, Relocation, and Reintroduction Projects Involving Endangered, Threatened, and Rare Plant Species in California*. Prepared for California Department of Fish and Game Endangered Plant Program. Final Report.

Franzreb, K. E. 1989. Ecology and Conservation of the Endangered Least Bell's Vireo. Biological Report 89(1). U.S. Fish and Wildlife Service.

Garrett, K., and J. Dunn. 1981. *Birds of Southern California: Status and Distribution.* Los Angeles Audubon Society. Los Angeles, California.

Grinnell, J., and A. H. Miller. 1944. The Distribution of the Birds of California. In *Pacific Coast Avifauna.* Cooper Ornithological Club. Berkeley, California. No. 27

Hall, E., and K. Kelson. 1959. *The Mammals of North America.* The Ronald Press Company. New York.

Hickman, J. C. 1993. *The Jepson Manual: Higher Plants of California.* University of California Press. Berkeley, California.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Non-game Heritage Program. California Department of Fish and Game. Sacramento.

Jameson, E. W. Jr. and H.J. Peeters. 1988. *California Mammals.* University of California Press, Berkeley, California.

Jennings, M. R. 1983. An Annotated Checklist of the Amphibians and Reptiles of California. In *California Fish and Game* 69(3): 151-71.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibians and Reptile Species of Special Concern in California.* California Department of Fish and Game. Inland Fisheries Division. Contract No. 8023.

Michael Brandman Associates. 1991. *A Rangewide Assessment of the California Gnatcatcher (Polioptila californica).* Prepared for the Building Industry Association of California.

Michael Brandman Associates 1991. "Phase I Report for the *Dudleya densiflora* Significant Ecological Area No. 45." Prepared for County of Los Angeles, Department of Regional Planning.

Munz, P. A. 1974. *A Flora of Southern California.* University of California Press. Berkeley, California.

O'Leary, J. F. 1990. *California Coastal Sage Scrub: General Characteristics and Considerations for Biological Conservation.* Pages 24-41 in A. A. Schoeherr, editor. Endangered Plant Communities of Southern California. Southern California Botanists, Claremont, California.

Ralph Osterline Consultants, Inc. 1995. *Sunshine Canyon City Landfill Extension Tree Assessment Report.* Prepared for Ultrasystems, Inc.

San Diego Natural History Museum. 1995 (Nov 17). *Empidonax trailii extimus in California: The Willow Flycatcher Workshop.* Proceedings of the workshop. San Diego Natural History Museum.

Sawyer, J. O. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation.* California Native Plant Society, Sacramento California.

Skinner, M. W., and B. M. Pavlik. 1994. *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California.* California Native Plant Society. Special Publication, No. 1, 5th ed.

Soule, M. E. 1991. *Land Use Planning and Wildlife Maintenance: Guidelines for Conserving Wildlife in an Urban Landscape.* Journal of American Planning Association 57:313-323.

Soule, M. E., A. C. Alberts, and D. T. Bolger. 1992. *The Effects of Habitat Fragmentation on Chaparral Plants and Vertebrates.* Oikos 63:39-47.

Soule, M. E., D. T. Boulger, A. C. Alberts, J. Wright, M. Sorice, and S. Hill. 1988. Reconstructed Dynamics of Rapid Extinctions of Chaparral-requiring Birds in Urban Habitat Islands. In *Conservation Biology* 2(1):75-92.

Stebbins, R. C. 1985. *A Field Guide to Western Reptiles and Amphibians.* 2nd ed. Houghton-Mifflin Company. Boston, Massachusetts.

Sunset. 1992. *Western Garden Book.* Sunset Publishing Corporation, Menlo Park, California.

Sweet S. 1991. *Initial Report on the Ecology and Status of the Arroyo Toad (Bufo microscaphus californicus) on the Los Padres National Forest of Southern California, with Management Recommendations.* U.S. Forest Service, Los Padres National Forest.

Tierra Madre Consultants, Inc. 1995. *Biological Assessment of Sunshine Canyon: City of Los Angeles.* Prepared for Ultrasystems Environmental Incorporated.

U. S. Fish and Wildlife Service. 1990. *Endangered and Threatened Wildlife and Plants.* Federal Register 50, CFR Parts 17.11 and 17.12. U. S. Department of the Interior. Washington, D.C.

U.S. Fish and Wildlife Service. 1994 (Nov 15). *Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species.* Federal Register 50 CFR Part 17. U.S. Department of the Interior. Washington, D.C.

U.S. Fish and Wildlife Service. 1996a (Feb 28). *Reviews of Plant and Animal Taxa That Are Candidates for Listing as Endangered or Threatened Species: Notice of Review.* Federal Register 50 CFR Part 17, U.S. Department of the Interior. Washington, D.C.

U.S. Fish and Wildlife Service. 1996b (Jan 2). *Endangered and threatened Wildlife and Plants; Proposed Establishment of a Nonessential Experimental Population of California Condors in Northern Arizona.* Federal Register 50, CFR Part 17. U.S. Department of the Interior, Washington, D.C.

Zander Associates. 1995. *Sunshine Canyon Landfill Extension, City Jurisdiction.* Preliminary Draft Report prepared for Ultrasystems, Inc., Irvine, California.

APPENDIX
FLORAL AND FAUNAL COMPENDIA

INTRODUCTION TO FLORAL AND FAUNAL SURVEY

Floral components are derived from a compilation of previous site surveys and 1996 surveys. Expected site use by wildlife is derived from survey information combined with documented habitat preferences of regional wildlife species that are considered likely to include the project area within their range (whether or not recorded during the survey).

Floral taxonomy used in this report follows the Jepson Manual (Hickman 1993). For sensitive species, the report follows the California Native Plant Society's Rare Plant Inventory (5th Edition) (Skinner and Pavlik 1994). Additional common plant names are taken from Munz (1974), Beauchamp (1986), Roberts (1989), Abrams (1923, 1944), and Abrams and Ferris (1951, 1960). Vertebrates identified in the field by sight, calls, tracks, scat, or other signs are cited according to the nomenclature of Collins (1990) for amphibians and reptiles, AOU (1983 and supplemental) for birds, and Jameson and Peeters (1988) for mammals.

APPENDIX A
FLORAL COMPENDIUM[1]

LEGEND

LEGEND

* Non-native

cf Uncertain identification, but plant "compares favorably" to named specimen (TMC 1995)

[1] This is not intended as an exhaustive listing of the vegetation occurring on the site; some annual herbs or very uncommon species may not have been detected by the field surveys.

VASCULAR PLANTS

FERNS AND FERN ALLIES

DRYOPTERIDACEAE - WOOD FERN FAMILY

Dryopteris arguta
coastal wood fern

POLYPODIACEAE - POLYPODY FAMILY

Polypodium californicum
California polypody

PTERIDACEAE - BRAKE FAMILY

Adiantum jordanii
California maidenhair
Pellaea andromedifolia
coffee fern
Pellaea mucronata
bird's-foot fern
Pentagramma triangularis
goldenback fern

GYMNOSPERMS

CUPRESSACEAE - CYPRESS FAMILY

* *Cupressus sempervirens*
Italian cypress

PINACEAE - PINE FAMILY

* *Pinus canariensis*
Canary Island pine
* *Pinus halepensis*
Aleppo pine
Pseudotsuga macrocarpa
bigcone douglas-fir

ANGIOSPERMS (DICOTYLEDONS)

ACERACEAE - MAPLE FAMILY

Acer macrophyllum
big-leaf maple

AMARANTHACEAE - AMARANTH FAMILY

* *Amaranthus albus*
tumbling pigweed

ANACARDIACEAE - SUMAC OR CASHEW FAMILY

Malosma laurina
laurel sumac
Rhus ovata
sugar bush
Rhus trilobata
skunkbrush
* *Schinus molle*
Peruvian pepper tree
Toxicodendron diversilobum
poison oak

APIACEAE - CARROT FAMILY

* *Conium maculatum*
poison hemlock
* *Foeniculum vulgare*
fennel
Lomatium californicum
biscuit root
Sanicula cf graveolens
Sierra sanicle
Sanicula crassicaulis
Pacific sanicle

APOCYNACEAE - DOGBANE FAMILY

* *Nerium oleander*
oleander

ASCLEPIADACEAE - MILKWEED FAMILY

Asclepias californica
California milkweed
Asclepias fascicularis
narrow-leaf milkweed
Sarcostemma cynanchoides ssp. *hartwegii*
climbing milkweed

ASTERACEAE - SUNFLOWER FAMILY

Achillea millefolium
California yarrow
Acourtia microcephala
sacapellote

Ambrosia acanthicarpa
annual bur-sage
Ambrosia psilostachya
western ragweed
Artemisia californica
California sagebrush
Artemisia douglasiana
mugwort
Artemisia tridentata
great basin sagebrush
Baccharis pilularis
coyote brush
Baccharis salicifolia
mulefat
Brickellia californica
California brickellbush
* *Centaurea melitensis*
tocalote
Chaenactis glabriuscula
yellow pincushion
Chaenactis macrantha
Mojave pincushion
* *Chamomilla suaveolens*
pineapple weed
Chichorium intybus
chicory
Cirsium occidental var. *californicum*
California thistle
Cirsium occidentale var. *occidentale*
cobweb thistle
* *Cirsium vulgare*
bull thistle
* *Conyza bonariensis*
flax-leaved horseweed
* *Conyza canadensis*
horseweed
* *Cotula* sp.
brass-buttons
Encelia californica
California bush sunflower
Ericameria palmeri
Palmer's goldenbush
Ericameria pinifolia
pinebush
Erigeron foliosus
leafy daisy
Eriophyllum confertiflorum
golden yarrow
* *Filago gallica*

European narrow-leaf filago

ASTERACEAE - SUNFLOWER FAMILY (continued)

Gnaphalium bicolor
bicolored cudweed

Gnaphalium californicum
California everlasting

Gnaphalium canescens var. *microcephalum*
white everlasting

* *Gnaphalium cf purpureum*
purple cudweed

Gnaphalium palustre
lowland cudweed

Gutierrezia californica
California matchweed

Hazardia squarrosa
saw-toothed goldenbush

Helianthus annuus
common sunflower

Helianthus gracilentus
slender sunflower

Hemizonia fasciculata
fascicled tarweed

Heterotheca grandiflora
telegraph weed

* *Hypochaeris glabra*
smooth cat's-ear

Isocoma menziesii
coastal goldenbush

* *Lactuca serriola*
prickly lettuce

Lasthenia californica
coast goldfields

Layia platyglossa
tidy-tips

Lepidospartum squamatum
scale-broom

Lessingia filaginifolia
cudweed aster

Malacothrix saxatilis
cliff malacothrix

* *Picris echioides*
bristly ox-tongue

Pluchea odorata
salt marsh fleabane

Rafinesquia californica
California chicory

Senecio californicus
California butterweed

Senecio flaccidus var. *douglasii*
shrubby butterweed

* *Senecio vulgaris*
common groundsel

ASTERACEAE - SUNFLOWER FAMILY (continued)

* *Silybum marianum*
milk thistle
Solidago californica
California goldenrod
* *Sonchus asper* ssp. *asper*
prickly sow thistle
* *Sonchus oleraceus*
common sow thistle
Stephanomeria virgata
twiggy wreathplant
Tetradymia comosa
hairy horsebrush
Uropapus lindleyi
silver puffs
Xanthium spinosum
spiny cocklebur
Xanthium strumarium
cocklebur

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii var. *intermedia*
rancher's fireweed
Cryptantha clevelandii
cryptantha
Cryptantha intermedia
common forget-me-not
Cryptantha muricata
prickly cryptantha
Heliotropium curassavicum
salt heliotrope
Plagiobothrys cf canescens
valley popcorn flower

BRASSICACEAE - MUSTARD FAMILY

* *Brassica nigra*
black mustard
Erysimum capitatum
western wallflower
* *Hirschfeldia incana*
short-podded mustard
Lepidium nitidum
shining peppergrass
Rorippa nasturtium-aquaticum
water-cress
* *Sisymbrium altissimum*

tumble mustard
* *Sisymbrium irio*
London rocket

BRASSICACEAE - MUSTARD FAMILY (continued)

* *Sisymbrium officinale*
hedge mustard
* *Sisymbrium orientale*
Oriental mustard

CACTACEAE - CACTUS FAMILY

* *Opuntia ficus-indica*
Indian fig
Opuntia littoralis
coastal prickly pear
Opuntia occidentalis
western prickly pear

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Lonicera subspicata
southern honeysuckle
Sambucus mexicana
Mexican elderberry

CARYOPHYLLACEAE - PINK FAMILY

* *Silene gallica*
common catchfly
Silene laciniata ssp. *major*
fringed Indian pink
* *Spergula arvensis* ssp. *arvensis*
stickwort
* *Stellaria media*
common chickweed

CHENOPODIACEAE - GOOSEFOOT FAMILY

Atriplex lentiformis
quail brush
* *Atriplex semibaccata*
Australian saltbush
* *Chenopodium album*
lamb's quarters
Chenopodium californicum
California goosefoot
* *Chenopodium murale*
nettle-leaved goosefoot
* *Salsola tragus*

Russian thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

Calystegia macrostegia
western bindweed

CRASSULACEAE - STONECROP FAMILY

Dudleya lanceolata
lance-leaved dudleya

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima
calabazilla
Marah macrocarpus
wild cucumber

CUSCUTACEAE - DODDER FAMILY

Cuscuta californica
California dodder

ERICACEAE - HEATH FAMILY

Arctostaphylos glauca
bigberry manzanita

EUPHORBIACEAE - SPURGE FAMILY

Chamaesyce albomarginata
rattlesnake weed
Eremocarpus setigerus
dove weed
* *Ricinus communis*
castor-bean

FABACEAE - LEGUME FAMILY

* *Acacia longifolia*
Sydney golden wattle
* *Acacia redolens*
postrate acacia
Astragalus gambelianus
Gambell's dwarf locoweed
Astragalus trichopodus
Santa Barbara locoweed
Lathyrus vestitus
wild sweet pea
* *Lotus* sp.

lotus
Lotus cf salsuginosus
humble lotus

FABACEAE - LEGUME FAMILY (continued)

Lotus scoparius
deerweed
Lupinus bicolor
miniature lupine
Lupinus formosus
summer lupine
Lupinus hirsutissimus
stinging lupine
Lupinus sparsiflorus
Coulter's lupine
Lupinus succulentus
arroyo lupine
* *Medicago polymorpha*
bur clover
* *Medicago sativa*
alfalfa
* *Melilotus alba*
white sweetclover
* *Melilotus indica*
sourclover
* *Robinia pseudoacacia*
black locust
* *Trifolium repens*
white clover
Trifolium willdenovii
tomcat clover

FAGACEAE - OAK FAMILY

Quercus agrifolia
coast live oak
Quercus berberidifolia
scrub oak
Quercus chrysolepis
canyon live oak
Quercus lobata
valley oak

GERANIACEAE - GERANIUM FAMILY

* *Erodium botrys*
broad-lobed filaree
* *Erodium cicutarium*
red-stemmed filaree
* *Erodium moschatum*
white-stemmed filaree

GROSSULARIACEAE - GOOSEBERRY FAMILY

Ribes aureum
golden currant
Ribes indecorum
white flowering currant
Ribes malvaceum
chaparral currant

HYDROPHYLLACEAE - WATERLEAF FAMILY

Emmenanthe penduliflora
whispering bells
Eriodictyon crassifolium
thick-leaved yerba santa
Eriodictyon trichocalyx
hairy yerba santa
Eucrypta chrysanthemifolia
common eucrypta
Nemophila menziesii
baby blue-eyes
Phacelia cicutaria
caterpillar phacelia
Phacelia distans
wild heliotrope
Phacelia imbricata
imbricate phacelia
Phacelia minor
wild canterbury-bell
Phacelia ramosissima
branching phacelia
Pholistoma auritum var. *auritum*
fiesta flower

JUGLANDACEAE - WALNUT FAMILY

Juglans californica var. *californica*
Southern California black walnut

LAMIACEAE - MINT FAMILY

* *Marrubium vulgare*
horehound
Salvia apiana
white sage
Salvia columbariae
chia
Salvia leucophylla
purple sage
Salvia mellifera
black sage

LAMIACEAE - MINT FAMILY (continued)

Trichostema lanatum
woolly bluecurls
Trichostema lanceolatum
vinegar weed

MALVACEAE - MALLOW FAMILY

Malacothamnus fasciculatus
mesa bushmallow
* *Malva parviflora*
cheeseweed

MYRTACEAE - MYRTLE FAMILY

* *Eucalyptus* sp.
gum tree
* *Eucalyptus polyanthemos*
silver dollar gum
* *Eucalyptus rudis*
flooded gum
* *Melaleuca linariifolia*
flaxleaf paper bark

NYCTAGINACEAE - FOUR O'CLOCK FAMILY

Mirabilis californica
California wishbone bush

OLEACEAE - OLIVE FAMILY

Fraxinus dipetala
California ash
* *Olea europaea*
olive

ONAGRACEAE - EVENING PRIMROSE FAMILY

Camissonia californica
California evening primrose
Camissonia hirtella
field sun cup
Camissonia sp.
sun cup
Clarkia bottae
punchbowl godetia
Clarkia purpurea
winecup clarkia
Clarkia unguiculata
elegant clarkia

ONAGRACEAE - EVENING PRIMROSE FAMILY (continued)

Epilobium brachycarpum
parched fireweed
Epilobium canum
California fuchsia
Oenothera deltoides
devil's lantern
Oenothera elata
evening primrose

PAEONIACEAE - PEONY FAMILY

Paeonia californica
California peony

PAPAVERACEAE - POPPY FAMILY

Eschscholzia californica
California poppy
Eschscholzia cf caespitosa
tufted gold poppy

PLATANACEAE - SYCAMORE FAMILY

Platanus racemosa
western sycamore

POLEMONIACEAE - PHLOX FAMILY

Allophyllum gilioides
false gilia
Gilia sp.
gilia
Leptodactylon californicum
prickly phlox

POLYGONACEAE - BUCKWHEAT FAMILY

Chorizanthe staticoides
turkish rugging
Eriogonum elongatum var. *elongatum*
long-stemmed buckwheat
Eriogonum fasciculatum
California buckwheat
Eriogonum sp.
wild buckwheat
* *Polygonum arenastrum*
common knotweed
Pterostegia drymarioides
California thread-stem
Rumex cf acetosella

sheep sorrel

POLYGONACEAE - BUCKWHEAT FAMILY (continued)

* *Rumex crispus*
curly dock

PORTULACACEAE - PURSLANE FAMILY

Calandrinia ciliata
red maids
Claytonia perfoliata
miner's lettuce

PRIMULACEAE - PRIMROSE FAMILY

* *Anagallis arvensis*
scarlet pimpernel

PROTEACEAE - PROTEA FAMILY

Grevillea robusta
silk oak

RANUNCULACEAE - BUTTERCUP FAMILY

Clematis pauciflora
ropevine

RHAMNACEAE - BUCKTHORN FAMILY

Ceanothus crassifolius
hoary leaf ceanothus
Ceanothus oliganthus
hairy ceanothus
Rhamnus crocea
spiny redberry
Rhamnus ilicifolia
holly-leaf redberry

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum
chamise
Cercocarpus betuloides
birch-leaf mountain-mahogany
Heteromeles arbutifolia
toyon
Prunus ilicifolia
holly-leaved cherry
Rosa gymnocarpa
wood rose
Rubus ursinus

California blackberry

RUBIACEAE - MADDER FAMILY

Galium angustifolium
narrow-leaved bedstraw
* *Galium aparine*
goose grass
Galium sp.
bedstraw

SALICACEAE - WILLOW FAMILY

Populus fremontii ssp. *fremontii*
Fremont's cottonwood
Salix exigua
sandbar willow
Salix gooddingii
black willow
Salix laevigata
red willow
Salix lasiolepis
arroyo willow

SAXIFRAGACEAE - SAXIFRAGE FAMILY

Lithophragma sp.
woodland star

SCROPHULARIACEAE - FIGWORT FAMILY

Antirrhinum coulterianum
white snapdragon
Antirrhinum kelleggii
Kellogg's snapdragon
Antirrhinum multiflorum
withered snapdragon
Castilleja exserta
purple owl's-clover
Collinsia heterophylla
Chinese houses
Cordylanthus rigidus
bird's-beak
Keckiella cordifolia
heart-leaved penstemon
Mimulus aurantiacus
orange bush monkey-flower
Mimulus brevipes
wide-throated monkey-flower
Scrophularia californica
California figwort
* *Verbascum thapsus*

woolly mullein
* *Verbascum virgatum*
wand mullein

SOLANACEAE - NIGHTSHADE FAMILY

* *Datura stramonium*
annual jimson weed
Datura wrightii
jimson weed
Nicotiana attenuata
coyote tobacco
* *Nicotiana glauca*
tree tobacco
Solanum douglasii
Douglas' nightshade
Solanum xanti
chaparral nightshade

TAMARICACEAE - TAMARISK FAMILY

* *Tamarix cf ramosissima*
tamarisk

URTICACEAE - NETTLE FAMILY

Hesperocnide tenella
western nettle
* *Urtica urens*
dwarf nettle

VERBENACEAE - VERVAIN FAMILY

Verbena lasiostachys
western verbena

VIOLACEAE - VIOLET FAMILY

Viola purpurea
yellow violet

VISCACEAE - MISTLETOE FAMILY

Phoradendron macrophyllum
big leaf mistletoe

VITACEAE - GRAPE FAMILY

Vitis girdiana
desert wild grape

ANGIOSPERMS (MONOCOTYLEDONS)

ARECACEAE - PALM FAMILY

* *Washingtonia robusta*
Mexican fan palm

LILIACEAE - LILY FAMILY

* *Agave americana*
century plant
Calochortus clavatus var. *gracilis*
slender mariposa lily
Calochortus luteus
yellow mariposa lily
Chlorogalum pomeridianum
soap plant
Dichelostemma capitatum
blue dicks
Yucca whipplei
Our Lord's candle
Zigadenus fremontii
Fremont's star-lily

POACEAE - GRASS FAMILY

Achnatherum coronatum
giant needlegrass
* *Arundo donax*
giant reed
* *Avena barbata*
slender wild oat
* *Avena fatua*
wild oat
Bromus carinatus
California brome
* *Bromus diandrus*
ripgut grass
* *Bromus hordeaceus*
soft chess
* *Bromus madritensis* ssp. *rubens*
foxtail chess
* *Bromus sterilis*
poverty brome
Cortaderia selloana
pampas grass
* *Cynodon dactylon*
Bermuda grass
Distichlis spicata
saltgrass
* *Echinochloa crus-galli*

barnyard grass

POACEAE - GRASS FAMILY (continued)

Elymus glaucus
blue wildrye

* *Eragrotis* sp.
lovegrass

* *Hordeum murinum*
glaucous foxtail barley

* *Lamarckia aurea*
goldentop

* *Leptochloa uninervia*
Mexican sprangletop

Leymus condensatus
giant wild rye

* *Lolium multiflorum*
Italian ryegrass

* *Lolium perenne*
perennial ryegrass

Melica imperfecta
coast range melic

Nassella lepida
small-flowered needlegrass

Nassella pulchra
purple needlegrass

* *Phalaris minor*
Mediterranean canary grass

* *Piptatherum miliaceum*
smilo grass

* *Polypogon monspeliensis*
annual beard grass

* *Schismus barbatus*
Mediterranean schismus

* *Secale cereale*
rye

* *Vulpia myuros*
vulpia

TYPHACEAE - CATTAIL FAMILY

Typha latifolia
broad-leaf cattail

APPENDIX B

FAUNAL COMPENDIUM[2]

STATUS

\+ Presence noted by direct sighting, call identification or observation of tracks, scat, or other signs.

* Non-native.

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[1] List includes species observed or expected to occur on or in the immediate vicinity of the site.

TERRESTRIAL VERTEBRATES

AMPHIBIANS

SALAMANDRIDAE - NEWTS

Taricha torosa torosa
California newt

PLETHODONTIDAE - LUNGLESS SALAMANDERS

\+ *Ensatina eschscholtzi*
ensatina
Aneides lugubris
arboreal salamander
\+ *Batrachoseps nigriventris*
black-bellied slender salamander
Batrachoseps pacificus
Pacific slender salamander

PELOBATIDAE - SPADEFOOT TOADS

Scaphiopus hammondii
western spadefoot

BUFONIDAE - TRUE TOADS

\+ *Bufo boreas*
western toad
Bufo microscaphus
southwestern toad

HYLIDAE - TREEFROGS

Pseudacris cadaverina
California chorus frog
\+ *Pseudacris regilla*
Pacific chorus frog

REPTILES

IGUANIDAE - IGUANID LIZARDS

\+ *Sceloporus occidentalis*
western fence lizard
\+ *Uta stansburiana*
side-blotched lizard
\+ *Phrynosoma coronatum blainvillei*
San Diego horned lizard

SCINCIDAE - SKINKS

Eumeces skiltonianus
western skink
Eumeces gilberti
Gilbert skink

TEIIDAE - WHIPTAIL LIZARDS

\+ *Cnemidophorus tigris multiscutatus*
coastal western whiptail

ANGUIDAE - ALLIGATOR LIZARDS

\+ *Gerrhonotus multicarinatus*
southern alligator lizard

ANNIELLIDAE - CALIFORNIA LEGLESS LIZARDS

Anniella pulchra
California legless lizard

LEPTOTYPHLOPIDAE - SLENDER BLIND SNAKES

Leptotyphlops humilis
western blind snake

BOIDAE - BOAS

Lichanura trivirgata
rosy boa

COLUBRIDAE - COLUBRID SNAKES

Diadophis punctatus
ringneck snake
Coluber constrictor
racer
Masticophis flagellum
coachwhip
Masticophis lateralis
California whipsnake
Salvadora hexalepis
western patch-nosed snake
Arizona elegans
glossy snake
Pituophis melanoleucus
gopher snake
Lampropeltis getulus
common kingsnake

Lampropeltis zonata
California mountain kingsnake

COLUBRIDAE - COLUBRID SNAKES (continued)

Rhinocheilus lecontei
long-nosed snake
Thamnophis hammondii
two-striped garter snake
Tantilla planiceps
California black-headed snake
Trimorphodon biscutatus
lyre snake
Hypsiglena torquata
night snake

VIPERIDAE - VIPERS

Crotalus viridis
western rattlesnake

BIRDS

ARDEIDAE - HERONS

Botaurus lentiginosus
American bittern
Ardea herodias
great blue heron
Butorides striatus
green heron
Nycticorax nycticorax
black-crowned night-heron

CATHARTIDAE - NEW WORLD VULTURES

\+ *Cathartes aura*
turkey vulture

ACCIPITRIDAE - HAWKS

Pandion haliaetus
osprey
\+ *Elanus leucurus*
white-tailed kite
Circus cyaneus
northern harrier
Accipiter striatus
sharp-shinned hawk
\+ *Accipiter cooperii*
Cooper's hawk
\+ *Buteo lineatus*

red-shouldered hawk

ACCIPITRIDAE - HAWKS (continued)

\+ *Buteo jamaicensis*
red-tailed hawk
Buteo regalis
ferruginous hawk
\+ *Aquila chrysaetos*
golden eagle

FALCONIDAE - FALCONS

\+ *Falco sparverius*
American kestrel
Falco columbarius
merlin
\+ *Falco mexicanus*
prairie falcon

PHASIANIDAE - PHEASANTS & QUAILS

\+ *Callipepla californica*
California quail
Oreortyx pictus
mountain quail

CHARADRIIDAE - PLOVERS

\+ *Charadrius vociferus*
killdeer

SCOLOPACIDAE - SANDPIPERS

\+ *Tringa solitaria*
solitary sandpiper

LARIDAE - GULLS & TERNS

Larus delawarensis
ring-billed gull
Larus californicus
California gull
\+ *Larus argentatus*
herring gull

COLUMBIDAE - PIGEONS & DOVES

*+ *Columba livia*
rock dove
\+ *Columba fasciata*
band-tailed pigeon
*+ *Streptopelia chinensis*
spotted dove
\+ *Zenaida macroura*
mourning dove

CUCULIDAE - CUCKOOS & ROADRUNNERS

\+ *Geococcyx californianus*
greater roadrunner

TYTONIDAE - BARN OWLS

\+ *Tyto alba*
barn owl

STRIGIDAE - TRUE OWLS

\+ *Otus kennicottii*
western screech-owl
\+ *Bubo virginianus*
great horned owl
Speotyto cunicularia
burrowing owl
Asio flammeus
short-eared owl

CAPRIMULGIDAE - GOATSUCKERS

Chordeiles acutipennis
lesser nighthawk
Phalaenoptilus nuttallii
common poorwill

APODIDAE - SWIFTS

\+ *Chaetura vauxi*
Vaux's swift
\+ *Aeronautes saxatalis*
white-throated swift

TROCHILIDAE - HUMMINGBIRDS

\+ *Archilochus alexandri*
black-chinned hummingbird
\+ *Calypte anna*

Anna's hummingbird

TROCHILIDAE - HUMMINGBIRDS (continued)

\+ *Calypte costae*
Costa's hummingbird
Stellula calliope
calliope hummingbird
Selasphorus rufus
rufous hummingbird
Selasphorus sasin
Allen's hummingbird

PICIDAE - WOODPECKERS

\+ *Melanerpes formicivorus*
acorn woodpecker
Melanerpes lewis
Lewis' woodpecker
Melanerpes lewis
Lewis' woodpecker
Sphyrapicus ruber
red-breasted sapsucker
\+ *Picoides nuttallii*
Nuttall's woodpecker
Picoides pubescens
downy woodpecker
Picoides villosus
hairy woodpecker
\+ *Colaptes auratus*
northern flicker

TYRANNIDAE - TYRANT FLYCATCHERS

\+ *Contopus borealis*
olive-sided flycatcher
\+ *Contopus sordidulus*
western wood-pewee
\+ *Empidonax traillii*
willow flycatcher
\+ *Empidonax difficilis*
Pacific-slope flycatcher
\+ *Sayornis nigricans*
black phoebe
\+ *Sayornis saya*
Say's phoebe
\+ *Myiarchus cinerascens*
ash-throated flycatcher
Tyrannus vociferans
Cassin's kingbird
\+ *Tyrannus verticalis*
western kingbird

ALAUDIDAE - LARKS

\+ *Eremophila alpestris*
horned lark

HIRUNDINIDAE - SWALLOWS

\+ *Tachycineta thalassina*
violet-green swallow

HIRUNDINIDAE - SWALLOWS (continued)

\+ *Stelgidopteryx serripennis*
northern rough-winged swallow
\+ *Hirundo pyrrhonota*
cliff swallow
\+ *Hirundo rustica*
barn swallow

CORVIDAE - JAYS & CROWS

Cyanocitta stelleri
Steller's jay
\+ *Aphelocoma californica*
western scrub-jay
\+ *Corvus brachyrhynchos*
American crow
\+ *Corvus corax*
common raven

PARIDAE - TITMICE

Parus gambeli
mountain chickadee
\+ *Parus inornatus*
plain titmouse

AEGITHALIDAE - BUSHTITS

\+ *Psaltriparus minimus*
bushtit

SITTIDAE - NUTHATCHES

Sitta canadensis
red-breasted nuthatch
\+ *Sitta carolinensis*
white-breasted nuthatch

CERTHIIDAE - CREEPERS

Certhia americana

brown creeper

TROGLODYTIDAE - WRENS

\+ *Salpinctes obsoletus*
rock wren
Catherpes mexicanus
canyon wren
\+ *Thryomanes bewickii*
Bewick's wren
\+ *Troglodytes aedon*
house wren

MUSCICAPIDAE - KINGLETS, GNATCATCHERS, THRUSHES & BABBLERS

\+ *Regulus calendula*
ruby-crowned kinglet
\+ *Polioptila caerulea*
blue-gray gnatcatcher
\+ *Sialia mexicana*
western bluebird
\+ *Catharus ustulatus*
Swainson's thrush
\+ *Catharus guttatus*
hermit thrush
\+ *Turdus migratorius*
American robin
\+ *Chamaea fasciata*
wrentit

MIMIDAE - THRASHERS

\+ *Mimus polyglottos*
northern mockingbird
\+ *Toxostoma redivivum*
California thrasher

MOTACILLIDAE - PIPITS

Anthus rufescens
American pipit

BOMBYCILLIDAE - WAXWINGS

Bombycilla cedrorum
cedar waxwing

PTILOGONATIDAE - SILKY-FLYCATCHERS

\+ *Phainopepla nitens*
phainopepla

LANIIDAE - SHRIKES

\+ *Lanius ludovicianus*
loggerhead shrike

STURNIDAE - STARLINGS

*+ *Sturnus vulgaris*
European starling

VIREONIDAE - VIREOS

\+ *Vireo huttoni*
Hutton's vireo
\+ *Vireo gilvus*
warbling vireo

EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDS

\+ *Vermivora celata*
orange-crowned warbler
\+ *Vermivora peregrina*
Tennessee warbler
Vermivora ruficapilla
Nashville warbler
\+ *Dendroica petechia*
yellow warbler
\+ *Dendroica coronata*
yellow-rumped warbler
\+ *Dendroica nigrescens*
black-throated gray warbler
Dendroica townsendi
Townsend's warbler
\+ *Dendroica occidentalis*
hermit warbler
\+ *Oporornis tolmiei*
MacGillivray's warbler
Geothlypis trichas
common yellowthroat
\+ *Wilsonia pusilla*
Wilson's warbler
\+ *Pheucticus melanocephalus*
black-headed grosbeak
\+ *Piranga ludoviciana*
western tanager
Guiraca caerulea
blue grosbeak
\+ *Passerina amoena*
lazuli bunting
Pipilo chlorurus
green-tailed towhee

EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDS (continued)

\+ *Pipilo maculatus*
spotted towhee
\+ *Pipilo crissalis*
California towhee
\+ *Aimophila ruficeps canescens*
Southern Californis rufous-crowned sparrow
Spizella passerina
chipping sparrow
Spizella breweri
Brewer's sparrow
Spizella atrogularis
black-chinned sparrow
Pooecetes gramineus
vesper sparrow
\+ *Chondestes grammacus*
lark sparrow
Amphispiza belli belli
Bell's sage sparrow
Passerculus sandwichensis
savannah sparrow
Passerella iliaca
fox sparrow
\+ *Melospiza melodia*
song sparrow
Melospiza lincolnii
Lincoln's sparrow
Zonotrichia atricapilla
golden-crowned sparrow
\+ *Zonotrichia leucophrys*
white-crowned sparrow
\+ *Junco hyemalis*
dark-eyed junco
\+ *Agelaius phoeniceus*
red-winged blackbird
Agelaius tricolor
tricolored blackbird
\+ *Sturnella neglecta*
western meadowlark
\+ *Euphagus cyanocephalus*
Brewer's blackbird
\+ *Molothrus ater*
brown-headed cowbird
\+ *Icterus cucullatus*
hooded oriole
\+ *Icterus galbula*
Bullock's oriole

FRINGILLIDAE - FINCHES

\+ *Carpodacus purpureus*
purple finch
\+ *Carpodacus mexicanus*
house finch
Carduelis pinus
pine siskin
\+ *Carduelis psaltria*
lesser goldfinch
\+ *Carduelis lawrencei*
Lawrence's goldfinch
\+ *Carduelis tristis*
American goldfinch

PASSERIDAE - OLD WORLD SPARROWS

*+ *Passer domesticus*
house sparrow

MAMMALS

DIDELPHIDAE - NEW WORLD OPOSSUMS

*+ *Didelphis virginiana*
Virginia opossum

SORICIDAE - SHREWS

Sorex ornatus
ornate shrew

TALPIDAE - MOLES

Scapanus latimanus
broad-footed mole

VESPERTILIONIDAE - EVENING BATS[1]

Myotis californicus
California myotis
Myotis evotis
long-eared myotis
Myotis leibii
small-footed myotis
Myotis thysanodes
fringed myotis
Myotis volans
long-legged myotis
Lasiurus blossevillii
western red bat

VESPERTILIONIDAE - EVENING BATS[1] (continued)

Lasiurus cinereus
hoary bat
Euderma maculatum
spotted bat
Pipistrellus hesperus
western pipistrelle
Eptesicus fuscus
big brown bat
Plecotus townsendii pallescens
pale big-eared bat
Antrozous pallidus
pallid bat

MOLOSSIDAE - FREE-TAILED BATS[3]

Tadarida brasiliensis
Brazilian free-tailed bat
Eumops perotis californicus
California mastiff bat

LEPORIDAE - HARES & RABBITS

\+ *Sylvilagus audubonii*
desert cottontail
Sylvilagus bachmani
brush rabbit
Lepus californicus bennetti
San Diego black-tailed jackrabbit

SCIURIDAE - SQUIRRELS

\+ *Tamias merriami*
Merriam's chipmunk
\+ *Spermophilus beecheyi*
California ground squirrel
*+ *Sciurus niger*
fox squirrel
\+ *Sciurus griseus*
western gray squirrel

GEOMYIDAE - POCKET GOPHERS

\+ *Thomomys bottae*
Botta's pocket gopher

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[3] The site is within the range of a number of bat species in several families, but it is unlikely that all are present. As their distribution varies according to season, and as the precise habitat requirements of each species are not well known, it is difficult to determine which species are present on the property without performing extensive focused nocturnal studies.

HETEROMYIDAE - POCKET MICE & KANGAROO RATS

Perognathus longimembris brevinasus
Los Angeles little pocket mouse
Chaetodipus californicus
California pocket mouse
Dipodomys agilis
Pacific kangaroo rat

MURIDAE - MICE, RATS, AND VOLES

\+ *Reithrodontomys megalotis*
western harvest mouse
Peromyscus boylii
brush mouse
Peromyscus californicus
California mouse
Peromyscus crinitus
canyon mouse
Peromyscus eremicus
cactus mouse
Peromyscus maniculatus
deer mouse
Peromyscus truei
pinon mouse
Onychomys torridus ramona
southwestern grasshopper mouse
\+ *Neotoma fuscipes*
dusky-footed woodrat
Neotoma lepida intermedia
San Diego desert woodrat
* *Rattus norvegicus*
Norway rat
* *Rattus rattus*
black rat
* *Mus musculus*
house mouse
\+ *Microtus californicus*
California vole

CANIDAE - WOLVES & FOXES

\+ *Canis latrans*
coyote
\+ *Urocyon cinereoargenteus*
gray fox

PROCYONIDAE - RACCOONS

Bassariscus astutus
ringtail
\+ *Procyon lotor*

raccoon

MUSTELIDAE - WEASELS, SKUNKS & OTTERS

Mustela frenata
long-tailed weasel
Taxidea taxus
American badger
\+ *Spilogale gracilis*
western spotted skunk
Mephitis mephitis
striped skunk

FELIDAE - CATS

* *Felis catus*
domestic cat
Felis concolor
mountain lion
\+ *Lynx rufus*
bobcat

CERVIDAE - DEERS

\+ *Odocoileus hemionus*
mule deer

Appendix B3
BIOLOGICAL RESOURCES WETLANDS/ RIPARIAN HABITAT SECTION

BIOLOGICAL RESOURCES
WETLANDS/RIPARIAN HABITAT SECTION
SUNSHINE CANYON LANDFILL EXTENSION
CITY JURISDICTION

Final
Draft Report

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April 1995

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APPENDIX A - 1995 STREAMZONE ASSESSMENT, SUNSHINE CANYON LANDFILL EXTENSION, CITY JURISDICTION

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Plate 1 Transect Locations/Streamzone Assessment, Sunshine Canyon, Los Angeles, California

1.0 INTRODUCTION

This report is prepared for Ultrasystems Environmental Incorporated as part of the Subsequent Environmental Impact Report (SEIR) for the proposed Sunshine Canyon Landfill extension within the City of Los Angeles. The report summarizes the results of Zander Associates' 1995 Streamzone Assessment conducted on City lands within Sunshine Canyon and the potential impacts the proposed project may have on lands subject to the United States Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act and California Department of Fish and Game (CDFG) jurisdiction pursuant to Section 1603 of the California Fish and Game Code.

1.1 Project Description

The proposed Sunshine Canyon Landfill extension project (known as the City Landfill) consists of the development, operation, monitoring and postclosure maintenance of a Class III, non-hazardous solid waste landfill and its ancillary buildings and associated engineered facilities. The project site is located within the jurisdictional boundary of the City of Los Angeles (City) within a portion of Sunshine Canyon in the Santa Susana Mountains. Directly southwest of the intersection of the Antelope Valley Freeway (SR-14) and the Golden State Freeway (I-5) multi-level interchange, the project site covers a total area of approximately 494 acres and is owned in its entirety by Browning Ferris Industries, Inc.

The proposed landfill facility would incorporate land and ancillary facilities associated with the operation of an approved landfill[1] located within the County of Los Angeles (County). Additionally, the City Landfill will adjoin an existing landfill located in the jurisdiction of the City (closed on September 21, 1991 due to the expiration of a zoning variance) and will encompass lands under City jurisdiction and areas overlapping portions of the existing landfill.

The proposed project would also include the development and operation of an on-site recycling area. Ancillary facilities, including administrative buildings, portable trailer structures, and engineered structures designed to support the landfill facility (e.g., sediment basin, landfill flare stations, etc.), would be located within the project area to support the proposed City Landfill project as well.

[1] This approved landfill facility is known as the Sunshine Canyon Landfill Extension of the County Landfill. The Final Environmental Impact Report (SCH No. 89071210) and project land use entitlements for this project were initially certified and approved by the Los Angeles County Board of Supervisors on February 19, 1991 and subsequently reapproved on July 28, 1992 and on November 30, 1993 by the Board of Supervisors.

1.2 Streamzone Assessment Studies

In March 1990, Harding Lawson Associates conducted a Streamzone Assessment[2] on the Sunshine Canyon Landfill site (including City and County lands) to determine the extent of areas that could potentially meet Corps' criteria as waters of the United States pursuant to Section 404 of the Clean Water Act and that might be subject to regulation by CDFG pursuant to Section 1603 of the California Fish and Game Code and the California Environmental Quality Act. The Corps confirmed Harding Lawson Associates' assessment in 1991 with certain Corps-directed amendments[3], and issued a permit for the fill of 3.8 acres of Section 404 jurisdictional area for the 17-million ton capacity County project.

On February 28 and March 1, 1995, Zander Associates conducted field surveys on lands within the currently proposed City landfill extension area to determine whether conditions on the site had changed since 1990 and to reconfirm the extent of potential Section 404 and Section 1603 jurisdictional areas pursuant to the regulatory criteria established by the Corps and CDFG respectively. Data collected were compared to the jurisdictional limits documented by Harding Lawson Associates in November 1990 and confirmed by the Corps in 1991.

2.0 JURISDICTIONAL CRITERIA REVIEW

2.1 Corps Section 404 Jurisdiction

The Corps regulates the disposal of dredged or fill material into waters of the United States and adjacent wetlands as authorized by Section 404 of the Clean Water Act. Waters of the United States include but are not limited to coastal and inland waters, lakes, rivers, and streams that are navigable waters of the United States, including wetlands; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States. Wetlands are defined as those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under "normal circumstances" do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR Section 228).

In streams, the extent of Corps jurisdictional area is generally determined by the ordinary high water mark (OHWM) - a point on the stream above which high water normally does not rise. The OHWM may be determined in the field through the identification of the scour line, sediment patterns and drift lines. The Corps identifies the limits of jurisdictional wetlands using a multi-parameter approach which requires positive wetland indicators in three distinct categories: hydrology, soils and vegetation. According to the Corps of Engineers Wetlands

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[2] Harding Lawson Associates, November 1990. *Streamzone Assessment, Sunshine Canyon Landfill Extension.*

[3] Corps of Engineers, Los Angeles District, May 29, 1991. Correspondence from Ms. Diane Noda, Acting Chief, Northern Section of the United States Department of the Army, Los Angeles District Corps of Engineers, to Harding Lawson Associates.

Delineation Manual[4], except in certain situations, all three parameters must be satisfied for an area to be considered a jurisdictional wetland.

2.2 Riparian Habitat

As specified in Section 1603 of the California Fish and Game Code, CDFG must be notified of any project that will "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake designated by the Department, or use of any material from the streambeds." Typically, the extent of 1603 jurisdiction coincides with the extent of "waters" as determined by Section 404 jurisdiction. In addition, CDFG is concerned with the riparian habitat adjacent to streamzones. The term riparian may be defined as "pertaining to the banks of other terrestrial environs of freshwater bodies, watercourses, and surface-emergent aquifers (springs, seeps, oases), whose transported waters provide soil moisture significantly in excess of that otherwise available through local precipitation .... a riparian zone is thus a delimited site, a bounded geological area of riparian (moist soil) substrate, upon and within whose boundaries may grow riparian vegetation."[5]

3.0 METHODS

3.1 Corps Section 404 Jurisdiction

Methodology for determining potential Section 404 jurisdiction during the 1990 assessment involved measuring and characterizing streamzone conditions at transect locations on City and County lands within Sunshine Canyon. Channel cross sections were plotted and data regarding soils, vegetation, and hydrologic characteristics were recorded. Scour lines, sediment deposits, ponding, soil saturation and other hydrologic indicators were recorded. Soil samples taken at each transect location were evaluated for hydric soil characteristics. Riparian and wetland plant species were identified and the width of the riparian band beyond the stream channel was measured at each transect (Harding Lawson Associates, 1990).

In addition, hydrologic modeling was used to provide a cross check of observed scour measurements made during the 1990 field surveys. Utilizing methodology developed by the U.S Soil Conservation Service, the volume and rate of runoff for a 2-year storm event was calculated at 61 transect locations throughout the project area on City and County lands. The height on the channel profile where the 2-year storm flow would be expected to reach was compared to the height of the scour measurements observed during the field surveys. Harding Lawson Associates determined that the 1990 field data closely correlated with the mathematical projection for the 2-year storm event and therefore field observations provided a reasonable estimate for the "ordinary high water" at each transect location (Harding Lawson Associates, 1990).

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[4] Environmental Laboratory, 1987. "Corps of Engineers Wetlands Delineation Manual", Technical report Y-87-1, U.S. Army Corps of Engineers Waterway Experiment Station, Vicksburg, Mississippi.
[5] Warner, 1983.

During Zander Associates' 1995 streamzone assessment, the drainages within the City limits were systematically walked and measurements were taken at the ordinary high water mark at the transect locations identified in the 1990 assessment (Plate 1). Potential Section 404 jurisdictional areas within the currently proposed project area were re-evaluated against the 1990 baseline assessment confirmed by the Corps in 1991. Scour lines, sediment deposits, evidence of high flows, and other hydrologic indicators were recorded. Dominant vegetation within the streamzone and/or adjacent riparian habitat was recorded and compared to that documented during the 1990 assessment. Hydrology, vegetation and other wetland characteristics were recorded in accordance with the measures as prescribed in the Corps of Engineers Wetlands Delineation Manual and photographs of each transect were taken to document the conditions of the streamzone (Figure 1 of Appendix A).

3.2 Riparian Habitat

During Harding Lawson Associates' 1990 assessment, riparian habitat was delineated through the identification of woody plant assemblages comprised of common riparian species, such as willow (*Salix* spp.), mulefat (*Baccharis salicifolia*), sycamore (*Platanus racemosa*), and big leaf maple (*Acer macrophyllum*), when these species occurred within or adjacent to the streamzone. At each transect where these species were found beyond the limits of the streambed, measurements from the stream edge to the outside of this canopy (measuring to the trunk) established the width of the riparian band (Harding Lawson Associates, 1990).

Additional evaluation of riparian habitat on the project site was conducted by P & D Environmental Services in 1991[6]. P & D Environmental Services mapped vegetation on the project site, including riparian woodland, using habitat types as specified in CDFG's *Preliminary Descriptions of the Terrestrial Natural Communities of California.*[7] Two types of riparian habitat were identified on the site: willow riparian woodland and southern willow scrub. Riparian woodland occurs along stream channels and is typically dominated by willow, big leaf maple, and sycamore. Southern willow scrub consists of vegetation in open dense stands, and includes species such as arroyo willow, mulefat, and Mexican elderberry (*Sambucus mexicana*). Plant communities identified by P & D Environmental Services were mapped on aerial photographs (1" = 400') and acreage of habitat types was calculated (Tierra Madre Consultants, Inc., 1995).

Using both the 1990 Harding Lawson Associates' assessment and the 1991 P & D Environmental Services' evaluation as background, Zander Associates conducted a further review of riparian conditions during the 1995 assessment. Dominant plant species comprising the riparian canopy (i.e., sycamore, willow, Mexican elderberry) and associated understory were recorded and at each transect location, the width of the riparian band was compared to the width as recorded during Harding Lawson Associates' 1990 assessment.

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[6] Tierra Madre Consultants, Inc. February 16, 1995. *Sunshine Canyon Landfill in the City of Los Angeles: Draft Biological Assessment.*

[7] Holland, Robert F., 1986. Vegetation Ecologist, Nongame Heritage Program, Sacramento, California.

4.0 EXISTING CONDITIONS

4.1 Results

4.1.1 Hydrology

The drainage courses within the limits of the landfill extension area on City property are well-incised channels with highly eroded slopes. Portions of the drainages within the lower reaches have been bridged, culverted, or otherwise slightly modified historically for the construction of landfill access roads and ancillary features. These drainages typically carry water only during the winter and spring months in response to storm events, with the exception of isolated areas that may be wet year-round due to the presence of seeps. At the time of the 1995 assessment, flow was observed throughout most of the channels evaluated. In addition, as a result of recent heavy winter rains in January and February 1995, there was evidence of above-normal flows (i.e. debris entangled in trees, swept leaf litter, etc.) in the streamzone, particularly in the lower reaches of the drainages evaluated. Data collected on-site by BFI personnel record 27 inches of precipitation in the Sunshine Canyon area in that two month period (see Table 1). However, in spite of the heavy rains, stream channel widths (ordinary high water) had not changed appreciably since the 1990 Harding Lawson Associate Assessment.

4.1.2 Vegetation

The vegetation within and adjacent to the streamzones evaluated consists primarily of riparian woodland species, including big leaf maple, sycamore, and willow. Groves of arroyo willow dominate the lower reaches of the drainages where the streamzones broaden and the overstory canopies are less dense. Areas within the streamzone where water is present during a longer portion of the growing season support more moisture-tolerant species such as mulefat and cattail (*Typha* sp.). In more narrow areas within the lower reaches of the drainages there was evidence that some of the vegetation within the streamzone had been uprooted by the heavy winter flows.

TABLE 1

RAINFALL DATA FOR JANUARY/FEBRUARY 1995
SUNSHINE CANYON LANDFILL[8]

Date	Inches
January 3	1.0
January 4	2.7
January 7-8	3.7
January 9-10	5.95
January 11	3.21
January 12	1.85
January 16	1.85
January 17	0.73
January 21-23	2.05
January 24	1.70
February 8	0.55
February 14	1.97
TOTAL	27.26

[8] Source: BFI, Sunshine Canyon Landfill District, April 13, 1995.

4.1.3 Soils

Soils within the drainage channels evaluated primarily consisted of well-drained sandy loam or sand, often intermixed with alluvial gravels and rocks. In portions of the lower reaches of the drainage channels there was evidence of increased sediment accumulation as a result of the heavy winter flows, however, the character of the soils (i.e., texture, structure, etc.) within the streamzones recorded in 1995 was similar to that recorded by Harding Lawson Associates in 1990.

4.2 Corps Section 404 Jurisdiction

Based on 1995 field surveys, Zander Associates concluded that 1) the extent of potential Corps jurisdictional area is still determined by the limits of the ordinary high water mark, and 2) that the streamzone habitat in the landfill extension area has not changed appreciably from 1990 to 1995. Measurements of channel widths taken at the OHWM by Zander Associates varied little from the measurements recorded by HLA in 1990. This is most likely attributed to the steep side banks and rocky substrates of the stream channels which precludes additional overflow and establishment of adjacent wetlands.

Because Zander Associates concluded that the extent of Corps jurisdiction in the streamzones is still determined by the limits of the OHWM, and that the average width of the channels measured at the OHWM is essentially the same in 1995 as was recorded in 1990, the total area of potential Corps jurisdiction was calculated using the width of the OHWM as confirmed by the Corps in 1991 unless the width measured in 1995 was greater. This width was then multiplied by the length of the corresponding reach of channel to which it applied to determine the total area of potential Section 404 jurisdiction. The extent of the wetland area identified outisde of the streamzone was measured in the field. Zander Associates identified a total of approximately 4.2 acres of potential Section 404 jurisdictional area within the proposed landfill extension project. These areas include drainage G and portions of drainages A and F and Wetland II (see Plate 1 and Table 2).

4.3 Riparian Habitat

Vegetation typical of riparian habitat within the proposed project area includes mulefat, sycamore, big leaf maple, various species of willow, and oak. During Zander Associates 1995 assessment, the approximate width of the riparian band was evaluated and compared with information collected during Harding Lawson Associates' 1990 assessment which involved measuring the width of the riparian band at each transect location. Based on field surveys, Zander Associates determined that the extent and nature of riparian habitat in 1995 closely correlated to that as documented in 1990 by Harding Lawson Associates and totals approximately 5.0 acres.

5.0 DIRECT IMPACTS

If the proposed landfill extension is implemented in its entirety, construction and operation of the Sunshine Canyon Landfill will result in direct impacts to wetlands and riparian habitats subject to the Corps and CDFG's jurisdiction respectively. Calculation of the extent of wetland and riparian habitats affected is based on the assumption that all streams and wetland areas within the study area will be affected in their entirety. Impacts include filling within the stream channels and removal of riparian vegetation within the landfill footprint area. Grading of the site will occur in phases as dictated by the need for additional landfill capacity. Once the streamzones are graded and filled, impacts to the streamzone would be considered long-term since the landfill will remain indefinitely.

5.1 Corps Section 404 Jurisdiction

Assuming all of the streamzones and wetland areas within the City landfill project area will be graded, filled, or otherwise disturbed by expansion of the landfill, approximately 4.2 acres of potential Section 404 jurisdictional area will be impacted as a result of the proposed project.

Zander Associates is in the process of submitting a request for Section 404 jurisdictional determination to the Los Angeles District of the Corps to obtain formal confirmation of Section 404 jurisdictional area for the proposed project area based on data collected during the 1995 survey. A conclusive determination of Section 404 jurisdictional areas to be affected by the proposed project will be made upon confirmation from the Corps.

Loss of Section 404 jurisdictional areas (i.e. waters and wetlands) would be considered a significant impact and would incrementally contribute to the loss of wetlands in the state of California.

5.2 Riparian Habitat

Assuming all of the streamzones and associated riparian habitat within the City landfill project area will be graded, filled, or otherwise disturbed by expansion of the landfill, approximately 5.0 acres of riparian habitat will be impacted as a result of the proposed project.

Loss of riparian woodland and scrub on the project site would not threaten to eliminate these communities, however, it would contribute to the incremental loss of such habitat regionally, and therefore would be considered a significant impact.

TABLE 2

TRANSECT-SPECIFIC MEASUREMENTS OF EXTENT OF POTENTIAL CORPS JURISDICTION TO BE AFFECTED BY PROPOSED PROJECT PURSUANT TO ZANDER ASSOCIATES' 1995 STREAMZONE ASSESSMENT IN COMPARISON TO HLA'S 1990 STREAMZONE ASSESSMENT[9] AS CONFIRMED BY THE CORPS[10]

Transect	Length (ft.)	Limit of Potential Corps Jurisdiction Per Zander Associates 1995 Streamzone Assessment (ft)	Limit of Corps Jurisdiction Per HLA's Streamzone Assessment as Confirmed By the Corps (ft)	Total Potential Corps Jurisdiction 1995 (sq. ft.)
A1	510	**25**	NA[11]	12750
A2	260	15	**20.3**	5278
A3	500	16	**22**	11000
A4	410	16.5	**18**	7380
A5	400	**15**	14.7	6000
A6	400	18	**20.6**	8240
A7	410	**16**	16	6560
A8	250	29	**35**	8750
A9	420	**18**	18	7560
A10	440	**33**	33	14520
A11	400	23	**23.5**	9400
A12	170	**18**	18	3060
A13	0	**45**	43.5	0
AR1-1	400	**4**	4	1600
AR2-1	650	**3**	3	1950
AR2-2	800	**3**	3	2400
AR3-1	720	**3**	3	2160
Total A				108,608 or 2.49 acres
F1[12]	340	**11**	10.9	3740
F2	610	**8**	7.6	4880
F3	210	**3**	2.5	**630**
F4	1300	1.5	**1.6**	2080
FR1-1[13]	500	**4.5**	4.5	2250
FR1-L1-1	160	**3**	2.8	480
FR2-1	500	**4**	4.4	2200
FL1-1	420	**2**	2.3	966
FL2-1	710	**2**	2	1420
Total F				18,646 or 0.42 acre

Note: The bolded value of the OHWM is used to calculate the extent of potential Corps jurisdiction for 1995 (see text for explanation)

[9] Harding Lawson Associates, 1990. *Streamzone Assessment, Sunshine Canyon Landfill Extension.*

[10] Corps of Engineers, Los Angeles District, May 29, 1991. Letter to Harding Lawson Associates.

[11] Not within the boundaries of the project area at the time of the 1990 assessment.

[12] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

[13] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

TABLE 2 CONTINUED

Transect	Length (ft.)	Limit of Potential Corps Jurisdiction Per Zander Associates 1995 Streamzone Assessment (ft)	Limit of Corps Jurisdiction Per HLA's Streamzone Assessment as Confirmed By the Corps (ft)	Total Potential Corps Jurisdiction 1995 (sq. ft.)
G1	520	26	26	13520
G2	500	34	30	17000
G3	430	8	8.3	3569
G4	500	5	9.8	4900
G5	250	18[14]	27	4500
Total G				**43,489 or 0.99 acre**
Wetland I				NA
Wetland II[15]				13067.6
TOTAL AREA, CITY SIDE				**183,810.6 sq. ft. or 4.2 acres**

[14] While Zander Associates has deferred to the wider OHWM to calculate the extent of potential Corps jurisdiction in most cases, we are of the opinion that the OHWM confirmed by the Corps for this transect does not accurately represent field conditions and therefore we have used the width as measured during the 1995 assessment.

[15] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

APPENDIX A - 1995 Streamzone Assessment, Sunshine Canyon Landfill Extension, City Jurisdiction

1995 Streamzone Assessment
Sunshine Canyon Landfill Extension
City Jurisdiction

On February 28 and March 1, 1995, Zander Associates conducted a site visit at the Sunshine Canyon Landfill Extension project site to evaluate the extent of lands potentially subject to Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act. The purpose of the site visit was to verify the limits of potential Section 404 jurisdictional area on City lands in comparison to those documented by Harding Lawson Associates in November 1990[1] and confirmed by the Corps in 1991[2]. Drainages and wetland areas evaluated on City lands included portions of drainages A and F, all of drainage G, and Wetland II as delineated in the 1990 assessment (see Plate 1). Evaluation involved walking the drainages to identify the approximate location of each transect recorded in the 1990 assessment and then measuring the limits of the ordinary high water mark (OHWM) and adjacent wetland, if observed. Scour lines, sediment deposits, evidence of high flows, and other hydrologic indicators were recorded. Dominant vegetation within the streamzone and/or adjacent riparian habitat was recorded and compared to that documented in the 1990 assessment. Hydrologic and vegetative characteristics were recorded in accordance with the measures prescribed in the Corps of Engineers Wetlands Delineation Manual[3] and photographs of each transect were taken to document the conditions of the streamzone (Figure 1).

Based on 1995 field surveys, Zander Associates concluded that 1) the extent of potential Corps jurisdictional area is still determined by the limits of the ordinary high water mark, and 2) that the streamzone habitat in the landfill extension area has not changed appreciably from 1990 to 1995. Measurements of channel widths taken at the OHWM by Zander Associates varied little from the measurements recorded by HLA in 1990. This is most likely attributed to the steep side banks and rocky substrates of the stream channels which precludes additional overflow and establishment of adjacent wetlands.

Because Zander Associates concluded that the extent of Corps jurisdiction in the streamzones is still determined by the limits of the OHWM, and that the average width of the channels measured at the OHWM is essentially the same in 1995 as was recorded in 1990, the total area of potential Corps jurisdiction was calculated using the width of the OHWM as confirmed by the Corps in 1991 unless the width measured in 1995 was greater. This width was then multiplied by the length of the corresponding reach of channel to which it applied to determine the total area of potential Section 404 jurisdiction. Using this method, Zander Associates identified a total of approximately 4.2 acres of potential Section 404 jurisdictional area within the proposed landfill extension project. These areas include drainage G and portions of drainages A and F and Wetland II (see Plate 1 and Table 1).

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[1] Harding Lawson Associates, November 1990. *Streamzone Assessment, Sunshine Canyon Landfill Extension.*
[2] Corps of Engineers, Los Angeles District, May 29, 1991. Letter to Harding Lawson Associates.
[3] Environmental Laboratory, 1987. "Corps of Engineers Wetlands Delineation Manual", Technical report Y-87-1, U.S. Army Corps of Engineers Waterway Experiment Station, Vicksburg, Mississippi.

Zander Associates is in the process of submitting a request for Section 404 jurisdictional determination to the Los Angeles District of the Corps to obtain formal confirmation of jurisdictional areas based on data collected during the 1995 survey. A conclusive determination of Section 404 jurisdictional area to be affected by the proposed project will be made upon confirmation from the Corps.

Canyon A, Transect 1

Transect A1 is located at the base of drainage A adjacent to the entrance to the landfill and the BFI on-site recycling center. This area was not evaluated in the 1990 assessment since it was located outside the then-current ultimate limit of fill for expansion of the 17 million ton capacity landfill project. The channel width at the OHWM measures approximately 25 feet with a low-flow channel of approximately 3 feet. Mulefat grows on the banks which also contain concrete rubble, discarded culverts, and other debris. There is evidence of high debris flow on the banks and concrete rubble placed along portions of the bank is sloughing into the channel. Flow in this drainage was estimated to be less than 3 cubic feet per second at the time of the 1995 survey.

Conclusion

The limit of potential 404 jurisdiction in 1995 was determined by the width of the OHWM and measured approximately 25 feet wide. This area was not evaluated in the 1990 assessment since it was not included within the project boundary at that time; therefore, a comparison between the limits of potential Section 404 jurisdiction cannot be made.

Canyon A, Transect 2

Transect A2 is located adjacent to the BFI on-site recycling center. The channel width at the OHWM is approximately 15 feet with a low-flow channel of approximately 3 feet. Rocks, cobbles, sands, and silts line the channel bottom. Side banks are vegetated with mulefat, willow, and oak on the upper banks. There is evidence of debris flow in the bottom of the channel and up to a height of approximately 10 feet in the trees rooted in the bottom of the channel.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 15 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 20.3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 20.3 feet.

Canyon A, Transect 3

Transect A3 is located just upstream of the BFI on-site recycling center near the entrance to the landfill. Some cobbles and pieces of broken cement are found in the bottom of the stream channel. There is evidence of accumulated sediment and debris from the heavy winter storms. The OHWM at this transect measures approximately 16 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 16 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 22 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 22 feet..

Canyon A, Transect 4

The channel at Transect A4 is deeply incised and contains a low-flow channel approximately 3 feet wide. The west banks are vegetated with willow and mulefat and the east banks are sparsely vegetated. No cattail were observed in the channel bottom although this plant was recorded in the 1990 survey. There is evidence of debris flow and sediment deposition in the bottom of the channel. The OHWM measures 16.5 feet wide at this location. The steepness of the side slopes precludes additional scouring within this reach of channel.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 16.5 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 18 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 18 feet.

Canyon A, Transect 5

The channel at A5 is incised with a low-flow channel of approximately 3 feet wide. Rock rip-rap covers part of the west bank. The OHWM is approximately 15 feet wide at this location. Mulefat and willow grow on the side banks.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 15 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 14.7 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 15 feet.

Canyon A, Transect 6

The channel in this location is incised and is approximately 18 feet wide at the OHWM with a low-flow channel 3 feet wide. Debris from the 1995 winter storms is entangled in trees up to 10 feet above the channel bottom. Rocks and sediment line the channel bottom. Scattered willows have established on the east bank.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 18 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 20.6 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 20.6 feet.

Canyon A, Transect 7

At A7 the OHWM measures approximately 16 feet wide and there is a low-flow channel approximately 2 feet wide. Side slopes are steep and the bottom of the channel is worn with bedrock. It appears some of the vegetation (mulefat and willow) recorded to be within the streamzone in 1990 has been washed away as a result of the 1995 winter storms.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 16 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 16 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 16 feet.

Canyon A, Transect 8

At A8 the OHWM measures approximately 29 feet wide and there is a low-flow channel of approximately 3 feet wide which meanders through a dense canopy of willow. There is evidence of sediment accumulation along this reach to a depth of about 2 feet around the trunks of the willow. Sand and debris has accumulated in some areas along the stream side banks.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 29 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 35 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 35 feet.

Canyon A, Transect 9

Transect 9 is located upstream from the bridge crossing near the nursery in the lower reaches of Canyon A. Debris clogged within this reach is creating some backflooding upstream of this location. The low-flow channel measures approximately 6 feet and the OHWM measures approximately 18 feet.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 18 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 18 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 18 feet.

Canyon A, Transect 10

The channel at A10 is slightly incised with a low-flow channel of approximately 3 feet wide which flows through a broad floodplain area with accumulated sediment deposits. The OHWM measures 33 feet wide at the transect location. The average width of this reach of streamzone ranges between 30-35 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 33 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 33 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 33 feet.

Canyon A, Transect 11

The channel at A11 is moderately incised with a low-flow channel measuring approximately 3 feet wide. The OHWM measures approximately 23 feet wide. Side banks in this area are vegetated with willow and walnut and there is evidence of debris and siltation from the winter storms.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 23 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 23.5 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 23.5 feet.

Canyon A, Transect 12

The character of the streamzone within the vicinity of A12 is similar to that documented in 1990. Steep banks preclude more extensive scouring. There is evidence of debris flow from the winter storms. Soils are sandy and the low flow channel is approximately 3 feet wide. The OHWM measures approximately 18 feet bank to bank.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 18 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 18 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 18 feet.

Canyon A, Transect 13

Transect A13 is located near the County/City property line. The streamzone in this area has been heavily disturbed by debris flow associated with the winter floods but the OHWM remains relatively the same as recorded in 1990, measuring approximately 45 feet wide. Cobbles, boulders, and rocks line the channel bottom and mulefat sparsely grows within selected areas of the channel bottom. The low-flow channel in this area is approximately 4 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 45 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 43.5 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 45 feet.

Canyon A, Transect AR1-1

The channel at AR1-1 is steeply incised and is lined with bedrock. There was no flow in this channel at the time of the 1995 survey. The channel is approximately 4 feet wide at the OHWM. Additional scouring in this channel is precluded from the steep side banks and the bedrock substrate.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 4 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 4 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 4 feet.

Canyon A, Transect AR2-1

Transect AR2-1 is located on the large side canyon to the east of canyon A. There is evidence of sediment buildup on the outer banks of the streamzone, however, the ordinary flow channel is reestablishing through the OHWM limits and is approximately 3 feet wide. From approximately A10 - A10.5 there is a broad area of sediment accumulation.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 3 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 3 feet.

Canyon A, Transect AR2-2

Transect AR2-2 is upstream from transect AR2-1. The OHWM measures approximately 3 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 3 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 3 feet.

Canyon A, Transect AR3-1

Transect AR3-1 is located in a side canyon to canyon A. The channel bottom is approximately 3 feet wide with a low-flow-channel of approximately 4" wide. Steep banks within this reach of drainage preclude further widening of channel. Downstream of the confluence with canyon A there is substantial scour measuring approximately 18-25 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 3 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 3 feet.

Canyon F, Transect 1

The low-flow channel at F1 is about 2 feet wide with the OHWM measuring 11 feet. Side banks are generally not vegetated with the exception of scattered mulefat in some areas.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 11 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 10.9 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 11 feet.

Canyon F, Transect 2

The channel at F2 measures about 8 feet wide at the OHWM. Elderberry grows on the right bank (looking upstream); it appears vegetation has fallen into the channel as a result of the heavy winter flows. The low-flow channel in this area is about 3-4 feet wide. Due to the rock substrate and steep side banks, additional scouring in the channel is precluded.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 8 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 7.6 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 8 feet.

Canyon F, Transect 3

The channel at F3 is deeply incised and contains a rock and soil substrate with sediment and gravels. OHWM in this area is approximately 3 feet wide. The reach of stream between F3 and F4 is densely vegetated, with side slopes dominated by poison oak. The rugged nature of the channel (i.e. steep side slopes) precludes additional scouring in this area. The low-flow channel is approximately 2 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 3 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 2.5 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 3 feet.

Canyon F, Transect 4

The channel banks at F4 are steep and densely vegetated. There appears to have been some additional sloughing of the upper banks, most likely attributed to the high winter flows. The channel bottom is approximately 1.5 feet wide at the OHWM. Due to the steepness of the side slopes and the bedrock substrate, the channel in this area is relatively confined.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 1.5 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 1.6 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 1.6 feet.

Canyon F, Transect R1-1

Transect R1-1 is a side drainage to drainage F and is upstream from Wetland II near the City/County property line. This drainage has an OHWM of approximately 4 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 4.5 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 4.5 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 4.5 feet.

Canyon F, Transect R1-L1-1

Transect R1-L1-1 is a side canyon of drainage F located near the City/County property line. The channel is deeply incised and measures approximately 3 feet at the OHWM. The channel bottom is underlain by bedrock. Composition of vegetation in this area is relatively similar to that recorded during the 1990 survey, including oak and toyon.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 3 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 2.8 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 3 feet.

Canyon F, Transect R2-1

The channel at FR2-1 is deeply incised and consists of a rocky bottom and gravels. Some sloughing has occurred in the channel but the low-flow channel has re-established over these

areas. Side banks are steep and preclude additional scouring. From Wetland Area 1 downstream towards F2, channel banks are steep and a low-flow channel measures about 3 feet wide. Side slopes are not vegetated and there is some bedrock in the bottom of the channel and along the bank. The OHWM is about 4 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 4 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 4.4 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 4.4 feet.

Canyon F, Transect L1-1

The channel is slightly incised in this area and measures approximately 2 feet wide at the OHWM. The vegetation composition is similar to that described in the 1990 assessment, consisting of oak and poison oak.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 2 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 2.3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 2.3 feet.

Canyon F, Transect L2-1

The transect at FL2-1 is narrowly incised and measured 2 feet at the OHWM at this location.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 2 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 2 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 2 feet.

Canyon G, Transect 1

The transect at G1 is located near the confluence of drainages G and A. The OHWM in this area measures approximately 26 feet wide and there is a low-flow channel approximately 3 feet wide. Small cobbles and rocks line the channel bottom which meanders downstream to

two large culverts which direct flows under the road leading to the nursery. There is significant evidence of high flows along this reach of channel as evidenced by debris entangled in trees to a height of approximately 10 feet above the ground surface. Due to the steep bank on the west side of G and the elevated upland area in between the confluence of A and G, additional scouring in this area is precluded. The OHWM from G1 to G2 measures about 30 feet wide with a low-flow channel of about 3 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 26 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 26 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991/1995 width of 26 feet.

Canyon G, Transect 2

The channel at G2 parallels the existing access road for the landfill and is underlain by cobbles and rocks. The low flow channel measures about 3 feet wide. Mulefat is established in higher areas along the bank. Banks on the left side are steep. Some sediment has accumulated to a depth of approximately 2 feet on the right side of the channel. The OHWM is approximately 34 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 34 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 30 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1995 width of 34 feet.

Canyon G, Transect 3

The channel at G3 is steeply incised and measures approximately 8 feet wide at the OHWM. Due to the steep side slopes and bedrock bottom, additional scouring in this area is precluded.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 8 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 8.3 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 8.3 feet.

Canyon G, Transect 4

The channel at G4 runs adjacent to the existing landfill access road and is deeply incised with a low-flow channel measuring about 2-3 feet wide. The OHWM measures 5 feet. Boulders and bedrock line the channel bottom and the upper banks are sparsely vegetated. The character of the streamzone between G5 and G3 does not appear to have changed significantly since 1990, due to steep side slopes and bedrock substrates.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 5 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 9.8 feet. The extent of potential 404 jurisdiction for this reach was calculated using the 1991 width of 9.8 feet.

Canyon G, Transect 5

The channel at G5 is underlain by bedrock, silt, gravels, and rocks. There is evidence of high flows along the banks and scattered pieces of asphalt are found on the west bank. The channel measures 18 feet wide at the widest point. Sparse mulefat, sage, and willow grow along the lower banks. The low-flow channel measures approximately 2 feet wide.

Conclusion

The width of the channel measured at the OHWM at this location in 1995 was 18 feet. The average width used for this reach by the Corps in 1991 to determine the extent of its jurisdiction was 27 feet. While the 1991 Corps-directed amendment established an OHWM of 27 feet wide at this location, Zander Associates is of the opinion that this does not accurately represent the width of the OHWM at this location. Therefore, the width of 18 feet was used to calculate the extent of potential 404 jurisdiction for this reach.

Wetland II

Wetland II is located near the City/County property line upstream of the confluence of FR1-L1 and G5. The wetland is vegetated with mulefat and willow and had ponding water at the time of survey. The area is heavily disturbed by machinery and vehicle as a result of ongoing landfill operations. Soils are saturated and there is significant evidence of sediment accumulation from the surrounding hillsides. Wetland II covers approximately 16,000 square feet (57 feet x 270 feet).

Conclusion

The total area of potential Corps jurisdiction during the 1995 survey was approximately 16,000 square feet. This acreage is consistent with the acreage confirmed by the Corps in 1991.

TABLE 1

TRANSECT-SPECIFIC MEASUREMENTS OF EXTENT OF POTENTIAL CORPS JURISDICTION TO BE AFFECTED BY PROPOSED PROJECT PURSUANT TO ZANDER ASSOCIATES' 1995 STREAMZONE ASSESSMENT IN COMPARISON TO HLA'S 1990 STREAMZONE ASSESSMENT[4] AS CONFIRMED BY THE CORPS[5]

Transect	Length (ft.)	Limit of Potential Corps Jurisdiction Per Zander Associates 1995 Streamzone Assessment (ft)	Limit of Corps Jurisdiction Per HLA's Streamzone Assessment as Confirmed By the Corps (ft)	Total Potential Corps Jurisdiction 1995 (sq. ft.)
A1	510	25	NA[6]	12750
A2	260	15	**20.3**	5278
A3	500	16	**22**	11000
A4	410	16.5	**18**	7380
A5	400	15	14.7	6000
A6	400	18	**20.6**	8240
A7	410	16	**16**	6560
A8	250	29	**35**	8750
A9	420	18	**18**	7560
A10	440	33	**33**	14520
A11	400	23	**23.5**	9400
A12	170	18	**18**	3060
A13	0	45	43.5	0
AR1-1	400	4	**4**	1600
AR2-1	650	3	**3**	1950
AR2-2	800	3	**3**	2400
AR3-1	720	3	**3**	2160
Total A				108,608 or 2.49 acres
F1[7]	340	11	10.9	3740
F2	610	8	7.6	4880
F3	210	3	2.5	**630**
F4	1300	1.5	**1.6**	2080
FR1-1[8]	500	**4.5**	**4.5**	2250
FR1-L1-1	160	**3**	2.8	480
FR2-1	500	4	**4.4**	2200
FL1-1	420	2	**2.3**	966
FL2-1	710	**2**	**2**	1420
Total F				18,646 or 0.42 acre

Note: The bolded value of the OHWM is used to calculate the extent of potential Corps jurisdiction for 1995 (see text for explanation)

[4] Harding Lawson Associates, 1990. *Streamzone Assessment, Sunshine Canyon Landfill Extension.*

[5] Corps of Engineers, Los Angeles District, May 29, 1991. Letter to Harding Lawson Associates.

[6] Not within the boundaries of the project area at the time of the 1990 assessment.

[7] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

[8] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

TABLE 1 CONTINUED

Transect	Length (ft.)	Limit of Potential Corps Jurisdiction Per Zander Associates 1995 Streamzone Assessment (ft)	Limit of Corps Jurisdiction Per HLA's Streamzone Assessment as Confirmed By the Corps (ft)	Total Potential Corps Jurisdiction 1995 (sq. ft.)
G1	520	26	26	13520
G2	500	34	30	17000
G3	430	8	8.3	3569
G4	500	5	9.8	4900
G5	250	18[9]	27	4500
Total G				**43,489 or 0.99 acre**
Wetland I				NA
Wetland II[10]				13067.6
TOTAL AREA, CITY SIDE				**183,810.6 sq. ft. or 4.2 acres**

[9] While Zander Associates has deferred to the wider OHWM to calculate the extent of potential Corps jurisdiction in most cases, we are of the opinion that the OHWM confirmed by the Corps for this transect does not accurately represent field conditions and therefore we have used the width as measured during the 1995 assessment.

[10] Portions of these areas were permitted to be filled by the Corps for extension of the 17-million ton capacity landfill. The acreage shown here represents the remaining area to be affected as a result of the proposed project.

Appendix B4
TREE REPORT

SUNSHINE CANYON CITY LANDFILL EXTENSION TREE ASSESSMENT REPORT

prepared for:

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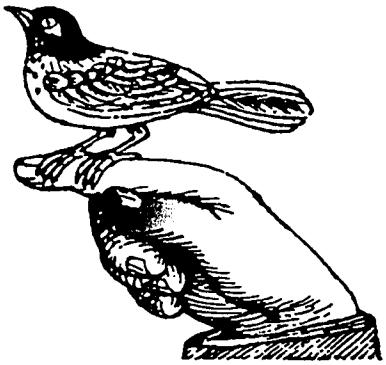

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INTRODUCTION

This ***Sunshine Canyon City Landfill Extension Tree Assessment Report*** (Report) was prepared for Browning-Ferris Industries, Inc. (BFI) application for the proposed extension of the Sunshine Canyon Landfill or City Landfill (project). Registered Professional Foresters used the City of Los Angeles Oak Tree Ordinance and Oak Tree Report requirements (Ordinance 153,478; Article 6, Chapter IV) as the basis for field evaluation of all trees. Extension of the landfill is exempt from the City's Oak Tree Ordinance because that ordinance regulates the removal of indigenous oaks and other trees as part of subdivision development. The proposed Sunshine Canyon Landfill project is not considered a subdivision. A total of 675 trees were measured and evaluated for the Report.

LOCATION

The project site is located within Sunshine Canyon and in Sylmar, California; west of Interstate 5, south of Highway 14, and north of Balboa Avenue. The existing BFI landfill, which is located within the project site area, ceased operation in 1991. Currently, a landfill extension project is under construction in the county portion of the property located west of the existing landfill. The Los Angeles City/County line divides the BFI property approximately in half. This proposed extension project will be located between the existing BFI landfill and the new County landfill extension (see Appendix A, Figure 1, Project Location Map).

SITE DESCRIPTION

Vegetation on this site is composed of a mixture of disturbed/undisturbed native vegetation and the landfill cover is dominated by introduced plant species. In general, the area has been heavily disturbed by the existing landfill, wildfire, and land uses which included ranching and oil exploration.

The lower portion of the site is generally divided north to south by an existing access road that services the existing landfill. To the south of the access road exists a small remanent stand of coast live oak (*Quercus agrifolia*). The intermittent Sunshine Creek is located immediately northeast of the access road and supports a narrow band of disturbed riparian vegetation composed of willow (*Salix spp.*), mulefat (*Baccharis glutinosa*), tree tobacco (*Nicotiana glauca*) and scattered coast live oak trees. In the vicinity of the BFI Recycling Center, which is located near San Fernando Road, there are several sycamore (*Platanus racemosa*) trees. A variety of nonnative tree species were planted for landscaping purposes along the access road. Those species include Italian cypress (*Cupressus sempervirens*), Jacaranda (*Jacaranda mimosifolia*), deodar cedar (*Cedrus deodara*), and Brazilian pepper (*Schinus terebinthifolius*).

In the northwest portion of the project area, adjacent to Sunshine Creek, is a stand of coast live oak. This stand is dominated by coast live oak with scattered California black walnut (*Juglans californica*). The understory consists of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), poison oak (*Toxicodendron diversilobum*), and sugar bush (*Rhus ovata*). Along Sunshine Creek between the county line and the landfill access road, the vegetation is dominated by coast live oak at the upper section and arroyo willow (*Salix lasiolepis*) along the lower section in the vicinity of the Sunshine Canyon Plant Materials Center. Within this reach there are a small number of scattered sycamore trees.

A ranch house and administrative/construction support facilities are located north of the landfill access road and east of Sunshine Creek. The majority of the nonnative tree species identified in this Report are located in this area. These trees were planted as landscaping for the ranch house and driveway area. Tree species in this area include silk oak (*Grevillea robusta*), arborvitae (*Thuja spp.*), Canary Island pine (*Pinus canariensis*), Aleppo pine (*Pinus halepensis*), eucalyptus (*Eucalyptus spp.*), and Melaleuca (*Melaleuca spp.*).

At the southwest corner of the project site two small, steeply sloped canyons support a mixture of coast live oak, canyon live oak (Quercus chrysolepis), bigcone Douglas-fir (Pseudotsuga macrocarpa), foothill ash (Fraxinus dipetala), and bigleaf maple (Acer macrophyllum).

TREE ASSESSMENT PROCEDURES

In 1992 all trees within the project area measuring one-inch and larger, were surveyed and tagged with numbered aluminum tags. In February 1995 the site was resurveyed and all oak species measuring 8 inches and larger and all nonoak species measuring 12 inches and larger were inventoried. Breaks in the numerical sequence of the tree numbers are a result of all trees being previously tagged; only those trees larger than 8 inches and 12 inches have been included in this report. The inventory included a detailed assessment of each tree relative to tree size, structural condition, and general health as per the requirements of the Oak Tree Ordinance. This inventory data is presented in tabular form in *Appendix B, Sunshine Canyon City Landfill Extension, Tree Survey Data.*

Each tree of qualifying size was tagged at approximately 4.5 feet above the ground. The approximate location of each tree was mapped on (one-inch equals 100 foot) topographic maps. As is standard professional forestry practice, tree diameters were measured at 4.5 feet above the ground when possible. In situations where a branch or trunk swelling resulted in an unrepresentative diameter, a more accurate measurement was obtained by measuring either below or above this point as prescribed by the International Society of Aboriculture (ISA). Trees with more than one trunk were recorded by the largest

diameter trunk first, and all other diameters were listed separately. Diameter measurements were made with a diameter tape. Tree height and crown diameter were visually estimated to the nearest 5 foot increment.

The structural condition of each tree was evaluated. Factors used in the evaluation included evidence of past fire damage, thinning foliage, presence of trunk cavities, trunk damage, insect damage, disease, leaning trunks, and regrown sprouts. The overall health of each tree was rated on a scale of 1 to 10 with 1 being poor, 5 being average, and 10 being excellent. The aesthetic value of each tree was also rated on a scale of 1 to 10 with 1 being unsuitable, 5 being average, and 10 being of specimen quality. Each tree was compared to a "specimen quality" tree of the same species to derive the individual tree rating. A "specimen quality" tree is considered exemplary for its species. It should be noted that an aesthetic rating is a subjective value in evaluating street trees and is primarily used to determine the aesthetic value of trees to be retained in subdivision development.

SURVEY RESULTS

A total of 675 trees of qualifying size comprising 24 tree species were identified by the survey. These trees are located in scattered groves containing approximately 28 acres. In the southwest corner of the project area there is a small portion of land containing 23 trees. These trees are located within Los Angeles County jurisdiction. Joining the City and County Landfill projects will require removal of these trees. However, removal of these trees will be handled through the Los Angeles County Oak Tree Permit process.

Coast live oak is the dominate species; it comprises 80.74 percent of all the inventoried tree species. A complete breakdown of the species composition is shown in *Appendix A, Table 1, Species Distribution.*

Tree diameters ranged from the minimum 8 and 12 inches for oaks and nonoaks respectively to a high of 52 inches for coast live oak (see *Appendix A, Table 2, Diameter Comparison by Species and Figure 2 and 3).* The coast live oak tree measuring 52 inches is tree number 626. This tree is 15 feet tall, has a broken, hollowed out trunk and is in poor health.

The average diameter for the surveyed coast live oak trees is 17 inches. To characterize the overall diameter distribution by size class, the trees were divided into diameter classes for native and nonnative tree species. Of the native tree species, 61.59 percent of the trees were less than 18 inches in diameter; 72.41 percent of the nonnative tree species were less than 18 inches in diameter. *Appendix A, Table 3, Percent Diameter Distribution of Native Trees* and *Figure 4, Percent Diameter Distribution* and *Table 4, Percent Diameter Distribution of Nonnative Tree Species* provides a description of size class distribution by species.

Coast live oak had an average height of 24 feet. The minimum tree height was 6 feet and the maximum height was 60 feet. Bigcone Douglas-fir averaged 53 feet tall with a minimum height of 20 feet and a maximum of 85 feet. *Appendix A, Table 5, Height Comparison by Species*, *Figure 5, Height Comparison of Native Species,* and *Figure 6, Height Comparison of Nonnative Species* lists the average, minimum, and maximum height for each species.

Crown width for coast live oak ranged from 5 feet to 65 feet with an average spread of 22 feet. Bigleaf maple had the largest crown spread of all species with a maximum width of 65 feet and a minimum width of 25 feet. Average crown width for bigleaf maple was 43 feet. *Appendix A, Table 6, Crown Width Comparison by Species*, *Figure 7, Crown Width Comparison of Native Species,* and *Figure 8, Crown Width Comparison of Nonnative Species* lists the average, minimum, and maximum crown width for each species.

Each tree was evaluated for evidence of past fire damage, presence of trunk cavities, insect damage, disease, and significant lean. All of these factors contribute individually and in combination to form the structural condition of the tree. The structural condition of each tree was evaluated independent of tree health or aesthetics.

Wildfires are a common occurrence in Southern California and play a major role in the development of vegetative cover in wildland areas. Within Sunshine Canyon the historic presence of fire is very evident. Observation of trunk cavities resulting from fire wounds, charred bark, wound and callus formation on the underneath sides of tree limbs, and a large number of trunks originating from regrown stumps are all evidence of fires which have occurred within Sunshine Canyon. Forty-five percent of the coast live oak trees had evidence of past fire damage as did 42.11% of canyon live oaks, 7.69% of bigcone Douglas-fir, 25.00% of sycamore, 57.14% of black walnut, and 66.67% of bigleaf maple (see *Appendix A, Table 7, Fire Damage Comparison by Species*). The wounds from previous wildfires were most commonly observed as scars along the underneath sides of branches and trunk cavities near the ground. These old wounds provided entry points for the spores of various fungi that cause decay of the heart wood of the trunk and branches. The resulting heart rot gradually destroys the dead inner portion of the trunk and limbs making them susceptible to structural failure. Heart rot fungi does not attack the living portion of the tree and therefore does not result in the direct death of the tree or a decrease in the health rating.

Thirty-eight percent of the coast live oak trees have trunk cavities, mostly as a result of fire damage. Over 52 percent of the canyon live oak trees had trunk cavities. This higher percentage is likely due to the fact that most canyon live oak trees were growing higher on the slope where fire intensity is greater. *Appendix A, Table 8, Comparison of Trees with Trunk Cavities* provides a listing of the presence of trunk cavities by species. Nonnative tree species were planted as landscaping around existing structures and have not been subject to damage by past fires.

The primary disease observed within the Sunshine Canyon project area was heart rot. Thirty-six percent of the coast live oak trees, 47.37 percent of the canyon live oak trees, and 75 percent of the sycamore trees have heart rot. Presence of heart rot is directly related to past fire damage. Sycamore trees have relatively thin bark, and are very susceptible to fire damage. Additionally, the inner wood is very susceptible to decay as confirmed by the high percentage of trees with heart rot and trunk cavities. *Appendix A, Table 9, Comparison of Trees with Disease* provides a break down by species of the trees infected by disease.

No serious insect problems were noted within the Sunshine Canyon Landfill area. At the peak of the drought that started during the mid 1980's, the oak trees within Sunshine Canyon were heavily moisture stressed and numerous trees were attacked and killed by flat-head borers. Above normal rainfall since 1992 eliminated the moisture stress and greatly reduced the damage caused by these insects. Ants observed trailing up into the trees is an indication of the presence of aphids and whiteflies. Typically the ants feed on a sugary substance called "honey dew" which is excreted by the aphids and whiteflies. Aphids and whiteflies are common forest insects and their populations are held in check by other predator insects, animals, and environmental conditions.

Dry wood termites were the most commonly observed insects. Termites enter the trees through wounds in the bark and cavities and feed on the dead inner portion of the tree. While the termites do weaken a branch or trunk structurally, they do not pose a health threat to the trees. *Appendix A, Table 10, Comparison of Trees with Insect Damage* provides a listing of trees with primarily termite damage. *Appendix C "An Observation of Pest Activity in Trees at Sunshine Canyon", Norris, 1995* gives an overview of observed pest activity within the lower reach of Sunshine Canyon.

Overall, the surveyed trees at Sunshine Canyon are in good health. The health of each tree was rated on a scale of 1 to 10. A rating of 7 to 10 was considered "good", 4 to 6 "fair", and 1 to 3 "poor". A visual examination of tree health was made based on crown density, leaf color and size, vigor, and growth rate. For deciduous trees that were not in leaf at the time of the survey, the size and presence of active leaf buds were observed. *Appendix A, Table 11, Comparison of Tree Health by Species* gives the percentage of trees by species rated as good, fair, and poor.

Survey results indicate that 73.19 percent of the tree species had a good health rating. In contrast, the percentage of trees identified with fire damage, trunk cavities, insects and disease is also relatively high. While these structural defects may lead to the failure of major limbs or the main trunk itself, they do not necessarily affect the health or vigor of the tree. In many cases a tree may have a full healthy crown, exhibit good vigor and growth and also have fire induced cavities that contain heart rot and termites.

PROJECT IMPACTS

Construction of the Sunshine Canyon City Landfill Extension will require the removal of the 675 trees identified by the survey. Landfill construction does not have the flexibility of other types of construction projects that can be adjusted to retain trees.

PROJECT IMPACT MITIGATION

To mitigate the impacts of tree removal associated with construction of the proposed Sunshine Canyon City Landfill Extension, the following measures will be implemented.

1) All native tree species will be replaced at a 2:1 (replacement:removal) ratio with 15-gallon size trees or 5:1 with 3-gallon size trees of the same species. These trees will be planted before any trees are removed and allowed to grow to specimen size in the field. A specimen size tree is defined as a 15-gallon size tree with a minimum trunk caliper of one-inch measured one-foot above the ground. All mitigation trees will be specimen size within one year after trees are removed by construction.

2) All nonnative tree species will be replaced at a 2:1 ratio with 3-gallon size coast live oak trees. The same procedure used in one above will be used to grow the trees to size in the field.

3) A total of 100 24 inch box and 25 36 inch box size coast live oak trees shall be planted in significant areas to be identified by the City. These trees shall all be natural in form. The total mitigation tree count obtained by the 5:1 replacement ratio will be reduced by 125 trees to account for the inclusion of these larger trees.

4) The mitigation site will located in an open space area.

5) All mitigation trees will be specimen size within one year after trees are removed by construction.

MITIGATION SITE SELECTION

Mitigation tree planting will occur within the ± 100 acre buffer area located on the south side of the existing landfill (*see Appendix A, Project Location Map*). Appropriate planting locations will be selected within the buffer area based soils, slope steepness, and aspect. The buffer area is permanent open space protected by a permanent open space easement.

TREE PLANTING SPECIFICATIONS

Prior to tree planting, the site must be prepared to create an environment favorable for tree growth and survival. The first step will be to clear away unwanted grass, weeds or brush that will compete with the trees for water and nutrients. A minimum three foot radius will be cleared of vegetation around the planting location. The holes will be dug to a minimum depth of 24 inches. If soil conditions will not accommodate the minimum depth, the planting hole will be relocated to a more suitable location. Planting hole diameters will be at least six inches larger on all sides than the tree's root ball.

Before the tree is placed into the planting hole, a poultry wire screen with one-inch diameter holes will be installed against the outside wall of the planting hole. The wire screen will extend down and enclose the bottom of the root ball and protrude one-foot above the final grade. The purpose of the screen is to prevent root damage by burrowing gophers and ground squirrels.

Backfill material for the planting hole will be loose friable soil. The planting hole will be backfilled to a depth that allows the root crown of the plant to be even with or slightly higher than the surrounding grade. All planting locations are to be pre-irrigated so that the backfill material and the planting hole moisture levels are at or near field capacity.

Before moving plants from the nursery to the planting site, all containers are to be thoroughly soaked. Once at the site, plants shall not be removed from their containers until all planting site preparation has been completed and the planting hole is ready to receive the plant. The wire cage will be placed in the planting hole, backfill material will be filled to one-half the depth of the root wad and 20-gram Agriform fertilizer tablets will be placed approximately one-inch from the root wad. Fifteen-gallon size trees will receive four fertilizer tablets. Backfilled soil will be tamped as the hole is filled to remove large air pockets.

Following installation of the plant, the cleared planting area will be mulched with wood chips and recycled green waste from the landfill. The mulch will be applied in an even layer six inches thick. See *Appendix A, Figure 9* for a graphic detail of the planting specification.

IRRIGATION SPECIFICATIONS

Drip irrigation will be provided for all trees to improve survival, growth, and to allow year-round planting. In addition, the irrigation system will provide a means of injecting liquid fertilizer into the irrigation water to maintain optimum plant health and growth.

The irrigation system will use p.v.c. pipe for the main supply lines. Distribution lines will consist of one-half inch diameter polyethylene drip tubing. Water will be delivered to the

plants with conventional drip spot emitters. Vortex emitters rated at one and three gallons per hour will be used for the spot emitters. All irrigation water will be filtered through a "Y" filter with a 150 mesh screen. The irrigation systems will be controlled automatically with remote battery powered Dayni controllers and electric irrigation valves. Watering frequency and duration will be adjusted as necessary depending on soil conditions and weather factors (*see Appendix A, Figure 10*).

APPENDIX A

TABLES and FIGURES

TABLE 1.
SPECIES DISTRIBUTION
Sunshine Canyon City Landfill Extension

Species	Number	% of Total
Quercus agrifolia	545	80.74%
Quercus chrysolepis	19	2.81%
Pseudotsuga macrocarpa	13	1.93%
Platanus racemosa	8	1.19%
Grevillea robusta	7	1.04%
Fraxinus dipetala	4	0.59%
Salix laevigata	7	1.04%
Juglans californica	14	2.07%
Thuja spp.	4	0.59%
Acer macrophyllum	3	0.44%
Sambucus mexicana	3	0.44%
Pinus halepensis	12	1.78%
Cupressus sempervirens	2	0.30%
Pinus canariensis	2	0.30%
Eucalyptus spp.	8	1.19%
Melaleuca spp.	1	0.15%
Alnus rubra	1	0.15%
Liquidambar styraciflua	2	0.30%
Ficus rubignosa	5	0.74%
Fraxinus uhdei	4	0.59%
Ulmus pumila	1	0.15%
Cedrus deodara	8	1.19%
Podocarpus gracilior	1	0.15%
Magnolia grandiflora	1	0.15%
TOTALS	675	100%

TABLE 2.
DIAMETER COMPARISON BY SPECIES
Sunshine Canyon City Landfill Extension

Species	Min. Dia.	Avg. Dia.	Max. Dia.
Quercus agrifolia	8	17	52
Quercus chrysolepis	8	14	28
Pseudotsuga macrocarpa	13	18	29
Platanus racemosa	12	17	27
Grevillea robusta	12	16	24
Fraxinus dipetala	13	13	15
Salix laevigata	12	14	19
Juglans californica	12	15	23
Thuja spp.	13	13	13
Acer macrophyllum	13	14	14
Sambucus mexicana	13	15	18
Pinus halepensis	13	20	30
Cupressus sempervirens	13	13	13
Pinus canariensis	13	17	20
Eucalyptus spp.	14	17	23
Melaleuca spp.	13	13	13
Alnus rubra	29	29	29
Liquidambar styraciflua	13	13	13
Ficus rubignosa	13	15	19
Fraxinus uhdei	12	17	27
Ulmus pumila	14	14	14
Cedrus deodara	12	14	18
Podocarpus gracilior	12	12	12
Magnolia grandiflora	14	14	14

TABLE 3.
PERCENT DIAMETER DISTRIBUTION OF NATIVE TREES
Sunshine Canyon City Landfill Extension

	Diameter Class in Inches				
Species	**8-11"**	**12-17"**	**18-23"**	**24-29"**	**30"+**
Quercus agrifolia	23.30%	36.70%	24.22%	11.19%	4.59%
Quercus chrysolepis	36.84%	47.37%	0.00%	15.79%	0.00%
Pseudotsuga macrocarpa	0.00%	46.15%	46.15%	7.69%	0.00%
Platanus racemosa	0.00%	50.00%	37.50%	12.50%	0.00%
Fraxinus dipetala	0.00%	100.00%	0.00%	0.00%	0.00%
Salix laevigata	0.00%	85.71%	14.29%	0.00%	0.00%
Juglans californica	0.00%	85.71%	14.29%	0.00%	0.00%
Acer macrophyllum	0.00%	100.00%	0.00%	0.00%	0.00%
Sambucus mexicana	0.00%	66.67%	33.33%	0.00%	0.00%
Alnus rubra	0.00%	0.00%	0.00%	100.00%	0.00%
% of Native Tree Count	**21.72%**	**39.87%**	**23.50%**	**10.86%**	**4.05%**

TABLE 4.
PERCENT DIAMETER DISTRIBUTION OF NONNATIVE TREES
Sunshine Canyon City Landfill Extension

	Diameter Class in Inches				
Species	**8-11**	**12-17**	**18-23**	**24-29**	**30+**
Grevillea robusta	0.00%	85.71%	0.00%	100.00%	0.00%
Thuja spp.	0.00%	100.00%	0.00%	0.00%	0.00%
Pinus halepensis	0.00%	33.33%	41.67%	16.67%	8.33%
Cupressus sempervirens	0.00%	100.00%	0.00%	0.00%	0.00%
Pinus canariensis	0.00%	50.00%	50.00%	0.00%	0.00%
Eucalyptus spp.	0.00%	62.50%	37.50%	0.00%	0.00%
Melaleuca spp.	0.00%	100.00%	0.00%	0.00%	0.00%
Liquidambar styraciflua	0.00%	100.00%	0.00%	0.00%	0.00%
Ficus rubignosa	0.00%	80.00%	20.00%	0.00%	0.00%
Fraxinus uhdei	0.00%	75.00%	0.00%	25.00%	0.00%
Ulmus pumila	0.00%	100.00%	0.00%	0.00%	0.00%
Cedrus deodara	0.00%	87.50%	12.50%	0.00%	0.00%
Podocarpus gracilior	0.00%	100.00%	0.00%	0.00%	0.00%
Magnolia grandiflora	0.00%	100.00%	0.00%	0.00%	0.00%
% of Nonnative Tree Count	**0.00%**	**72.41%**	**18.97%**	**6.90%**	**1.72%**

TABLE 5.
HEIGHT COMPARISON BY SPECIES
Sunshine Canyon City Landfill Extension

Species	Min. Hght.	Avg. Hght.	Max. Hght.
Quercus agrifolia	6	24	60
Quercus chrysolepis	15	24	40
Pseudotsuga macrocarpa	20	53	85
Platanus racemosa	20	34	50
Grevillea robusta	20	31	40
Fraxinus dipetala	20	29	35
Salix laevigata	15	23	35
Juglans californica	15	23	30
Thuja spp.	8	13	15
Acer macrophyllum	25	38	50
Sambucus mexicana	15	15	15
Pinus halepensis	20	35	60
Cupressus sempervirens	40	40	40
Pinus canariensis	25	32	40
Eucalyptus spp.	15	41	60
Melaleuca spp.	15	15	15
Alnus rubra	20	20	20
Liquidambar styraciflua	40	40	40
Ficus rubignosa	15	22	30
Fraxinus uhdei	30	44	55
Ulmus pumila	40	40	40
Cedrus deodara	30	35	40
Podocarpus gracilior	15	15	15
Magnolia grandiflora	25	25	25

TABLE 6.
CROWN WIDTH COMPARISON BY SPECIES
Sunshine Canyon City Landfill Extension

Species	Min. Width	Avg. Width	Max. Width
Quercus agrifolia	5	22	65
Quercus chrysolepis	10	23	60
Pseudotsuga macrocarpa	15	20	30
Platanus racemosa	10	22	35
Grevillea robusta	10	15	20
Fraxinus dipetala	5	16	20
Salix laevigata	10	20	30
Juglans californica	15	25	45
Thuja spp.	5	8	10
Acer macrophyllum	25	43	65
Sambucus mexicana	15	18	20
Pinus halepensis	15	22	30
Cupressus sempervirens	4	4	4
Pinus canariensis	10	17	25
Eucalyptus spp.	10	24	45
Melaleuca spp.	15	15	15
Alnus rubra	20	20	20
Liquidambar styraciflua	14	14	15
Ficus rubignosa	20	23	25
Fraxinus uhdei	15	29	45
Ulmus pumila	25	25	25
Cedrus deodara	15	17	20
Podocarpus gracilior	15	15	15
Magnolia grandiflora	25	25	25

TABLE 7.
FIRE DAMAGE COMPARISON BY SPECIES
Sunshine Canyon City Landfill Extension

Species	Fire Damage	% of Species Total
Quercus agrifolia	244	44.77%
Quercus chrysolepis	8	42.11%
Pseudotsuga macrocarpa	1	7.69%
Platanus racemosa	2	25.00%
Grevillea robusta	0	0.00%
Fraxinus dipetala	0	0.00%
Salix laevigata	0	0.00%
Juglans californica	8	57.14%
Thuja spp.	0	0.00%
Acer macrophyllum	2	66.67%
Sambucus mexicana	0	0.00%
Pinus halepensis	0	0.00%
Cupressus sempervirens	0	0.00%
Pinus canariensis	0	0.00%
Eucalyptus spp.	0	0.00%
Melaleuca spp.	0	0.00%
Alnus rubra	0	0.00%
Liquidambar styraciflua	0	0.00%
Ficus rubignosa	0	0.00%
Fraxinus uhdei	0	0.00%
Ulmus pumila	0	0.00%
Cedrus deodara	0	0.00%
Podocarpus gracilior	0	0.00%
Magnolia grandiflora	0	0.00%
Totals	**265**	
% of Total Tree Count	**39.26%**	

TABLE 8.
COMPARISON OF TREES WITH TRUNK CAVITIES
Sunshine Canyon City Landfill Extension

Species	Cavities	% of Species Total
Quercus agrifolia	210	38.53%
Quercus chrysolepis	10	52.63%
Pseudotsuga macrocarpa	0	0.00%
Platanus racemosa	5	62.50%
Grevillea robusta	0	0.00%
Fraxinus dipetala	0	0.00%
Salix laevigata	1	14.29%
Juglans californica	7	50.00%
Thuja spp.	0	0.00%
Acer macrophyllum	2	66.67%
Sambucus mexicana	0	0.00%
Pinus halepensis	0	0.00%
Cupressus sempervirens	0	0.00%
Pinus canariensis	0	0.00%
Eucalyptus spp.	0	0.00%
Melaleuca spp.	0	0.00%
Alnus rubra	0	0.00%
Liquidambar styraciflua	0	0.00%
Ficus rubignosa	1	20.00%
Fraxinus uhdei	0	0.00%
Ulmus pumila	0	0.00%
Cedrus deodara	0	0.00%
Podocarpus gracilior	0	0.00%
Magnolia grandiflora	0	0.00%
Totals	**236**	
% of Total Tree Count	**34.96%**	

TABLE 9.
COMPARISON OF TREES WITH DISEASE
Sunshine Canyon City Landfill Extension

Species	Disease	% of Species Total
Quercus agrifolia	201	36.88%
Quercus chrysolepis	9	47.37%
Pseudotsuga macrocarpa	1	7.69%
Platanus racemosa	6	75.00%
Grevillea robusta	0	0.00%
Fraxinus dipetala	0	0.00%
Salix laevigata	1	14.29%
Juglans californica	11	78.57%
Thuja spp.	0	0.00%
Acer macrophyllum	1	33.33%
Sambucus mexicana	1	33.33%
Pinus halepensis	0	0.00%
Cupressus sempervirens	0	0.00%
Pinus canariensis	0	0.00%
Eucalyptus spp.	0	0.00%
Melaleuca spp.	0	0.00%
Alnus rubra	0	0.00%
Liquidambar styraciflua	0	0.00%
Ficus rubignosa	3	60.00%
Fraxinus uhdei	0	0.00%
Ulmus pumila	0	0.00%
Cedrus deodara	0	0.00%
Podocarpus gracilior	0	0.00%
Magnolia grandiflora	0	0.00%
Totals	**234**	
% of Total Tree Count	**34.67%**	

TABLE 10.
COMPARISON OF TREES WITH INSECT DAMAGE
Sunshine Canyon City Landfill Extension

Species	Insect Damage	% of Species Total
Quercus agrifolia	174	31.93%
Quercus chrysolepis	6	31.58%
Pseudotsuga macrocarpa	1	7.69%
Platanus racemosa	4	50.00%
Grevillea robusta	0	0.00%
Fraxinus dipetala	0	0.00%
Salix laevigata	0	0.00%
Juglans californica	10	71.43%
Thuja spp.	0	0.00%
Acer macrophyllum	1	33.33%
Sambucus mexicana	1	33.33%
Pinus halepensis	0	0.00%
Cupressus sempervirens	0	0.00%
Pinus canariensis	0	0.00%
Eucalyptus spp.	0	0.00%
Melaleuca spp.	0	0.00%
Alnus rubra	0	0.00%
Liquidambar styraciflua	0	0.00%
Ficus rubignosa	0	0.00%
Fraxinus uhdei	0	0.00%
Ulmus pumila	0	0.00%
Cedrus deodara	0	0.00%
Podocarpus gracilior	0	0.00%
Magnolia grandiflora	0	0.00%
Totals	**197**	
% of Total Tree Count	**29.19%**	

TABLE 11.

COMPARISON OF TREE HEALTH BY SPECIES

Sunshine Canyon City Landfill Extension

	General Health Rating		
Species	**Good**	**Fair**	**Poor**
Quercus agrifolia	74.31%	19.63%	6.06%
Quercus chrysolepis	68.42%	31.58%	0.00%
Pseudotsuga macrocarpa	84.62%	15.38%	0.00%
Platanus racemosa	75.00%	12.50%	12.50%
Grevillea robusta	100.00%	0.00%	0.00%
Fraxinus dipetala	75.00%	25.00%	0.00%
Salix laevigata	71.43%	28.57%	0.00%
Juglans californica	50.00%	42.86%	7.14%
Thuja spp.	100.00%	0.00%	0.00%
Acer macrophyllum	100.00%	0.00%	0.00%
Sambucus mexicana	100.00%	0.00%	0.00%
Pinus halepensis	16.67%	83.33%	0.00%
Cupressus sempervirens	100.00%	0.00%	0.00%
Pinus canariensis	50.00%	50.00%	0.00%
Eucalyptus spp.	50.00%	50.00%	0.00%
Melaleuca spp.	100.00%	0.00%	0.00%
Alnus rubra	100.00%	0.00%	0.00%
Liquidambar styraciflua	100.00%	0.00%	0.00%
Ficus rubignosa	20.00%	80.00%	0.00%
Fraxinus uhdei	100.00%	0.00%	0.00%
Ulmus pumila	100.00%	0.00%	0.00%
Cedrus deodara	75.00%	25.00%	0.00%
Podocarpus gracilior	100.00%	0.00%	0.00%
Magnolia grandiflora	100.00%	0.00%	0.00%
% of Total Tree Count	**73.19%**	**21.63%**	**5.19%**

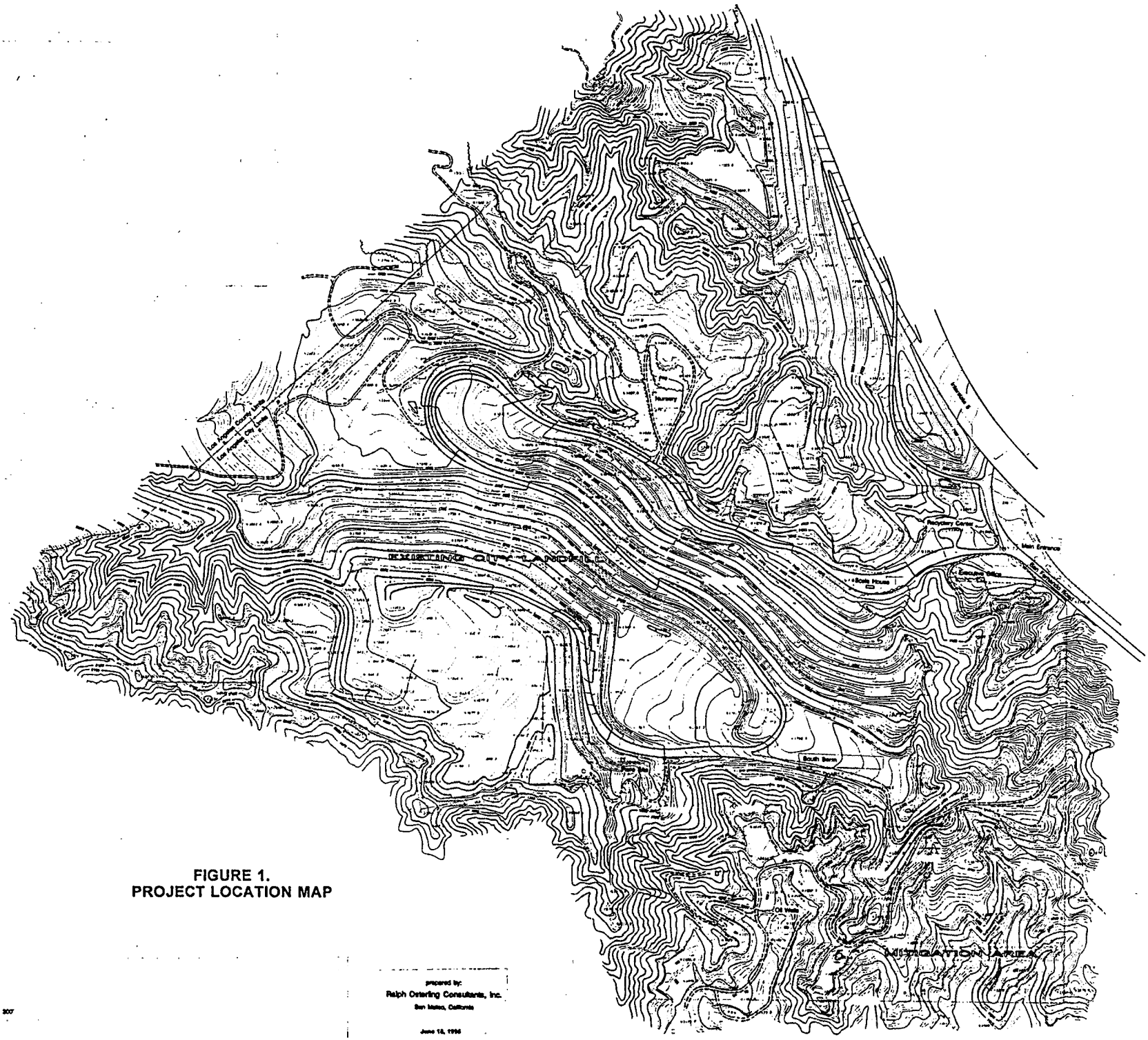


FIGURE 1.
PROJECT LOCATION MAP

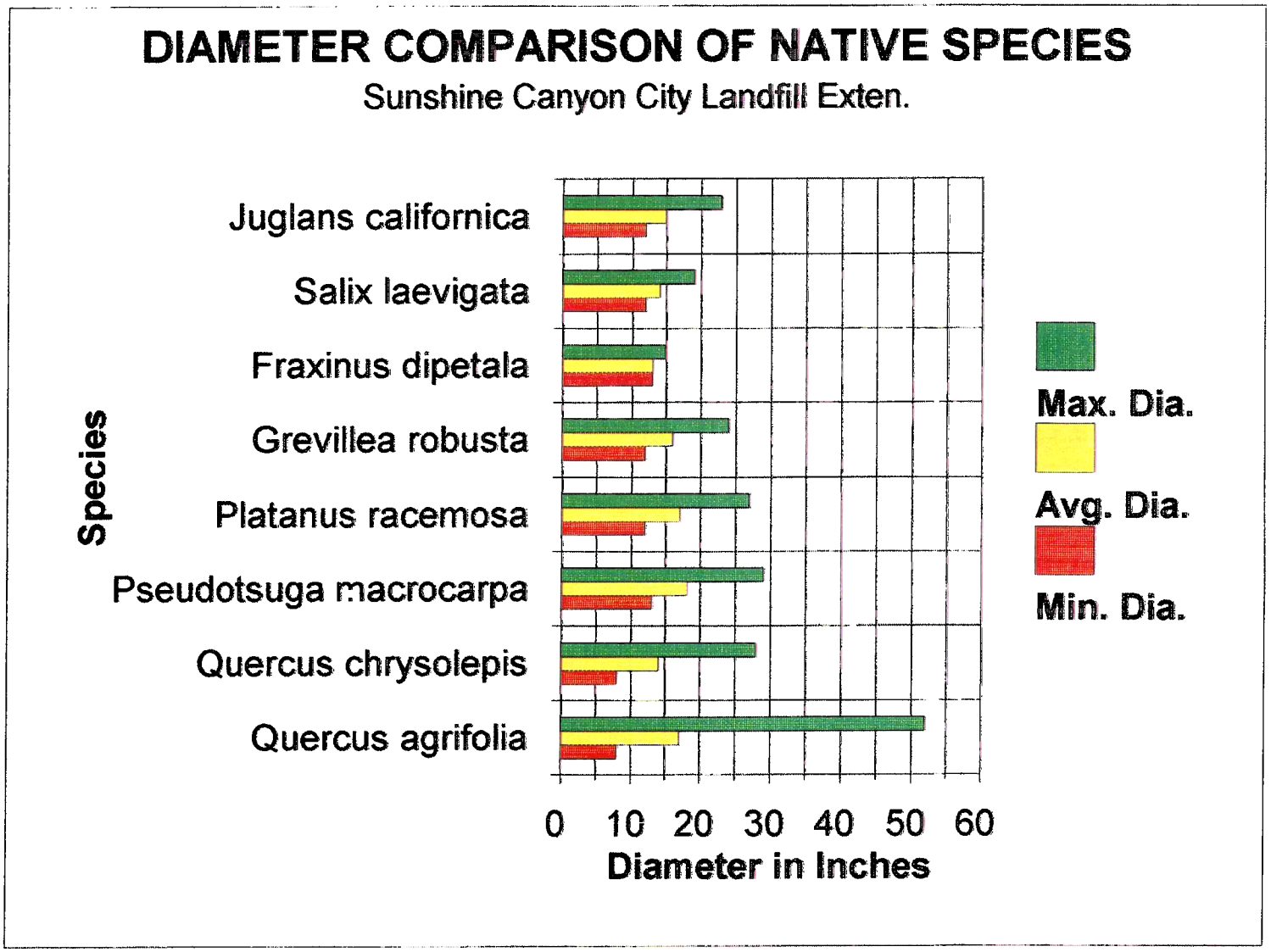

DIAMETER COMPARISON OF NATIVE SPECIES
Sunshine Canyon City Landfill Exten.
Species
Juglans californica
Salix laevigata
Fraxinus dipetala
Grevillea robusta
Platanus racemosa
Pseudotsuga macrocarpa
Quercus chrysolepis
Quercus agrifolia
0
10
20
30
40
50
60
Diameter in Inches
Max. Dia.
Avg. Dia.
Min. Dia.

FIGURE 2

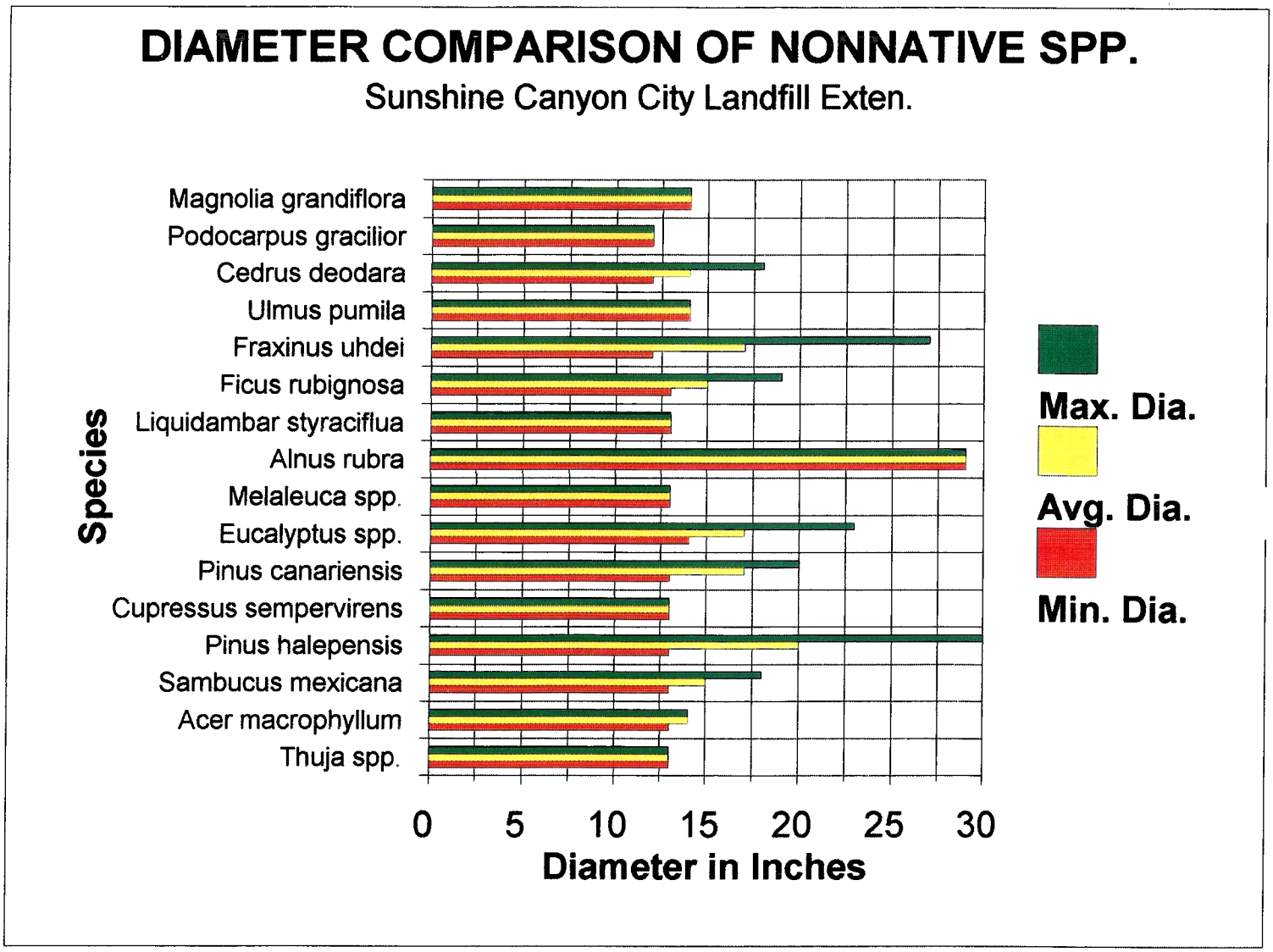

DIAMETER COMPARISON OF NONNATIVE SPP.
Sunshine Canyon City Landfill Exten.
Species
Magnolia grandiflora
Podocarpus gracilior
Cedrus deodara
Ulmus pumila
Fraxinus uhdei
Ficus rubignosa
Liquidambar styraciflua
Alnus rubra
Melaleuca spp.
Eucalyptus spp.
Pinus canariensis
Cupressus sempervirens
Pinus halepensis
Sambucus mexicana
Acer macrophyllum
Thuja spp.
0
5
10
15
20
25
30
Diameter in Inches
Max. Dia.
Avg. Dia.
Min. Dia.

FIGURE 3

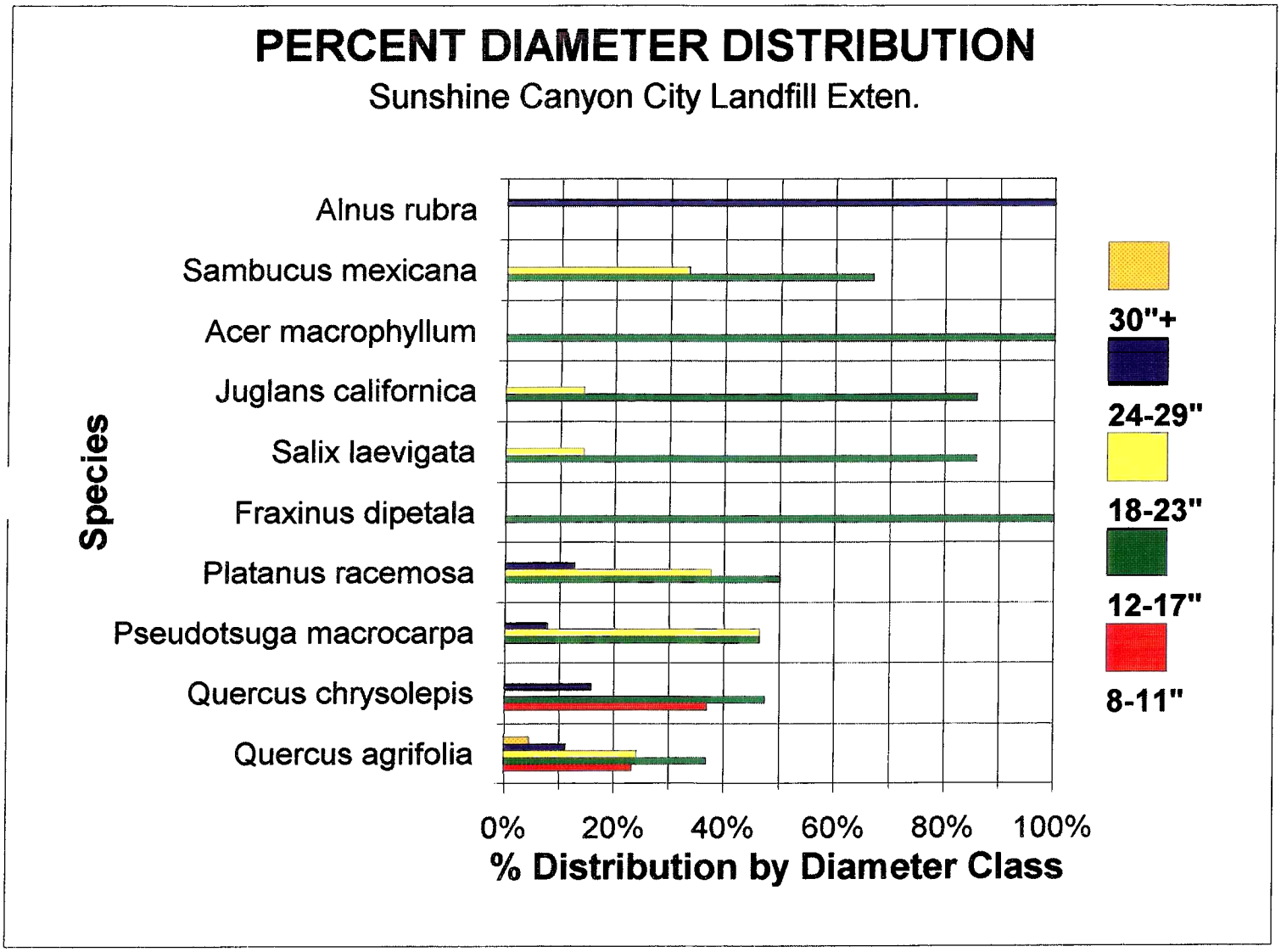

PERCENT DIAMETER DISTRIBUTION
Sunshine Canyon City Landfill Exten.
Species
Alnus rubra
Sambucus mexicana
Acer macrophyllum
Juglans californica
Salix laevigata
Fraxinus dipetala
Platanus racemosa
Pseudotsuga macrocarpa
Quercus chrysolepis
Quercus agrifolia
30"+
24-29"
18-23"
12-17"
8-11"
0%
20%
40%
60%
80%
100%
% Distribution by Diameter Class

FIGURE 4

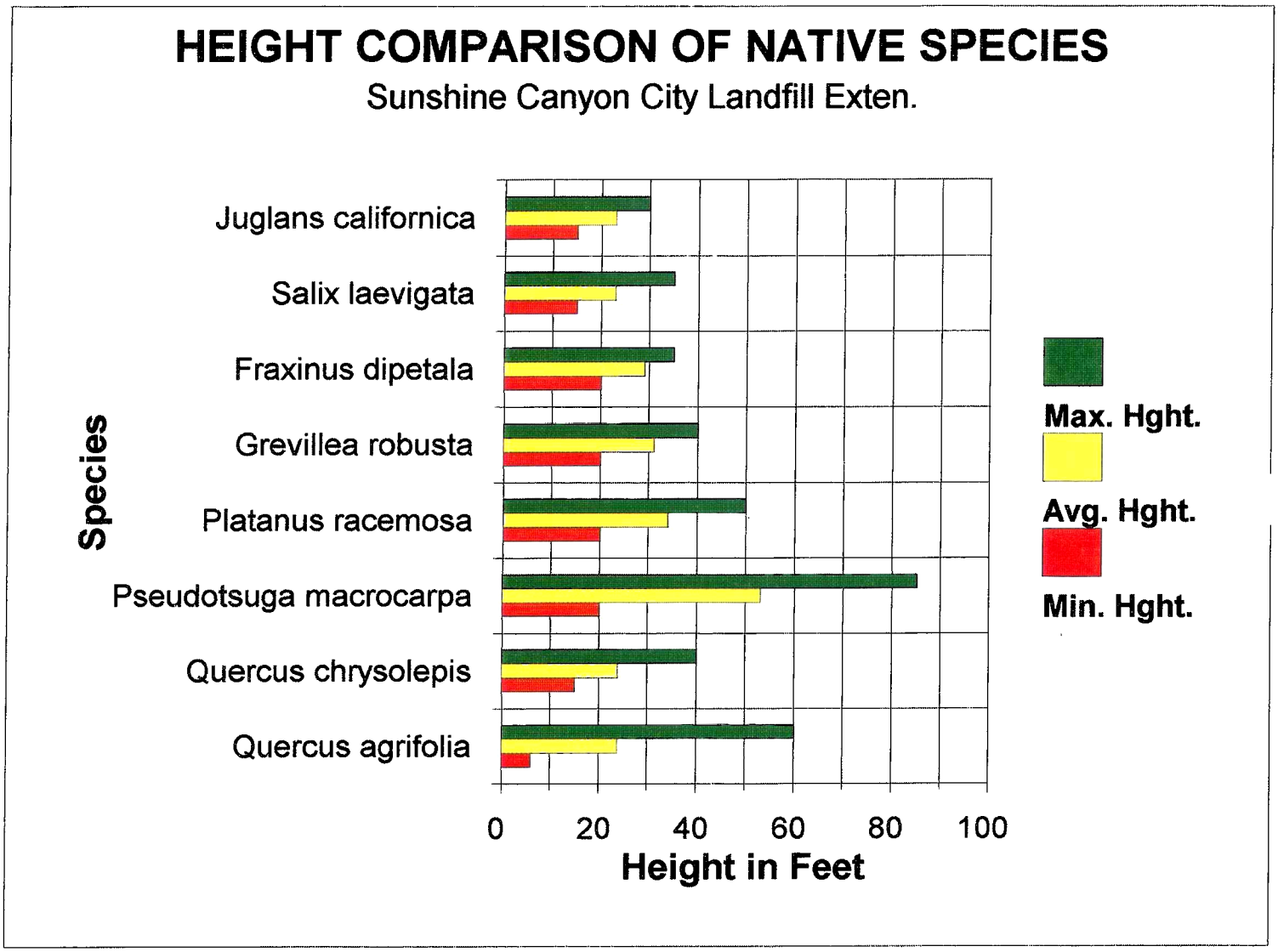

HEIGHT COMPARISON OF NATIVE SPECIES
Sunshine Canyon City Landfill Exten.
Species
Juglans californica
Salix laevigata
Fraxinus dipetala
Grevillea robusta
Platanus racemosa
Pseudotsuga macrocarpa
Quercus chrysolepis
Quercus agrifolia
0
20
40
60
80
100
Height in Feet
Max. Hght.
Avg. Hght.
Min. Hght.

FIGURE 5

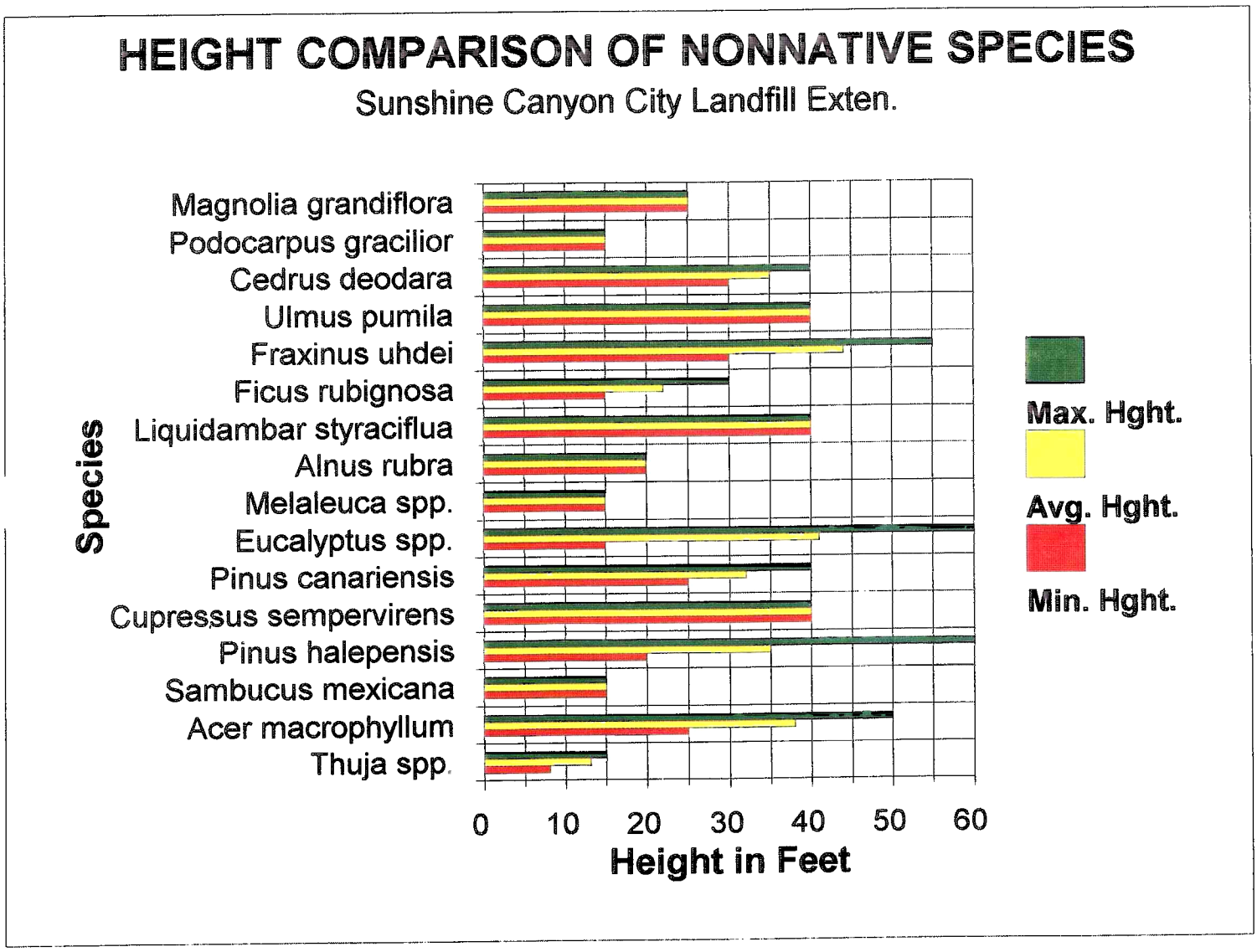

HEIGHT COMPARISON OF NONNATIVE SPECIES
Sunshine Canyon City Landfill Exten.
Species
Magnolia grandiflora
Podocarpus gracilior
Cedrus deodara
Ulmus pumila
Fraxinus uhdei
Ficus rubignosa
Liquidambar styraciflua
Alnus rubra
Melaleuca spp.
Eucalyptus spp.
Pinus canariensis
Cupressus sempervirens
Pinus halepensis
Sambucus mexicana
Acer macrophyllum
Thuja spp.
0
10
20
30
40
50
60
Height in Feet
Max. Hght.
Avg. Hght.
Min. Hght.

FIGURE 6

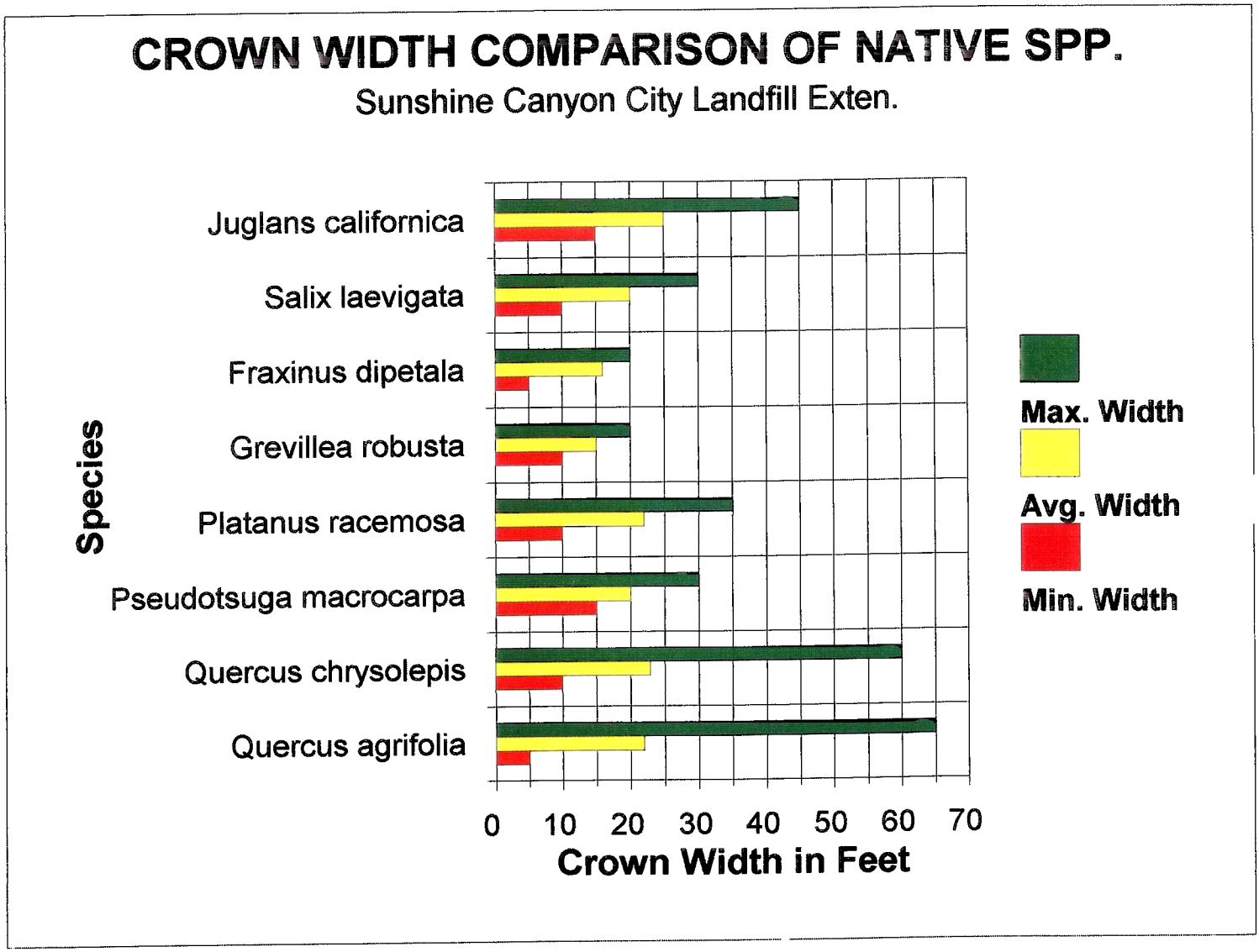

CROWN WIDTH COMPARISON OF NATIVE SPP.
Sunshine Canyon City Landfill Exten.
Species
Juglans californica
Salix laevigata
Fraxinus dipetala
Grevillea robusta
Platanus racemosa
Pseudotsuga macrocarpa
Quercus chrysolepis
Quercus agrifolia
0
10
20
30
40
50
60
70
Crown Width in Feet
Max. Width
Avg. Width
Min. Width

FIGURE 7

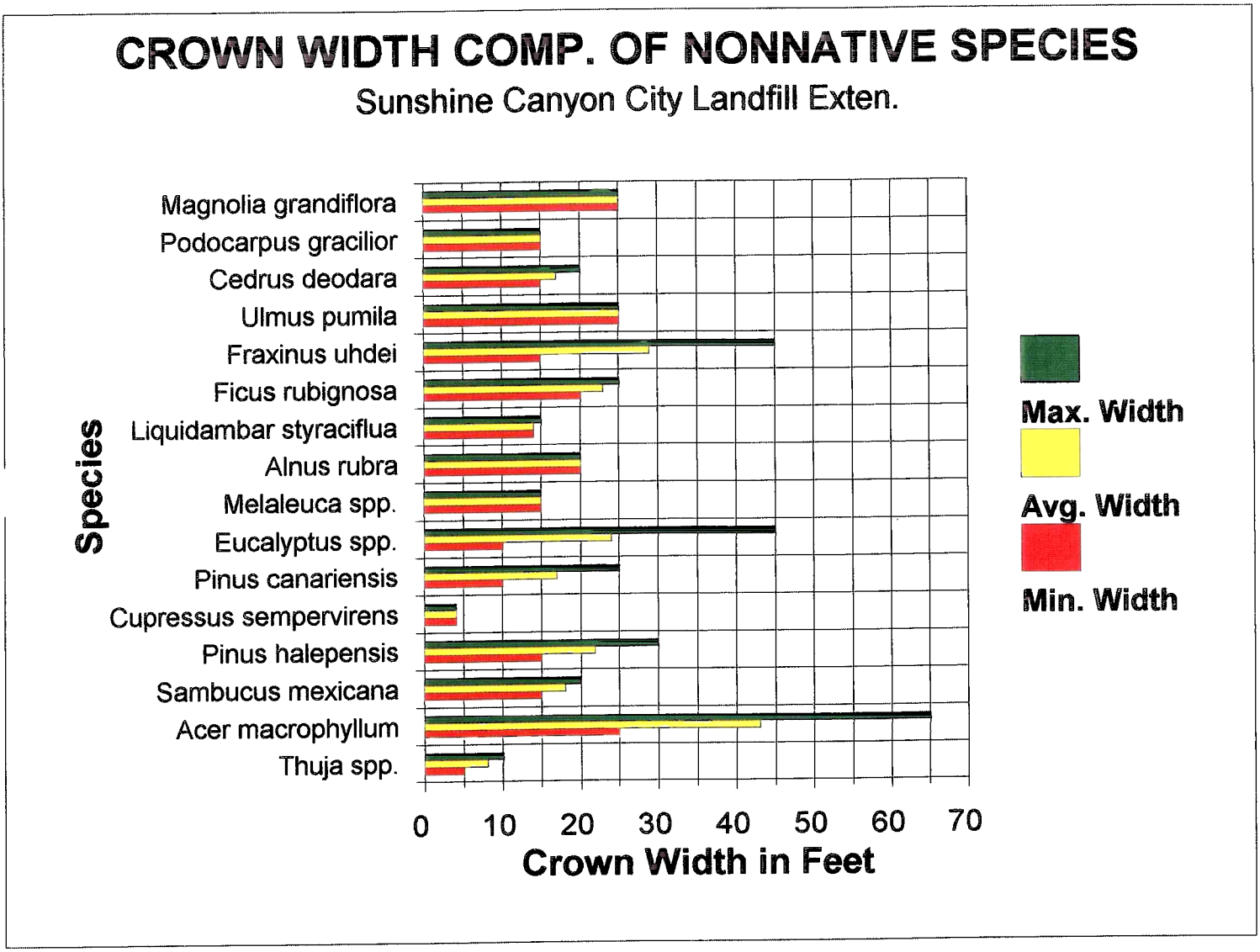
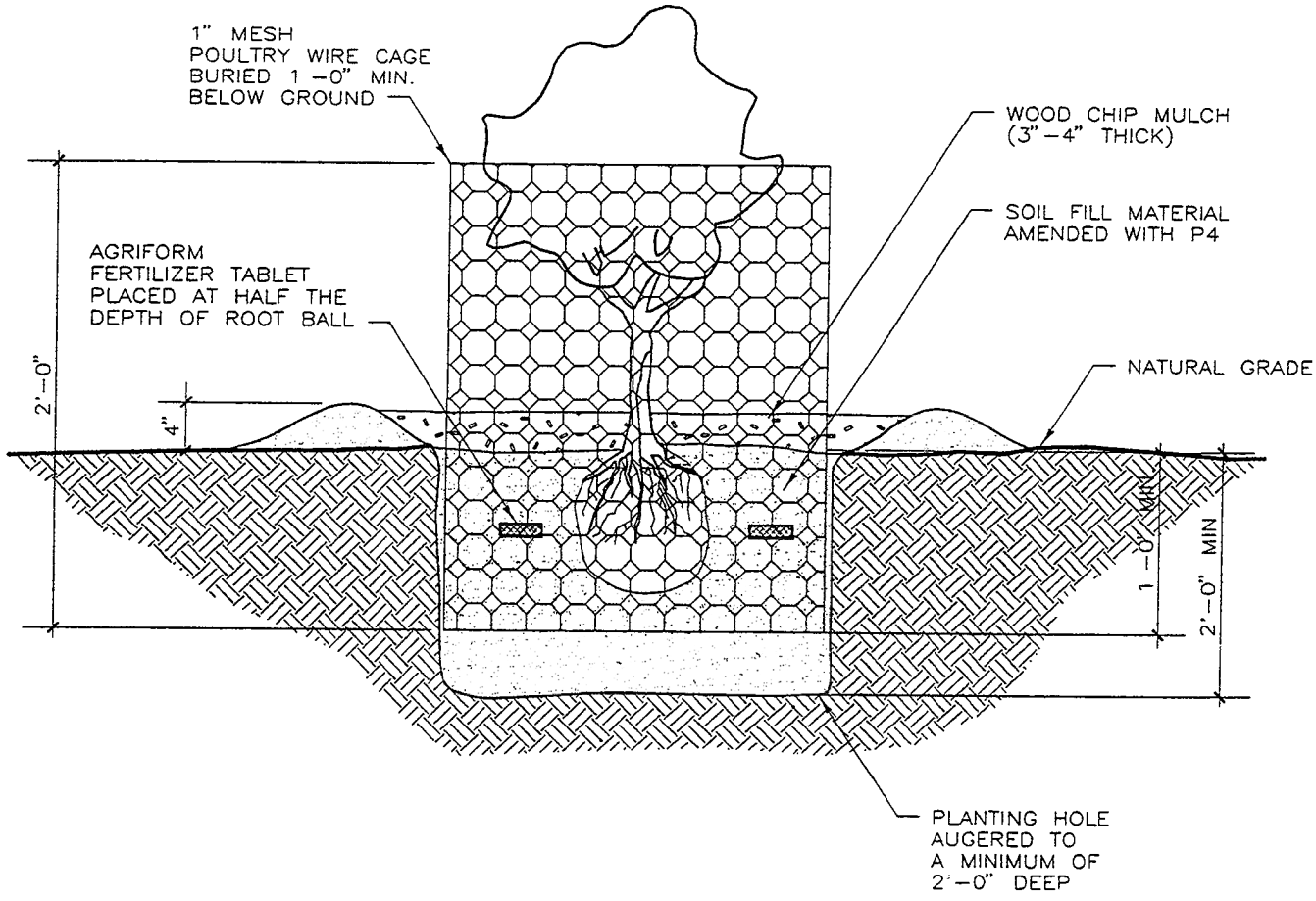

CROWN WIDTH COMP. OF NONNATIVE SPECIES
Sunshine Canyon City Landfill Exten.
Species
Magnolia grandiflora
Podocarpus gracilior
Cedrus deodara
Ulmus pumila
Fraxinus uhdei
Ficus rubignosa
Liquidambar styraciflua
Alnus rubra
Melaleuca spp.
Eucalyptus spp.
Pinus canariensis
Cupressus sempervirens
Pinus halepensis
Sambucus mexicana
Acer macrophyllum
Thuja spp.
0
10
20
30
40
50
60
70
Crown Width in Feet
Max. Width
Avg. Width
Min. Width

FIGURE 8



TYPICAL TREE PLANTING DIAGRAM

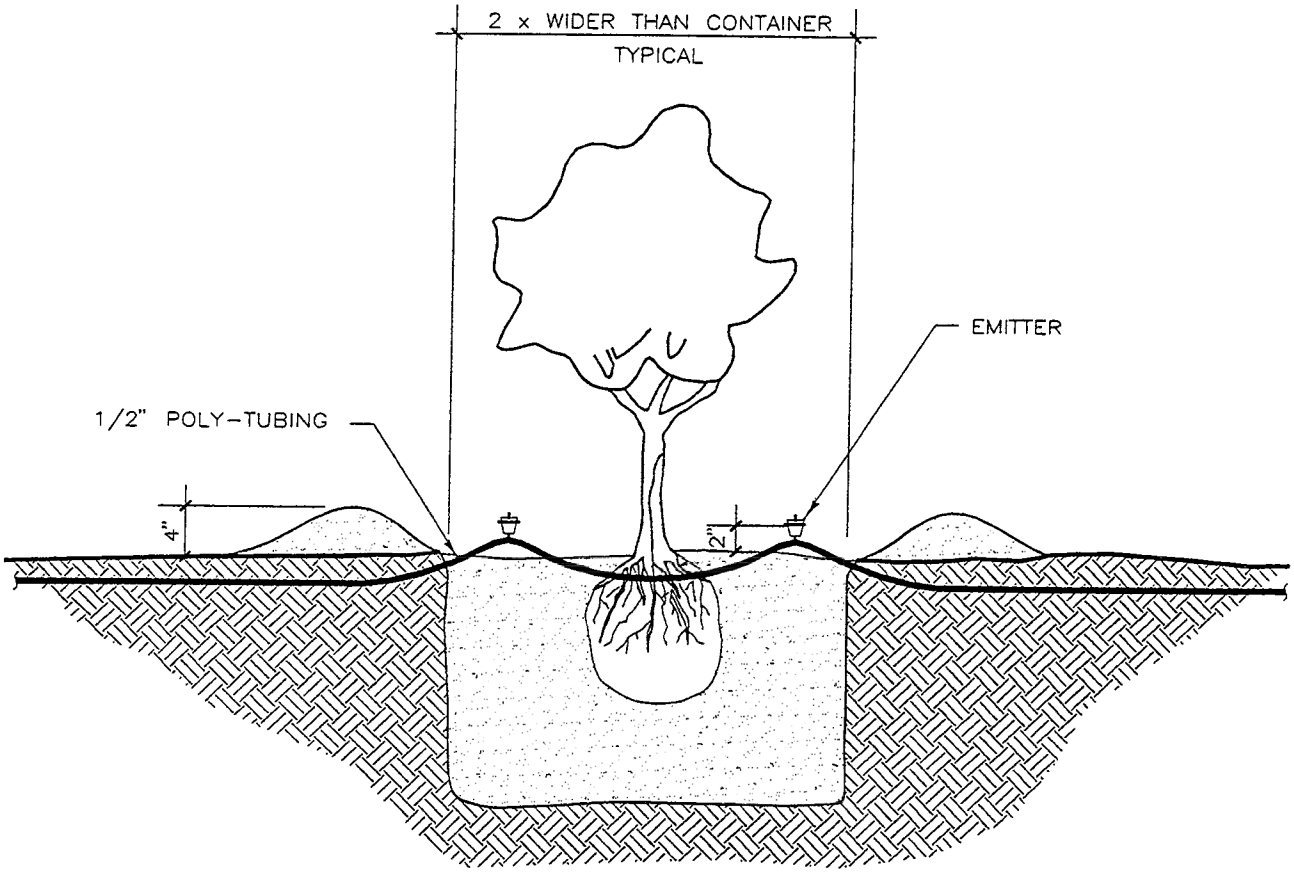
not to scale

August 3, 1993

RALPH OSTERLING
CONSULTANTS, INC.
1650 Borel Place, Suite 204
San Mateo, California 94402
(415) 573-8733

Figure 9
TYPICAL
DETAIL

• Drawn By: ORTH GRAPHICS • San Mateo, California • (415) 572-8690 • Fax (415) 345-1858 •



TYPICAL TREE IRRIGATION DIAGRAM

not to scale

August 3, 1993

RALPH OSTERLING CONSULTANTS, INC.
1650 Borel Place, Suite 204
San Mateo, California 94402
(415) 573-8733

Figure 10
TYPICAL DETAIL

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APPENDIX B

TREE SURVEY DATA

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
1	Quercus agrifolia	24.0	19.0	13.0					35	40
2	Quercus agrifolia	17.2							20	20
3	Quercus agrifolia	10.0							20	15
4	Quercus agrifolia	18.4							20	20
4a	Quercus agrifolia	10.6	10.6						20	20
4b	Quercus agrifolia	24.7							30	25
13	Platanus racemosa	12.0							25	20
15	Quercus agrifolia	29.9							30	45
16	Quercus agrifolia	10.2							20	15
51	Quercus agrifolia	32.0	20.8	18.8					30	65
52	Quercus agrifolia	19.0							30	25
53	Quercus agrifolia	17.2							15	20
54	Quercus agrifolia	17.0							15	10
59	Platanus racemosa	14.5	12.0						40	20
75	Quercus agrifolia	10.0							25	15
81	Quercus agrifolia	17.6	8.9						30	35
82	Quercus agrifolia	8.0							10	10
83	Quercus agrifolia	22.4							35	45
84	Quercus agrifolia	15.0							20	25
85	Quercus agrifolia	21.5	12.7	11.5					30	50
86	Quercus agrifolia	26.0							30	40
87	Quercus agrifolia	14.2							20	25
88	Quercus agrifolia	21.5							25	30
89	Quercus agrifolia	19.0							20	35
90	Quercus agrifolia	23.0							25	15
91	Quercus agrifolia	28.0							30	40
95	Quercus agrifolia	12.2							20	15
97	Quercus agrifolia	19.3							40	40
98	Quercus agrifolia	20.9							40	30
99	Quercus agrifolia	22.0							20	25
101	Quercus agrifolia	19.2							35	25
114	Quercus agrifolia	15.0	15.0	14.5	12.0	11.0			30	30
115	Quercus agrifolia	15.0	14.0						25	35
117	Quercus agrifolia	19.5	11.7						35	25
118	Quercus agrifolia	10.7							15	10
120	Quercus agrifolia	20.0	9.0	4.0	3.0				25	25
123	Quercus agrifolia	13.3							15	10
130	Quercus agrifolia	22.4							35	30
134	Quercus agrifolia	12.0							15	15
136	Salix laevigata	19.0							20	30
137	Quercus agrifolia	23.9							15	15
146	Quercus agrifolia	9.2	9.1						15	15
147	Quercus agrifolia	15.0							15	15
151	Quercus agrifolia	25.6							30	20
154	Quercus agrifolia	12.0							15	10
156	Quercus agrifolia	8.0	6.2	2.9					15	15
157	Quercus agrifolia	32.0	22.0						40	30
158	Quercus agrifolia	12.0	7.2						20	20
159	Quercus agrifolia	16.7							15	20
174	Quercus agrifolia	32.1							40	50
185	Quercus agrifolia	10.0							15	10
191	Quercus agrifolia	25.0							25	40
193	Quercus agrifolia	20.8							15	30
194	Quercus agrifolia	17.2							15	15
196	Quercus agrifolia	16.5							25	25
197	Quercus agrifolia	21.5							35	30
198	Quercus agrifolia	8.1							10	15
202	Quercus agrifolia	19.5	15.5	15.2	13.7	12.0	8.4	8.0	25	30
210	Quercus agrifolia	8.0							20	10
220	Quercus agrifolia	24.3							25	45
223	Quercus agrifolia	9.0							20	10
225	Quercus agrifolia	16.5							20	20

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
230	Quercus agrifolia	19.5	16.9	14.4	13.0	10.0			30	60
231	Quercus agrifolia	20.2							25	30
235	Quercus agrifolia	23.9	21.0	13.9					35	55
238	Quercus agrifolia	14.8	14.0	11.5					30	30
239	Quercus agrifolia	19.0	12.2						30	25
244	Quercus agrifolia	13.4							20	20
245	Quercus agrifolia	17.2							25	30
247	Quercus agrifolia	28.5							40	50
249	Quercus agrifolia	20.4	18.6						30	30
250	Quercus agrifolia	18.4							25	25
252	Juglans californica	17.0							20	15
256	Quercus agrifolia	25.3							30	40
257	Quercus agrifolia	14.0							15	15
260	Quercus agrifolia	14.0							15	15
263	Quercus agrifolia	15.4							20	15
265	Quercus agrifolia	21.0							12	12
269	Quercus agrifolia	16.8	10.3						35	20
270	Quercus agrifolia	15.9	10.8						25	20
271	Quercus agrifolia	17.0							15	20
272	Quercus agrifolia	9.3	7.0	3.1					15	10
273	Quercus agrifolia	13.4							20	20
274	Quercus agrifolia	22.4							35	30
275	Quercus agrifolia	24.5							45	35
286	Quercus agrifolia	8.5							10	10
287	Quercus agrifolia	9.4							15	10
288	Quercus agrifolia	18.0							20	15
289	Quercus agrifolia	12.0	12.0	7.0					15	20
291	Quercus agrifolia	31.1							35	40
292	Quercus agrifolia	20.8							30	20
298	Quercus agrifolia	22.5							15	20
300	Quercus agrifolia	15.3							20	15
301	Quercus agrifolia	13.2							20	15
302	Quercus agrifolia	32.4							50	45
303	Quercus agrifolia	8.3	5.3	4.0					15	10
305	Quercus agrifolia	18.3							30	15
306	Quercus agrifolia	22.0							35	20
310	Platanus racemosa	13.5							50	20
312	Quercus agrifolia	38.0							45	50
314	Quercus agrifolia	14.8							15	15
316	Salix laevigata	14.1	12.3	6.6					25	25
365	Quercus agrifolia	34.5							35	40
398	Quercus agrifolia	8.9	7.6						15	10
400	Quercus agrifolia	31.3							35	40
401	Quercus agrifolia	27.7							40	40
402	Quercus agrifolia	29.1							40	35
403	Quercus agrifolia	25.2							35	25
404	Quercus agrifolia	16.2							30	20
405	Quercus agrifolia	23.8							20	15
407	Platanus racemosa	19.8							30	25
409	Quercus agrifolia	9.9							20	15
477	Salix laevigata	13.3	7.4						20	15
513	Quercus agrifolia	11.3							15	10
556	Salix laevigata	12.0							15	15
610	Quercus agrifolia	9.0	7.3						15	10
612	Quercus agrifolia	10.0	10.0						20	15
616	Quercus agrifolia	9.0							10	10
622	Quercus agrifolia	8.1	7.5	7.4					20	15
624	Quercus agrifolia	25.1	17.6						40	35
625	Quercus agrifolia	20.5							30	35
626	Quercus agrifolia	52.0							15	20
627	Quercus agrifolia	20.0	10.2						35	15
628	Quercus agrifolia	28.8							40	50

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
629	Quercus agrifolia	13.6							35	15
630	Quercus agrifolia	30.8	26.0						40	45
636	Quercus agrifolia	33.1							10	8
638	Quercus agrifolia	17.2							30	25
638a	Quercus agrifolia	23.8							25	30
639	Quercus agrifolia	24.3							40	30
640	Quercus agrifolia	15.6	12.2	7.4					15	15
644	Quercus agrifolia	8.3	7.8	6.5	5.5				15	10
645	Quercus agrifolia	18.0	9.0	8.0	6.2				10	15
648	Quercus agrifolia	8.3	7.0	6.8	5.0	4.0	4.0		15	15
657	Grevillea robusta	12.0	9.8						35	20
659	Quercus agrifolia	11.0	9.0						15	15
660	Grevillea robusta	24.2							35	20
661	Grevillea robusta	14.4							40	15
662	Grevillea robusta	16.3							35	15
663	Quercus agrifolia	23.0							20	20
664	Quercus agrifolia	9.7	8.0						20	10
665	Grevillea robusta	13.5							20	10
666	Quercus agrifolia	18.3	15.5						25	30
667	Quercus agrifolia	21.0	15.4						20	30
668	Melaleuca spp.	13.0	11.8						15	15
669	Grevillea robusta	14.0							25	15
670	Eucalyptus spp.	19.5							15	10
704	Grevillea robusta	16.5							30	10
705	Alnus rubra	29.5							20	20
706	Quercus agrifolia	17.4	13.3						25	20
715	Thuja spp.	13.0							8	5
717	Pinus halepensis	22.0	13.5						20	20
718	Pinus halepensis	30.4							50	30
722	Pinus canariensis	13.5							25	10
747	Quercus agrifolia	9.5							20	10
749	Quercus agrifolia	15.2	13.5						20	20
751	Thuja spp.	15.0							25	15
754	Thuja spp.	13.4							15	10
758	Quercus agrifolia	14.0	13.8						25	20
759	Quercus agrifolia	9.5							20	15
760	Quercus agrifolia	14.6	8.9						15	20
761	Quercus agrifolia	11.0							15	15
762	Quercus agrifolia	18.8							25	20
766	Thuja spp.	13.5							15	10
770	Quercus agrifolia	24.0							30	40
772	Quercus agrifolia	21.2							25	20
774	Quercus agrifolia	13.3	12.5						20	15
775	Quercus agrifolia	8.5							10	10
776	Quercus agrifolia	9.5							15	15
777	Quercus agrifolia	9.8	8.8	7.3					15	15
779	Quercus agrifolia	31.8							25	30
780	Quercus agrifolia	11.9	8.4						15	15
781	Quercus agrifolia	9.0							10	15
782	Quercus agrifolia	10.5							15	15
784	Quercus agrifolia	34.3							40	40
785	Quercus agrifolia	12.2							20	20
792	Quercus agrifolia	8.5							10	10
795	Quercus agrifolia	9.5	8.5						20	15
802	Quercus agrifolia	10.0	5.0	5.0					15	10
803	Quercus agrifolia	13.5	11.0						20	20
809	Quercus agrifolia	15.3	9.5						15	20
821	Quercus agrifolia	10.0							15	15
822	Quercus agrifolia	16.0							15	15
828	Quercus agrifolia	8.0	6.0						6	15
829	Quercus agrifolia	13.5							15	15
833	Quercus agrifolia	15.0							25	25

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
834	Quercus agrifolia	20.7							25	25
835	Quercus agrifolia	19.6							20	15
839	Juglans californica	13.8	13.0	11.0	9.5				20	20
852	Quercus agrifolia	20.2	9.5						30	25
854	Quercus agrifolia	12.5							25	15
855	Quercus agrifolia	26.9							35	50
856	Quercus agrifolia	32.5							30	50
857	Quercus agrifolia	18.5							30	30
858	Quercus agrifolia	8.0							15	15
859	Quercus agrifolia	20.5							30	30
861	Quercus agrifolia	12.0							25	20
862	Quercus agrifolia	21.0	13.0						30	25
863	Quercus agrifolia	27.5							35	45
864	Quercus agrifolia	15.4	11.7						20	20
865	Quercus agrifolia	20.3	19.5	15.8					30	50
866	Quercus agrifolia	22.2							25	40
869	Quercus agrifolia	16.4							30	30
870	Quercus agrifolia	20.0							30	30
872	Quercus agrifolia	25.2							25	40
873	Quercus agrifolia	22.7							30	40
874	Quercus agrifolia	31.6	20.6	18.0	11.8				30	45
875	Quercus agrifolia	26.2	21.8						35	45
876	Quercus agrifolia	25.2	16.0						25	35
878	Quercus agrifolia	9.3	9.3						15	15
882	Quercus agrifolia	25.6							20	30
883	Quercus agrifolia	26.7	17.7						40	40
886	Juglans californica	14.5	14.0	13.0	11.0	10.4	10.0		25	45
894	Quercus agrifolia	29.2							40	40
905	Quercus agrifolia	16.5							25	15
911	Quercus agrifolia	26.8	17.2						45	40
912	Quercus agrifolia	29.0	26.8						40	45
928	Quercus agrifolia	14.8							30	30
929	Quercus agrifolia	38.1							25	35
930	Quercus agrifolia	16.1	14.4						25	25
932	Quercus agrifolia	15.0							35	30
933	Quercus agrifolia	25.0							30	25
934	Quercus agrifolia	16.1							25	20
935	Quercus agrifolia	26.7							30	40
937	Quercus agrifolia	13.8	12.6						25	25
939	Quercus agrifolia	16.0							15	15
940	Quercus agrifolia	15.6							25	15
941	Quercus agrifolia	25.2							35	40
944	Quercus agrifolia	14.6							30	25
945	Quercus agrifolia	14.9							25	20
947	Quercus agrifolia	17.0							30	25
948	Quercus agrifolia	13.2							30	25
957	Quercus agrifolia	8.2							15	10
959	Quercus agrifolia	15.8							25	20
968	Quercus agrifolia	21.0							30	40
972	Quercus agrifolia	15.6							25	20
974	Quercus agrifolia	13.0							30	20
975	Quercus agrifolia	17.0							30	20
977	Quercus agrifolia	20.0	19.2						35	40
977a	Quercus agrifolia	8.6	3.0						12	8
985	Quercus agrifolia	12.2							25	15
990	Quercus agrifolia	12.0							20	15
993	Quercus agrifolia	13.0	9.0						25	15
994	Quercus agrifolia	16.0							30	25
995	Quercus agrifolia	21.0							40	20
997	Quercus agrifolia	20.5	18.6						25	40
998	Quercus agrifolia	10.2							15	10
999	Quercus agrifolia	13.0							15	20

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
1000	Quercus agrifolia	15.0							30	20
1003	Quercus agrifolia	20.7	18.5	14.3					35	30
1004	Quercus agrifolia	14.3							25	20
1005	Quercus agrifolia	15.4							25	20
1006	Quercus agrifolia	19.3	13.6						30	30
1007	Quercus agrifolia	27.1	17.4						35	45
1008	Quercus agrifolia	9.0	8.3						15	15
1009	Quercus agrifolia	9.3	7.8							
1010	Quercus agrifolia	16.0	6.3						15	20
1013	Quercus agrifolia	22.1							35	45
1015	Quercus agrifolia	18.8							20	20
1016	Quercus agrifolia	13.8							30	20
1017	Quercus agrifolia	27.0							40	40
1018	Quercus agrifolia	19.2	18.3						35	40
1019	Quercus agrifolia	10.9							20	15
1020	Quercus agrifolia	12.2							20	15
1021	Quercus agrifolia	20.8							35	25
1022	Quercus agrifolia	9.0							20	10
1023	Quercus agrifolia	25.2							30	25
1024	Quercus agrifolia	19.8							45	20
1025	Quercus agrifolia	17.5							20	15
1026	Quercus agrifolia	14.0							15	15
1029	Quercus agrifolia	8.8							20	10
1030	Quercus agrifolia	26.3							35	45
1032	Quercus agrifolia	12.0	10.5	10.0	9.8	8.0			25	30
1033	Quercus agrifolia	9.0							20	10
1035	Quercus agrifolia	28.3							30	45
1037	Quercus agrifolia	27.7							35	35
1038	Quercus agrifolia	21.3							35	25
1039	Quercus agrifolia	18.0							20	15
1041	Quercus agrifolia	18.8							25	30
1044	Quercus agrifolia	15.8							25	25
1046	Quercus agrifolia	17.9							25	25
1047	Quercus agrifolia	17.2							30	25
1048	Quercus agrifolia	14.6							25	20
1049	Quercus agrifolia	10.6							15	10
1061	Quercus agrifolia	28.6							40	40
1062	Quercus agrifolia	26.7							30	35
1063	Quercus agrifolia	14.6							20	15
1066	Quercus agrifolia	18.0	16.2						35	30
1067	Quercus agrifolia	20.8							30	25
1068	Quercus agrifolia	20.0							30	20
1069	Quercus agrifolia	20.3	18.0	14.5					30	40
1072	Quercus agrifolia	19.2	16.6						40	35
1074	Quercus agrifolia	19.6							25	25
1076	Quercus agrifolia	14.6							25	20
1077	Quercus agrifolia	26.0	20.4						30	25
1080	Quercus agrifolia	17.7	17.1	14.7	13.1				30	30
1081	Quercus agrifolia	18.3							25	20
1082	Quercus agrifolia	12.2	9.5						20	20
1083	Quercus agrifolia	16.3							20	15
1084	Quercus agrifolia	23.0	16.2	9.7	6.5				30	40
1085	Quercus agrifolia	10.4							15	10
1086	Quercus agrifolia	22.5	13.8						30	15
1087	Quercus agrifolia	12.8	9.7						30	20
1089	Quercus agrifolia	19.0							15	15
1094	Quercus agrifolia	36.3	23.7						35	50
1101	Quercus agrifolia	26.0							45	35
1104	Quercus agrifolia	20.1	16.0						35	40
1108	Quercus agrifolia	20.0							20	15
1115	Quercus agrifolia	10.3							20	15
1117	Quercus agrifolia	16.8							20	25

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
1118	Quercus agrifolia	17.2							30	20
1119	Quercus agrifolia	13.5							25	20
1121	Quercus agrifolia	16.5							25	20
1122	Quercus agrifolia	12.0							15	5
1125	Quercus agrifolia	15.0	5.1						25	20
1126	Quercus agrifolia	19.5							30	20
1127	Quercus agrifolia	18.5							30	20
1128	Quercus agrifolia	19.5							30	20
1128a	Quercus agrifolia	12.5							12	10
1131	Quercus agrifolia	15.0							25	20
1132	Quercus agrifolia	27.6							20	35
1133	Quercus agrifolia	27.5	14.9						25	40
1137	Quercus agrifolia	13.4							20	15
1138	Quercus agrifolia	12.4							20	15
1139	Quercus agrifolia	12.8	12.7	8.9					25	20
1142	Quercus agrifolia	13.2							30	20
1146	Quercus agrifolia	38.0							35	35
1147	Quercus agrifolia	8.5							20	10
1148	Quercus agrifolia	14.0							10	10
1149	Quercus agrifolia	13.0	11.9						20	15
1152	Quercus agrifolia	21.1							30	25
1153	Quercus agrifolia	31.0	17.4						25	45
1170	Quercus agrifolia	21.8							20	30
1171	Quercus agrifolia	21.0							45	20
1174	Quercus agrifolia	10.4							15	15
1196	Juglans californica	12.5	9.6	8.0					25	35
1199	Juglans californica	14.8	13.5	7.7	5.0				25	35
1245	Quercus agrifolia	10.4							30	15
1246	Quercus agrifolia	18.2	12.0						15	25
1247	Quercus agrifolia	14.2							25	25
1294	Quercus agrifolia	24.5							15	30
1296	Quercus agrifolia	9.0							15	10
1306	Quercus agrifolia	8.8							20	10
1307	Quercus agrifolia	18.4							30	20
1313	Fraxinus dipetala	13.1	8.3						35	20
1320	Fraxinus dipetala	12.5							30	15
1321	Quercus agrifolia	8.2							10	5
1323	Quercus agrifolia	8.3							15	10
1325	Quercus agrifolia	8.3							15	10
1326	Quercus agrifolia	18.4							30	25
1353	Quercus agrifolia	16.0							30	30
1369	Quercus agrifolia	8.7							10	5
1376	Pseudotsuga macrocarpa	18.2							50	20
1381	Quercus agrifolia	18.0							25	25
1390	Quercus agrifolia	12.0							25	20
1392	Quercus agrifolia	19.2	12.6	8.3	8.3	7.2			25	25
1395	Quercus agrifolia	26.4							30	35
1398	Quercus agrifolia	27.5	14.5						25	35
1399	Quercus agrifolia	18.0							25	20
1401	Quercus agrifolia	16.3	11.5						20	15
1402	Quercus agrifolia	17.9							25	20
1403	Quercus agrifolia	13.0							25	20
1405	Quercus agrifolia	15.7							20	15
1406	Quercus agrifolia	18.8							35	25
1407	Quercus agrifolia	47.2							30	40
1408	Quercus agrifolia	26.6	21.5						45	35
1409	Sambucus mexicana	18.5	12.0						15	20
1410	Juglans californica	23.2	11.7						20	25
1411	Platanus racemosa	27.3							20	10
1413	Quercus agrifolia	21.8	17.0						25	40
1414	Quercus agrifolia	9.7							15	10
1415	Quercus agrifolia	8.9							15	15

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
1416	Quercus agrifolia	18.2	17.5						25	35
1417	Quercus agrifolia	23.5							25	35
1418	Quercus agrifolia	20.2							30	20
1419	Quercus agrifolia	13.1							30	15
1420	Quercus agrifolia	11.0							25	20
1421	Quercus agrifolia	12.9							20	20
1426	Quercus agrifolia	14.3							35	30
1427	Quercus agrifolia	9.8							25	10
1428	Quercus agrifolia	19.5							35	25
1429	Quercus agrifolia	17.0	14.8						30	25
1430	Platanus racemosa	20.1							35	35
1431	Platanus racemosa	19.4							35	30
1432	Quercus agrifolia	17.5							25	20
1461	Quercus agrifolia	19.1							25	25
1477	Quercus agrifolia	28.0							25	30
1480	Quercus agrifolia	9.2							15	10
1485	Quercus agrifolia	17.5							25	25
1486	Quercus agrifolia	20.0							20	25
1487	Quercus agrifolia	13.6							15	15
1488	Quercus agrifolia	15.0							15	20
1490	Quercus agrifolia	9.2							25	15
1491	Quercus agrifolia	13.0	10.7						10	10
1498	Quercus agrifolia	9.0	8.0	2.0					20	20
1499	Quercus agrifolia	17.9							15	20
1501	Quercus agrifolia	21.7							20	25
1528	Cupressus sempervirens	13.0							40	4
1535	Cupressus sempervirens	12.5							40	4
1559	Quercus agrifolia	12.2							30	20
1572	Platanus racemosa	12.6							40	20
1590	Quercus agrifolia	19.0	14.0						25	30
1591	Quercus agrifolia	20.0							25	30
1593	Quercus agrifolia	24.0	18.2						35	30
1684	Quercus agrifolia	17.0	16.4						25	30
1685	Quercus agrifolia	17.7							25	20
1698	Quercus agrifolia	28.0							25	20
1765	Quercus agrifolia	15.6							20	25
1793	Salix laevigata	13.3							35	20
2243	Quercus agrifolia	22.5							35	30
2245	Quercus agrifolia	11.8							15	20
2246	Quercus agrifolia	17.5	13.8	12.7					30	30
2261	Salix laevigata	13.5							30	25
2303	Quercus agrifolia	21.5	8.0						35	30
2304	Quercus agrifolia	10.3							20	15
2305	Quercus agrifolia	17.0	11.9	10.6					30	30
2309	Pseudotsuga macrocarpa	18.0							20	15
2311	Quercus agrifolia	18.6							40	20
2312	Quercus agrifolia	8.7							15	10
2313	Quercus agrifolia	18.4	11.0						50	35
2314	Quercus agrifolia	19.0							50	25
2315	Quercus agrifolia	13.7							25	15
2316	Quercus agrifolia	14.2							25	15
2317	Quercus agrifolia	15.0							15	15
2318	Quercus agrifolia	17.0							50	25
2323	Quercus agrifolia	21.5	11.0						35	30
2324	Quercus agrifolia	21.5							35	30
2334	Quercus agrifolia	13.2							15	25
2339	Quercus agrifolia	14.5							30	20
2340	Quercus agrifolia	12.2	10.6	10.0					30	20
2341	Quercus agrifolia	14.8	13.7	12.8					40	25
2342	Quercus agrifolia	14.1							30	20
2344	Quercus agrifolia	15.5							25	15
2348	Quercus agrifolia	10.9							15	15

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
2350	Quercus agrifolia	20.5	9.7						15	15
2359	Quercus agrifolia	20.8							35	35
2364	Quercus agrifolia	14.6							15	15
2365	Quercus agrifolia	11.2							20	15
2366	Quercus agrifolia	18.0							20	10
2367	Quercus agrifolia	10.9	9.1						20	15
2376	Quercus agrifolia	19.2							45	20
2384	Quercus agrifolia	8.8							15	10
2385	Quercus agrifolia	25.5							60	20
2388	Quercus agrifolia	20.2	12.0	11.0					35	30
2389	Quercus agrifolia	13.8							20	20
2390	Quercus agrifolia	13.7							25	15
2396	Quercus agrifolia	14.8							20	15
2397	Quercus agrifolia	8.5							15	10
2402	Quercus agrifolia	9.5							15	15
2406	Quercus agrifolia	17.0							15	20
2422	Quercus agrifolia	11.4							20	20
2423	Quercus agrifolia	8.8							15	10
2460	Salix laevigata	12.3							15	10
2475	Quercus agrifolia	14.0							20	15
2477	Quercus agrifolia	9.8							20	10
2486	Quercus agrifolia	11.0							15	10
2491	Quercus agrifolia	12.0							10	15
2493	Quercus agrifolia	9.0	5.2						15	15
2498	Quercus agrifolia	12.0	10.0						15	15
2499	Quercus agrifolia	11.8							25	15
2504	Quercus agrifolia	15.8							25	15
2506	Quercus agrifolia	11.4	3.0						15	15
2510	Quercus agrifolia	13.0							15	15
2514	Quercus agrifolia	10.5	8.4						20	15
2518	Quercus agrifolia	15.4	11.1	9.6	8.9				20	20
2521	Quercus agrifolia	13.2	12.3						20	20
2526	Quercus agrifolia	13.0							10	10
2527	Quercus agrifolia	15.4	14.0	13.5	11.3	10.0	7.0		25	25
2533	Quercus agrifolia	12.3	4.0						15	15
2534	Quercus agrifolia	11.8	8.8						15	20
2535	Quercus agrifolia	10.1							15	10
2547	Quercus agrifolia	8.1							15	10
2550	Quercus agrifolia	15.6							10	15
2563	Quercus agrifolia	9.2	7.2						20	15
2566	Quercus agrifolia	8.8							15	10
2583	Quercus agrifolia	8.8							15	10
2584	Quercus agrifolia	9.2							15	15
2587	Quercus agrifolia	14.3							10	5
2595	Quercus agrifolia	13.1							20	15
2668	Quercus agrifolia	16.5							25	15
2669	Quercus agrifolia	24.6							10	10
2670	Quercus agrifolia	19.5	13.5						15	25
2672	Quercus chrysolepis	16.0	13.0	9.2	8.9				20	30
2673	Quercus chrysolepis	26.7							25	30
2675	Quercus chrysolepis	11.0	10.1	8.4					25	25
2676	Quercus agrifolia	15.3							25	15
2678	Quercus agrifolia	18.1	16.0						20	25
2680	Quercus agrifolia	18.5	18.0	13.2					30	35
2683	Acer macrophyllum	13.5	8.0	7.2					25	25
2684	Acer macrophyllum	13.8	9.5	5.0					40	40
2688	Quercus agrifolia	27.0	25.0						35	60
2689	Pseudotsuga macrocarpa	13.2							40	25
2690	Quercus agrifolia	10.2							20	15
2692	Quercus agrifolia	9.6							20	15
2693	Pseudotsuga macrocarpa	13.0							35	20
2694	Quercus agrifolia	17.0							25	25

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
2695	Quercus agrifolia	14.3							30	20
2696	Quercus agrifolia	11.7							25	15
2697	Quercus agrifolia	13.6							20	20
2698	Quercus chrysolepis	12.9							35	60
2699	Quercus chrysolepis	11.8							35	15
2701	Quercus agrifolia	10.2							20	15
2704	Quercus agrifolia	11.2							20	15
2706	Quercus agrifolia	13.8							15	20
2709	Quercus agrifolia	14.0							35	20
2716	Quercus agrifolia	25.2							20	30
2721	Pseudotsuga macrocarpa	13.8							55	20
2723	Pseudotsuga macrocarpa	23.0							75	30
2726	Quercus agrifolia	13.6							25	25
2727	Quercus agrifolia	8.1							15	15
2731	Quercus chrysolepis	10.7	8.3	7.1					25	20
2732	Quercus chrysolepis	10.1							30	25
2734	Quercus agrifolia	10.3							25	15
2736	Quercus agrifolia	13.2							15	20
2739	Quercus agrifolia	10.3							20	20
2740	Acer macrophyllum	12.9	10.8	10.0	8.0	5.0			50	65
2745	Quercus agrifolia	22.8							40	35
2750	Quercus agrifolia	14.2							30	25
2754	Quercus agrifolia	10.2							20	15
2767	Quercus agrifolia	18.9							20	20
2768	Quercus agrifolia	12.6							15	15
2787	Sambucus mexicana	13.2							15	15
2791	Sambucus mexicana	13.3	10.0	8.8	8.4				15	20
2800	Quercus agrifolia	21.7							15	30
2801	Quercus agrifolia	17.5							20	30
2802	Quercus agrifolia	20.4							35	30
2803	Quercus agrifolia	24.2							30	20
2804	Quercus agrifolia	10.5							20	10
2805	Quercus agrifolia	12.0							20	15
2806	Quercus agrifolia	8.8							20	15
2807	Quercus agrifolia	8.3							10	10
2808	Quercus agrifolia	10.8							20	15
2809	Quercus agrifolia	31.0							25	30
2810	Fraxinus dipetala	14.8							20	15
2811	Quercus agrifolia	12.3							20	15
2812	Quercus agrifolia	14.2							25	20
2813	Quercus agrifolia	18.8							25	20
2814	Quercus agrifolia	15.6							25	15
2815	Quercus agrifolia	14.2							30	20
2816	Quercus agrifolia	19.2							30	20
2817	Quercus agrifolia	14.5							25	15
2818	Quercus agrifolia	9.1							15	10
2819	Quercus agrifolia	9.4							25	15
2820	Quercus agrifolia	13.0							20	20
2821	Quercus agrifolia	26.0							10	10
2841	Quercus agrifolia	13.2							25	20
2842	Quercus agrifolia	17.8							30	20
2847	Quercus agrifolia	16.6							30	15
2848	Quercus agrifolia	14.0							20	15
2849	Fraxinus dipetala	14.0							30	15
2850	Quercus agrifolia	15.6	14.2						25	15
2851	Quercus agrifolia	30.0	19.8						35	30
2852	Quercus agrifolia	14.1							25	15
2853	Quercus agrifolia	10.7							15	10
2854	Quercus agrifolia	9.6							15	10
2855	Pseudotsuga macrocarpa	18.5							55	15
2856	Quercus chrysolepis	26.8							30	30
2857	Quercus chrysolepis	14.8	12.0	4.0					20	30

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
2859	Quercus agrifolia	12.2							15	10
2860	Quercus chrysolepis	9.8							15	10
2861	Quercus agrifolia	14.4							20	15
2862	Pseudotsuga macrocarpa	13.0							45	15
2863	Quercus agrifolia	21.5							25	20
2864	Quercus agrifolia	28.5							30	30
2865	Quercus agrifolia	14.9							30	20
2866	Quercus chrysolepis	13.0							20	20
2867	Pseudotsuga macrocarpa	13.3							35	15
2868	Quercus agrifolia	12.4							30	15
2869	Quercus agrifolia	32.5							30	30
2870	Quercus chrysolepis	12.4							20	15
2871	Quercus agrifolia	9.9							15	15
2872	Pseudotsuga macrocarpa	28.7							85	30
2873	Quercus chrysolepis	13.8							15	10
2874	Quercus chrysolepis	28.3							40	40
2875	Pseudotsuga macrocarpa	23.5							70	15
2876	Quercus agrifolia	11.5							20	15
2877	Quercus chrysolepis	10.0							15	10
2878	Pseudotsuga macrocarpa	16.5							65	15
2879	Quercus agrifolia	8.5							15	10
2880	Quercus chrysolepis	8.2							20	15
2881	Quercus chrysolepis	16.3	10.5						30	20
2882	Pseudotsuga macrocarpa	19.7							55	20
2883	Quercus agrifolia	10.9							15	10
2884	Quercus chrysolepis	11.2	10.4	10.2	9.9				25	20
2885	Quercus chrysolepis	12.2	10.7	10.0					25	25
2886	Quercus agrifolia	12.3							20	15
2887	Quercus agrifolia	11.3							15	10
2888	Quercus agrifolia	11.0							15	10
2889	Quercus agrifolia	16.5							25	20
2890	Quercus agrifolia	19.0							15	20
2891	Quercus agrifolia	10.6	9.6						15	15
2892	Quercus agrifolia	10.3	9.2						15	20
2894	Quercus agrifolia	16.0	14.0	13.0	13.0	12.0			20	35
2895	Liquidambar styraciflua	13.0							40	15
2896	Juglans californica	17.0	11.0						30	30
2897	Juglans californica	15.0							25	15
2898	Juglans californica	16.0							30	20
2899	Juglans californica	18.0							30	20
2900	Juglans californica	12.0							15	15
2901	Ficus rubiginosa	13.0							15	25
2902	Juglans californica	13.0							15	15
2903	Ficus rubiginosa	14.0							20	20
2904	Ficus rubiginosa	14.0	10.0	10.0	9.0				20	20
2905	Fraxinus uhdei	27.0							55	45
2906	Fraxinus uhdei	16.0							50	25
2907	Pinus canariensis	20.0							40	25
2908	Ulmus pumila	14.0							40	25
2909	Pinus halepensis	20.0							60	20
2910	Pinus halepensis	16.0							40	20
2911	Ficus rubiginosa	19.0							25	25
2912	Quercus agrifolia	18.0							20	35
2913	Quercus agrifolia	12.0							25	20
2914	Quercus agrifolia	12.0							25	20
2915	Quercus agrifolia	19.0							20	20
2916	Quercus agrifolia	15.0							30	15
2917	Quercus agrifolia	8.0							15	15
2918	Quercus agrifolia	17.0							15	15
2919	Quercus agrifolia	13.0							20	15
2920	Quercus agrifolia	8.0							10	10
2921	Quercus agrifolia	14.0							10	15

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Tree Size								
			Multiple Trunk Trees							
Tree No.	Species	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Dia. 6	Dia. 7	Height	Crown Width
2922	Quercus agrifolia	10.0							15	10
2923	Quercus agrifolia	12.0							15	20
2924	Quercus agrifolia	13.0							20	20
2925	Quercus agrifolia	11.0							25	20
2926	Quercus agrifolia	26.0							30	25
2927	Quercus agrifolia	30.0	26.0						40	40
2928	Quercus agrifolia	14.0							35	25
2929	Quercus agrifolia	8.0							25	15
2930	Quercus agrifolia	9.0							25	15
2931	Quercus agrifolia	8.0							20	10
2932	Eucalyptus spp.	20.0	16.0						60	20
2933	Quercus agrifolia	15.0							25	20
2934	Quercus agrifolia	12.0							25	20
2935	Quercus agrifolia	19.0							45	35
2936	Lugustrum lucidum	16.0							30	25
2937	Quercus agrifolia	11.0							25	15
2938	Cedrus deodara	13.0							30	15
2939	Podocarpus gracilior	12.0							15	15
2940	Fraxinus uhdei	12.0							30	15
2941	Eucalyptus spp.	15.0							30	20
2942	Eucalyptus spp.	14.0							40	25
2943	Cedrus deodara	14.0							40	20
2944	Cedrus deodara	16.0							30	15
2945	Cedrus deodara	12.0							30	15
2946	Magnolia grandiflora	14.0							25	25
2947	Eucalyptus spp.	23.0							60	20
2948	Eucalyptus spp.	15.0	15.0						60	20
2949	Eucalyptus spp.	17.0	13.0						30	35
2950	Fraxinus uhdei	15.0	7.0						40	30
2951	Cedrus deodara	13.0							40	15
2952	Cedrus deodara	12.0							35	20
2953	Eucalyptus spp.	16.0	15.0	8.0					35	45
2954	Liquidambar styraciflua	13.0							40	15
2955	Cedrus deodara	17.0	8.0						35	15
2956	Pinus halepensis	18.0							25	20
2957	Quercus agrifolia	18.0	11.0	10.0					15	25
2958	Quercus agrifolia	9.0							15	15
2959	Juglans californica	17.0	13.0	10.0					25	30
2960	Pinus halepensis	25.0							30	25
2961	Pinus halepensis	16.0							35	20
2962	Pinus halepensis	13.0							25	15
2963	Pinus halepensis	19.0							35	20
2964	Pinus halepensis	22.0							35	25
2965	Pinus halepensis	26.0							35	25
2966	Quercus agrifolia	12.0							30	20
2967	Pinus halepensis	15.0							35	20
2968	Juglans californica	12.0	12.0						20	25
2969	Quercus agrifolia	22.0							30	20
2970	Cedrus deodara	18.0							40	20
2971	Quercus agrifolia	10.0							15	15
2972	Quercus agrifolia	15.0							20	15
2973	Quercus agrifolia	19.0	16.0	15.0	11.0				20	35
2974	Quercus agrifolia	9.0							10	15
2975	Quercus agrifolia	11.0	10.0	9.0	8.0				10	20
2976	Quercus agrifolia	15.0	13.0	11.0	7.0				20	25

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
1	Quercus agrifolia										
2	Quercus agrifolia	X							X		
3	Quercus agrifolia	X							X		
4	Quercus agrifolia	X		X	X		termites				
4a	Quercus agrifolia										
4b	Quercus agrifolia			X							
13	Platanus racemosa				X						
15	Quercus agrifolia	X		X	X		termites		X		
16	Quercus agrifolia								X		
51	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
52	Quercus agrifolia	X		X				heart rot	X		
53	Quercus agrifolia	X		X	X			heart rot	X		
54	Quercus agrifolia	X		X	X			heart rot			
59	Platanus racemosa	X		X	X			heart rot	X		
75	Quercus agrifolia								X		
81	Quercus agrifolia	X							X		
82	Quercus agrifolia	X		X	X		termites	heart rot	X		
83	Quercus agrifolia	X							X		
84	Quercus agrifolia	X		X	X		termites	heart rot	X		
85	Quercus agrifolia	X		X	X		termites	heart rot	X		
86	Quercus agrifolia	X		X			termites	heart rot	X		
87	Quercus agrifolia	X		X	X		termites	heart rot	X		
88	Quercus agrifolia	X									
89	Quercus agrifolia								X		
90	Quercus agrifolia	X		X	X		termites	heart rot	X		
91	Quercus agrifolia	X		X					X		
95	Quercus agrifolia	X									
97	Quercus agrifolia	X							X		
98	Quercus agrifolia	X		X			termites	heart rot	X		
99	Quercus agrifolia				X		termites	heart rot	X		
101	Quercus agrifolia	X		X	X		termites	heart rot	X		
114	Quercus agrifolia	X		X	X		termites	heart rot	X		
115	Quercus agrifolia	X		X			termites	heart rot	X		
117	Quercus agrifolia	X		X	X		termites	heart rot	X		
118	Quercus agrifolia										
120	Quercus agrifolia	X		X	X		termites	heart rot			
123	Quercus agrifolia	X									
130	Quercus agrifolia	X		X	X		termites	heart rot	X		
134	Quercus agrifolia										
136	Salix laevigata										
137	Quercus agrifolia	X		X	X		termites	heart rot			
146	Quercus agrifolia									X	
147	Quercus agrifolia	X		X	X		termites	heart rot			
151	Quercus agrifolia	X		X	X		termites	heart rot			
154	Quercus agrifolia	X		X	X		termites	heart rot		X	
156	Quercus agrifolia									X	
157	Quercus agrifolia	X		X	X		termites	heart rot	X		
158	Quercus agrifolia									X	
159	Quercus agrifolia	X		X	X		termites	heart rot	X		
174	Quercus agrifolia	X		X			termites	heart rot			
185	Quercus agrifolia										
191	Quercus agrifolia										
193	Quercus agrifolia			X			termites	heart rot			
194	Quercus agrifolia										
196	Quercus agrifolia	X							X		
197	Quercus agrifolia	X		X			termites	heart rot			
198	Quercus agrifolia										
202	Quercus agrifolia	X		X			termites	heart rot		X	
210	Quercus agrifolia										
220	Quercus agrifolia	X			X		termites	heart rot			
223	Quercus agrifolia										

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
225	Quercus agrifolia										
230	Quercus agrifolia	X								X	
231	Quercus agrifolia								X		
235	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
238	Quercus agrifolia	X									
239	Quercus agrifolia	X									
244	Quercus agrifolia										
245	Quercus agrifolia	X									
247	Quercus agrifolia	X		X			termites	heart rot			
249	Quercus agrifolia	X		X	X		termites	heart rot	X		
250	Quercus agrifolia	X									
252	Juglans californica	X		X			termites	heart rot	X	X	
256	Quercus agrifolia	X					termites	heart rot			
257	Quercus agrifolia	X					termites	heart rot			
260	Quercus agrifolia	X		X	X		termites	heart rot			
263	Quercus agrifolia										
265	Quercus agrifolia	X		X	X		termites	heart rot		X	
269	Quercus agrifolia	X		X	X		termites	heart rot	X		
270	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
271	Quercus agrifolia	X	X	X	X		termites	heart rot			
272	Quercus agrifolia			X						X	
273	Quercus agrifolia										
274	Quercus agrifolia									X	
275	Quercus agrifolia						termites	heart rot			
286	Quercus agrifolia										
287	Quercus agrifolia										
288	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
289	Quercus agrifolia									X	
291	Quercus agrifolia								X		
292	Quercus agrifolia	X									
298	Quercus agrifolia	X		X	X		termites	heart rot	X		
300	Quercus agrifolia	X		X			termites	heart rot	X		
301	Quercus agrifolia			X			termites	heart rot	X		
302	Quercus agrifolia										
303	Quercus agrifolia										
305	Quercus agrifolia	X		X	X		termites	heart rot	X		
306	Quercus agrifolia	X		X			termites	heart rot	X		
310	Platanus racemosa	X		X	X		termites	heart rot	X	X	
312	Quercus agrifolia	X							X		
314	Quercus agrifolia	X					termites	heart rot			
316	Salix laevigata								X	X	
365	Quercus agrifolia	X			X			heart rot			
398	Quercus agrifolia										
400	Quercus agrifolia	X							X		
401	Quercus agrifolia	X		X			termites	heart rot			
402	Quercus agrifolia	X		X			termites	heart rot	X		
403	Quercus agrifolia	X							X		
404	Quercus agrifolia	X		X	X				X		
405	Quercus agrifolia	X		X			termites	heart rot	X		
407	Platanus racemosa								X		
409	Quercus agrifolia										
477	Salix laevigata								X	X	
513	Quercus agrifolia										
556	Salix laevigata								X	X	
610	Quercus agrifolia								X	X	
612	Quercus agrifolia								X	X	
616	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
622	Quercus agrifolia								X	X	
624	Quercus agrifolia	X		X	X		termites	heart rot	X		
625	Quercus agrifolia	X		X					X		
626	Quercus agrifolia	X		X	X		termites	heart rot			

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
627	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
628	Quercus agrifolia	X							X		
629	Quercus agrifolia	X		X					X		
630	Quercus agrifolia	X		X	X		termites	heart rot	X		
636	Quercus agrifolia										
638	Quercus agrifolia										
638a	Quercus agrifolia										
639	Quercus agrifolia	X		X			termites	heart rot	X		
640	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
644	Quercus agrifolia								X	X	
645	Quercus agrifolia								X	X	
648	Quercus agrifolia									X	
657	Grevillea robusta										
659	Quercus agrifolia										
660	Grevillea robusta										
661	Grevillea robusta										
662	Grevillea robusta										
663	Quercus agrifolia										
664	Quercus agrifolia										
665	Grevillea robusta										
666	Quercus agrifolia								X		
667	Quercus agrifolia										
668	Melaleuca spp.										
669	Grevillea robusta										
670	Eucalyptus spp.										
704	Grevillea robusta										
705	Alnus rubra										
706	Quercus agrifolia										
715	Thuja spp.										
717	Pinus halepensis										
718	Pinus halepensis								X		
722	Pinus canariensis										
747	Quercus agrifolia								X		
749	Quercus agrifolia								X		
751	Thuja spp.										
754	Thuja spp.		X								
758	Quercus agrifolia										
759	Quercus agrifolia								X		
760	Quercus agrifolia										
761	Quercus agrifolia								X		
762	Quercus agrifolia										
766	Thuja spp.										
770	Quercus agrifolia	X		X			termites	heart rot	X		
772	Quercus agrifolia								X		
774	Quercus agrifolia										
775	Quercus agrifolia										
776	Quercus agrifolia										
777	Quercus agrifolia										
779	Quercus agrifolia										
780	Quercus agrifolia										
781	Quercus agrifolia										
782	Quercus agrifolia										
784	Quercus agrifolia	X		X							
785	Quercus agrifolia										
792	Quercus agrifolia										
795	Quercus agrifolia										
802	Quercus agrifolia										
803	Quercus agrifolia								X		
809	Quercus agrifolia	X		X	X		termites	heart rot	X		
821	Quercus agrifolia				X		temites	heart rot			
822	Quercus agrifolia	X		X	X		termites	heart rot			

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
828	Quercus agrifolia	X		X	X		termites	heart rot	X		
829	Quercus agrifolia	X		X	X		termites	heart rot	X		
833	Quercus agrifolia										
834	Quercus agrifolia			X							
835	Quercus agrifolia	X		X				mistletoe			
839	Juglans californica	X		X	X		termites	heart rot	X		
852	Quercus agrifolia										
854	Quercus agrifolia										
855	Quercus agrifolia										
856	Quercus agrifolia										
857	Quercus agrifolia										
858	Quercus agrifolia										
859	Quercus agrifolia								X		
861	Quercus agrifolia	X		X	X		termites	heart rot	X		
862	Quercus agrifolia	X									
863	Quercus agrifolia										
864	Quercus agrifolia										
865	Quercus agrifolia										
866	Quercus agrifolia										
869	Quercus agrifolia										
870	Quercus agrifolia										
872	Quercus agrifolia										
873	Quercus agrifolia										
874	Quercus agrifolia	X		X			termites	heart rot	X	X	
875	Quercus agrifolia	X									
876	Quercus agrifolia			X					X		
878	Quercus agrifolia										
882	Quercus agrifolia	X		X	X		termites	heart rot	X		
883	Quercus agrifolia										
886	Juglans californica	X		X	X		termites	heart rot	X	X	
894	Quercus agrifolia	X									
905	Quercus agrifolia										
911	Quercus agrifolia	X		X					X		
912	Quercus agrifolia	X		X			termites	heart rot	X	X	
928	Quercus agrifolia	X		X	X			heart rot	X		
929	Quercus agrifolia	X		X	X			heart rot	X		
930	Quercus agrifolia	X		X	X			heart rot			
932	Quercus agrifolia	X		X					X		
933	Quercus agrifolia	X		X				heart rot			
934	Quercus agrifolia	X							X		
935	Quercus agrifolia	X		X					X		
937	Quercus agrifolia			X					X		
939	Quercus agrifolia	X		X	X		termites	heart rot			
940	Quercus agrifolia	X		X	X		termites	heart rot	X		
941	Quercus agrifolia	X							X		
944	Quercus agrifolia	X							X		
945	Quercus agrifolia										
947	Quercus agrifolia								X		
948	Quercus agrifolia								X		
957	Quercus agrifolia										
959	Quercus agrifolia	X									
968	Quercus agrifolia	X		X			termites	heart rot	X		
972	Quercus agrifolia	X		X	X			heart rot			
974	Quercus agrifolia								X		
975	Quercus agrifolia								X		
977	Quercus agrifolia										
977a	Quercus agrifolia										
985	Quercus agrifolia										
990	Quercus agrifolia								X		
993	Quercus agrifolia	X							X		
994	Quercus agrifolia	X							X		

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
995	Quercus agrifolia	X							X		
997	Quercus agrifolia	X		X					X		
998	Quercus agrifolia	X		X					X		
999	Quercus agrifolia	X									
1000	Quercus agrifolia	X							X		
1003	Quercus agrifolia	X									
1004	Quercus agrifolia	X							X		
1005	Quercus agrifolia	X									
1006	Quercus agrifolia	X		X	X		termites	heart rot	X		
1007	Quercus agrifolia	X									
1008	Quercus agrifolia										
1009	Quercus agrifolia								X	X	
1010	Quercus agrifolia	X									
1013	Quercus agrifolia	X		X	X		termites	heart rot	X		
1015	Quercus agrifolia	X		X	X		termites	heart rot	X		
1016	Quercus agrifolia								X		
1017	Quercus agrifolia	X						heart rot	X		
1018	Quercus agrifolia	X		X			termites	heart rot	X		
1019	Quercus agrifolia	X		X	X		termites	heart rot	X		
1020	Quercus agrifolia						termites		X		
1021	Quercus agrifolia	X									
1022	Quercus agrifolia	X			X		termites	heart rot	X		
1023	Quercus agrifolia	X							X		
1024	Quercus agrifolia	X		X			termites	heart rot			
1025	Quercus agrifolia	X							X		
1026	Quercus agrifolia	X		X	X		termites	heart rot	X		
1029	Quercus agrifolia										
1030	Quercus agrifolia	X					termites	heart rot			
1032	Quercus agrifolia	X		X					X	X	
1033	Quercus agrifolia										
1035	Quercus agrifolia	X									
1037	Quercus agrifolia	X							X		
1038	Quercus agrifolia	X		X			termites	heart rot	X		
1039	Quercus agrifolia	X		X	X		termites	heart rot	X		
1041	Quercus agrifolia								X		
1044	Quercus agrifolia								X		
1046	Quercus agrifolia	X									
1047	Quercus agrifolia			X					X		
1048	Quercus agrifolia								X		
1049	Quercus agrifolia				X		termites	heart rot			
1061	Quercus agrifolia	X		X			termites	heart rot	X		
1062	Quercus agrifolia	X		X	X		termites	heart rot	X		
1063	Quercus agrifolia										
1066	Quercus agrifolia	X		X			termites	heart rot	X		
1067	Quercus agrifolia	X							X		
1068	Quercus agrifolia	X		X	X		termites	heart rot	X		
1069	Quercus agrifolia	X		X			termites	heart rot	X		
1072	Quercus agrifolia										
1074	Quercus agrifolia			X	X			heart rot	X		
1076	Quercus agrifolia	X			X				X		
1077	Quercus agrifolia	X		X	X			heart rot	X		
1080	Quercus agrifolia	X		X	X		termites	heart rot	X		
1081	Quercus agrifolia								X		
1082	Quercus agrifolia								X		
1083	Quercus agrifolia								X		
1084	Quercus agrifolia	X							X		
1085	Quercus agrifolia	X		X			termites	heart rot	X		
1086	Quercus agrifolia	X		X	X		termites	heart rot	X		
1087	Quercus agrifolia	X		X	X		termites	heart rot	X		
1089	Quercus agrifolia	X		X	X		termites	heart rot	X		
1094	Quercus agrifolia							root rot			

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
1101	Quercus agrifolia										
1104	Quercus agrifolia	X		X			termites	heart rot	X		
1108	Quercus agrifolia	X		X			termites	heart rot			
1115	Quercus agrifolia	X		X			termites	heart rot	X		
1117	Quercus agrifolia	X		X			termites	heart rot	X		
1118	Quercus agrifolia	X		X			termites	heart rot	X		
1119	Quercus agrifolia	X									
1121	Quercus agrifolia	X							X		
1122	Quercus agrifolia	X		X	X			heart rot	X		
1125	Quercus agrifolia	X		X			termites	heart rot	X		
1126	Quercus agrifolia	X							X		
1127	Quercus agrifolia	X		X			termites	heart rot			
1128	Quercus agrifolia	X		X							
1128a	Quercus agrifolia		X	X				heart rot			
1131	Quercus agrifolia								X		
1132	Quercus agrifolia	X							X		
1133	Quercus agrifolia	X							X		
1137	Quercus agrifolia	X							X		
1138	Quercus agrifolia	X							X		
1139	Quercus agrifolia	X							X		
1142	Quercus agrifolia	X		X			termites	heart rot	X		
1146	Quercus agrifolia	X		X	X		termites	heart rot	X		
1147	Quercus agrifolia								X		
1148	Quercus agrifolia	X		X	X		termites	heart rot	X		
1149	Quercus agrifolia				X		termites	heart rot			
1152	Quercus agrifolia								X		
1153	Quercus agrifolia	X							X		
1170	Quercus agrifolia	X									
1171	Quercus agrifolia	X			X						
1174	Quercus agrifolia								X		
1196	Juglans californica								X		
1199	Juglans californica			X				heart rot		X	
1245	Quercus agrifolia								X		
1246	Quercus agrifolia	X		X				heart rot	X		
1247	Quercus agrifolia								X		
1294	Quercus agrifolia	X		X			termites	heart rot			
1296	Quercus agrifolia								X		
1306	Quercus agrifolia	X		X			termites	heart rot	X		
1307	Quercus agrifolia								X		
1313	Fraxinus dipetala								X		
1320	Fraxinus dipetala								X		
1321	Quercus agrifolia	X		X	X		termites	heart rot	X		
1323	Quercus agrifolia	X		X	X		termites	heart rot	X		
1325	Quercus agrifolia	X		X	X		termites	heart rot	X		
1326	Quercus agrifolia	X						heart rot	X		
1353	Quercus agrifolia								X		
1369	Quercus agrifolia						termites		X		
1376	Pseudotsuga macrocarpa										
1381	Quercus agrifolia			X	X		termites	heart rot	X		
1390	Quercus agrifolia			X			termites	heart rot	X		
1392	Quercus agrifolia	X									
1395	Quercus agrifolia	X		X	X		termites	heart rot	X		
1398	Quercus agrifolia				X		termites		X		
1399	Quercus agrifolia								X		
1401	Quercus agrifolia								X		
1402	Quercus agrifolia								X		
1403	Quercus agrifolia								X		
1405	Quercus agrifolia								X		
1406	Quercus agrifolia								X		
1407	Quercus agrifolia			X			termites	heart rot	X		
1408	Quercus agrifolia										

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
1409	Sambucus mexicana						termites	heart rot			
1410	Juglans californica										
1411	Platanus racemosa			X	X		termites	heart rot	X		
1413	Quercus agrifolia						termites				
1414	Quercus agrifolia								X		
1415	Quercus agrifolia								X		
1416	Quercus agrifolia								X		
1417	Quercus agrifolia	X					termites	heart rot			
1418	Quercus agrifolia			X					X		
1419	Quercus agrifolia								X		
1420	Quercus agrifolia								X		
1421	Quercus agrifolia										
1426	Quercus agrifolia										
1427	Quercus agrifolia								X		
1428	Quercus agrifolia										
1429	Quercus agrifolia								X		
1430	Platanus racemosa			X			termites	heart rot			
1431	Platanus racemosa			X			termites	heart rot	X		
1432	Quercus agrifolia								X		
1461	Quercus agrifolia										
1477	Quercus agrifolia								X		
1480	Quercus agrifolia	X						heart rot	X		
1485	Quercus agrifolia	X									
1486	Quercus agrifolia	X		X	X		termites	heart rot			
1487	Quercus agrifolia	X		X			termites	heart rot			
1488	Quercus agrifolia	X		X	X		termites	heart rot	X		
1490	Quercus agrifolia	X		X	X		termites	heart rot			
1491	Quercus agrifolia	X		X	X		termites	heart rot	X		
1498	Quercus agrifolia										
1499	Quercus agrifolia	X		X	X		termites	heart rot	X		
1501	Quercus agrifolia										
1528	Cupressus sempervirens										
1535	Cupressus sempervirens										
1559	Quercus agrifolia										
1572	Platanus racemosa							mistletoe	X		
1590	Quercus agrifolia	X		X	X		termites	heart rot	X		
1591	Quercus agrifolia	X							X		
1593	Quercus agrifolia	X							X		
1684	Quercus agrifolia	X		X	X			heart rot	X		
1685	Quercus agrifolia	X		X			termites	heart rot			
1698	Quercus agrifolia	X		X	X		termites	heart rot	X		
1765	Quercus agrifolia								X		
1793	Salix laevigata								X		
2243	Quercus agrifolia										
2245	Quercus agrifolia	X		X	X		termites	heart rot	X		
2246	Quercus agrifolia	X									
2261	Salix laevigata				X				X	X	
2303	Quercus agrifolia										
2304	Quercus agrifolia								X		
2305	Quercus agrifolia								X		
2309	Pseudotsuga macrocarpa										
2311	Quercus agrifolia			X					X		
2312	Quercus agrifolia								X		
2313	Quercus agrifolia			X			termites	heart rot	X		
2314	Quercus agrifolia										
2315	Quercus agrifolia			X			termites	heart rot	X		
2316	Quercus agrifolia			X	X		termites	heart rot	X		
2317	Quercus agrifolia	X		X	X		termites	heart rot			
2318	Quercus agrifolia	X		X	X		termites	heart rot	X		
2323	Quercus agrifolia								X		
2324	Quercus agrifolia										

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
2334	Quercus agrifolia								X		
2339	Quercus agrifolia										
2340	Quercus agrifolia								X		
2341	Quercus agrifolia										
2342	Quercus agrifolia								X		
2344	Quercus agrifolia			X	X		termites	heart rot			
2348	Quercus agrifolia										
2350	Quercus agrifolia	X		X	X		termites	heart rot	X		
2359	Quercus agrifolia										
2364	Quercus agrifolia										
2365	Quercus agrifolia								X		
2366	Quercus agrifolia			X	X			heart rot	X		
2367	Quercus agrifolia								X		
2376	Quercus agrifolia										
2384	Quercus agrifolia										
2385	Quercus agrifolia			X	X		termites	heart rot			
2388	Quercus agrifolia	X		X	X		termites	heart rot	X		
2389	Quercus agrifolia	X		X	X		termites	heart rot	X		
2390	Quercus agrifolia								X	X	
2396	Quercus agrifolia										
2397	Quercus agrifolia								X		
2402	Quercus agrifolia			X	X		termites	heart rot	X		
2406	Quercus agrifolia								X		
2422	Quercus agrifolia								X		
2423	Quercus agrifolia								X		
2460	Salix laevigata			X	X			heart rot	X		
2475	Quercus agrifolia	X		X	X			heart rot	X		
2477	Quercus agrifolia	X		X	X			heart rot	X		
2486	Quercus agrifolia	X		X	X			heart rot	X		
2491	Quercus agrifolia								X		
2493	Quercus agrifolia										
2498	Quercus agrifolia								X		
2499	Quercus agrifolia	X									
2504	Quercus agrifolia	X		X	X						
2506	Quercus agrifolia								X		
2510	Quercus agrifolia	X		X	X			heart rot			
2514	Quercus agrifolia			X					X		
2518	Quercus agrifolia	X		X	X			heart rot			
2521	Quercus agrifolia			X							
2526	Quercus agrifolia										
2527	Quercus agrifolia	X		X				heart rot	X		
2533	Quercus agrifolia			X	X		termites	heart rot			
2534	Quercus agrifolia	X		X			termites	heart rot	X		
2535	Quercus agrifolia								X		
2547	Quercus agrifolia			X			termites	heart rot	X		
2550	Quercus agrifolia	X		X	X			heart rot			
2563	Quercus agrifolia										
2566	Quercus agrifolia										
2583	Quercus agrifolia								X		
2584	Quercus agrifolia	X									
2587	Quercus agrifolia										
2595	Quercus agrifolia										
2668	Quercus agrifolia			X					X		
2669	Quercus agrifolia	X		X	X		termites	heart rot	X		
2670	Quercus agrifolia	X		X	X		termites	heart rot	X		
2672	Quercus chrysolepis	X		X	X		termites	heart rot	X		
2673	Quercus chrysolepis	X							X		
2675	Quercus chrysolepis	X		X	X		termites	heart rot			
2676	Quercus agrifolia			X	X				X		
2678	Quercus agrifolia								X		
2680	Quercus agrifolia								X		

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
2683	Acer macrophyllum			X	X				X		
2684	Acer macrophyllum	X		X	X				X		
2688	Quercus agrifolia	X		X			termites	heart rot	X		
2689	Pseudotsuga macrocarpa										
2690	Quercus agrifolia			X	X		termites	heart rot	X		
2692	Quercus agrifolia								X		
2693	Pseudotsuga macrocarpa										
2694	Quercus agrifolia	X							X		
2695	Quercus agrifolia	X							X		
2696	Quercus agrifolia	X		X	X		termites	heart rot	X		
2697	Quercus agrifolia	X							X		
2698	Quercus chrysolepis			X			termites	heart rot	X		
2699	Quercus chrysolepis	X		X	X		termites	heart rot			
2701	Quercus agrifolia	X		X	X						
2704	Quercus agrifolia	X							X		
2706	Quercus agrifolia	X							X		
2709	Quercus agrifolia										
2716	Quercus agrifolia	X		X	X		termites	heart rot	X		
2721	Pseudotsuga macrocarpa										
2723	Pseudotsuga macrocarpa	X			X		termites	heart rot	X		
2726	Quercus agrifolia	X			X						
2727	Quercus agrifolia								X		
2731	Quercus chrysolepis								X	X	
2732	Quercus chrysolepis										
2734	Quercus agrifolia	X		X	X		termites	heart rot	X		
2736	Quercus agrifolia								X		
2739	Quercus agrifolia	X		X	X		termites	heart rot	X	X	
2740	Acer macrophyllum	X					termites	heart rot	X	X	
2745	Quercus agrifolia	X		X	X		termites	heart rot	X		
2750	Quercus agrifolia								X		
2754	Quercus agrifolia								X	X	
2767	Quercus agrifolia										
2768	Quercus agrifolia										
2787	Sambucus mexicana										
2791	Sambucus mexicana										
2800	Quercus agrifolia	X		X	X		termites	heart rot			
2801	Quercus agrifolia	X		X	X		termites	heart rot			
2802	Quercus agrifolia	X		X			termites	heart rot			
2803	Quercus agrifolia										
2804	Quercus agrifolia										
2805	Quercus agrifolia										
2806	Quercus agrifolia								X		
2807	Quercus agrifolia								X		
2808	Quercus agrifolia										
2809	Quercus agrifolia			X	X			heart rot			
2810	Fraxinus dipetala										
2811	Quercus agrifolia			X				heart rot	X		
2812	Quercus agrifolia										
2813	Quercus agrifolia			X			termites	heart rot	X		
2814	Quercus agrifolia			X	X		termites	heart rot			
2815	Quercus agrifolia			X	X		termites	heart rot	X		
2816	Quercus agrifolia										
2817	Quercus agrifolia								X		
2818	Quercus agrifolia										
2819	Quercus agrifolia				X		termites	heart rot	X		
2820	Quercus agrifolia			X	X		termites	heart rot	X		
2821	Quercus agrifolia		X	X	X	X	termites	heart rot	X		
2841	Quercus agrifolia										
2842	Quercus agrifolia								X		
2847	Quercus agrifolia										
2848	Quercus agrifolia										

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
2849	Fraxinus dipetala					X			X		
2850	Quercus agrifolia										
2851	Quercus agrifolia										
2852	Quercus agrifolia										
2853	Quercus agrifolia			X				heart rot	X		
2854	Quercus agrifolia								X		
2855	Pseudotsuga macrocarpa										
2856	Quercus chrysolepis	X		X				heart rot			
2857	Quercus chrysolepis										
2859	Quercus agrifolia										
2860	Quercus chrysolepis										
2861	Quercus agrifolia				X						
2862	Pseudotsuga macrocarpa										
2863	Quercus agrifolia	X	X								
2864	Quercus agrifolia			X			termites	heart rot			
2865	Quercus agrifolia										
2866	Quercus chrysolepis								X		
2867	Pseudotsuga macrocarpa										
2868	Quercus agrifolia										
2869	Quercus agrifolia	X		X	X		termites	heart rot			
2870	Quercus chrysolepis								X		
2871	Quercus agrifolia										
2872	Pseudotsuga macrocarpa										
2873	Quercus chrysolepis	X		X	X		termites	heart rot			
2874	Quercus chrysolepis	X		X	X		termites	heart rot			
2875	Pseudotsuga macrocarpa										
2876	Quercus agrifolia								X		
2877	Quercus chrysolepis								X		
2878	Pseudotsuga macrocarpa										
2879	Quercus agrifolia										
2880	Quercus chrysolepis										
2881	Quercus chrysolepis			X				heart rot	X		
2882	Pseudotsuga macrocarpa										
2883	Quercus agrifolia	X		X	X		termites	heart rot			
2884	Quercus chrysolepis	X		X						X	
2885	Quercus chrysolepis									X	
2886	Quercus agrifolia										
2887	Quercus agrifolia								X		
2888	Quercus agrifolia										
2889	Quercus agrifolia										
2890	Quercus agrifolia				X		termites	heart rot	X		
2891	Quercus agrifolia										
2892	Quercus agrifolia	X		X	X		termites	heart rot		X	
2894	Quercus agrifolia								X		
2895	Liquidambar styraciflua										
2896	Juglans californica			X			termites	heart rot		X	
2897	Juglans californica	X			X		termites	heart rot	X		
2898	Juglans californica	X					termites	heart rot	X		
2899	Juglans californica	X		X	X		termites	heart rot	X		
2900	Juglans californica	X		X	X		termites	heart rot	X		
2901	Ficus rubiginosa								X		
2902	Juglans californica				X		termites	heart rot	X		
2903	Ficus rubiginosa				X			heart rot			
2904	Ficus rubiginosa				X			heart rot	X		
2905	Fraxinus uhdei										
2906	Fraxinus uhdei										
2907	Pinus canariensis								X		
2908	Ulmus pumila								X		
2909	Pinus halepensis										
2910	Pinus halepensis		X						X		
2911	Ficus rubiginosa			X				heart rot			

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
2912	Quercus agrifolia										
2913	Quercus agrifolia								X		
2914	Quercus agrifolia										
2915	Quercus agrifolia										
2916	Quercus agrifolia										
2917	Quercus agrifolia										
2918	Quercus agrifolia	X	X	X	X		termites	heart rot	X		
2919	Quercus agrifolia								X		
2920	Quercus agrifolia										
2921	Quercus agrifolia										
2922	Quercus agrifolia			X				heart rot			
2923	Quercus agrifolia								X		
2924	Quercus agrifolia								X		
2925	Quercus agrifolia								X		
2926	Quercus agrifolia			X			termites	heart rot			
2927	Quercus agrifolia			X				heart rot	X		
2928	Quercus agrifolia										
2929	Quercus agrifolia			X			termites	heart rot	X		
2930	Quercus agrifolia			X			termites	heart rot	X		
2931	Quercus agrifolia		X	X			termites	heart rot	X		
2932	Eucalyptus spp.								X		
2933	Quercus agrifolia			X			termites	heart rot	X		
2934	Quercus agrifolia								X		
2935	Quercus agrifolia								X		
2936	Lugustrum lucidum										
2937	Quercus agrifolia										
2938	Cedrus deodara										
2939	Podocarpus gracilior										
2940	Fraxinus uhdei										
2941	Eucalyptus spp.										
2942	Eucalyptus spp.										
2943	Cedrus deodara										
2944	Cedrus deodara								X		
2945	Cedrus deodara										
2946	Magnolia grandiflora										
2947	Eucalyptus spp.								X		
2948	Eucalyptus spp.										
2949	Eucalyptus spp.										
2950	Fraxinus uhdei										
2951	Cedrus deodara										
2952	Cedrus deodara										
2953	Eucalyptus spp.								X		
2954	Liquidambar styraciflua										
2955	Cedrus deodara										
2956	Pinus halepensis								X		
2957	Quercus agrifolia	X		X			termites	heart rot	X	X	
2958	Quercus agrifolia			X			termites	heart rot	X	X	
2959	Juglans californica	X		X			termites	heart rot	X	X	
2960	Pinus halepensis										
2961	Pinus halepensis								X		
2962	Pinus halepensis								X		
2963	Pinus halepensis								X		
2964	Pinus halepensis								X		
2965	Pinus halepensis								X		
2966	Quercus agrifolia										
2967	Pinus halepensis										
2968	Juglans californica										
2969	Quercus agrifolia										
2970	Cedrus deodara								X		
2971	Quercus agrifolia										
2972	Quercus agrifolia						borers		X		

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

		Physical Condition									
Tree No.	Species	Fire Damage	Thin Foliage	Trunk Cavity	Trunk Damage	Stressed	Insect Damage	Disease Damage	Leaning Trunk	Regrown Sprout	Safety Hazard
2973	Quercus agrifolia			X				heart rot	X	X	
2974	Quercus agrifolia										
2975	Quercus agrifolia	X		X			termites	heart rot	X	X	
2976	Quercus agrifolia	X		X			termites	heart rot			

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
10=excellent/specimen
5=fair/average
1=poor/unsuitable

		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
1	Quercus agrifolia		X			8	6	undercut roots
2	Quercus agrifolia		X			9	8	
3	Quercus agrifolia		X			8	5	
4	Quercus agrifolia		X			7	5	undercut roots
4a	Quercus agrifolia		X			9	8	
4b	Quercus agrifolia		X			3	2	
13	Platanus racemosa		X			8	7	
15	Quercus agrifolia		X			8	7	
16	Quercus agrifolia		X			9	8	undercut roots
51	Quercus agrifolia		X			6	8	
52	Quercus agrifolia		X			3	3	uprooted
53	Quercus agrifolia		X			6	4	
54	Quercus agrifolia		X			5	4	
59	Platanus racemosa		X			5	6	undercut roots
75	Quercus agrifolia		X			9	8	undercut roots
81	Quercus agrifolia		X			9	9	
82	Quercus agrifolia		X			4	3	
83	Quercus agrifolia		X			9	8	
84	Quercus agrifolia		X			6	5	
85	Quercus agrifolia		X			8	8	
86	Quercus agrifolia		X			8	8	undercut roots
87	Quercus agrifolia		X			7	7	
88	Quercus agrifolia		X			7	7	exposed roots
89	Quercus agrifolia		X			8	8	exposed roots
90	Quercus agrifolia		X			6	5	
91	Quercus agrifolia		X			8	7	
95	Quercus agrifolia		X			5	5	undercut roots
97	Quercus agrifolia		X			8	6	
98	Quercus agrifolia		X			8	6	
99	Quercus agrifolia		X			6	5	
101	Quercus agrifolia		X			5	5	
114	Quercus agrifolia		X			7	6	undercut roots
115	Quercus agrifolia		X			5	5	
117	Quercus agrifolia		X			7	7	
118	Quercus agrifolia		X			9	9	undercut roots
120	Quercus agrifolia		X			6	6	
123	Quercus agrifolia		X			7	7	
130	Quercus agrifolia		X			7	7	
134	Quercus agrifolia		X			5	5	
136	Salix laevigata		X			5	5	undercut roots
137	Quercus agrifolia		X			5	4	missing tree top
146	Quercus agrifolia		X			8	7	
147	Quercus agrifolia		X			6	5	
151	Quercus agrifolia		X			6	7	
154	Quercus agrifolia		X			3	1	extensive decay in stump
156	Quercus agrifolia		X			8	7	
157	Quercus agrifolia		X			5	7	
158	Quercus agrifolia		X			8	7	
159	Quercus agrifolia		X			7	7	
174	Quercus agrifolia		X			8	8	
185	Quercus agrifolia		X			9	7	
191	Quercus agrifolia		X			7	7	
193	Quercus agrifolia		X			7	7	exposed roots
194	Quercus agrifolia		X			5	4	severely undercut roots
196	Quercus agrifolia		X			8	7	severely undercut roots
197	Quercus agrifolia		X			6	7	
198	Quercus agrifolia		X			9	7	
202	Quercus agrifolia		X			7	8	
210	Quercus agrifolia		X			9	6	exposed roots
220	Quercus agrifolia		X			9	9	
223	Quercus agrifolia		X			8	7	moderately undercut roots

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
10=excellent/specimen
5=fair/average
1=poor/unsuitable

		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
225	Quercus agrifolia		X			10	8	
230	Quercus agrifolia		X			8	9	
231	Quercus agrifolia		X			7	7	exposed roots
235	Quercus agrifolia		X			7	8	
238	Quercus agrifolia		X			8	8	
239	Quercus agrifolia		X			8	7	
244	Quercus agrifolia		X			9	7	
245	Quercus agrifolia		X			8	7	
247	Quercus agrifolia		X			8	7	moderately undercut roots
249	Quercus agrifolia		X			7	3	trunk split in half
250	Quercus agrifolia		X			8	4	
252	Juglans californica		X			7	6	
256	Quercus agrifolia		X			8	7	
257	Quercus agrifolia		X			8	6	
260	Quercus agrifolia		X			7	4	
263	Quercus agrifolia		X			8	7	undercut roots
265	Quercus agrifolia		X			2	1	broken top; extensive decay
269	Quercus agrifolia		X			5	3	extensive decay
270	Quercus agrifolia		X			6	4	extensive decay
271	Quercus agrifolia		X			4	4	
272	Quercus agrifolia		X			9	7	
273	Quercus agrifolia		X			9	8	
274	Quercus agrifolia		X			8	7	moderately undercut roots
275	Quercus agrifolia		X			9	8	
286	Quercus agrifolia		X			10	8	
287	Quercus agrifolia		X			10	8	
288	Quercus agrifolia		X			10	8	
289	Quercus agrifolia		X			10	7	
291	Quercus agrifolia		X			9	8	severely undercut roots
292	Quercus agrifolia		X			9	8	
298	Quercus agrifolia		X			7	5	
300	Quercus agrifolia		X			7	3	
301	Quercus agrifolia		X			6	5	
302	Quercus agrifolia		X			6	5	
303	Quercus agrifolia		X			10	8	
305	Quercus agrifolia		X			5	5	
306	Quercus agrifolia		X			6	5	severely undercut roots
310	Platanus racemosa		X			7	6	new number is 2893
312	Quercus agrifolia		X			8	8	
314	Quercus agrifolia		X			7	5	
316	Salix laevigata		X			7	6	
365	Quercus agrifolia		X			9	9	
398	Quercus agrifolia		X			9	7	
400	Quercus agrifolia		X			10	10	
401	Quercus agrifolia		X			8	8	
402	Quercus agrifolia		X			9	9	
403	Quercus agrifolia		X			9	8	
404	Quercus agrifolia		X			7	5	
405	Quercus agrifolia		X			7	3	tree blown over
407	Platanus racemosa		X			10	10	
409	Quercus agrifolia		X			10	7	
477	Salix laevigata		X			8	5	
513	Quercus agrifolia		X			10	8	
556	Salix laevigata		X			6	4	
610	Quercus agrifolia		X			8	4	
612	Quercus agrifolia		X			9	6	undercut roots
616	Quercus agrifolia		X			1	1	
622	Quercus agrifolia		X			10	6	
624	Quercus agrifolia		X			7	5	
625	Quercus agrifolia		X			7	4	
626	Quercus agrifolia		X			4	1	broken top; hollow trunk

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
627	Quercus agrifolia		X			4	3	
628	Quercus agrifolia		X			8	6	
629	Quercus agrifolia		X			6	4	
630	Quercus agrifolia		X			6	4	split trunk
636	Quercus agrifolia		X			9	6	
638	Quercus agrifolia		X			8	6	
638a	Quercus agrifolia		X			8	9	north of 638 100'
639	Quercus agrifolia		X			8	6	
640	Quercus agrifolia		X			5	3	
644	Quercus agrifolia		X			8	5	
645	Quercus agrifolia		X			8	5	
648	Quercus agrifolia		X			8	5	
657	Grevillea robusta		X			9	4	tree topped
659	Quercus agrifolia		X			9	6	
660	Grevillea robusta		X			9	5	
661	Grevillea robusta		X			8	5	
662	Grevillea robusta		X			9	5	
663	Quercus agrifolia		X			9	5	
664	Quercus agrifolia		X			9	7	
665	Grevillea robusta		X			8	4	tree topped
666	Quercus agrifolia		X			8	5	
667	Quercus agrifolia		X			8	5	
668	Melaleuca spp.		X			9	7	
669	Grevillea robusta		X			9	7	
670	Eucalyptus spp.		X			8	3	tree topped
704	Grevillea robusta		X			10	7	
705	Alnus rubra		X			8	4	tree topped
706	Quercus agrifolia		X			9	5	
715	Thuja spp.		X			8	5	
717	Pinus halepensis		X			8	5	tree lying on side
718	Pinus halepensis		X			9	8	root damage
722	Pinus canariensis		X			8	5	
747	Quercus agrifolia		X			10	5	
749	Quercus agrifolia		X			10	7	
751	Thuja spp.		X			9	5	
754	Thuja spp.		X			7	5	
758	Quercus agrifolia		X			10	7	
759	Quercus agrifolia		X			9	5	
760	Quercus agrifolia		X			10	7	
761	Quercus agrifolia		X			9	5	
762	Quercus agrifolia		X			10	7	
766	Thuja spp.		X			7	5	
770	Quercus agrifolia		X			9	9	moderately undercut roots
772	Quercus agrifolia		X			10	7	moderately undercut roots
774	Quercus agrifolia		X			8	5	moderately undercut roots
775	Quercus agrifolia		X			10	6	
776	Quercus agrifolia		X			10	7	
777	Quercus agrifolia		X			10	7	
779	Quercus agrifolia		X			8	6	
780	Quercus agrifolia		X			10	7	
781	Quercus agrifolia		X			10	7	
782	Quercus agrifolia		X			10	7	
784	Quercus agrifolia		X			9	8	
785	Quercus agrifolia		X			10	7	
792	Quercus agrifolia		X			9	6	
795	Quercus agrifolia		X			10	6	
802	Quercus agrifolia		X			10	7	
803	Quercus agrifolia		X			10	7	
809	Quercus agrifolia		X			7	3	
821	Quercus agrifolia		X			7	5	
822	Quercus agrifolia		X			4	4	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
828	Quercus agrifolia		X			8	4	
829	Quercus agrifolia		X			7	4	
833	Quercus agrifolia		X			9	7	
834	Quercus agrifolia		X			9	7	
835	Quercus agrifolia		X			4	4	
839	Juglans californica		X			7	5	
852	Quercus agrifolia		X			10	7	
854	Quercus agrifolia		X			9	6	
855	Quercus agrifolia		X			10	8	
856	Quercus agrifolia		X			10	8	
857	Quercus agrifolia		X			10	7	exposed roots
858	Quercus agrifolia		X			9	6	
859	Quercus agrifolia		X			9	7	
861	Quercus agrifolia		X			2	1	
862	Quercus agrifolia		X			7	5	
863	Quercus agrifolia		X			10	8	
864	Quercus agrifolia		X			9	7	
865	Quercus agrifolia		X			9	8	
866	Quercus agrifolia		X			9	7	
869	Quercus agrifolia		X			10	7	
870	Quercus agrifolia		X			10	7	
872	Quercus agrifolia		X			9	7	
873	Quercus agrifolia		X			9	8	
874	Quercus agrifolia		X			9	8	
875	Quercus agrifolia		X			9	8	
876	Quercus agrifolia		X			9	7	
878	Quercus agrifolia		X			10	8	
882	Quercus agrifolia		X			7	5	
883	Quercus agrifolia		X			8	6	
886	Juglans californica		X			8	6	
894	Quercus agrifolia		X			10	9	
905	Quercus agrifolia		X			10	8	
911	Quercus agrifolia		X			9	7	
912	Quercus agrifolia		X			8	7	
928	Quercus agrifolia		X			1	1	
929	Quercus agrifolia		X			1	1	
930	Quercus agrifolia		X			1	1	
932	Quercus agrifolia		X			8	5	
933	Quercus agrifolia		X			8	5	
934	Quercus agrifolia		X			8	5	
935	Quercus agrifolia		X			9	6	
937	Quercus agrifolia		X			9	7	
939	Quercus agrifolia		X			7	5	
940	Quercus agrifolia		X			4	3	
941	Quercus agrifolia		X			8	6	
944	Quercus agrifolia		X			8	5	
945	Quercus agrifolia		X			8	5	
947	Quercus agrifolia		X			9	5	
948	Quercus agrifolia		X			9	5	
957	Quercus agrifolia		X			10	9	
959	Quercus agrifolia		X			10	8	
968	Quercus agrifolia		X			8	6	
972	Quercus agrifolia		X			9	8	
974	Quercus agrifolia		X			8	7	
975	Quercus agrifolia		X			10	7	
977	Quercus agrifolia		X			9	7	
977a	Quercus agrifolia		X			10	9	map
985	Quercus agrifolia		X			9	7	
990	Quercus agrifolia		X			9	6	
993	Quercus agrifolia		X			6	5	
994	Quercus agrifolia		X			7	5	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
10=excellent/specimen
5=fair/average
1=poor/unsuitable

		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
995	Quercus agrifolia		X			8	5	
997	Quercus agrifolia		X			9	7	
998	Quercus agrifolia		X			5	4	
999	Quercus agrifolia		X			1	1	nr dead below 1000
1000	Quercus agrifolia		X			7	5	
1003	Quercus agrifolia		X			8	5	
1004	Quercus agrifolia		X			8	5	
1005	Quercus agrifolia		X			10	8	
1006	Quercus agrifolia		X			8	4	split trunk
1007	Quercus agrifolia		X			10	9	
1008	Quercus agrifolia		X			10	8	
1009	Quercus agrifolia		X			9	8	
1010	Quercus agrifolia		X			8	4	split trunk
1013	Quercus agrifolia		X			7	4	
1015	Quercus agrifolia		X			5	4	
1016	Quercus agrifolia		X			8	4	
1017	Quercus agrifolia		X			7	5	
1018	Quercus agrifolia		X			7	5	
1019	Quercus agrifolia		X			7	5	
1020	Quercus agrifolia		X			7	4	
1021	Quercus agrifolia		X			8	5	
1022	Quercus agrifolia		X			4	4	
1023	Quercus agrifolia		X			7	5	
1024	Quercus agrifolia		X			7	5	
1025	Quercus agrifolia		X			8	4	
1026	Quercus agrifolia		X			8	5	
1029	Quercus agrifolia		X			10	9	
1030	Quercus agrifolia		X			9	8	
1032	Quercus agrifolia		X			9	7	
1033	Quercus agrifolia		X			8	5	
1035	Quercus agrifolia		X			9	8	
1037	Quercus agrifolia		X			8	8	
1038	Quercus agrifolia		X			8	6	
1039	Quercus agrifolia		X			5	4	
1041	Quercus agrifolia		X			10	8	
1044	Quercus agrifolia		X			8	5	
1046	Quercus agrifolia		X			7	5	
1047	Quercus agrifolia		X			8	5	
1048	Quercus agrifolia		X			9	6	
1049	Quercus agrifolia		X			9	7	
1061	Quercus agrifolia		X			7	5	
1062	Quercus agrifolia		X			5	3	
1063	Quercus agrifolia		X			9	7	
1066	Quercus agrifolia		X			7	5	
1067	Quercus agrifolia		X			7	5	
1068	Quercus agrifolia		X			3	1	
1069	Quercus agrifolia		X			8	5	
1072	Quercus agrifolia		X			8	5	
1074	Quercus agrifolia		X			1	1	
1076	Quercus agrifolia		X			5	4	
1077	Quercus agrifolia		X			1	1	
1080	Quercus agrifolia		X			1	1	
1081	Quercus agrifolia		X			7	4	
1082	Quercus agrifolia		X			8	5	
1083	Quercus agrifolia		X			7	4	
1084	Quercus agrifolia		X			8	6	
1085	Quercus agrifolia		X			5	4	
1086	Quercus agrifolia		X			7	4	
1087	Quercus agrifolia		X			6	4	
1089	Quercus agrifolia		X			7	4	split trunk
1094	Quercus agrifolia		X			8	7	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
1101	Quercus agrifolia		X			9	8	
1104	Quercus agrifolia		X			7	6	
1108	Quercus agrifolia		X			8	4	
1115	Quercus agrifolia		X			9	5	
1117	Quercus agrifolia		X			8	5	
1118	Quercus agrifolia		X			8	5	
1119	Quercus agrifolia		X			8	5	
1121	Quercus agrifolia		X			9	5	
1122	Quercus agrifolia		X			1	1	near dead
1125	Quercus agrifolia		X			7	5	
1126	Quercus agrifolia		X			7	5	
1127	Quercus agrifolia		X			8	6	
1128	Quercus agrifolia		X			8	5	
1128a	Quercus agrifolia		X			6	6	south of 1128
1131	Quercus agrifolia		X			7	5	
1132	Quercus agrifolia		X			4	3	
1133	Quercus agrifolia		X			7	5	
1137	Quercus agrifolia		X			7	5	
1138	Quercus agrifolia		X			7	5	
1139	Quercus agrifolia		X			8	5	
1142	Quercus agrifolia		X			9	5	
1146	Quercus agrifolia		X			7	4	
1147	Quercus agrifolia		X			7	4	
1148	Quercus agrifolia		X			2	1	
1149	Quercus agrifolia		X			8	5	
1152	Quercus agrifolia		X			8	5	
1153	Quercus agrifolia		X			8	5	moderately undercut
1170	Quercus agrifolia		X			7	5	
1171	Quercus agrifolia		X			8	7	
1174	Quercus agrifolia		X			9	7	
1196	Juglans californica		X			7	5	
1199	Juglans californica		X			9	7	
1245	Quercus agrifolia		X			8	5	
1246	Quercus agrifolia		X			6	5	
1247	Quercus agrifolia		X			5	4	
1294	Quercus agrifolia		X			8	5	
1296	Quercus agrifolia		X			8	5	
1306	Quercus agrifolia		X			4	3	
1307	Quercus agrifolia		X			7	5	
1313	Fraxinus dipetala		X			7	5	
1320	Fraxinus dipetala		X			6	4	
1321	Quercus agrifolia		X			6	5	
1323	Quercus agrifolia		X			5	4	
1325	Quercus agrifolia		X			7	5	
1326	Quercus agrifolia		X			7	4	
1353	Quercus agrifolia		X			7	5	city
1369	Quercus agrifolia		X			6	5	
1376	Pseudotsuga macrocarpa					7	5	
1381	Quercus agrifolia		X			7	5	
1390	Quercus agrifolia		X			6	5	
1392	Quercus agrifolia		X			10	8	
1395	Quercus agrifolia		X			8	5	
1398	Quercus agrifolia		X			8	5	
1399	Quercus agrifolia		X			8	4	
1401	Quercus agrifolia		X			6	4	
1402	Quercus agrifolia		X			7	4	
1403	Quercus agrifolia		X			7	4	
1405	Quercus agrifolia		X			7	4	
1406	Quercus agrifolia		X			9	6	
1407	Quercus agrifolia		X			7	5	
1408	Quercus agrifolia		X			8	6	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
1409	Sambucus mexicana		X			8	6	
1410	Juglans californica		X			8	6	
1411	Platanus racemosa		X			1	1	severely undercut roots; broken top
1413	Quercus agrifolia		X			9	7	
1414	Quercus agrifolia		X			5	4	
1415	Quercus agrifolia		X			5	4	
1416	Quercus agrifolia		X			5	4	
1417	Quercus agrifolia		X			8	5	
1418	Quercus agrifolia		X			8	6	
1419	Quercus agrifolia		X			8	5	
1420	Quercus agrifolia		X			8	5	
1421	Quercus agrifolia		X			7	5	
1426	Quercus agrifolia		X			8	6	
1427	Quercus agrifolia		X			7	5	
1428	Quercus agrifolia		X			9	7	
1429	Quercus agrifolia		X			9	5	
1430	Platanus racemosa		X			8	7	
1431	Platanus racemosa		X			8	7	
1432	Quercus agrifolia		X			9	7	
1461	Quercus agrifolia		X			10	8	
1477	Quercus agrifolia		X			9	6	
1480	Quercus agrifolia		X			7	5	
1485	Quercus agrifolia		X			9	7	
1486	Quercus agrifolia		X			8	5	
1487	Quercus agrifolia		X			5	4	
1488	Quercus agrifolia		X			6	4	
1490	Quercus agrifolia		X			5	4	
1491	Quercus agrifolia		X			1	1	
1498	Quercus agrifolia		X			8	6	
1499	Quercus agrifolia		X			7	5	
1501	Quercus agrifolia		X			7	5	
1528	Cupressus sempervirens		X			10	10	
1535	Cupressus sempervirens		X			10	10	
1559	Quercus agrifolia		X			10	8	
1572	Platanus racemosa		X			9	8	
1590	Quercus agrifolia		X			7	5	
1591	Quercus agrifolia		X			7	5	
1593	Quercus agrifolia		X			6	4	buried root crown
1684	Quercus agrifolia		X			8	4	
1685	Quercus agrifolia		X			8	6	
1698	Quercus agrifolia		X			1	1	
1765	Quercus agrifolia		X			8	7	exposed roots
1793	Salix laevigata		X			10	10	
2243	Quercus agrifolia		X			9	5	severely undercut roots
2245	Quercus agrifolia		X			8	5	
2246	Quercus agrifolia		X			9	8	
2261	Salix laevigata		X			8	5	broken top
2303	Quercus agrifolia		X			9	6	exposed roots
2304	Quercus agrifolia		X			7	5	exposed roots
2305	Quercus agrifolia		X			9	5	exposed roots
2309	Pseudotsuga macrocarpa		X			7	5	exposed roots
2311	Quercus agrifolia		X			8	5	
2312	Quercus agrifolia		X			6	4	
2313	Quercus agrifolia		X			8	6	
2314	Quercus agrifolia		X			9	7	
2315	Quercus agrifolia		X			8	4	
2316	Quercus agrifolia		X			6	1	
2317	Quercus agrifolia		X			5	1	
2318	Quercus agrifolia		X			7	3	
2323	Quercus agrifolia		X			9	6	
2324	Quercus agrifolia		X			9	7	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
2334	Quercus agrifolia		X			8	5	
2339	Quercus agrifolia		X			8	5	
2340	Quercus agrifolia		X			9	7	
2341	Quercus agrifolia		X			8	7	
2342	Quercus agrifolia		X			8	6	
2344	Quercus agrifolia		X			7	4	
2348	Quercus agrifolia		X			9	6	
2350	Quercus agrifolia		X			3	1	
2359	Quercus agrifolia		X			9	8	
2364	Quercus agrifolia		X			8	5	
2365	Quercus agrifolia		X			9	5	
2366	Quercus agrifolia		X			2	1	
2367	Quercus agrifolia		X			7	5	
2376	Quercus agrifolia		X			9	7	
2384	Quercus agrifolia		X			10	8	
2385	Quercus agrifolia		X			7	6	
2388	Quercus agrifolia		X			7	5	
2389	Quercus agrifolia		X			7	5	
2390	Quercus agrifolia		X			6	4	
2396	Quercus agrifolia		X			8	5	
2397	Quercus agrifolia		X			9	6	
2402	Quercus agrifolia		X			6	3	
2406	Quercus agrifolia		X			7	5	
2422	Quercus agrifolia		X			8	4	
2423	Quercus agrifolia		X			8	5	
2460	Salix laevigata		X			7	2	
2475	Quercus agrifolia		X			1	1	
2477	Quercus agrifolia		X			1	1	
2486	Quercus agrifolia		X			1	1	
2491	Quercus agrifolia		X			6	4	
2493	Quercus agrifolia		X			3	1	
2498	Quercus agrifolia		X			2	1	
2499	Quercus agrifolia		X			8	5	
2504	Quercus agrifolia		X			6	4	
2506	Quercus agrifolia		X			9	6	
2510	Quercus agrifolia		X			3	1	
2514	Quercus agrifolia		X			7	4	
2518	Quercus agrifolia		X			1	1	
2521	Quercus agrifolia		X			7	4	
2526	Quercus agrifolia		X			9	6	inaccessible; no tag
2527	Quercus agrifolia		X			7	4	severely undercut roots
2533	Quercus agrifolia		X			3	1	
2534	Quercus agrifolia		X			3	1	
2535	Quercus agrifolia		X			7	4	
2547	Quercus agrifolia		X			8	5	
2550	Quercus agrifolia		X			2	1	
2563	Quercus agrifolia		X			9	7	
2566	Quercus agrifolia		X			10	7	
2583	Quercus agrifolia		X			10	6	
2584	Quercus agrifolia		X			10	8	
2587	Quercus agrifolia		X			5	4	
2595	Quercus agrifolia		X			8	5	
2668	Quercus agrifolia		X			8	4	
2669	Quercus agrifolia		X			1	1	broken top
2670	Quercus agrifolia		X			5	5	
2672	Quercus chrysolepis		X			7	5	
2673	Quercus chrysolepis		X			8	6	
2675	Quercus chrysolepis		X			8	5	
2676	Quercus agrifolia		X			8	3	uprooted
2678	Quercus agrifolia		X			8	5	
2680	Quercus agrifolia		X			9	7	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
2683	Acer macrophyllum		X			8	5	
2684	Acer macrophyllum		X			9	7	
2688	Quercus agrifolia		X			8	8	
2689	Pseudotsuga macrocarpa		X			9	7	
2690	Quercus agrifolia		X			7	4	
2692	Quercus agrifolia		X			8	5	
2693	Pseudotsuga macrocarpa		X			9	8	
2694	Quercus agrifolia		X			9	7	
2695	Quercus agrifolia		X			8	5	
2696	Quercus agrifolia		X			7	5	
2697	Quercus agrifolia		X			7	5	
2698	Quercus chrysolepis		X			6	4	
2699	Quercus chrysolepis		X			7	5	
2701	Quercus agrifolia		X			8	5	
2704	Quercus agrifolia		X			7	5	
2706	Quercus agrifolia		X			7	4	
2709	Quercus agrifolia		X			9	7	
2716	Quercus agrifolia		X			5	2	broken top
2721	Pseudotsuga macrocarpa		X			10	10	
2723	Pseudotsuga macrocarpa		X			4	2	
2726	Quercus agrifolia		X			8	5	
2727	Quercus agrifolia		X			9	7	
2731	Quercus chrysolepis		X			8	6	
2732	Quercus chrysolepis		X			8	5	
2734	Quercus agrifolia		X			4	2	
2736	Quercus agrifolia		X			8	5	
2739	Quercus agrifolia		X			8	5	
2740	Acer macrophyllum		X			8	7	
2745	Quercus agrifolia		X			8	5	
2750	Quercus agrifolia		X			9	7	
2754	Quercus agrifolia		X			9	7	
2767	Quercus agrifolia		X			10	9	
2768	Quercus agrifolia		X			10	9	
2787	Sambucus mexicana		X			9	7	
2791	Sambucus mexicana		X			10	9	
2800	Quercus agrifolia		X			9	8	
2801	Quercus agrifolia		X			9	7	
2802	Quercus agrifolia		X			9	8	
2803	Quercus agrifolia		X			9	8	
2804	Quercus agrifolia		X			8	6	
2805	Quercus agrifolia		X			8	6	
2806	Quercus agrifolia		X			8	6	
2807	Quercus agrifolia		X			7	5	
2808	Quercus agrifolia		X			8	6	
2809	Quercus agrifolia		X			4	4	
2810	Fraxinus dipetala		X			7	5	
2811	Quercus agrifolia		X			6	4	
2812	Quercus agrifolia		X			6	5	
2813	Quercus agrifolia		X			6	5	
2814	Quercus agrifolia		X			6	5	
2815	Quercus agrifolia		X			6	4	
2816	Quercus agrifolia		X			6	4	
2817	Quercus agrifolia		X			7	5	
2818	Quercus agrifolia		X			8	6	
2819	Quercus agrifolia		X			5	3	
2820	Quercus agrifolia		X			6	3	
2821	Quercus agrifolia		X			1	1	
2841	Quercus agrifolia		X			8	5	
2842	Quercus agrifolia		X			7	5	
2847	Quercus agrifolia		X			8	6	
2848	Quercus agrifolia		X			7	5	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

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		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
2849	Fraxinus dipetala		X			3	1	landslide
2850	Quercus agrifolia		X			7	5	
2851	Quercus agrifolia		X			7	6	
2852	Quercus agrifolia		X			9	7	
2853	Quercus agrifolia		X			7	5	
2854	Quercus agrifolia		X			7	4	undercut roots
2855	Pseudotsuga macrocarpa		X			8	7	
2856	Quercus chrysolepis		X			5	5	undercut roots
2857	Quercus chrysolepis		X			7	5	undercut roots
2859	Quercus agrifolia		X			8	6	
2860	Quercus chrysolepis		X			8	6	
2861	Quercus agrifolia		X			8	6	
2862	Pseudotsuga macrocarpa		X			8	6	
2863	Quercus agrifolia		X			5	4	
2864	Quercus agrifolia		X			5	3	
2865	Quercus agrifolia		X			7	5	
2866	Quercus chrysolepis		X			6	5	
2867	Pseudotsuga macrocarpa		X			8	6	
2868	Quercus agrifolia		X			8	7	
2869	Quercus agrifolia		X			7	6	
2870	Quercus chrysolepis		X			7	4	
2871	Quercus agrifolia		X			6	5	
2872	Pseudotsuga macrocarpa		X			8	7	
2873	Quercus chrysolepis		X			5	3	
2874	Quercus chrysolepis		X			6	5	
2875	Pseudotsuga macrocarpa		X			6	5	undercut roots
2876	Quercus agrifolia		X			8	6	
2877	Quercus chrysolepis		X			7	5	tag on tree root
2878	Pseudotsuga macrocarpa		X			8	7	
2879	Quercus agrifolia		X			8	6	
2880	Quercus chrysolepis		X			7	6	
2881	Quercus chrysolepis		X			7	6	
2882	Pseudotsuga macrocarpa		X			8	7	
2883	Quercus agrifolia		X			7	4	
2884	Quercus chrysolepis		X			8	6	
2885	Quercus chrysolepis		X			6	5	
2886	Quercus agrifolia		X			7	6	
2887	Quercus agrifolia		X			7	5	undercut roots
2888	Quercus agrifolia		X			6	3	broken top
2889	Quercus agrifolia		X			7	6	
2890	Quercus agrifolia		X			4	1	broken top
2891	Quercus agrifolia		X			6	4	
2892	Quercus agrifolia		X			6	4	
2894	Quercus agrifolia		X	X	X	7	5	split trunk
2895	Liquidambar styraciflua		X			9	8	
2896	Juglans californica		X			5	5	
2897	Juglans californica		X			4	3	
2898	Juglans californica		X			5	5	
2899	Juglans californica		X			3	2	
2900	Juglans californica		X			4	3	
2901	Ficus rubiginosa		X			5	4	
2902	Juglans californica		X			4	3	
2903	Ficus rubiginosa		X			4	3	
2904	Ficus rubiginosa		X			4	3	freeze damage
2905	Fraxinus uhdei		X			7	5	
2906	Fraxinus uhdei		X			8	6	
2907	Pinus canariensis		X			4	3	
2908	Ulmus pumila		X			7	5	
2909	Pinus halepensis		X			5	5	
2910	Pinus halepensis		X			4	3	
2911	Ficus rubiginosa		X			6	5	

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
10=excellent/specimen
5=fair/average
1=poor/unsuitable

		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
2912	Quercus agrifolia		X			7	6	
2913	Quercus agrifolia		X			5	5	
2914	Quercus agrifolia		X			7	6	
2915	Quercus agrifolia		X			5	5	
2916	Quercus agrifolia		X			7	6	
2917	Quercus agrifolia		X			5	5	
2918	Quercus agrifolia		X			4	2	
2919	Quercus agrifolia		X			7	5	
2920	Quercus agrifolia		X			5	4	
2921	Quercus agrifolia		X			6	4	undercut roots
2922	Quercus agrifolia		X			5	5	weeping cavity
2923	Quercus agrifolia		X			5	5	
2924	Quercus agrifolia		X			6	5	
2925	Quercus agrifolia		X			6	5	
2926	Quercus agrifolia		X			6	5	dia @ 2'
2927	Quercus agrifolia		X			7	6	weeping crotch
2928	Quercus agrifolia		X			6	5	
2929	Quercus agrifolia		X			4	3	
2930	Quercus agrifolia		X			4	3	
2931	Quercus agrifolia		X			3	2	
2932	Eucalyptus spp.		X			7	5	
2933	Quercus agrifolia		X			6	4	
2934	Quercus agrifolia		X			6	4	
2935	Quercus agrifolia		X			7	6	
2936	Lugustrum lucidum		X			7	6	
2937	Quercus agrifolia		X			7	6	undercut roots
2938	Cedrus deodara		X			7	6	
2939	Podocarpus gracilior		X			8	7	
2940	Fraxinus uhdei		X			7	6	
2941	Eucalyptus spp.		X			5	4	
2942	Eucalyptus spp.		X			7	6	
2943	Cedrus deodara		X			7	7	
2944	Cedrus deodara		X			8	7	
2945	Cedrus deodara		X			8	6	
2946	Magnolia grandiflora		X			8	6	
2947	Eucalyptus spp.		X			7	5	
2948	Eucalyptus spp.		X			6	5	
2949	Eucalyptus spp.		X			5	5	
2950	Fraxinus uhdei		X			8	6	
2951	Cedrus deodara		X			5	5	
2952	Cedrus deodara		X			7	6	
2953	Eucalyptus spp.		X			5	5	
2954	Liquidambar styraciflua		X			8	7	
2955	Cedrus deodara		X			6	5	
2956	Pinus halepensis		X			6	3	uprooted
2957	Quercus agrifolia		X			7	6	
2958	Quercus agrifolia		X			6	4	
2959	Juglans californica		X			6	5	
2960	Pinus halepensis		X			5	5	
2961	Pinus halepensis		X			5	5	
2962	Pinus halepensis		X			4	4	
2963	Pinus halepensis		X			6	5	
2964	Pinus halepensis		X			5	4	
2965	Pinus halepensis		X			6	5	
2966	Quercus agrifolia		X			7	7	
2967	Pinus halepensis		X			4	4	
2968	Juglans californica		X			7	6	
2969	Quercus agrifolia		X			8	7	undercut roots
2970	Cedrus deodara		X			8	7	
2971	Quercus agrifolia		X			8	6	
2972	Quercus agrifolia		X			6	4	exposed roots

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY DATA

Rating Code
10=excellent/specimen
5=fair/average
1=poor/unsuitable

		Treatment				Rating		
Tree No.	Species	Dead Wood	Remove	Insect Treatment	Disease Treatment	Health Rating	Aesthetics Rating	Comments
2973	Quercus agrifolia		X			7	6	
2974	Quercus agrifolia		X			6	5	
2975	Quercus agrifolia		X			4	3	
2976	Quercus agrifolia		X			6	5	

APPENDIX C

PEST ACTIVITY REPORT

AN OBSERVATION OF PEST ACTIVITY IN TREES AT THE SUNSHINE CANYON
Conducted for Ralph Osterling Consultants, Inc., May, 1995 *

A site visit conducted at Sunshine Canyon near Sylmar, California, revealed the following, based upon inspection of standing live specimens at each basic area of the property:

- **Mouth of Sunshine Canyon (near entry gate):**

Sycamores *(Platanus)* show recent infestations of Anthracnose *(Discula veneta)* and Powdery Mildew *(Microsphaera alni)*. Both are fungal infections typically found in the Platanus genera, with Anthracnose being the more serious of the two, due to the progressive defoliation it can cause. See tree labeled #1431. Leaf litter in the understory would indicate previous infestations of sycamore scale *(Stomacoccus platani)*. Mistletoe (*Phoradendron macrophyllum)*is active on these plants. Coast live oaks *(Quercus)* show oak apple gall (*Andricus californicus)*,jumping oak gall (*Neuroterus saltatorius*) and the two horned gall maker, which are often found in this genera and species and cause degrees of deformity or leaf and twig die-back. More serious still are signs of borers and oak root fungus (*Armillaria mellea*), as is evident in weep holes and frass from the borers and internal fungal mats and secondary fungal conks on damaged exteriors from the *Armillaria* See tree labeled #`1407, as well as adjoining oaks. Tree #1407 has so much structural damage from hollowing caused by years of fire and heart rot that it should be considered a hazard to the right-of-way traffic just across the wall.

An old elderberry *(Sambucus)* nearby (labeled #1409) shows considerable fungal rot and the subsequent attack of borers (most likely a *Desmocerus* species).

- **South Side of the Scales (near entry road):**

Coast Live Oaks *(Quercus)* mostly show degrees of infestations already observed at the mouth of Sunshine Canyon, though few are as extreme as tree #1407. See tree labeled #2383 as a typical example.

- **Across From the Nursery (west side of creek):**

A sycamore *(Platanus)*, labeled #407, in the open area near the creek bottom, shows extreme stress bordering on dying. Aside from all the infestations already observed in the sycamores at the mouth of Sunshine Canyon, this specimen has experienced radical changes in soil conditions. Debris flows from last winter's storms have left a grade of wet silt over the root crown and feeder roots. The flat

---

*This is an observation paper only, and is not to be construed in any way as a pest control recommendation. If any economic poisons are applied at the site, they have been done so without any specific direction from this paper or its author.

open aspect of area where this tree stands suggests prior use as a parking lot which would have caused compaction of the root zone. The seepage of odd colored flows in the root zone and white caking on the trunk hint at the presence of minerals not naturally found in a riparian root zone. Leaching from nearby strata may be the cause of such mineral deposits as well as dramatic adjustments of soil PH. A soils fertility lab test of samples taken from the area could confirm this. Any one of these conditions in the root zone may cause decline of the plant, but together they would certainly cause noticeable stress. A large oak nearby has fallen, possibly because of compromised soil conditions. Soldier beetles *(Cantharis)* on the trunk of tree #407 would indicate a nearby presence of aphids or lava food sources. Coast live oaks in this area also exhibit degrees of infestations seen at the mouth of Sunshine Canyon with tree #626 being a very large diametered example.

- **Northeast Side of Roadway (adjacent to City/County line):**

Coast live oaks were observed as having similar conditions as before with #51 and #1 as examples. These two examples have experienced additional stress due to changes of grade in the root zones and girdling from fence wire. A predaceous ground beetle (*Calosoma)* was found on the trunk of #1, as well as its probable food source, caterpillars.

- **Conclusions:**

The native trees of Sunshine Canyon are generally typical for the site and are naturally prone to afflictions of age as well as damages caused by a history of fires and brown heart rot.

. While current infestations pose no great threat of spread (there is no known crop produced in the area), increased stress on these old trees over time may invite opportunistic pests which may have some relationship to nearby ornamental landscapes of suburban neighborhoods.

The introduction of young and vigorous native trees to the Sunshine Canyon (often with genetic specificity to the area) is a sensible mitigation for the loss (sooner or later) of the older trees. With proper stewardship, the younger trees can simply outgrow the worst of the pests present in the older/damaged population.

Respectfully submitted,

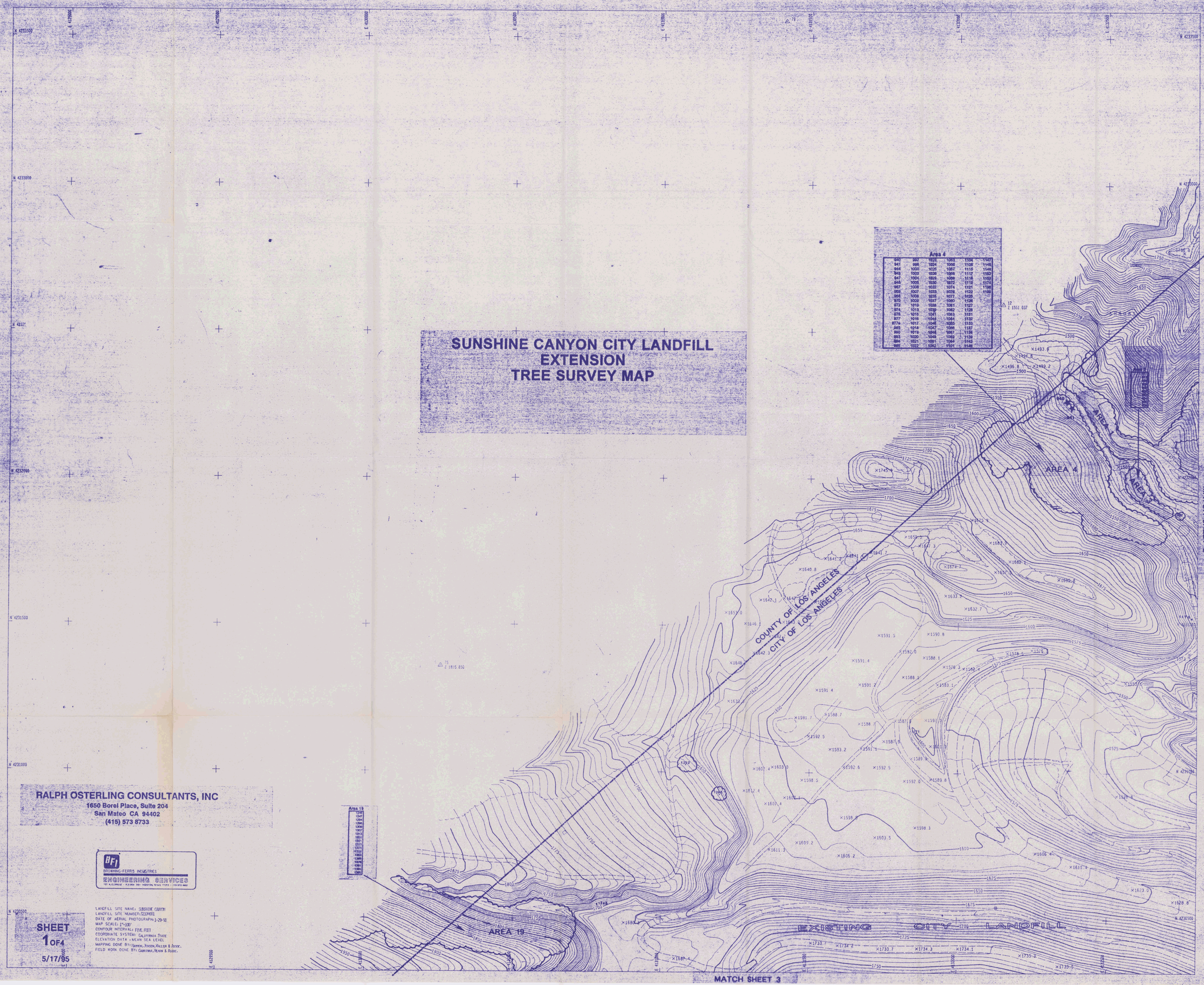
Anthony Norris
Pest Control Advisor
License #7609 with Categories A,B,D,E & G

APPENDIX D

MAP POCKET

TREE SURVEY MAPS

SUNSHINE CANYON CITY LANDFILL
EXTENSION
TREE SURVEY MAP



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BFI
BROWNING-FERRIS INDUSTRIES
ENGINEERING SERVICES

SHEET 1 OF 4
5/17/95

LANDFILL SITE NAME: SUNSHINE CANYON
LANDFILL SITE NUMBER: 5210001
DATE OF AERIAL PHOTOGRAPH: 1-29-91
MAP SCALE: 1"=100'
CONTOUR INTERVAL: FIVE FEET
COORDINATE SYSTEM: California State
ELEVATION DATA: MEAN SEA LEVEL
MAPPING DONE BY: Watson, Jensen, Kellen & Assoc.
FIELD WORK DONE BY: Carranza, Hearn & Assoc.

SUNSHINE CANYON CITY LANDFILL
EXTENSION
TREE SURVEY MAP

MATCH SHEET 1

MATCH SHEET 4

PROJECT BOUNDARY

AREA 1
AREA 6
AREA 7
AREA 10
AREA 9
AREA 11
AREA 12
AREA 13
AREA 14
EASTERN SUNSHINE CITY LANDFILL
I-5

Area 1 Area 2 Area 6 Area 7 Area 8 Area 9 Area 10 Area 11 Area 12 Area 13 Area 14

SHEET 2 OF 4
5/17/95

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LANDFILL SITE NAME: SUNSHINE CANYON
LANDFILL SITE NUMBER: 5219-0001
DATE OF AERIAL PHOTOGRAPHS: 1-29-91
MAP SCALE: 1"=200'
CONTOUR INTERVAL: FIVE FEET
COORDINATE SYSTEM: CALIFORNIA STATE
ELEVATION DATA: MEAN SEA LEVEL
MAPPING DONE BY: HAYES, GUSEN, KALLEN & ASSOC.
FIELD WORK DONE BY: CORTINA, TRAIN & ASSOC.

MATCH SHEET 1

MATCH SHEET 4

AREA 20

PROJECT BOUNDARY

EXISTING CITY LANDFILL

PROPERTY BOUNDARY

Area 20

2664	2696	2761	2847	2869	2890
2669	2701	2804	2848	2870	2891
2670	2704	2805	2849	2871	2892
2672	2706	2806	2850	2872	
2673	2708	2807	2851	2873	
2675	2716	2808	2852	2874	
2676	2721	2809	2853	2875	
2678	2723	2810	2854	2876	
2680	2726	2811	2856	2877	
2683	2727	2812	2858	2878	
2684	2731	2813	2857	2879	
2688	2732	2814	2859	2880	
2689	2734	2815	2860	2881	
2690	2736	2816	2861	2882	
2692	2739	2817	2862	2883	
2693	2740	2818	2863	2884	
2694	2745	2819	2864	2885	
2695	2750	2820	2865	2886	
2696	2754	2821	2866	2887	
2697	2758	2841	2867	2888	
2698	2757	2842	2868	2889	

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SHEET
3 OF 4
5/17/95

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY MAP

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ENGINEERING SERVICES

LANDFILL SITE NAME: SUNSHINE CANYON
LANDFILL SITE NUMBER:32XD001
DATE OF AERIAL PHOTOGRAPH: 1-29-91
MAP SCALE: 1"=100'
CONTOUR INTERVAL: FIVE FEET.
COORDINATE SYSTEM: CALIFORNIA STATE
ELEVATION DATA : MEAN SEA LEVEL
MAPPING DONE BY: HARPER, JENSEN, WALLEN & ASSOC.
FIELD WORK DONE BY: CARMONA, FRANN & ASSOC.

MATCH SHEET 2

MATCH SHEET 3

SUNSHINE CANYON CITY LANDFILL EXTENSION
TREE SURVEY MAP

AREA 15

AREA 16

AREA 17

AREA 18

AREA 21

SAN FERNANDO ROAD

PROJECT BOUNDARY

EXISTING CITY LANDFILL

PROPERTY BOUNDARY

Area 15

2895	2918	2941	2964
2896	2919	2942	2965
2897	2920	2943	2966
2898	2921	2944	2967
2899	2922	2945	2968
2900	2923	2946	2969
2901	2924	2947	2970
2902	2925	2948	2971
2903	2926	2949	2972
2904	2927	2950	2973
2905	2928	2951	2974
2906	2929	2952	2975
2907	2930	2953	2976
2908	2931	2954	
2909	2932	2955	
2910	2933	2956	
2911	2934	2957	
2912	2935	2958	
2913	2936	2959	
2914	2937	2960	
2915	2938	2961	
2916	2939	2962	
2917	2940	2963	

Area 16

2977	2990	3003	3016
2978	2991	3004	3017
2979	2992	3005	3018
2980	2993	3006	3019
2981	2994	3007	3020
2982	2995	3008	3021
2983	2996	3009	3022
2984	2997	3010	3023
2985	2998	3011	3024
2986	2999	3012	3025
2987	3000	3013	3026
2988	3001	3014	3027
2989	3002	3015	3028

Area 17

2301	2314	2327	2340
2302	2315	2328	2341
2303	2316	2329	2342
2304	2317	2330	2343
2305	2318	2331	2344
2306	2319	2332	2345
2307	2320	2333	2346
2308	2321	2334	2347
2309	2322	2335	2348
2310	2323	2336	2349
2311	2324	2337	2350
2312	2325	2338	2351
2313	2326	2339	2352

Area 18

3029	3042	3055	3068
3030	3043	3056	3069
3031	3044	3057	3070
3032	3045	3058	3071
3033	3046	3059	3072
3034	3047	3060	3073
3035	3048	3061	3074
3036	3049	3062	3075
3037	3050	3063	3076
3038	3051	3064	3077
3039	3052	3065	3078
3040	3053	3066	3079
3041	3054	3067	3080

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SHEET 4 OF 4

5/17/95

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LANDFILL SITE NAME: SUNSHINE CANYON
LANDFILL SITE NUMBER: 57[illegible]
DATE OF AERIAL PHOTOGRAPH: 1-29-91
MAP SCALE: 1"=100'
CONTOUR INTERVAL: FIVE FEET
COORDINATE SYSTEM: CALIFORNIA STATE
ELEVATION DATA : MEAN SEA LEVEL
MAPPING DONE BY: HARPER, JOKSEN, KILLEEN & ASSOC.
FIELD WORK DONE BY: CARLSON, HEATH & ASSOC.

Appendix B5
POTENTIAL LINER SYSTEMS FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

WASTE CONTAINMENT SYSTEMS

REGULATORY REQUIREMENTS

General

Federal criteria for waste containment systems (liner and cover systems) at Class III municipal solid waste landfill facilities (MSWLFs) are contained in Title 40 § 258 of the Code of Federal Regulations (CFR), the Resource Conservation and Recovery Act (RCRA), Subtitle D. Provisions of RCRA Subtitle D mandate that the requirements of 40 CFR § 258 be incorporated into federally-approved state programs. In response to this mandate the State Water Resources Control Board (SWRCB) amended existing liner system requirements for municipal solid waste landfills contained in Chapter 15, Title 23 of the California Code of Regulations (CCR) by adopting Resolution No. 93-062. The adopted state policy was implemented by each of the California Regional Water Quality Control Boards (RWQCBs) through the adoption of amended Waste Discharge Requirements (WDRs). In the Los Angeles Region, RWQCB Order No. 93-062 amended the WDRs of solid waste landfills in the Los Angeles Region (including the Sunshine Canyon Landfill) for implementation of SWRCB Resolution No. 93-062.

California requirements for design of Class III landfill cover systems are provided in CCR, Title 14, Chapter 7. No formal changes or amendments to CCR, Title 14 by the California Integrated Waste Management Board (CIWMB) were required for implementation of Subtitle D requirements.

Details of the federal and state requirements for liner and cover systems at MSWLFs are provided below.

Liner Systems

Federal Regulations

Federal regulations for liner systems at MSWLFs are contained in 40 CFR, § 258. In the federal requirements two types of liner system designs are allowed: (1) a site-specific design that meets a performance standard established in 40 CFR, § 258.40(a)(1); and (2) a prescriptive minimum standard, which is established in 40 CFR, § 258.40(a)(2). A composite liner that is identical to the prescriptive minimum standard of the federal regulations will be referred to herein as the "Subtitle D prescriptive composite liner."

With respect to the performance criterion, the federal requirements call for new landfills to be constructed: "(1) In accordance with a design approved by the Director of an approved State or as specified in § 258.40(e) for unapproved States. The design must ensure that the concentration values listed in Table 1 of this section will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Director of an approved State under paragraph (d) of this section" (§ 258.40(a)(1)).

California is an approved state with respect to Subtitle D. The authority for approving alternative liner designs in California is vested in the SWRCB. The SWRCB has delegated its authority to approve alternative liner designs to the RWQCB.

The prescriptive minimum construction standards that may be used in lieu of a design that meets the performance standard of § 258.40(a)(1) require that a municipal solid waste landfill be constructed:

> "With a composite liner, as defined in paragraph (b) of this section, and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner" (§ 258.40(a)(2)).

The prescriptive minimum construction standards further require that:

> "For purposes of this section, composite liner means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component" (§ 258.40(b)).

Implicit in the use of a prescriptive minimum standard is the assumption that a liner system in strict compliance with the prescriptive design meets the federal performance criterion described in § 258.40(a)(1). Thus, it is logical to infer that if an alternative liner system design is equivalent or superior to the prescriptive design with respect to liquid containment capability, then the alternative design will meet the federal performance standard.

Subtitle D also provides seismic design criteria for containment systems for new landfill units and lateral expansions. This criteria, contained in § 258.14, requires that:

> ". . . the owner or operator demonstrates to the Director of an approved State/Tribe that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record." (§ 258.14(a))

The maximum horizontal acceleration (MHA) in lithified earth material for the site is defined as follows:

> "Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment. (§ 258.14(b)(2))

> "Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface. (§ 258.14(b)(3))

The prescriptive requirements of Section 258.13(a) of Subtitle D restricts the location of lateral expansions of MSWLFs to areas not within 200 ft.(60 m) of ". . .a fault that has had displacement in Holocene time." However, an alternative setback of less than 200 ft. (60 m) is allowed if ". . . the owner or operator demonstrates to the Director of an approved state that an alternative setback of less than 200 ft. (60 m) will

prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment."

State Regulations

Recently adopted SWRCB policy for implementation of the federal regulatory requirements is contained in the June 17, 1993 document, "Policy for Regulation of Discharges of Municipal Solid Waste," SWRCB Resolution No. 93-062. This state policy was implemented by the Los Angeles County RWQCB in Order No. 93-062. Section 7 of the Order No. 93-062 addresses standards for liner systems. Substitution (a) of Section 7 provides the following requirements for Class III landfill liner systems installed after the implementation of the Subtitle D liner regulations:

> "Post-Federal Deadline construction-except as provided in either § 7(a)(3) [for steep sideslopes] or § 7(a)(2) [for new discharges to pre-existing liners], after October 9, 1993, all containment systems shall include a composite liner that consists of an upper synthetic flexible membrane component (Synthetic Liner) and a lower component of soil, and that the Regional Board Executive Officer agrees meets the following requirements. The composite liner either:
>
> - Prescriptive Design:
>
> - Upper component. Has a Synthetic Liner at least 40-mils thick (or at least 60-mils thick if of high density polyethylene) that is installed in direct and uniform contact with the underlying compacted soil component described in § 7(a)(1)(A)2; and
>
> - Lower component. Has a layer of compacted soil that is at least two feet thick and that has an hydraulic conductivity of no more than 1×10^{-7} cm/sec (0.1 feet/year); or
>
> - Alternative design: Satisfies the performance criteria contained in 40 CFR § 258.40(a)(1) and (c), and satisfies the criteria for an engineered alternative to the above Prescriptive Design, [as provided by CCR Title 23, § 2510(b)], where the performance of the alternative composite liner's components, in combination, equal or exceed the waste containment capability of the prescriptive design" (§ 7(a)(1)).

California regulations for seismic design of the liner system of Class III landfills are contained in CCR, Title 23, Chapter 15, § 2533 and § 2547. Section 2533(d) addresses siting restrictions with respect to known Holocene faults while Section 2547 provides seismic design criteria for the foundation and containment system. As required under § 2533(d), new Class III landfills shall not be located "on a known Holocene fault." As stated previously, Subtitle D requires a 200 ft.(60 m) setback from a known Holocene fault unless the owner places a demonstration on the record that a lesser setback will not impair the integrity of the waste containment system. Therefore, for compliance with Subtitle D, if the waste unit is located within 200 ft.(60 m) of a Holocene fault, the owner or operator must place on the record a demonstration that the setback of less than 200 ft.(60 m) will not cause damage to the structural integrity of the waste containment system.

Section 2547 requires that Class III waste management units "shall be designed to withstand the maximum probable earthquake without damage to the foundation or to the structures which control leachate, surface

drainage, erosion or gas." The maximum probable earthquake (MPE) is defined in accordance with California Department of Mines and Geology (CDMG) standards on the basis of a site-specific hazard assessment. CDMG Note 43 specifies that the MPE be evaluated from a site-specific analysis as either the maximum earthquake expected to impact the site in a 100 year period or on the same basis as the maximum credible earthquake (MCE). The MCE is defined as the maximum earthquake expected to impact the site given the known tectonic framework. As the MPE is defined on the basis of a site-specific analysis, landfills designed for the peak horizontal ground acceleration from the MPE comply with the site-specific analysis provisions of Subtitle D (40 CFR, § 258.14(b)(2)) for evaluating seismic design criteria.

Final Cover Systems

Federal Regulations

The federal regulations with respect to § 258.60 of 40 CFR Subpart F - Closure and Post Closure (Subtitle D), effective October 9, 1993, provide that the final cover of a municipal solid waste landfill:

- be designed to minimize infiltration and erosion;
- include a barrier layer with a minimum thickness of 18 in. (457 mm), a maximum permeability of 1×10^{-5} cm/sec, and a permeability less than or equal to the bottom liner system and natural subsoils present; and
- include a soil erosion layer with a minimum thickness of 6 in. (152 mm) capable of sustaining native plant growth.

The federal regulations allow the director of an approved state to approve an alternative final cover design with a barrier layer and a soil erosion layer shown to be equivalent or superior to the performance of the prescribed layers with respect to infiltration and wind and water erosion.

California is an approved state with respect to Subtitle D. In California, the authority for approving alternative final cover designs rests with the CIWMB.

State Regulations

State of California regulations concerning design and construction of the final cover for closure of municipal solid waste landfills are found in CCR, Title 14 and Title 23, and are summarized in the following paragraphs.

CCR, Title 23, Chapter 15, Article 8, § 2581(a) provides the following prescriptive requirements for the final cover of Class III landfills:

- A foundation layer of at least 2 ft.(0.6 m) is required unless the Regional Board finds that differential settlement of the waste and ultimate land use allow for a lesser thickness without impacting the integrity of the cover.
- Contaminated soil, incinerator ash, and other waste material may be appropriated for the foundation layer.

- The cover shall contain a "barrier" layer not less than 1 ft.(0.3 m) thick with a maximum permeability of 1×10^{-6} cm/sec and a permeability equal to or less than any bottom liner or underlying natural materials.

- A vegetative layer containing no waste or leachate, placed on top of the barrier layer of not less than 1 ft.(0.3 m) and of greater thickness than the rooting depth of any vegetation planted on the cover.

- Design and construction which provides for the minimum maintenance possible.

CCR, Title 14, Chapter 3, Article 7.8, § 17773, provides the following requirements for design of an alternative final cover:

- The final cover shall be designed by a registered civil engineer or certified engineering geologist.

- Engineering alternatives shall only be approved when the owner demonstrates that:

  - The prescriptive standard described in CCR, Title 23 is not feasible; and

  - The engineered alternative is consistent with the performance goal of the prescriptive standard and provides equivalent protection to the ground water.

- Establish that the prescriptive standard of CCR, Title 23 is not feasible, the owner must demonstrate that:

  - It is reasonably and unnecessarily burdensome and will cost substantially more; and

  - It is impractical and will not promote attainment of the performance goals.

CCR, Title 23, Chapter 15, Article 8, § 2580(e), provides for selection of vegetation for the cover which minimizes irrigation and maintenance and does not impair the integrity of the containment structures (including the barrier layer).

Alternative Cover System Designs

Both state and federal regulations provide for engineered alternatives to the prescriptive final cover. The state provides explicit requirements for an alternative final cover design, as summarized in A-3(b) (State Regulations) of this report. Subtitle D requirements for an alternative final cover are less clear. However, United States Environmental Protection Agency's (USEPA) comments on the Subtitle D "Final rule; corrections" make it clear that there is flexibility in the Subtitle D final cover design criteria to allow for a performance-based alternative final cover design tailored to site specific conditions. Discussing the design criteria for final covers in the "Final rule; corrections" for Subtitle D, USEPA states that "EPA intended, and has always interpreted, the language in this section to be a performance standard . . . . " USEPA further states that the purpose of the permeability standard for the final cover infiltration layer was to "prevent the 'bathtub effect' from occurring. The 'bathtub effect' occurs when a landfill fills up with liquids because the infiltration layer of the final cover is more permeable than the bottom liner system or natural subsoils present."

USEPA states that while the clarifying language of the "Final rule; corrections" includes prescribed minimum final cover standards ". . . intended to eliminate any confusion regarding the correct interpretation of this rule language. This clarification language does not remove any of the flexibility in § 258.60(b) regarding alternative final cover designs approved by the Director of a State/Tribal program that has been deemed adequate by EPA." Thus, it is clear that there is the flexibility in the Subtitle D final cover design criteria to allow for an alternative final cover design on the basis of surface water infiltration through the final cover and the liquid flux through the bottom liner. The language in the "Final rule; corrections" establishes a final cover infiltration performance standard whereby surface water infiltration through the final cover must be less than the liquid flux through the base of the landfill.

LINER SYSTEMS

General

There are three broad classes of liner systems that may be utilized at the proposed Sunshine Canyon Landfill. These three classes are the base liner system, the side-slope liner system, and the waste-on-waste liner system.

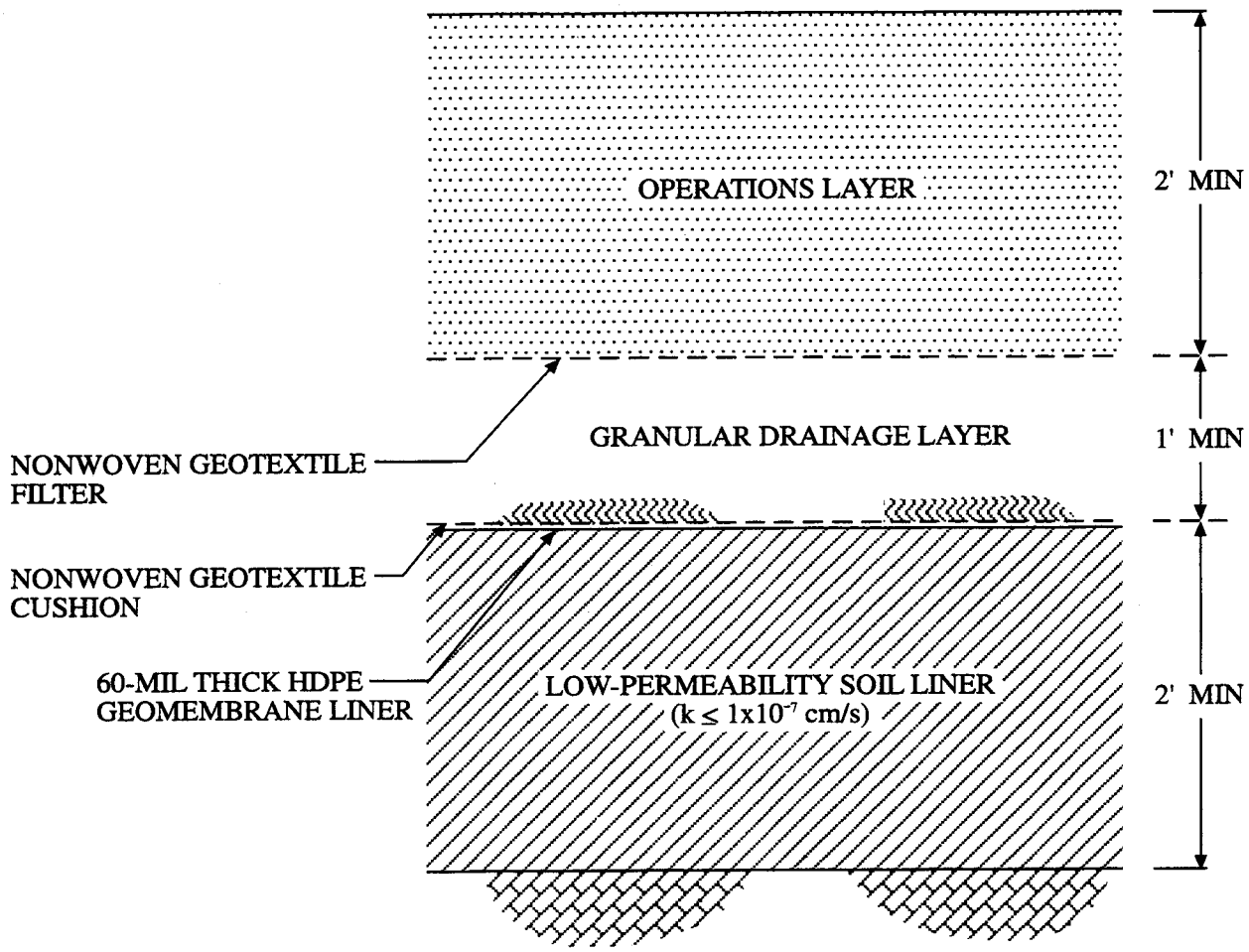
Base liner systems are usually placed on slopes that have gradients of less than ten percent. Base slope gradients may be as low as three percent. Base liner systems may be subjected to high normal loads with little or no static shear stress or post-construction displacement.

Side-slope liner systems are usually placed on slopes with gradients of greater than ten percent. Side-slope liner systems may be placed on slopes with inclinations in excess of 1H:1V (horizontal: vertical). Due to the inclination of the side slope, leachate drains relatively quickly and easily when a drainage layer is provided on top of the liner and it is difficult for measurable amounts of liquid to build-up on the side-slope liner system. Side-slope liner systems are usually subjected to lower normal stresses than base liner systems. However, due to settlement and displacement of waste, the side-slope liner may have to sustain shear stresses and/or relatively large post-construction displacements. On very steep slopes (steeper than 1H:1V), design and construction of these liner systems may present challenges to both the engineer and the contractor.

When an existing landfill that has been closed or is inactive is vertically expanded, a liner system may be required on the existing landfill before new refuse is placed. The liner may be placed directly on refuse. This type of liner system will be referred to herein as a waste-on-waste liner system. Waste-on-waste liner systems may have both side-slope and base components, depending on the existing landfill configuration. Since the existing waste may experience large differential settlements, waste-on-waste liner systems should be designed and constructed to accommodate these settlements while maintaining the integrity of the liner's containment system, including both the barrier layers and the leachate collection system.

Prescriptive Liner System

The minimum standard for Class III landfill liner systems is prescribed by State regulations SWRCB Resolution No. 93-062 and Los Angeles RWQCB Order No. 93-062. This minimum standard is based on the Federal regulations in 40 CFR 258. This minimum standard, called the prescriptive liner system, is comprised of a clay and geomembrane composite liner overlain by a leachate collection layer. The prescriptive liner system, shown in Figure 1, has the following components (from top to bottom): 0.3-m (12-in) thick granular leachate collection system which shall be designed and constructed to maintain less than a 0.3-m (12-in) depth of leachate over the liner; 30-mil (0.75 mm) thick geomembrane liner (60-mil



Source: GeoSyntec Consultants

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Prescriptive Liner System

FIGURE 1

(1.5 mm) thick if the geomembrane liner is made from HDPE); and 0.6-m (2-ft) thick layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/s (low-permeability soil liner).

This prescriptive design is usually used on landfill bases and on side-slopes flatter than 2H:1V provided low-permeability soil is readily available.

Alternative Liner Systems

A liner system that is different than the prescribed liner system may be used if the waste containment capabilities of the alternative liner system's components, in combination, are equal to or exceed the containment capability of the prescriptive design. Such a liner system shall be referred to herein as an alternative liner system. Alternative liner systems are commonly created by replacing one or more soil components of the prescriptive design with geosynthetic materials. For instance, the low-permeability soil liner may be replaced with a geosynthetic clay liner (GCL). Similarly, the 0.3-m (1-ft) thick granular leachate collection layer may be replaced with a geonet drainage layer. These alternative liner systems are popular for use on steeper side-slopes where it is difficult to construct a prescriptive liner system. Alternative liner systems may also be employed where low permeability soil or granular drainage materials are not readily available or are relatively expensive to procure. Examples of typical cross sections of alternative liner systems are shown in Figure 2, Figure 3 and Figure 4. The use of these various alternative liner systems offer several potential benefits when compared to the prescriptive liner system including:

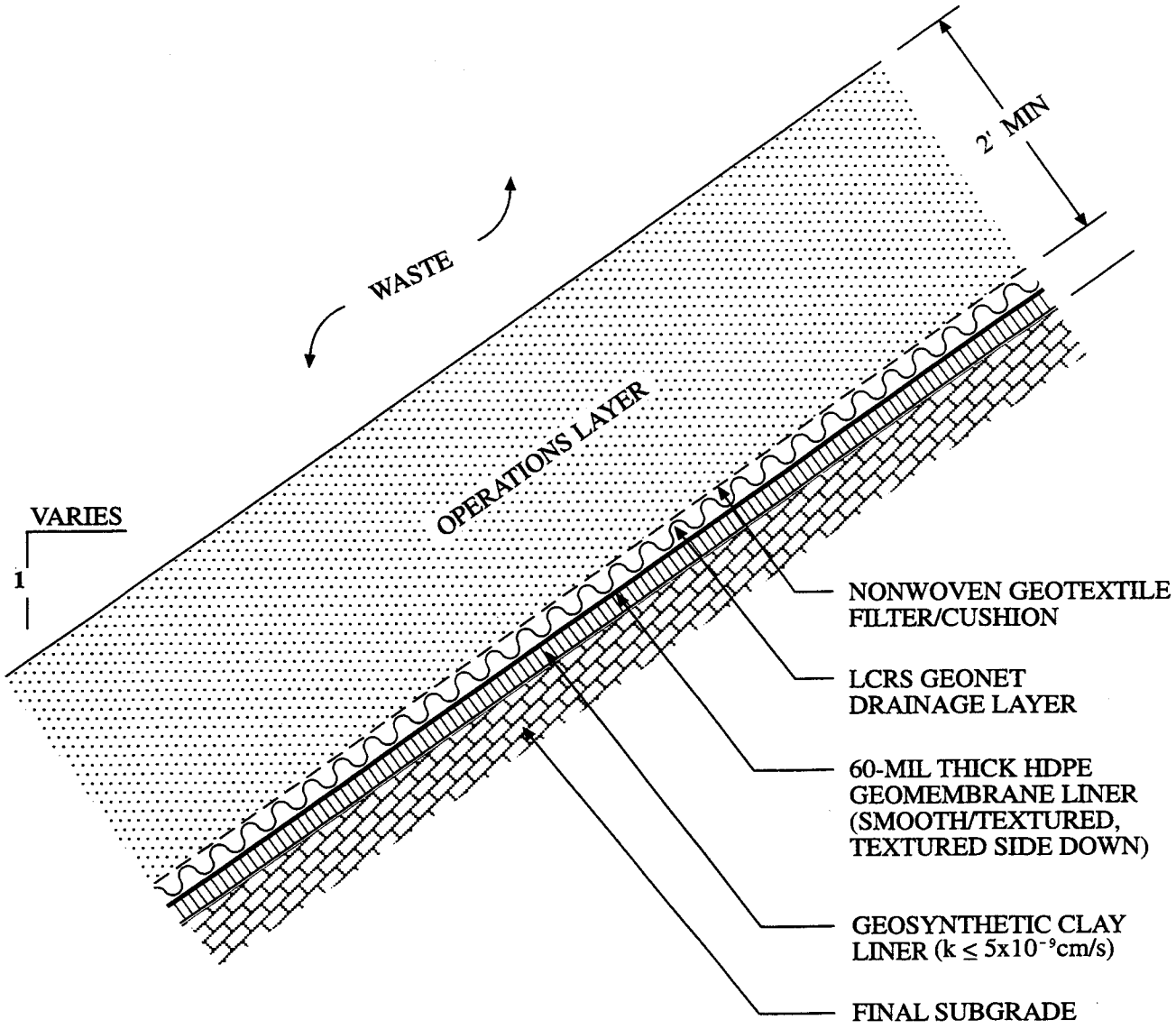
- Superior liquid containment capability of a GCL compared to 0.6 m (2 ft) of clay with a hydraulic conductivity of 1×10^{-7} cm/s; and
- Superior ability of a geonet drainage layer compared to granular soil layers to accommodate large settlements in waste adjacent to the side-slope liner.

Another possible design for an alternative liner system is the double liner. A double liner system is usually comprised of the following (from top to bottom):

- A leachate collection system;
- A primary liner, often consisting of a geomembrane liner;
- A leak detection layer; and
- A secondary liner, often consisting of a composite liner composed of a geomembrane liner underlain by a low-permeability soil liner.

An example of a double liner system is shown in Figure 5. This figure shows a geonet being used for both the leachate collection system and the leak detection layer. These geonet layers may be replaced with granular drainage layers depending on the specific site applications and/or conditions.

If stability is a consideration, some of the double liner system components can be modified in order to increase the shear strength of the interfaces between the components. In Figure 5 the interface shear strengths of the double liner system would increase if the geonet was replaced with a geocomposite in which the drainage element was heat-bonded to geotextiles on both sides and the smooth geomembrane was



Source: GeoSyntec Consultants

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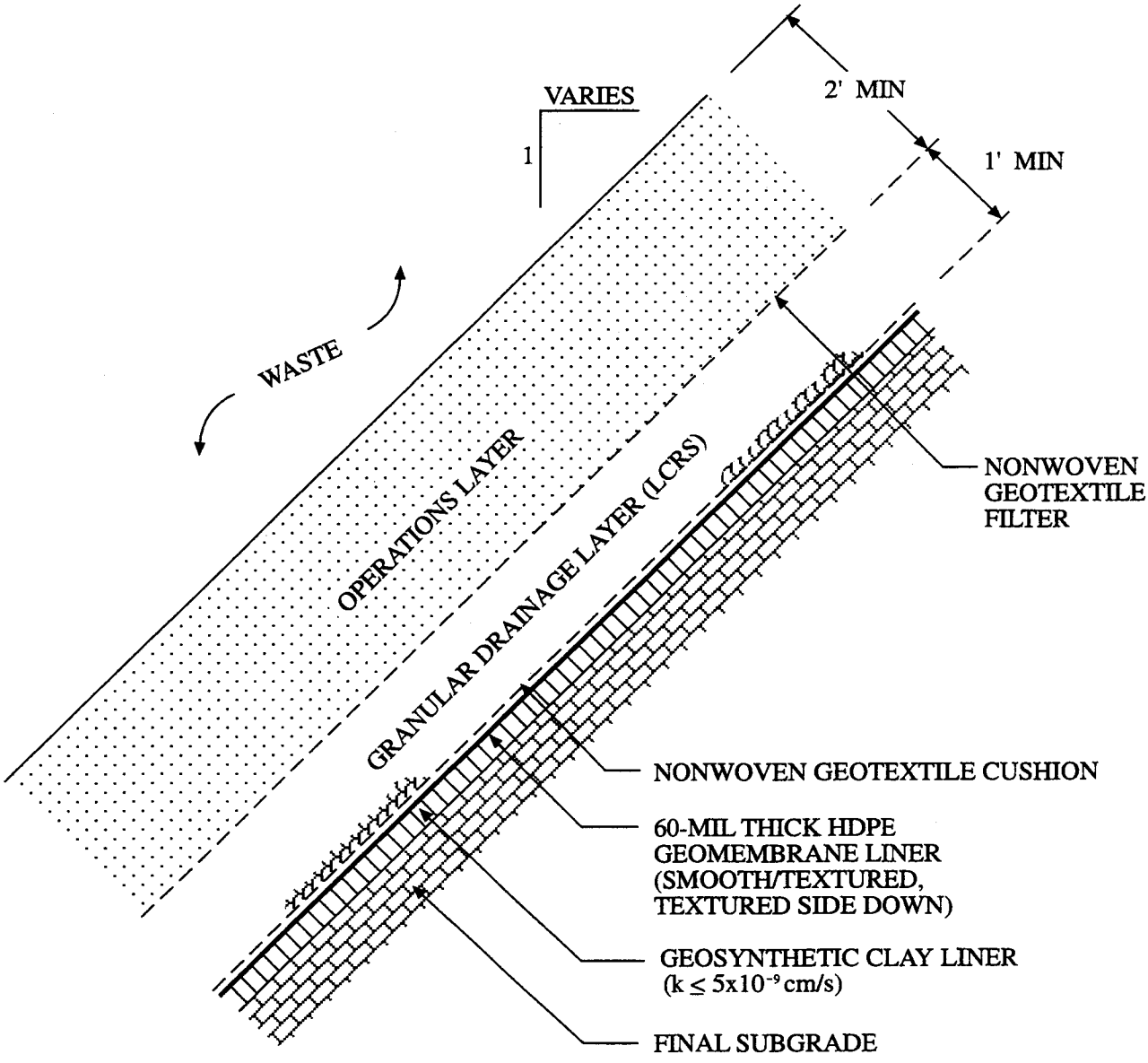
Alternative Liner System (1)
Geonet Drainage Layer and GCL Barrier Layer

FIGURE
2



Source: GeoSyntec Consultants

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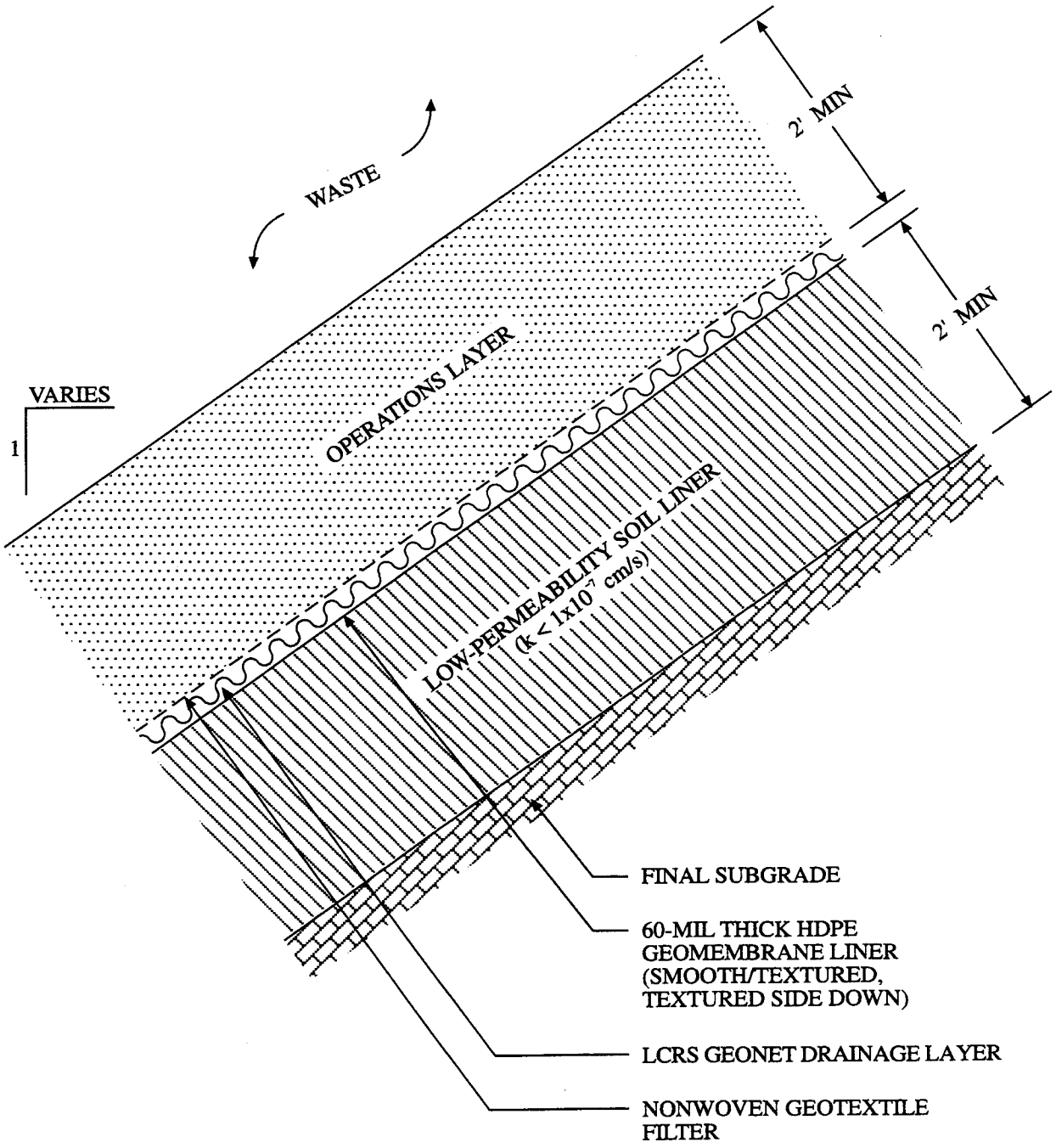
Alternative Liner System (2)
Granular Drainage Layer and GCL Barrier Layer

FIGURE 3



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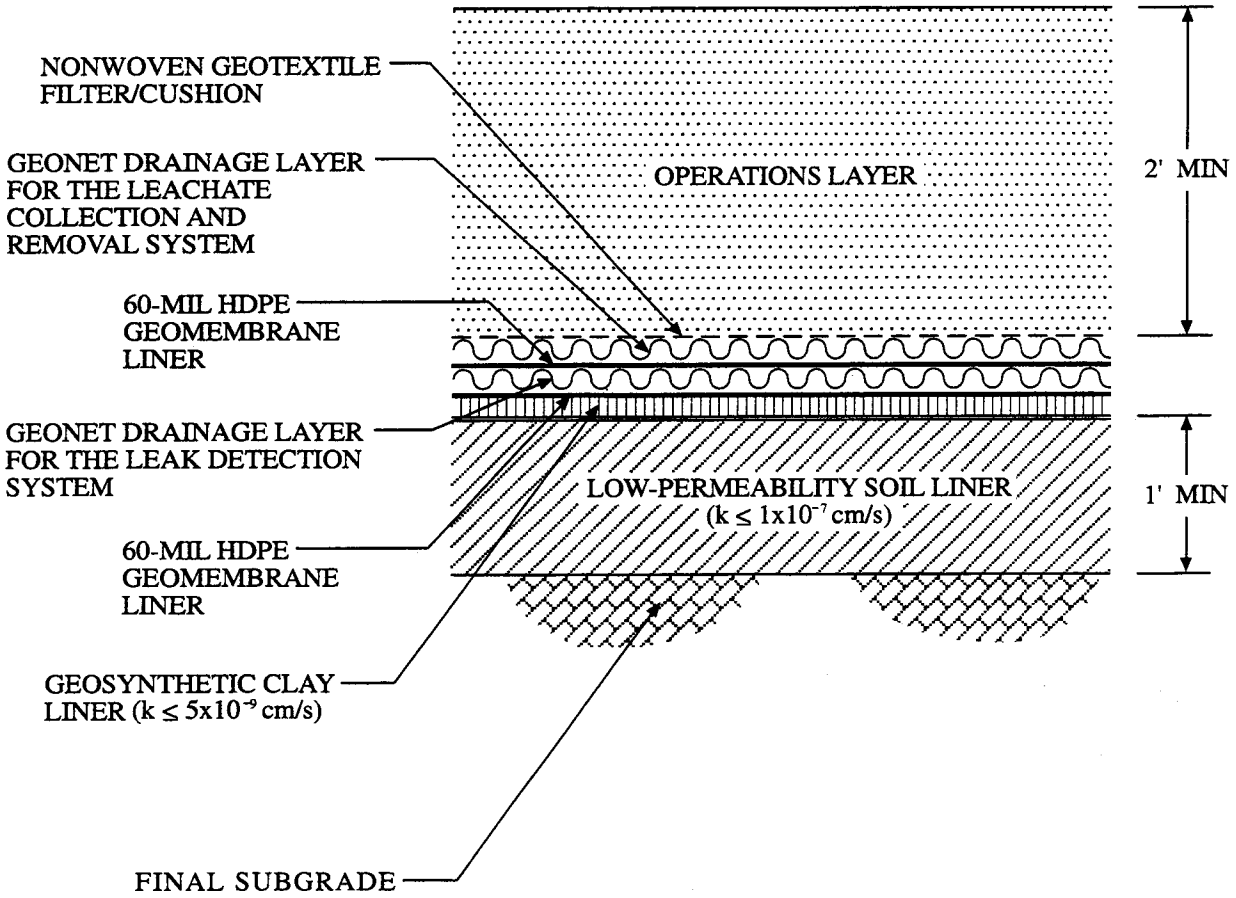
Alternative Liner System (3)
Geonet Drainage Layer and Compacted Clay Liner

FIGURE
4



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Alternative Liner System
Double Liner System

FIGURE 5

replaced with a textured geomembrane. Under some conditions, shear strength could also be increased if the GCL was replaced with a low-permeability soil liner.

Waste-on-Waste Liner Systems

The main concern in design of a waste-on-waste liner system is maintaining the integrity of the containment system when the existing waste settles differentially. There are two approaches to addressing this concern.

The first approach is to minimize the potential for the existing waste to settle differentially. The differential settlement potential of the existing waste can be minimized by compaction of the waste (i.e., deep dynamic compaction or waste surcharge) of the waste.

The second approach is to design the liner system so that its integrity is maintained when the existing waste settles. To accomplish this, the waste-on-waste liner system is typically designed with a reinforced foundation layer placed under the composite liner component. The reinforced layer may be a geogrid or geotextile reinforcing layer or a well compacted layer of buffer soil. Typical sections of waste-on-waste liner systems are shown in Figure 6 and Figure 7.

FINAL COVER SYSTEMS

General

There are five major elements of a final cover system. From top to bottom, the five elements consist of an erosion/surface layer, a protection layer, a drainage layer, a barrier layer and a foundation and/or gas collection layer. Some of the elements may contain multiple components, e.g., a barrier layer may be composed of a geomembrane and a low-permeability compacted soil which placed together form a composite barrier. Separate components may not be needed for all of the five elements as sometimes a single component may serve more than one purpose (e.g., the foundation and gas collection elements may be combined into a single granular soil layer). Many final cover systems may contain just two or three components serving the function of the five elements.

Prescriptive Final Cover System

Based upon the state and federal regulations that require the final cover of a landfill to be less permeable than the liner and considering that the proposed Sunshine Canyon Landfill project will have a geomembrane barrier layer as part of the liner system, the prescriptive final cover for the City/County extension is inferred to consist of (from top to bottom):

- A vegetative layer at least 0.3-m (12-in) thick and of greater thickness than the rooting depth of any vegetation planted on the final cover;
- A geomembrane infiltration barrier;
- A compacted soil barrier layer either not less than 0.45-m (18-in) thick with a maximum hydraulic conductivity of 1×10^{-5} or not less than 0.3-m (12-in) thick with a maximum hydraulic conductivity of 1×10^{-6} cm/s;
- A foundation layer at least 0.6-m (2-ft) thick; and

- A design which provides for the minimum maintenance possible.

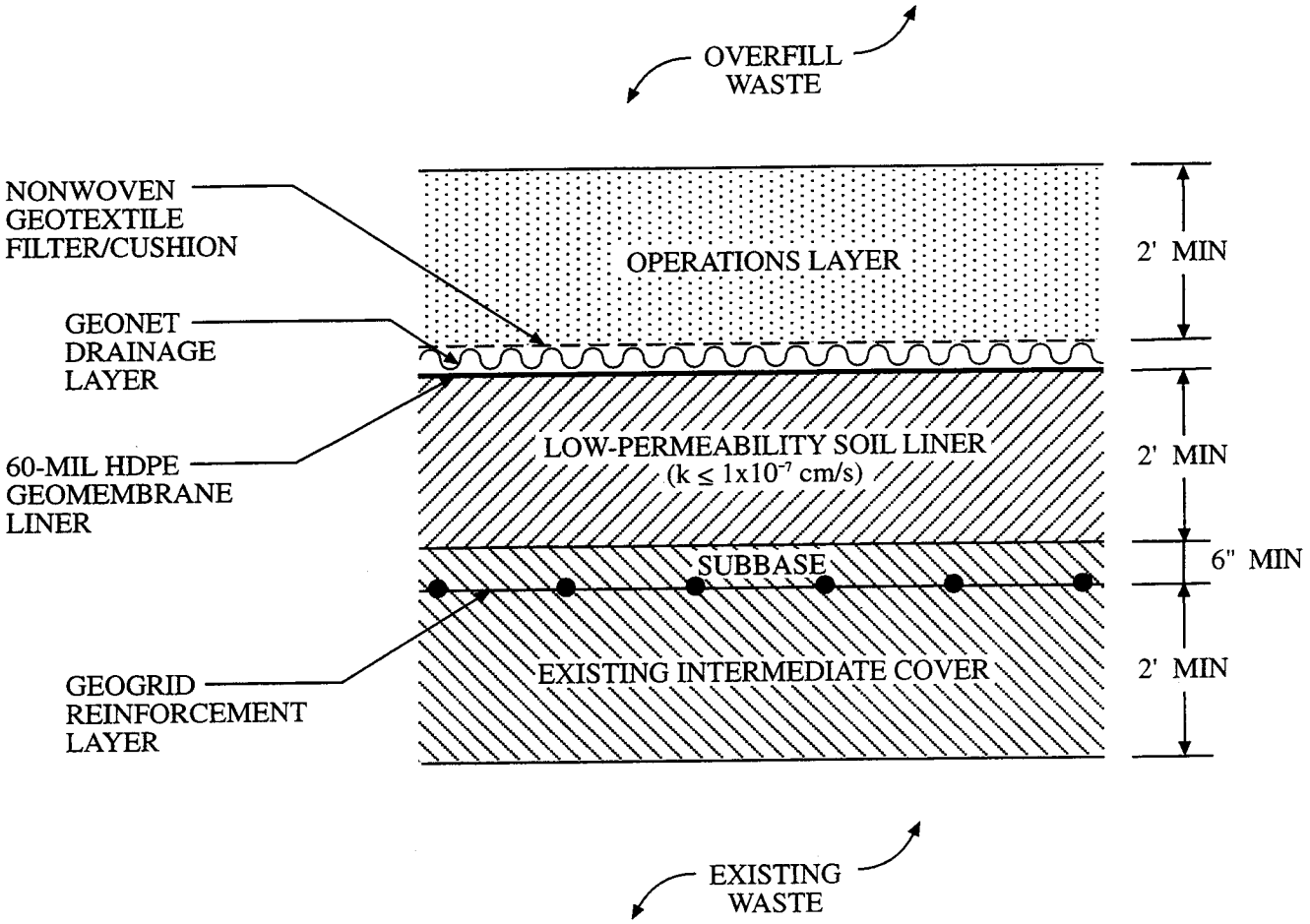
The prescriptive final cover system is shown in Figure 8.

Alternative Final Cover Systems

Both federal and state regulations provide for the design of an alternative to the prescriptive final cover. Federal regulations allow the director of an approved state to approve an alternative design shown to be equivalent or superior to the performance of the prescriptive design with respect to infiltration and wind and water erosion. One possible alternative to the prescriptive final cover is shown in Figure 9. It consists of (from top to bottom) a 0.3-m (12-in) vegetative layer, a geomembrane, a GCL barrier layer and a 0.6-m (2-ft) foundation layer.

Alternative final covers that do not include geomembrane components can be employed by taking advantage of the flux-based performance criteria cited in the Subtitle D commentary. Figure 10 shows one such alternative final cover, a thick monolithic low-permeability soil cover. This type of final cover is typically employed on slopes where it can provide enhanced stability compared to a cover with a geomembrane. The design of this type of cover is based on the climate, the permeability of the monolithic soil layer, the water balance equation and the principal that water head does not build up on a slope.

A second type of all-soil alternative cover that is suitable for use on deck areas as well as side slopes is the capillary break cover shown in Figure 11. The capillary break system consists of a fine-grained soil over a poorly-graded granular material. This type of alternative final cover design is well suited for arid climates. The larger capillary tension forces in the fine-grained material hold the water such that it does not penetrate into the granular material. The final cover is designed based on the water balance equation. One advantage of this type of cover is that the fine grained layer can be a silty material with a higher resistance to desiccation and cracking than typical clayey low permeability barrier materials.



Source: GeoSyntec Consultants

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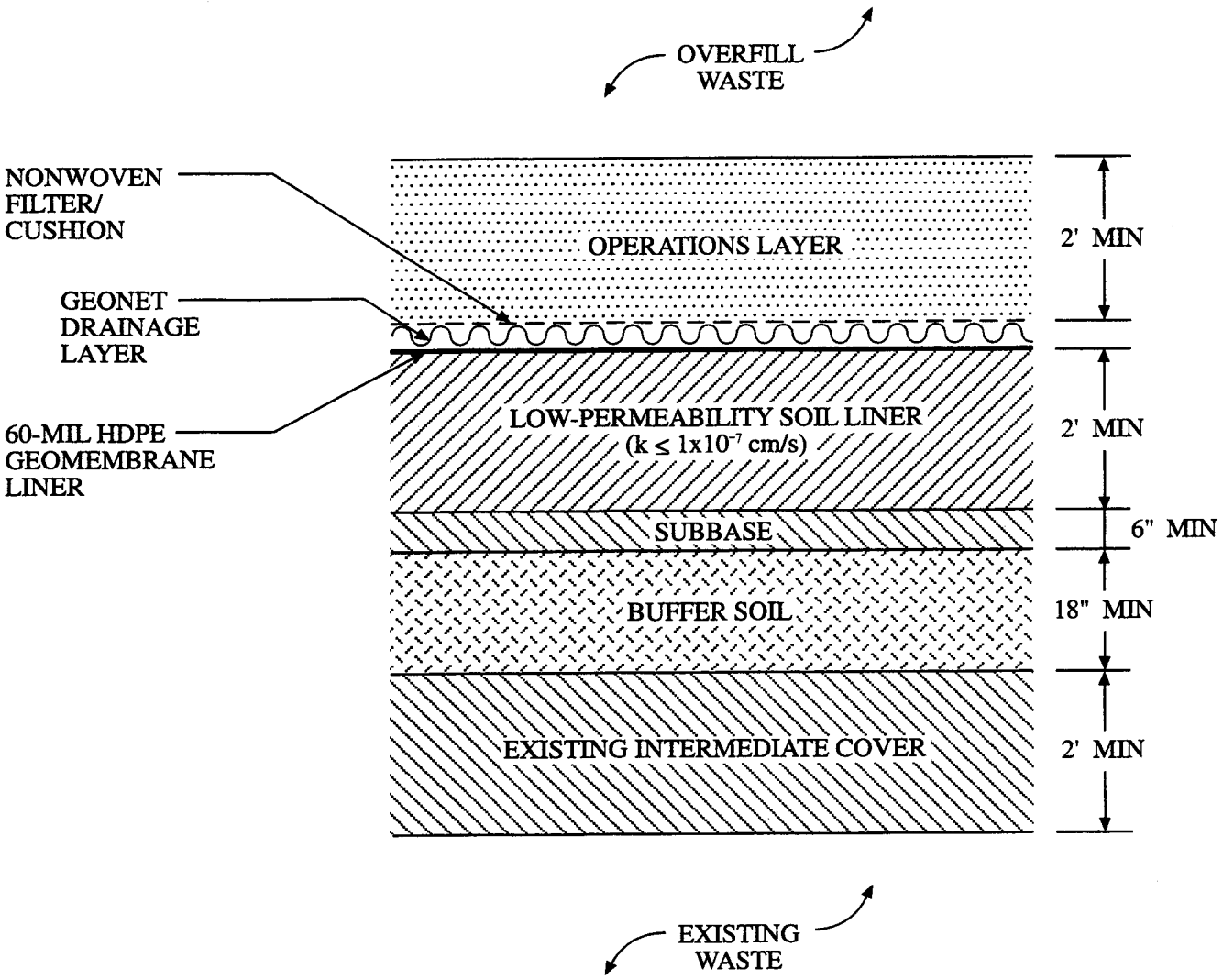
Waste-on-Waste Liner System with Geogrid Reinforcement

FIGURE 6



Source: GeoSyntec Consultants

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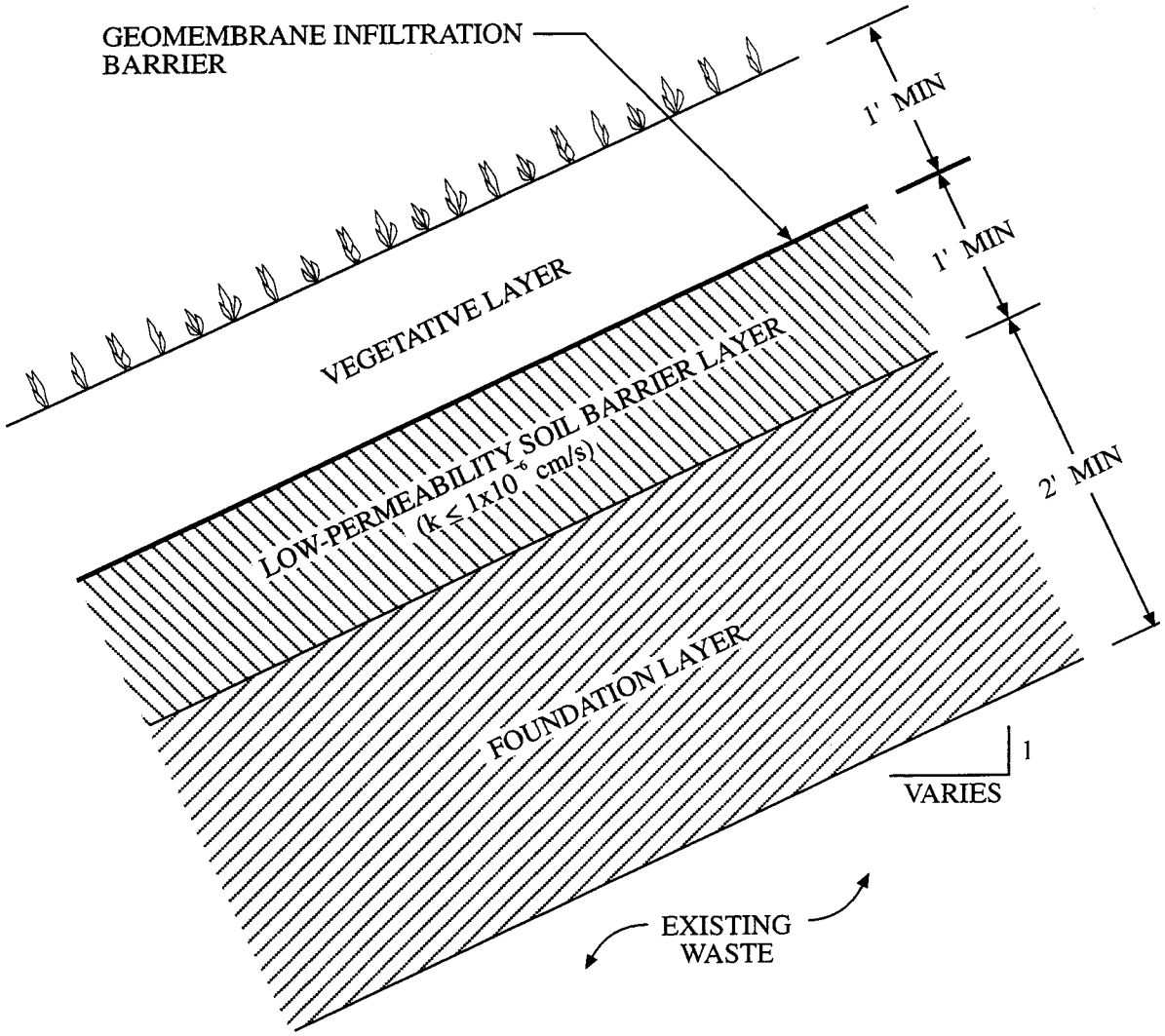
Waste-on-Waste Liner System with Buffer Soil Reinforcement

FIGURE 7



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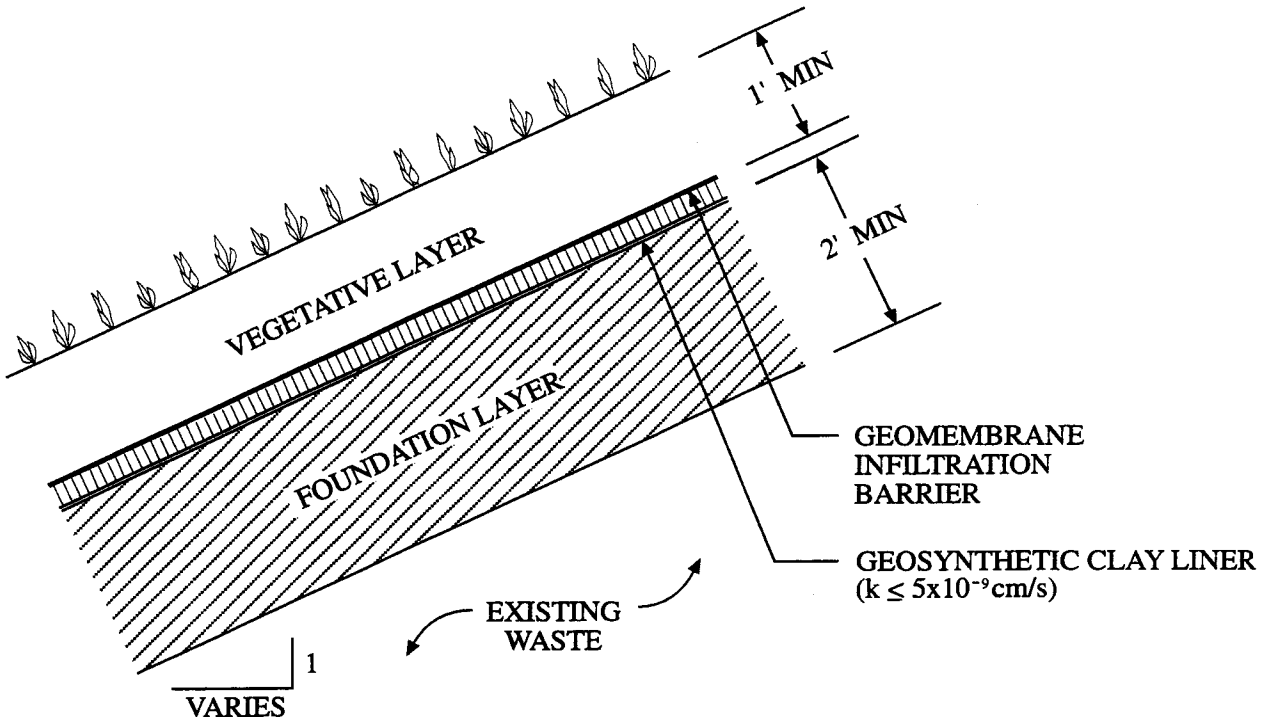
Prescriptive Final Cover System

FIGURE 8



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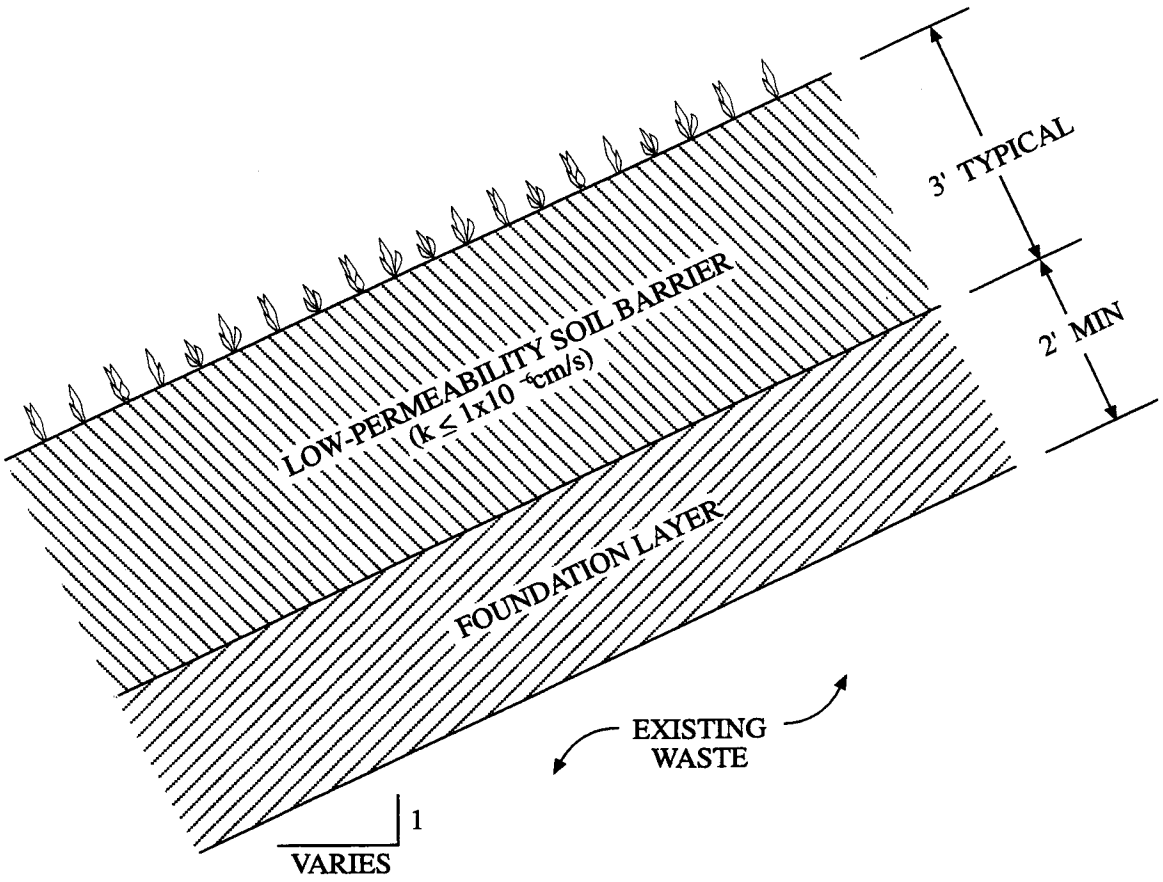
Composite Barrier Layer
Final Cover System

FIGURE
9



Source: GeoSyntec Consultants

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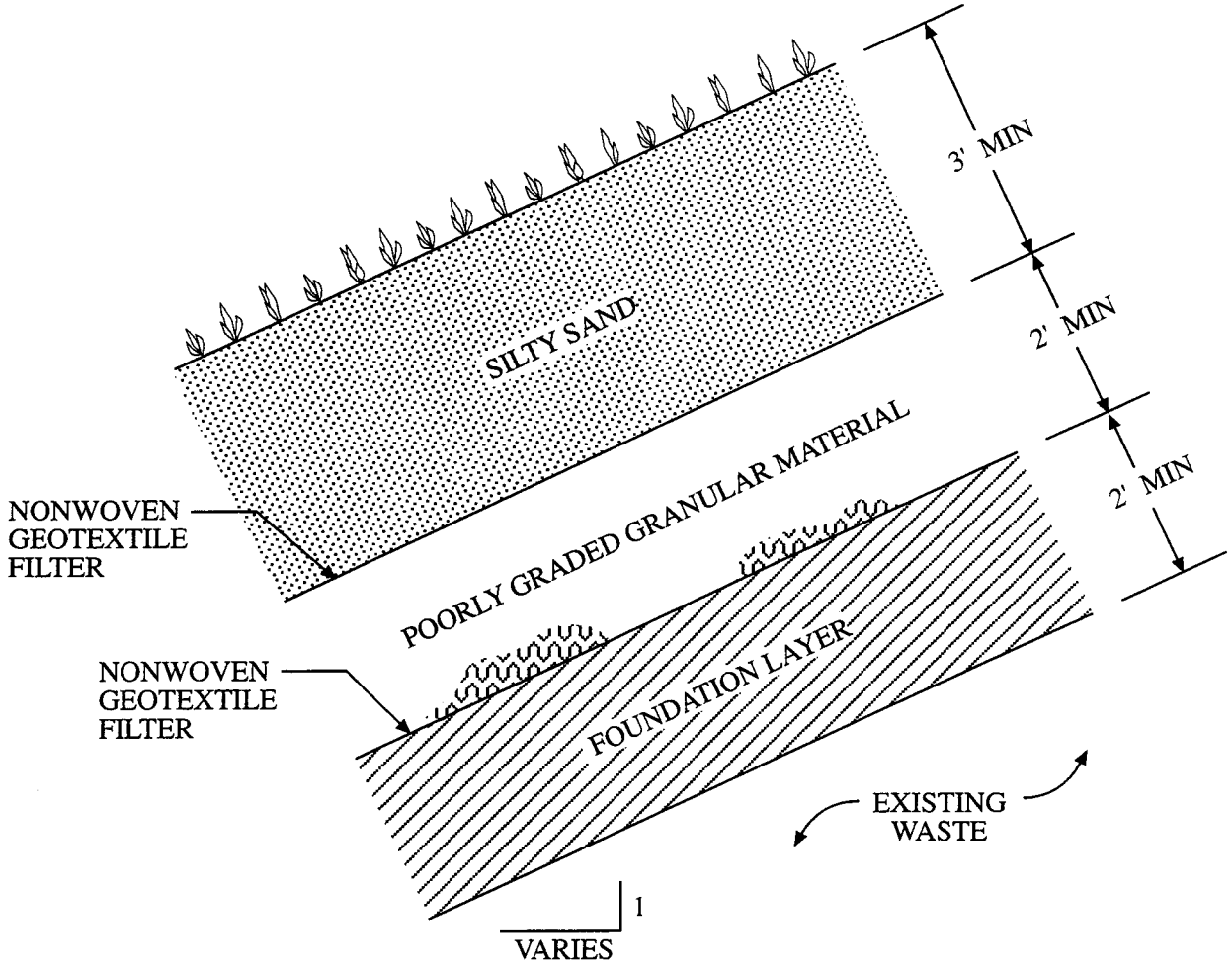
Monolithic Low-Permeability Soil Final Cover System

FIGURE
10



Source: GeoSyntec Consultants

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Capillary Break
Final Cover System

FIGURE
11

Appendix B6
LOW-LEVEL HEALTH RISK ASSESSMENT

SUNSHINE CANYON LANDFILL

LFG Flare Impact Analysis

A dispersion analysis was performed for the landfill gas disposal (LFG) system for the proposed extension of Sunshine Canyon Landfill. These calculations were made using synthetic worst-case input conditions in what is generally called a "screening" mode. If predicted air quality/health impacts are at less than threshold levels for the worst-case assumptions, any less restrictive input parameters would simply create an even greater margin of safety. If impacts are at less than significant levels, no additional analysis is indicated. If the screening level analysis does not predict a clearly acceptable level of impact, then a more sophisticated dispersion analysis is necessary.

Two types of impacts were considered in the dispersion calculations as follows:

1. A screening level health risk assessment for any excess cancer risk from that fraction of toxic air contaminants (TACs) not destroyed in the LFG combustion (flare) process relative to SCAQMD Rule 1401, and,

2. A screening level ambient air quality analysis for criteria air pollutants (those with clean air standards) from the combustion byproducts from the LFG disposal flare.

Calculations were made using the EPA SCREEN2 dispersion model. SCREEN 2 generates peak hourly concentrations from point or area emissions sources incorporating a number of factors such as release geometry, plume buoyancy, terrain, meteorology and release rates. For longer-term impacts such as days or for annual averages, conservative (over-predictive) multiplication factors are used to convert the predicted peak hourly concentrations to extended exposures. The scaling factors from the theoretical worst case one-hour concentration to other exposure times are as follows:

8-hours = 0.7 X Max. 1-hour

24-hours = 0.4 X Max. 1-hour

Annual = 0.1 X Max. 1-hour

Modeling protocols were previously specified in a letter to the SCAQMD dated 12/13/93 entitled "Modeling Protocol in Support of a Health Risk Assessment." Initial screening proposed use of the SCREEN2 model to be supplemented by the BEEST-X model as necessary for a more refined analysis if SCREEN2 results exceeded Rule 1401 thresholds for cancer risks or Rule 1303 (New Source Review) thresholds for criteria air pollutants.

Input parameters for the SCREEN2 model for flare stack emissions are as follows:

LFG Combustion Rate	-	4,400 CFM (max)
Stack Height	-	15.2 m
Stack Diameter	-	3.8 m
Exit Velocity	-	10.0 m/sec
Exhaust Temperature	-	1250°

Toxic Air Contaminants

Toxic air contaminants (TAC) from project flare combustion were estimated by using the measured in-flare exhaust concentration from a source test of the existing flare conducted on August 3, 1995. It was assumed that the TAC loading and destruction efficiencies measured at the existing flare would be comparable to the proposed project.

TAC emissions for the proposed project were only adjusted by a ratio of future maximum throughput for the new flare (4400 CFM) compared to the combustion rate of the existing flare (2048 CFM) on the date of the source test. For each TAC, this is expressed as follows:

$$(TAC)_f = (TAC)_e \times \frac{4400}{2048}$$

where "f" and "e" refer to future and existing (measured) conditions.

Nine (9) carcinogenic TACs were identified in LFG during the August 1995 source test. The observed input and output levels of TACs, and the likely emission rate from the Sunshine Canyon LFG control facility if comparable LFG is generated at the proposed expansion, are shown in Table 1.

Flare combustion byproducts may also contain non-carcinogenic constituents that could have acute (short-term) or chronic (long-term) health impacts. While carcinogenic health risk is expressed in terms of an excess individual probability of cancer, acute and chronic health impacts are expressed as a ratio of the ambient level to the level identified as the "Non-Cancer Reference Exposure Level" by the Toxics Committee of the California Air Pollution Control Officers Association (CAPCOA). This ratio is called a "hazard index." The additional flare exhaust non-cancer TACs are as follows:

Benzyl Chloride	-	<4.19 lb/year
Chlorobenzene	-	<1.86 lb/year
Methyl Chloroform	-	7.53 lb/year
Toluene	-	15.33 lb/year
Xylene	-	7.86 lb/year

Assuming that all health risk from flare exhaust TACs is from respiratory intake, Table 2 shows the possible modes of action of the Sunshine Canyon flare TACs.

The SCREEN2 model does not deal well with complex terrain. If one presumes that the terrain is flat, maximum predicted impacts result solely from downward dispersion of an exhaust plume. If one presumes that the plume does not bend from its flat trajectory when it encounters higher terrain at the height of final plume rise, the plume centerline will impact the terrain with maximum concentration. In reality, terrain is neither flat, nor does the plume smash directly into a hill. Actual plume behavior is a hybrid of these two extremes. Because the direct impaction is the worst-case, flare exhaust was assumed to initially behave as a "flat terrain" plume, and then as an "impingement" maximum impact plume by the time it reaches the closest receptor population.

TABLE 1

ANNUAL CARCINOGENIC TAC EMISSIONS FROM THE SUNSHINE CANYON FLARE EXHAUST (lb/year)

	Existing		Project
Pollutant	Inlet Rate*	Outlet Rate*	Outlet Rate**
Benzene	311.8	1.72	3.69
Carbon Tetrachloride	< 1.7	<0.51	< 1.10
Chloroform	< 2.0	1.49	3.20
Dichlorobenzene	963.6	<5.33	<11.45
Ethylene Dichloride	15.3	<0.65	< 1.40
Methylene Chloride	211.1	5.10	10.96
Perchloroethylene	1787.0	0.94	2.02
Trichloroethylene	307.5	16.21	34.83
Vinyl Chloride	400.3	<1.03	<2.21

* = 2048 CFM of landfill gas at existing flare

** = 4400 CFM of landfill gas at future (project) flare

TABLE 2

TOXIC AIR CONTAMINANTS INCLUDED IN THE HEALTH RISK ASSESSMENT

Substance	HEALTH IMPACT		
	Carcinogenic	Noncarcinogenic	
		Chronic	Acute
Benzene	X	X	
Benzyl Chloride		X	X
Carbon Tetrachloride	X	X	X
Chlorobenzene		X	
Chloroform	X	X	
Dichlorobenzene	X	X	
Ethylene Dichloride	X	X	
Methyl Chloroform		X	X
Methylene Chloride	X	X	X
Perchloroethylene	X	X	X
Toluene		X	
Trichloroethylene	X	X	
Vinyl Chloride	X	X	
Xylenes		X	X

Figure 1 shows the downwind concentration patterns for a flat terrain and a zero plume rise (plume impingement) assumption. Figure 1 also shows the hybrid concentration between the two extreme dispersion assumptions. The maximum concentration at the theoretical maximum exposed individual is 0.02138 $\mu g/m^3$ for 0.001 gram/second of flare emissions.

Chronic exposure was assumed to be 10 percent of the hourly maximum. The individual cancer risk or hazard index was calculated by taking a ratio of the emission rate of each TAC to the reference rate of 0.001 gram/second multiplied by the worst-case concentration. The total cancer risk or hazard index was created by a sum of all individual risks or indexes.

Results of the individual cancer risk is shown in Table 3. The maximum individual cancer risk is 0.0182 in a million compared to an insignificance threshold of one in a million. The cancer risk to the maximum exposed individual is well below any level of concern using conservative input assumptions. With less restrictive (more real) input assumptions, the level of concern is likely even less.

Table 4 shows the same analysis relative to any chronic health risk using the hazard index. The chronic health risk is 0.0000409 compared to a significance level of 0.5. The chronic health risk under conservative impact assumptions is 0.001 percent of the significance threshold.

Acute health risks are seen in Table 5 to be similarly less than significant. A hazard index of 0.5 would be potentially significant. The flare emissions impact is 0.0000292 under conservative (maximum impact) assumptions. Acute health risks are clearly less than significant.

Criteria Pollutant Impacts

Emissions of pollutants with clean air standards were estimated using LFG flare emission factors measured from the 2048 CFM flare and scaled to a 4400 CFM project flare. Between the source and receiver, it was estimated that the conversion rate of NO_x to NO_2 was 50 percent within the first 2 km. of travel. Table 6 shows the results of the SCREEN2 impact assessment compared to the SCAQMD de minimis thresholds in Rule 1303. All pollutants have a less than significant impact when conservative (over-predictive) assumptions

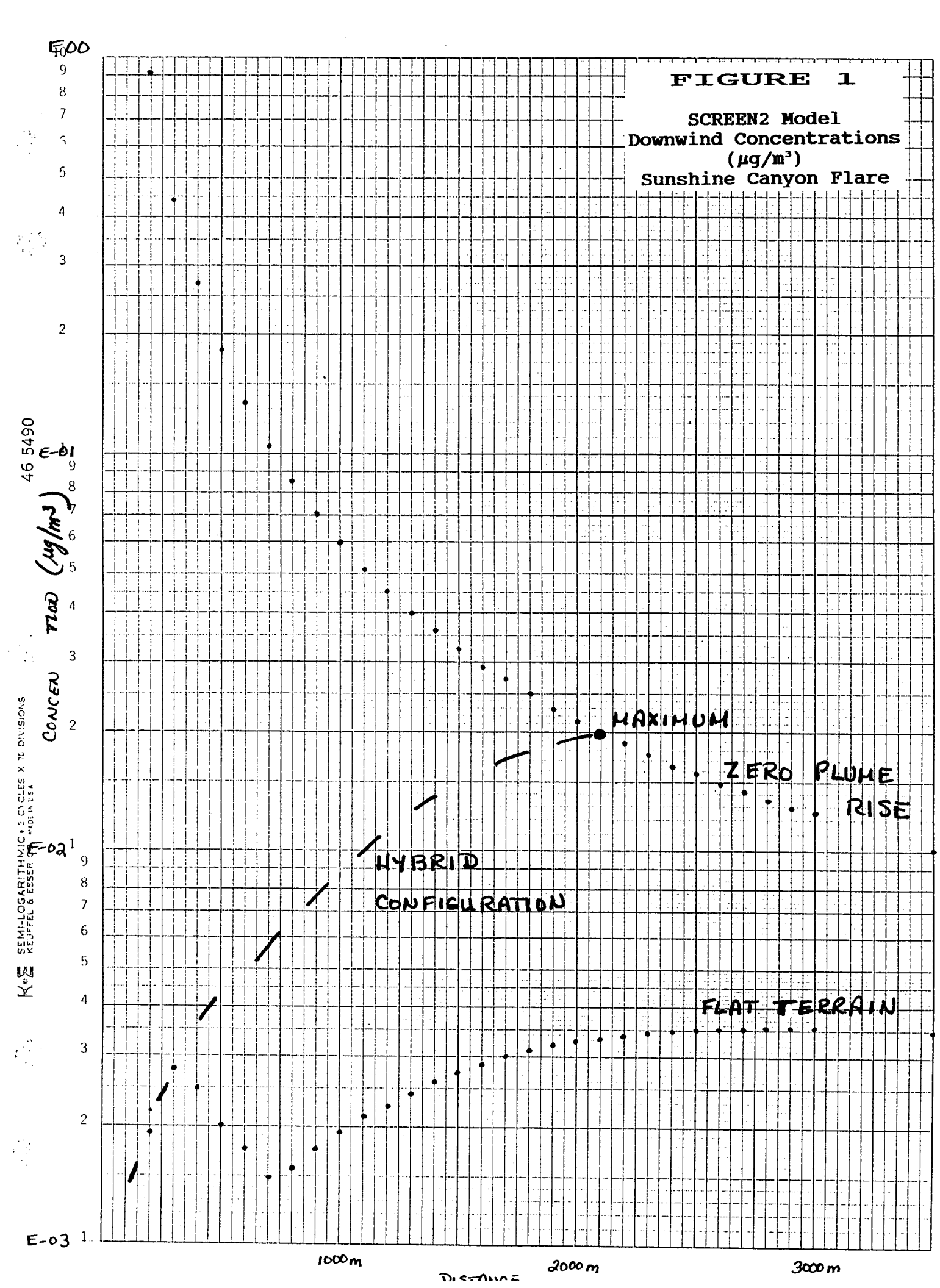
FIGURE 1
SCREEN2 Model
Downwind Concentrations
(µg/m³)
Sunshine Canyon Flare
MAXIMUM
ZERO PLUME
RISE
HYBRID
CONFIGURATION
FLAT TERRAIN
CONCEN (µg/m³)
DISTANCE
1000m
2000m
3000m
E-01
E-02
E-03
46 5490
SEMI-LOGARITHMIC • 5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

TABLE 3

SUNSHINE CANYON FLARE SCREENING LEVEL
HEALTH RISK ASSESSMENT
(Individual Cancer Risk)

Pollutant	EMFAC ($\mu g/sec$)	Conc. ($\mu g/m^3$)	Unit Risk* $(\mu g/m^3)^{-1}$	Risk (per 10^{-9})
Benzene	53.0	113.4E-6	2.90E-5	3.29
Carbon Tetrachloride	15.8	33.6E-6	4.20E-5	1.41
Chloroform	46.0	98.1E-6	0.53E-5	0.52
Dichlorobenzene	164.6	351.9E-6	1.10E-5	3.87
Ethylene Dichloride	20.1	42.8E-6	2.20E-5	0.94
Methylene Chloride	157.5	336.8E-6	0.10E-5	0.34
Perchloroethylene	29.0	62.1E-6	0.59E-5	0.37
Trichloroethylene	500.6	1070.7E-6	0.20E-5	2.14
Vinyl Chloride	31.8	67.9E-6	7.80E-5	5.30

RISK TOTAL = 18.2×10^{-9}

* - CAPCOA Revised 1992 Risk Assessment Guidelines (10/93), Table III-6.

TABLE 4

SUNSHINE CANYON FLARE

CHRONIC EMISSIONS HEALTH RISK INDEX

TAC	Reference Exposure Level ($\mu g/m^3$)	Project Impact ($\mu g/m^3$)	Hazard Index (E-6)
Benzene	71	113.4E-6	1.60
Benzyl Chloride	12	128.8E-6	10.73
Carbon Tetrachloride	2.4	33.6E-6	14.00
Chlorobenzene	70	56.2E-6	0.80
Chloroform	35	98.1E-6	2.80
Dichlorobenzene	700	351.9E-6	0.50
Ethylene Dichloride	95	42.8E-6	0.45
Methyl Chloroform	320	231.4E-6	0.72
Methylene Chloride	3000	336.8E-6	0.11
Perchloroethylene	35	62.1E-6	1.77
Toluene	200	471.1E-6	2.36
Trichloroethylene	640	1070.7E-6	1.67
Vinyl Chloride	26	67.9E-6	2.61
Xylenes	300	241.6E-6	0.81
		TOTAL INDEX	40.9E-6

TABLE 5

SUNSHINE CANYON FLARE
Acute Health Risk Index

TAC	Reference Exposure Level ($\mu g/m^3$)	Project Impact* ($\mu g/m^3$)	Hazard Index (E-6)
Benzyl Chloride	50	1288E-6	25.8
Carbon Tetrachloride	190	336E-6	1.8
Methyl Chloroform	190,000	2314E-6	<0.1
Methylene Chloride	3500	3368E-6	1.0
Perchloroethylene	6800	621E-6	0.1
Xylene	4400	2416E-6	0.5
		TOTAL INDEX =	29.2E-6

* - 1-Hour Maximum

TABLE 6

SUNSHINE CANYON FLARE
CRITERIA POLLUTANT IMPACT

Pollutant	EMFAC (lb/hour)	1-Hour Impact ($\mu g/sec$)	Rule 1303 Threshold ($\mu g/m^3$)
CO	4.53	12.2	500
NO_2	7.73	10.4*	20
PM-10	0.17	0.2**	2.5
SO_2	2.30	6.2	***

* = assuming NO_2 = 0.5 X NO_x within 2 km of source

** = assuming 24-hour PM-10 = 0.4 X max 1-hour

*** = no threshold criterion

are used. Any less conservative (more realistic) assumptions would create an even greater margin of safety between ambient impacts and significance thresholds. Flaring of LFG, both in terms of TACs and criteria air pollutants, will have a less than significant air quality impact.

APPENDIX

SCREEN2 Model Output

Sunshine Canyon Flare = No Terrain

No Plume Rise = Direct Terrain Impact

06/22/95
09:23:54

*** SCREEN2 MODEL RUN ***
VERSION DATED 92245 ***

SUNSHINE CANYON FLARE

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.100000E-02
STACK HEIGHT (M)	=	15.2000
STK INSIDE DIAM (M)	=	3.8000
STK EXIT VELOCITY (M/S)	=	10.0000
STK GAS EXIT TEMP (K)	=	1256.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	URBAN
BUILDING HEIGHT (M)	=	.0000
MIN HORIZ BLDG DIM (M)	=	.0000
MAX HORIZ BLDG DIM (M)	=	.0000

BUOY. FLUX = 271.421 M**4/S**3; MOM. FLUX = 84.214 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
* **********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
100.	.1056E-03	6	1.0	1.1	10000.0	168.34	45.07	44.39	NO
200.	.1897E-02	4	20.0	22.2	6400.0	57.52	31.13	27.58	NO
300.	.2834E-02	4	20.0	22.2	6400.0	57.52	45.75	40.67	NO
400.	.2511E-02	4	20.0	22.2	6400.0	57.52	59.86	53.41	NO
500.	.2042E-02	4	15.0	16.7	4800.0	75.42	73.88	66.23	NO
600.	.1761E-02	4	15.0	16.7	4800.0	75.42	87.13	78.35	NO
700.	.1494E-02	4	15.0	16.7	4800.0	75.42	99.98	90.19	NO
800.	.1561E-02	6	4.0	4.5	10000.0	111.68	81.40	51.20	NO
900.	.1767E-02	6	3.5	4.0	10000.0	116.07	89.65	55.10	NO
1000.	.1953E-02	6	3.0	3.4	10000.0	121.38	97.79	59.00	NO
1100.	.2129E-02	6	2.5	2.8	10000.0	128.04	105.86	62.94	NO
1200.	.2297E-02	6	2.0	2.3	10000.0	136.75	113.93	67.06	NO
1300.	.2457E-02	6	1.5	1.7	10000.0	148.98	122.12	71.61	NO
1400.	.2604E-02	6	1.5	1.7	10000.0	148.98	129.09	74.21	NO
1500.	.2746E-02	6	1.0	1.1	10000.0	168.34	137.59	79.66	NO
1600.	.2892E-02	6	1.0	1.1	10000.0	168.34	144.23	82.06	NO
1700.	.3019E-02	6	1.0	1.1	10000.0	168.34	150.76	84.41	NO
1800.	.3129E-02	6	1.0	1.1	10000.0	168.34	157.19	86.71	NO
`00.	.3222E-02	6	1.0	1.1	10000.0	168.34	163.50	88.97	NO
00.	.3300E-02	6	1.0	1.1	10000.0	168.34	169.72	91.18	NO
2100.	.3365E-02	6	1.0	1.1	10000.0	168.34	175.83	93.36	NO
2200.	.3418E-02	6	1.0	1.1	10000.0	168.34	181.84	95.49	NO
2300.	.3460E-02	6	1.0	1.1	10000.0	168.34	187.76	97.58	NO
2400.	.3493E-02	6	1.0	1.1	10000.0	168.34	193.58	99.64	NO

2500.	.3517E-02	6	1.0	1.1	10000.0	168.34	199.32	101.66	NO
2600.	.3534E-02	6	1.0	1.1	10000.0	168.34	204.96	103.65	NO
2700.	.3544E-02	6	1.0	1.1	10000.0	168.34	210.53	105.61	NO
2800.	.3549E-02	6	1.0	1.1	10000.0	168.34	216.01	107.54	NO
2900.	.3549E-02	6	1.0	1.1	10000.0	168.34	221.42	109.43	NO
3000.	.3544E-02	6	1.0	1.1	10000.0	168.34	226.75	111.30	NO
3500.	.3472E-02	6	1.0	1.1	10000.0	168.34	252.34	120.24	NO
4000.	.3354E-02	6	1.0	1.1	10000.0	168.34	276.36	128.62	NO
4500.	.3215E-02	6	1.0	1.1	10000.0	168.34	299.04	136.52	NO
5000.	.3071E-02	6	1.0	1.1	10000.0	168.34	320.54	144.01	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 100. M:

2842.	.3549E-02	6	1.0	1.1	10000.0	168.34	218.24	108.32	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.3549E-02	2842.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

06/22/95
10:19:23

*** SCREEN2 MODEL RUN ***
*** VERSION DATED 92245 ***

NO PLUME RISE

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.100000E-02
STACK HEIGHT (M)	=	15.2000
STK INSIDE DIAM (M)	=	3.8000
STK EXIT VELOCITY (M/S)	=	.0000
STK GAS EXIT TEMP (K)	=	293.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	URBAN
BUILDING HEIGHT (M)	=	.0000
MIN HORIZ BLDG DIM (M)	=	.0000
MAX HORIZ BLDG DIM (M)	=	.0000

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
100.	3.064	5	1.0	1.1	10000.0	3.80	10.79	7.46	NO
200.	.9110	5	1.0	1.1	10000.0	3.80	21.17	14.03	NO
300.	.4436	5	1.0	1.1	10000.0	3.80	31.18	19.93	NO
400.	.2686	5	1.0	1.1	10000.0	3.80	40.85	25.30	NO
500.	.1835	5	1.0	1.1	10000.0	3.80	50.21	30.24	NO
600.	.1352	5	1.0	1.1	10000.0	3.80	59.27	34.82	NO
700.	.1050	5	1.0	1.1	10000.0	3.80	68.06	39.11	NO
800.	.8462E-01	5	1.0	1.1	10000.0	3.80	76.59	43.15	NO
900.	.7018E-01	5	1.0	1.1	10000.0	3.80	84.89	46.97	NO
1000.	.5951E-01	5	1.0	1.1	10000.0	3.80	92.97	50.60	NO
1100.	.5138E-01	5	1.0	1.1	10000.0	3.80	100.83	54.06	NO
1200.	.4500E-01	5	1.0	1.1	10000.0	3.80	108.50	57.37	NO
1300.	.3989E-01	5	1.0	1.1	10000.0	3.80	115.99	60.55	NO
1400.	.3573E-01	5	1.0	1.1	10000.0	3.80	123.30	63.61	NO
1500.	.3228E-01	5	1.0	1.1	10000.0	3.80	130.44	66.56	NO
1600.	.2938E-01	5	1.0	1.1	10000.0	3.80	137.43	69.42	NO
1700.	.2692E-01	5	1.0	1.1	10000.0	3.80	144.27	72.18	NO
1800.	.2481E-01	5	1.0	1.1	10000.0	3.80	150.97	74.86	NO
[illegible]00.	.2298E-01	5	1.0	1.1	10000.0	3.80	157.54	77.47	NO
[illegible]0.	.2138E-01	5	1.0	1.1	10000.0	3.80	163.98	80.00	NO
2100.	.1997E-01	5	1.0	1.1	10000.0	3.80	170.30	82.47	NO
2200.	.1872E-01	5	1.0	1.1	10000.0	3.80	176.50	84.87	NO
2300.	.1761E-01	5	1.0	1.1	10000.0	3.80	182.59	87.22	NO
2400.	.1662E-01	5	1.0	1.1	10000.0	3.80	188.57	89.52	NO

2500.	.1572E-01	5	1.0	1.1	10000.0	3.80	194.45	91.77	NO
2600.	.1491E-01	5	1.0	1.1	10000.0	3.80	200.24	93.96	NO
2700.	.1417E-01	5	1.0	1.1	10000.0	3.80	205.93	96.12	NO
2800.	.1350E-01	5	1.0	1.1	10000.0	3.80	211.54	98.23	NO
2900.	.1289E-01	5	1.0	1.1	10000.0	3.80	217.05	100.30	NO
3000.	.1232E-01	5	1.0	1.1	10000.0	3.80	222.49	102.34	NO
3500.	.1008E-01	5	1.0	1.1	10000.0	3.80	248.52	112.00	NO
4000.	.8502E-02	5	1.0	1.1	10000.0	3.80	272.88	120.95	NO
4500.	.7336E-02	5	1.0	1.1	10000.0	3.80	295.82	129.32	NO
5000.	.6441E-02	5	1.0	1.1	10000.0	3.80	317.54	137.20	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 100. M:

100.	3.064	5	1.0	1.1	10000.0	3.80	10.79	7.46	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	3.064	100.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Appendix B7
NOISE MODELING

NOISE MODEL VERIFICATION

Microcomputer version of FHWA noise model
(Using Calveno emmisions formulas)
INPUT FILE

1. Input units = (E)nglish or (M)etric ? E
2. Input number of elements this run ? 1
3. Input number of traffic lanes/element ? 2
4. Input first element # and lane # description (30 char. max.)
   ? SOUTHBOUND AT SITE
5. Roadway angle, left ? -90
6. Roadway angle, right ? 90
7. Dropoff rate hard site=0 soft site=0.5 ? 0.5
8. Shielding due to trees or buildings (Neg dBA value) ? 0
9. (N)o barrier (W)all, (B)erm ? N
10. Volumes:
    Autos ? 360
    Medium trucks ? 12
    Heavy trucks ? 6
11. Speed (all vehicles) ? 45
12. Distance to center of near lane >50 Ft. (15 M) ? 50
13. Grade correction:
    0 - 2 % = +0 dBA
    3 - 4 % = +2 dBA
    5 - 6 % = +3 dBA
    7+ % = +5 dBA
    Input ? 0

Calveno emissions

Lane #/Road segment	SOUTHBOUND AT SITE		
Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	360	12	6
Speed (MPH)	45	45	45
Dist. to ctr. of near lane	50	50	50
Site/Barrier Type	Soft	Soft	Soft
Roadway Angle, (Left)	-90.0	-90.0	-90.0
Roadway Angle, (Right)	+90.0	+90.0	+90.0
Ref. energy emiss. level (dBA)	69.4	77.6	82.1
Traffic flow adj. (dBA)	18.7	4.0	0.9
Distance adj. (dBA)	-0.1	-0.1	-0.1
Ground effect adj. (dBA)	-1.2	-1.2	-1.2
Barrier fresnel #	0	0	0
Barrier attenuation (dBA)	0	0	0
Shielding + Grade Adj.(dBA)	0	0	0
Leq(h)(dBA)/Veh type	61.8	55.3	56.8
Leq(Σ h)(dBA) Tot. this run	64		

Leq(Σ Lanes/element) 64

```
Input same element # and next lane # description (30 char. max.)
   ?NORTHBOUND AT SITE
9.  (N)o barrier (W)all, (B)erm ?                                   N
10. Volumes:
        Autos              ?                                        228
        Medium trucks      ?                                        18
        Heavy trucks       ?                                        0
11. Speed (all vehicles) ?                                          45
12. Distance to center of near lane >50 Ft. (15 M) ?                70
13. Grade correction:
       0 - 2 % = +0 dBA
       3 - 4 % = +2 dBA
       5 - 6 % = +3 dBA
       7+ %    = +5 dBA
                          Input ?                                   0
```

Calveno emissions

Lane #/Road segment	NORTHBOUND AT SITE		
Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	228	18	0
Speed (MPH)	45	45	27.95031
Dist. to ctr. of near lane	70	70	70
Site/Barrier Type	Soft	Soft	Soft
Roadway Angle, (Left)	-90.0	-90.0	-90.0
Roadway Angle, (Right)	+90.0	+90.0	+90.0
Ref. energy emiss. level (dBA)	69.4	77.6	82.1
Traffic flow adj. (dBA)	16.7	5.7	0.9
Distance adj. (dBA)	-2.3	-2.3	-2.3
Ground effect adj. (dBA)	-1.2	-1.2	-1.2
Barrier fresnel #	0	0	0
Barrier attenuation (dBA)	0	0	0
Shielding + Grade Adj.(dBA)	0	0	0
Leq(h)(dBA)/Veh type	57.6	54.8	56.8
Leq(Σ h)(dBA) Tot. this run	59		
Leq(Σ Lanes/element)	65		
Leq(Σ elements)	65		

NOISE MODEL RUNS EXISTING ADT NOISE LEVELS

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
YARNELL I-210 TO NORTH RAMP___
Roadway angle, left? -90 _____ Roadway angle, right? 90 _____
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : 7:00am - 8:00am Daily Traffic : 3210 _
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15 _
Autos? 236 .95 _ Medium? 7 .03 _ Heavy? 5 .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ? 50 __
Grade correction: 0_____

0 - 2 % = +0 dBA	5 - 6 % = +3 dBA
3 - 4 % = +2 dBA	7+ % = +5 dBA

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentYARNELL I-210 TO NORTH RAMP FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	236	7	5
Leq(h)(dBA)/Veh type	58.5	52.1	55.5
Leq(Σ h)(dBA) Tot. this run	61		
CNEL Adj.(dBA) 10		Adjusted total	71
Ldn Adj.(dBA) 10		Adjusted total	71
Leq(Σ Lanes/element)	71		
Leq(Σ elements)	71		

CNEL = 63 dBA
Ldn = 63 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
YARNELL FOOTHILL TO SOUTH RAMP
Roadway angle, left? -90 ____ Roadway angle, right? 90 ____
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : 7:00am - 8:00am Daily Traffic : 6350 _
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15 _
Autos? 466 .95 _ Medium? 15 .03 _ Heavy? 10 .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ? 50 __
Grade correction: 0____

0 - 2 % = +0 dBA	5 - 6 % = +3 dBA
3 - 4 % = +2 dBA	7+ % = +5 dBA

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment

YARNELL FOOTHILL TO SOUTH RAMP FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	466	15	10
Leq(h)(dBA)/Veh type	61.5	55.5	58.5
Leq(Σ h)(dBA) Tot. this run	64		
CNEL Adj.(dBA) 10		Adjusted total	74
Ldn Adj.(dBA) 10		Adjusted total	74
Leq(Σ Lanes/element)	74		
Leq(Σ elements)	74		

CNEL = 66 dBA
Ldn = 66 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
FOOTHILL YARNELL TO BALBOA_____
Roadway angle, left? -90 _____          Roadway angle, right?    90 _____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  5510 _
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 405      .95 _   Medium?     13      .03 _   Heavy?   9       .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0_____
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA
```

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment FOOTHILL YARNELL TO BALBOA FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	405	13	9
Leq(h)(dBA)/Veh type	60.8	54.8	58.1
Leq(Σ h)(dBA) Tot. this run	63		
CNEL Adj.(dBA) 10		Adjusted total	73
Ldn Adj.(dBA) 10		Adjusted total	73
Leq(Σ Lanes/element)	73		
Leq(Σ elements)	73		

CNEL = 66 dBA
Ldn = 65 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD EAST OF SAN FERNANDO__
Roadway angle, left? -90 ____          Roadway angle, right?    90 ____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  10470
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 769      .95 _   Medium?     24      .03 _   Heavy?   16      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA
```

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentROXFORD EAST OF SAN FERNANDO FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	769	24	16
Leq(h)(dBA)/Veh type	63.6	57.5	60.6
Leq(Σ h)(dBA) Tot. this run	66		
CNEL Adj.(dBA) 10		Adjusted total	76
Ldn Adj.(dBA) 10		Adjusted total	76
Leq(Σ Lanes/element)	76		
Leq(Σ elements)	76		

CNEL = 69 dBA
Ldn = 68 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD SAN FERNANDO TO ENCINI
Roadway angle, left? -90 _____          Roadway angle, right?    90 _____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  15710
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 1153     .95 _   Medium?     36      .03 _   Heavy?   24      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA


Grade correction

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                ROXFORD SAN FERNANDO TO ENCINI  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                       1153      36        24
                                 ------------------------------
Leq(h)(dBA)/Veh type              65.4      59.3      62.3
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =  70  dBA
Ldn =   70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD ENCINITAS TO I-5_______
Roadway angle, left? -90 _____          Roadway angle, right?    90 _____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  18660
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 1370     .95 _   Medium?     43      .03 _   Heavy?   29      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0_____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA
```

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment ROXFORD ENCINITAS TO I-5 FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	1370	43	29
Leq(h)(dBA)/Veh type	66.1	60	63.1
Leq(Σ h)(dBA) Tot. this run	69		
CNEL Adj.(dBA) 10		Adjusted total	79
Ldn Adj.(dBA) 10		Adjusted total	79
Leq(Σ Lanes/element)	79		
Leq(Σ elements)	79		

CNEL = 71 dBA
Ldn = 71 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SEPULVEDA I-5 TO SAN FERNANDO_
Roadway angle, left? -90 _____ Roadway angle, right? 90 _____
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : 7:00am - 8:00am Daily Traffic : 4220 _
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15 _
Autos? 310 .95 _ Medium? 10 .03 _ Heavy? 7 .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ? 50 __
Grade correction: 0____

0 - 2 % = +0 dBA	5 - 6 % = +3 dBA
3 - 4 % = +2 dBA	7+ % = +5 dBA

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment

SEPULVEDA I-5 TO SAN FERNANDO FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	310	10	7
Leq(h)(dBA)/Veh type	59.7	53.7	57
Leq(Σ h)(dBA) Tot. this run	62		
CNEL Adj.(dBA) 10		Adjusted total	72
Ldn Adj.(dBA) 10		Adjusted total	72
Leq(Σ Lanes/element)	72		
Leq(Σ elements)	72		

CNEL = 65 dBA
Ldn = 64 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO ROXFORD TO SEPULV
Roadway angle, left? -90 ____          Roadway angle, right?    90 ____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  5240 _
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 385      .95 _   Medium?     12      .03 _   Heavy?   8       .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA


Grade correction

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SAN FERNANDO ROXFORD TO SEPULV  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 --------- --------- ---------
Volume(VPH)                        385       12        8
                                 ------------------------------
Leq(h)(dBA)/Veh type               60.6      54.5      57.5
Leq(Σ h)(dBA) Tot. this run        63
CNEL Adj.(dBA)  10                      Adjusted total 73
Ldn Adj.(dBA)   10                      Adjusted total 73
Leq(Σ Lanes/element)               73
Leq(Σ elements)                    73
CNEL =   66  dBA
Ldn =    65  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SEPULVEDA TO BALB
Roadway angle, left? -90 ____          Roadway angle, right?    90 ____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  6520 _
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 479      .95 _   Medium?     15      .03 _   Heavy?   10      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA


Grade correction

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SAN FERNANDO SEPULVEDA TO BALB  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                               --------- --------- ---------
Volume(VPH)                       479       15        10
                               ------------------------------
Leq(h)(dBA)/Veh type             61.6      55.5      58.5
Leq(Σ h)(dBA) Tot. this run      64
CNEL Adj.(dBA)  10                    Adjusted total 74
Ldn Adj.(dBA)   10                    Adjusted total 74
Leq(Σ Lanes/element)              74
Leq(Σ elements)                   74
CNEL =  66  dBA
Ldn =   66  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO AT SITE__________
Roadway angle, left? -90 ____          Roadway angle, right?    90 ____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  19720
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 1448     .95 _   Medium?     46      .03 _   Heavy?   30      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA
```

Grade correction

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment SAN FERNANDO AT SITE FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	1448	46	30
Leq(h)(dBA)/Veh type	66.4	60.3	63.3
Leq(Σ h)(dBA) Tot. this run	69		
CNEL Adj.(dBA) 10		Adjusted total	79
Ldn Adj.(dBA) 10		Adjusted total	79
Leq(Σ Lanes/element)	79		
Leq(Σ elements)	79		

CNEL = 71 dBA
Ldn = 71 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO I-5 TO SIERRA HWY
Roadway angle, left? -90 ____          Roadway angle, right?    90 ____
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0 _____
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting : 7:00am -  8:00am Daily Traffic :  13640
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15 _
Autos? 1001     .95 _   Medium?     32      .03 _   Heavy?   21      .02 _
Speed (all vehicles)? 40 __
Distance to center of near lane >50 Ft. (15 M) ?  50 __
Grade correction:  0____
    0 - 2 % = +0 dBA                  5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                  7+ %    = +5 dBA


Grade correction

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SAN FERNANDO I-5 TO SIERRA HWY  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                               -------- --------- ---------
Volume(VPH)                      1001      32        21
                               ------------------------------
Leq(h)(dBA)/Veh type             64.8      58.7      61.7
Leq(Σ h)(dBA) Tot. this run      67
CNEL Adj.(dBA)  10                    Adjusted total 77
Ldn Adj.(dBA)   10                    Adjusted total 77
Leq(Σ Lanes/element)             77
Leq(Σ elements)                  77
CNEL =  70  dBA
Ldn =   69  dBA


                                                  ANY KEY -> CONTINU_
                                                      Esc -> MENU
```

NOISE MODEL RUNS EXISTING ADT WITH PROJECT

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?    1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL I-210 TO NORTHERN RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  3270
Morning Rush?  .2325   Off-Hours?  .3877  Evening Rush?  .2326  Night?  .1472
Autos? 237      .9378   Medium?     7       .0295   Heavy?   8       .0327
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


STORE THE NUMBER OF ELEMENTS

 Esc=ABORT


Calveno emissions

Lane #/Road segment
                  YARNELL I-210 TO NORTHERN RAMP  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                       237       7         8
                                 ------------------------------
Leq(h)(dBA)/Veh type              58.5      52.1      57.5
Leq(Σ h)(dBA) Tot. this run       62
CNEL Adj.(dBA)  10                     Adjusted total 72
Ldn Adj.(dBA)   10                     Adjusted total 72
Leq(Σ Lanes/element)              72
Leq(Σ elements)                   72
CNEL =  64  dBA
Ldn =   64  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL FOOTHILL TO SOUTH RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  6470
Morning Rush?  .2326   Off-Hours?  .3876  Evening Rush?  .2326  Night?  .1472
Autos? 471      .9376   Medium?     15      .0294   Heavy?   17      .033
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                YARNELL FOOTHILL TO SOUTH RAMP  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ---------  ---------  ---------
Volume(VPH)                       471        15         17
                                 ------------------------------
Leq(h)(dBA)/Veh type              61.5       55.5       60.8
Leq(Σ h)(dBA) Tot. this run       65
CNEL Adj.(dBA)  10                     Adjusted total 75
Ldn Adj.(dBA)   10                     Adjusted total 75
Leq(Σ Lanes/element)              75
Leq(Σ elements)                   75
CNEL =   67  dBA
Ldn =    67  dBA


                                                  ANY KEY -> CONTINU_
                                                      Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
FOOTHILL YARNELL TO BALBOA____
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  5749
Morning Rush?  .2335   Off-Hours?  .3892  Evening Rush?  .2335  Night?  .1438
Autos? 412      .9222   Medium?     13      .0288   Heavy?   22      .049
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment FOOTHILL YARNELL TO BALBOA  FOR  6:00am -  7:00am
Vehicle Class                  Auto    Med Truck Hvy Truck
                             --------- --------- ---------
Volume(VPH)                    412       13        22
                             ------------------------------
Leq(h)(dBA)/Veh type           60.9      54.8      61.9
Leq(Σ h)(dBA) Tot. this run    65
CNEL Adj.(dBA)  10                   Adjusted total 75
Ldn Adj.(dBA)   10                   Adjusted total 75
Leq(Σ Lanes/element)           75
Leq(Σ elements)                75
CNEL =  67  dBA
Ldn =   67  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?    1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD EAST OF SAN FERNANDO
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  10709
Morning Rush?  .2327   Off-Hours?  .3878  Evening Rush?  .2328  Night?  .1467
Autos? 777      .9351   Medium?     24      .0293   Heavy?   30      .0356
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


STORE THE NUMBER OF ELEMENTS

 Esc=ABORT



Calveno emissions

Lane #/Road segmentROXFORD EAST OF SAN FERNANDO  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                               --------- --------- ---------
Volume(VPH)                      777       24        30
                               -------------------------------
Leq(h)(dBA)/Veh type             63.7      57.5      63.3
Leq(Σ h)(dBA) Tot. this run      67
CNEL Adj.(dBA)  10                    Adjusted total 77
Ldn Adj.(dBA)   10                    Adjusted total 77
Leq(Σ Lanes/element)             77
Leq(Σ elements)                  77
CNEL =  69  dBA
Ldn =   69  dBA
```

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD SN FRNNDO TO ENCINITAS
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  15949
Morning Rush?  .2324   Off-Hours?  .3873  Evening Rush?  .2325  Night?  .1478
Autos? 1162     .94     Medium?     37      .0296   Heavy?   38      .0304
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                ROXFORD SN FRNNDO TO ENCINITAS  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 --------- --------- ---------
Volume(VPH)                       1162      37        38
                                 ------------------------------
Leq(h)(dBA)/Veh type              65.4      59.4      64.3
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =  71  dBA
Ldn =   71  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD ENCINITAS TO I-5_____
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  19031
Morning Rush?  .2326   Off-Hours?  .3877  Evening Rush?  .2326  Night?  .1471
Autos? 1383     .9369   Medium?     43      .0294   Heavy?   50      .0337
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment  ROXFORD ENCINITAS TO I-5  FOR  6:00am -  7:00am
Vehicle Class                  Auto    Med Truck Hvy Truck
                              --------- --------- ---------
Volume(VPH)                     1383      43        50
                              ------------------------------
Leq(h)(dBA)/Veh type            66.2      60        65.5
Leq(Σ h)(dBA) Tot. this run     69
CNEL Adj.(dBA)  10                    Adjusted total 79
Ldn Adj.(dBA)   10                    Adjusted total 79
Leq(Σ Lanes/element)            79
Leq(Σ elements)                 79
CNEL =  72  dBA
Ldn =   72  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SEPULVEDA I-5 TO SAN FERNANDO_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  5178
Morning Rush?  .2394   Off-Hours?  .399   Evening Rush?  .2394  Night?  .1222
Autos? 341      .8264   Medium?     10      .0244   Heavy?   62      .1492
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SEPULVEDA I-5 TO SAN FERNANDO  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                        341       10        62
                                 ------------------------------
Leq(h)(dBA)/Veh type              60.1      53.7      66.4
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =  70  dBA
Ldn =   69  dBA


                                          ANY KEY -> CONTINU_
                                              Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO ROXFORD TO SPLVDA
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 5982
Morning Rush? .2369 Off-Hours? .3948 Evening Rush? .2369 Night? .1314
Autos? 409 .8671 Medium? 12 .0263 Heavy? 50 .1066
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment

SAN FERNANDO ROXFORD TO SPLVDA FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	409	12	50
Leq(h)(dBA)/Veh type	60.9	54.5	65.5

Leq(Σ h)(dBA) Tot. this run 67
CNEL Adj.(dBA) 10 Adjusted total 77
Ldn Adj.(dBA) 10 Adjusted total 77
Leq(Σ Lanes/element) 77
Leq(Σ elements) 77
CNEL = 69 dBA
Ldn = 69 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SPLVDA TO BALBOA_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  8339
Morning Rush?  .2407   Off-Hours?  .4012  Evening Rush?  .2408  Night?  .1173
Autos? 538      .8042   Medium?     16      .0235   Heavy?   115     .1723
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segment
                SAN FERNANDO SPLVDA TO BALBOA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                        538       16        115
                                 ------------------------------
Leq(h)(dBA)/Veh type              62.1      55.7      69.1
Leq(Σ h)(dBA) Tot. this run       70
CNEL Adj.(dBA)  10                     Adjusted total 80
Ldn Adj.(dBA)   10                     Adjusted total 80
Leq(Σ Lanes/element)               80
Leq(Σ elements)                    80
CNEL =  72  dBA
Ldn =   72  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO BALBOA TO SITE___
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 21827
Morning Rush? .2357 Off-Hours? .393 Evening Rush? .2358 Night? .1355
Autos? 1519 .8855 Medium? 46 .0271 Heavy? 150
8.739999E-02 hicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentSAN FERNANDO BALBOA TO SITE FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	1519	46	150
Leq(h)(dBA)/Veh type	66.6	60.3	70.3
Leq(Σ h)(dBA) Tot. this run	72		
CNEL Adj.(dBA) 10		Adjusted total	82
Ldn Adj.(dBA) 10		Adjusted total	82
Leq(Σ Lanes/element)	82		
Leq(Σ elements)	82		

CNEL = 74 dBA
Ldn = 74 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SITE TO I-5 SB___
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  20007
Morning Rush?  .2324   Off-Hours?  .3874  Evening Rush?  .2324  Night?  .1478
Autos? 1458     .9404   Medium?     46      .0296   Heavy?   47      .03
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segmentSAN FERNANDO SITE TO I-5 SB  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 --------- --------- ---------
Volume(VPH)                        1458      46        47
                                 ------------------------------
Leq(h)(dBA)/Veh type               66.4      60.3      65.2
Leq(Σ h)(dBA) Tot. this run        69
CNEL Adj.(dBA)   10                     Adjusted total 79
Ldn Adj.(dBA)    10                     Adjusted total 79
Leq(Σ Lanes/element)               79
Leq(Σ elements)                    79
CNEL =   72  dBA
Ldn =    72  dBA
```

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO I-5 SB TO SIERRA_
Roadway angle, left? -90                  Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  13807
Morning Rush?  .2323   Off-Hours?  .3872  Evening Rush?  .2323  Night?  .1482
Autos? 1007     .9419   Medium?     32      .0296   Heavy?   30      .0285
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
              SAN FERNANDO I-5 SB TO SIERRA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 --------- --------- ---------
Volume(VPH)                       1007      32        30
                                 ------------------------------
Leq(h)(dBA)/Veh type              64.8      58.7      63.3
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =   70  dBA
Ldn =    70  dBA


                                          ANY KEY -> CONTINU_
                                              Esc -> MENU
```

NOISE MODEL RUNS CUMULATIVE TRAFFIC

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL I-210 TO NORTHERN RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  5999
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 441      .95     Medium?     14      .03     Heavy?   9       .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                YARNELL I-210 TO NORTHERN RAMP  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                       441       14        9
                                 ------------------------------
Leq(h)(dBA)/Veh type              61.2      55.2      58.1
Leq(Σ h)(dBA) Tot. this run       64
CNEL Adj.(dBA)  10                     Adjusted total 74
Ldn Adj.(dBA)   10                     Adjusted total 74
Leq(Σ Lanes/element)              74
Leq(Σ elements)                   74
CNEL =  66  dBA
Ldn =   66  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL FOOTHILL TO SOUTH RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  13499
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 991      .95     Medium?     31      .03     Heavy?   21      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                YARNELL FOOTHILL TO SOUTH RAMP  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ---------  ---------  ---------
Volume(VPH)                       991        31         21
                                 ------------------------------
Leq(h)(dBA)/Veh type              64.7       58.6       61.7
Leq(Σ h)(dBA) Tot. this run       67
CNEL Adj.(dBA)  10                     Adjusted total 77
Ldn Adj.(dBA)   10                     Adjusted total 77
Leq(Σ Lanes/element)              77
Leq(Σ elements)                   77
CNEL =   70  dBA
Ldn =    69  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
FOOTHILL YARNELL TO BALBOA____
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 13109
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15
Autos? 962 .95 Medium? 30 .03 Heavy? 20 .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment FOOTHILL YARNELL TO BALBOA FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	962	30	20
Leq(h)(dBA)/Veh type	64.6	58.5	61.5
Leq(Σ h)(dBA) Tot. this run	67		
CNEL Adj.(dBA) 10		Adjusted total	77
Ldn Adj.(dBA) 10		Adjusted total	77
Leq(Σ Lanes/element)	77		
Leq(Σ elements)	77		

CNEL = 70 dBA
Ldn = 69 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
ROXFORD EAST OF SAN FERNANDO__
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 13579
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15
Autos? 997 .95 Medium? 31 .03 Heavy? 21 .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentROXFORD EAST OF SAN FERNANDO FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	997	31	21
Leq(h)(dBA)/Veh type	64.8	58.6	61.7
Leq(Σ h)(dBA) Tot. this run	67		
CNEL Adj.(dBA) 10		Adjusted total	77
Ldn Adj.(dBA) 10		Adjusted total	77
Leq(Σ Lanes/element)	77		
Leq(Σ elements)	77		

CNEL = 70 dBA
Ldn = 69 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD SN FRNNDO TO ENCINITAS
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  19520
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 1433     .95     Medium?     45      .03     Heavy?   30      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segment
                ROXFORD SN FRNNDO TO ENCINITAS  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                       1433      45        30
                                 ------------------------------
Leq(h)(dBA)/Veh type              66.3      60.2      63.3
Leq(Σ h)(dBA) Tot. this run       69
CNEL Adj.(dBA)  10                     Adjusted total 79
Ldn Adj.(dBA)   10                     Adjusted total 79
Leq(Σ Lanes/element)              79
Leq(Σ elements)                   79
CNEL =  71  dBA
Ldn =   71  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD ENCINITAS TO I-5_____
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  23666
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 1738     .95     Medium?     55      .03     Heavy?   37      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment  ROXFORD ENCINITAS TO I-5  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                --------- --------- ---------
Volume(VPH)                       1738      55        37
                                ------------------------------
Leq(h)(dBA)/Veh type              67.2      61.1      64.2
Leq(Σ h)(dBA) Tot. this run       70
CNEL Adj.(dBA)   10                    Adjusted total 80
Ldn Adj.(dBA)    10                    Adjusted total 80
Leq(Σ Lanes/element)              80
Leq(Σ elements)                   80
CNEL =   72  dBA
Ldn =    72  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SEPULVEDA I-5 TO SAN FERNANDO_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  11405
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 837      .95     Medium?     26      .03     Heavy?   18      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SEPULVEDA I-5 TO SAN FERNANDO  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                        837       26        18
                                 ------------------------------
Leq(h)(dBA)/Veh type               64        57.8      61.1
Leq(Σ h)(dBA) Tot. this run        66
CNEL Adj.(dBA)  10                      Adjusted total 76
Ldn Adj.(dBA)   10                      Adjusted total 76
Leq(Σ Lanes/element)               76
Leq(Σ elements)                    76
CNEL =  69  dBA
Ldn =   69  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO ROXFORD TO SPLVDA
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 6663
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15
Autos? 489 .95 Medium? 15 .03 Heavy? 10 .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment

SAN FERNANDO ROXFORD TO SPLVDA FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	489	15	10
Leq(h)(dBA)/Veh type	61.7	55.5	58.5
Leq(Σ h)(dBA) Tot. this run	64		
CNEL Adj.(dBA) 10		Adjusted total	74
Ldn Adj.(dBA) 10		Adjusted total	74
Leq(Σ Lanes/element)	74		
Leq(Σ elements)	74		

CNEL = 67 dBA
Ldn = 66 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SPLVDA TO BALBOA_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  15043
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 1104     .95     Medium?     35      .03     Heavy?   23      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segment
                SAN FERNANDO SPLVDA TO BALBOA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                      1104       35        23
                                 ------------------------------
Leq(h)(dBA)/Veh type             65.2       59.1      62.1
Leq(Σ h)(dBA) Tot. this run      68
CNEL Adj.(dBA)  10                      Adjusted total 78
Ldn Adj.(dBA)   10                      Adjusted total 78
Leq(Σ Lanes/element)             78
Leq(Σ elements)                  78
CNEL =  70  dBA
Ldn =   70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO BALBOA TO SITE___
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 24593
Morning Rush? .2318 Off-Hours? .3864 Evening Rush? .2318 Night? .15
Autos? 1805 .95 Medium? 57 .03 Heavy? 38 .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentSAN FERNANDO BALBOA TO SITE FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	1805	57	38
Leq(h)(dBA)/Veh type	67.3	61.2	64.3
Leq(Σ h)(dBA) Tot. this run	70		
CNEL Adj.(dBA) 10		Adjusted total	80
Ldn Adj.(dBA) 10		Adjusted total	80
Leq(Σ Lanes/element)	80		
Leq(Σ elements)	80		

CNEL = 72 dBA
Ldn = 72 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SITE TO I-5 SB___
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  24593
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 1805     .95     Medium?     57      .03     Heavy?   38      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segmentSAN FERNANDO SITE TO I-5 SB  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 --------- --------- ---------
Volume(VPH)                        1805      57        38
                                 ------------------------------
Leq(h)(dBA)/Veh type               67.3      61.2      64.3
Leq(Σ h)(dBA) Tot. this run        70
CNEL Adj.(dBA)  10                      Adjusted total 80
Ldn Adj.(dBA)   10                      Adjusted total 80
Leq(Σ Lanes/element)               80
Leq(Σ elements)                    80
CNEL =  72  dBA
Ldn =   72  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO I-5 SB TO SIERRA_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  14845
Morning Rush?  .2318   Off-Hours?  .3864  Evening Rush?  .2318  Night?  .15
Autos? 1090     .95     Medium?     34      .03     Heavy?   23      .02
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SAN FERNANDO I-5 SB TO SIERRA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ---------  ---------  ---------
Volume(VPH)                       1090       34         23
                                 ------------------------------
Leq(h)(dBA)/Veh type              65.1       59         62.1
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =   70  dBA
Ldn =    70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

NOISE MODEL RUNS PROJECT PLUS CUMULATIVE TRAFFIC

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL I-210 TO NORTHERN RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  6059
Morning Rush?  .2322   Off-Hours?  .3871  Evening Rush?  .2322  Night?  .1485
Autos? 442      .9434   Medium?     14      .0297   Heavy?   13      .0269
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                YARNELL I-210 TO NORTHERN RAMP  FOR  6:00am -  7:00am
Vehicle Class                  Auto    Med Truck Hvy Truck
                              --------- --------- ---------
Volume(VPH)                     442       14        13
                              ------------------------------
Leq(h)(dBA)/Veh type            61.2      55.2      59.7
Leq(Σ h)(dBA) Tot. this run     64
CNEL Adj.(dBA)  10                   Adjusted total 74
Ldn Adj.(dBA)   10                   Adjusted total 74
Leq(Σ Lanes/element)            74
Leq(Σ elements)                 74
CNEL =  67  dBA
Ldn =   66  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
YARNELL FOOTHILL SOUTHERN RAMP
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  13619
Morning Rush?  .2322   Off-Hours?  .3869  Evening Rush?  .2322  Night?  .1487
Autos? 995      .9441   Medium?     31      .0298   Heavy?   28      .0261
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                YARNELL FOOTHILL SOUTHERN RAMP  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                --------- --------- ---------
Volume(VPH)                       995        31         28
                                ------------------------------
Leq(h)(dBA)/Veh type              64.7       58.6       63
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =   70  dBA
Ldn =    70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
FOOTHILL YARNELL TO BALBOA____
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  13348
Morning Rush?  .2325   Off-Hours?  .3876  Evening Rush?  .2326  Night?  .1473
Autos? 970      .938    Medium?     31      .0295   Heavy?   34      .0325
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment FOOTHILL YARNELL TO BALBOA  FOR  6:00am -  7:00am
Vehicle Class                  Auto    Med Truck Hvy Truck
                              -------- --------- ---------
Volume(VPH)                     970       31        34
                              ------------------------------
Leq(h)(dBA)/Veh type            64.6      58.6      63.8
Leq(Σ h)(dBA) Tot. this run     68
CNEL Adj.(dBA)  10                    Adjusted total 78
Ldn Adj.(dBA)   10                    Adjusted total 78
Leq(Σ Lanes/element)            78
Leq(Σ elements)                 78
CNEL =  70  dBA
Ldn =   70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD EAST OF SAN FERNANDO__
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  13818
Morning Rush?  .2325   Off-Hours?  .3875  Evening Rush?  .2326  Night?  .1474
Autos? 1005     .9384   Medium?     32      .0295   Heavy?   34      .0321
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segmentROXFORD EAST OF SAN FERNANDO  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                --------- --------- ---------
Volume(VPH)                       1005      32        34
                                ------------------------------
Leq(h)(dBA)/Veh type              64.8      58.7      63.8
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =  70  dBA
Ldn =   70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD SN FRNNDO TO ENCINITAS
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  19759
Morning Rush?  .2323   Off-Hours?  .3872  Evening Rush?  .2323  Night?  .1482
Autos? 1441     .9419   Medium?     45      .0296   Heavy?   44       .0285
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

 ane #/Road segment
                ROXFORD SN FRNNDO TO ENCINITAS  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                --------- --------- ---------
Volume(VPH)                       1441      45        44
                                ------------------------------
Leq(h)(dBA)/Veh type              66.4      60.2      64.9
Leq(Σ h)(dBA) Tot. this run       69
CNEL Adj.(dBA)  10                     Adjusted total 79
Ldn Adj.(dBA)   10                     Adjusted total 79
Leq(Σ Lanes/element)              79
Leq(Σ elements)                   79
CNEL =  72  dBA
Ldn =   71  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
ROXFORD ENCINITAS TO I-5_____
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  24037
Morning Rush?  .2324   Off-Hours?  .3874  Evening Rush?  .2325  Night?  .1477
Autos? 1750     .9397   Medium?     55      .0295   Heavy?   57      .0308
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment  ROXFORD ENCINITAS TO I-5  FOR  6:00am -  7:00am
Vehicle Class                  Auto    Med Truck Hvy Truck
                              --------- --------- ---------
Volume(VPH)                     1750      55        57
                              ------------------------------
Leq(h)(dBA)/Veh type            67.2      61.1      66.1
Leq(Σ h)(dBA) Tot. this run     70
CNEL Adj.(dBA)  10                   Adjusted total 80
Ldn Adj.(dBA)   10                   Adjusted total 80
Leq(Σ Lanes/element)            80
Leq(Σ elements)                 80
CNEL =  73  dBA
Ldn =   72  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SEPULVEDA I-5 TO SAN FERNANDO_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  12363
Morning Rush?  .235    Off-Hours?  .3916  Evening Rush?  .235   Night?  .1384
Autos? 869      .8982   Medium?     27      .0277   Heavy?   72      .0741
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SEPULVEDA I-5 TO SAN FERNANDO  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                        869       27        72
                                 ------------------------------
Leq(h)(dBA)/Veh type              64.2       58        67.1
Leq(Σ h)(dBA) Tot. this run       69
CNEL Adj.(dBA)  10                     Adjusted total 79
Ldn Adj.(dBA)   10                     Adjusted total 79
Leq(Σ Lanes/element)              79
Leq(Σ elements)                   79
CNEL =  72  dBA
Ldn =   71  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO ROXFORD TO SPLVDA
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 7405
Morning Rush? .2359 Off-Hours? .3932 Evening Rush? .2359 Night? .135
Autos? 514 .883 Medium? 16 .027 Heavy? 52
9.000001E-02 hicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segment
SAN FERNANDO ROXFORD TO SPLVDA FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	514	16	52
Leq(h)(dBA)/Veh type	61.9	55.7	65.7
Leq(Σ h)(dBA) Tot. this run	67		
CNEL Adj.(dBA) 10		Adjusted total	77
Ldn Adj.(dBA) 10		Adjusted total	77
Leq(Σ Lanes/element)	77		
Leq(Σ elements)	77		

CNEL = 70 dBA
Ldn = 69 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SPLVDA TO BALBOA_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  16862
Morning Rush?  .2362   Off-Hours?  .3937  Evening Rush?  .2363  Night?  .1338
Autos? 1166     .8779   Medium?     35      .0267   Heavy?   127     .0954
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                  SAN FERNANDO SPLVDA TO BALBOA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                               --------- --------- ---------
Volume(VPH)                      1166       35        127
                               ------------------------------
Leq(h)(dBA)/Veh type             65.4       59.1      69.6
Leq(Σ h)(dBA) Tot. this run      71
CNEL Adj.(dBA)  10                     Adjusted total 81
Ldn Adj.(dBA)   10                     Adjusted total 81
Leq(Σ Lanes/element)             81
Leq(Σ elements)                  81
CNEL =  73  dBA
Ldn =   73  dBA


                                          ANY KEY -> CONTINU_
                                              Esc -> MENU
```

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO BALBOA TO SITE___
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  26700
Morning Rush?  .235    Off-Hours?  .3917  Evening Rush?  .2351  Night?  .1382
Autos? 1877     .8972   Medium?     58      .0277   Heavy?   157     .0751
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segmentSAN FERNANDO BALBOA TO SITE  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                 ------- --------- ---------
Volume(VPH)                       1877      58        157
                                 ------------------------------
Leq(h)(dBA)/Veh type              67.5      61.3      70.5
Leq(Σ h)(dBA) Tot. this run       73
CNEL Adj.(dBA)  10                     Adjusted total 83
Ldn Adj.(dBA)   10                     Adjusted total 83
Leq(Σ Lanes/element)              83
Leq(Σ elements)                   83
CNEL =   75  dBA
Ldn =    75  dBA


                                        ANY KEY -> CONTINU_
                                            Esc -> MENU
```

MODEL INFORMATION

Input units = (E)nglish or (M)etric? E Input number of elements this run? 1
Input number of traffic lanes/element? 1
Input element # and lane # description (30 char. max.)
SAN FERNANDO SITE TO I-5 SB___
Roadway angle, left? -90 Roadway angle, right? 90
Dropoff rate hard site=0 soft site=0.5 ? .5
Shielding due to trees or buildings (Neg dBA value)? 0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0 Receptor height 0 Barrier to receptor distance 0
Volumes for the hour starting : Average Daily Traffic : 24880
Morning Rush? .2323 Off-Hours? .3871 Evening Rush? .2323 Night? .1483
Autos? 1816 .9423 Medium? 57 .0297 Heavy? 54 .028
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ? 50
Grade correction: 0
0 - 2 % = +0 dBA 5 - 6 % = +3 dBA
3 - 4 % = +2 dBA 7+ % = +5 dBA

ELEMENT NUMBER AND DESCRIPTION

Esc=ABORT F6=REPEAT F10=NEXT LANE/ELEMENT

Calveno emissions

Lane #/Road segmentSAN FERNANDO SITE TO I-5 SB FOR 6:00am - 7:00am

Vehicle Class	Auto	Med Truck	Hvy Truck
Volume(VPH)	1816	57	54
Leq(h)(dBA)/Veh type	67.4	61.2	65.8
Leq(Σ h)(dBA) Tot. this run	70		
CNEL Adj.(dBA) 10		Adjusted total	80
Ldn Adj.(dBA) 10		Adjusted total	80
Leq(Σ Lanes/element)	80		
Leq(Σ elements)	80		

CNEL = 73 dBA
Ldn = 72 dBA

ANY KEY -> CONTINU_
Esc -> MENU

MODEL INFORMATION

```
Input units = (E)nglish or (M)etric? E Input number of elements this run?   1
Input number of traffic lanes/element?    1
Input element # and lane # description (30 char. max.)
SAN FERNANDO I-5 SB TO SIERRA_
Roadway angle, left? -90                Roadway angle, right?    90
Dropoff rate  hard site=0   soft site=0.5 ?  .5
Shielding due to trees or buildings (Neg dBA value)?   0
(N)o barrier (W)all, (B)erm ? N
Barrier:
Barrier height 0     Receptor height 0      Barrier to receptor distance 0
Volumes for the hour starting :          Average Daily Traffic :  15012
Morning Rush?  .2322   Off-Hours?  .3872  Evening Rush?  .2323  Night?  .1483
Autos? 1095     .9426   Medium?     34      .0296   Heavy?   32      .0278
Speed (all vehicles)? 40
Distance to center of near lane >50 Ft. (15 M) ?  50
Grade correction:  0
    0 - 2 % = +0 dBA                    5 - 6 % = +3 dBA
    3 - 4 % = +2 dBA                    7+ %    = +5 dBA


ELEMENT NUMBER AND DESCRIPTION

 Esc=ABORT       F6=REPEAT       F10=NEXT LANE/ELEMENT


Calveno emissions

Lane #/Road segment
                SAN FERNANDO I-5 SB TO SIERRA  FOR  6:00am -  7:00am
Vehicle Class                    Auto    Med Truck Hvy Truck
                                --------- --------- ---------
Volume(VPH)                       1095      34        32
                                ------------------------------
Leq(h)(dBA)/Veh type              65.2      59        63.6
Leq(Σ h)(dBA) Tot. this run       68
CNEL Adj.(dBA)  10                     Adjusted total 78
Ldn Adj.(dBA)   10                     Adjusted total 78
Leq(Σ Lanes/element)              78
Leq(Σ elements)                   78
CNEL =  71  dBA
Ldn =   70  dBA


                                                ANY KEY -> CONTINU_
                                                    Esc -> MENU
```

Appendix B8
AIR QUALITY MODELING AND WIND SPEED AND DIRECTION SUMMARY

AIR QUALITY MODELING

MODEL RESULTS FOR FILE yari210n

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	9.4	203	0.6	0.1	0.2	0.2
RECPT 2	9.2	347	0.8	0.1	0.0	0.0
RECPT 3	9.5	65	0.5	0.1	0.1	0.4
RECPT 4	9.1	134	0.3	0.1	0.1	0.2

MODEL RESULTS FOR FILE yarfoot

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	10.3	239	0.3	0.5	1.0	0.2
RECPT 2	10.1	329	0.6	0.3	0.7	0.2
RECPT 3	10.0	27	0.4	0.5	0.7	0.2
RECPT 4	10.1	123	0.4	0.4	0.7	0.3

MODEL RESULTS FOR FILE sanfrrox

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	14.2	217	0.9	2.0	2.2	0.8
RECPT 2	15.3	310	1.2	0.5	3.8	1.5
RECPT 3	13.9	48	1.7	1.0	1.6	1.5
RECPT 4	15.0	131	0.7	1.0	1.8	3.3

MODEL RESULTS FOR FILE encinrox

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	15.5	217	0.7	2.5	3.0	1.1
RECPT 2	17.2	309	0.9	0.9	4.5	2.5
RECPT 3	15.3	44	1.7	1.2	1.4	2.7
RECPT 4	17.2	129	0.6	1.4	2.2	4.7

MODEL RESULTS FOR FILE sanferrd

ECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A
RECPT 1	13.4	346	5.1

REPORT FOR FILE : YarI210N

1. Site Variables

U=	0.5 M/S	ZO=	108.0 CM
BRG=	45.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	8.3 PPM
SIGTH=	20.0 DEGREES	TEMP=	15.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Ramp (E)		-39	-2	27	-2	IN	39	24.8	0.0	6.3
B. Ramp (W)		39	3	-27	3	IN	263	24.8	0.0	12.6
C. Yarnell (N)		3	-39	3	27	IN	466	24.8	0.0	12.6
D. Yarnell (S)		-3	39	-3	-27	IN	7	24.8	0.0	12.6

LINK	* MIXW L (M)	R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	32	4.3	6.1	20	1	0	437	3.4	4.0	4.0
B.	0	0	32	4.3	6.1	20	1	0	62	3.4	4.0	4.0
C.	0	0	36	4.3	6.1	20	1	0	14	3.4	4.0	4.0
D.	0	0	32	4.3	6.1	20	1	0	263	3.4	4.0	4.0

3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	22	22	1.3
RECEPTOR	2	22	-22	1.3
RECEPTOR	3	-22	-18	1.3
RECEPTOR	4	-22	18	1.3

REPORT FOR FILE : YarFoot

1. Site Variables

U=	0.5 M/S	ZO=	108.0 CM
BRG=	45.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	8.3 PPM
SIGTH=	20.0 DEGREES	TEMP=	15.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Foothill (E)		-39	-3	27	-3	IN	781	24.8	0.0	12.6
B. Foothill (W)		39	3	-27	3	IN	344	24.8	0.0	12.6
C. Yarnell (N)		3	-39	3	27	IN	142	24.8	0.0	12.6
D. Yarnell (S)		-5	39	-5	-27	IN	680	24.8	0.0	15.9

LINK	* MIXW L (M)	R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	36	4.3	6.1	20	1	0	491	3.4	4.0	4.0
B.	0	0	32	4.3	6.1	20	1	0	527	3.4	4.0	4.0
C.	0	0	32	4.3	6.1	20	1	0	762	3.4	4.0	4.0
D.	0	0	32	4.3	6.1	20	1	0	159	3.4	4.0	4.0

3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	22	22	1.3
RECEPTOR	2	22	-22	1.3
RECEPTOR	3	-18	-22	1.3
RECEPTOR	4	-22	22	1.3

REPORT FOR FILE : SanFrRox

1. Site Variables

U=	0.5 M/S	ZO=	108.0 CM
BRG=	45.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	8.3 PPM
SIGTH=	20.0 DEGREES	TEMP=	15.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. SanFer (E)		-39	-5	27	-5	IN	296	24.8	0.0	15.9
B. SanFer (W)		39	5	-27	5	IN	540	24.8	0.0	15.9
C. Roxford (N)		5	-39	5	27	IN	667	24.8	0.0	15.9
D. Roxford (S)		-5	39	-5	-27	IN	789	24.8	0.0	15.9

LINK	* MIXW L (M)	R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	32	4.3	6.1	20	4	2	490	3.4	45.0	0.0
B.	0	0	32	4.3	6.1	20	3	1	355	3.4	45.0	0.0
C.	0	0	32	4.3	6.1	20	5	3	651	3.4	45.0	0.0
D.	0	0	32	4.3	6.1	20	7	3	796	3.4	45.0	0.0

3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	22	22	1.3
RECEPTOR	2	22	-22	1.3
RECEPTOR	3	-22	-22	1.3
RECEPTOR	4	-22	22	1.3

REPORT FOR FILE : EncinRox

1. Site Variables

U=	0.5 M/S	ZO=	108.0 CM
BRG=	45.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	8.3 PPM
SIGTH=	20.0 DEGREES	TEMP=	15.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Encinits (E)		-39	-3	27	-3	IN	268	24.8	0.0	12.6
B. Encinits (W)		39	5	-27	5	IN	426	24.8	0.0	15.9
C. Roxford (N)		5	-39	5	27	IN	955	24.8	0.0	15.9
D. Roxford (S)		-5	39	-5	-27	IN	1482	24.8	0.0	15.9

LINK	* MIXW L (M)	R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	32	4.3	6.1	20	4	2	335	3.4	45.0	0.0
B.	0	0	32	4.3	6.1	20	4	2	474	3.4	45.0	0.0
C.	0	0	36	4.3	6.1	20	7	4	845	3.4	45.0	0.0
D.	0	0	32	4.3	6.1	20	12	6	1477	3.4	45.0	0.0

3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	22	22	1.3
RECEPTOR	2	22	-18	1.3
RECEPTOR	3	-22	-18	1.3
RECEPTOR	4	-22	22	1.3

REPORT FOR FILE : SanFerRd

1. Site Variables

U=	0.5 M/S	ZO=	108.0 CM
BRG=	270.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	8.3 PPM
SIGTH=	20.0 DEGREES	TEMP=	15.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. SanFernando	*	0	-200	0	200	AG	2571	24.8	0.0	19.2

LINK	*	L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	*	0	0	32	4.3	6.1	20	4	2	335	3.4	45.0	0.0

3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	12	0	1.3

Year 1997 composite Los Angeles County vehicle emissions for an average speed of 20 mph. Model programmed by Todd Brody in accordance with SCAQMD methodology.

B := 0.02 Bus percent of ADT (A9-27)
Bc := 0 Bus percent cold start estimate
Cc := 0 Bus cold start emission factor (Grams/Trip)
Ab := 3.59 Bus travel related trip length (Miles) (If unknown use 3.59)
Dre := 25.04 Bus running emission factor (Grams/Mile) (A11-54)
Bh := 0 Bus percent hot start estimate
Ch := 0 Bus hot start emission factor (Grams/Trip)
Bs := 100 - (Bc + Bh) Bus percent stabalized estimates

$$Bchs := \frac{Bc \cdot \left[\left[\frac{Cc}{Ab}\right] + Dre\right] + Bh \cdot \left[\left[\frac{Ch}{Ab}\right] + Dre\right] + (Bs \cdot Dre)}{Bc + Bh + Bs}$$

Bchs = 25.04

M := 0.68 Motorcycle percent of ADT (A9-27)
Mc := 0.52 Motorcycle percent cold start estimate (A9-61)
Nc := 100.13 Motorcycle cold start emission factor (Grams/Trip) (A9-66)
Am := 3.59 Motorcycle travel related trip length (Miles) (If UK, use 3.59)
Ore := 15.12 Motorcycle running emission factor (Grams/Mile) (A9-66)
Mh := 99.55 Motorcycle percent hot start estimate (A9-61)
Nh := 4.8 Motorcycle hot start emission factor (Grams/Trip) (A9-66)
Ms := 100 - (Mc + Mh) Motorcycle percent stabalized estimates

$$Mchs := \frac{Mc \cdot \left[\left[\frac{Nc}{Am}\right] + Ore\right] + Mh \cdot \left[\left[\frac{Nh}{Am}\right] + Ore\right] + (Ms \cdot Ore)}{Mc + Mh + Ms}$$

Mchs = 16.596

P := 87.64 Pssngr car percent of ADT (A9-26)
Pc := 98.96 Pssngr car percent cold start estimate (A9-61)
Qc := 74.78 Pssngr car cold start emission factor (Grams/Trip) (A9-36)
Ap := 3.59 Pssngr car travel related trip length (Miles) (If UK, use 3.59)
Rre := 6.81 Pssngr car running emission factor (Grams/Mile) (A9-36)
Ph := 11.61 Pssngr car percent hot start estimate (A9-61)
Qh := 9.47 Pssngr hot start emission factor (Grams/Trip) (A9-36)
Ps := 100 - (Mc + Mh) Pssngr car percent stabalized estimates

$$Pchs := \frac{Pc \cdot \left[\left[\frac{Qc}{Ap}\right] + Rre\right] + Ph \cdot \left[\left[\frac{Qh}{Ap}\right] + Rre\right] + (Ps \cdot Rre)}{Pc + Ph + Ps}$$

Pchs = 25.742

T := 11.66 Truck percent of ADT (A9-26)
Tc := 0.52 Truck percent cold start estimate (A9-61)
Uc := 38.61 Truck cold start emission factor (Grams/Trip) (A9-47)

At := 3.59 Truck travel related trip length (Miles) (If UK, use 3.59)
Vre := 17.23 Truck running emission factor (Grams/Mile) (A9-47)
Th := 86.86 Truck percent hot start estimate (A9-61)
Uh := 4.24 Truck hot start emission factor (Grams/Trip)
Ts := 100 - (Tc + Th) Truck percent stabalized estimates

$$Tchs := \frac{Tc \cdot \left[\left[\frac{Uc}{At}\right] + Vre\right] + Th \cdot \left[\left[\frac{Uh}{At}\right] + Vre\right] + (Ts \cdot Vre)}{Tc + Th + Ts}$$

Tchs = 18.312

Etot, the total composite emissions in Grams/Mile, is calculated using the following:

$$Etot := \frac{(B \cdot Bchs) + (M \cdot Mchs) + (P \cdot Pchs) + (T \cdot Tchs)}{B + M + P + T}$$

Etot = 24.813

Year 1997 composite Los Angeles County vehicle emissions for idling vehicles. Model programmed by Todd Brody in accordance with SCAQMD methodology.

B := 0.02 Bus percent of ADT (A9-27)
Bc := 0 Bus percent cold start estimate
Cc := 0 Bus cold start emission factor (Grams/Trip)
Ab := 3.59 Bus travel related trip length (Miles) (If unknown use 3.59)
Dre := 66.63 Bus running emission factor (Grams/Mile) (A11-54)
Bh := 0 Bus percent hot start estimate
Ch := 0 Bus hot start emission factor (Grams/Trip)
Bs := 100 - (Bc + Bh) Bus percent stabalized estimates

$$Bchs := \frac{Bc \cdot \left[\left[\frac{Cc}{Ab}\right] + Dre\right] + Bh \cdot \left[\left[\frac{Ch}{Ab}\right] + Dre\right] + (Bs \cdot Dre)}{Bc + Bh + Bs}$$

Bchs = 66.63

M := 0.68 Motorcycle percent of ADT (A9-27)
Mc := 0.52 Motorcycle percent cold start estimate (A9-61)
Nc := 100.13 Motorcycle cold start emission factor (Grams/Trip) (A9-66)
Am := 3.59 Motorcycle travel related trip length (Miles) (If UK, use 3.59)
Ore := 62.45 Motorcycle running emission factor (Grams/Mile) (A9-66)
Mh := 99.55 Motorcycle percent hot start estimate (A9-61)
Nh := 4.8 Motorcycle hot start emission factor (Grams/Trip) (A9-66)
Ms := 100 - (Mc + Mh) Motorcycle percent stabalized estimates

$$Mchs := \frac{Mc \cdot \left[\left[\frac{Nc}{Am}\right] + Ore\right] + Mh \cdot \left[\left[\frac{Nh}{Am}\right] + Ore\right] + (Ms \cdot Ore)}{Mc + Mh + Ms}$$

Mchs = 63.926

P := 87.64 Pssngr car percent of ADT (A9-26)
Pc := 98.96 Pssngr car percent cold start estimate (A9-61)
Qc := 74.78 Pssngr car cold start emission factor (Grams/Trip) (A9-36)
Ap := 3.59 Pssngr car travel related trip length (Miles) (If UK, use 3.59)
Rre := 19.92 Pssngr car running emission factor (Grams/Mile) (A9-36)
Ph := 11.61 Pssngr car percent hot start estimate (A9-61)
Qh := 9.47 Pssngr hot start emission factor (Grams/Trip) (A9-36)
Ps := 100 - (Mc + Mh) Pssngr car percent stabalized estimates

$$Pchs := \frac{Pc \cdot \left[\left[\frac{Qc}{Ap}\right] + Rre\right] + Ph \cdot \left[\left[\frac{Qh}{Ap}\right] + Rre\right] + (Ps \cdot Rre)}{Pc + Ph + Ps}$$

Pchs = 38.852

T := 11.66 Truck percent of ADT (A9-26)
Tc := 0.52 Truck percent cold start estimate (A9-61)
Uc := 38.61 Truck cold start emission factor (Grams/Trip) (A9-47)

At := 3.59 Truck travel related trip length (Miles) (If UK, use 3.59)
Vre := 48.53 Truck running emission factor (Grams/Mile) (A9-47)
Th := 86.86 Truck percent hot start estimate (A9-61)
Uh := 4.24 Truck hot start emission factor (Grams/Trip)
Ts := 100 - (Tc + Th) Truck percent stabalized estimates

$$Tchs := \frac{Tc \cdot \left[\left[\frac{Uc}{At}\right] + Vre\right] + Th \cdot \left[\left[\frac{Uh}{At}\right] + Vre\right] + (Ts \cdot Vre)}{Tc + Th + Ts}$$

Tchs = 49.612

Etot, the total composite emissions in Grams/Mile, is calculated using the following:

$$Etot := \frac{(B \cdot Bchs) + (M \cdot Mchs) + (P \cdot Pchs) + (T \cdot Tchs)}{B + M + P + T}$$

Etot = 40.283

$$Idle := Etot \cdot \frac{5}{60}$$

Idle = 3.357 Grams per Minute

WIND SPEED AND DIRECTION SUMMARY

RES Environmental Inc.

SUNSHINE CANYON LANDFILL
WIND SPEED AND DIRECTION SUMMARY
1994

865 Via Lata • Colton, California 92324 • (909) 422-1001 Fax (909) 422-0707

RES Environmental Inc.

16-POINT WIND DIRECTION INDEX

NO	DIRECTION	DEGREES		
		FROM	CENTER	TO
16	NORTH (N)	348.8	360.0	011.3
1	NORTH-NORTHEAST (NNE)	011.3	022.5	033.8
2	NORTHEAST (NE)	033.8	045.0	056.3
3	EAST-NORTHEAST (ENE)	056.3	067.5	078.8
4	EAST (E)	078.8	090.0	101.3
5	EAST-SOUTHEAST (ESE)	101.3	112.5	123.8
6	SOUTHEAST (SE)	123.8	135.0	146.3
7	SOUTH-SOUTHEAST (SSE)	146.3	157.5	168.8
8	SOUTH (S)	168.8	180.0	191.3
9	SOUTH-SOUTHWEST (SSW)	191.3	202.5	213.8
10	SOUTHWEST (SW)	213.8	225.0	236.3
11	WEST-SOUTHWEST (WSW)	236.3	247.5	258.8
12	WEST (W)	258.8	270.0	281.3
13	WEST-NORTHWEST (WNW)	281.3	292.5	303.8
14	NORTHWEST (NW)	303.8	315.0	326.3
15	NORTH-NORTHWEST (NNW)	326.3	337.5	348.8

865 Via Lata • Colton, California 92324 • (909) 422-1001 Fax (909) 422-0707

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: JAN, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	14	14	14	13	14	14	14	14	14	10	9	8	8	8	8	8	14	14	15	15	15	14
2	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
3	14	14	14	14	14	14	14	14	14	14	14	14	14	14	12	8	7	6	6	14	14	16	15	15
4	15	16	16	16	15	16	16	16	1	1	8	8	8	8	8	9	8	8	8	15	14	15	16	16
5	8	7	14	14	16	15	14	15	15	15	15	14	15	14	15	14	14	14	14	14	14	14	15	15
6	15	15	15	15	15	15	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
7	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	13	14	14
8	14	14	14	14	14	14	14	14	14	14	14	14	8	8	8	8	8	6	14	14	14	14	8	13
9	14	13	13	13	14	12	13	14	14	14	15	15	15	16	16	14	15	14	14	13	14	14	14	14
10	14	14	14	14	14	14	14	14	14	15	15	15	15	15	15	14	4	15	16	14	13	13	13	14
11	14	14	14	14	14	13	13	14	14	15	14	16	10	8	8	8	15	15	14	13	12	14	14	13
12	13	13	13	13	13	12	13	14	14	15	15	15	15	15	16	16	15	14	14	13	14	14	14	14
13	14	14	14	14	14	14	13	14	14	14	14	14	14	14	14	15	15	14	14	14	14	14	14	14
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14	14	16	16
15	14	14	15	15	15	14	16	1	8	8	8	8	8	8	8	8	8	8	8	8	14	14	14	14
16	14	14	14	15	14	15	16	15	16	15	15	14	14	14	8	14	16	14	16	15	15	14	14	14
17	15	14	14	15	14	14	14	14	14	15	14	15	15	16	16	16	16	16	14	14	14	14	15	14
18	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14	14	15	15	16	16	16	16
19	16	16	16	16	15	15	15	16	16	16	16	8	8	8	8	8	8	8	8	10	14	15	16	14
20	16	16	14	14	14	16	16	16	16	16	16	8	8	8	8	8	8	14	15	15	16	15	15	16
21	16	16	16	16	15	16	16	14	14	16	16	16	16	8	8	8	8	14	14	14	14	16	15	15
22	16	16	15	14	15	15	15	16	16	14	15	16	15	8	8	8	8	12	14	12	15	16	16	8
23	8	16	14	8	7	8	12	12	8	16	8	8	8	8	8	8	8	8	7	8	8	8	8	8
24	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	7	7	8	8	8	10	10	10	8
25	8	10	14	14	14	14	14	14	14	12	8	8	8	8	8	8	8	8	12	14	10	12	14	12
26	14	14	15	14	14	14	14	15	15	15	15	15	14	14	14	14	14	14	14	14	14	14	14	14
27	14	14	16	16	16	16	15	16	16	16	16	15	15	15	16	16	16	15	15	15	14	14	14	14
28	15	15	15	15	15	13	15	15	16	16	14	14	16	16	15	16	16	16	16	14	14	14	16	16
29	16	14	15	15	15	15	15	15	15	15	15	16	16	16	16	16	14	14	14	15	15	15	14	14
30	14	15	14	15	16	16	15	14	16	16	10	8	8	8	8	8	8	8	8	14	15	16	14	16
31	14	14	14	14	15	15	14	14	15	15	15	15	16	15	15	15	15	15	15	15	15	15	15	15

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: JAN, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	9	9	11	10	9	9	8	8	7	5	5	6	6	5	5	6	6	5	8	8	10	14	14	18	18	23	8.38
2	20	20	25	29	30	27	27	25	25	25	25	25	25	22	20	19	22	20	22	21	22	22	22	21	30	4	23.38
3	20	20	18	18	18	16	16	16	16	15	12	10	6	5	4	4	3	5	4	14	7	6	7	10	20	0	11.25
4	6	6	5	6	6	6	6	6	5	5	5	5	5	5	4	4	4	3	3	7	6	5	5	5	7	19	5.13
5	2	2	5	7	5	6	12	15	20	20	16	12	12	9	13	18	20	22	25	30	30	25	26	30	30	19	15.92
6	28	25	19	18	18	20	16	20	19	20	25	30	32	28	30	25	25	25	28	22	22	22	22	28	32	12	23.63
7	22	22	22	22	22	24	24	24	24	25	25	20	19	18	20	15	15	14	16	20	22	22	18	18	25	9	20.54
8	22	20	18	18	18	13	14	14	14	14	12	8	5	5	5	5	5	5	5	5	5	2	2	3	22	0	9.88
9	15	15	15	18	14	15	20	15	15	19	20	19	19	15	14	15	18	20	20	20	25	30	25	25	30	21	18.58
10	19	15	15	15	15	15	19	20	24	26	25	26	26	32	28	25	25	25	25	24	25	20	20	20	32	13	22.04
11	24	22	19	20	18	18	14	17	17	15	8	4	4	4	4	4	7	15	18	15	9	15	12	15	24	0	13.25
12	18	15	18	18	20	18	15	18	25	25	25	25	20	24	25	25	19	20	18	20	20	24	20	19	25	8	20.58
13	19	20	25	25	30	26	25	25	30	30	30	30	32	30	30	30	30	25	25	25	25	24	20	20	32	12	26.29
14	25	26	25	25	24	25	25	25	25	20	18	19	15	15	15	14	15	15	15	14	14	13	14	12	26	1	18.88
15	9	9	5	5	4	5	5	5	4	4	5	5	5	5	5	6	5	5	2	3	4	4	5	5	9	0	4.9
16	9	5	4	4	6	5	8	9	15	20	15	12	15	12	4	12	15	10	16	18	18	18	18	16	20	9	11.1
17	23	20	20	20	20	19	18	18	18	18	19	22	22	25	19	22	20	19	20	20	20	15	20	24	25	13	20.04
18	18	16	18	18	24	22	20	20	18	20	20	18	14	14	14	15	15	18	14	8	14	14	10	9	24	4	16.29
19	10	14	14	14	15	14	15	14	10	8	5	5	5	5	5	5	4	3	3	3	10	8	5	6	15	4	8.33
20	5	6	7	10	8	8	10	12	10	5	6	5	5	5	5	4	3	5	8	10	12	14	14	14	14	21	7.96
21	10	14	14	14	12	15	12	15	15	14	8	5	5	5	5	4	3	6	6	8	12	14	14	12	15	5	10.08
22	15	14	14	14	14	15	16	18	16	14	15	10	6	6	5	6	5	5	2	2	5	5	5	4	18	7	9.63
23	4	8	8	3	3	5	5	5	5	4	5	8	12	7	8	6	7	5	5	5	5	5	5	5	12	12	5.75
24	5	5	5	6	5	4	8	8	8	10	14	8	16	19	18	18	18	14	10	14	10	9	5	5	19	13	10.08
25	5	5	5	5	5	6	6	4	3	4	5	8	8	10	9	6	8	5	5	5	5	4	5	5	10	13	5.67
26	8	8	6	8	8	8	10	10	15	15	14	10	9	10	10	10	15	15	15	14	14	14	14	12	15	8	11.33
27	12	14	10	4	6	10	14	16	15	20	25	25	23	25	16	10	9	15	14	15	13	13	13	13	25	10	14.58
28	14	15	15	17	14	13	12	15	15	16	10	15	8	7	12	9	8	10	7	8	10	10	12	12	17	3	11.83
29	9	10	12	12	15	20	20	12	12	14	18	19	15	18	16	9	9	10	12	15	15	14	15	16	20	5	14.04
30	12	13	15	15	10	10	9	9	7	5	5	5	5	5	5	5	5	4	4	4	8	11	12	8	15	2	7.96
31	15	16	20	23	25	25	25	28	27	30	30	35	34	29	30	30	28	26	28	26	26	28	26	26	35	11	26.50
AV	14	14	14	14	14	14	15	15	15	16	15	15	14	14	13	12	13	13	13	14	14	14	14	14			14.02
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: FEB, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	15	16	16	15	16	15	15	15	15	15	15	15	15	15	16	14	15	14	14	15	14	15	14
2	15	15	14	14	14	14	14	14	14	14	14	14	14	12	10	10	12	12	10	10	10	15	15	16
3	16	16	16	14	15	14	16	16	16	16	16	16	15	15	14	15	14	14	16	14	16	16	16	16
4	15	14	14	15	15	15	14	14	14	14	14	14	14	15	15	14	14	14	15	14	16	16	14	14
5	14	14	14	14	16	15	14	14	14	14	16	16	16	14	15	14	10	8	16	14	14	15	16	16
6	16	16	16	16	16	16	16	12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	14	14	14	15	14	14	15	14	15	14
9	14	15	14	14	15	14	16	16	16	16	14	8	8	8	8	8	8	8	8	7	8	14	14	14
10	14	14	16	16	16	16	12	8	8	6	5	6	6	5	9	9	9	9	8	8	8	6	8	8
11	8	8	8	14	14	14	14	16	14	16	14	15	14	14	14	14	15	15	15	15	15	16	16	16
12	16	16	16	16	16	15	16	16	16	16	16	16	15	15	14	15	15	15	16	15	15	14	14	14
13	15	14	14	14	14	14	14	14	14	14	14	14	15	15	15	15	15	15	14	14	14	14	14	14
14	15	14	14	14	15	15	15	14	15	15	16	16	16	15	15	15	15	15	14	14	14	15	15	15
15	16	15	15	15	14	16	16	16	16	15	16	16	8	8	8	8	8	8	8	8	8	8	8	8
16	14	14	14	16	16	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8	8	8
18	8	7	7	6	8	8	7	8	8	8	8	8	8	8	8	10	10	8	6	8	8	8	8	12
19	2	2	2	14	14	15	16	16	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
20	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	8	12	11	14	2	14	14	16
21	14	14	14	14	14	15	15	15	15	15	15	15	15	16	16	16	14	14	15	16	15	15	16	16
22	16	15	14	14	14	14	14	14	14	14	14	14	15	14	14	14	15	14	14	15	14	14	16	14
23	15	14	14	14	14	14	15	16	14	12	14	16	16	14	14	16	14	16	16	14	14	16	16	15
24	15	15	14	14	16	16	16	15	15	16	10	10	12	8	8	8	8	8	6	14	14	14	14	15
25	14	14	15	14	16	16	14	14	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
26	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8	6	8	3
27	8	16	16	14	16	16	16	16	16	15	16	14	14	12	16	14	14	14	16	14	16	16	14	16
28	15	15	15	15	15	16	16	16	14	16	16	16	16	16	16	16	16	16	14	14	14	16	14	16

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: FEB, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	25	24	25	28	30	30	29	29	30	30	30	30	30	28	25	28	25	25	25	28	29	29	29	25	30	4	27.75
2	24	24	24	22	24	25	25	20	18	15	15	14	14	14	15	15	14	15	14	15	15	10	12	9	25	5	17.17
3	5	5	5	6	6	5	5	5	4	4	5	8	8	5	4	4	9	5	4	4	6	4	5	9	9	16	5.42
4	10	12	10	12	15	18	20	20	20	24	20	18	18	18	15	15	14	10	10	10	12	14	12	10	24	9	14.88
5	10	10	12	9	10	11	10	10	10	8	5	5	5	4	5	5	5	3	8	3	5	6	5	5	12	2	7.04
6	5	5	7	6	5	5	5	4	5	5	5	6	9	10	14	14	14	10	14	8	6	8	8	10	14	14	7.83
7	11	10	14	13	10	13	12	15	20	18	12	10	15	18	18	20	16	14	9	9	10	9	9	9	20	8	13.08
8	12	9	6	5	6	5	5	5	6	8	6	4	5	5	6	8	15	15	18	18	16	16	20	19	20	22	9.92
9	13	10	10	15	14	13	9	10	10	9	6	5	5	5	5	6	6	5	4	3	4	8	8	8	15	3	7.96
10	9	8	6	6	6	5	5	4	8	8	8	8	8	8	8	8	8	9	8	4	4	4	4	4	9	0	6.58
11	4	4	4	15	18	25	24	19	20	25	25	20	20	25	24	25	24	19	15	15	19	25	25	25	25	5	19.33
12	20	20	20	20	25	25	25	28	30	28	26	30	38	38	30	30	26	25	26	34	35	35	30	34	38	12	28.25
13	30	29	25	28	32	38	38	38	38	35	29	30	26	28	29	30	24	24	20	20	19	20	24	24	38	5	28.25
14	19	20	17	19	24	25	20	19	19	18	20	20	19	20	20	19	15	10	10	10	10	13	13	15	25	5	17.25
15	14	14	15	14	15	14	14	14	14	10	10	5	5	5	5	5	6	4	4	3	3	3	3	3	15	2	8.4
16	8	8	8	6	6	5	5	5	6	5	5	5	9	10	15	14	10	10	10	10	10	9	8	8	15	14	8.1
17	10	15	14	9	14	15	14	12	12	12	10	9	6	3	6	6	6	7	6	6	6	5	5	5	15	1	8.88
18	6	5	5	5	5	5	5	5	6	6	6	14	14	10	9	10	8	5	5	6	5	5	4	4	14	11	6.58
19	5	4	4	5	5	5	5	5	5	6	6	6	6	9	10	9	10	12	10	10	14	18	19	20	20	23	8.67
20	24	24	20	15	15	9	6	5	4	5	9	6	5	5	5	5	5	5	5	5	4	4	4	5	24	0	8.29
21	8	6	8	10	9	11	14	15	19	15	15	9	10	10	10	10	6	5	8	12	12	15	15	18	19	8	11.25
22	15	14	15	19	20	25	25	30	25	20	25	19	18	15	16	16	16	20	16	15	16	16	18	18	30	7	18.83
23	18	15	16	15	14	14	14	15	16	14	12	15	16	15	15	15	15	5	4	5	6	10	10	14	18	0	12.83
24	14	14	10	10	8	10	15	14	15	10	5	5	5	5	5	6	5	4	3	4	5	6	9	8	15	6	8.13
25	5	4	5	6	7	5	6	6	5	5	6	6	6	6	6	6	6	5	5	4	4	4	4	4	7	4	5.25
26	4	4	4	4	4	4	5	5	6	6	6	5	5	5	5	5	6	5	4	4	4	3	4	3	6	8	4.58
27	4	4	5	5	3	4	5	6	7	7	10	9	8	6	7	9	12	10	20	21	19	20	25	20	25	22	10.25
28	10	14	15	15	15	10	10	12	15	20	20	25	20	20	18	18	16	12	9	10	15	14	14	14	25	11	15.04
AV	12	12	12	12	13	14	13	13	14	13	13	12	13	13	13	13	12	11	11	11	11	12	12	13			12.35
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: MAR, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	15	16	15	14	15	16	14	14	16	16	16	16	16	16	16	16	16	14	14	14	14	14	14
2	15	15	14	14	14	14	15	16	14	14	16	14	14	12	8	10	8	10	10	8	14	14	14	16
3	16	16	16	16	14	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	8	8	14	16	8	16	10	16	10	8	8	8	8	8	8	8	8	8	8	8	10	8	8	8
5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	6	8	8	8	8	8	8	16	16	8	8	8	16	14	14	14	14	14	14	10	14	14	16	16
7	15	14	14	14	16	14	16	16	16	15	16	16	16	16	8	8	8	9	8	8	8	8	8	8
8	8	8	8	14	14	8	8	8	8	8	10	8	8	8	8	8	8	8	8	8	8	8	16	14
9	16	16	14	16	14	16	16	14	12	8	8	8	8	8	8	8	10	7	7	7	8	8	12	16
10	16	16	16	16	14	16	14	16	8	8	8	8	8	8	8	8	8	6	8	8	8	8	8	8
11	7	8	8	8	8	8	12	16	15	15	14	14	14	14	15	15	15	14	14	14	14	14	15	15
12	15	16	15	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15
13	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15	15	15	15	14	14
14	16	15	14	14	14	14	15	16	15	15	16	16	10	8	8	8	8	8	15	14	14	14	15	16
15	16	14	16	8	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
16	7	8	8	8	8	8	8	8	9	9	8	8	8	8	8	8	8	8	14	15	16	16	16	16
17	16	15	14	15	14	14	14	14	15	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8
18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
20	8	8	8	8	10	8	8	10	8	8	8	8	8	8	8	8	8	8	8	8	4	15	16	16
21	16	16	16	15	14	14	14	16	2	12	8	8	8	8	8	8	8	10	12	12	12	8	8	8
22	8	9	8	8	8	8	8	8	8	8	8	8	8	8	14	14	14	14	15	14	14	14	15	15
23	14	14	14	15	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
24	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	14	12	16	15
25	14	14	12	8	7	8	8	8	10	12	8	8	8	8	8	8	8	8	8	8	8	16	14	14
26	14	14	14	14	14	14	14	15	14	14	13	14	14	14	8	8	8	8	8	8	8	14	14	13
27	14	14	16	16	14	14	14	8	8	8	8	7	8	8	8	8	8	8	8	8	8	8	14	15
28	14	14	14	14	14	14	16	16	16	14	8	8	8	8	8	8	8	8	7	7	8	9	15	15
29	15	14	15	16	16	14	15	16	16	8	8	8	8	9	8	8	8	8	8	8	8	13	10	10
30	8	12	8	8	6	12	11	6	6	6	6	6	12	10	10	8	8	8	8	8	8	14	15	14
31	14	14	14	14	14	14	14	15	16	8	8	8	8	8	8	8	8	8	8	8	14	14	14	15

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: MAR, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	10	12	12	10	15	15	15	17	18	18	25	24	22	22	19	15	15	10	9	10	15	11	14	15	25	10	15.33
2	12	16	16	15	16	15	16	16	15	15	15	15	10	8	6	7	6	6	6	6	10	10	14	9	16	1	11.67
3	8	8	9	12	12	14	10	9	6	6	6	6	6	8	8	6	6	5	4	5	5	5	5	5	14	5	7.25
4	4	4	12	12	6	5	5	5	5	5	5	5	6	6	6	6	6	6	5	5	5	5	5	3	12	2	5.71
5	3	4	5	5	5	5	4	4	4	4	4	4	5	5	5	5	6	6	6	5	6	6	7	6	7	22	4.96
6	4	4	4	5	4	5	5	5	4	5	5	5	5	5	5	6	6	5	7	6	7	12	10	10	12	21	5.79
7	8	8	14	10	10	10	10	10	15	15	10	14	14	9	9	8	8	9	6	5	5	5	5	5	15	8	9.25
8	5	5	5	5	5	5	4	4	4	4	5	5	5	5	5	5	5	5	5	5	4	3	4	6	6	23	4.71
9	6	6	6	5	5	5	7	10	7	5	5	6	6	6	7	6	6	4	4	4	4	4	4	4	10	7	5.50
10	5	5	5	6	6	5	5	5	6	5	5	6	6	6	6	6	6	5	6	5	6	6	6	6	6	3	5.58
11	6	6	4	4	4	4	4	8	19	25	25	25	25	20	25	24	24	24	25	25	25	25	25	20	25	9	17.54
12	22	25	25	24	20	25	30	28	24	22	24	25	20	20	14	15	18	14	13	15	14	15	18	20	30	6	20.42
13	25	20	18	18	15	15	15	15	20	20	15	18	20	18	18	17	12	9	10	14	14	15	15	18	25	0	16.42
14	16	14	15	17	16	15	15	14	14	12	10	9	6	6	6	6	6	4	6	8	10	14	13	8	17	3	10.83
15	7	5	4	3	3	3	5	5	6	6	6	6	8	8	9	9	9	8	6	6	3	4	4	4	9	14	5.71
16	3	4	4	4	3	3	4	4	5	5	6	5	6	6	6	7	6	5	9	10	12	12	9	9	12	20	6.1
17	12	16	15	15	15	15	15	15	10	6	6	6	5	6	6	6	5	5	5	6	5	5	5	5	16	1	8.75
18	5	5	6	6	5	5	5	5	6	6	10	12	12	10	12	10	10	10	10	9	10	8	9	6	12	11	8.00
19	5	5	5	6	9	9	8	8	8	8	7	7	6	6	6	6	5	5	5	5	4	4	4	4	9	4	6.04
20	4	4	4	4	4	4	4	5	6	6	6	7	6	5	5	5	5	5	5	5	7	12	12	6	12	21	5.67
21	5	5	6	9	9	6	5	5	4	4	6	6	6	6	5	5	5	4	4	5	4	3	3	6	9	3	5.25
22	5	6	6	6	9	10	10	9	10	10	9	8	7	6	8	14	16	16	19	20	20	20	24	22	24	22	12.08
23	25	25	19	15	14	10	9	7	8	7	8	9	9	10	10	14	10	7	6	8	9	12	10	10	25	0	11.29
24	12	12	10	10	9	10	12	14	10	12	15	15	15	16	15	18	20	17	15	8	9	8	6	6	20	16	12.25
25	4	4	4	3	3	3	3	3	5	5	5	5	5	4	4	4	5	5	3	2	3	4	5	5	5	8	4.00
26	4	6	14	15	13	12	10	12	14	12	10	10	10	8	8	7	8	6	6	5	5	7	8	8	15	3	9.08
27	8	10	9	6	6	8	8	6	6	6	5	5	5	5	5	8	6	5	4	4	4	3	3	3	10	1	5.75
28	4	5	5	6	8	10	10	10	10	10	5	6	5	3	3	4	4	4	3	3	2	1	7	7	10	5	5.63
29	11	8	6	5	5	6	8	5	5	3	5	5	5	6	5	6	7	5	5	3	4	4	4	4	11	0	5.42
30	4	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	6	8	8	23	4.08
31	10	16	18	18	14	15	12	10	10	9	8	8	8	8	9	8	9	9	8	6	9	10	10	12	18	2	10.58
AV	8	9	9	9	9	9	9	9	9	9	9	9	9	8	8	9	9	7	7	7	8	8	9	8			8.60
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: APR, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	15	15	14	15	1	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	16
2	10	12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3	8	8	8	8	8	8	1	14	12	8	8	8	8	8	8	8	8	8	8	8	10	14	12	16
4	8	8	8	8	8	14	9	10	10	8	8	14	14	15	14	14	15	15	14	14	14	15	16	16
5	15	15	14	16	14	15	15	15	15	14	16	14	8	8	8	8	8	8	10	14	14	14	16	16
6	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	6	8	4	5
7	4	4	5	6	6	6	5	5	5	4	4	4	4	5	5	5	5	5	5	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	8	10	12	12	12	14
28	14	14	8	1	1	16	16	16	16	16	15	12	8	8	8	8	8	8	8	8	8	8	12	14
29	14	8	8	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	12	8
30	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: APR, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	10	16	15	15	15	14	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	3	4	16	1	7.67
2	4	3	3	3	3	3	3	4	4	4	5	5	6	6	5	5	5	5	5	3	3	3	3	3	6	12	4.00
3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	6	6	6	6	5	4	3	3	3	3	6	14	3.92
4	4	4	3	3	3	3	4	4	4	4	4	8	13	10	8	7	14	18	14	16	18	19	15	16	19	21	9.00
5	15	15	15	15	14	14	14	15	14	13	14	10	6	7	8	8	7	8	6	5	5	5	5	4	15	0	10.08
6	4	3	3	3	3	3	3	3	3	3	5	6	7	6	7	6	6	6	5	4	4	4	3	3	7	12	4.29
7	3	3	3	3	3	5	5	5	3	2	3	3	3	3	3	3	5	6	5	-	-	-	-	-	6	17	3.63
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8	7	5	4	5	5	5	5	8	16	5.56
28	4	4	5	5	6	9	8	8	10	10	9	9	8	8	6	5	5	4	4	3	3	3	3	4	10	8	5.96
29	4	4	3	4	4	4	4	4	4	4	5	5	6	6	7	8	8	6	5	5	5	4	4	4	8	15	4.88
30	4	3	3	3	4	4	3	3	4	4	4	4	5	6	7	6	6	6	5	4	3	3	3	3	7	14	4.17
AV	6	6	6	6	6	6	5	6	6	5	6	6	6	6	6	6	7	7	6	5	5	5	5	5			5.74
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: MAY, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	8	8	11	16	15	16	12	12	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8
3	8	8	8	8	8	8	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	8	14	14	14	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
7	8	8	8	8	8	6	8	8	8	8	8	8	8	8	8	8	8	8	14	14	14	15	15	16
8	14	14	14	14	16	16	16	16	16	8	8	8	8	8	5	5	5	4	4	3	4	3	4	4
9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	8	8	14	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
11	8	14	16	14	8	16	16	8	8	8	8	8	7	8	8	8	8	8	8	8	8	8	10	12
12	8	8	16	14	14	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	8	9	8	8	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10
14	8	8	12	16	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	8	8	8	16	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	8	8	8	8	8
17	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	8	8
18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8	7	8	8	8	8	14	6
19	8	12	14	14	14	15	16	8	9	8	8	8	8	8	8	8	8	8	8	8	6	14	14	14
20	14	14	16	16	16	14	15	15	14	15	15	12	9	8	8	8	8	8	8	8	16	14	14	14
21	14	16	16	15	14	15	14	15	15	8	8	8	8	8	8	8	8	9	9	8	8	8	8	8
22	8	8	8	8	8	15	8	8	7	8	8	8	9	8	9	8	8	8	8	8	8	8	8	8
23	8	7	8	14	14	15	12	16	12	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8
24	8	7	8	8	8	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
25	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
26	8	8	8	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	16	15	14
27	15	14	12	14	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	14	15
28	14	14	16	16	16	14	14	8	16	8	8	8	8	8	8	8	8	8	8	8	14	14	16	8
29	14	14	14	14	16	12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
30	14	14	14	8	8	8	8	8	14	16	12	8	8	8	8	8	8	8	8	8	8	8	8	8
31	8	8	8	8	14	14	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	16	4	16

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: MAY, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	3	3	3	3	3	3	4	4	4	4	4	5	8	6	5	6	5	5	5	6	5	5	4	3	8	12	4.42
2	3	2	3	3	4	3	3	3	4	4	4	6	6	6	6	6	5	5	5	3	3	3	3	3	6	11	4.00
3	4	4	4	3	3	3	3	4	5	5	5	5	6	6	7	9	8	8	6	6	5	5	5	5	9	15	5.17
4	3	3	5	6	5	4	4	5	5	5	5	5	6	6	7	9	8	6	6	5	5	5	5	5	9	15	5.33
5	5	5	5	5	5	4	5	6	6	6	6	6	6	5	5	5	7	8	8	8	8	8	8	6	8	17	6.08
6	6	6	6	6	5	5	6	6	6	6	8	8	10	11	10	12	8	5	6	5	4	4	4	4	12	15	6.54
7	3	3	3	2	2	2	3	4	4	4	5	5	6	6	6	5	5	4	6	8	8	8	8	8	8	19	4.92
8	9	10	12	12	10	9	8	5	5	4	4	5	5	6	8	8	8	6	6	2	8	8	8	8	12	2	7.25
9	2	2	3	2	2	3	3	4	4	5	5	5	5	5	5	5	5	5	4	3	2	2	3	3	5	9	3.63
10	3	3	4	3	2	3	3	3	4	4	5	5	5	5	5	5	5	4	4	5	5	3	3	5	5	10	4.00
11	3	4	5	5	4	4	4	3	5	5	5	6	6	6	6	8	8	6	6	8	5	5	3	3	8	15	5.13
12	5	5	5	8	4	4	3	4	5	6	5	5	4	4	5	5	5	5	6	5	5	5	4	4	8	3	4.83
13	4	3	3	3	3	3	4	4	4	5	5	5	6	6	5	5	5	5	5	4	4	4	4	4	6	12	4.29
14	3	3	4	5	5	2	3	3	3	3	5	6	8	8	7	8	7	6	5	5	4	3	3	5	8	12	4.75
15	5	3	3	3	3	3	4	4	5	5	6	6	6	6	6	5	8	7	7	6	5	4	4	5	8	16	4.9
16	5	6	5	6	5	6	5	5	6	8	9	10	8	10	9	9	8	6	5	5	5	5	5	6	10	11	6.5
17	9	8	9	9	10	10	9	10	10	8	6	6	6	9	10	10	6	6	5	5	4	3	3	3	10	4	7.25
18	3	3	2	2	3	4	4	5	5	5	5	5	4	4	4	3	3	3	2	3	3	3	3	3	5	7	3.50
19	3	3	3	2	3	2	3	5	5	5	5	5	5	6	6	6	6	5	4	4	4	4	6	6	6	13	4.42
20	5	5	3	3	12	20	16	15	10	8	6	6	6	6	6	9	8	8	6	4	6	8	10	11	20	5	8.21
21	10	6	5	5	4	5	5	6	6	5	4	5	5	6	10	10	9	8	6	5	4	4	4	4	10	0	5.88
22	3	3	4	3	4	3	3	4	4	4	4	5	5	5	6	5	8	7	6	6	5	5	5	4	8	16	4.63
23	4	3	3	8	10	6	5	5	3	5	5	5	5	5	5	6	6	5	6	5	6	5	5	4	10	4	5.21
24	4	3	4	3	3	3	2	2	3	3	4	4	6	8	10	9	9	6	6	6	9	9	8	6	10	14	5.42
25	4	5	6	3	5	5	4	5	5	4	4	4	5	5	6	6	6	5	5	5	5	4	4	4	6	2	4.75
26	4	4	3	3	3	3	3	3	3	4	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	11	4.21
27	5	3	3	3	2	3	5	5	5	6	8	8	9	5	9	8	9	8	6	6	6	12	14	14	14	22	6.75
28	10	8	5	5	4	3	3	4	5	5	6	8	7	8	8	9	8	8	5	4	6	9	5	3	10	0	6.08
29	5	8	8	8	5	4	4	4	4	4	5	5	6	6	5	6	5	5	4	4	4	4	4	4	8	1	5.04
30	8	6	5	4	4	4	4	8	15	8	5	6	9	10	10	9	9	10	12	10	9	9	10	6	15	8	7.92
31	5	5	5	5	5	5	4	3	3	4	5	5	5	5	8	6	5	5	4	4	4	4	3	3	8	14	4.58
AV	5	4	5	5	5	5	4	5	5	5	5	6	6	6	7	7	7	6	6	5	5	5	5	5			5.34
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: JUN, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	14	14	14	14	14	15	14	15	15	16	14	8	8	8	8	8	8	8	12	8	14	14	14
2	14	14	14	15	14	14	15	15	14	16	8	8	8	8	8	8	8	8	8	8	8	16	16	15
3	16	16	15	16	16	14	8	10	14	8	8	8	8	8	8	8	8	8	8	8	8	16	10	12
4	8	12	14	16	16	16	16	16	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	12	16	14
7	15	15	15	14	15	14	14	15	15	14	8	8	8	8	8	8	8	8	8	8	14	14	14	14
8	14	14	14	14	16	8	12	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	8
9	8	8	8	7	14	12	10	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8
10	9	12	10	8	14	14	16	8	8	8	8	8	8	8	8	8	8	8	7	7	7	8	8	14
11	12	11	11	12	12	14	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8	8	7	8	8	8	8	8	8	8
14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4	4	5	8	14	13
16	13	6	6	6	6	6	7	8	4	6	8	7	8	8	8	8	8	5	8	8	8	14	13	14
17	14	14	8	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	9	7	8	4	4	5
18	14	14	15	16	16	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	4
19	4	4	4	4	3	3	4	6	12	14	14	8	8	8	8	8	8	8	8	8	8	8	8	4
20	4	4	3	4	3	4	5	4	6	6	8	6	8	8	8	7	8	8	8	8	8	8	8	8
21	8	8	14	14	8	14	8	8	8	8	7	8	8	8	8	7	8	8	8	16	15	15	1	2
22	8	14	14	14	14	14	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
23	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	8	10	8	8	8	8	8	8
24	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
25	8	8	8	9	8	8	8	16	8	8	12	14	8	10	10	8	8	10	8	8	8	8	8	8
26	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
27	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
28	8	8	8	8	8	8	8	8	8	8	8	10	14	14	14	8	8	8	8	14	14	14	8	8
29	8	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	16	8	8	8
30	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: JUN, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	10	15	16	24	24	21	19	20	16	12	10	6	6	6	8	9	10	9	5	5	5	14	14	20	24	3	12.67
2	20	15	12	6	5	6	6	14	15	10	6	5	6	6	6	5	5	4	4	5	5	8	10	12	20	0	8.17
3	10	10	20	16	5	3	3	5	6	5	5	5	5	6	6	6	6	5	5	4	4	6	3	5	20	2	6.42
4	3	3	12	5	5	6	5	7	8	6	6	3	8	9	9	6	6	6	5	3	2	2	3	3	12	2	5.46
5	4	4	3	3	3	3	5	5	6	6	10	10	10	11	10	9	10	6	6	4	4	3	3	3	11	13	5.88
6	3	3	3	3	4	3	3	3	5	5	6	9	10	10	9	10	10	6	5	4	4	5	5	12	12	23	5.83
7	10	18	20	15	10	14	14	10	10	6	5	5	5	6	6	6	6	5	4	4	4	18	19	20	20	2	10.00
8	25	25	16	15	5	2	2	3	3	4	4	4	5	6	7	6	6	5	4	3	3	3	3	2	25	0	6.71
9	3	3	3	2	2	2	2	2	3	4	4	5	5	5	6	6	5	4	4	4	4	3	3	3	6	14	3.63
10	3	3	3	3	3	3	3	4	4	4	5	5	5	5	6	5	5	4	3	3	2	2	2	3	6	14	3.67
11	3	3	3	3	3	4	4	3	5	5	6	7	6	6	6	6	5	4	5	5	4	4	4	3	7	11	4.46
12	3	3	3	4	4	3	3	4	4	6	8	9	9	8	8	9	8	6	5	4	3	3	3	3	9	11	5.13
13	3	3	3	3	4	4	3	3	5	5	6	8	8	6	9	6	6	6	5	5	5	5	6	5	9	14	5.08
14	5	4	5	4	5	6	5	5	6	6	8	8	9	10	12	12	10	10	10	8	8	8	8	8	12	14	7.50
15	8	8	6	6	5	5	5	5	5	8	8	8	8	6	5	4	3	4	4	5	4	3	4	5	8	0	5.50
16	5	3	2	2	2	2	2	3	3	3	4	5	5	6	6	8	9	6	5	5	5	7	8	8	9	16	4.7
17	4	3	2	2	2	2	3	3	4	5	6	7	8	9	9	10	10	10	9	6	5	4	4	4	10	15	5.46
18	6	6	4	5	4	2	2	2	2	3	3	4	5	6	6	6	6	6	8	8	5	5	5	5	8	18	4.75
19	3	3	3	3	3	3	3	3	4	5	4	4	4	5	5	6	8	9	8	8	8	6	5	4	9	17	4.88
20	3	3	3	3	3	3	3	3	3	3	4	3	3	4	4	4	5	5	8	8	8	5	4	4	8	18	4.13
21	3	4	3	3	4	4	3	3	5	4	5	6	6	5	4	4	5	2	3	4	4	4	4	4	6	11	4.00
22	6	6	6	9	10	9	10	5	5	6	7	5	6	6	6	5	5	5	5	5	6	6	4	3	10	4	6.08
23	4	5	5	5	4	4	4	4	4	3	3	4	4	3	3	4	4	4	2	3	4	4	5	5	5	1	3.92
24	5	6	8	10	9	9	8	8	5	5	5	5	5	6	10	10	6	5	5	5	5	5	5	5	10	3	6.46
25	4	4	4	3	3	3	4	4	4	4	4	5	5	3	3	3	5	5	5	5	4	4	4	4	5	11	4.00
26	6	5	5	5	4	4	4	3	3	3	3	3	4	4	4	3	3	3	2	5	6	5	6	6	6	0	4.13
27	6	5	5	5	4	4	4	3	3	3	3	3	4	4	4	3	3	3	2	5	6	5	6	6	6	0	4.13
28	5	6	6	6	10	9	10	10	8	5	4	5	6	16	10	5	4	3	5	12	15	15	5	6	16	13	7.75
29	6	6	8	8	10	9	8	6	6	5	5	2	2	2	2	2	4	4	4	4	5	4	5	6	10	4	5.13
30	6	8	9	10	10	8	8	5	5	4	3	3	2	3	3	3	3	3	2	3	4	4	5	5	10	3	4.96
AV	6	6	7	6	6	5	5	5	6	5	5	5	6	6	6	6	6	5	5	5	5	6	6	6			5.69
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: JUL, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	8	8	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8
3	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	9	9	8	8	8	8	8	8	8
4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	7	8	8
5	8	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	8	8	8	8	8	8	8	8	16	16	16	16	16	15	16	16	16	16	16	16	14	16	16	8
7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	8	8	15	14	16	16	16	16	10	8	10	8	8	8	8	8	8	8	8	8	8	8	4	4
9	4	12	14	13	14	8	6	4	8	8	8	8	8	8	8	8	8	8	8	8	6	6	6	6
10	4	8	8	8	14	8	8	8	7	8	8	8	8	8	9	8	8	8	8	8	8	8	12	12
11	8	6	4	6	6	8	14	4	8	8	8	8	8	8	8	8	8	8	8	8	8	6	6	4
12	7	8	4	4	4	7	8	4	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	10	8	8	8	8	8	8	8	7	7	8	7	7	7	8	8	8	8	8	8	6	8	5	6
14	8	8	8	8	8	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	8	8	8	8	7	8	8	8	8	7	7	8	8	8	8	8	8	8	8	8	8	6	13	8
16	10	14	8	14	14	15	16	16	16	8	8	8	8	8	8	8	8	7	8	8	8	8	8	10
17	14	4	8	13	14	8	14	16	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8
18	16	8	15	14	14	14	15	8	6	7	7	8	8	8	8	8	8	8	8	8	7	7	8	8
19	7	7	8	13	8	8	8	8	8	6	6	8	8	8	8	8	8	8	8	8	8	8	8	8
20	8	10	10	8	8	8	15	14	8	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8
21	8	10	8	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
22	8	8	8	8	8	15	16	16	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8
23	8	8	14	8	16	8	16	1	8	8	8	8	8	8	7	8	8	8	8	8	8	8	8	8
24	8	16	8	8	14	16	16	16	8	8	8	8	7	8	8	8	8	8	8	8	8	16	8	14
25	10	8	8	8	8	14	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	15	14
26	8	6	16	8	14	8	16	15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
27	8	8	8	8	8	8	8	14	12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
28	8	8	8	8	14	8	16	16	16	8	16	8	8	8	8	8	8	8	8	8	8	8	8	7
29	8	16	16	8	8	16	16	16	15	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8
30	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
31	8	7	8	8	10	14	14	16	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: JUL, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	6	6	5	5	5	6	8	8	10	10	8	8	6	5	5	5	5	4	4	4	4	5	5	4	10	8	5.88
2	5	4	4	4	5	5	5	5	5	5	6	8	8	8	8	6	6	8	6	6	8	8	9	10	10	23	6.33
3	10	8	6	6	5	4	4	3	3	5	8	5	5	5	5	6	5	4	3	3	4	4	4	4	10	0	4.96
4	5	5	6	8	8	8	7	6	8	8	12	14	14	12	12	8	6	5	5	4	5	4	4	5	14	11	7.46
5	5	4	4	5	5	5	6	5	4	3	3	3	3	3	3	4	5	5	5	5	5	5	6	6	6	6	4.46
6	8	6	5	4	3	3	3	3	3	3	3	4	5	5	4	5	5	5	4	3	3	4	4	3	8	0	4.08
7	3	2	3	3	4	5	5	5	5	6	6	5	5	4	3	3	3	2	3	3	3	4	4	4	6	9	3.88
8	4	4	4	3	4	4	4	3	3	3	4	5	5	5	5	5	5	4	4	3	3	3	3	3	5	11	3.88
9	3	3	3	3	3	3	3	3	5	5	6	6	6	5	5	5	5	4	4	3	3	2	2	2	6	10	3.83
10	2	2	2	3	2	2	3	3	5	5	5	6	7	6	6	6	5	4	4	3	2	2	3	3	7	12	3.79
11	3	2	2	2	2	3	3	3	4	5	5	6	6	5	5	5	4	4	4	3	3	3	3	6	6	11	3.79
12	4	4	3	3	3	4	4	3	4	6	6	8	8	8	10	10	8	6	6	5	4	4	4	2	10	14	5.29
13	2	3	3	3	3	3	3	3	3	4	5	5	5	6	6	8	8	8	6	4	4	3	3	2	8	15	4.29
14	2	3	3	4	4	3	3	3	4	4	5	7	7	7	8	8	6	6	5	5	3	2	2	3	8	14	4.46
15	2	3	3	3	3	3	3	4	4	5	6	7	10	9	10	10	10	8	8	6	5	4	4	5	10	12	5.67
16	4	4	4	7	8	10	5	5	5	4	6	8	9	8	8	8	6	5	5	5	4	4	4	4	10	5	5.8
17	4	8	4	12	4	5	6	5	5	6	6	6	7	8	8	6	5	4	4	5	4	4	3	3	12	3	5.50
18	4	4	5	8	7	6	5	4	4	5	5	6	5	4	4	5	5	3	3	3	3	3	3	3	8	3	4.46
19	3	3	3	3	3	3	3	3	3	3	4	6	6	8	8	7	7	6	6	5	5	4	3	3	8	13	4.50
20	3	3	3	3	3	4	4	5	5	6	5	5	5	6	6	6	5	5	4	5	5	4	4	4	6	9	4.50
21	4	4	4	4	3	3	3	4	5	6	6	9	8	8	9	10	10	8	6	5	4	3	4	4	10	15	5.58
22	3	3	3	4	4	4	3	4	4	5	5	6	6	7	8	7	6	5	5	4	4	3	2	3	8	14	4.50
23	3	4	4	4	4	4	5	4	4	5	5	5	5	6	6	8	8	6	5	4	4	4	4	4	8	15	4.79
24	4	4	4	4	4	5	5	5	3	4	5	8	8	8	8	8	6	5	4	4	3	3	4	3	8	11	4.96
25	3	3	3	3	4	4	5	6	5	4	5	5	5	5	8	8	8	5	5	5	4	4	4	4	8	14	4.79
26	3	3	4	4	4	4	5	5	4	3	5	5	6	8	8	8	6	5	5	5	4	3	3	4	8	13	4.75
27	4	4	4	3	3	3	3	4	4	4	5	5	7	8	9	9	8	8	8	5	3	3	4	4	9	14	5.08
28	4	4	4	5	6	4	4	5	5	5	4	5	5	8	8	8	9	8	6	5	5	5	5	4	9	16	5.46
29	4	4	3	3	4	5	8	8	12	8	6	6	8	9	8	8	12	10	5	5	4	4	5	4	12	8	6.38
30	3	3	2	2	3	3	3	3	3	4	5	6	8	10	12	12	10	10	8	6	6	6	5	4	12	14	5.71
31	3	3	3	4	4	5	5	4	4	4	4	4	6	6	8	5	5	6	6	5	5	4	4	4	8	14	4.63
AV	4	4	4	4	4	4	4	4	5	5	5	6	7	7	7	7	7	6	5	4	4	4	4	4			4.95
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: AUG, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8	8	8	16	16	8	8	14	8	8	8	8	8	8	8	8	8	8	8	8	8	6	4	14
2	12	16	16	8	8	14	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3	16	14	8	8	8	14	14	14	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	8	8	8	8	8	8	8	14	8	12	16	16	16	7	8	8	8	8	8	8	8	8	8	8
5	14	14	14	16	16	14	16	14	14	15	16	16	16	16	8	8	8	8	8	8	7	7	8	8
6	8	8	8	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8
7	8	8	8	8	8	8	8	8	8	8	14	8	8	8	8	8	8	8	8	8	8	8	8	8
8	7	8	8	8	8	14	14	14	8	9	8	8	8	8	8	8	8	8	8	8	8	14	14	14
9	8	8	14	14	14	14	6	8	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	14	14	14	16	14	14	14	14	14	6	8	8	8	8	8	8	8	8	8	2	6	14	14	16
11	16	16	16	16	15	16	14	16	16	8	8	8	8	8	8	8	8	8	8	16	5	14	14	14
12	8	12	16	16	14	16	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	8	8	6	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	2	14	14	14
14	16	15	15	14	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	16	16	14	14	14
15	14	14	14	8	14	14	14	14	14	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8
16	14	14	14	14	14	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17	8	6	6	8	8	14	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	6	7
18	6	6	6	6	4	5	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	8
19	8	7	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8
20	8	8	8	8	7	6	8	8	8	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8
21	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
22	8	8	14	14	16	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	14	16
23	16	12	6	14	16	16	16	16	16	8	8	8	8	8	8	8	8	8	7	8	8	14	14	14
24	14	16	14	14	14	15	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	16
25	8	8	14	14	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	6	4	4	6	6
26	16	16	12	15	15	14	16	16	8	8	8	8	8	8	8	8	8	8	8	8	14	15	14	14
27	16	16	16	14	6	7	8	8	9	8	8	8	8	8	8	7	8	8	8	7	6	6	14	14
28	14	14	14	12	8	8	8	16	16	16	8	8	8	8	8	10	8	8	7	8	4	8	16	8
29	15	14	14	14	15	12	14	15	14	8	8	8	8	8	8	8	8	8	8	8	8	14	15	14
30	8	8	8	8	8	16	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
31	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: AUG, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	3	3	2	2	2	2	2	3	3	3	4	4	5	6	7	8	8	6	5	5	5	4	5	5	8	15	4.25
2	3	3	3	3	3	4	4	5	4	3	4	4	5	5	6	8	10	10	8	5	4	4	3	3	10	16	4.75
3	3	3	3	3	4	10	15	8	3	3	3	4	5	5	6	8	9	8	6	5	4	3	3	3	15	6	5.29
4	3	2	2	2	3	3	3	4	4	4	5	5	5	5	6	5	6	5	5	5	7	6	5	5	7	20	4.38
5	5	5	5	4	5	8	9	10	12	10	8	8	8	6	5	6	7	8	8	4	3	3	3	3	12	8	6.38
6	4	4	4	4	3	3	3	3	4	5	8	8	8	8	8	7	6	5	5	4	4	4	4	4	8	10	5.00
7	4	4	4	4	4	4	4	3	3	4	8	10	9	11	12	11	8	6	5	5	4	3	3	3	12	14	5.67
8	3	4	4	3	3	4	5	6	5	6	8	8	8	8	10	9	10	8	6	5	4	4	5	4	10	14	5.83
9	3	4	3	3	5	6	6	8	8	8	8	10	12	11	10	10	8	8	8	5	4	3	3	3	12	12	6.54
10	5	6	5	5	5	8	10	12	11	5	4	5	5	5	6	8	8	6	5	4	3	4	4	5	12	7	6.00
11	4	4	5	5	7	7	6	5	6	4	5	5	8	10	10	10	8	8	6	5	3	4	4	3	10	13	5.92
12	4	3	4	5	8	7	5	6	6	5	5	5	8	8	10	10	11	8	6	5	4	4	5	6	11	16	6.17
13	2	3	3	4	4	4	3	4	4	4	4	4	5	5	6	8	8	6	5	3	4	4	5	5	8	15	4.46
14	4	5	5	5	4	4	4	4	4	5	5	6	5	6	6	6	8	5	4	4	4	3	3	3	8	16	4.67
15	4	6	8	7	8	18	17	17	16	10	6	6	6	9	10	14	12	11	8	7	5	4	3	3	18	5	8.9
16	4	5	5	3	4	3	2	2	3	4	5	6	10	11	11	10	8	8	6	5	6	6	5	4	11	13	5.6
17	4	3	3	3	4	4	5	4	5	8	10	14	14	14	12	11	10	10	8	6	5	4	4	4	14	11	7.04
18	3	3	2	2	2	2	2	3	3	4	5	6	8	8	10	8	8	8	8	5	4	3	4	4	10	14	4.79
19	3	3	3	3	3	2	4	4	4	4	4	5	6	7	8	6	6	5	5	4	3	3	3	3	8	14	4.21
20	4	4	5	5	4	3	3	3	4	5	5	6	5	6	6	8	10	8	7	6	5	4	4	4	10	16	5.17
21	3	4	4	4	4	3	3	3	4	5	7	8	10	12	14	12	11	10	9	8	7	6	5	4	14	14	6.67
22	2	3	5	8	7	6	4	4	4	5	8	10	10	10	10	11	10	10	8	8	6	8	8	7	11	15	7.17
23	5	4	3	3	3	5	5	4	4	4	5	5	6	6	6	6	8	5	5	5	5	6	7	7	8	16	5.08
24	5	5	5	4	5	4	5	5	4	4	5	5	5	6	6	8	6	6	5	4	4	4	5	5	8	15	5.00
25	4	3	3	4	4	5	6	6	6	5	5	5	5	5	8	6	5	5	5	4	3	3	3	3	8	14	4.63
26	4	3	3	6	5	5	5	5	4	4	5	6	6	6	10	15	10	8	6	5	5	5	5	5	15	15	5.88
27	5	5	5	5	4	4	4	4	4	5	5	6	5	5	5	5	8	8	6	5	4	4	3	3	8	16	4.88
28	4	4	4	4	3	3	2	3	5	5	5	6	8	8	10	12	10	8	6	5	4	4	5	3	12	15	5.46
29	10	15	15	15	8	8	7	12	12	8	5	5	5	5	5	8	6	7	6	4	3	4	8	8	15	1	7.88
30	4	5	4	4	3	3	4	4	3	4	6	8	7	8	8	7	7	7	8	6	5	5	4	3	8	11	5.29
31	4	4	4	4	3	4	4	4	5	6	8	9	10	10	10	8	9	8	8	7	6	5	5	5	10	12	6.25
AV	4	4	4	4	4	5	5	5	5	5	6	7	7	8	8	9	8	7	6	5	4	4	4	4			5.65
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: SEP, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8	8	7	8	14	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	7	7	8	8	8	8	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	14	16
3	14	14	12	8	14	8	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	8	14	14	14	14	16	15	16	16	8	8	8	8	8	8	8	8	8	8	8	8	14	8	8
5	16	16	14	15	16	16	15	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	6	7
6	8	8	7	8	14	15	16	16	16	8	8	8	8	8	8	8	8	8	8	5	14	14	14	14
7	16	16	16	16	16	15	16	15	16	16	8	8	7	8	8	8	8	8	8	15	15	15	3	7
8	7	7	7	7	15	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	16	16	16
9	15	14	16	15	14	15	15	15	15	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
11	8	4	4	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	8	8
12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10	4	16	8	8
13	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	12	16
14	14	14	14	15	14	14	16	14	14	14	12	8	8	8	8	8	8	8	12	14	14	14	14	15
15	16	15	15	15	15	15	15	14	14	14	16	8	8	8	8	8	8	9	10	14	13	14	16	12
16	14	14	14	16	16	16	16	14	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17	12	15	16	16	15	15	14	8	8	8	8	8	8	8	8	8	8	8	7	8	7	8	8	8
18	8	7	14	10	8	16	16	16	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	8	7	10	12	10	8	8	8	8	8	8	8	8	8	7	7	8	8	8	8	8	14	8	15
20	15	16	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	7	8	8	7
21	8	8	14	15	15	15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	14	14	14
22	14	14	14	14	16	15	14	15	16	8	8	8	8	9	8	8	8	8	2	14	14	14	14	14
23	14	12	8	14	14	14	14	16	8	8	8	8	8	8	8	8	8	8	8	6	7	8	6	7
24	15	16	8	8	8	14	14	15	8	8	8	8	8	8	8	8	8	8	8	8	14	14	15	14
25	15	15	16	16	16	14	16	16	16	16	15	16	8	8	8	8	8	8	8	14	16	14	16	8
26	6	8	14	14	15	14	15	16	16	8	8	8	8	8	8	8	8	8	8	8	7	8	14	14
27	14	16	15	14	14	15	12	8	8	8	8	8	8	8	8	8	8	8	10	16	14	10	14	15
28	16	16	14	15	15	16	14	16	16	8	8	8	8	8	8	8	8	8	10	14	8	8	8	10
29	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	15	14	14	14
30	14	14	14	14	14	14	15	14	15	16	8	8	8	8	8	8	8	8	7	7	8	8	8	8

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: SEP, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	3	4	4	2	5	6	5	5	4	5	6	8	8	8	9	10	11	9	6	5	4	3	4	3	11	16	5.71
2	2	2	2	2	3	3	3	3	4	4	5	5	8	10	10	8	8	6	6	5	4	3	3	5	10	13	4.75
3	6	6	6	4	5	6	6	5	5	5	5	6	5	6	8	8	7	6	5	5	5	4	4	4	8	14	5.50
4	3	3	4	4	4	5	6	5	5	5	5	5	6	8	8	8	10	10	8	4	4	3	3	2	10	16	5.33
5	4	3	3	4	5	5	6	6	6	5	6	6	6	8	8	9	8	6	5	5	3	3	3	3	9	15	5.25
6	3	2	2	3	5	5	5	8	8	7	6	5	6	6	8	9	8	8	6	4	4	6	6	6	9	15	5.67
7	4	4	5	5	4	5	6	6	6	5	5	5	8	9	10	7	8	7	5	4	5	4	3	2	10	14	5.50
8	1	2	4	3	4	6	6	6	6	6	6	8	8	10	8	6	8	6	5	4	4	4	4	4	10	13	5.38
9	3	4	5	6	7	10	10	12	11	10	8	8	8	8	8	7	8	6	6	5	4	3	3	3	12	7	6.79
10	3	4	4	4	4	5	5	6	5	8	11	13	12	12	11	10	12	11	8	7	5	4	4	3	13	11	7.13
11	8	8	1	3	3	3	2	3	4	6	8	9	9	8	12	10	8	8	8	5	5	4	4	5	12	14	6.00
12	6	5	5	5	5	4	4	4	5	5	6	8	9	10	10	10	8	7	6	6	6	4	3	3	10	13	6.00
13	2	3	3	4	5	5	4	4	4	4	4	6	8	9	10	8	6	5	4	4	4	3	3	4	10	14	4.83
14	8	7	8	14	14	15	13	15	16	15	8	6	5	5	8	8	8	7	6	6	6	16	12	12	16	8	9.92
15	12	12	12	12	14	15	15	15	15	12	10	8	8	8	8	10	8	8	7	6	5	5	5	4	15	5	9.75
16	4	6	10	10	12	11	10	8	8	8	4	4	5	6	8	9	10	8	7	4	4	5	4	4	12	4	7.0
17	3	4	5	5	4	5	4	4	4	4	5	5	6	6	8	10	10	6	5	5	4	3	3	3	10	15	5.04
18	2	2	3	3	4	4	4	4	3	3	3	3	5	6	6	8	8	12	8	6	3	2	2	2	12	17	4.42
19	3	3	2	3	4	4	3	3	3	4	5	5	6	5	6	10	11	9	8	6	4	4	4	4	11	16	4.96
20	4	4	3	3	3	2	3	3	3	3	4	5	6	6	8	8	6	6	5	3	3	3	3	3	8	14	4.17
21	3	3	5	5	6	5	6	5	4	4	4	6	6	9	10	10	11	10	6	4	4	4	4	6	11	16	5.83
22	7	6	6	10	8	7	8	8	6	6	5	5	5	5	6	6	5	5	5	5	6	8	11	10	11	22	6.63
23	12	8	6	6	10	12	14	10	6	5	5	6	10	8	7	8	6	5	4	3	3	3	2	3	14	6	6.75
24	4	4	3	3	3	3	3	3	3	3	5	4	5	5	5	8	7	6	5	4	6	10	10	10	10	21	5.08
25	8	6	5	5	8	10	9	10	10	12	12	11	8	10	8	6	6	5	4	4	4	3	3	3	12	9	7.08
26	4	4	8	10	8	10	10	11	9	6	5	5	5	4	10	11	8	4	4	4	3	4	8	15	15	23	7.08
27	12	8	7	15	12	8	7	6	5	5	5	5	4	5	6	8	8	7	6	5	6	5	8	8	15	3	7.13
28	10	8	9	10	11	8	7	6	6	5	5	5	5	6	6	5	5	6	6	5	5	4	4	4	11	4	6.29
29	4	4	4	3	3	4	4	4	4	5	6	6	8	7	12	11	8	6	5	5	10	18	20	22	22	23	7.63
30	19	25	20	22	22	20	16	15	10	8	6	8	8	7	8	10	8	5	5	6	5	4	3	3	25	1	10.96
AV	6	5	5	6	7	7	7	7	6	6	6	6	7	7	8	9	8	7	6	5	5	5	5	5			6.32
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: OCT, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8	8	8	12	14	16	14	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	15	16	16	8	14	8	8	12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6	10	14
6	14	14	14	14	16	16	16	16	16	8	8	8	8	8	8	8	8	8	6	16	15	15	14	15
7	15	14	14	14	15	15	16	15	16	15	16	16	16	16	16	15	16	16	14	14	15	15	14	14
8	15	15	14	16	15	14	16	16	15	16	16	16	16	16	16	16	16	16	16	14	14	14	14	14
9	15	14	14	16	14	14	14	14	14	16	8	8	8	8	8	8	8	10	14	14	14	14	14	14
10	14	16	15	14	15	15	15	15	16	8	8	8	8	8	8	8	10	4	8	14	14	12	8	8
11	14	16	15	14	14	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	5	14	14	14
12	14	16	16	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	16	8	8
13	8	8	6	14	14	14	14	14	14	15	16	15	15	14	14	13	14	14	14	14	14	15	14	14
14	14	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	8	8	8	8	14	14	14	14	14	16	15	14	15	15	15	14	14	15	14	15	14	14	15	15
16	15	14	15	15	16	12	14	14	14	16	16	16	16	16	16	16	16	16	2	8	14	14	14	14
17	14	14	16	16	16	16	16	14	16	16	8	8	8	8	8	8	8	8	14	14	14	14	14	15
18	16	16	16	15	14	14	16	16	16	8	8	8	8	8	8	8	8	10	10	14	14	14	16	16
19	16	16	16	16	14	16	16	16	16	16	8	8	8	8	8	8	8	16	16	14	14	14	14	14
20	14	14	14	14	14	14	15	16	16	8	8	8	8	8	8	8	10	10	14	14	14	14	14	14
21	14	14	14	14	14	14	14	15	15	14	16	8	8	8	8	8	8	8	14	14	14	15	15	15
22	14	14	16	14	16	14	14	14	14	16	16	8	8	8	8	8	8	8	8	8	14	14	14	16
23	16	14	16	14	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	10	14	8	8
24	14	14	16	8	8	8	14	14	14	8	8	8	8	8	8	8	8	8	8	14	15	15	8	14
25	7	16	8	8	8	14	16	16	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14
26	8	14	16	16	15	9	14	8	8	8	8	8	8	8	8	8	8	8	14	14	14	14	14	15
27	16	16	14	16	16	16	16	16	16	8	8	8	8	8	8	8	8	8	14	15	14	15	16	15
28	16	14	14	14	14	14	14	14	14	14	8	7	8	8	8	8	8	8	8	8	14	14	14	14
29	14	12	12	8	8	12	16	8	16	8	8	8	8	8	8	8	8	8	7	8	8	15	15	16
30	15	16	16	16	16	16	8	8	8	8	12	16	15	15	15	15	14	14	14	14	14	15	14	14
31	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	8	8	8	5	14	14	14	14	16

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE CANYON 1
Period: OCT, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	2	3	3	2	3	4	6	3	4	4	5	5	6	5	5	6	5	5	5	5	3	2	3	3	6	6	4.04
2	3	4	5	3	3	3	3	3	4	5	5	5	5	6	6	5	8	7	4	3	3	4	4	4	8	16	4.38
3	5	5	6	5	6	5	6	8	10	12	12	11	10	8	12	10	10	14	16	15	14	15	20	20	20	22	10.63
4	16	15	21	19	16	15	15	14	15	16	16	16	14	12	20	18	16	14	12	12	10	10	12	12	21	2	14.83
5	15	12	12	15	12	6	5	4	5	10	15	12	8	8	8	7	6	5	5	4	4	4	4	5	15	0	7.96
6	5	4	4	4	4	5	5	6	6	6	5	5	5	6	5	5	5	4	4	5	8	12	18	17	18	22	6.38
7	12	15	16	20	15	12	12	14	15	16	15	16	15	13	14	16	12	8	7	6	6	7	8	15	20	3	12.71
8	15	14	15	15	20	18	12	14	14	15	14	14	18	18	18	17	15	12	12	12	12	10	10	10	20	4	14.33
9	10	8	10	10	11	15	15	15	12	12	10	10	8	7	6	5	5	5	6	7	6	5	5	8	15	5	8.79
10	8	5	7	10	10	10	12	10	9	5	5	6	8	7	9	5	5	5	4	3	3	2	3	3	12	6	6.42
11	3	4	5	5	5	5	5	5	5	5	6	5	8	7	10	12	9	6	4	4	3	4	4	5	12	15	5.58
12	7	8	8	7	6	5	5	3	5	5	5	6	8	10	15	14	8	8	7	6	5	5	5	5	15	14	6.92
13	3	2	3	5	10	15	16	15	15	15	16	17	16	12	12	9	10	25	25	22	20	20	17	17	25	17	14.04
14	10	8	4	4	4	4	3	2	4	5	5	5	5	5	5	6	6	8	8	10	8	8	9	9	10	0	6.04
15	6	5	4	4	10	15	16	20	20	20	20	20	18	18	20	20	20	19	18	18	19	22	18	17	22	21	16.17
16	15	20	30	25	24	16	16	22	14	20	15	18	17	16	15	15	12	9	6	5	4	4	6	10	30	2	14.71
17	12	10	9	7	6	5	5	8	10	8	5	6	6	8	9	7	6	5	4	5	6	10	10	8	12	0	7.29
18	5	5	5	8	9	8	8	6	6	5	5	6	8	8	10	8	6	6	5	7	8	5	5	5	10	14	6.54
19	5	5	5	5	6	8	7	7	7	8	6	8	8	8	8	8	7	6	4	8	8	7	10	10	10	22	7.04
20	8	8	7	8	8	10	10	10	7	6	6	5	5	5	6	5	5	5	5	8	10	12	15	12	15	22	7.75
21	12	10	10	8	8	8	10	12	12	10	8	8	7	6	8	8	8	8	8	10	12	12	15	12	15	22	9.58
22	12	12	12	10	10	10	8	7	6	8	8	6	5	5	5	5	4	4	4	3	5	5	5	5	12	0	6.83
23	5	4	4	6	8	8	8	7	6	5	6	5	6	7	8	6	5	5	5	4	3	4	4	3	8	4	5.50
24	7	7	5	5	4	4	4	5	5	5	5	8	8	7	8	8	6	4	4	4	5	5	4	4	8	11	5.46
25	3	3	3	3	3	3	4	3	4	4	4	5	6	5	5	5	5	5	4	3	3	3	4	4	6	12	3.92
26	4	4	4	4	4	3	3	4	4	4	4	4	5	4	4	4	4	4	5	8	15	12	12	9	15	20	5.50
27	8	8	7	6	8	8	7	7	8	5	5	5	5	5	5	4	4	3	3	6	10	10	9	9	10	20	6.46
28	6	8	10	15	15	15	15	16	15	13	6	6	5	6	5	5	5	4	3	4	4	5	4	4	16	7	8.08
29	5	5	4	4	3	3	4	4	4	4	4	5	5	5	5	4	4	3	3	3	3	4	5	5	5	0	4.08
30	5	5	4	5	6	6	3	2	3	3	5	12	20	18	18	17	15	14	15	18	20	24	20	18	24	21	11.50
31	15	12	13	13	13	15	16	16	13	12	15	14	12	9	6	5	4	4	4	5	8	12	11	9	16	6	10.67
AV	8	8	8	8	9	9	9	9	9	9	8	9	9	9	9	9	8	8	7	8	8	9	9	9			8.39
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: NOV, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	8	8	8	8	8	8	8	8	14	15	15	16	8	8	8	14	15	14	15	14	15	14	15	15
3	15	15	14	15	14	15	15	15	15	14	14	15	16	14	16	14	14	15	14	14	14	16	16	16
4	15	14	16	15	15	15	14	15	16	16	14	8	9	8	8	8	8	8	16	16	14	14	16	16
5	16	14	14	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	7	8	10	14	14	14
6	14	14	14	16	16	16	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	16	8	6
7	8	8	7	8	8	16	16	16	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8	8
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	14	14	14	16
9	16	14	14	14	14	14	16	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	8	8	8	8	8	8	8	8	6	8	8	8	8	8	8	8	8	8	8	8	16	16	16	16
11	14	14	14	14	16	14	14	14	14	15	16	16	15	15	15	15	14	14	14	15	14	14	15	14
12	16	16	16	15	16	16	16	16	12	8	8	8	8	8	8	8	8	10	8	8	12	8	15	15
13	15	15	15	14	15	15	14	15	14	14	16	16	15	15	15	14	15	14	14	14	14	14	14	14
14	14	14	14	14	14	15	14	15	15	15	15	15	14	15	15	15	15	14	14	14	14	14	14	14
15	14	14	14	14	14	14	15	14	14	14	14	14	8	8	8	8	8	7	6	8	8	8	8	16
16	8	14	14	15	15	15	15	15	14	15	16	15	16	16	15	15	15	15	15	15	15	15	15	15
17	15	16	16	16	14	14	14	14	8	8	8	8	8	8	8	8	8	10	8	8	12	12	8	8
18	12	14	12	12	16	14	14	14	14	14	16	16	16	15	14	14	15	15	16	14	14	14	14	15
19	16	15	14	16	14	14	14	14	14	16	15	14	14	14	8	8	8	4	4	4	6	8	10	15
20	16	16	16	14	14	14	14	14	8	8	8	8	8	8	8	8	8	8	8	14	14	15	14	16
21	14	15	15	14	16	15	15	2	8	8	8	8	8	8	8	8	8	14	14	16	14	15	15	14
22	16	16	15	15	15	15	15	14	15	15	16	16	16	16	16	15	16	16	15	15	14	14	14	14
23	14	14	14	15	14	14	14	15	14	14	14	14	15	15	15	15	14	14	14	14	14	15	14	15
24	15	14	14	14	15	15	16	16	14	15	14	14	14	8	8	8	8	8	8	14	2	8	8	8
25	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
26	8	8	8	8	8	8	8	14	14	14	14	16	16	15	14	15	14	16	15	15	15	14	14	14
27	15	15	14	14	15	15	15	15	15	15	15	14	16	16	16	16	16	14	16	14	14	14	15	15
28	16	14	15	14	14	15	15	15	16	15	15	15	15	15	16	14	14	14	14	14	14	14	14	14
29	14	14	15	14	15	15	15	15	15	14	14	14	14	15	15	16	15	15	15	15	14	14	15	15
30	14	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	14	14	14	14	14	14	15

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: NOV, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	5	4	5	3	5	3	4	4	5	6	8	9	8	9	7	5	5	4	4	4	4	4	4	5	9	11	5.17
2	6	8	7	5	4	4	5	4	4	6	6	5	4	4	4	8	16	16	20	21	24	25	25	25	25	21	10.67
3	25	23	22	22	20	21	20	24	20	25	25	25	25	22	20	15	16	18	16	15	12	10	12	12	25	0	19.38
4	18	13	14	15	15	16	15	18	16	12	10	9	8	7	10	10	9	6	5	5	8	7	5	5	18	0	10.67
5	5	6	5	5	5	5	5	4	4	4	5	6	8	7	6	6	8	8	6	4	4	6	10	12	12	23	6.00
6	10	10	10	8	7	8	7	5	5	5	8	8	10	11	11	10	8	6	4	2	4	4	4	4	11	13	7.04
7	4	3	3	2	3	4	4	4	5	5	8	7	8	8	10	10	8	10	8	7	6	6	5	7	10	14	6.04
8	8	7	8	8	8	8	8	7	8	7	8	7	8	9	8	7	6	8	7	5	4	7	10	10	10	22	7.54
9	10	10	10	10	10	10	8	7	8	8	10	10	12	14	14	13	14	15	15	12	12	12	12	14	15	17	11.25
10	10	12	15	15	16	15	10	10	7	6	5	5	5	8	5	7	8	8	8	5	5	5	3	6	16	4	8.29
11	6	4	6	12	8	10	20	25	26	26	26	24	16	14	12	12	12	12	8	8	8	10	8	8	26	8	13.38
12	6	8	8	8	7	7	7	6	6	10	10	10	10	8	8	8	7	8	8	6	5	5	6	6	10	9	7.42
13	10	15	26	26	20	16	14	12	15	16	15	18	20	20	18	20	20	18	20	20	19	20	22	25	26	2	18.54
14	26	26	27	28	28	29	18	28	29	28	30	30	30	28	33	34	30	28	28	29	28	28	28	28	34	15	28.29
15	28	28	28	28	28	27	25	25	28	19	15	10	6	5	5	5	4	4	4	4	3	3	3	4	28	0	14.17
16	4	5	6	8	10	10	12	25	30	28	30	30	28	30	26	22	25	25	32	32	38	26	22	22	38	20	21.[illegible]
17	15	15	15	15	15	14	13	8	8	10	9	10	14	15	16	10	8	7	8	7	6	8	14	15	16	14	11.46
18	8	7	6	6	5	12	10	15	18	17	14	8	10	18	20	25	24	22	25	22	24	25	26	30	30	23	16.54
19	34	32	28	32	33	32	26	24	18	15	15	12	10	10	9	8	7	8	14	14	15	15	15	8	34	0	18.08
20	8	7	8	10	8	5	3	3	4	5	5	8	7	6	6	5	5	5	4	4	8	10	10	10	10	3	6.42
21	12	15	12	10	10	10	8	5	6	5	5	5	5	8	7	6	5	8	15	14	25	26	26	25	26	21	11.38
22	30	30	28	28	30	34	30	30	28	26	30	28	29	28	26	26	25	25	22	24	28	26	25	25	34	5	27.54
23	28	28	30	34	34	32	30	32	32	31	28	28	28	26	25	28	26	25	24	22	21	20	19	19	34	3	27.08
24	18	20	18	18	18	18	18	21	20	18	12	10	8	8	11	10	8	5	4	4	4	4	4	3	21	7	11.75
25	4	4	4	4	3	3	5	5	6	8	8	8	10	8	7	8	7	6	5	5	5	4	4	4	10	12	5.63
26	6	8	5	4	5	8	10	8	8	8	12	18	20	25	25	25	26	28	25	25	22	20	25	25	28	17	16.29
27	24	18	16	16	20	20	25	25	26	25	24	26	25	28	26	10	10	8	8	10	12	15	15	14	28	13	18.58
28	12	14	14	16	16	20	20	26	30	32	32	28	28	29	30	28	28	26	30	28	28	26	25	25	32	9	24.63
29	28	30	35	34	32	35	35	35	38	37	38	36	32	35	35	35	35	35	35	35	38	40	39	38	40	21	35.21
30	35	35	35	35	35	35	35	30	29	28	25	24	22	20	20	19	22	24	22	21	18	18	17	16	35	0	25.83
AV	15	15	15	16	15	16	15	16	16	16	16	15	15	16	15	15	14	14	14	14	15	15	15	15			15.07
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Direction (16 points)
Station: SUNSHINE 1
Period: DEC, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	12	12	12	12	12	12	12	14	14	12	2	4	4	4	6	6	6	6	10	12	12	12	12	12
2	12	12	12	12	12	10	12	12	16	4	6	5	6	5	5	4	5	4	6	10	11	12	12	12
3	12	11	12	10	12	6	10	8	4	2	4	2	2	2	4	4	10	12	8	8	6	6	6	6
4	4	4	12	12	12	11	12	12	12	5	5	4	2	4	5	4	8	6	8	10	10	12	14	12
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27	12	11	11	12	12	10	10	12	5	4	2	2	3	4	4	5	5	14	7	12	10	5	14	14
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31	10	10	11	12	12	12	10	4	12	12	12	12	12	11	4	4	10	10	12	12	11	11	12	12

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Speed (MPH)
Station: SUNSHINE 1
Period: DEC, 1994

Clock Time

Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MAX	HR.	AVE.
1	8	6	8	8	8	8	9	8	7	6	6	6	6	5	6	5	5	4	3	3	3	4	3	3	9	6	5.75
2	3	3	4	3	3	2	2	2	4	5	6	6	6	6	6	5	4	3	4	3	4	3	3	2	6	10	3.83
3	3	3	3	3	3	3	3	3	3	4	4	5	4	5	4	4	4	3	3	4	5	5	4	4	5	11	3.71
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15	4	4	3	4	4	3	5	5	5	8	7	8	8	7	6	8	7	8	8	12	15	15	16	16	16	22	7.75
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23	15	16	18	18	18	17	17	18	16	15	14	14	12	12	15	14	13	10	8	7	6	5	4	3	18	2	12.71
24	3	3	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	4	4	3	5	6	6	6	6	21	4.71
25	12	12	12	12	12	15	15	15	16	18	2	22	15	12	15	15	16	16	14	16	20	20	19	18	22	11	14.96
26	10	10	10	14	15	13	15	16	16	10	15	16	15	14	14	13	12	12	9	11	10	10	12	14	16	7	12.75
27	14	15	8	10	9	8	7	5	5	5	5	5	4	5	4	5	3	2	2	2	2	3	4	5	15	1	5.71
28	5	5	5	4	3	3	3	6	4	5	4	3	4	5	5	5	5	5	4	6	12	12	15	16	16	23	6.00
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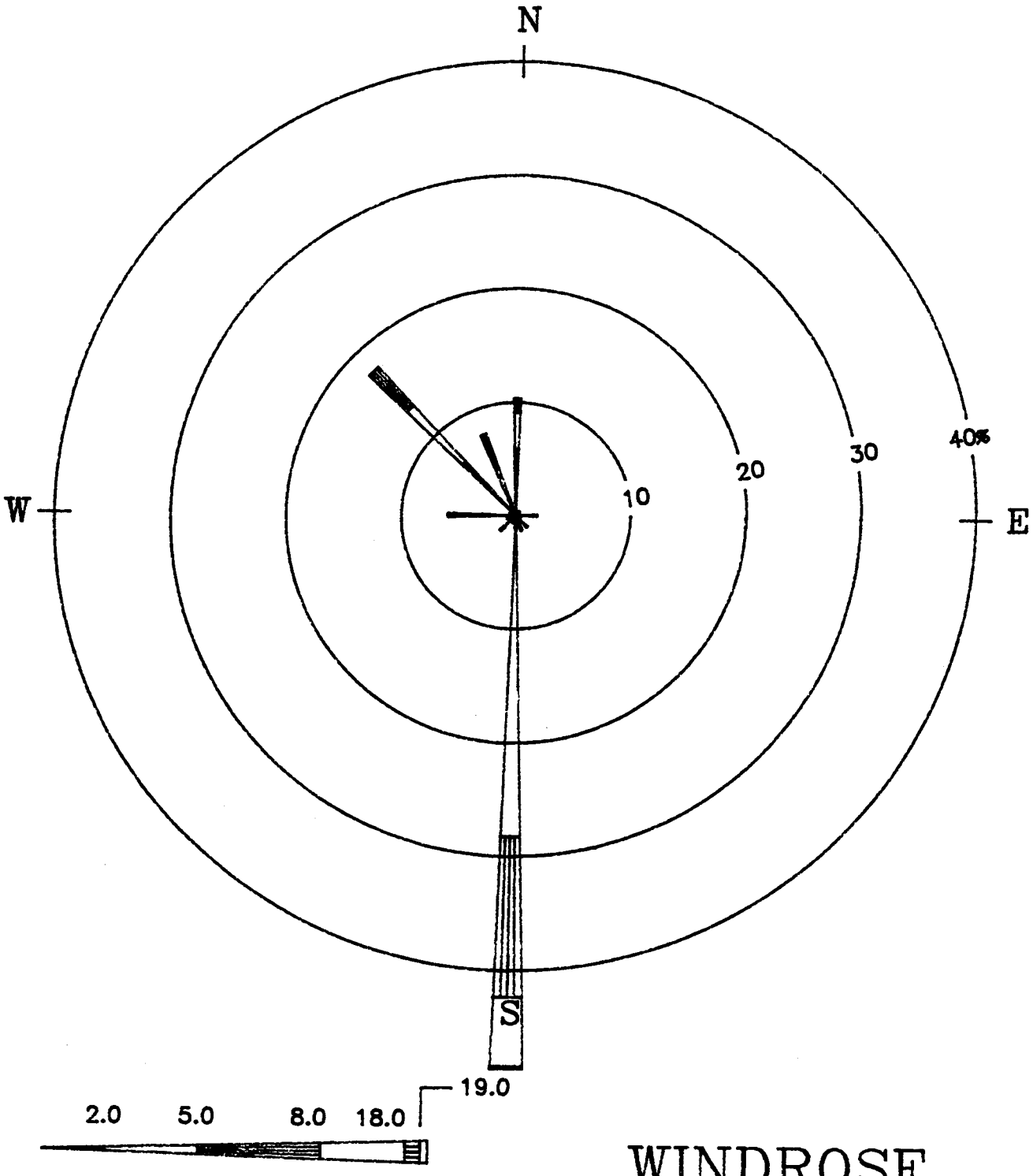
AV	9	9	9	9	9	10	10	10	10	10	10	10	9	9	9	8	8	8	8	9	9	9	9	9			9.17
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

SUNSHINE CANYON LANDFILL
SITE 1

Data: Wind Rose
Station: SUNSHINE CANYON LANDFILL
Period: JAN 01,1994-DEC 31,1994
Hours: 00-23

Wind Speed and Direction
Frequency Distribution

Direction	Wind Speed (MPH) Group 0-2	3-5	6-8	9-18	19+	TOT	%TOT	AVE SPEED
16	0.0	3.9	1.8	3.2	1.2	856.0	10.33	9.75
1	0.0	0.1	0.0	0.0	0.0	9.0	0.11	4.78
2	0.0	0.4	0.0	0.0	0.0	34.0	0.41	4.65
3	0.0	0.2	0.0	0.0	0.0	22.0	0.27	4.18
4	0.1	1.4	0.3	0.0	0.0	151.0	1.82	4.54
5	0.0	0.3	0.1	0.0	0.0	42.0	0.51	4.60
6	0.2	1.1	0.1	0.0	0.0	113.0	1.37	3.84
7	0.1	1.1	0.2	0.0	0.0	124.0	1.50	4.34
8	1.1	26.5	13.8	5.9	0.2	4034.0	48.69	5.79
9	0.0	0.3	0.2	0.1	0.0	49.0	0.59	5.61
10	0.1	1.3	0.3	0.1	0.0	156.0	1.89	5.10
11	0.0	0.2	0.1	0.3	0.1	55.0	0.67	10.16
12	0.1	2.1	0.6	2.3	0.5	498.0	6.01	10.02
13	0.0	0.1	0.0	0.3	0.1	52.0	0.63	13.15
14	0.1	3.5	2.8	6.6	4.5	1459.0	17.61	13.30
15	0.0	0.7	0.8	3.2	2.8	630.0	7.60	16.51
TOT	1.8	43.3	21.2	22.1	9.3	8284.0	100.00	7.52
MSG	5.6	0.0	0.0	0.0	0.0	500.0	5.7	0.0



WINDROSE

SUNSHINE CANYON 1
PERIOD: JAN–DEC94

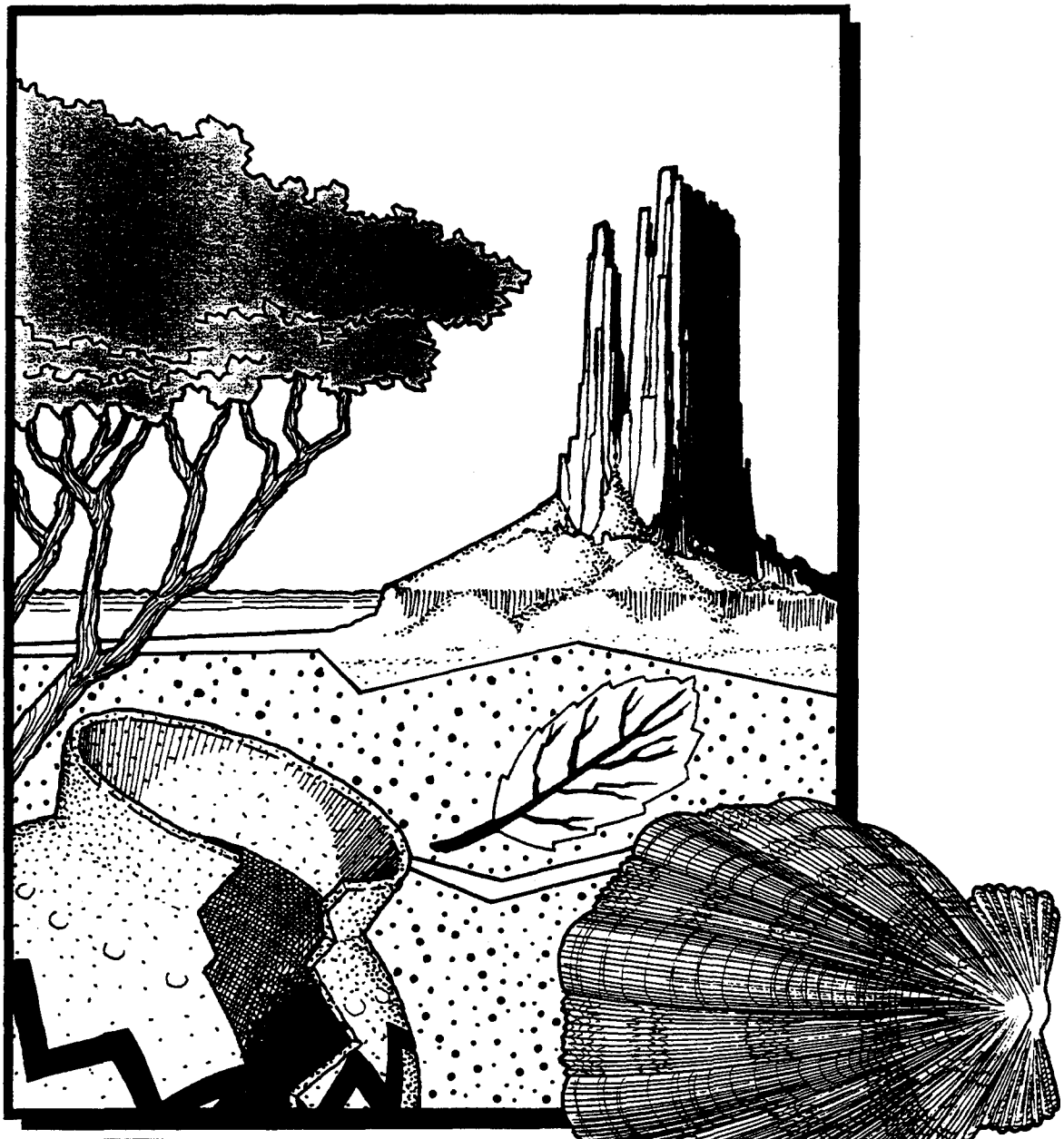
WIND SPEED CLASS BOUNDARIES
(MILES/HOUR)

NOTES:
DIAGRAM OF THE FREQUENCY OF OCCURRENCE FOR EACH WIND DIRECTION. WIND DIRECTION IS THE DIRECTION FROM WHICH THE WIND IS BLOWING. EXAMPLE – WIND IS BLOWING FROM THE NORTH 10.3 PERCENT OF THE TIME.

Appendix B9
PALEONTOLOGICAL SURVEY REPORT

NATURAL RESOURCES - ENVIRONMENTAL

ASSESSMENTS - PLANNING - MANAGEMENT



JMA

John Minch and Associates, Inc.

John Minch and Associates, Inc.
NATURAL RESOURCES & ENVIRONMENTAL
ASSESSMENTS - PLANNING - MANAGEMENT

DRAFT

PALEONTOLOGICAL SURVEY REPORT, SUNSHINE CANYON LANDFILL EXTENSION, CITY OF LOS ANGELES, CALIFORNIA

Prepared for:

Browning-Ferris Industries of California, Inc.
14747 San Fernando Road
Sylmar, California 91342

Contact person:
Jim Aidukas

Prepared by:

John Minch and Associates, Inc.

Contact person:

John Minch, Ph.D.
Principal Investigator

April 22, 1997

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EXECUTIVE SUMMARY

The following report has been prepared by John Minch and Associates, Inc. (JMA) at the request of Mr. James Aidukas of Browning Ferris Industries. Presented within are the results of a Paleontological Resources Survey of the Sunshine Canyon, Los Angeles City, Landfill Extension, Sylmar, California.

The Sunshine Canyon Landfill Extension project area is located at the eastern terminus of the Santa Susana Mountains west of the junction of the Interstate 5 Freeway and State Highway 11. The field survey and report were prepared using currently accepted paleontologic methods. The reconnaissance walkover survey was performed by JMA on Friday, March 14 and Friday, March 21, 1997. The field survey has been completed.

As a result of the survey, seven (7) fossil localities were established in the Towsley Formation. The marine invertebrates include pelecypod and gastropod shells and shell fragments. The marine vertebrates are represented by whale bone fragments. A known sedimentary unit of Miocene age at the site indicates that there is a potential for significant paleontological resources on the site.

The Towsley Formation is a tan to light gray sandstone with some pebbles, interbedded with brown mudstone and silty claystone deposited in deep water by turbidity currents. The Towsley Formation in other nearby areas has previously produced significant marine invertebrate and vertebrate fossils.

Careful development of this area may increase our knowledge and collections of the fossil assemblages and environment of deposition of the rock units in this area. All impacts to the paleontological resources of the area can be mitigated to the point of insignificance if the mitigation measures are followed.

INTRODUCTION

In accordance with the authorization of Mr. James Aidukas of Browning Ferris Industries, Inc., a Paleontological Resources Survey of Sunshine Canyon Los Angeles City Landfill Extension, located in Sylmar, California was performed. This survey was performed to evaluate the existing paleontological resources of the area, to determine if the development of the City Landfill Extension project would have any significant adverse impact on paleontological resources, and to determine appropriate mitigation measures to minimize adverse impacts (if any).

SITE DESCRIPTION

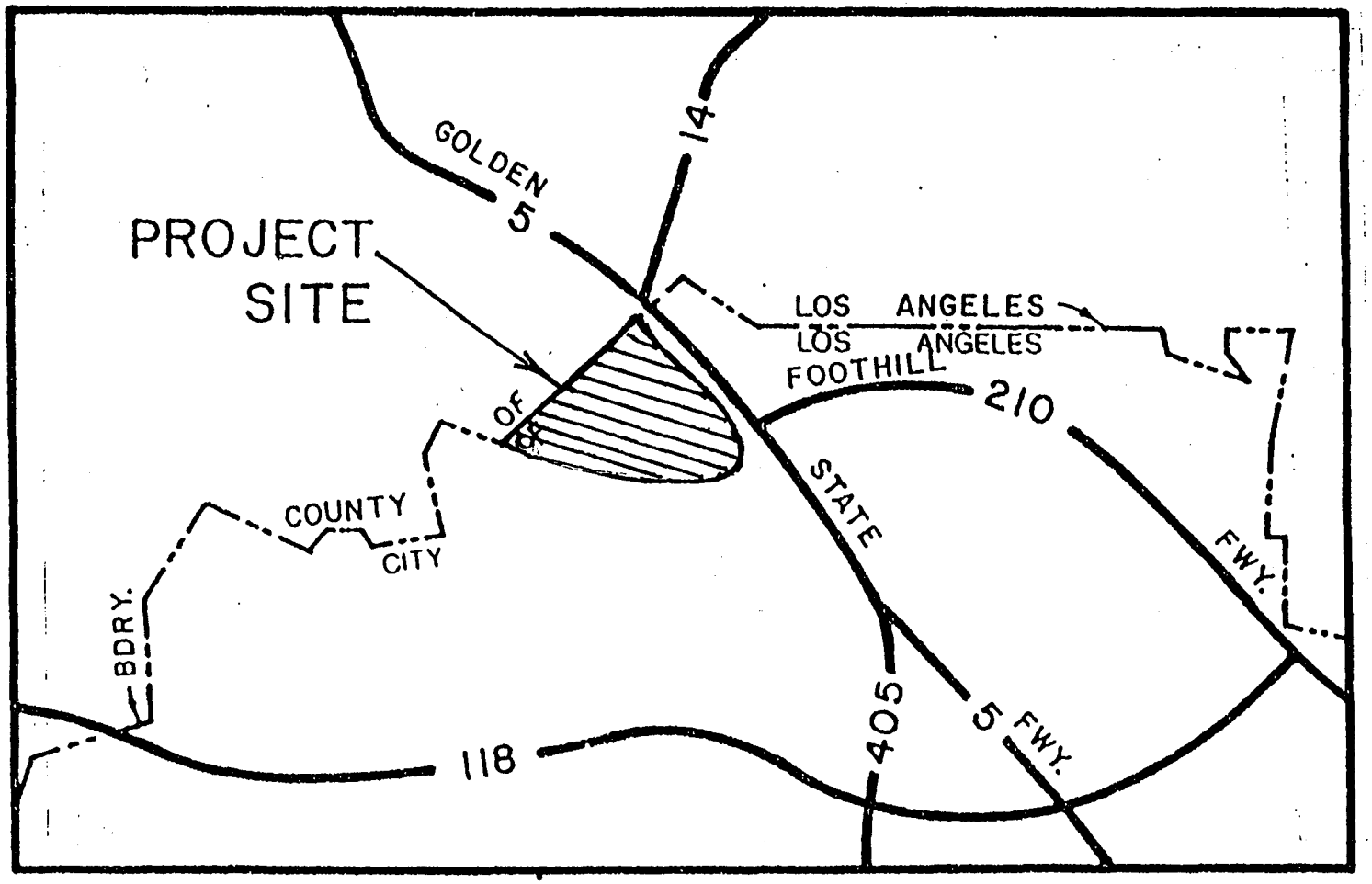
The Sunshine Canyon Los Angeles City Landfill Extension project area is located at the eastern terminus of the Santa Susana Mountains west of the junction of the Interstate 5 Freeway and State Highway 11 (Figure 1) on the U.S.G.S. Oat Mountain 7′ Min. Quadrangle. The boundary line between Los Angeles County and the City of Los Angeles crosses the northwestern part of the project area. The project footprint is contained within Sunshine Canyon with the drainage pattern running from the northwest to the southeast. Canyon walls are moderate to quite steep with numerous steep cliffs. Elevations within the project range from 1,320 feet above mean sea level (MSL) at the southwestern point of the project to a high of 2,200 feet MSL at the western corner.

The closed portion of the original City of Los Angeles landfill dominates the south and south central part of the Site. The main access road for the presently operating landfill bisects the site. Several improved and unimproved dirt roads provide access to individual parts of the site. Exposures on the property provide access to the underlying geologic units.

Three major plant communities are present within the project's boundaries. The steep slopes are covered by the Coastal Chaparral Community with the various included species of sage (*Salvia* sp.), yucca (*Yucca* sp.), and Poison Oak (*Toxicodendron diversilobum*). On lower slopes is the Coast Live Oak Woodland with its namesake oak trees (*Quercus agrifolia*) and other species. Scattered oak groves give way in many places to densely covered grass slopes and fields with Wild Oats (*Avena fatua*) and a variety of brome grasses. Along the project area's drainage bottoms can be found the Riparian Community, with scattered California Sycamore (*Plantanus racemosa*) and California Walnut trees (*Juglans californica*), and an understory of thistles, ferns and annuals.

PERSONNEL

JMA laboratory and field personnel included the following: Dr. John A. Minch, Principal Investigator (County Certified Paleontologist), Edwin Minch, Jenifer King, and Jason Minch.



John Minch and Associates, Inc.

NATURAL RESOURCES & ENVIRONMENTAL

Assessments - Planning - Management

Figure 1
Vicinity Map
Sunshine Canyon Landfill Extension
Sylmar, California

FIELD RECONNAISSANCE

A reconnaissance walkover survey of the site was conducted by John Minch & Associates, Inc. on on Friday, March 14 and Friday, March 21, 1997. The walkover and inspection of exposures and slopes of the geologic units on the site resulted in the discovery of seven fossil localities.

METHODOLOGIES

The following was included in the investigation:

1) Walkover and inspection of exposures of each geologic unit mapped on the site.

2) Review of the available literature pertinent to the geologic units and fossils including paleontological localities.

3) Review of available EIR reports deemed pertinent to the site development.

PERTINENT LITERATURE

The literature search involved a check of available published and unpublished geologic literature pertinent to the site.

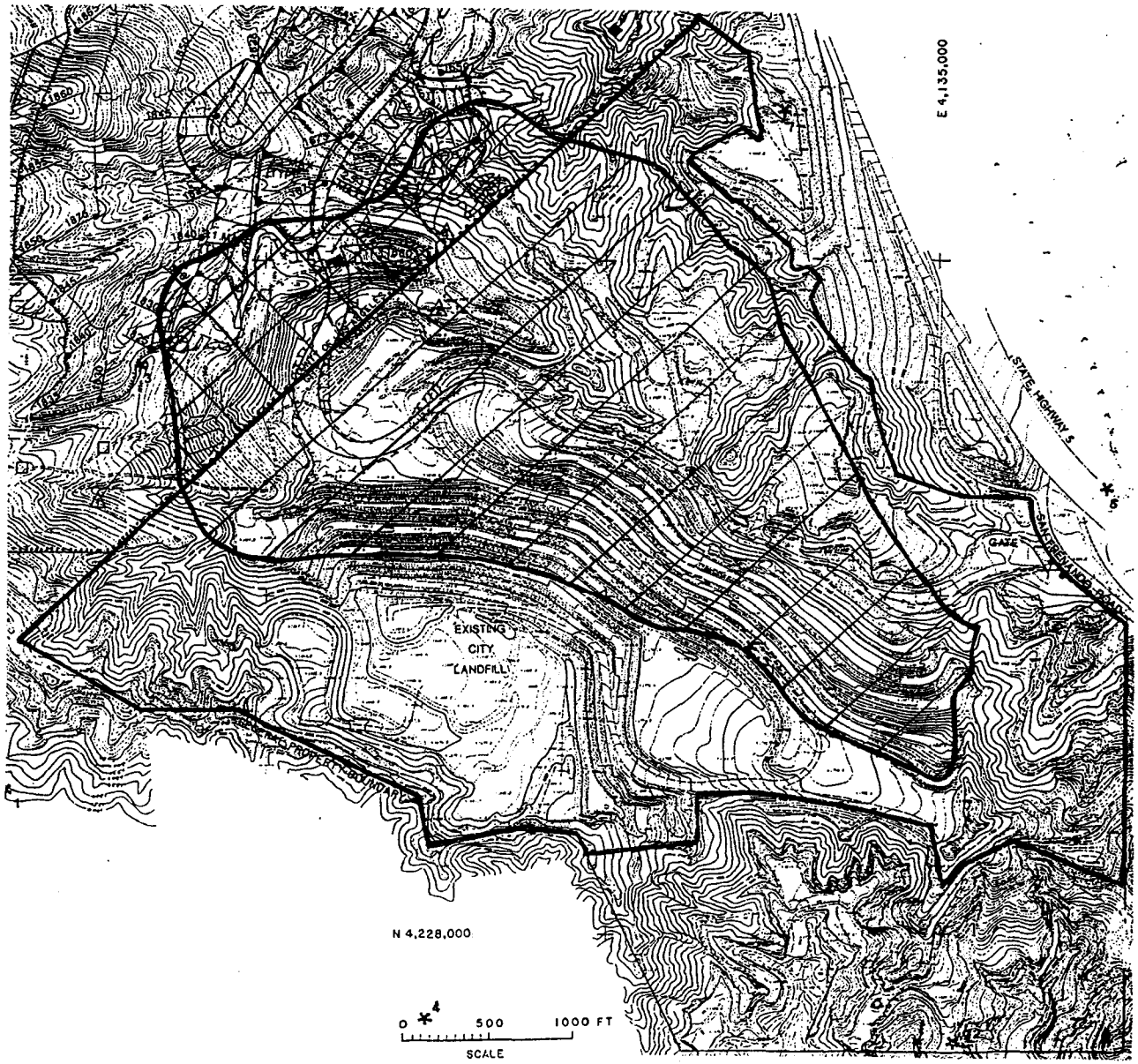
Field Methodologies

1) Qualified paleontological staff conducted the on-site survey under the supervision of JMA's County Certified Paleontologist (Dr. John A. Minch).

2) All visible and accessible surface rock exposures and rock outcrops, within the specific portions of the project area, were carefully examined for fossils.

3) Fossil localities were established in order to document the occurrence of fossil specimens located in the accessible surface rock exposures and outcrops.

4) When fossils are encountered the paleontologist assigned a locality number and noted the formation, lithology, stratigraphic position if available, and mode of occurrence of the fossil on a fossil locality data sheet. He/she then recorded the elevation and location with reference to the station numbers, provided a brief description of the nature of the fossil and any important notes. In the laboratory, additional information about the locality is documented (*i.e.* USGS quad, UTM coordinates, disposition, and other pertinent data).



John Minch and Associates, Inc.
NATURAL RESOURCES & ENVIRONMENTAL
Assessments - Planning - Management

Explanation

- Site Area
- Proposed Landfill Footprint in Los Angeles City
- Proposed Landfill Area in Los Angeles County

Figure 2
Topographic Map of Site Area
Sunshine Canyon Landfill Extension
Sylmar, California

GEOLOGY AND BIOSTRATIGRAPHY

The Ventura basin contains one of California's most complete sections of Upper Tertiary to Quaternary units. The mountains to the north of the basin are a series of northwest to southeast trending anticlines and synclines overlying the basement of granitic and metamorphic rocks (Grant, 1931). Uplift of the Santa Susana Mountains began shortly after the deposition of the Quaternary Saugus Formation. Treiman (1982) describes an ash bed used to determine the date of the beginning of the uplift. He concludes that the Santa Susana Mountain uplift began about 700,000 to 1,000,000 years ago.

Towsley Formation

The Towsley Formation was described, but not named, by Winterer and Durham in 1951. Winterer and Durham (1954) then proposed the Towsley Formation as a unit of Upper Miocene to Lower Pliocene age which includes what was previously termed the Elsmere Canyon beds (Oakeshott, 1958). Dibblee (1992) mapped the Towsley Formation as the unit below the Pico Formation and above the Modelo Formation, and as Early Pliocene and possibly Late Miocene. The Towsley Formation overlies and interfingers with the Modelo Formation on the north side of the Santa Susana Mountains (Winterer and Durham 1954) and grades upwards into the Pico Formation throughout most of the Ventura basin (Winterer and Durham, 1954).

The Towsley Formation is a tan to light gray sandstone with some pebbles, interbedded with brown mudstone and silty claystone (Oakeshott, 1958) deposited in deep water by turbidity currents. The Towsley Formation is approximately 4000 feet thick in the western portion of the Eastern Ventura basin and approximately 1500 feet thick at the east end of the Pico anticline (Winterer and Durham, 1954).

Age of the Towsley Formation

This formation is a marine deposit of Late Miocene age, circa 9 to 12 million years old (Winterer and Durham, 1962). Geologic correlations of the Towsley Formation are with the Clarendonian North American Land Mammal Stage and the Margaritan and Jacalitos provisional mega-invertebrate stages of Addicott (1972) (Berggren and Van Couvering, 1974; Repenning and Tedford, 1977). Fossil mollusks are found scattered in several areas throughout the range of the Towsley Formation, particularly in the eastern shallow water part of the rock unit (Kern, 1973; Saul, 1991). Several significant assemblages have been discovered, and have been studied to provide the age correlation of 9 to 12 million years old (Winterer and Durham, 1962).

Paleontological Significance of the Towsley Formation

The Towsley Formation in areas, such as Gorman Canyon, Nadeau Canyon, and Sand Canyon, have previously produced significant marine invertebrate and vertebrate fossils. The marine invertebrates previously collected include bryozoa, pelecypods, gastropods, arthropods, and echinoderms; the marine vertebrates previously collected include sharks, whales, sea lions, and sea cows (Barnes, 1994).

To the east of the subject area, in the hilly area south of Humphreys, is the type locality of the unusually primitive extinct baleen whale, *Nannocetus eremus* (Kellogg, 1929). This is from UCMP locality V-2202. The original specimen of *Nannocetus* is only a partial braincase, and no additional specimens of this important whale have been reported. It would be very important to collect another specimen.

Also in the Towsley Formation (from UCMP Loc. V-3584) has been found an articulated foot of a sea lion that Kellogg (1925) incorrectly identified as *Pontolis magnus,* and which Repenning and Tedford (1977) identified as *Imagotaria.* Either identification is unsubstantiated, but the specimen definitely is a large imagotariine pinniped, and it would be important to find a skeleton and skull of this animal to more precisely identify it. (It must be noted that the original publication by Kellogg lists the locality as being in San Diego County, and this is incorrect.)

Domning (1978:21, 155-156) reported a partial mandible (LACM 6905) and a radius-ulna of a sea cow, identified as *Dusisiren jordani* from the Towsley Formation. This is a moderately large type of sea cow, approximately 20 feet long, that is on the lineage that led to the recently exterminated North Pacific Steller's sea cow. Elsewhere in California more complete specimens of this species have been found, and it would be important to find more complete material as well in the Towsley Formation.

Fossil mollusks are found scattered in several areas throughout the Towsley Formation (Kern, 1973; Saul, 1991), particularly in the eastern shallow water part of the rock unit. Several significant assemblages have been discovered, and they have been studied to provide the age correlations cited above (Winterer and Durham, 1962). One indicator of the age is the fossil scallop, *Lyropecten estrellanus.*

Fossil Localities Adjacent to the Site

Numerous fossil localities have been discovered throughout the Ventura basin in Pliocene-Miocene age formations. Arnold (1906) describes the mollusks found in the Pliocene localities in Eureka Canyon and Piru Creek in Ventura County. Grant (1931) lists the fossil localities found by the

San Diego Society of Natural History (SDSNH). Oakeshott (1958) summarizes the fossils found in the Pico Formation. (See Appendix C for locality list and Appendix D for fossil list.)

Kew (1924) lists the fossils discovered in the Pico Formation at Elsmere Canyon, Holser Canyon, and Pico Canyon localities, included are: echinoderms, pelecypods, gastropods, fish vertebra, cetacean specimens, camel bones, and a seal metapodial. In the Saugus Formation as defined by Kew (1924) he lists fossil localities in Browns Canyon and near the town of Somis. Fossils identified from these localities are: echinoderms, brachiopods, bryzoa, pelecypods, and gastropods.

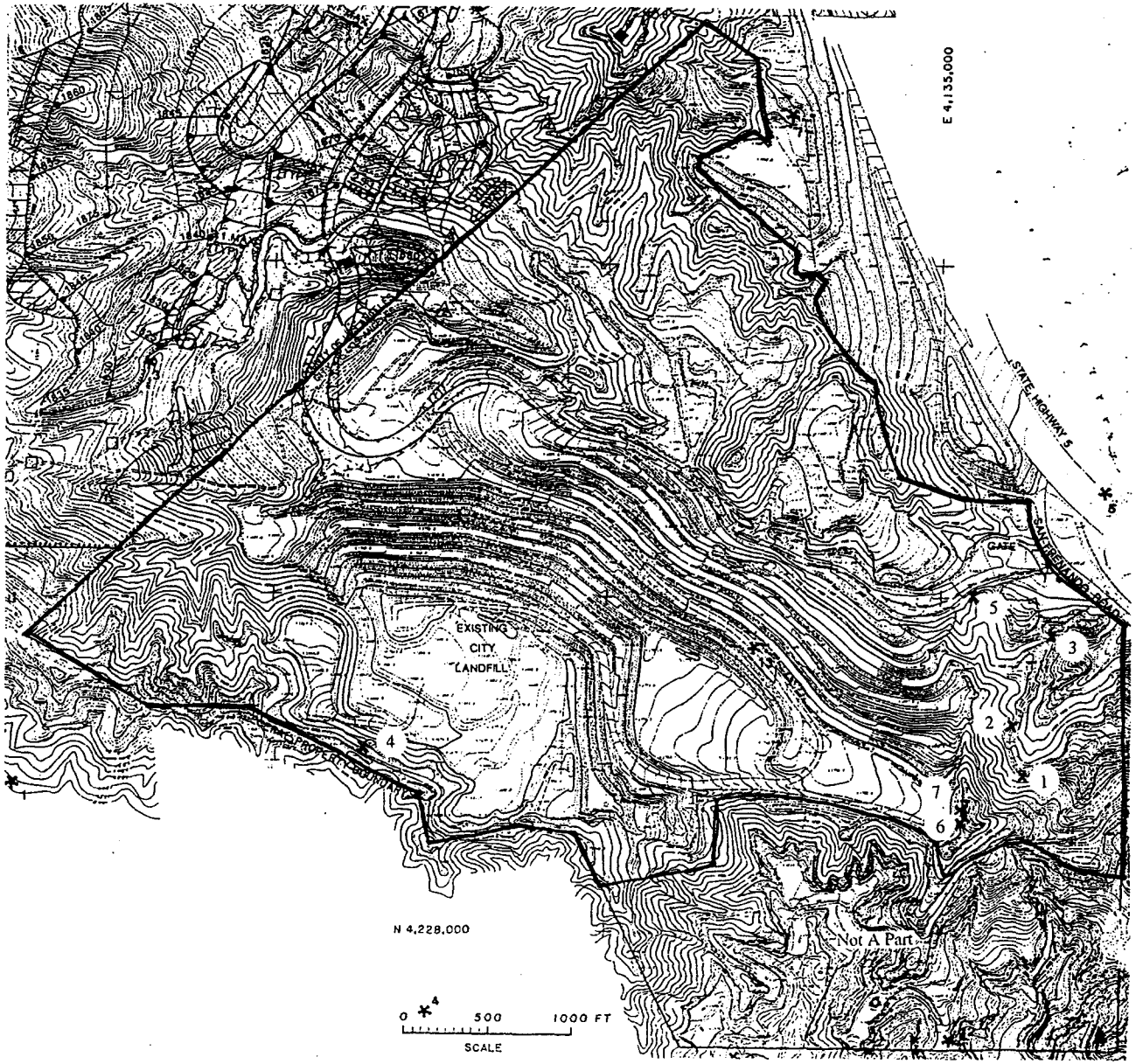
The SDSNH has also identified numerous fossil localities near the project site in Ventura County (Grant, 1931). Included in these are Elsmere Canyon locality #201, Sulphur Canyon localities #218, and 254, Pico Canyon localities #229, and 259, localities #222-224 located near the head of Canada de las Encinas, and locality #253 in Palomas Canyon.

The Los Angeles County portion of the Sunshine Canyon Landfill has yielded twenty seven (27) fossil localities in the Towsley Formation. The marine invertebrates collected include pelecypod, scaphopod, and gastropod shells and shell fragments. The marine vertebrates are represented by marine mammal and whale bone fragments, shark teeth, and fish scales and vertebrae.

Fossils Recovered From The Site

During the survey, seven (7) fossil localities were established in the Towsley Formation (Figure 2). The fossil localities are summarized on Fossil Locality Data Sheets in Appendix A.

The fossils include marine invertebrates and vertebrates. Marine invertebrates collected include pelecypod and gastropod shells and shell fragments. Higher vertebrates are represented by whale bone fragments. (See Systematic List)



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NATURAL RESOURCES & ENVIRONMENTAL
Assessments - Planning - Management

Explanation

Site Area

(1) Paleontological Fossil Locality

Figure 3
Paleontological Locality Map
Sunshine Canyon Landfill Extension
Sylmar, California

SYSTEMATIC LIST

This Systematic List provided below illustrates the phylogenetic relationships of the collected fossils from the Towsley Formation. Phylogeny separates certain organisms for purposes of classification, based on their evolutionary ascent. The less evolved taxa are listed first, followed by successively higher and more evolved taxa. The fossil identifications are preliminary because the extensive research required to provide definitive identification of collected specimens was beyond the scope of this project and report. As a result, with further research, some specimens may be reassigned to other taxa.

KINGDOM ANIMALIA - ANIMALS

Phylum Mollusca

Class Pelecypoda

Pelecypoda - Bivalve

Subclass Pteriomorphia

Order Pteroconchida

Superfamily Ostreacea

Family Osteridae - Oysters

Ostrea sp. - Oyster

Superfamily Pectinacea

Family Pectinidae - Scallops

Chlamys sp. - Scallop

Subclass Teleodesmata

Order Heterodontida

Suborder Teleodontida

Superfamily Tellinacea

Family Tellinidae - Tellens

Subfamily Macominae

Macoma sp. - Macoma

Class Gastropoda

Gastropoda - Gastropod

Subclass Prosobranchia

Order Monotocardia

Suborder Taenioglossa

Superfamily Turritellacea

Family Turritellidae - Tower Shells

Turritella sp. - Turret

Superfamily Calyptraeacea

Family Calyptraeidae - Slipper Shell

Crepidula onyx. - Onyx Slipper Shell

Superfamily Naticacea

Family Naticidae - Moonsnails

Polinices sp. - Moon Shell

Superfamily Muricacea

Family Thaisidae - Dye shells

Thais sp. - Dogwinkle

Phylum Chordata

Subphylum Vertebrata

Superclass Gnathostomata

Grade Tetrapoda

Class Mammalia

Subclass Theria

Infraclass Metatheria

Order Cetacea

Cetacean - Whale

Table 1 - Fossils by Locality

LOCALITY	1	2	3	4	5	6	7
Phylum Mollusca							
Class Pelecypoda							
Pelecypoda	X	X	X	X		X	X
Ostrea sp.		X					
Chlamys sp.						X	X
Macoma sp.		X					
Class Gastropoda							
Gastropoda	X	X	X			X	
Turritella sp.							X
Crepidula onyx						X	
Polinices sp.		X					
Thais sp.		X					X
Class Mammalia							
Cetacean rib					X		

Paleoenvironment as Indicated by Collected Fossils

The fauna and rock sequences on the site confirm the paleoenvironment of the Towsley Formation. All of the mollusks recovered from the site are found in the intertidal zone to 100 meters in temperate to tropical waters. The cetacean does not provide any paleoenvironment indicators beyond being marine.

Significance of Paleontologic Resources

One of the purposes of a paleontologic investigation is to document the presence of fossils in the geologic record. Hopefully, this will lead to a better understanding of the area, of the paleoenvironment, of the phylogenetic histories of species or taxa in the area or in general, and ultimately provide keys to the history of life as it evolved on this earth. These "goals" can

sometimes be achieved with the documentation of the fossil occurrences. Thus, the establishing of fossil localities, even if the fossils were not collected, is important.

The presence of different fossil species in a deposit, their relative abundance, the nature of their preservation (abraded versus fresh, scattered versus articulated) and correlation with the living habits and anatomy of their closest living counterparts can all help reveal details of paleoenvironments, the environments under which particular rock units were deposited. In addition to simply revealing the species of animals that were present, the fossil record can also give indications of the depth of the water, the proximity to shorelines, possible current directions, and water temperatures.

The geology indicates an environment of deposition of proximal to distal turbidites, which were deposited in a shelf-slope environment. The collected fossils confirm this environment of deposition with the shallow water mollusks transported to deeper water by turbidity currents.

CONCLUSIONS

The subject area may contain Paleontological Resources from Miocene sedimentary. The Towsley Formation is considered to be of high paleontologic sensitivity and is known to contain significant fossils adjacent to the proposed development area. Careful development of this area may increase our knowledge and collections of the fossil assemblages and environment of deposition of the rock units in this area. The site can be developed and still protect the paleontological resources of the area if the following mitigation measures are followed.

ENVIRONMENTAL IMPACT ANALYSIS

IMPACTS

Significant Impact which cannot be Avoided (Section 15126(b) of CEQA Guidelines).

The development of the area may have a significant impact on the paleontological resources of the area which cannot be avoided.

Significant Impact which can be Avoided or Mitigated.

The development of the area may have a significant impact on the paleontological resources of the area which cannot be avoided. However, the significant impacts on the paleontological resources of the area can be Mitigated.

Adverse Impact that is less than Significant or Insignificant.

The impacts to the paleontological resources of the landfill slopes are considered to be insignificant.

CUMULATIVE IMPACTS

All impacts to the paleontological resources of the area are considered to be non-Cumulative.

MITIGATION MEASURES

1. No additional mitigation measures are necessary prior to the initiation of grading operations.
2. A paleontological resource monitoring plan should be developed by a Certified Paleontologist. This plan should include a grading observation schedule to be maintained when grading in bedrock units to further evaluate the fossil resources of the site.
3. Salvage operations should be initiated and coordinated with the developer if significant concentrations of fossils are encountered.

RESIDUAL IMPACTS AFTER MITIGATION (IF ANY)

There will be no Residual Impacts after Mitigation.

ALTERNATIVES ANALYSIS

There is no necessity for alternatives due to the mitigation of impacts on the paleontological resources.

REFERENCES CITED AND/OR RELEVANT

Addicott, W. O., 1972, Provincial Middle and Late Tertiary Molluscan Stages, Temblor Range, California, p. 1-26, In E.H. Stinemeyer (ed.), Proceedings of the Pacific Coast Miocene Biostratigraphic Symposium, Society of Economic Paleontologists and Mineralogists, Bakersfield, California, 364 pp.

Barnes, L. G., 1994, Paleontological Resources, Sunshine Canyon Landfill Extension, Los Angeles County, California, Written Communication.

Berggren, W. A., and VanCouvering J. A., 1974, The Late Neogene Biostratigraphy, Geochronology and Paleoclimatology of the Last 15 Million Years in Marine and Continental Sequences, Palaeogeography, Palaeoclimatology, and Palaeoecology, 16 (1/2):i-xi, 1-216.

Butler, M.L., 1977, Geologic map of Central Santa Susana fault area, Ventura and Los Angeles Counties, California; unpublished masters thesis, Ohio University; scale 1:12,000.

Cappetta, H., 1987, Handbook of Paleoichthyology Chondrichthyes II Mesozoic and Cenozoic Elasmobranchii, Gustav Fischer Verlag Stuttgart, New York, 193 p.

Domning, D.P., 1978, Sirenian Eevolution in the North Pacific Ocean, University of California Publications in Geological Sciences, 118:i-xi, 1-176, pls. 1-18.

Evans, J.R. and Miller, R.V., 1978, Geology of the southwestern part of the Oat Mountain quadrangle, Los Angeles County, California; California Divisions of Mines and Geology, map sheet 33, scale 1:12,000, color.

Grant IV, U. S., and Gale, H. R., 1931, Catalogue of the Marine Pliocene and Pleistocene Mollusca of California and Adjacent Regions, Memoirs of the San Diego Society of Natural History Vol. I, pp. 26-39.

Hazzard, J.C., 1940, Geology of a part of the Santa Susana-San Gabriel Mountains district, Los Angeles County, California; unpublished Union Oil Company Report 49, plate 1; map scale 1:18,000.

Hershey, O.H., 1902, Some Tertiary Formations of Southern California; American Geologist, Vol. 29, pp. 359-362.

Hickman, J. C., Editor., 1993, The Jepson Manual, Higher Plants of California, 1400 p.

Ingram, W.L., 1959, Aliso Canyon oil fields; California Division of Oil and Gas, Summary of Operations, California Oil Fields, volume 45, pp. 65-73.

Keen, A. M., 1963, Marine Molluscan Genera Of Western North America, Stanford University Press, Stanford, 126 p.

Keen, A. M., 1971, Sea Shells Of Tropical West America, Stanford University Press, Stanford, 1064 p.

Kellogg, A.R., 1925, Additions to the Tertiary History Of The Pelagic Mammals on the Pacific Coast of North America, V, Structure of the Flipper of a Pliocene Pinniped From San Diego County, California, Carnegie Institution of Washington Publication, 348:97-116.

Kellogg, A.R., 1929, A New Cetothere From Southern California, University of California Publications, Bulletin of the Department of Geological Sciences, 18(15):449-457.

Kern, J.P., 1973, Early Pliocene Marine Climate and Environment of the Eastern Ventura Basin, Southern California, University of California Publications in Geological Sciences, 96:i-viii, 1-117.

Lant, K.J. 1977, Structure of the Aliso Canyon area, eastern Ventura basin, unpublished masters thesis, Ohio University; 79 pages, scale 1:12,000.

Morris P. A., 1966, The Peterson Field Guide Series: A Field Guide To Pacific Coast Shells, Houghton Mifflin Company, Boston, 297 p.

Munz, P. A., 1974, A Flora Of Southern California, University Of California Press, Los Angeles, 1086 p.

Oakeshott, G. B., 1958, Geology and Mineral Deposits of San Fernando Quadrangle Los Angeles County, California, Depart of Natural Resources Divison of Mines, Feb. Bulletin 172.

Repenning, C.A., and Tedford R. H., 1977, Otarioid Seals of the Neogene, United States Geological Survey Professional Paper, 992:i-vi, 1-93, pls. 1-24.

Saul, L. R., 1991, Type and Referred Specimens of Fossil Invertebrates in the Natural History Museum of Los Angeles County, Supplement 3: Mollusca Formerly Conserved at the University of California, Los Angeles Natural History Museum of Los Angeles County Technical Reports, 6:1-173.

Saul, R.B. 1979, Geology of the southeast 1/4 Oat Mountain quadrangle, Los Angeles County, California Division of Mines and Geology; map sheet 30, scale 1:12,000, 2 sheets, color.

Society of Vertebrate Paleontology, 1990, Standard Measures for Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources, SVP Impact Committee, Draft Guidelines, 6 p.

Tidwell, W. D., 1975, Common Fossil Plants Of Western North America, Brigham Young University Press, Provo, 197 p.

Treiman, J. A. 1982, Age of Upper Saugus Formation at Newhall, California and Implications as to the Age of the Santa Susana Mountains, Geology and Mineral Wealth of the California Transverse Ranges, Annual Symposium and Guidebook Number 10, Edited by Donald J. Fife, and John A. Minch, South Coast Geological Society Inc.

Treiman, J.A., 1987, Landslide hazards in the north half of the Oat Mountain quadrangle, Los Angeles County, California, Landslide Hazard Identification map no. 10, geologic map, California Division of Mines and Geology, Open File Report 87-8 LA; map scale 1:24;000, compiled.

White, D.R., 1983, Shoreline to lagoonal facies of the marine Pliocene lower Saugus Formation northern Simi Valley, California, in Cenozoic geology of the Simi Valley area, southern California; R.L. Squires and M.V. Filewicz, editors; Society of Economic Paleontologists and Mineralogists, Pacific Section; p. 207-220.

Winterer, Edward L., and Durham, David L., 1951, A Formation of late Miocene and early Pliocene age on the north slope of the Santa Susana Mountains, California, American Association Petroleum Geologists Bulletin, Vol. 35 p. 2631

Winterer, E. L., and Durham, D. L., 1954, Geology of a part of the Eastern Ventura Basin, Los Angeles County, California, California Division of Mines Bulletin 170, ch. 1. map sheet 5.

Winterer, E. L., and Durham D. L., 1962, Geology of Southeastern Ventura Basin, Los Angeles County, California, U.S. Geological Survey Professional Paper, 334-H:275-366.

Winterer, Edward L., and Durham, David L., 1978, Geology of the Southwestern Part of the Oat Mountain Quadrangle, Los Angeles County, California.

APPENDIX A

TOWSLEY FORMATION LOCALITIES ON SITE

Appendix A - Fossil Localities

Seven (7) fossil localities were established in the Sunshine Canyon, Los Angeles City, Landfill Extension, Sylmar, California during the survey. Each locality was given a designation composed of the prefix of JMBI, and a numerical suffix. Numerals 01 through 07 were utilized to identify the fossil localities.

Locality 1 - In landslide material on south side of paved access road to Oil Field, 1520', Towsley Formation, Late Miocene, light gray-brown, well indurated, conglomeratic sandstone - Pelecypoda, Gastropoda

Locality 2 - In roadcut on west side of paved access road to Oil Field, 1480', Towsley Formation, Late Miocene, light gray-brown, indurated, sandstone - Pelecypoda, *Ostrea* sp., *Macoma* sp., Gastropoda, *Polinices* sp., *Thais* sp.

Locality 3 - In roadcut at sharp bend on north side of paved access road to Oil Field, 1435', Towsley Formation, Late Miocene, light gray-brown sandstone - Pelecypoda, Gastropoda.

Locality 4 - In cutslope on upper level bench along SW part of southern boundary ridge, 1990', Towsley Formation, Late Miocene, light gray-brown, well indurated conglomeratic sandstone - Pelecypoda

Locality 5 - In roadcut on south side of main paved access road, 1370', Towsley Formation, Late Miocene, light gray-brown, indurated, sandstone - Cetacean rib.

Locality 6 - In cutslope on upper level bench along eastern boundary ridge of Existing City Landfill, 1760', Towsley Formation, Late Miocene, reddish gray-brown sandstone - Pelecypoda, *Chlamys* sp., Gastropoda, *Crepidula onyx.*

Locality 7 - In cutslope on upper level bench along eastern boundary ridge of Existing City Landfill, 1765', Towsley Formation, Late Miocene, reddish gray-brown sandstone - Pelecypoda, *Chlamys* sp., *Turritella* sp., *Thais* sp.

APPENDIX B

TOWSLEY FORMATION LOCALITIES

Appendix B - Localities Within the Towsley Formation

The following abbreviations are used to indicate institutions where fossils are stored:

- LACM -Section of Vertebrate Paleontology, Natural History Museum of Los Angeles County.
- LACMIP - Invertebrate Paleontology Section, Natural History Museum of Los Angeles County.
- UCLA - University of California at Los Angeles, specimens now conserved by LACMIP.
- UCMP - University of California at Berkeley.

Pico Anticline Area:

UCLA 1084, 1086

Grapevine Canyon:

LACMIP 7795; UCLA 5758, 5760 - 5772, 5774 - 5777.

Newhall Area:

LACMIP 4720, UCLA 1114, 1120, 2110.

Humphreys Area:

LACM 6905; LACMIP 291, 7810; UCMP V-2202, V- 3584.

Sand Canyon:

LACMIP 1375, 4488, 5241.

Nadeau Canyon:

UCLA 2017.

Gorman Canyon:

UCLA 2018.

Elsmere Canyon:

LACMIP 2055, 4485, 7762 - 7763, 10265, UCLA 243, 334, 419 - 420, 2053 - 2056, 2056a, 2057 - 2062, 2065 - 2069, 2078, 2080 - 2083, 5778 - 5780, 5783, 5786 - 5787 - 5790, 5793 - 5794, 5797 - 5800, 5800-1, 5800-2, 5801 - 5803, 5808 - 5809, 5809-6, 5810, 5810-1, 5811 - 5815, 5811-1, 10266 - 10267.

APPENDIX C

COMPOSITE FAUNAL LIST FROM THE TOWSLEY FORMATION FROM PUBLISHED LITERATURE

Appendix C - Composite Faunal List from the Towsley Formation from published literature:

Bryozoa

Unidentified.

Mollusks

?Diplodonta sericata (Reeve, 1850)
?Tricolia sp.
Acetocina, aff. *A. culcitella* (Gould, 1853)
Acila castrensis (Hinds, 1843)
Acmaea, cf. *A. digitalis* (Eschscholtz, 1833)
Acteon punctocaelatus (Carpenter, 1864)
Admete rhyssa (Dall, 1919)
Amiantis callosa (Conrad, 1837)
Amphissa reticulata (Dall, 1916)
Anadara trilineata (Conrad, 1856)
Arca terminumbonis (Grant and Gale, 1931)
Astele, aff. *A. rema* (Strong, Hanna, and Hertlein, 1933)
Astraea gradata (Grant and Gale, 1931)
Balcis rutila (Carpenter, 1864)
Bankia, cf. *B. setacea* (Tryon, 1863)
Barbatia pseudoillota (Reinhart, 1937)
Barbatia, cf. *B. bailyi* (Bartsch, 1931)
Bittium, cf. *B. rugatum* (Carpenter, 1864)
Boetica hertleini (Kanakoff, 1966)
Bulla, cf. *B. punctulata* (Adams, 1850)
Calicantharus fortis angulatus (Arnold, 1907)
Calicantharus humerosus (Gabb, 1869)
Calliostoma splendens (Carpenter, 1864)
Calliostoma, aff. *C. gemmulatum* (Carpenter, 1864)
Callithaca tenerrima (Carpenter, 1864)
Calyptraea filosa (Gabb, 1866)
Cancellaira planospira (Grant and Gale, 1931)
Cancellaria arnoldi (Dall, 1909)
Cancellaria elsmerensis (English, 1914)
Cancellaria fernandoensis (Arnold, 1907)
Cancellaria hamlini (Carson, 1926)
Cancellaria rapa (Nomland, 1917)
Cancellaria tritonidea (Gabb, 1869)
Cantharus sp.
Chione fernandoensis (English, 1914)
Clathrodrillia coalingensis (Arnold, 1909)
Clavus, aff. *C. pallidus* (Sowerby, 1834)
Compsomyax subdiaphana (Carpenter, 1864)
Conus californicus (Reeve, 1844)
Crassispira, aff. *C. montereyensis* (Stearns, 1871)
Crepidula adunca (Sowerby, 1825)
Crepidula nummaria (Gould, 1846)
Crepidula onyx (Sowerby, 1824)
Crepidula princeps (Conrad, 1855)
Crepidula, cf. *C. aculeata* (Gmelin, 1791)

Cryptomya californica (Conrad, 1837)
Cyclocardia californica (Dall, 1903)
Cymatium elsmerense (English, 1914)
Cypraea fernandoensis (Arnold, 1907)
Dentalium neohexagonum (Sharp and Pilsbury, 1897)
Dentalium, cf. *D. rectius* (Carpenter, 1864)
Diodora murina (Arnold, 1903)
Dosinia jacalitosana (Arnold, 1909)
Ficus ocoyana (Conrad, 1855)
Forreria belcheri (Hinds, 1843)
Fusinus barbarensis (Trask, 1855)
Fusitriton oregonensis (Redfield, 1846)
Gari californica (Conrad, 1849)
Gari edentula (Gabb, 1869)
Glycymeris profundia (Dall, 1879)
Haliotis fulgens (Philippi, 1845)
Here excavata (Carpenter, 1857)
Kelletia kelletii (Forbes, 1852)
Lacuna sp.
Lima hemphilli (Hertlein and Strong, 1946)
Lithophaga, cf. *L. plumula* (Hanley, 1844)
Littorina sp.
Lucina californica (Conrad, 1837)
Lucinisca nuttallii (Conrad, 1837)
Lucinoma annulata (Reeve, 1850)
Lyropecten estrellanus (Conrad, 1856)
Macoma indentata (Carpenter, 1864)
Macoma nasuta (Conrad, 1837)
Macoma secta (Conrad, 1837)
Macoma yoldiformis (Carpenter, 1864)
Mactra, cf. *M. dolabriformis* (Conrad, 1867)
Mangelia interlirata (Stearns, 1872)
Margarites pulillus (Gould, 1849)
Marginella sp.
Maxwellia eldridgei (Arnold, 1907)
Megasurcula carpenteriana (Gabb, 1865)
Miltha xantusi (Dall, 1905)
Mitra idae (Melvill, 1893)
Mitrella gausapata (Gould, 1850)
Modiolus rectus (Conrad, 1837)
Mya truncata (Linnaeus, 1758)
Mytilus coalingensis (Arnold, 1909)
Nassarius hamlini (Arnold, 1907)
Nassarius iniquus (Stewart, 1940)
Nassarius stocki (Kanakoff, 1956)
Nassarius whitneyi (Trask, 1922)
Natica clausa (Broderip and Sowerby, 1829)
Nemocardium centifilosum (Carpenter, 1864)
Neptunea lyrata (Gmelin, 1791)
Neverita reclusiana (Deshayes, 1839)
Nuculana taphria (Dall, 1896)
Ocenebra foveolata (Hinds, 1843)
Ocenebra subangulata (Stearns, 1873)
Olivella pedroana (Conrad, 1855)

Olivella, aff. *O. gracilis* (Broderip and Sowerby, 1829)
Opalia varicistata (Stearns, 1875)
Ophiodermella cancellata (Carpenter, 1864)
Panopea generosa (Gould, 1850)
Patinopecten lohri (Hertlein, 1928)
Periploma planiuscula (Sowerby, 1834)
Pododesmus cepio (Gray, 1850)
Polinices galianoi (Dall, 1909)
Protothaca, cf. *P. staminea* (Conrad, 1837)
Psammotreta biangulata (Carpenter, 1856)
Pseudomelatoma, aff. *P. moesta* (Carpenter, 1864)
Saxidomus nuttallii (Conrad, 1837)
Securalla elsmerensis English, 1914
Sinum scopulosum (Conrad, 1849)
Solen sicarius (Gould, 1850)
Spirotropis perversa (Gabb, 1865)
Spisula hemphilli (Dall, 1894)
Taranis incultus (Moody, 1916)
Tegula gallina (Forbes, 1852)
Tellina idae (Dall, 1891)
Terebra martini (English, 1914)
Thais elsmerensis (Grant and Gale, 1931)
Thais, cf. *T. lamellosa* (Gmelin, 1791)
Thracia trapezoides (Conrad, 1849)
Tivela stultorum (Mawe, 1823)
Trachycardium quadragenarium (Conrad, 1837)
Tresus nuttallii (Conrad, 1837)
Turbonilla sp.
Turritella cooperi (Carpenter, 1864)

Arthopods
Tetraclita sp.

Echinoderms
Astrodapsis fernandoensis (Pack, 1909)
Dendraster elsmerensis (Durham, 1949)
Dendraster gibbsii (Remond, 1863)

Vertebrates
Carcharodon megalodon (Agassiz, 1843)
Carcharodon sulcidens (Agassiz, 1843)
Isurus hastalis (Agassiz, 1843)
Otariidae, subfamily Imagotariinae
Dusisiren jordani (Kellogg, 1925)
Nannocetus eremus (Kellogg, 1929)
Cetacea

Appendix C
BACKGROUND INFORMATION

C1 Environmental Documents Incorporated by Reference, Reference Index and FEIR Topical Issues Reference Index

C2 County/City Landfill Project History

C3 Overview of Litigation Proceedings in Connection with the County Landfill

C4 Chronology of the Environmental Process (Including Litigation and Regulatory Permits) for the County Landfill

C5 Prior Operational History of the Existing Inactive Landfill

C6 County Landfill, Findings of Fact and Statement of Overriding Considerations, and Conditions of Project Approval

C7 Impacts on Minorities and Low-Income Communities

C8 Northridge Earthquake Information

C9 FEIR Mitigation Reporting and Monitoring Summary

C10 Additional Correspondence

C11 Browning-Ferris Industries Corporate History and Environmental, Health and Safety Report

C12 Testimony by Jack R. Michael, Los Angeles County Department of Public Works before the Los Angeles County Regional Planning Commission (August 9, 1995) and Quarterly Status Report on Solid Waste Management Action Plan (August 1, 1995)

C13 Regulatory Overview of State-, County-, and City-Enacted Waste Management Acts

C14 Property Valuation Studies Summary

C15 Static and Seismic Stability Assessment County Landfill, Phase II Construction

C16 Assessment of the Performance of Class III Nonhazardous Solid Waste Landfills in Recent Earthquakes

C17 Amended Mitigation Monitoring and Reporting Summary

C18 Sunshine Canyon Surface Water and Groundwater Monitoring Data

C19 DWP and MWD Water Quality Background Data

Appendix C1
ENVIRONMENTAL DOCUMENTS INCORPORATED BY REFERENCE, REFERENCE INDEX AND FEIR TOPICAL ISSUES REFERENCE INDEX

ENVIRONMENTAL DOCUMENTS INCORPORATED BY REFERENCE

In accordance to *State CEQA Guidelines*, § 15150 (a)(b)(c), the following environmental documents (that comprise the Sunshine Canyon Landfill Extension or County Landfill Project) and various technical documents required pursuant to State regulations or in support of the environmental analyses performed for the *Sunshine Canyon Landfill Extension FEIR* are listed below. In addition to each listing is a brief summary of the document's content.

- *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension*, Volume I, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., April 1989.

  This document evaluated the potential environmental impacts associated with the proposed development and operation of a Class III nonhazardous landfill facility with an estimated waste disposal capacity of 215 million tons that would be located on ±542.00 acres within County unincorporated area on the northwest portion of the project proponent's property and ±164.00 acres located within the jurisdiction of the City at the southeast portion of the project site. The proposed project evaluated additional landfill development on portions of the existing ±230.00 acre landfill located within the City.

- *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, County of Los Angeles, Department of Regional Planning, April 1989, State Clearinghouse Number 84082908; *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension,* Volume IIB, State Clearinghouse Number 84082908, April 1989; and *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, State Clearinghouse Number 84082908. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., July 1989.

  The DEIR Appendices, Volumes IIA and IIB, incorporated technical reports, assessments, specialized analyses, plans, maps, and meeting minutes that supported the analysis in Volume I of the environmental impacts associated with the project (i.e., a Class III nonhazardous landfill facility on 706 acres allowing an estimated solid waste disposal capacity of approximately 215 million tons, located within County and City jurisdictions). Additionally, *DEIR, Responses to Pre-Circulation Comments*, Volume III, contained the written comments received from County agencies on the *DEIR* prior to Notice of Completion (NOC) circulation and the public review and comment period.

- *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908. Prepared in collaboration with the Ultrasystems Engineers and Constructors, Inc., July 13, 1990.

  This environmental document provided responses to comments, recommendations, and requests for information from the County Regional Planning Commission, public agencies, organizations, and the general public. Comments were received as written submittals and verbal testimony during County Regional Planning Commission public hearings held on October 4, 1989; November 2, 1989; January 17, 1990; and February 22, 1990.

- *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments (Original Comments Received)*, Volume B, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., July 1990.

  This DEIR document provided the original written comments and letters received from public agencies, organizations, and the general public, and provided the official transcripts of the County Regional Planning Commission public hearing proceedings held on October 4, 1989; November 2, 1989; January 17,1990; and February 22, 1990 on the DEIR for the Sunshine Canyon Landfill Extension project.

- *Final Environmental Impact Report, Sunshine Canyon Landfill Extension*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908, October 1990.

  This FEIR document incorporated all prior DEIR volumes by reference (i.e., Volume I, Volume IIA, Volume IIB, Volume III, Volume A, and Volume B) prepared for the Sunshine Canyon Landfill Extension and also incorporated the *Sunshine Canyon Landfill Extension, Environmental Findings of Fact and Statement of Overriding Considerations* and *Conditional Use Permit and Oak Tree Permit 86-312-(5) Conditions of Approval* adopted by the Regional Planning Commission.

- *Final Environmental Impact Report, Sunshine Canyon Landfill Extension, Comments Received* and *Responses for the Los Angeles County Board of Supervisors*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., February 1991.

  This environmental document provided information and responses to written and verbal comments about the FEIR received from public agencies, organizations, and the general public during the 45-day FEIR public review period that culminated on November 26, 1990; verbal testimony received during the Board of Supervisors public hearing for the project held on November 29, 1990; and written comments accepted by the County Department of Regional Planning through December 15, 1990.

- *Addendum to Final Environmental Impact Report, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., February 1991.

  This addendum provided information and responses to comments received from the North Valley Coalition (Responses [November 1990] to *DEIR, Responses to Comments*, Volume A, July 13, 1990). These written comments were received during the November 29, 1990, public hearing held before the Board of Supervisors on the Sunshine Canyon Landfill Extension project.

- *Addendum to Final Environmental Impact Report for the Los Angeles County Board of Supervisors*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., May 1992.

This document provided environmental information on six inadequacies in the FEIR and the associated environmental review process identified in the Trial Court Writ (issued by the Trial Court on April 22, 1992).

- *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension*, County of Los Angeles, Department of Regional Planning and County Counsel, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., April 1993.

This document provided information specifically addressing three matters mandated by the Trial Court Ruling of October 30, 1992.

- *Responses to Comments on the Additional Information* and *Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* and *Appendices*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., June 1993.

These documents provided responses to comments received from agencies and the public on the environmental document *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* and provided an appendices section, which included copies of the legal notices, a reference index of topical issues, the distribution list, and written correspondence received during the public review and comment period (April 21 through June 5, 1993).

- *Responses to Comments Received during the Los Angeles County Regional Planning Commission Public Hearing (July 14, 1993) for the Sunshine Canyon Landfill Extension*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with Ultrasystems Engineers and Constructors, Inc., July 1993.

This document provided written responses to correspondence and verbal testimony received by the County and during the County Regional Planning Commission public hearing on July 14, 1993. In addition, this document provided an appendices section, which incorporated copies of the public hearing notice, County Planning staff report to the Commissioners, written correspondence received at the Commission public hearing, the transcript of proceedings from that public hearing, the testifiers sign-in sheet, and a comprehensive reference index of topical issues derived from all environmental documents prepared for the project.

- *Responses to Comments on the Sunshine Canyon Landfill Extension for the County of Los Angeles Board of Supervisors*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with LG&E Power Engineers and Constructors Inc. (formerly Ultrasystems Engineers and Constructors, Inc.), November 1993.

This document provided responses to written and verbal testimony received during the Board of Supervisors public hearing on October 21, 1993, and additional written correspondence and information submitted on October 22, 1993. An appendices section included copies of (1) the Board of Supervisors public hearing notice, (2) the transcript of proceedings of the public hearing, (3) written correspondence received during and after the public hearing, (4) the testifiers sign-in cards, (5) a letter from the County Department of Public Works regarding remaining permitted disposal

capacity of solid waste facilities, (6) the Appellate Court Decision (October 25, 1993), (7) correspondence regarding the Solid Waste Facility Inspection Report, and (8) a reference index of topical issues derived from all environmental documents prepared for the project.

- *Final Environmental Impact Report Mitigation Monitoring and Reporting Summary, Sunshine Canyon Landfill Extension*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210. Prepared in collaboration with LG&E Power Engineers and Constructors Inc., November 1993.

  This document was prepared pursuant to PRC, § 21081.6 (effective January 1, 1989) and this summary is incorporated as part of the County's approved Mitigation Monitoring and Reporting Program. This summary listed FEIR mitigation measures (by topical issue), monitoring action, the agency or County department responsible for monitoring action implementation, timing of the mitigation measure, and references to the *Sunshine Canyon Landfill Extension, Conditional Use Permit and Oak Tree Permit 86-312-(5) Conditions of Project Approval* or other Responsible Agency regulations.

All environmental documents, technical reports, and assessments listed above are on file and available for review during established business hours (Monday through Friday 7:30 a.m. to 6:00 p.m.) at the City of Los Angeles, Department of City Planning, Environmental Review Section, 221 N. Figueroa Street, 15th Floor, Los Angeles, California.

Additionally, these documents are on file and available for review (Monday through Thursday 7:30 a.m. to 6:00 p.m.) at the County of Los Angeles, Department of Regional Planning, Impact Analysis Section, 320 West Temple Street, Room 1354, Los Angeles, California. Copies of these documents were provided to the to the public library facilities listed in Table C1-1 during public review periods.

TECHNICAL DOCUMENTS INCORPORATED BY REFERENCE

The following engineering/technical reports have been prepared for the Sunshine Canyon Landfill Extension project pursuant to required State regulations:

- *Report of Waste Discharge Proposed Sunshine Canyon Sanitary Landfill Extension Site, Sylmar, California, for Browning-Ferris Industries of California, Inc., (Report of Waste Discharge and Appendices A through F)*, The PRA Group, September 16, 1998.

  These documents were prepared pursuant to CCR, Title 23, Chapter 15, and are required by the Regional Water Quality Control Board (RWQCB) in order to satisfy the requirements for the operation of a Class III landfill. These documents provided information on the following Sunshine Canyon Landfill Extension waste characteristics: geologic, hydrologic, and climatologic characteristics of the landfill unit and surrounding region; installed features; operation plans for waste containment; precipitation and drainage control; and other site characteristics.

Copies of these documents are available for review (during 8:00 a.m. to 5:00 p.m.) at the RWQCB Los Angeles Region (4), Planning Unit, 101 Centre Plaza Drive, Monterey Park, California.

Table C1-1
LIBRARIES WITH ENVIRONMENTAL DOCUMENTS ON FILE

Library/Address	Library/Address
Culver City Library Michael Masliah, Government Documents Librarian 4975 Overland Avenue Culver City, CA 90230 Telephone: (310) 559-1676	**Los Angeles Public Library** Canoga Park Branch Renee Ardon, Branch Librarian 7260 Owensmouth Avenue Canoga Park, CA 91303-1529 Telephone: (818) 887-0320
Los Angeles Public Library Central Library Science, Technology & Patents Department 630 West Fifth Street Los Angeles, CA 90071 Telephone: (213) 228-7200	**Los Angeles Public Library** Chatsworth Branch Leslie Chudnoff, Young Adult Librarian 21052 Devonshire Street Chatsworth, CA 91311-2314 (818) 341-4276
Los Angeles Public Library Encino-Tarzana Branch Diana Lisignoli-Cochran, Senior Librarian 18231 Ventura Boulevard Tarzana, CA 91356-3630 Telephone: (818) 343-1983	**Los Angeles Public Library** Granada Hills Branch Dara Eklund, Adult Librarian 10640 Petit Avenue Granada Hills, CA 91344-6452 Telephone: (818) 368-5687
Los Angeles Public Library Mid-Valley Regional Branch & Bookmobile Headquarters Dan Dupill, Senior Librarian 16244 Nordhoff Street North Hills, CA 91343-3806 Telephone: (818) 895-3650	**Los Angeles Public Library** Northridge Branch Yvonne Wong, Adult Librarian 9051 Darby Avenue Northridge, CA 91325-2743 Telephone: (818) 886-3640
Los Angeles Public Library Platt Branch Sherry Van Sickle, Librarian II 23600 Victory Boulevard Woodland Hills, CA 91367 Telephone: (818) 340-9386	**Los Angeles Public Library** Porter Ranch Branch Lina Daukas, Senior Librarian 11371 Tampa Avenue Porter Ranch, CA 91326-1729 Telephone: (818) 360-5706
Los Angeles Public Library Sylmar Branch Kelly Burks, Acting Senior Librarian 13059 Glen Oaks Boulevard Sylmar, CA 91342 Telephone: (818) 367-6102	**Los Angeles Public Library** Woodland Hills Branch Michael Eisenberg, Branch Librarian 22200 Ventura Boulevard Woodland Hills, CA 91364-1599 Telephone: (818) 887-0160
San Fernando Library Judith Babka, Library Manager 1050 Library Street San Fernando, CA 91340 Telephone: (818) 365-6928	**Valencia Library** Ms. J. Riaz, Manager 23743 West Valencia Boulevard Valencia, CA 91355 Telephone: (805) 259-8332

- *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Los Angeles County, California, for Browning-Ferris Industries of California, Inc.*, Volumes I and II, The PRA Group Inc., August 16, 1991.

  This report was prepared for the Sunshine Canyon Landfill Extension pursuant to CCR, Title 14, Division 7, Chapter 5, Article 3.2, § 18222 (Report of Disposal Site Information) and the County Department of Health Services Checklist for Report of Disposal Site Information. This report responds to comments from the County Department of Health Services, dated November 17, 1989; December 29, 1989; June 22, 1991; and July 7, 1991. Moreover, this report provides technical information, analysis, and conceptual plans for the procurement of a Solid Waste Facilities Permit (SWFP) issued by the County Department of Health Services.

- *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Los Angeles County, California, for Browning-Ferris Industries of California,* Inc., Addendum 1, The PRA Group Inc., December 9, 1991.

  This addendum provides additional information (e.g., description of office facilities and employee areas, site plans that show facility locations, and approved regulatory permits) to the *Report of Disposal Site Information, Proposed Sunshine Canyon Landfill Extension Site*, Volumes I and II.

Copies of these documents are available for review (during 8:00 a.m. to 5:00 p.m.) at the County of Los Angeles, Department of Health Services, Solid Waste Management Program, 2525 Corporate Place, Monterey Park, California.

- *Final Closure Plan for the Sunshine Canyon Sanitary Landfill, Sylmar, California, for Browning-Ferris Industries of California, Inc.*, The PRA Group Inc., November 30, 1990, April 19, 1991, Second Revision, April 30, 1992, Third Revision, November 18, 1994.

- *Addendum to the Final Closure and Post-Closure Maintenance Plans Sunshine Canyon City Landfill, Sylmar, California,* Volumes I and II, GeoSyntec Consultants, March 1997.

  These documents were prepared pursuant to the CCR, Title 14, Chapter 3, Article 7.8, and Chapter 5, Articles 3.4 and 3.5, as administered by the California Integrated Waste Management Board (CIWMB). The reports incorporated engineering and hydrogeologic data from prior studies prepared for various regulatory agencies that govern the operation of the landfill and prescribed a plan for BFI to follow in order to comply with imposed regulations during the Sunshine Canyon Landfill closure period.

Copies of these documents are available for review (during 8:00 a.m. to 5:00 p.m.) at the City of Los Angeles, Environmental Affairs Department, Local Enforcement Agency, 201 N. Figueroa Street, Los Angeles, California.

Table C1-2
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR[1]

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[12]
• **EIR Process/ CEQA Guide-lines**	p. 28. Appendix A.	Comment Nos. 15 and 42.	Topical Response 26. Comment Nos. 13, 29, 30, 40, 49, 51, 84, 89, 94, 207-210, 215-222, 225, 227, 228, 238, 241-244, 254-268, 278, 285, 286, 292, 293, 296-302, 745, 774, 852, 905, 963, 964, 970, 982, 983, 985, 1062 and 1096.		p. 6.	pp. 7, 14, 18 and 29.			Comment Nos. 18, 19, 20, 84, 110, 150 and 166.	Comment Nos. 14, 34, 35, 77, 102, 104, 119 and 186.	Comment Nos. 111 and 166.
PROJECT DESCRIPTION											
• **Operations**	pp. 28-67. Appendices J, L and V.	Comment Nos. 2-5, 46-48, 50 and 63.	Comment Nos. 9, 41, 42, 56, 57, 60, 96, 97, 107, 109, 111, 112, 129, 131, 340, 349, 414, 429, 512, 538, 662, 682, 756, 757, 759, 776, 777, 780, 783, 889, 931 and 1082. Appendix 9.		pp. 65 and 66.	pp. 14, 15 and 25.		pp. 2-6 and 2-7. Appendix C	Comment Nos. 7, 8, 9, 10, 13, 25, 26, 59, 96, 114, 121, 122, 128, 139, 145, 146, 157, 172, 237, 250 and 254.	Comment Nos. 187, 214 and 233.	Comment Nos. 104, 125, 188, 244, and 371.
• **Areas of Extension**	pp. 28 and 35.	Comment No. 50.	Topical Response 2. Comment Nos. 4, 58, 506 and 778.	CUP[13] - Condition No. 10(d).		pp. 4, 5, 16, 25, 26 and 37.			Comment No. 22.		
• **Future Uses**	pp. 51-53.	Comment No. 59.	Comment Nos. 44, 45, 85, 104, 139, 159, 438 and 1067.			pp. 16 and 39.			Comment Nos. 214, 236 and 238.		
• **Existing Facilities**	pp. 29 and 59-61. Appendices J and V.		Comment Nos. 147-150, 214, 1023-1026 and 1040.				pp. 2-15 and 2-16.		Comment Nos. 72, 176, 217, and 236.		
• **Disposal Practices**	pp. 28, 37, 39, 40 and 62-67. Appendix J.	Comment No. 5.	Comment Nos. 35, 38, 39, 98, 105, 151, 152, 153 and 775.	CUP[13] - Condition No. 10(j).		pp. 18, 31 and 36.	pp. 2-2, 2-3, 2-13, 2-14 and 2-15.	pp. 2-2, 2-3, 2-4, 2-5 and 2-6.	Comment Nos. 135, 152 and 155.		

Table C1-2(Cont.)
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[12]
• **Permit Requirements**	pp. 53-59. Appendix A.	Comment No. 1.	Comment Nos. 23, 46-48, 101, 118, 124, 140, 142-146, 406, 986, 1027 and 1074.	CUP[13] - Condition Nos. 8, 10(e), 10(f), 10(g), 10(h), 10(l), 10(n) and 27. M.P.[14] Part IX, X, and XI.	p. 7.	pp. 35, 36 and 37.			Comment Nos. 98, 108, 109, 116 and 151.		Comment Nos. 18, 105, 136, 143, 213, and 372.
• **Project Design**	pp. 35, 36 and 40-50.	Comment Nos. 16, 17, 32, 36 and 53.	Topical Responses 1, 2, 3 and 8. Comment Nos. 6, 25-27, 32, 55, 76, 99, 106, 108, 110, 114, 123, 127, 128, 136, 163, 185-187, 198, 199, 201, 205, 211, 213, 240, 345, 348, 412, 470, 484, 699-704, 767-770, 801, 807, 809, 810, 883, 888, 955, 959, 984 and 1092.	CUP[13] - Condition Nos. 10(b), 10(c), 10(l) and 23. M.P.[14] Part I and VIII.	p. 5.			pp. 2-13 and 3-9.	Comment Nos. 103, 121, 149, 175, 212, 232 and 255.		
• **Need to Start in the County**	pp. 28 and 35.	No Comments.	Topical Response 3. Comment Nos. 31, 462, 766 and 767.								
• **Land Ownership**	Not addressed.	No Comments.	Comment Nos. 155 and 434.						Comment Nos. 44, 45 and 49.		
• **Project Need**	pp. 29, 31 and 33-34. Appendix J.	Comment No. 3.	Topical Response 26. Comment Nos. 425, 463, 535, 708, 881, 927, 928, 932, 934, 960, 1004, 1005, 1007, 1034, 1076-1079, 1081, 1087 and 1108. Appendix 11.		pp. 54-58.	p. 10.	pp. 3-1, 3-2 and 3-4.	pp. 4-4, 4-5, 4-6 and 4-7. Appendix F.	Comment Nos. 11, 12, 14, 39, 40, 42, 43, 89, 223, 235, 256, 257, 258, 260, 261, 264 and 265.	Comment Nos. 3, 4, 5, 30, 31, 32, 48, 52, 53 and 88.	Comment Nos. 4, 7, 49, 50, 71, 78, 221, 329, 350 and 359.

Table C1-2(Cont.)
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[12]
• **Plans & Policies, Zoning, Land Use**	pp. 68-81. Appendix A.	Comment No. 63.	Comment Nos. 8, 18, 100, 141, 154, 155, 156, 269, 270-277, 279-284, 289, 314, 315, 317, 319, 346, 400, 439, 442, 459, 556, 557, 559, 560, 630, 745, 752, 760, 784, 849, 884, 886, 887, 910, 963, 991 and 1019-1022.		pp. 5 and 6.	pp. 12 and 28.	pp. 3-2, 3-4, 5-1 and 5-2.		Comment Nos. 112, 113 and 213.		
ENVIRONMENTAL ISSUES											
• **Geology**	pp. 81-100. Appendices A, B, M, O, S and T.	Comment Nos. 10, 12, 15, 16, 18-27, 29, 34, 36, 37 and 57. Appendix D.	Topical Responses 4 and 5. Comment Nos. 51-53, 55, 115, 161, 162, 164, 167-174, 183, 184, 187, 190, 199, 206, 237, 247, 248, 250-252, 324, 385, 387, 410, 449, 464-466, 468, 481, 482, 486, 517, 537, 572, 573, 575, 576, 579, 619, 637, 651, 652, 654, 698, 702, 771, 772, 796-798 and 1091.		pp. 8-10.	pp. 8, 33 and 41.			Comment No. 160.	Comment Nos. 37 and 159.	
• **Landslides/ Earthquakes**	pp. 84-100. Appendices A and M.	Comment Nos. 19-26.	Topical Response 5. Comment Nos. 165, 166, 173, 175-179, 181-184, 186, 188, 189, 370, 386, 467, 574, 577, 638, 653, 655, 694-698, 795 and 802-805.		pp. 8-10.	pp. 18 and 34.			Comment No. 162.	Comment Nos. 37 and 159.	Comment Nos. 30 and 153.

Table C1-2(Cont.)
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[11]
• Surface Water	pp. 47-48 and 101-111. Appendices A, F, R, S and W.	Comment Nos. 28, 32 and 38.	Topical Response 7. Comment Nos. 3, 53, 55, 124, 180, 191, 192, 194-196, 200, 325, 343, 370, 389, 399, 408, 433, 445, 472-475, 566, 578, 620, 623, 634-636, 650, 657, 693-695, 697, 746, 762, 763, 768-770, 807, 901, 909, 941, 943, 951 and 958.	CUP[13] - Condition No. 28.	pp. 12, 14 and 20.	pp. 13, 38 and 39.			Comment No. 127.	Comment Nos. 148, 155 and 156.	Comment Nos. 96, 97 and 157.
• Groundwater	pp. 47 and 112-121. Appendices A, F and R.	Comment Nos. 11, 13, 14, 16, 17, 28-31, 33 and 35.	Topical Responses 6 and 7. Comment Nos. 1-3, 24-28, 55, 122, 123, 193, 197, 202-205, 245, 246, 249, 253, 287, 326, 388, 478-480, 483, 621-623, 650, 747-750, 771, 799, 800, 808, 901, 936, 940, 941, 943, 951, 955, 958, 959 and 1105.	CUP[13] - Condition Nos. 29 and 30.	pp. 11-20.	pp. 8, 40 and 41.			Comment Nos. 125 and 251.	Comment Nos. 12, 38, 40, 145, 155, 158 and 159.	Comment Nos. 11, 53, 86, 87, 88, 92, 93, 94, 95, 98, 99, 100, 101, 102, 103, 147, 148, 149, 150, 151, 152, 154, 158, 160, 161, 163, 169, 170, 185, 202, 203, 204, 206, 207, 211, 212, 213, 224, 225, 260, 294 and 327.
• Leachate	p. 45 and 116-117. Appendices A and F.	Comment Nos. 10, 16, 17 and 30.	Topical Response 7. Comment Nos. 26-28, 54, 55, 163, 182-184, 199, 239, 322, 323, 411, 432, 487, 635, 638, 649, 650, 658, 699, 740, 756, 809 and 951.		pp. 11-13.	pp. 13 and 14.					

Table C1-2(Cont.)
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[12]
• **Biota**	pp. 122-150. Appendices A, C, H, K, N, U, Z and AA.	Comment Nos. 28, 43, 57-60, 62, 67-73 and 78.	Topical Responses 10-16. Comment Nos. 15, 354, 360, 366, 407, 409, 488-491, 493, 496, 503-505, 507, 508, 510, 511, 514, 532, 580, 583-585, 588, 589, 599-601, 603, 606-609, 611-615, 632, 664, 673-676, 678, 680, 681, 741, 752, 764, 772, 773, 811, 813, 875, 918, 920, 925, 926, 940, 947, 948, 958, 962, 965, 969, 973, 988 and 1058.	CUP[13] - Condition Nos. 15 and 47.	pp. 21-23.	p. 3		pp. 3-4, 3-5, 3-6, 3-8, 3-9, 3-10, 3-11, 3-12, and 3-13. Appendix E.	Comment Nos. 30, 70, 73, 74, 75, 170, 177, 180, 205, 206, 207, 208, 210, 211, 220, 224, 225, 226 and 229.		Comment Nos. 32, 34, 51, 180 and 298.
• **Flora**	pp. 124-132 and 139. Appendices A, C and H.	Comment Nos. 59, 66 and 73.	Topical Responses 12-15. Comment Nos. 17, 61, 350, 352, 357, 358, 371, 372, 374, 413, 422, 445, 451, 494, 495, 498, 501, 581, 582, 586, 627, 640, 668, 669, 741, 742, 751, 761, 765, 813, 815, 924, 926, 957, 961, 963, 964, 978, 989 and 1062. Appendix 3.		pp. 23-24.				Comment Nos. 30, 224 and 225.		

Table C1-2(Cont.)
REFERENCE INDEX OF TOPICAL ISSUES DERIVED FROM THE SUNSHINE CANYON LANDFILL EXTENSION FEIR

Topical Issue	Volumes I, IIA & IIB Environmental Analyses[2]	Volume III County Agencies Responses to Comments[3]	Responses to Comments Volumes A & B[4]	FEIR[5]	FEIR Comments & Responses[6]	Addendum to FEIR Comments & Responses[7]	Addendum to FEIR[8]	Additional CEQA Document[9]	Responses to Comments[10]	RPC Public Hearing Responses to Comments[11]	BOS Public Hearing Responses to Comments Document[12]
• **Oak Trees**	pp. 124-132. Appendices A, C, H and Z.	Comment Nos. 58, 64 and 67-72. Appendices B and C.	Topical Response 14. Comment Nos. 59, 321, 327, 338, 342, 344, 355-357, 380, 383, 402, 403, 423, 428, 436, 441, 455, 553, 605, 628, 639, 642-644, 663, 665-667, 671, 672, 717, 718-720, 725, 742, 744, 751, 753, 761, 764-766, 814, 815, 871, 872, 878, 879, 922, 938, 946, 949, 951, 955, 958, 961, 968, 973, 989, 990, 1009-1018, 1030, 1033, 1042-1053, 1066, 1097, 1101 and 1102. Appendices 1 and 3.	CUP[13] - Condition Nos. 39, 40, 41, 43, 44, 45 and 46. M.P.[14] Part VII.	pp. 30-39.	pp. 3, 13, 19 and 20.		pp. 3-14 and 3-18.	Comment Nos. 62, 92, 106, 148, 182, 227, 228, 239, 255, 266 and 287.	Comment Nos. 183, 184, 238 and 239.	Comment Nos. 2, 12, 179, 184, 242 and 348.
• **Fauna**	pp. 133-150. Appendices A, C, and U.	No Comments.	Comment Nos. 17, 19, 60, 310, 311, 321, 357, 359, 361, 373, 375, 494, 497, 499, 500, 509, 513, 587, 590-598, 602, 610, 629, 676, 677, 812, 813, 816, 955 and 1065. Appendix 8.		pp. 24-27.				Comment Nos. 74, 180, 224, 225 and 233.		
• **Riparian**	pp. 124. Appendices A and C.	No Comments.	Topical Response 13. Comment Nos. 20, 422, 444, 455, 478, 568, 604, 679, 764, 815, 919, 926, 1033 and 1060. Appendices 2 and 10.	CUP[13] - Condition No. 38.	pp. 40-42.			pp. 3-15, 3-16, 3-17 and 3-18.	Comment Nos. 36, 78, 147, 194, 195, 196, 197, 198, 199, 200, 201, 202 and 203.	Comment No. 204.	Comment Nos. 186 and 316.

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• **SEA**	pp. 123-124 and 140-141. Appendices A, C and AA.	Comment No. 62.	Comment Nos. 17, 18, 57, 58, 140, 141, 338, 367, 375, 379, 381, 382, 442, 443, 452, 456, 461, 492, 502, 504, 509, 555, 609, 632, 645, 707, 743, 744, 753, 764, 871, 872, 881, 902, 921, 924, 946, 949, 950, 955, 956, 958, 961, 963, 964, 967, 973, 978, 991, 1032, 1060, 1062-1064, 1100, 1101 and 1104.		pp. 27 and 28.	pp. 9, 19 and 20.		pp. 3-8, 3-9, 3-13, 3-14, 3-15 and 3-18.	Comment Nos. 29, 32, 33, 35, 57, 61, 65, 66, 71, 72, 76, 77, 90, 93, 102, 121, 159, 175, 179, 181, 194, 204, 210, 212, 213, 214, 217, 218, 219, 222, 230, 231, 232, 234, 236, 238, 239, 245, 246, 247, 268, 295, 306 and 312.	Comment No. 227.	Comments Nos. 37, 44, 52, 55, 68, 89, 109, 201, 242, 303, 319, 347, 349, 360 and 366.
• **Revegetation**	pp. 44 and 147.	Comment Nos. 60, 64 and 78.	Topical Response 15. Comment Nos. 16, 21, 22, 57, 59, 64, 76, 137, 138, 309, 316, 327, 339, 380, 405, 430, 437, 471, 485, 624, 625, 670-672, 720-724, 726-733, 754, 790, 791, 814, 816, 877, 953, 974, 1013-1017, 1071, 1072 and 1098. Appendices 1 and 3.	CUP[13] - Condition Nos. 16 and 17. M.P.[14] Part VI.	pp. 28 and 29.	p. 9.		pp. 3-6, 3-7 and 3-8.	Comment Nos. 31, 63, 68, 167, 168, 169 and 228.	Comment Nos. 26, 127 and 128.	Comment Nos. 35, 36, 38, 61, 313 and 315.
• **Archaeological, Historical and Paleontological Resources**	pp. 151-153. Appendices A and D.	Comment No. 45.	Comment Nos. 62, 384, 516, 558, 617, 661 and 817-822.	CUP[13] - Condition No. 25. M.P.[14] Part V.		p. 21.					

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• **Air Quality**	pp. 154-180. Appendices A, I, P and X.	Comment Nos. 6, 7 and 43.	Topical Response 17 and 23. Comment Nos. 65, 288, 328, 415, 416, 427, 440, 533, 549, 551, 567, 626, 683, 684, 689-692, 705, 786, 823-832, 834, 839-842, 846-848, 850, 851, 873, 901, 910, 930, 936, 940, 941, 952, 961-964, 969, 977, 989, 993-1002, 1031, 1035 and 1103.	CUP[13] - Condition No. 36.	pp. 44-48.	pp. 22 and 32.	pp. 4-1 and 4-2.				Comment No. 156.
• **Fugitive Dust/ Litter**	pp. 51, 161-162 and 169. Appendices A, I and X.	Comment Nos. 9 and 74.	Topical Responses 17 and 23. Comment Nos. 54, 63, 64, 74, 77, 132-135, 157, 320, 329, 351, 365, 366, 390, 391, 409, 518, 525, 533, 611, 648, 683, 685, 695, 715, 760, 785, 833, 835, 843, 873-875, 878, 936, 953 and 1056. Appendix 4.	CUP[13] - Condition Nos. 18, 19, 20 and 22.	p. 43.	pp. 6, 9, 10, 21, 23 and 26.	pp. 2-3, 2-4, 2-5, 2-7, 2-8 and 2-9.	pp. 2-6, 2-8, 2-9, 2-10, 2-14, 2-15, 2-16 and 2-17.	Comment Nos. 119, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 140, 155, 270 and 271.	Comment Nos. 12, 148 and 206.	Comment Nos. 3, 9, 10, 88, 91, 112, 113, 115, 139, 155, 243, 259, 297, 327 and 352.
• **Odor**	pp. 181-191. Appendix A.	No Comments.	Topical Response 2. Comment Nos. 290, 291, 329, 368, 551, 611, 690, 739, 936 and 1061.		p. 44.	pp. 9 and 23.	pp. 2-3 and 2-7.	pp. 2-7, 2-8, 2-13 and 2-14.	Comment No. 141.		Comment Nos. 112 and 139.

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• Landfill Gas	pp. 45-47, 162-164, 169-171 and 181-191. Appendices I and X.	Comment Nos. 1 and 6.	Topical Responses 18 and 19. Comment Nos. 7, 66-68, 116, 117, 119-121, 211, 212, 223, 224, 226, 228, 290, 291, 362-364, 394, 395, 417, 448, 515, 519, 520, 533, 571, 647, 684, 686-688, 690, 705, 735-738, 740, 787-789, 836, 837, 844, 845, 1055 and 1094.	CUP[13] - Condition Nos. 34 and 35.	pp. 48 and 49.	pp. 10, 22, 23, 34 and 38.			Comment Nos. 124 and 142.		
• Traffic/ Circulation	pp. 48-50 and 192-213. Appendices A and E.	Comment Nos. 40, 40A and 43.	Topical Response 22. Comment Nos. 69-72, 74, 125, 126, 230-236, 292, 369, 570, 780, 838, 839, 846, 853, 858, 860, 936, 1035 and 1083-1086. Appendix 5.	CUP[13] - Condition Nos. 11, 12 and 13.	pp. 50 and 51.	pp. 10, 23, 24 and 25.			Comment Nos. 114, 115 and 116.		Comment No. 305.
• Noise	pp. 214-227. Appendices A and Q.	No Comments.	Topical Response 21. Comment Nos. 73, 75, 294, 330, 366, 418, 435, 565, 854-857, 859, 861-864 and 936.	CUP[13] - Condition No. 33.		p. 25.					
• Visual	pp. 228-247. Appendices A, K and Y.	Comment Nos. 9 and 77	Comment Nos. 34, 76, 112, 113, 119, 227, 295, 296, 331, 366, 393, 419, 521-524, 526, 534, 540, 548, 569, 611, 632, 783, 874 and 1059.	CUP[13] - Condition No. 24.		pp. 16 and 38.	pp. 2-5, 2-6 and 2-9.	pp. 2-10, 2-11, 2-17 and 2-18.	Comment No. 143.		
• Electric Power	p. 248. Appendices A and AA.	Comment No. 61.	Comment Nos. 61, 322 and 341.								
• Water Supply	pp. 249-251. Appendices A and AA.	Comment Nos. 53 and 61.	Comment Nos. 11, 133, 333, 527, 528, 530, 865 and 866.	CUP[13] - Condition No. 37.	p. 53.				Comment No. 138.		

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• **Fire Service**	pp. 252-256. Appendix A.	Comment Nos. 49, 51, 52 and 54-56.	Comment Nos. 334, 353, 392, 431, 531, 536, 563 and 564.	CUP[13] - Condition Nos. 31 and 32.	p. 53.				Comment No. 142.		
• **Hazardous Materials**	pp. 257-260. Appendices A and G.	Comment Nos. 74-76.	Topical Response 24. Comment Nos. 12, 78-83, 102, 103, 151, 163, 335, 758, 867-870, 876, 943, 1027, 1028, 1054 and 1095. Appendix 9.	CUP[13] - Condition Nos. 10(a), 21 and 26. M.P.[14] Part III.	p. 52.	pp. 26, 27, 34 and 35.			Comment Nos. 123 and 140.		Comment No. 296.
• **Human Health/ Public Safety**	pp. 158, 163 and 257-260.	No Comments.	Comment Nos. 132, 364, 365, 417, 705, 740, 782, 901, 940, 952, 1027, 1029, 1073 and 1093.	CUP[13] - Condition Nos. 10(p) and 42.		pp. 20 and 21.			Comment Nos. 117, 118, 119, 122 and 140.	Comment Nos. 150, 206 and 231.	Comment Nos. 90, 113, 114, 123, 141, 171, 175, 258 and 367.
ALTERNATIVES											
• **No Project Alternative**	pp. 264-266.	Comment Nos. 44 and 65.	Comment Nos. 84, 86, 87, 303, 535 and 974. Appendix 11.			p. 28.					
• **Alternative Project Location**	pp. 267-283.	Comment Nos. 7, 8 and 44.	Topical Response 25. Comment Nos. 88-90, 169-171, 401, 424, 425, 453, 537, 539, 541-544, 631, 633, 660, 712, 713, 745, 774, 882, 892-900, 903, 908, 911, 912, 916, 917, 951, 954, 960, 975, 976, 979, 1036-1038, 1088, 1099, 1103 and 1106.		pp. 63-65.	p. 11.	pp. 3-3, 3-4 and 3-5.	pp. 3-1, 3-2, 3-3 and 3-4.	Comment Nos. 28, 164, 253 and 262.	Comment Nos. 1, 2 and 33.	Comment Nos. 8 and 41.

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• Resource Recovery Systems/ Alternative Waste Management Technologies	pp. 284-290. Appendix J.	No Comments.	Topical Responses 26 and 28. Comment Nos. 10, 14, 43, 91, 312, 336, 450, 545-547, 550, 646, 711, 714, 755, 792, 793, 891, 901, 906, 907, 913-915, 920, 923, 935, 937, 939, 941, 942, 944, 951, 956, 960, 966, 971, 972, 980, 992, 1003, 1006, 1080 and 1109. Appendices 6 and 11.	CUP[13] - Condition Nos. 10(k) and 10(m). M.P.[14] Part II.	pp. 61 and 62.	pp. 10, 15, 29 and 30.			Comment Nos. 68, 69, 83, 91, 168, 172, 237 and 263.		Comment Nos. 40, 45, 56, 181, 321 and 326.
• Smaller Landfill Alternative (City-Only)	pp. 291-295.	Comment No. 65.	Topical Response 27. Comment No. 50, 92, 228, 229, 421, 709-711, 762, 773, 902, 916, 942, 944, 951, 971, 974, 1041 and 1090.		pp. 59 and 60.	pp. 8, 11, 17 and 30.					Comment Nos. 14 and 58.
• Unincorporated County Area Only Alternative	pp. 296-301.	Comment No. 65.	Comment Nos. 93 and 554.								
OTHER ISSUES											
• Growth Inducement	pp. 302-305.	Comment No. 43.	Comment Nos. 160 and 917.			p. 39.					
• Cumulative Impacts	pp. 174-176, 207-209 and 222-226.	No Comments.	Topical Response 29. Comment Nos. 36, 95, 659, 706, 716, 774, 904, 908, 910, 917, 970, 975, 977, 1039, 1040, 1068, 1069, 1089 and 1106.		p. 67.				Comment No. 105.		

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• **Miscellaneous**			Comment Nos. 5, 33, 37, 101, 130, 304, 308, 313 318, 337, 347, 396-398, 404, 420, 426, 446, 447 454, 457, 458, 469, 476, 477, 552, 561, 562, 779, 781, 782, 806, 880, 885, 890, 929, 933, 945, 981, 987, 1008, 1057, 1070, 1075, 1107 and 1109. Appendix 7.				pp. 6-1 through 6-6.	pp. 2-19, 2-20, 4-1 through 4-4 and 4-7 through 4-12.	Comment Nos. 21, 23, 24, 27, 34, 37, 38, 50, 51, 54, 56, 60, 81, 82, 86, 87, 88, 94, 95, 99, 100, 107, 111, 144, 154, 158, 165, 178, 193, 221, 242, 249, 252 and 272.	Comment Nos. 16, 25, 120, 195 and 210.	Comment Nos. 13, 16, 20, 25, 59, 63, 106, 146, 159, 174, 223, 247, 248, 250, 251, 346, 351 and 353.

Source: Ultrasystems Environmental Incorporated

Notes:

1. This Reference Index provides a guide to facilitate review of the environmental documents prepared for the Sunshine Canyon Landfill Extension project. The environmental documents listed within this index (complete title of each document is listed below) will constitute the *Sunshine Canyon Landfill Extension, Final Environmental Impact Report (FEIR).* The reference index has been arranged by topical issue which identifies section, page or comment numbers within each document.
2. DEIR, Sunshine Canyon Landfill Extension, Volume I (April 1989); DEIR, Sunshine Canyon Landfill Extension, Appendices, Volume IIA (April 1989); DEIR, Sunshine Canyon Landfill Extension, Appendices, Volume IIB (April 1989).
3. *DEIR, Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies, Volume III* (July 1989).
4. *DEIR, Sunshine Canyon Landfill Extension, Responses to Comments, Volume A (July 13, 1990); DEIR, Sunshine Canyon Landfill Extension, Responses to Comments, Volume B (Original Comments Received) (July 1990).*
5. *FEIR, Sunshine Canyon Landfill Extension* (October 1990).
6. *FEIR, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors* (February 1991).
7. *Addendum to FEIR, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors* (February 1991).
8. *Addendum to FEIR for the Los Angeles County Board of Supervisors* (May 1992).
9. *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* (April 1993).
10. *Responses to Comments on the Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* (June 1993).
11. *Responses to Comments Received During the Los Angeles County Regional Planning Commission Public Hearing* (July 14, 1993) *for the Sunshine Canyon Landfill Extension.*
12. *Responses to Comments Received During the County of Los Angeles Board of Supervisors Public Hearing (October 21, 1993) for the Sunshine Canyon Landfill Extension.*
13. *CUP: Condition Use Permit and Oak Tree Permit 86-312-(5).*
14. *M.P.: Monitoring Program, Project No. 86-312-(5).*

FEIR TOPICAL ISSUE REFERENCE INDEX

Earth

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of earth.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.1, Geology, pp. 81-100, April 1989.

- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix B, Geological Technical Report, Exploratory Boring and Trench Logs; Appendix M, Summary Letter of Fault Investigation; Appendix O, Site Topography Map; Appendix S, Erosion Control Plan; and Appendix T, Outline of Landfill Operations in 1971, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section II, B, C, and D, Department of Public Works, Land Development Division, Geology and Soils Section, pp. 13-34; and Appendix D, Additional Boring Logs to Supplement Appendix B of Volume IIA, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 3, Technical Issues which Address the Need for Initiating the Landfill Extension in the County Portion of Sunshine Canyon, pp. 13-14; Topical Response 4, Bedrock and Soil Permeability within Sunshine Canyon, pp. 14-15 and Topical Response 5, Earthquakes and Faulting, pp. 15-17; and Response No. 6, pp. 79-80; No. 173, pp. 179-180; No. 179, p. 182; No. 181, pp. 183-184; No. 182, pp. 184-185; No. 183, p. 185; No. 239, p. 209-210; No. 245, pp. 212-213; No. 247, pp. 214-216; No. 248, p. 217; No. 771, p. 435; No. 795, p. 445, No. 796, p. 445-446; No. 797, p. 446; No. 800, p. 447; No. 802, pp. 448-449; No. 803, p. 449; No. 804, pp. 449-450; and No. 805, p. 450, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.2, Geology, pp. 8-10, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 1-5, November 1993.

In addition to information contained within the FEIR, several geotechnical investigations of the project site area have been conducted, they include Robert Bean (1978), Geolabs (1981), The Earth Technology Corporation (1988), Purcell Rhoades & Associates (1982, 1987, and 1989), and PRA Group (1991 and 1994). Moreover, in addition to these investigations, professional consulting geologists have conducted extensive literature searches, field reconnaissance and mapping surveys, subsurface exploration and sampling, and laboratory analyses. Additional sources for data have been consulted and include Barrows, Kahel, Saul and Weber (1974); Barrows, Kahel, Wever, Saul, and Morton (1995); Bolt and Abrahamson (1982); Brown (1975); Campbell (1981); California Division of Mines and Geology (1976, 1979, 1994, and 1995); Cloud and Hudson (1975); County of Los Angeles (1974); Deere, Hendron, Patton, and Cording (1967); Donovan and Bomstein (1978); Goter (1988); Greensfelder (1972); Hart (1988); Joyner, Warrick,

and Fumal (1981); Keith (1988); Lung and Weick (1987); Mualchin and Jones (1987); Oakeshott (1958 and 1975); Saul (1975, 1979, and 1982); Smith (1977); Stout (1977); U.S. Geological Survey (1952, 1971, and 1987); Wentworth and Yerkes (1971); Wesson (1974); Winter and Durham (1962); Yeats (1987); Yerkes (1985); Ziony (1985); Ziony, Wentworth, Banks, and Wagner (1974); Ziony and Yerkes (1985); and Ziony and Jones (1985).

Air Quality

The following list references the specific volumes, sections, and page numbers contained in both the FEIR and its related technical documents that provide supplemental background information and relevant environmental analyses concerning this topical issue of air quality.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.6, Air Quality, and Section 3.2.7, Odor/Landfill Gas, pp. 154-191, April 1989.

- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix I, Cumulative Air Emission Calculations; Appendix P, CALINE 4 Air Quality Modeling Results; and Appendix X, Wind Rose Diagrams, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 17, Fugitive Dust Mitigation Measures, pp. 42-44; Topical Response 18, Landfill Gas Generation, Collection System, and Commercial Recovery, pp. 44-45; Topical Response 19, Landfill Gas Flaring Emissions Control, pp. 45-47; Topical Response 20, Existing Sources of Odor in Sunshine Canyon Area, p. 47; and Response No. 7, pp. 80-81; No. 64, pp. 117-118; No. 66, p. 119; No. 67, pp. 119-120; No. 116, p. 150; No. 117, pp. 150-151; No. 132, pp. 157-158; No. 290, pp. 240-241; No. 684, pp. 371-372; No. 686, pp. 373-374; No. 689, pp. 375-376; No. 691, pp. 377-378; No. 692, pp. 378-379; No. 735, p. 405; No. 826, pp. 461-462; No. 833, p. 465; No. 840, pp. 467-468; No. 842, pp. 468-469; No. 910, pp. 507-508; No. 995, pp. 589-591; No. 998, pp. 592-601; No. 999, pp. 601-605; and No. 1103, p. 678; Appendix 4, Sunshine Canyon Soil Treatment and Transport Abatement Plan, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.7, Air Quality/Landfill Gas, pp. 43-49, and Section 4.0 (No. 3), Letter from South Coast Air Quality Management District (SCAQMD), February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 24-30, November 1993.

Water

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide key information and analyses relevant to the environmental topical issue of water.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.2, Surface Water, pp. 101-111, and Section 3.2.3, Groundwater, pp. 112-121, April 1989.

- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix F, Water Quality Test Results (Surface and Groundwater); Appendix R, Drainage, Sedimentation and Leachate Collection System; Appendix S, Erosion Control Plan; and Appendix W, Precipitation Records and Mean Annual Precipitation, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section II, B, C, and D, Department of Public Works, Land Development Division, Geology and Soils Section, pp. 13-34, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 6, Groundwater Separation Between Sunshine Canyon and San Fernando Basin, pp. 17-18; Topical Response 7, Surface Water Control, Groundwater Protection and Leachate Collection Measures Proposed, p. 19; Topical Response 8, Proposed Landfill Extension Liner System, pp. 20-24; Topical Response 9, Water Quality in Sunshine Canyon, pp. 25-26; and Response No. 24, p. 91; No. 55, pp. 110-112; No. 163, pp. 173-176; No. 189, p. 188; No. 194, pp. 190-191; No. 203, p. 194; No. 245, pp. 212-213; No. 246, pp. 213-214; No. 247, pp. 214-216; No. 249, pp. 217-218; No. 389, pp. 277-278; No. 472, pp. 298-299; No. 478, p. 300; No. 651, p. 356; No. 699, p. 385; No. 700, p. 386; No. 746, p. 415; No. 749, pp. 415-416; No. 807, p. 451; No. 909, p. 506; and No. 943, p. 540, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 5-12, November 1993.

Biological Resources

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of biological resources (including vegetation, wildlife, riparian/wetland, and native and nonnative tree resources).

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.4, Biota, pp. 122-150, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Appendices*, Volumes IIA and IIB, Appendix C, Biological Reports; Appendix H, Revegetation Program, Ground Cover Mix and Plant Species; Appendix K, Site Photos; Appendix N, List of Bird Species Seen in O'Melveny Park; Appendix U, Wildlife Corridor Design: A Case Study for Los Angeles and Ventura Counties; Appendix Z, Oak Tree Survey Report; and Appendix AA, Minutes of SEATAC Meeting, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section V, C, Fire Department, Forestry Division, pp. 48-56; Appendix B, Proposed Oak Tree Mitigation Plan; and Appendix C, Oak Tree Permit Application and Amendment Letter; and Letters from County Department of Forester and Fire Warden, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 10, Biological Analysis Methodology, pp. 27-30; Topical Response 11, California Natural Diversity Data Base Update, pp. 30-31; Topical Response 12, Vegetation Classification System for Biological Analysis, pp. 31-32; Topical Response 13, Riparian Resources within Sunshine Canyon,

pp. 32-34; Topical Response 14, Oak Tree Mitigation Plans, pp. 34-37; Topical Response 15, Landfill Revegetation Plans, pp. 37-40; Topical Response 16, East Canyon Dedication and Mitigation Measure, pp. 41-42; and Response No. 19, p. 87; No. 321, p. 256; No. 327, p. 258; No. 338, pp. 261-262; No. 371, p. 271; No. 382, p. 275; No. 402, pp. 281-282; No. 488, pp. 302-303; No. 496, p. 308; No. 625, pp. 346-347; No. 644, pp. 352-353; No. 674, pp. 363-364; No. 679, pp. 366-367; No. 717, p. 397; No. 719, pp. 397-398; No. 812, pp. 452-454; No. 813, p. 454; No. 815, p. 455; No. 816, pp. 455-456; No. 921, pp. 517-519; No. 1011, pp. 611-613; No. 1012, pp. 613-614; No. 1016, pp. 615-616; No. 1017, pp. 616-617; No. 1033, pp. 626-627; No. 1044, p. 636; No. 1049, pp. 638-639; No. 1051, pp. 639-640; Appendix 1, Summary of Proposed Oak Tree Mitigation Plans, Draft Oak Tree Conditions, Douglas-fir Field Survey; Appendix 2, Riparian/Wetland Streamzone Assessment; Appendix 3, Sunshine Canyon Landfill Extension Revegetation/Closure Plan; Appendix 8, Updated March and May 1990 Biota Surveys Results, Spotted Owl Field Survey; and Appendix 10, Proposed Riparian and Wetland Mitigation Plan, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.4, Biota (Flora/Fauna), pp. 21-29; Section 3.5, Oak Tree Resources, pp. 30-39; Section 3.6, Riparian Resources, pp. 40-42; and Section 4.0, Letter from Los Angeles County Forester and Fire Warden, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 12-21, November 1993.

Noise

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of noise.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.9, Noise, pp. 214-227, April 1989.

- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix Q, Noise Analysis CNEL Modeling, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 21, Landfill Operations Noise and Effects on Adjacent Residential Land Uses, p. 48; and Response No. 73, p. 124; No. 294, p. 243; No. 854, pp. 473-474; No. 857, pp. 475-476; and No. 862, pp. 477-478, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, p. 32, November 1993.

Risk of Upset

Hazardous Materials

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of hazardous materials.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.13, Hazardous Materials, pp. 257-260, April 1989.
- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix G, Waste Load Checking Program and Hazardous Waste Notices, April 1989.
- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 24, Hazardous Materials, p. 51; and Response No.103, pp. 143-144; No. 869, pp. 480-481; No. 870, p. 481; and Appendix 9, Sunshine Canyon Hazardous Wastes Response Plan, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.9, Hazardous Materials, p. 52, February 1991.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* pp. 38-40, November 1993.

Vectors

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topic of vectors.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.4, Biota, p. 148, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, p. 21, November 1993.

Litter

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analysis relevant to the environmental topic of litter.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.10, Visual, pp. 232-233 and pp. 246-247, April 1989.
- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix Y, Litter Control Program, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses, to Pre-Circulation Comments from County Agencies*, Volume III, Section VI, Sheriff's Department, pp. 57-58, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 23, Litter Control and Clean-up Measures, p. 50, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 35-36, November 1993.

Human Health

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topic of human health:

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.2, Surface Water, pp. 101-111; Section 3.2.3, Groundwater, pp. 112-121; Section 3.2.6, Air Quality, pp. 154-180; and Section 3.2.7, Odor/Landfill Gas, pp. 181-191, April 1989.

Transportation and Circulation

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of transportation and circulation.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 1.3.4, Project Access, pp. 48-50; and Section 3.2.8, Traffic/Circulation, pp. 192-213, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix E, Traffic Impact Analysis and Addendum, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section II, G, Traffic and Lighting Division, pp. 35-37; and Section IV, County Sanitation District, pp. 39-41, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 22, Roadway Improvements for Balboa Road/San Fernando Road Intersections, pp. 48-50; Response No. 69, p. 122; No. 70, pp. 122-123; No. 71, p. 123; No. 74, p. 125; No. 125, p. 154; No. 126, pp. 154-155; No. 230, pp. 205-206; No. 231, p. 206; No. 233, p. 206; No. 234, p. 207; No. 235, p. 207; No. 236, p. 208; No. 292, p. 242; No. 369, p. 270; No. 780, p. 440; No. 838, p. 467; No. 839, p. 467; No. 846, p. 471; No. 853, p. 473; No. 858, p. 476; No. 860, p. 477; No. 1035, p. 629; No. 1083, p. 668; No. 1084, p. 668; No. 1085, p. 669; and Appendix 5, Preliminary Design Plans for Intersection Improvements, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.8, Traffic, pp. 50-51, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* pp. 30-32, November 1993.

Public Services

Fire

The following list references specific volumes, sections, and page numbers of the FEIR for the Sunshine Canyon Landfill Expansion and its incorporated technical documentation that provide supplementation background information and analyses relevant to the topical issues of fire and emergency services.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.12, Fire Service, pp. 252-256, April 1989.
- *DEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section V, Fire Department; A, Preparedness and Emergency Planning Division; and B, Engineering and Water Flow Division, pp. 45-47, July 1989.
- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Response No. 936, p. 533, July 13, 1990.
- *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site*, Los Angeles County, California, pp. 33-36, August 16, 1991.
- *DEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 36-37, November 1993.
- *Findings of the Board of Supervisors and Order Conditional Use Permit Number 86-312, Oak Tree Permit Number 86-312-5*, Conditions 18(g)(1), 31, 32, Monitoring Plan Part X (A), November 1993.

Parks and Recreation

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of parks and recreation.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 1.4.2, Future Uses, p. 53; Section 2.2, Area Plans and Policies, pp. 68-71; and Section 3.2.10, Visual, p. 244, April 1989.
- *DEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section VI, Sheriff's Department, pp. 57-58 July 1989.
- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and Response No. 23, Visual, pp. 50-51, July 13, 1990.
- *Findings of the Board of Supervisors and Order, Conditional Use Permit Number 86-312, Oak Tree Permit Number 86-312-5*, Condition 15, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 12-13, November 1993.

Utilities

Water

The following four environmental documents of the FEIR provide supplemental background information and analyses relevant to this topical issue. Specific volumes, sections, and pages numbers are cited below.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.11.2, Water Supply, pp. 249-251, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments,* Volumes A and B, Response No. 11, p. 82; No. 333, p. 260; No. 527, p. 315; and No. 866, p. 479, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Response for the Los Angeles County Board of Supervisors*, Section 3.10, Public Services, p. 53, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, p. 36, November 1993.

Aesthetics/View

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of aesthetics/view.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.10, Visual, pp. 228-247, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section II(A), Department of Public Works, Waste Management Division, pp. 9-12, July 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 23, Litter Control and Clean-up Measures, p. 50; and Response No. 34, p. 98; No. 76, pp. 126-127; No. 295, p. 244; No. 611, pp. 341-342, and No. 1059, p. 648, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 34-37, November 1993.

Cultural/Scientific Resources

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to the environmental topical issue of cultural resources/scientific resources.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.5, Archaeological, Historical and Paleontological Resources, pp. 151-153, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA and IIB, Appendix D, Archaeological, Historical and Paleontological Resources Report, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Response No. 617, pp. 343-344; No. 817, pp. 456-457; No. 818, p. 457; No. 820, pp. 457-458; and No. 821, pp. 458-459, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 22-23, November 1993.

Alternatives

The following list references specific volumes, sections, and page numbers of the FEIR and its incorporated technical documentation that provide supplemental background information and analyses relevant to many of the alternatives discussed.

- *DEIR Sunshine Canyon Landfill Extension*, Volume I, Section 4.0, Alternatives, pp. 264-301, April 1989.

- *DEIR Sunshine Canyon Landfill Extension Appendices*, Volume IIB, Appendix J, Solid Waste Management Status and Disposal Options in Los Angeles County; and Appendix V, Data from "Los Angeles County Solid Waste Siting Project," County Department of Public Works, April 1989.

- *DEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 3, Technical Issues which Address the Need for Initiating the Landfill Extension in the County Portion of Sunshine Canyon, pp. 13-14; Topical Response 25, Long-term Alternatives: L.A. County Action Plan and Waste Management Options, pp. 52-57; Topical Response 26, Need for the Proposed Sunshine Canyon Landfill Extension and Availability of Short-term Alternatives, pp. 58-60; Topical Response 27, Feasibility of North Valley Coalition's Proposed 5-year (City-only) Landfill Plan, pp. 61-63; and Response No. 84, pp. 131-132; No. 87, p. 133; No. 90, pp. 135-136; No. 92, pp. 137-138; No. 299, pp. 246-247; No. 301, pp. 247-248; No. 450, p. 293; No. 545, pp. 319-320; No. 711, p. 393; No. 713, pp. 394-395; No. 714, p. 395; No. 907, pp. 503-505; and No. 915, pp. 510-512; Appendix 11, Report of Needed Future Landfill Capacity for Los Angeles County; Solid Waste Management Action Plan and Notice of Preparation for Program EIR; Preliminary Alternate Site Study, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors,* Section 3.11, Alternatives, pp. 54-66; and Section 4.0(4), Response Letters from Agencies, Letters from Los Angeles County Sanitation Districts, February 1991.

Appendix C2
COUNTY/CITY LANDFILL
PROJECT HISTORY

COUNTY/CITY LANDFILL PROJECT HISTORY

The following discussion provides additional background information pertaining to the landfill extension history of the combined County/City Landfill Project as originally proposed in 1986 by the project proponent (Browning-Ferris Industries of California, Inc. or BFI) to the County of Los Angeles (County).

Existing City Landfill (Inactive Landfill)

Since 1978, the project proponent has owned and operated a ±230 acre Class III nonhazardous solid waste landfill in the southwest portion of Sunshine Canyon, within the jurisdictional boundary of the City of Los Angeles (City). This landfill, once known as the "North Valley Landfill" is presently known as the "Sunshine Canyon Landfill." The landfill had operated continuously in Sunshine Canyon since 1958[1] and was permitted under a zoning variance granted by the City.[2] The zoning variance for the Sunshine Canyon Landfill expired on September 21, 1991. At that time, landfilling operations ceased at the site. Ongoing maintenance and monitoring activities have continued to take place in compliance with federal, State, regional and local regulatory rules and regulations.

Project Proponent's Ownership/Acreage

The project proponent now holds title to ±1,102 acres of real property within and surrounding the Sunshine Canyon area. This area is located within both County/City jurisdictions. Approximately 494 acres are located within the City and ±680 acres are located in the unincorporated area of the County.

Historical Environmental Background Information for the County/City Landfill Project

In connection with the environmental processing, permitting, and litigation of the development of a County Landfill, the initial project has spanned over a 10-year time period (i.e., 1986 through 1996). Formulation of the project began back in 1984 and application for a combined County/City Landfill Project were started in July 1986.

During July 1986 an Initial Study and Environmental Checklist (herein Initial Study) was prepared by the County Department of Regional Planning (DRP) to address the development of a landfill encompassing area within Sunshine Canyon and located in both County and City jurisdictions. The combined County/City Landfill Project (as originally proposed to the County in 1986) was to have an estimated net airspace capacity of approximately 215 million tons and a waste disposal intake of up to 17,500 tons per day. The proposed project would have disturbed ±706 acres in Sunshine Canyon (of the ±1,560 acres held in title by the project proponent). Because of the existing improvements and physical features in the Sunshine Canyon

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1/ A landfill (i.e., North Valley Landfill) operation consisting of ±45 acres was originally granted to the North Valley Land Development Corporation by the City on March 31, 1958. Under Case Number ZA-14544 the landfill site was located at that time at 14735-51 San Fernando Road and was permitted to operate by the City for a 10-year period.

2/ A zoning variance was granted by the City on April 18, 1966 pursuant to the City of Los Angeles Municipal Code, § 12.27(B)(1)(2). Under Case Number ZA-17804, Case Number BZA-3877, and Case Number BZA-3878, a zoning variance was granted for a ±300 acre landfill site (inclusive of the ±45 acres granted by the City in March 1958), permitting the continued operation of existing facilities and the expansion for the disposing of rubbish and trash by the "cut and cover" landfill and reclamation method in an "A1-1-O" zone. This zoning variance superseded Case Number ZA-14544 granted by the City in March 1958.

necessary for the implementation of the combined County/City Landfill Project to begin with the extension of landfilling in the County portion of Sunshine Canyon. Thereafter, it was envisioned that landfilling operations would extend back into the City eventually linking portions of the existing landfill footprint to the approved County Landfill extension.

Pursuant to the State CEQA Guidelines, § 15063, the Initial Study identified potential environmental impacts attributable to all phases of project planning, implementation, operation, monitoring and long-term maintenance of the combined County/City Landfill Project. The following topical issues were identified by the County DRP as having potentially significant environmental impacts: geotechnical, flood, fire, noise, water quality, air quality, biological, cultural resources, visual resources, traffic/access, utilities, and environmental safety. The resulting Initial Study determined that the proposed project would not have a significant environmental impact on any other environmental topical issue because the potential impact did not exceed "significance" threshold criteria as established by the County.

The *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension*, Volume I, April 1989, (DEIR), State Clearinghouse Number 84082908 addressed the ultimate County/City Landfill Project[3] located within Sunshine Canyon. In accordance with the State CEQA Guidelines, § 15122 through 15131, the DEIR addressed environmental impacts of the ultimate project that encompassed both County and City jurisdictions. However, as described in the DEIR, the project proponent applied for project entitlements and operational permits within the County only because initial landfilling would occur within this jurisdiction.

The Notice of Completion (NOC)[4] on the DEIR was sent to the Governor's Office of Planning and Research (OPR) in July 1989 for distribution to Responsible Agencies and Trustee Agencies. The review period for State agencies commenced on July 12, 1989 and culminated on August 25, 1989. At the same time the DEIR was being circulated by the State an NOC was disseminated by County DRP. This circulation period began on July 19, 1989. The availability of the DEIR for public review and comment extended well beyond mandated review periods established pursuant to State CEQA Guidelines.[5] Specifically, a public Notice Of Availability (NOA) for the DEIR was published in local newspapers (e.g., Daily News and Signal) on July 19, 1989 and a direct mailing was sent to property owners (residing within a one-half mile radius of the project proponent's property boundary). Additionally, the County DRP furnished copies of the DEIR[6] to public libraries, numerous individuals, community groups, and local public agencies.

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[3]/ Pursuant to State CEQA Guidelines, § 15378, subd.(a). The State CEQA Guidelines define "project" to mean "the whole of an action" that may result in either a direct or indirect physical change in the environment.

[4]/ The Notice of Completion was prepared by the County Department of Regional Planning in accordance with State CEQA Guidelines, § 15085, subd.(a)(b)(c)(d).

[5]/ Pursuant to State CEQA Guidelines, § 15087, subd.(c), review periods for draft EIRs should not be less than 30 days nor longer than 90 days from the date of the Notice of Completion except in unusual situations. The public review and comment period on the DEIR officially commenced on July 19, 1989 and culminated on February 2, 1990; thus, affording a total public review and comment period of 196 days.

[6]/ Copies of the *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension* (at that time) consisted of the following documents: (1) DEIR, Volume I, April 1989; (2) Technical Appendices, Volumes IIA, April 1989 and Volume IIB, April 1989; and (3) Responses to Pre-circulation Comments from County Agencies, Volume III, July 1989. All of these environmental documents were designated (OPR) State Clearinghouse Number 84082908.

Public Hearings Before the County

Beginning in October 1989 through November 1993, there were 11 separate public hearings and/or meetings before the County Regional Planning Commission (RPC) and eight public hearings and/or meetings before the Board of Supervisors (BOS) concerning the DEIR.

Public hearings on the DEIR for the Sunshine Canyon Landfill Extension were held before the County RPC on six separate occasions, commencing in the Fall of 1989 and culminating in the Fall of 1990. Formal public hearings before the County RPC were held on October 4, 1989; November 2, 1989; and January 17, 1990. The proposed project was further discussed before the County RPC on July 10, 1990; July 25, 1990; and September 27, 1990. Responses to comments and verbal testimony received during these public hearings and subsequent information addressing potential environmental impacts was prepared and incorporated into two separate environmental documents.[7] These documents were finalized in July 1990 and were then disseminated to the County DRP and RPC for review and comment.

At the County RPC public hearing (September 1990) commissioners discussed two viable alternatives to the proposed project. These alternatives were described as Version 1 (an incremental grant for a landfill design, with an estimated waste disposal capacity of 16.9 million tons) and Version 2 (a grant of the project proponent's ultimate requested County-only landfill design that included an estimated waste disposal capacity of 70 million tons). The County RPC reviewed and deliberated both proposed alternatives and then instructed County DRP staff to prepare a resolution for adopting Version 1.

The *Final Environmental Impact Report, Sunshine Canyon Landfill Extension,* October 1990, (FEIR), State Clearinghouse Number 84082908 consists of all the volumes of the DEIR along with the Environmental Findings of Fact and Statement of Overriding Considerations, Findings and Order of the County RPC, and the Conditions of Project Grant for the Sunshine Canyon Landfill Extension. These documents were subsequently distributed to the County RPC for their review and comment.

On October 11, 1990, the County RPC heard Compound Plan Amendment 90-2-(5) consisting of Sub-Plan Amendment 86-312-(5), Conditional Use Permit (CUP) and Oak Tree Permit 86-312-(5) for the preferred alternative, Version 1. Similarly, the County RPC recommended that the BOS hold a public hearing on the amendments to the Santa Clarita Valley Area Plan[8] and County General Plan; the BOS adopt amendments to the County General Plan Policy Maps; (3) the BOS find the recommended plan amendments consistent with the balance of the County General Plan; (4) the BOS approve the FEIR, and certify that the document was prepared in compliance with CEQA, State CEQA Guidelines, and the County DRPs environmental guidelines; and (5) the BOS concurrently hear the Conditional Use Permit and Oak Tree Permit 86-312-(5)

7/ These two environmental documents were entitled: (1) *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, July 13, 1990, State Clearinghouse Number 84082908; and (2) *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments (Original Comments Received)*, Volume B, July 1990, State Clearinghouse Number 84082908. Copies of these documents are currently available for public review (i.e., Monday through Thursday, 7:30 AM to 6:00 PM) at the County Department of Regional Planning, Impact Analysis Section, 320 West Temple Street, Los Angeles, California.

8/ The Santa Clarita Valley Area Plan is a component of the County of Los Angeles General Plan. This plan was prepared by the County Department of Regional Planning and was officially adopted by the County DRP on February 16, 1984. Subsequent to the County DRP original adoption of this plan, comprehensive updates to this plan have been prepared by the County Department of Regional Planning.

and proposed County GPA cases. Additionally, on October 11, 1990 the County RPC adopted Findings of Fact that were part of the CUP for the County Landfill Project.

The FEIR was then circulated to public agencies, interested parties, and organizations for a 45-day public review period. That period commenced on October 12, 1990 and culminated on November 26, 1990. Additionally, a NOA for the FEIR was published in local newspapers and disseminated to those property owners that resided within a one-half mile radius of the project proponent's property boundary.

Written comments on this document were received throughout this 45-day public review period. Moreover, additional written comment and verbal testimony were received during the public hearing held before the County DRP on November 29, 1990. At the request of the BOS, additional written comments on the County Landfill Project were received and accepted by the County DRP until December 15, 1990.

The BOS held several formal public hearings and meetings on the proposed County Landfill project. These hearings or meetings occurred on November 29, 1990; January 29, 1991; February 14, 1991; and February 19, 1991. The November 1990 public hearing was intended to solicit public participation, to accept written and verbal testimony, and to receive public comment on the project (i.e., Version 1). Additionally, the BOS decided to accept written testimony until December 15, 1990.

At the January 29, 1991 meeting the BOS preliminarily approved and adopted the County RPC action of October 11, 1990 (as modified by County DRP staff board members). Furthermore, the County Landfill Project was adopted by BOS and became known as the "Revised Project."[9] The Revised Project specifically permitted an initial increment of fill, allowing for a landfill footprint development of ±215 acres with an estimated disposal capacity of 16.9 million tons within the unincorporated area of the County. Similarly, the Revised Project allowed the acceptance of up to 6,000 tons per day or 36,000 tons per week of refuse in addition to unlimited recyclables. The conceptual design was subsequently revised on February 4, 1991 and is depicted as "Exhibit A" within the CUP.

Project Approval by the Board of Supervisors

The BOS formally adopted the County Landfill Project (i.e., Revised Project) on February 19, 1991. This project was determined by the BOS to be environmentally superior to the originally proposed project because it reduced environmental impacts on air quality, biota, geology, groundwater, noise, odors, traffic, and visual views within the project area. The BOS also determined that significant unavoidable environmental impacts to biota resources would occur and that these impacts could not be mitigated to a level of less than significant. Furthermore, the BOS certified the FEIR, which authorized the development of a landfill footprint on ±215 acres with an estimated disposal capacity of 16.9 million tons within the County portion of Sunshine Canyon. Similarly, the BOS approved the Findings of Fact and Statement of Overriding Considerations, the CUP and Oak Tree Permit 86-312-(5), Compound Plan Amendment 90-2-(5), Sub-Plan Amendment 86-312-(5), and a Mitigation Reporting and Monitoring Program Summary.

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[9]/ Revised Project, is synonymous with Version 1 (as modified by recommendations brought forward by the County DRP staff), which was approved by the County DRP on October 11, 1990. The Revised Project was in conformance with the design originally depicted as Sequence 1, Drawing 3A on p. 4 of the DEIR, Volume I, April 1989, State Clearinghouse Number 84082908.

After approval of this project, the County DRP filed a Notice of Determination (NOD) with OPR and the Office of the County Clerk. The NOD filing commenced a 30-day statute of limitations on legal challenges on the project. The NOD was posted at the Clerk's office on February 20, 1991, and the 30-day posting period culminated on March 21, 1991.

CUP Condition 10(b) approved by the BOS indicated the County's desire to conserve biota resources, especially oak trees and other natural resources located within the landfill footprint. As directed under that condition the project proponent was required to apply to the City to expand landfilling operations within the City, thereby accomplishing two goals: to preserve existing ecological resources within the County area of Sunshine Canyon, and to provide long-term solid waste disposal capacity within the jurisdiction of the City. This condition also required the project proponent to diligently pursue this project application to the highest level of appeal in the City. On June 21, 1991, the project proponent submitted its application to the City.

Additionally, the BOS recognized that the City may grant approval of the proposed City Landfill within its boundaries. In that regard, Condition 10(b) stated in part the following:

> Should the City of Los Angeles approve a fill design which, projected into unincorporated territory, would overlay the fill shown on Exhibit "A", without further action by the County to amend this grant, the permittee may, as necessary to complete the City authorized design, extend the horizontal and vertical limits of fill in unincorporated territory to, but not beyond those shown on Sequence 2, Drawing 3A, revised February 4, 1991, attached as Exhibit "A" (Alternate).[10]

Additional information pertaining to the litigation on the County Landfill, environmental documentation, and the administrative proceedings is addressed in Appendix C3 within this document.

[10]/ Sequence 2, Drawing 3A was originally incorporated on p. 4 of the DEIR, Volume I, April 1989, State Clearinghouse Number 84082908. This design drawing was subsequently revised on February 4, 1991 and attached as Exhibit "A" (Alternate) to the Sunshine Canyon Landfill Extension, CUP and Oak Tree Permit 86-312-(5).

Appendix C3
OVERVIEW OF LITIGATION PROCEEDINGS IN CONNECTION WITH THE COUNTY LANDFILL

OVERVIEW OF LITIGATION PROCEEDINGS IN CONNECTION WITH THE COUNTY LANDFILL[1]

Introduction

Following approval of the Sunshine Canyon Landfill Extension (or County Landfill) by the County Board of Supervisors on February 19, 1991, the North Valley Coalition of Concerned Citizens (NVC) and the City of Los Angeles (City) filed separate lawsuits on March 22, 1991, in the Superior Court of California, County of Los Angeles (trial court) against the County of Los Angeles (County or respondent) and Browning-Ferris Industries of California, Inc., real party in interest (BFI), challenging the project entitlements approved by the County, the legal sufficiency of the *Sunshine Canyon Landfill Final Environmental Impact Report* (FEIR), and the amendments to the County of Los Angeles General Plan. The lawsuits[2] filed by the NVC and the City were consolidated by the trial court, and the trial on this matter commenced on October 16, 1991.

The trial court received into evidence the record of administrative proceedings (over 21,000 pages) and additional items of evidence. Following a lengthy trial (26 days), this matter was taken under submission by the court on February 4, 1992. On March 20, 1992, the court filed a memorandum order and statement of decision. This decision was 71 pages long and contained rulings on the issues raised during the trial.

A judgment granting peremptory Writ of Mandate (Writ) was subsequently filed by the trial court on April 22, 1992, that mandated the County to vacate the certification and adoption of the FEIR and thus set aside the decision by the County Board of Supervisors on February 19, 1991; required BFI to suspend all activity that could result in any change or alteration to the site area proposed for landfilling; and refrained the County Board of Supervisors from reapproving the project until the necessary determinations, findings and decisions were brought into compliance with the California Environmental Quality Act (CEQA).[3]

The trial court issued its Writ based on six inadequacies[4] in the FEIR and/or the associated procedural process that included

1. failure of the EIR to properly respond to City Councilman Hal Bernson comments regarding BFI's noncompliance with zoning variance conditions imposed for the City Landfill and deeming his comments to be irrelevant;

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[1]/ For a comprehensive discussion of this matter, refer to pp. 1-1 through 1-3, Section 1.1, Factual Background Regarding the Environmental Review Process, *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension*, April 1993, State Clearinghouse Number 89071210.

[2]/ These lawsuits were designated as BS006501 and BC02160, respectively, by the Superior Court of California, County of Los Angeles. Copies of these lawsuits are on file with this court located at 111 North Hill Street, Los Angeles, California.

[3]/ In accordance with the California Public Resources Code, § 21168.9, subd.(a).

[4]/ For a detailed discussion of these legal matters, refer to pp. 2 and 3 of the *Judgment Granting Peremptory Writ of Mandate* (filed April 22, 1992). The Writ is on file and can be reviewed at the Superior Court of California, County of Los Angeles, 111 North Hill Street, Los Angeles, California.

2. failure to incorporate in the topical response section a cross reference to essential expert comments regarding the Elsmere Canyon Landfill facility;

3. failure of neglecting to have the Significant Ecological Area Technical Advisory Committee (SEATAC) review the DEIR and FEIR prior to making recommendations on the project;

4. failure of the EIR to adequately explain the project's cumulative air emissions;

5. failure to adequately analyze the project's inconsistency with the City's General Plan; in particular, BFI's alleged noncompliance with the City's zoning regulations; and

6. failure of the EIR to adequately discuss and analyze environmental impacts arising from the denial of the use of the County Landfill to City waste haulers due to an imposed Conditional Use Permit (CUP).

Except for these inadequacies, the trial court rejected all of the other claims raised by the petitioners.

Appeals Filed in Response to the Writ of the Trial Court (Rendered on April 22, 1992)

After the Court issued its Writ, the City/NVC filed a notice of appeal on June 15, 1992, in the California Court of Appeal, Second District (i.e., Los Angeles). This notice sought the appellate court to review adverse trial court determinations/rulings. The County/BFI also filed a cross appeal on July 7, 1992, to address portions in the Writ that were favorable to the petitioners.[5]

Subsequent Actions Taken by the County in Response to the Trial Court Writ

As a result of the Writ, the County Department of Regional Planning (DRP) prepared an environmental document entitled *Addendum to the Final Environmental Impact Report for the Los Angeles County Board of Supervisors*, May 1992 (Addendum to the FEIR, State Clearinghouse Number 89071210) to address the environmental inadequacies of the FEIR and to bring the FEIR into compliance with CEQA.

In April 1992, the DRP provided each member of SEATAC with a comprehensive set of all FEIR documents that comprised the environmental record in addition to a Biota Resources Reference Guide[6] prepared for the County Landfill Project. Three meetings by SEATAC were held during May and June 1992 to discuss the project, biotic resource impacts, and proposed mitigation measures specific to biotic resources. SEATAC subsequently prepared a list of comments/recommendations (June 1, 1992), and this information was submitted the County Board of Supervisors for its review and consideration along with responses to SEATAC comments prepared by DRP.

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[5]/ Copies of these appeals (Case No. B068300) are on file with the State of California, Court of Appeal, Second District, located at 300 South Spring Street, Los Angeles, California.

[6]/ This Reference Guide was a comprehensive compilation of all biological resource information derived from all environmental documents prepared for the Sunshine Canyon Landfill Extension Project. The Guide can be reviewed at the County Department of Regional Planning, Impact Analysis Section, 320 West Temple Street, Los Angeles, California.

On July 28, 1992, the County Board of Supervisors reviewed, considered, and recertified the FEIR. They also reapproved the related project entitlements pertaining to the County Landfill Project. These actions acknowledged the FEIR's compliance with CEQA, the State CEQA Guidelines, and the County's environmental guidelines.

Motion to Discharge the Writ by the County

Following project reapproval by the Board of Supervisors, oral arguments commenced in trial court on August 14, 1992, regarding the addendum to the FEIR and all other environmental actions taken by the County to comply with the mandates of the court's Writ. This matter culminated on September 16, 1992, and on October 30, 1992, the trial court issued another ruling. This ruling denied the County/BFI motion to discharge the Writ and further required the county to vacate the certified FEIR and set aside the project reapproval taken by the Board of Supervisors on July 28, 1992.

The court indicated that the County had not demonstrated compliance with the Writ regarding recirculation for additional public comment. Specifically, three matters were in question that pertained to (1) BFI's operating history, including responses to Councilman Bernson's comments regarding BFI's record of noncompliance with variance conditions and the project's inconsistency with the City's General Plan; (2) SEATAC's recommendation and/or comments regarding the EIR; and (3) potential environmental impacts of denying use of the landfill to the City waste haulers. However, the ruling also stated that the addendum to the FEIR and other actions taken by the County resolved other identified deficiencies in the Writ.

As stated this ruling, the focus of recirculation was prescribed to these three matters. Any future project reapproval by the County Regional Planning Commission (RPC) or Board of Supervisors would be contingent upon responses to these matters and recirculation.

Appeals Filed in Response to the Trial Court Ruling (rendered on October 30, 1992)

With respect to the trial court's ruling, the County/BFI filed a notice of appeal with the appellate court on December 29, 1992,[7] to redress portions of the ruling. In addition, the NVC/City filed a notice of cross appeal on January 19, 1993, to some but not all issues determined favorable to the County and BFI.

Subsequent Administrative Actions Taken by the County

The DRP responded to this new ruling by preparing another environmental document entitled *Additional Information and Analysis Regarding the Environmental Review Process for the Sunshine Canyon Landfill Extension*, April 1993, State Clearinghouse Number 89071210 (or Additional CEQA Document). This document provided information on the three unresolved matters and was subsequently sent by the DRP to the Office of Planning and Research (OPR) on April 21, 1993, for distribution. This commenced a 45-day public review and comment period on this document.

The DRP also sent (April 21, 1993) copies of this document to agencies, local libraries, numerous individuals, and community groups to solicit comments. In addition, notices regarding this document were sent by the DRP to property owners (located within a ½-mile radius of the project site boundaries). On May

7/ Copies of these appeals (Case No. B073126) are on file with the State of California, Court of Appeal, Second District, located at 300 South Spring Street, Los Angeles, California.

27, 1993, the DRP also sent a notice of public hearing to applicable agencies, organizations, property owners, and libraries informing them of the scheduled RPC hearing on July 14, 1993. This notice was also published in two local area newspapers (The Signal and Daily News).

Prior to the public hearing, commissioners were provided copies of (1) all environmental documents prepared on the project, (2) the previously adopted (February 19, 1991, and July 28, 1992) Findings of Fact and Statement of Overriding Considerations by the Board of Supervisors, (3) project entitlements, (4) a fact data sheet on the Additional CEQA Document, and (5) information from the County Counsel regarding the recent ruling. Commissioners were also afforded the opportunity to review and consider the administrative record regarding prior Commission actions, (i.e., information from prior RPC public hearings held on October 4, 1989; November 2, 1989; January 17, 1990; February 22, 1990; and October 11, 1990).

Following the 45-day review period on the Additional CEQA Document, the DRP prepared another environmental document entitled *Responses to Comments on the Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension and Appendices*, State Clearinghouse Number 89071210, June 1993 (Responses to Comments Document) to address those comments received by agencies, interested parties, and organizations. This document was also sent to each Commissioner for review and consideration.

Public Hearings of the County Regional Planning Commission (July 14, July 28, and August 4, 1993)

At the RPC hearing held on July 14, 1993, both agencies and the public were provided an opportunity to testify. Following verbal testimony, the hearing was closed and continued on July 28, 1993. Immediately following this hearing, the DRP decided to prepare another environmental document entitled *Responses to Comments Received during the Los Angeles County Regional Planning Commission Public Hearing (July 14, 1993) for the Sunshine Canyon Landfill Extension*, State Clearinghouse Number 89071210, July 1993 (RPC Public Hearing Responses to Comments Document) to respond to written and verbal testimony received during this hearing.

Prior to the next scheduled RPC meeting of July 28, 1993, this document was also sent by the DRP to commenting public agencies, the City, the NVC, and public libraries. Copies of this document and requested information were sent directly to the Commissioners. Requested information included the proposed monitoring provisions for the County Landfill project, project description, resolution for the project, Findings of Fact and Statement of Overriding Considerations, and Mitigation Monitoring and Program Summary.

At the RPC meeting in July 1993, Commissioners deliberated and tentative action on the proposed was received. Final approval by the RPC occurred on August 4, 1993. At that time the Commissioners recommended that the County Board of Supervisors adopt the General Plan Amendment and Policy Maps; the County Board of Supervisors provide future review of the landfill by SEATAC; the General Plan Amendments be consistent with the balance of the County General Plan; the County Board of Supervisors approve the FEIR and certify that the FEIR was in compliance with CEQA, the State CEQA Guidelines, and the County's environmental guidelines and approve the CUP; the Board of Supervisors hold a public hearing to consider Commission recommendations; and the Board of Supervisors review the CUP and the Oak Tree Permit along with General Plan Amendments.

Appeals Filed as a Result of the Trial Court Writ

The initial appeals filed by the petitioners and respondents as a result of the trial court Writ were heard by this court on July 29, 1993. In October 1993 this court issued its statement of decision and final judgment (decision) on the issues brought forth by this appeals. This decision rejected the entirety of the City/NVC's claims. This decision further upheld the court's judgment in issuing the Writ on all matters, except for requiring that the DEIR and FEIR be submitted to SEATAC prior to its recommendations on the project. The appellate court further directed the court to set aside and vacate portions of the Writ.

Actions Taken by the County Following the Regional Planning Commission's Public Hearing

Following RPC approval, the DRP distributed copies of Commission recommendations to each County Board of Supervisors member. A notice was subsequently sent to various public agencies, organizations, libraries, and property owners and was published in local newspapers. This notice indicated that a public hearing would be held on October 21, 1993, to reconsider the project and recertify the FEIR.

At this public hearing, verbal and written testimony by agencies and the public was received. The County Board of Supervisors closed the hearing and further directed the DRP to prepare responses to all concerns/ issues raised at the hearing prior to the next meeting. In response to that request, the DRP prepared the *Responses to Comments on the Sunshine Canyon Landfill Extension for the County of Los Angeles Board of Supervisors*, State Clearinghouse Number 89071210, November 1993 (Board of Supervisors Responses to Comments Document). Copies of this document were then sent to the Board of Supervisors, public agencies, and local public libraries.

Public Hearings of the County Board of Supervisors (November 18 and November 30, 1993)

On November 18, 1993, the County Board of Supervisors deliberated and considered the project based on the recommendations of the RPC. On November 30, 1993, the Board of Supervisors reapproved the project with minor modifications to the CUP. Following project approval, a Notice of Determination (NOD) was filed on December 9, 1993, with the County Clerk and OPR that commenced a 30-day limitation period for legal challenges.

Petition for Review Filed to Supreme Court in Response to Appellate Court Decision

As a result of the appellate court decision (rendered on October 30, 1993), the City/NVC filed a petition for review (Case No. SO36757) to the California Supreme Court on December 6, 1993. That petition claimed that the trial court's Writ should have been broader in scope and alleged that additional violations of law had occurred. In response to this petition, the County/BFI filed on December 23, 1993, a motion to oppose the petition for review. The Supreme Court denied review of the City/NVC petition on February 14, 1994.

Appellate Court Decision Regarding Appeals

In regard to the appeals filed in connection with the trial court's second ruling, the County/BFI moved to dismiss their appeal on December 20, 1993, as a result of the Board of Supervisors reapproval of the project on November 30, 1993. This motion was granted by the appellate court. In addition, on December 22, 1993, oral arguments were heard by the appellate court on a cross appeal filed by the City/NVC regarding two aspects of the trial court's ruling rendered on October 30, 1992. These matters included restricting the scope of the RPC deliberations and public hearing to recirculation issues and objection to the trial court's

jurisdiction to rule on the County/BFI's return to the Writ. On March 18, 1994, the appellate court issued its decision on the cross appeal filed by the City/NVC. The court decision upheld the trial court ruling.

Hearing Before the Trial Court Regarding Compliance with the Writ (rendered on April 22, 1992)

Following project approval by the County Board of Supervisors on November 30, 1993, a hearing was held on December 27, 1993, before the trial court regarding the respondent's compliance with the court Writ. On December 28,1993, another ruling was issued on the motion to discharge the Writ. The court denied the motion without prejudice to refile the motion once appellate court matters were resolved.

Supplemental Petition Filed by Petitioners to the Trial Court

A supplemental petition for the Writ of Mandate (petition) was filed in the trial court on January 10, 1994, by the City/NVC. This petition alleged violations of law by the County in response to the court's Writ issued in 1992, failure of the County/BFI to satisfy the terms of the Writ, and new violations of law committed by the County in its approval process on the County Landfill Project.

On February 14, 1994, the County/BFI filed a motion to strike and demurrer the City/NVC petition. On March 18, 1994, the court granted the County/BFI's motion to strike since the City/NVC failed to seek leave of the court to file the petition. On April 29, 1994, the court entered orders denying the motion for leave to file a petition and discharging the Writ.

In May 1994, the City/NVC filed another appeal regarding the court's decision to discharge the Writ and filed a petition for Writ of Supersedeas with the Court of Appeal seeking an stay against the project. The County/BFI filed oppositions to that petition. On June 10, 1994, the court denied this petition and refused to issue a stay against the project. On February 7, 1995, the court also denied the City/NVC's appeal in its entirety.

On June 23, 1994, the County compliance committee established by the County Board of Supervisors met to determine whether BFI had obtained all necessary governmental approvals and satisfied other requirements necessary to commence construction of the landfill facility. At that meeting, the County compliance committee unanimously determined that all conditions and/or requirements necessary were satisfied.

Second Lawsuit Filed by Petitioners to Trial Court

On April 30, 1994, the NVC filed a second lawsuit setting forth the same claims as alleged in the supplemental petition for the Writ of Mandate. The court granted leave to the City to intervene as pending petitioners in the second lawsuit. The court also issued pre-trial injunctions against continued development of the project until the final hearing on petitioner's claims. That final hearing was held on August 4, 1994, at which time the court denied the City/NVC's second lawsuit in its entirety.

Additionally, on August 22, 1994, the court entered its final form of judgment and issued a 1-day stay on the project to allow the City/NVC to appeal and seek a stay from the appellate court with a petition for Writ of Supersedeas. Petitioners filed their appeal on August 23, 1994, and a petition for Writ of Supersedeas on August 26, 1994. The County/BFI filed its opposition to that petition on August 3, 1994. On September 2, 1994, the appellate court denied the petition and allowed the development of the County Landfill to proceed.

Other Lawsuits Filed Pertaining to the Sunshine Canyon Landfill Extension

A lawsuit was also filed by an individual, Mr. Robert Mariscal. In December 1993, Mr. Mariscal filed a complaint in the action entitled Robert Mariscal v. County of Los Angeles, et al., Case No. BS026804, Los Angeles Superior Court. In his first amended complaint for Writ of Mandate, Mr. Mariscal alleged three causes of action for violation of CEQA, denial of due process, and violation of the County's General Plan.

The County and BFI filed demurrers to those causes of action. In August 1994, the trial court granted demurrers to these causes of action. Pursuant to that ruling, those causes have been dismissed with prejudice. The demurrer as to the remaining cause of action was denied. Pursuant to a settlement among the parties, this remaining cause of action was dismissed.

On July 7, 1994, the NVC filed a petition for Writ of Mandate against the State Water Resources Control Board (SWRCB) as respondent and BFI as real party in interest. This petition challenged the approval of waste discharge requirements (WDRs) issued by the Los Angeles Regional Water Quality Control Board (RWQCB) for the County Landfill Project. The NVC sought to compel the SWRCB to order the RWQCB to vacate the approval of the WDRs on the ground that their issuance violated CEQA.

Prior to a hearing on its petition for Writ of Mandate, the NVC moved for a stay pending the court's final determination. The court denied this application since the NVC had not shown a likelihood of prevailing on the merits of the action. On October 20, 1994, the court denied the NVC's petition for Writ of Mandate. The NVC also filed an appeal in response to the trial court ruling. On June 26, 1996, the Court of Appeal denied the NVC's appeal in its entirety.

In April 1996, the NVC filed a new lawsuit regarding BFI's entitlement to use its access road within Sunshine Canyon for the County Landfill. It should be noted that the access road is located within the jurisdiction of the City; however, this road provides the only access to the County Landfill site. After the issuance of a pretrial injunction, the Trial Court ruled on this matter on June 14, 1996. In that ruling the court denied the NVC's claims in their entirety. The court's revised final form of judgment was entered in September 1996.

Appendix C4
CHRONOLOGY OF THE ENVIRONMENTAL PROCESS (INCLUDING LITIGATION AND REGULATORY PERMITS) FOR THE COUNTY LANDFILL

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION

SUNSHINE CANYON LANDFILL EXTENSION
County of Los Angeles
Project Case Number 86-312-(5)
State Clearinghouse Number 89071210

DATE	KEY MILESTONES
7/2/86	Initial Study prepared by County Planning staff.
12/86	Notice of Preparation (NOP) on the *Preliminary Draft Environmental Impact Report* (PDEIR) sent to Reviewing Agencies by County Planning staff.
12/8/87	PDEIR sent to Office of Planning and Research (OPR), State Clearinghouse for dissemination to State Agencies.
12/9/87	Forty-five-day period for agencies' (State and local) review of the PDEIR commenced.
12/16/87	PDEIR distributed per County Planning staff mailing distribution list, including local public libraries and the public.
1/5/88	Public scoping meeting held to receive comments on the PDEIR.
1/22/88	Forty-five-day agency and public review period on the PDEIR culminated.
4/17/89	Screencheck DEIR (Volumes I, IIA, IIB) submitted to County Planning staff for dissemination to Responsible County Agencies.
4/18/89-5/19/89	DEIR distributed to Responsible County Agencies for a 30-day review period.
6/12/89-6/28/89	Screencheck DEIR Responses to Comments from County Agencies on the DEIR Prior to Public Circulation (Volume III) was prepared by Ultrasystems for review and comment by County Planning staff.
6/30/89	The DEIR, Volume III (July 1989) was submitted by Ultrasystems to County Planning staff for distribution.
7/11/89-8/25/89	The DEIR documents (Volumes I, IIA, IIB, III) were delivered to OPR and disseminated to Reviewing Agencies for a 45-day agency and public review period.
7/19/89	A Notice of Publication for the DEIR was published in local newspapers. The standard maximum circulation period mandated by the California Environmental Quality Act (CEQA) is 90 days.
7/19/89	The DEIR was distributed to local public library systems.
7/25/89	A Notice of Availability for the DEIR was sent directly to interested individuals and to those property owners who reside within a ½-mile radius of the project site.
9/89	A Notice of Public Hearing was prepared and issued by County Planning staff.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
10/4/89	A public hearing was held before the Regional Planning Commission regarding the proposed project. The Commission received and discussed the County Planning staff report. Representatives from the County Department of Public Works, County Department of Health Services, County Forester, Sanitation Districts of Los Angeles County, City of Los Angeles Zoning Administrator, and the City Department of Public Works, Bureau of Sanitation testified. A public hearing was scheduled to continue on 11/2/89 at John F. Kennedy High School.
11/2/89	A public hearing was held before the Regional Planning Commission. Supplemental information and responses to public agency comments were submitted by County Planning staff to the Commission for review. A public hearing was scheduled to continue on 1/17/90 because the allotted time for the hearing expired. It was decided that public comments would continue to be accepted by County Planning staff.
1/17/90	A public hearing was held before the Regional Planning Commission. Supplemental reports were furnished to the Commission. The County Department of Public Works gave a presentation on the waste disposal capacity within the County. At the conclusion of the hearing, the Commission indicated that it would receive comments on the DEIR until 2/2/90. A public hearing was scheduled to continue on 2/22/90, and the Commission requested that the County Planning staff prepare recommended actions for the Commission's consideration.
2/2/90	The agency and public review period on the DEIR ended. This review period had lasted a total of 197 days (7/19/89 through 2/2/90).
2/22/90	A public hearing was held before the Regional Planning Commission. The County Planning staff presented the Director of Planning's recommended actions on the requested entitlements. The Commission questioned County Counsel regarding the adequacy of the proposed alternatives analysis in the DEIR. Representatives from the County Department of Public Works, County Department of Health Services, County Forester, and the Sanitation Districts of Los Angeles County responded to questions from the Commissioners. The Commission closed the public hearing, instructed County Planning staff to prepare responses to comments received during the public and agency review period, and requested that the matter be placed on the Commission agenda for discussion upon completion of the Responses to Comments Document.
7/9/90	A public notice was distributed to interested persons regarding the 7/25/90 Regional Planning Commission hearing and the availability of the DEIR Responses to Comments, Volumes A and B.
7/13/90-7/20/90	The DEIR Responses to Comments, Volumes A and B, were received by County Planning staff from Ultrasystems and disseminated to each Regional Planning Commissioner, Board of Supervisors, local public libraries, and interested parties.
7/25/90	A meeting was held before the Regional Planning Commission to receive comments on the DEIR Responses to Comments, Volumes A and B. At this meeting, County Counsel indicated that the DEIR adequately addressed the concerns expressed by County Counsel on 2/22/90. The Commission commenced its deliberations, commenting on County Planning staff recommendations. County Planning staff agreed to return with two different sets of prospective conditions for the Conditional Use Permit (CUP) and Oak Tree Permit. The Commission continued the matter until 9/27/90.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
9/27/90	A meeting was held before the Regional Planning Commission. The Commission received and discussed the two alternative grants submitted by County Planning staff. The alternatives were comprised of "Version 1," an incremental grant for a fill design having an estimated waste capacity of 16.9 million tons, and "Version 2," a grant of BFI's ultimate requested County-only fill design having an estimated waste capacity of 70 million tons. The Commission instructed County Planning staff to return with a Commission Resolution for adoption of the requested plan amendment, Findings, Order, and Conditions for Project Approval of "Version 1" of the CUP and Oak Tree Permit, with modifications as recommended. Final action on the project by the Commission was set for 10/11/90.
10/11/90	The public Notice of Availability and request for comments on the FEIR were distributed.
10/11/90	The FEIR was disseminated to all Responsible Agencies, OPR, State Clearinghouse, public libraries, and organizations for a 45-day public review and comment period.
11/29/90	A public hearing was held before the Board of Supervisors. Public testimony on the FEIR and the CUP was accepted. The Board indicated that the Executive Officer of the Board would accept written testimony until 12/15/90 at 5:00 p.m. In addition, the Board instructed appropriate departments to evaluate the commentary made at this public hearing and report back to the Board on the following: 1. feasibility of a proposal for a 10-million-ton landfill proposed by neighbors; 2. identify locations of the flora, fauna, and oak trees that would be impacted by the area subject to the requested permit; 3. question of hauling additional tonnage in the early morning hours and the impact, if any, on the neighbors; 4. status of proposed railhaul systems and the amount of solid waste that such a system can support for safe transport and disposal; 5. information required to make an assessment as to the economic impact that BFI represents to the County and how this would be a factor in the size of the proposed permitted area; and 6. official response from Metropolitan Water District of Southern California (MWD) on the project's effect on the Van Norman Dam.
12/15/90	Public review and comment period on the FEIR culminated (a total review period of 65 days).
12/90-1/91	Ultrasystems prepared responses to comments received from public agencies, Responsible Agencies, and the Board of Supervisors on the FEIR. This new environmental document was entitled *FEIR Comments Received and Responses for the Los Angeles County Board of Supervisors* and was subsequently sent to County Planning staff for review and comment.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
1/18/91	County Planning staff prepared responses to the Board of Supervisors' request of 11/29/90. These responses included the following: 1. a joint report prepared by the Sanitation Districts of Los Angeles County and the Department of Public Works that evaluated a 10-million-ton capacity landfill alternative, the use of railhaul, the economic viability of the approved 17-million-ton landfill design, and the need for landfill capacity at the Sunshine Canyon Landfill Extension and other landfill sites; 2. a report by the County Forester and Fire Warden assessing the oak tree impact of the North Valley Coalition (NVC) proposal and a comment on the methodology used to evaluate oak tree resources within the Sunshine Canyon area; 3. letters received from the MWD and the Upper Los Angeles Area Watermaster commenting on the potential impacts of the proposed project on the local water quality and water facilities, including recommended mitigation measures; and 4. an evaluation prepared by County Planning staff concerning the potential impacts and benefits of nighttime landfill operations.
1/29/91	A combined public hearing was held before the Board of Supervisors on the CUP and Oak Tree Permit, Sub-Plan Amendment, and Compound Plan Amendment. Representatives from the County Department of Public Works and Sanitation Districts gave presentations before the Board. Public testimony and correspondence were presented to the Board. The Board motioned to close the public hearing and declare its intent to approve the zoning applications as recommended in the Regional Planning Commission's recommendations (10/11/90 and 10/12/90) and as recommended in Modification Nos. I, II, III, IV, V, and VIII to the CUP Conditions of Project Approval set forth in the Director of Planning's report dated 1/18/91. Additionally, the Board rendered a preliminary order to approve the revised permits with revised conditions and instructed County Counsel to prepare the necessary Board Resolution and Exhibit Map, Final Findings, CUP Conditions of Project Approval, and Order before entry by the Board of the final order. The FEIR was prepared in compliance with the Board's Order, and County Planning staff were instructed to transmit copies of this document to the Board 7 days prior to final consideration on 2/14/91.
2/8/91-2/11/91	At the request of County Planning staff and County Counsel, Ultrasystems prepared the *Addendum to FEIR Comments Received and Responses for the Los Angeles County Board of Supervisors*. This document provided responses to the NVC comments to the DEIR Response to Comments, Volume A (July 13, 1990) and comments presented as part of the environmental record during the 11/29/90 public hearing before the Board of Supervisors.
2/14/91	A meeting was held before the Board of Supervisors on the proposed project. Amendments to the proposed conditions of project approval were discussed. The Board directed County Planning staff to review environmental procedures; in addition, the Department of Public Works was requested to report back on 2/19/91 on the issue of having the landfill footprint within the City's jurisdiction.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
2/19/91	A decision and final action on the proposed project were taken by the Board of Supervisors. The Board amended and added the following CUP Conditions of Project Approval: 1. dedicate Bee Canyon following the City approval of the landfill expansion but not later than 8 years from 2/19/91; 2. grant the County Local Enforcement Agency (LEA) authority to immediately shut down the landfill in the event of a threat to human health, safety, or welfare; 3. eliminate the provision for nighttime landfill operations; 4. amend Condition 10(b); and 5. provide that the Director of Public Works, the LEA, and the Community Advisory Committee monitor the performance of mitigation measures designed to minimize truck traffic. The Board granted the following approvals: 1. approved County Counsel's Findings and Conditions, dated 2/7/91 as amended 2/19/91; 2. approved the CUP and Oak Tree Permit (subject to conditions); 3. adopted the resolution approving the Compound Plan Amendment (consists of a single Sub-Plan Amendment); 4. approved the FEIR and certified that the Board had reviewed and considered the information within that document, certified that the FEIR was completed in compliance with CEQA, determined that the Conditions of Project Approval and mitigation measures in the FEIR and monitoring program were the only mitigation measures for this project that are feasible; and determined that the remaining unavoidable environmental effects of the project have been reduced to an acceptable level; and 5. adopted the *Sunshine Canyon Landfill Extension, Mitigation Monitoring Program.*
2/20/91-3/21/91	A Notice of Determination was filed with OPR, State Clearinghouse and posted with the County Clerk for a 30-day period.
3/22/91	The City of Los Angeles and the NVC filed separate lawsuits in the Superior Court of California, County of Los Angeles (trial court) against the County and BFI challenging the project entitlements granted by the County, the legal sufficiency of the FEIR, and the approved amendments to the County's General Plan.
10/16/91	Lawsuits filed by the City of Los Angeles and the NVC were consolidated by the Trial court. The trial concerning these lawsuits commenced in Department 88 before the Honorable Judge Ronald Sohigian. The trial court received into evidence the environmental record and administrative record of proceedings, which comprised 21,000 pages.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
3/20/92	The trial court issued a Memorandum Order and a Statement of Decision that indicated the following: 1. the trial court concurred that the organization and contents of the EIR complied with CEQA requirements, except for the County's response to Councilman Bernson's comments; 2. the Significant Ecological Area Technical Advisory Committee (SEATAC) should have considered the EIR in either final or draft form prior to project approval by the Board of Supervisors; 3. the Board of Supervisors properly reviewed and considered the information contained in the FEIR prior to approving the project, and the availability of the FEIR for public review was under the Board's jurisdiction; 4. the FEIR adequately addressed the need for additional landfill capacity; 5. the alternatives analysis was adequate and that a reasonable range of alternative sites and alternative project design configurations was discussed; 6. the FEIR accurately described the project as an extension of an existing landfill; 7. there was no disagreement among experts regarding a hydrologic connection, and hydrologic mitigation measures were not improperly deferred in the FEIR; 8. the FEIR satisfactorily analyzed mobile and stationary air emissions but not cumulative air emissions, and cumulative adverse biotic and water use impacts were adequately analyzed; 9. the County could legally establish a City-use restriction; 10. the County properly complied with the requirements of the County Oak Tree Ordinance; 11. the County properly exercised independent judgment in the preparation, review, and approval of the FEIR; 12. the County amendment to its General Plan was valid; 13. the FEIR certification and project approvals by the Board of Supervisors complied with the California Integrated Waste Management Act and the Waste Management Facilities Act; and 14. The FEIR adequately analyzed adverse impacts of the project on the City except for past noncompliance with City zoning and denying use of the landfill to City haulers.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
4/22/92	A Final Judgment was entered and a Peremptory Writ of Mandate was set forth by the trial court that commanded the County and BFI to comply with the following specific issues: 1. the County to vacate the certification and adoption of the FEIR, suspending the decision by the Board of Supervisors on 2/19/91; 2. suspend all activity that could result in any change or alteration to the physical environment to the area proposed for the Sunshine Canyon Landfill Extension; and 3. have the Board refrain from reapproving the project until the necessary determinations, project findings, and decisions were brought into compliance with the CEQA. The trial court found the following six inadequacies in the FEIR and associated environmental review process and requested the County to address them: 1. failure of the FEIR to respond to City Councilman Hal Bernson's comments concerning BFI's record of having failed to comply with zoning variance conditions imposed by the City within the City's jurisdiction at the Sunshine Canyon Landfill site; 2. failure to incorporate in the topical responses of the FEIR and to cross reference in the FEIR comments received from expert County agencies regarding the proposed Elsmere Canyon Landfill Project; 3. failure to ensure the County's SEATAC review of the EIR in either draft or final form before recommendations on the project were rendered; 4. failure to adequately explain the cumulative air emissions analysis; 5. failure to adequately analyze the asserted inconsistency with the City of Los Angeles General Plan, and in particular, BFI's asserted past non-compliance with City zoning regulations; and 6. failure to adequately discuss the impacts of denying use of the proposed project to the City's waste haulers.
5/4/92	A SEATAC meeting was attended by SEATAC members, County Planning staff, County Counsel, and other interested parties. A special meeting to discuss the proposed project was scheduled for 5/18/92.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
5/18/92	The SEATAC meeting was attended by SEATAC members, County Planning staff, County Counsel, and other interested parties. Items discussed included the following: 1. County Counsel discussed the trial court's decision and those deficiencies identified in the Final Judgment and the scope of SEATAC's review; 2. the City of Los Angeles and the NVC requested that the proposed Elsmere Canyon Landfill Project be reviewed in comparison to the Sunshine Canyon Landfill Project; 3. the City of Santa Clarita and the Santa Clarita Civic Association spoke in opposition to the City of Los Angeles request, indicating that this request was beyond the role of SEATAC; 4. the NVC requested that the proposed incinerators not be located along ridgelines; and 5. other comments from visitors concerned BFI's compliance record with the City, adjacent oil operations, BFI's ability to acquire Bee Canyon for dedication, the need for SEATAC to review the entire solid waste management plan, the timing to implement the leachate control system, and SEATAC's review of the proposed project. At this meeting, SEATAC formally submitted a list of 14 comments/recommendations that were forwarded to the Board for review.
6/1/92	The SEATAC meeting was attended by SEATAC members, County Planning staff, County Counsel, and other interested parties. Minutes of the 5/18/92 minutes as amended (comments/recommendation Nos. 1, 2, 3, 6, 10, 12, and 13) were approved.
6/3/92	Ultrasystems sent to the County Planning staff and County Counsel for their review copies of the *Responses to SEATAC Comments* dated June 3, 1992. This document included responses to SEATAC's comments received during the 5/18/92 and 6/1/92 SEATAC meetings.
6/15/92	A Notice of Appeal was filed with the Court of Appeal of the State of California (Court of Appeal), Second Appellate District, Division Two by the City of Los Angeles, and the NVC that sought this court to review certain portions of the Final Judgment rendered by Judge Sohigian on 4/22/92.
7/1/92	Ultrasystems hand delivered to County Planning staff six copies of the *Responses to SEATAC Comments* document.
7/7/92	A notice of cross appeal was filed with the Court of Appeal by the County of Los Angeles and BFI, which sought this court to redress portions of the Writ issued by the trial court on 4/22/92.
7/10/92	Thirty copies of the *Addendum to the Final EIR for the Los Angeles County Board of Supervisors* (Addendum to the FEIR) dated May 1992 were sent by Ultrasystems to County Planning staff for distribution.
7/28/92	A public hearing was held before the Board of Supervisors. Approximately 1 hour of public testimony was given, and both Jack Michael and Tom Tidemanson spoke before the Board. The Board of Supervisors took action and approved the project.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
8/14/92-9/16/92	Judge Sohigian began hearing arguments from the City of Los Angeles, NVC, County of Los Angeles, and BFI on the Board-certified Addendum to the FEIR and other environmental actions taken by the County to bring the determinations, findings, and decision into compliance with CEQA and the State CEQA Guidelines. The trial culminated on this matter on 9/16/92.
10/30/92	Judge Sohigian issued a ruling on the environmental document Addendum to FEIR and compliance with the Writ of Mandate. The trial court mandated the following: 1. the County vacate the certification and adoption of the FEIR, and 2. the County recirculate for public review and comment information pertaining to three separate matters prior to future County approvals by the Regional Planning Commission and the Board of Supervisors. The three matters included • comments made by Hal Bernson and responses to BFI's operational compliance record at the City Landfill, • comments made by SEATAC regarding the project and the responses prepared by County Planning staff, and • the potential environmental impacts of a City-use restriction, which would preclude City-generated solid wastes from being accepted at the County Landfill.
12/29/92	A notice of appeal was filed with the Court of Appeal by the County and BFI regarding the trial court's ruling of 10/30/92.
1/19/93	A notice of cross appeal was filed with the Court of Appeal by the City and the NVC regarding the trial court's Ruling of 10/30/92.
1/27/93-4/21/93	Preparation of the *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* (Additional CEQA Document), April 1993, began by Ultrasystems, County Planning staff, and County Counsel.
4/20/93	Final comments were received by County Planning staff on the Additional CEQA Document and the Notice of Completion.
4/21/93	The Additional CEQA Document was sent by Ultrasystems via certified mail to federal, State, regional agencies, the Board of Supervisors, SEATAC members, County and City of Los Angeles departments, other cities and counties, interested organizations/groups, and public libraries.
4/23/93-6/15/93	The 45-day public and Agency review period commenced on the Additional CEQA Document.
5/27/93	A Notice of Public Hearing to be held before the Regional Planning Commission (7/14/93) was sent via regular mail to federal, State, regional, local agencies, organizations, interested parties, libraries, and property owners.
6/7/93	A Notice of Public Hearing was published in local area newspapers such as the *Signal* and the *Daily News*.
6/2/93-7/14/93	A Notice of Public Hearing was posted at the Sunshine Canyon Landfill entrance in compliance with County posting specifications.
7/6/93	Twenty copies of the two-volume set of the Responses to Comments Document and Appendices (June 1993) were sent via courier by Ultrasystems to County Planning staff for dissemination.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
7/14/93	A public hearing was held before the Regional Planning Commission. Public testimony was received from 30 commentators. The Commissioners closed the hearing to public testimony and scheduled 7/28/93 as the date for deliberation and possible action. Determination by County Planning staff and County Counsel to respond to written and verbal testimony presented before the Commission. An official transcript of the public hearing proceedings was incorporated into the *Responses to Comments Received During the Los Angeles County Regional Planning Commission Public Hearing (July 14, 1993) for the Sunshine Canyon Landfill Extension* (RPC Public Hearing Responses to Comments Document), Appendix D.
7/15/93-7/16/93	On behalf of the County Planning staff, Ultrasystems disseminated the Responses to Comments Document (June 16, 1993) to public agencies that commented on the Additional CEQA Document.
7/16/93-7/24/93	RPC Public Hearing Responses to Comments Document prepared by the project team.
7/22/93	Ultrasystems distributed to local public libraries the Responses to Comments Document (June 1993), Appendices, and the RPC Public Hearing Responses to Comments Document (July 1993).
7/22/93	Ultrasystems sent via courier the RPC Public Hearing Responses to Comments Document (July 1993) to those public agencies that submitted correspondence and were included in the Responses to Comments Document (June 1993). Ultrasystems delivered to the County Department of Regional Planning 15 copies of the *RPC Public Hearing Responses to Comments Document* for internal County distribution. Additionally, the Los Angeles City Attorney and all Regional Planning Commissioners received copies of this document.
7/24/93	Ultrasystems sent via Federal Express 15 copies of the RPC Public Hearing Responses to Comments Document to County Planning staff.
7/28/93	Public hearing held before the Regional Planning Commission. The Commission made the following determinations: 1. vacated certification of FEIR to correct deficiencies identified by Superior Court, 2. certified County had considered FEIR and all related documents were prepared in accordance with State and County CEQA Guidelines, 3. readopted Board Resolution (previously adopted on 2/19/91) regarding the amendments to Santa Clarita Valley Area Plan and County's General Plan, 4. reapproved CUP and Oak Tree Permit, and 5. readopted related project Findings and Conditions (previously adopted on 2/19/91).
7/29/93	Oral arguments were heard by the Court of Appeal on the consolidated appeals filed on behalf of the City of Los Angeles, the NVC, the County of Los Angeles, and BFI (July 7, 1992) to redress portions of the Final Judgment set forth by the trial court on April 22, 1992.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
8/4/93	The Regional Planning Commission took final action on the project, and the consent item was approved. The Commissioners recommended the following to the Board: 1. the Board adopt the General Plan Amendments and policy maps; 2. the Board provided SEATAC review any proposed future extension of the landfill; 3. the Board recommend Plan Amendments consistent with the balance of the County of Los Angeles General Plan; 4. the Board approve the FEIR, certifying compliance with CEQA, State CEQA Guidelines, and the County's Environmental Guidelines and approved the CUP Conditions of Project Approval and the mitigation measures; 5. the Board hold a public hearing to consider the Commission recommendations; and 6. the Board review CUP and Oak Tree Permit 86-312-(5) with the proposed General Plan Amendments.
9/18/93	A Notice of Public Hearing was posted at the Sunshine Canyon Landfill entrance for the Board of Supervisors Public Hearing on October 21, 1993. Posting of this notice and photographs taken of this notice complied with County specifications.
9/18/93	The Notice of Public Hearing before the Board of Supervisors for the Sunshine Canyon Landfill Extension was published in the *Daily News*.
9/20/93	The Notice of Public Hearing before the Board of Supervisors for the Sunshine Canyon Landfill Extension was published in the *Signal*.
9/20/93	County Planning staff (Richard Frazier) confirmed that the Executive Offices mailed copies (first class) of the Notice of Public Hearing before the Board of Supervisors for the Sunshine Canyon Landfill Extension to federal, State, regional, and local agencies; organizations; interested parties; libraries; and property owners as identified by Ultrasystems distribution list and property owners list.
10/21/93	County of Los Angeles Board of Supervisors public hearing held to consider the proposed Sunshine Canyon Landfill Extension project and certification of the FEIR. County Planning staff (Richard Frazier) described the proposed project to the Board. Both oral (approximately 30 speakers) and written testimony was received by the Board. The Board closed the public hearing and directed County Planning staff to prepare responses to address all environmental concerns raised at the hearing and to report on the negotiations between the City, County, and the NVC. Additionally, the Board requested the County Department of Public Works to investigate whether Orange County could take some of Los Angeles County's solid waste. No action was taken by the Board, and this matter was continued on 11/18/93.
10/25/93	The Court of Appeal of the State of California, Second Appellate District, Division Two, issued its decision regarding the appeals from the City/NVC and cross appeals from the County/BFI regarding the trial court Peremptory Writ of Mandate.
11/5/93	The Board of Supervisors Responses to Comments Document (November 1993) was delivered to Hal Bernson, City Councilman; Keith Pritzker, City of Los Angeles District Attorney's Office; Paula Boland, State Assemblywoman; and Buck McKean, Congressman.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
11/8/93	Thirty-five copies of the Board of Supervisors Responses to Comments Document (November 1993) were distributed by LPE&C (via courier) to County Planning staff (Richard Frazier) for distribution. Additional document distribution included local public libraries and other interested parties.
11/18/93	County of Los Angeles Board of Supervisors met to consider approval of the proposed Sunshine Canyon Landfill Extension Project and certification of the FEIR. Motion to prohibit certain types of hazardous and toxic wastes (i.e., incinerator ash, low-level radioactive wastes, biohazardous medical wastes, and sludge). Project was tentatively approved.
11/30/93	The proposed project was called for consideration by the County of Los Angeles Board of Supervisors as a consent item. The issue of Significant Ecological Area (SEA) removal as a result of project implementation was discussed. The Board approved the resolution relating to amendments to the Santa Clarita Valley Area Plan and the Land Use, Conservation., and Open Space and Public Facilities Elements of the County's General Plan, Compound Plan Amendment Case 90-2-(5), and Sub-Plan Amendment Case No. 86-312-(5). The Board also adopted findings, conditions, and order that relate to the CUP and Oak Tree Permit 86-312-(5).
12/1/93	County and BFI file a motion for discharge of the writ by the trial court.
12/6/93	The City of Los Angeles and the NVC filed a Petition for Review to the Court of Appeal Decision (10/30/93) to the Supreme Court.
12/9/93	The Notice of Determination and Notice of Exemption were filed with the County Clerk by LPE&C on behalf of County Planning staff. Statute of Limitations commenced on 12/9/93 and culminated on 1/8/94.
12/20/93	The County and BFI requested that their appeal (filed on 12/29/92) be dismissed by the Court of Appeal. The Court of Appeal granted the County's motion to dismiss its second appeal.
12/22/93	Oral arguments were heard before the Court of Appeal regarding the cross appeal filed by the City and the NVC (1/19/93) regarding two aspects of the trial court's ruling of 10/30/92.
12/23/93	The County and BFI filed a motion to oppose the City and the NVC Petition for Review before the California Supreme Court.
12/27/93	Hearing held before the trial court (Judge O'Brien) concerning compliance with the writ issued by the trial court on 4/22/92.
12/28/93	Trial court issued ruling on motion for discharge of writ. Court denied motion without prejudice to refile the motion once the Court of Appeal matters were resolved (rule on the second appeal).

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
1/10/94	The City and NVC filed a Supplemental Petition for the Writ of Mandate to the trial court.
1/19/94	Petitioner Mariscal filed a petition for Writ of Mandate, challenging the County's approval of the project (11/30/93) and claiming that the FEIR should have been translated into the Spanish language.
2/8/94	Trial court denied the City's motion to receive compensation for attorney's fees.
2/14/94	The California Supreme Court denied the City and the NVC's Petition for Review of the Court of Appeal Decision (10/30/93).
2/14/94	The County and BFI filed a motion to strike and demurrer to the City and the NVC's Supplemental Petition for the Writ of Mandate to the trial court. A subsequent hearing before the trial court was scheduled for 3/18/94.
2/18/94	The County and BFI filed demurrer to the Mariscal Writ Petition (1/19/94). A subsequent hearing before the trial court was scheduled for 3/28/94. The Court of Appeal issued decision on cross appeal filed by the NVC and City after the trial court issued the Writ of Mandate. This decision upheld the trial court's ruling that 1. the trial court had jurisdiction to entertain respondents' return and motion to discharge the writ, and 2. the public hearing and the Regional Planning Commission's reconsideration of the Oak Tree Permit and CUP may be restricted to those issues requiring recirculation (see 10/30/92 ruling).
3/11/94	The County and BFI filed renewed motion to discharge the writ. Hearing scheduled for 4/13/94.
3/18/94	Trial court granted County and BFI's motion to strike the City and the NVC's Supplemental Petition on the grounds that they failed to seek leave of the Court to file the Supplemental Petition.
3/28/94	Trial court sustained demurrer to Mariscal Writ Petition. Mariscal given 20 days to file amended petition.
3/29/94	City and NVC filed motion for leave of court to file first amended supplemental petition. Hearing scheduled for 4/13/94.
4/29/94	Trial court enters orders and motion for leave to file supplemental petition and discharging of the writ.
4/30/04	NVC files second lawsuit, asserting same claims as alleged in supplemental petition.
6/10/94	Court of Appeal denies NVC/City's request for an appellate stay pending resolution of their appeal of Judge O'Brien's orders.
6/26/94	City Department of Building and Safety issued an Order to Comply to discontinue the use of a private road across that portion of Sunshine Canyon.
6/27/94	Judge Diane Wayne issued temporary stay against project in NVC's second lawsuit.
7/8/94	BFI files an appeal pursuant to the City's issuance of an Order to Comply.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
7/12/94	Trial court grants leave to City to intervene as pending petitioners in second lawsuit. Trial court continues stay pending final hearing on merit on 8/4/94.
7/18/94	Trial court modified stay to allow BFI to remove felled oak trees.
8/4/94	Trial court denies City/NVC petitions for Writ of Mandate regarding SEATAC.
8/22/94	Trial court enters final form of judgment and issues 1-day stay to allow City/NVC to appeal and seek stay from the Court of Appeal with Petition for Writ of Supersedeas.
8/23/94	The City and the NVC file an appeal that triggers an additional 20-day stay on the project.
8/26/94	The City and NVC file a Petition for Writ of Supersedeas.
9/2/94	Court of Appeal denies Petition for Writ of Supersedeas. Development of the Sunshine Canyon Landfill proceeds.
9/8/94	Zoning Administrator denied an appeal from an action of the Department of Building and Safety. Representatives from BFI, NVC, and Waste Management Corporation spoke at the City Board of Zoning Appeals hearing on this matter.
9/15/94	Zoning and Subdivision application, Initial Study, and Burden of Proof filed with the County to amend CUP 86-312-(5), Condition 10(d), to remove the City Use Restriction. CUP case number 94-128-(5) assigned.
9/19/94	County Planning receives vicinity maps and ownership list for the zoning and subdivision filing.
9/22/94	BFI appeals Zoning Administrator's decision to the Board of Zoning Appeals.
10/7/94	Master Land Use Permit Application filed with the City (variance for use of the access road) and fees paid. Case No. ZA 94-0753(ZA) assigned. Variance for 1. the use and maintenance of an existing road for landfill related uses, and 2. the construction, use, and maintenance of a future realignment of the access road.
10/20/94	Trial court (Sacramento County) denied Petition for Writ of Mandate regarding Waste Discharge Requirements.
10/25/94	Settlement agreement executed between the City and County of Los Angeles and BFI.
10/26/94	Subsequent to execution of the settlement agreement, the City filed a request for the dismissal of its attorneys' fee appeal.
11/6/94	Zone variance notice for the City posted onsite.
11/8/94	City Board of Zoning Appeals denied BFI's appeal regarding use of the access road for construction purposes.
11/10/94	Received Public Hearing Notice from County regarding the CUP 94-128-(5).

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
11/21/94	Public hearing on the variance for the access road held at the Sherman Oaks Woman's Club before Associate Zoning Administrator.
12/9/94	An affidavit along with photographs were sent by Ultrasystems to County Department of Regional Planning that indicated that the Public Hearing Notice signs for the CUP amendment were posted at the Sunshine Canyon Landfill entrance in compliance with County specifications for posting of hearing notices.
1/6/95	City Zoning Administrator issued variance to permit the use of the access roadway.
1/11/95	Public hearing before the County Regional Planning Commission regarding CUP No. 94128-(5) and deletion of Condition (d) from CUP 86-312-(5), which restricts disposal of waste from the City of Los Angeles at the Sunshine Canyon Landfill. The Commission closed public hearing and instructed County Planning staff to prepare findings and conditions of the request.
1/20/95	NVC filed an appeal to the City regarding the variance to permit the use of the access roadway. The appeal, BZA Case No. 5077/ZA Case No. 94-0753-ZV, was scheduled for hearing before the Board of Zoning Appeals on February 28, 1995.
2/1/95	County Regional Planning Commission approved findings and conditions regarding the deletion of Condition 10(d) from the CUP.
2/7/95	Court denies the City and NVC's appeal in its entirety.
2/21/95	NVC files an appeal with respect to the County Regional Planning Commission's approval on 2/1/95.
2/28/95	City Board of Zoning Appeals meets to consider an appeal filed by the NVC (1/20/95) regarding the Zoning Administrator's approval of a grant for the access road issued on 1/6/95. The City Board of Zoning Appeals reverses the Zoning Administrator's decision of 1/16/95.
3/15/95	City Council declines to call up for review decision (2/28/95) made by the Board of Zoning Appeals.
4/5/95	The City Board of Zoning Appeals issues written decision in support of its 2/28/95 decision.
4/14/95	An affidavit along with photographs were sent by Ultrasystems to the County Board of Supervisors (Executive Officer) that indicated that the Public Hearing Notice signs for the CUP amendment were posted at the Sunshine Canyon Landfill entrance.
4/24/95	BFI files a claim against the City for $400 million in damages due to the City's denial of the access road to the Sunshine Canyon Landfill Extension.
5/5/95	Public hearing before the Board of Supervisors regarding CUP No. 94-128-(5), which is the deletion of Condition 10 (d) from CUP 86-312-(5), restricting disposal of waste from the City of Los Angeles at the Sunshine Canyon Landfill Extension. The Board considered the environmental impacts associated with this project and decided to postpone this matter on June 6, 1995.
6/8/95	NVC's appeal regarding the approval by the County Regional Planning Commission on 2/1/95 concerning modification of CUP was scheduled before the Board of Supervisors. This matter was continued until 10/5/95.

CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
6/8/95	Public hearing before the Board of Supervisors regarding the proposed dedication of access road property to the County for assured access to the Sunshine Canyon Landfill Extension. This matter was continued on 6/20/95.
6/20/95	Public hearing before the Board of Supervisors regarding proposed dedication of property to the County for assured access to the Sunshine Canyon Landfill Extension. Board instructs County Counsel to draft an appropriate dedication agreement and other documents needed for the proposed dedication of the access road to the County. The Board decided not to render its final decision on proposed dedication of the access road until after 10/5/95.
6/30/95	BFI files a Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief in Superior Court against the City of Los Angeles.
10/5/95	Board of Supervisors continues hearings on dedication of the access road on 12/7/95.
12/7/95	De novo hearing (continued from meetings on 5/4/95 and 6/8/95) before the Board of Supervisors regarding CUP 94-128-(5) and possible action regarding the access road (continued from meeting on 10/5/95) were postponed until 01/11/96.
1/11/96	De novo hearing on CUP 94-128-(5); certification of the FEIR to amend CUP 86-312-(5) by deleting Condition 10(d), which restricts disposal of waste from the City at the County Landfill; and appeal from Regional Planning Commission approval (5/4/95 and 6/8/95). The Board of Supervisors votes unanimously to deny the NVC's appeal and to confirm the Regional Planning Commission's decision to modify the CUP, subject to appropriate findings. County Counsel is requested by the Board to prepare such findings. Pursuant to BFI's withdrawal of its proposal for dedication of the access road property, no action by the Board was taken on that issue.
1/12/96	BFI requests dismissal of pending lawsuit against the City.
3/6/96	Application for grading permit and grading certificate filed with the Department of Building and Safety.
3/11/96	"B" permit issued by City of Los Angeles Department of Building and Safety for landfill entrance and San Fernando Road improvements.
3/26/96	Soils and hydrology report(s) submitted as part of request for grading plan check and haul route approval.
5/14/96	Board of Building and Safety Commission holds a public hearing on the haul route application. Approval granted to import 11,700 cubic yards of subbase material for improving and resurfacing of the existing access road (Board File 960295).
5/21/96	Grading permit issued (96LA51438) for road and appurtenant drainage facilities by the Department of Building and Safety.
5/24/96	Appeal filed by NVC on the Commissioners' 5/14/96 action.
6/5/96	Sunshine Canyon Landfill Extension Compliance Committee meeting to review and verify materials submitted by BFI. Materials were required prior to the commencement of landfill development activities.
6/14/96	Trial court denies NVC's lawsuit against the settlement agreement and access road.

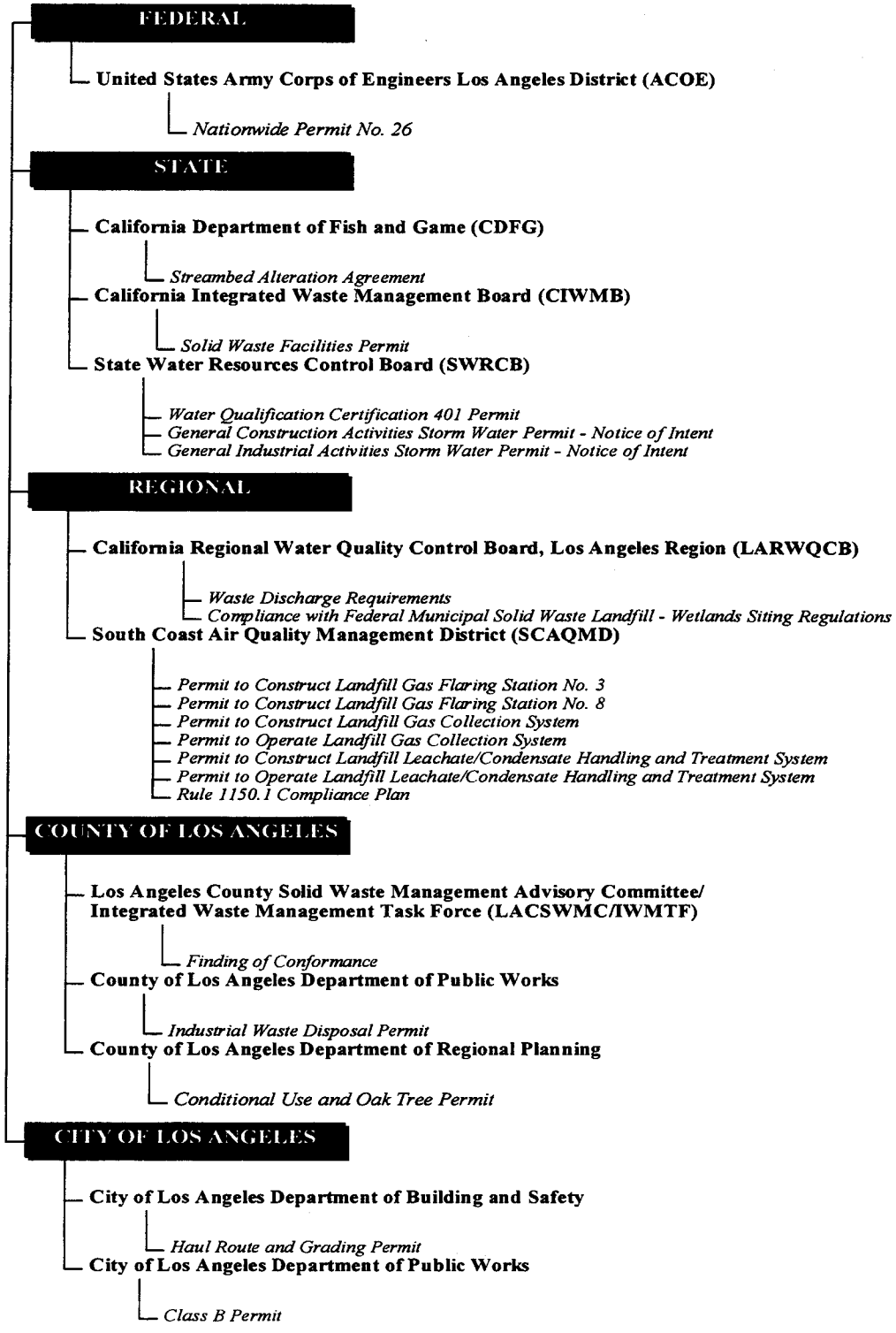
CHRONOLOGY OF THE ENVIRONMENTAL PROCESS, INCLUDING LITIGATION (Cont.)

DATE	KEY MILESTONES
6/18/96	Recommendation to City Council that they deny the appeal filed by the NVC and sustain the action of the Board of Commissioners.
7/3/96	Judgment entered regarding the trial court's decision on 6/14/96.
8/5/96	Sunshine Canyon Landfill Extension (or County Landfill) is opened for a 2-week period to City of Los Angeles waste hauling vehicles only.
8/19/96	County Landfill is opened to BFI customers and the general public.

SUNSHINE CANYON LANDFILL EXTENSION REGULATORY PERMITS

	ENVIRONMENTAL TOPICAL ISSUES																
	Air Quality	Biological Resources	Circulation (On-site)	Earth Resources	Grading	Groundwater	Habitat Replacement	Land Use	Noise	Oak Trees	Odors	Risk of Upset	Seismic	Surface Water	Transportation	Utilities/Services	Wetlands
FEDERAL																	
United States Army Corps of Engineers (ACOE) Los Angeles District																	
Nationwide Permit No. 26		●		●	●	●	●							●			●
STATE																	
California Department of Fish and Game (CDFG)																	
Streambed Alteration Agreement		●		●	●	●	●			●				●			●
California Integrated Waste Management Board (CIWMB)																	
Solid Waste Facilities Permit	●		●	●	●	●		●	●		●	●	●	●	●	●	
State Water Resources Control Board (SWRCB)																	
Water Quality Certification 401 Permit		●		●	●	●	●			●				●			●
General Construction Activities Storm Water Permit				●	●									●			
General Industrial Activities Storm Water Permit				●	●									●			
REGIONAL																	
California Regional Water Quality Control Board, Los Angeles Region (LARWQCB)																	
Waste Discharge Requirements		●	●	●	●	●		●	●	●		●	●	●	●	●	
Compliance with Federal Municipal Solid Waste Landfill Wetlands Siting Regulations		●		●	●		●										●
South Coast Air Quality Management District (SCAQMD)																	
Permit to Construct Landfill Gas Flaring Station No. 3	●				●						●	●					
Permit to Construct Landfill Gas Flaring Station No. 8	●				●						●	●					
Permit to Construct a Landfill Gas Collection System	●				●						●	●					
Permit to Operate a Landfill Gas Collection System	●										●	●					
Permit to Construct a Landfill Leachate/Condensate Handling and Treatment System	●				●							●					
Permit to Operate a Landfill Leachate/Condensate Handling and Treatment System	●											●					
Rule 1150.1 Compliance Plan	●										●	●					
COUNTY LOS ANGELES																	
Los Angeles County Solid Waste Management Advisory Committee/Integrated Waste Management Task Force (LACSWMC/IWMTF)																	
Finding of Conformance								●								●	
County of Los Angeles Department of Public Works																	
Industrial Waste Disposal Permit				●	●								●				
County of Los Angeles Department of Regional Planning																	
Conditional Use and Oak Tree Permit	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
CITY LOS ANGELES																	
City of Los Angeles Department of Building and Safety																	
Haul Route and Grading Permit					●			●								●	
City of Los Angeles Department of Public Works																	
Class B Permit			●		●			●								●	

SUNSHINE CANYON LANDFILL EXTENSION
REGULATORY PERMITS



Appendix C5
PRIOR OPERATIONAL HISTORY OF THE EXISTING INACTIVE LANDFILL

PRIOR OPERATIONAL HISTORY OF THE EXISTING INACTIVE LANDFILL

The following information presents a summary of the operational history; specifically, the issues pertaining to zoning violations at the existing inactive City Landfill (this landfill's zone variance expired on September 21, 1991 and the landfill is currently in the process of closure and postclosure maintenance and monitoring) and Browning-Ferris Industries of California, Inc. (i.e., project proponent) compliance with the City zoning variance conditions imposed at this landfill when it was operational.

Historical Background Pertaining to the Zone Variance of the Existing Landfill

Based on decisions reached by City Zoning Administrator John Parker in September 1988, City Board of Zoning Appeals (BZA) in December 1988, and the City Council in July 1989 the following determinations were made: that certain conditions of the zone variance previously approved by the City were violated by project proponent; certain conditions regarding the continued City Landfill operations; and the project proponent had taken curative actions such as filing an application for modifying the existing zoning variance.

The City Zoning Administrator, the Board of Zoning Appeals, and the City Council determined that a number of complaints were raised in proceedings which were not factually supported. City departments determined that allegations regarding adverse health impacts, water contamination, and improper acceptance of toxic waste were factually unproven. (Refer to *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension,* Appendix C, September 1988 Decision by Zoning Administrator, pp. 61 and 62, April 1993.) At that time, the violations discovered by the City did not cause a revocation of BFI's extant zoning variance. Copies of both the City Zoning Administrator's, the Board of Appeals' and the City Council's respective decisions, which include lengthy recitations of the participants' respective positions, are included within the environmental document entitled *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* (Appendix C).

Conditions that had been violated pertained to rubbish and street litter, dust, and landfilling activities beyond certain boundary and height limitations.[1] In regard to the violation involving rubbish and street litter, the Zoning Administrator indicated that high winds prevail in this area of Sunshine Canyon and that rubbish blowing from the landfill was related to those conditions, but that this problem was not a major problem (Refer to *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension*, Appendix C, September 1988 Decision by Zoning Administrator, p. 60, April 1993.) The Zoning Administrator also concluded that back in 1988, street litter was an issue that had already been satisfactorily resolved by the landfill operator (Ibid, p. 62). As discussed in Section 2.4.3.3, p. 2-9, of the *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension,* representatives of other regulatory agencies testified that the landfill operator implemented protection measures that adequately addressed these prior problems.

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[1]/ The City Zoning Administrator noted in his findings that complaints relating to odor and the covering of waste were "probably" valid complaints, but that any problems involving these matters had been resolved prior to the initial proceeding before the Administrator in September 1988.

Similarly, with respect to the issue of dust, the landfill operator took curative actions, which included the application of refined surface soil treatments and the implementation of a transport abatement plan. (Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 2.2, Topical Response 17, p. 43 and Section 4.0, Response 835, p. 466, July 13, 1990.) Additionally, representatives from various regulatory agencies testified on behalf of the landfill operator that these control measures proved successful.

With regard to landfilling activities that had taken place beyond certain height and boundary limitations, there was an issue regarding finding the corrected measurements of those elevation limits provided in the original zoning variance. A number of persons who analyzed this issue on behalf of the City were of the opinion that the proper assessment of those limitations was difficult. For example, Mr. Robert Packard, the Engineer of Survey for the City of Los Angeles Bureau of Sanitation, expressed such an opinion; however, the Zoning Administrator continued to find violations with this issue. The landfill operator took corrective curative action such as applying for a grading permit to delineate boundary limitations. This issue was resolved by the City in October 1989.

- **Odors**

The South Coast Air Quality Management District (SCAQMD), which has jurisdiction over air quality matters (and regulates landfill odors), indicated at a public hearing held on January 21, 1987 that the existing landfill was not the source of odors which had caused complaints from adjacent residential areas. This agency concluded that established odor control procedures utilized at the landfill were effective in controlling refuse odors. Accordingly, no notices of violation were ever issued to the landfill operator by the SCAQMD for odors. (Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 4.0, Response 290, p. 241, July 13, 1990; and *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.7, Odor/Landfill Gas, p. 186, April 1989.)

Generally, the primary odors detected in the general vicinity around the Sunshine Canyon area were caused by natural sulfur compounds found in this watershed. Sulfur compounds from the adjacent watershed area are naturally released into the air when groundwater reaches the surface through natural seeps and springs. These natural seeps and springs are located north and west of the existing landfill, near Bee Canyon and O'Melveny Regional Park and adjacent to existing residential areas. In addition, both oil well and gas injection storage operations are located northerly of the existing residential areas, directly southwest of the existing landfill area. Another point source of odor, as identified by the SCAQMD, was from a local refinery, which has ceased operations. (Refer to *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.7, Odor/Landfill Gas, p. 187, April 1989; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 2.2, Topical Response 20, p. 47; and Section 4.0, North Valley Coalition [NVC] Comments, Response 291, p. 241, July 13, 1990; and *FEIR, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.7, Air Quality/Landfill Gas, p. 44, February 1991.)

It is recognized by the landfill operator that decomposing waste generates landfill gas. Accordingly, the landfill operator installed a landfill gas collection system in 1981, prior to any legal requirements to do so. Since that initial installation, the landfill operator has subsequently installed a larger, permanent system in 1988, to comply with current SCAQMD rules and regulations.

- **Dust**

When in operation, dust suppression methods utilized within the landfill site area, included the use of additional watering trucks to reduce fugitive dust emissions from roadways, waste disposal operations, and excavating and grading activities. Additional site operational measures included the employment of hydro-mulching on inactive slope areas and the implementation of temporary revegetation of the landfill surface. (Refer to *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.6, Air Quality, pp. 178 through 180, April 1989; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 2.2, Topical Response 15, pp. 37 through 40, and Topical Response 17, pp. 42 through 44, July 13, 1990.) During 1988, the landfill operator implemented additional dust control procedures (such as the use of a soil sealant) to minimize fugitive dust migration from areas of the landfill activities. (Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 5.0, Other Comments from Citizens, Agencies and Organizations, Response 835, p. 466, July 13, 1990.)

In response to the proceedings of the City Zoning Administrator in September 1988, the Zoning Administrator imposed additional dust control mitigation measures for the existing landfill. The landfill operator complied with that directive by adopting a refined surface soil and transport abatement plan. (Refer to *FEIR, Sunshine Canyon Landfill Extension, Response to Comments*, Volume A, Section 2.2, Topical Response 17, p. 43 and Section 4.0, Response 835, p. 466, July 13, 1990.)

As evidence of these procedures implemented by the landfill operator a member of the City's Local Enforcement Agency (Ms. Penny Weiand of the Enforcement Division of the Bureau of Sanitation) made the following verbal comments before the County Planning Commission on October 4, 1989:

> "On BFI's part, they have gone above and beyond what the Bureau has required to further reduce off-site litter and dust. Now, they have installed a 65-foot [25-foot] permanent litter net which runs along the southern boundary. They control the dust on the final side slopes and surfaces by using a soil sealant that they apply, and this has been successful in eliminating any dust in winds as high as 100 miles per hour."

(Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume B, Section 6.0(A), Regional Planning Commission Hearings Verbal Comments, p. 69 and p. 70, July 1990; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 2.2, Topical Response 17, p. 42 and p. 43; Section 4.0, North Valley Coalition [NVC], Comments, Response 132, p. 158 and p. 159, Response 135, p. 161 and Response 683, p. 371; and Section 5.0, Other Comments From Citizens, Agencies and Organizations, Response 825, p. 461, July 13, 1990.)

After these methods had been implemented, the landfill operator did receive two violations (dust-related) from the SCAQMD relating to operations at the existing landfill. These violations occurred on non-operating days at the landfill site. No other violation notices were issued by the SCAQMD in regard to this matter.

- **Litter**

Extensive litter control measures were implemented at the City Landfill to control windblown litter and debris. These measures included the use of portable litter fences adjacent to the active working face, and the installation of a 25-foot secondary netting fence along the southern boundary of the landfill's perimeter. This netting fence was installed in 1989. Additionally, during high wind periods, the landfill operator implemented a designated wind-shielded working face area. (Refer to *FEIR, Sunshine Canyon Landfill*

Extension, Responses to Comments, Volume A, Section 2.2, Topical Response 23, p. 50; and Section 4.0, North Valley Coalition [NVC] Comments, Response 134, p., 160 July 13, 1990; *FEIR, Sunshine Canyon Landfill Extension*, Volume IIB, Appendix Y, Litter Control Program, April 1989; and updated in *FEIR, Sunshine Canyon Landfill Extension*, Volume III, July 1989.)

As stated by Ms. Penny Weiand of the City Bureau of Sanitation at that time,

> "BFI was ordered by our staff in January and April of '87 to make some additional corrective measures such as purchasing water trucks, landscaping of the final slopes, expansion of their litter pick-up program to include residential community and the park area . . . With the exception of the landscaping, other requirements were completed in June of 1987." (Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume B (July 1990), Section 6.0(A), Regional Planning Commission Hearings Verbal Comments, p. 69.)

In addition, BFI expanded its daily litter clean-up program for the residential areas surrounding the landfill, as well as open space and park areas. These litter control measures proved effective. Mr. Charles Coffee, Program Director of the Department of Solid Waste Management, County of Los Angeles Department of Health Services (the co-local enforcement agency for the landfill, but not with respect to zoning compliance issues) addressed litter control at the County Planning Commission hearing on October 4, 1989. At that hearing, Mr. Coffee stated that,

> "for the period from March 31, 1981 . . . to now, we have made 320 inspections — 327 inspections for the facility. During those inspections, we have not found any violations of permit standards. We did note that there were on eight occasions violations of some of the statement of standards. On six occasions the violations involved litter and/or dust." He further stated that "in reviewing our complaint file, I found that during the period January 27, 1984 through August 6, 1987, we received two litter complaints from the public, and in each instance the litter was cleaned up immediately after following notification of the landfill operator . . . Our file shows we have not received any complaints regarding the landfill in the last two years."

(Refer to *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume B, Section 6.0(A), Regional Planning Commission Hearings Verbal Comments, p. 73 and p. 74, July 1990; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 6.0, Regional Planning Commission Hearing Verbal Comments, Response 1026, p. 622, July 1990; and *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Section 1.3.7, Dust Suppression and Litter Control, p. 51, April 1989.)

- **Aesthetics, Visual Pollution and the Berm**

The southern berm of the existing landfill is the only portion of that landfill visible from the residential area of Granada Hills. At one time, this area was the closest portion of the top operating plateau overlooking residential areas of Granada Hills (estimated distance at approximately 1,600 feet away). The landfill operations directly behind the berm area were completed in 1988. (Refer to *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Section 2.0, Description of Environmental Setting, pp. 74 through 78; Section 3.2.9, Noise, p. 214; and Section 3.2.10, Visual, pp. 228 through 229 April 1989; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 4.0 North Valley Coalition (NVC) Comments, Response 34, p. 98, July 13, 1990; and the *Additional Information and Analysis Regarding the*

Environmental Impact Report for the Sunshine Canyon Landfill Extension, Section 2.4.3.4, Aesthetics, Visual Pollution and the Berm, pp. 2-10 and 2-11, April 1993.)

Beginning in May 1988, a tree planting program was voluntarily implemented by the landfill operator to enhance the aesthetics of this berm area. Native and non-native trees were planted within the berm area, adjacent ridgelines and in the 100.00 ± open-space, buffer area, located south of the existing landfill to provide visual enhancement to the residential neighborhood of Granada Hills. A variety of plant species were planted within the buffer area. Over 10,900 trees and shrubs have been planted as part of this program, including over 1,367 coast live oak trees. Many of these trees currently exceed 15 feet in height. The trees planted in the buffer zone provide visual enhancement to the existing perimeter ridgelines and block the line-of-site views from the existing residential neighborhoods, which are located at a lower elevation and directly south of the landfill. (Refer to *FEIR, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.4 Biota [Flora/Fauna], p. 28, February 1991; *FEIR, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Section 2.2, Topical Response 15, pp. 37 through 40; and Section 4.0, North Valley Coalition [NVC] Comments, Response 53, p. 109 and Response 150, p. 167, July 13, 1990.)

Information Pertaining to Imposed Zone Variance Conditions

When the Sunshine Canyon Landfill facility closed on September 21, 1991, the City Zoning Administrator (ZA) found that certain variance conditions were still enforceable, even though the landfill was closed. BFI contested this decision by the ZA and appealed to the Board of Zoning Appeals (BZA). This appeal was heard by the BZA on November 12, 1991. In its determination dated December 19, 1991, the BZA upheld the ZA's decision to impose and enforce some of the conditions of the zoning variance.

BFI was never been found to be in violation of the following zoning variance conditions and the City has never given notice to BFI that these conditions have been violated:

- **Condition No. 6**: Possible relocation of entrance roadway

  This condition was not a condition of the zoning variance under which the City Landfill operated. The condition states that certain specifications will apply if the entrance and entrance roadway are relocated as a result of building the sedimentation basin. No relocation has taken place.

- **Condition No. 7**: City Oak Tree Ordinance

  BFI has never been found by the City ZA to be in violation of any of the regulations of the Oak Tree Ordinance, and the City has given BFI no notice or indication that this condition has been violated.

- **Condition No. 9**: Boundaries

  There have been no violations of this condition since its imposition in 1989, and the City has given BFI no notice or indication that this condition has been violated.

- **Condition No. 13**: Aerial photograph

  The aerial photograph condition was not found by the City ZA to have been violated during the 1988 zoning revocation proceedings. This condition was imposed in 1991.

- **Condition No. 14**: Operator inability to comply

  BFI intends to comply with this condition if the stated circumstances occur.

BFI is coordinating its compliance with the following zoning variance conditions with its Closure and Postclosure Maintenance Plan, which is currently under review by the City:

- **Condition No. 2**: Condition of premises and parks and recreation

  Once the closure and postclosure period has expired (approximately 30-years), a letter could be sent to appropriate agencies within the City notifying them that the property may be available for recreational purposes. The landfill premises will be left in a neat and orderly manner following closure.

- **Condition No. 4**: Final contour plans

  Proposed final contour plans were submitted to the City ZA and additional final contour plans have been submitted as part of this landfill's Closure and Postclosure Maintenance Plan.

- **Condition No. 5**: Water tanks and litter fence

  On-site improvements such as water tanks and litter fences are visible to the surrounding vicinity. The request for approval to perform stream enhancement work was initiated by BFI and, although approved by the City ZA, the work was not a condition of the zoning variance under which the City Landfill operated and no work has been performed to date.

- **Condition No. 8**: Survey

  The variance boundary survey will be accomplished during the closure approval process after additional survey monument requirements, if any, are identified by appropriate regulatory agencies.

- **Condition No. 11**: Proposed sedimentation basin

  BFI has not violated this condition, since the building of the sedimentation basin is not a condition of the zoning variance, and this condition states that "should the applicant proceed with construction of the sedimentation basin" certain specifications and regulations must be met. BFI is working with the City's LEA, the City ZA, the CIWMB, and other appropriate regulatory agencies to coordinate the installation of the sedimentation basin required for closure.

- **Condition No. 12**: Removal of structures

  Facilities necessary for closure and postclosure purposes will remain at the Sunshine Canyon Landfill site. BFI sent a map depicting these necessary facilities to the City ZA for approval in November 1991, and to date there has been no indication from this department which facilities will remain. In addition, approval of the Closure and Postclosure Maintenance Plan has been delayed for numerous reasons, including the change in the City's LEA. Those on-site facilities which are deemed unnecessary by the City LEA will be removed as soon as the Closure and Postclosure Maintenance Plan is approved by the CIWMB.

The following three conditions were found to be violated during the 1988 City zoning variance revocation proceedings.

- **Condition No. 1**: Vertical height of landfill operations

- **Condition No. 10**: Elevations

  In 1991, the City ZA found that BFI had failed to expressly seek approval to operate within less than 50 vertical feet of an existing ridge for this use. However, since BFI believed that the prior approval had been given as part of a previous action, the BZA found that there was no intention on the part of BFI to violate the condition.

- **Condition No. 3**: Setback requirements

  The Bureau of Sanitation issued a violation in 1990 for landfilling operations within the 600 foot setback area. However, the City ZA concluded that the violation was isolated "considering BFI's overall compliance with conditions and regulations since July, 1989," and that it "was inadvertent and minor, inasmuch as no actual detriment occurred to surrounding properties." No further violation of this condition has occurred, and BFI has not receive notice or indication that this condition has been violated.

BFI is currently engaged in discussions with the City to confirm compliance with this following condition:

- **Condition No. 15**: City inspections

  BFI believes that the fees paid to the City LEA satisfy this condition. Discussions with the City are taking place to confirm this fact.

Conclusion

In conclusion, during the course of the existing Sunshine Canyon landfill's thirty-three year operational history many environmental issues were raised. Also, during BFI's ownership of this facility (1978–present) issues involving regulatory concerns have been addressed. Many programs and procedures that were implemented by the BFI in direct response to concerns or issues raised by the City still occur at this landfill facility. As a matter of prior history, the both the County Regional Planning Commission and the Board of Supervisors during their public hearing and deliberations on the FEIR considered BFI operational history and performance record prior to taking formal action on the County Landfill project. Further, the County also carefully analyzed the connection between BFI's prior compliance record of the Sunshine Canyon Landfill and the future compliance with regulations imposed by regulatory agencies regarding the County Landfill and the adopted conditions of project approval.

For a further discussion of this subject matter, the reader should reference the *Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension*, Section 2.4.1 Introduction, pp. 2-5 through 2.11, April 1993; and the *Responses to Comments on the Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension*, Response 9, pp. 2-5 through 2-9, June 1993.

Appendix C6
COUNTY LANDFILL, FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, AND CONDITIONS OF PROJECT APPROVAL

ATTACHMENT "A"

FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT, SUNSHINE CANYON LANDFILL EXTENSION (STATE CLEARINGHOUSE NO. 89071210, Previous No. 84082908)

(Conditional Use Permit and Oak Tree Permit 86-312-5)

NOVEMBER 1993

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FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT, SUNSHINE CANYON LANDFILL EXTENSION (STATE CLEARINGHOUSE NO. 89071210, Previous No. 84082908)

(Conditional Use Permit and Oak Tree Permit 86-312-5)

The Los Angeles County Board of Supervisors ("Board of Supervisors") hereby certifies that the Sunshine Canyon Landfill Extension Final Environmental Impact Report, State Clearinghouse No 89071210, (which consists of Volume I - the Draft EIR dated April, 1989; Volumes IIA and IIB - Appendices to the Draft EIR; Volume III - Responses to County Agency Comments dated July 1989; Volumes A and B - Responses to Public Review Comments dated July 13, 1990; the Final Environmental Impact Report dated October, 1990, as EIR/Comments Received and Responses dated February, 1991; the Addendum To Final Environmental Impact Report for the Los Angeles County Board of Supervisors dated May 1992 (the "May 1992 Addendum"); the Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension dated April 1993 (the "April 1993 Additional CEQA Document"); Comments on the Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension dated June 1993 (the "June 1993 Responses to Comments Document"); the Responses To Comments Received During The Los Angeles County Regional Planning Commission Public Hearing (July 14, 1993) For The Sunshine Canyon Landfill Extension dated July 1993 (the "July 1993 Responses to Comments"); and the Responses to Comments on the Sunshine Canyon Landfill Extension for the County of Los Angeles Board of Supervisors dated November 1993 (the "November 1993 Responses to Comments") (collectively referred to herein as the "FEIR") has been completed in compliance with the California Environmental Quality Act ("CEQA"), the State CEQA Guidelines and the County's Environmental Guidelines; and that the Board of Supervisors has received, reviewed and considered the information contained in the FEIR, the requested Conditional Use and Oak Tree Permit, all hearings, and submissions of testimony from officials of the County of Los Angeles, County departments, the Permittee (as defined below), the public and other municipalities and agencies.

Having received, reviewed and considered the foregoing information, as well as any and all other information in the record, the Board Of Supervisors hereby makes findings pursuant to and in accordance with Section 21081.6 of the Public Resources Code as follows:

BACKGROUND

Since 1978, Browning-Ferris Industries of California, Inc. (the "Permittee") has operated an approximately 230-acre landfill in the southwest portion of Sunshine Canyon, within the jurisdiction of the City of Los Angeles (the "City"), under a zoning variance

granted by the City in 1966. Landfilling at this location dates back to 1958. That landfill closed in September 1991 due to the expiration of the zoning variance. For the more recent years before the scheduling of the close of the landfill, that landfill accepted an average of approximately 6,400 tons of refuse per day, representing approximately 15% of the County's then current disposal requirements.

The project site is located southwest of the intersection of the Antelope Freeway (State Route 14) and the Golden State Freeway (Interstate 5). Undeveloped mountainous terrain borders the site on the north and west. The Golden State Freeway shields the site from urban uses to the southeast. Aliso Canyon to the southwest, East Canyon to the west, and a 100-acre open space area to the south and southeast also shield the site from other land uses in the San Fernando Valley foothills. Directly south of the former landfill is O'Melveny Park.

Including that area already developed as a landfill within City territory, Permittee owns more or less 1528 acres of property straddling the boundary between the City and County of Los Angeles, 1034 acres located in the unincorporated area and the balance, approximately 494 acres, located in the City. The Sunshine Canyon Landfill is designated as a potential Class III landfill site in the County Solid Waste Management Plan and as a major planned extension of an existing landfill facility in the County Solid Waste Management Action Plan.

Various studies conducted by the City, the County of Los Angeles, and the County Sanitation Districts have analyzed the waste disposal crisis facing the County of Los Angeles. These studies have attempted to project the County's waste disposal capacity needs for the future and the amount of disposal capacity that may be available to satisfy those needs. These studies have been continually updated over time since the amount of waste generated and the amount of capacity may change over time. Assuming that pending litigation involving the renewal of the land use permits for the Puente Hills landfill facility does not prevent that facility from continuing to operate, the most recent studies indicate that a daily disposal capacity shortfall of over 6,000 tons is projected to occur by 1995. If the Puente Hills facility is forced to cease operations, a daily disposal capacity shortfall of almost 9,000 tons is projected to occur. (On September 14, 1993, a Los Angeles Superior Court issued a ruling that the certification of the EIR prepared for those renewed permits would be vacated on two different grounds, although the Court also ruled that that landfill may continue to operate for a certain period of time.) In response to such demand, Permittee has proposed extending the existing Sunshine Canyon landfill infrastructure further onto its Sunshine Canyon properties, crossing the boundary into unincorporated territory.

The Permittee's original project proposal (the "whole of the action" development) was for approximately 215 million tons of total fill capacity (the "Proposed Project"). The Proposed Project excluded fill in Bee and East Canyons and reduces the potential visual impacts by allowing the crest of the perimeter ridges of Sunshine Canyon to remain in their existing condition. The Permittee also proposed to dedicate and provide easements to approximately 507 acres of land located primarily in East Canyon with a smaller portion of the land in Sunshine Canyon, to the County to be retained as permanent open space. Permittee sought initial approval from the County for 70-million tons of fill within unincorporated territory.

THE ENVIRONMENTAL IMPACT REPORT

An Initial Study was prepared in July 1986, which identified potential environmental impacts attributable to the Proposed Project. These potential environmental impacts were (a) Geotechnical, (b) Flood, (c) Fire, (d) Noise, (e) Water Quality, (f) Air Quality, (g) Biota, (h) Cultural Resources, (i) Visual Resources, (j) Traffic/Access, (k) Utilities (Water Consumption), (1) General (Litter, Rodents, etc.), and (m) Environmental Safety (Hazardous Materials). As a result of the Initial Study, it was determined that the Proposed Project would not have a significant impact on other environmental factors since the potential impacts did not exceed threshold criteria for significant as established by the County of Los Angeles.

The FEIR identifies potential significant effects on the environment which may occur as a result of the landfill extension, and was focused through the Initial Study process (pursuant to Section 15063 of the State CEQA Guidelines) to address geology, hydrology, biota, archaeology/paleontology, air quality, odor/gas, traffic/circulation, noise, aesthetics, public utilities, fire service and hazardous materials.

As part of the environmental review process, the Draft EIR materials were made available for public comment and input well beyond the minimum set forth by State law. Specifically, the public review period commenced on July 19, 1989, when a notice of completion was sent to the State Clearinghouse. The official review period for State agencies was set from July 12, 1989 to August 25, 1989. A Publication Notice for the Draft EIR was published in local newspapers on July 19, 1989, and on July 25, 1989, a notice of availability was sent to property owners within a 1-mile radius of the project site and to known interested individuals and organizations. Copies of the Draft EIR were also made available at the Regional Planning Department and in four local public libraries. In addition, the Draft EIR was provided at no cost to many individuals, community groups and local agencies. Public hearings were held on October 4, 1989, November 2, 1989 and January 17, 1990. Oral comments were accepted until January 17,

1990 when the public hearings before the Regional Planning Commission were closed and written comments were accepted until February 2, 1990, when the public record was closed. Responses to these comments were then prepared, which were reviewed and revised by County Planning Staff and finalized on July 13, 1990. The EIR Responses to Comments (Volumes A & B) were distributed to the Planning Commission and the Board of Supervisors, local public libraries and interested organizations. The project was further discussed and deliberated on in public by the Planning Commission on July 25, 1990 and September 27, 1990. The Planning Department then prepared the Final EIR which was recommended for certification by the Regional Planning Commission to the Board of Supervisors on October 11, 1990. Subsequent to final action by the Planning Commission, the Final EIR was circulated to public agencies and organizations for a period of 65 days ending on December 15, 1990. A Notice of Availability for the Final EIR was also published and distributed. Written comments were received through this period and additional written and verbal comments were accepted at the public hearing before the Board of Supervisors on November 29, 1990 and until December 15, 1990. Responses to these comments were then prepared and finalized for the Board's consideration prior to final project approval on February 19, 1991.

After litigation ensued and certain orders were issued by a court, the May 1992 Addendum and the April 1993 Additional CEQA Document were prepared. The April 1993 Additional CEQA Document was circulated to the public for review and comment beginning on April 21, 1993 and ending 45 days later on or about June 5, 1993. Written responses to those comments were prepared under the direction of County Planning Staff, and those responses and comments are contained in the June 1993 Responses to Comments Document. A public hearing was held on July 14, 1993 by the Planning Commission, at which testimony from members of the public was received. Written responses to that testimony were then prepared, which are contained within the July 1993 Responses to Comments. The Planning Commission voted to approve the project on August 4, 1993 by a 4-1 vote.

A public hearing was held on October 21, 1993 by the Board of Supervisors, at which testimony from members of the public was received. Written responses to that testimony were then prepared, which are contained within the November 1993 Responses to Comments.

The Proposed Project would have disturbed approximately 706 acres of the 1528 acres owned by Permittee in Sunshine Canyon. It would have begun with an extension into unincorporated territory of the County of Los Angeles and would then have extended back into City territory, connecting the landfill within unincorporated territory with a new City landfill area to provide a total landfill waste capacity within the Sunshine Canyon extension of approximately 215 million tons, as depicted in the FEIR.

A number of potential alternatives to the Proposed Project were discussed in the FEIR, including (1) No project; (2) Alternate project locations; (3) Resource recovery systems, including materials recovery and recycling; (4) Smaller landfill operation containing approximately 180 million tons of waste capacity; (5) Landfill operations limited to the unincorporated Los Angeles County portion of Sunshine Canyon, yielding a total landfill capacity of approximately 70 million tons; and (6) other alternative landfill configurations.

The FEIR indicates that alternate project locations and resource recovery systems are not truly alternatives to the Proposed Project, but will be necessary to meet the demand for waste disposal capacity in addition to the extension at Sunshine Canyon.

The Board Of Supervisors has determined to approve the project as revised. The "Revised Project," permits an initial increment of fill, having a capacity of approximately 17 million tons, within the unincorporated area, substantially in conformance with that design depicted as Sequence 1, Drawing 3A in the Draft EIR (revised 2/4/91) ("Exhibit A"). The Revised Project provides that Permittee will seek approval from the City of Los Angeles and any other responsible agencies for an additional extension design that would include further landfill development within City territory, substantially in conformance with that design depicted on Sequence 2, Drawing 3A in the Draft EIR (revised 2/4/91) ("Exhibit A (Alternate)"). In the event that the City issues all necessary approvals for development of the landfill within City territory in conformance with Exhibit A (Alternate), Permittee shall be entitled automatically to proceed with landfilling operations within unincorporated territory in conformance with Exhibit A (Alternate), subject to additional provisions set forth in the Conditional Use and Oak Tree Permit. In the event that the City does not issue the necessary permits for development of a landfill in conformance with Exhibit A (Alternate), Permittee is limited to the landfill design depicted on Exhibit A and this permit shall terminate upon completion of the fill design depicted on Exhibit A.

The Revised Project was determined to be environmentally superior to the Proposed Project because it further reduces the environmental impacts as discussed herein. Those impacts that will be reduced by this Revised Project include effects on geology, groundwater, biota, air quality, odors, traffic, noise and views in the area. The Revised Project particularly reduces impacts on biota because the extension area within the City is already disturbed by the existing landfill operations and there are far fewer oak tress within the City territory than at the higher elevations in unincorporated territory, which would have been disturbed by the Proposed Project. The Revised Project will further achieve environmental mitigation equal to or in excess of the Proposed Project.

The EIR process analyzed both the impacts of a larger project and cumulative impacts and developed and identified a variety of mitigation measures which will minimize, reduce, avoid or compensate for the potential adverse effects of the Revised Project. All feasible measures have been adopted and incorporated into the conditions of approval of the Conditional Use and Oak Tree Permit. As discussed below, with the exception of potential impacts to biotic resources, FEIR mitigation measure will reduce the significant unavoidable environmental effects to a level of insignificance.

It is important to note that the intent of an EIR is to serve as an informational document and to show a good faith effort by providing a full public disclosure of the physical impacts a proposed project may have. Many comments were received regarding the Proposed Project and the analysis of the FEIR. Detailed responses to those comments have been embodied in the FEIR (Volumes A & B, the Final EIR/Comments Received and Responses, the June 1993 Responses to Comments Document, the July 1993 Responses to Comments, and the November 1993 Responses to Comments), and were considered in deciding to approve the Revised Project. The environmental documentation process emphasizes the need to discuss significant environmental impacts, mitigation measures, and alternatives.

Section 1 of these findings sets forth potential environmental effects of the Revised Project, an initial increment of a 215 acre landfill footprint within unincorporated territory of approximately 17 million tons of capacity and the potential for a City-County landfill with an expanded landfill capacity, if the City approves such landfilling, and it includes a comparison of such effects to those of the 215 million ton capacity Proposed Project. Section 1 addresses those effects that are not significant or which can feasibly be mitigated to a level of insignificance. Section 2 discusses the significant unavoidable environmental effects of the Revised Project which cannot be effectively mitigated to a level of insignificance. Section 3 discusses the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Section 4 discusses the growth-inducing impacts of the Revised Project. Section 5 provides findings regarding the alternatives to the Proposed Project discussed in the FEIR. Section 6 contains findings regarding the Mitigation Monitoring Program for the Revised Project, which is included as an attachment to the conditions of grant. Section 7 contains the Statement of Overriding Considerations and the Section 15091 Findings made by the Planning Commission are contained in Section 8. The findings set forth in each section are supported by facts established in the administrative record of the Revised Project.

To the extent that any of the conditions of approval of the Conditional Use and Oak Tree Permit conflict with any of the mitigation measures contained herein, the conditions of approval shall control.

SECTION 1.

POTENTIAL ENVIRONMENTAL EFFECTS WHICH ARE NOT SIGNIFICANT OR WHICH CAN BE MITIGATED TO A LEVEL OF INSIGNIFICANCE

The County has determined that FEIR mitigation measures and proposals included as part of the Revised Project will result in a substantial mitigation of the following effects and that these effects can feasibly be mitigated to a level of insignificance.

Geology

Effects of Revised Project: Less area of the geologic substructure would be disturbed. All other geologic effects will be relatively unchanged from those for the Proposed Project.

Remaining Potential Effect: Fill faces could become unstable during seismic activity if not properly constructed.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) Final designs for major engineered structures will be based on the results of the detailed stability analysis of potential seismic events;

b) Final maximum refuse slope gradient at the site will be no steeper than 3 horizontal to 1 vertical for the landfill extension; and

c) An operations checklist will be used by a certified engineering geologist for surveys following all earthquake events of 5.0 magnitude or greater wherein significant shaking or rolling movement was experienced at the landfill. All proposed protection and control systems for the landfill will use the best available technology and are designed to withstand a maximum probable earthquake in accordance with Title 23, Chapter 15 of the California Code of Regulations. A comparison of operating parameters and site conditions before and

after major earthquake events (5.0 magnitude or greater measured within a 20-mile radius of the landfill) will be made to verify the systems are operational as designed;

d) Areas outside of and above the cut and fill locations as shown on Exhibit A or Exhibit A (Alternate) will not be graded or similarly disturbed to create landfill areas. The Director of Public Works may approve additional grading, based upon engineering studies provided by the Permittee and independently evaluated by the Director. Such additional grading or disturbance would be necessary for slope stability and related drainage. Grading allows for ancillary facilities outside of the landfill footprint; and

e) No approval will be granted which will result in expanding the area or height of fill or in lowering or significantly modifying the closest adjacent abutting external perimeter ownership ridgelines.

Remaining Potential Effect: Several existing on-site landslide areas may pose a hazard to employees during excavation activities.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measure will mitigate the identified impact:

a) When excavating for the landfill operation, once the toe of a landslide is encountered, all material constituting that landslide eventually will be removed. Excess slide material not used for immediate cover material will be stockpiled on-site for future use. The landslide area will be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area will be used between the active cells receiving waste and areas under excavation to remove overburden soils, landslide debris and weathered bedrock. A geotechnical engineer will delineate the limits of the landslide during excavation. Landslide removal will not be commenced during the rainy season or when the

ground is saturated, unless removed under the direction and specifications of a registered geologist.

Remaining Potential Effect: Erosion may occur on recent cut and/or fill areas.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) In order to reduce the erosion potential, areas of excavation and areas of loose soil (i.e., around haul roads, etc.) will be stabilized before the onset of the rainy season;

b) Revegetation and erosion control of all exposed slopes will be an ongoing process. The erosion mitigation controls to be implemented at the site will include soil stabilization measures and revegetation in accordance with an approved Revegetation program. The installation of interceptor ditches shall be designed for the diversion of all storm runoff to sedimentation basins. Sediment traps will be used at points of runoff concentration along the perimeter of exposed slopes; and

c) To prevent erosion of the soil on the face of the landfill, interim vegetation measures will be taken after placement of the temporary soil layer even though the area may be disturbed by future filling operations. Vegetative cover will be placed as in the approved Revegetation Program.

Surface Water

Effects of Revised Project: Same as for the Proposed Project.

Remaining Potential Effect: Surface runoff could become contaminated and carried off-site to adjacent surface waters if not properly controlled.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level. The analysis of the FEIR indicated that no water run-off from Sunshine Canyon enters the potable water supply in the area (i.e., the Van Norman Reservoir).

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) To insure that leachate within the landfill is minimized, surface water runoff will be intercepted and diverted around the landfill. The method of diversion that will be used in the proposed landfill plan includes the use of lined interceptor ditches placed along the edges of the fill area. This system of ditches will flow into a monitored sedimentation basin;

b) The surface water runoff collected in interceptor ditches will be returned to the natural stream channel below the operational portion of the site after passing thorough the monitored sedimentation basin to reduce final sediment content;

c) As development of the site proceeds, surface drains will be installed and maintained so that surface water runoff is diverted from working slopes and isolated from contact with the refuse waste. On-site drainage channels will be designed in accordance with California Code of Regulations, Title 23, Chapter 15 which mandates a 100-year storm event requirement with a 24-hour time duration;

d) Design drawings for the landfill show all perimeter ditches to be lined;

e) Placement of a series of underdrains in areas where seeps and springs have been identified will collect and convey any water from these sources;

f) The final cover will be compacted and graded with a minimum 3% gradient to preclude percolation of rain water and to direct runoff away from the refuse into drains that ultimately discharge into the monitored sedimentation basin;

g) The Department of Public Works will review the drainage control system's design for conformance with the County Flood Control Standards;

h) The surface water collection system will be designed to collect runoff and suspended solids. Water leaving the sedimentation basin will be monitored for acceptable suspended solid contents. County Department of Public Works storm/surface water standards will be met; and

i) Surface water quality will be monitored by collecting samples taken from the monitored sedimentation basin on a regular basis for analysis to ensure that water-quality protection standards as determined for the site by both Regional Water Quality Control Board and the Los Angeles County Department of Public Works are not exceeded. This monitoring program will continue for the active life and the post-closure monitoring period of the landfill.

Remaining Potential Effect: Silt and suspended solids may increase areas in surface runoff waters.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The surface water runoff collected in interceptor ditches will be returned to the natural stream channel below the operational portion of the site after passing through the monitored sedimentation basin to reduce final sediment content;

b) The Revised Project will have a sedimentation basin within the County portion of the canyon designed to accommodate a capital storm requirement with a 24-hour time duration; and

c) The surface water collection system will be designed to collect runoff and suspended solids. Water leaving the sedimentation basin will be monitored for acceptable suspended solid contents. County Department of Public Works storm/surface water standards will be met.

Groundwater

Effect of Revised Project: A larger area of the canyon's drainage basin will be able to percolate into the groundwater system because of the reduced fill area. However, it should be noted that Sunshine Canyon is not considered a groundwater recharge area and the groundwater beneath the canyon is not potable.

Remaining Potential Effect: Possibility for formation of leachate in the landfill and infiltration into the groundwater basin or migration from the landfill.

Finding 1: The analysis of the FEIR indicated that there is a potential for groundwater to leave the site through alluvium in the canyon in the absence of proper engineering measures as set forth below. The analysis of the FEIR further indicated, however, that the site is hydrologically separated from the San Fernando Valley by low permeability bedrock and, thus, groundwater does not enter usable aquifers below Sunshine Canyon. In addition, groundwater in Sunshine Canyon was found to be of poor quality and unfit for use as drinking water due to natural conditions of chemical content. Furthermore, conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) Improvements to supplement the natural containment characteristic of Sunshine Canyon include a minimum 1-foot thick subgrade gravel drainage blanket with discharge to a sediment basin, a compacted 3-foot soil layer over the drain blanket, a combination compacted minimum 2-foot thick soil liner for the entire canyon interface with an additional synthetic geomembrane along the bottom flow line, a minimum 1-foot thick leachate drainage blanket and collection system and a minimum 2-foot thick protective soil cover over which refuse will be placed. There will also be a protective toe berm at the landfill terminus. Underlying the toe berm

will be a triple-row grout curtain/extraction trench. A series of groundwater monitoring wells will be installed to monitor the effectiveness of the toe berm/grout curtain, both upgradient and downgradient, as part of the overall groundwater monitoring network for sampling and testing. These design features will be described in detail in the Permittee's Report of Waste Discharge and the RWQCB discharge requirements;

b) Area of natural groundwater seepage will be intercepted by the installation of a subgrade gravel discharge blanket;

c) The site will incorporate a fully lined containment system constructed on the canyon bottom and canyon walls to contain and isolate waste and leachate. The liner system is designed to take into account the various site-specific conditions typically encountered in the construction of canyon landfills. The bottom and sidewalls of the Canyon will be covered by a minimum 2-foot thick impermeable soil liner. In addition, the bottom of the landfill will consist of a composite liner system utilizing suitable on-site impermeable soil in conjunction with a flexible membrane liner (FML). The FML will be placed as an additional seal along the graded flowline of the canyon bottom. Design details of each site specific liner system that will be constructed are described in detail in the Permittee's technical supplements to the Report of Waste Discharge. The liner systems will be constructed and field tested in accordance with strict Quality Assurance/Quality Control (QA/QC) procedures and criteria submitted to and approved by the Regional Water Quality Control Board prior to construction. The liner system exceeds those minimum standards specified in Chapter 15, Title 23, of the California Code of Regulations;

d) The placement of a soil liner upon side slopes will be accomplished by compacting acceptable material upon a series of benches excavated into the side slope. The soil liner on the side slope area will be placed at a greater thickness than required (overfilled) and then cut back to yield the minimum required 2-foot thickness. The compacted soil liner surface will be covered with a protective soil cover to prevent drying;

e) Prior to any ultimate development of the landfill back into the City portion of the canyon from the County-only operation, the existing City landfill will have a final cover at its interface with the new landfill extension which will include a one foot minimum compacted soil liner of $1x10^{-6}$ cm/second permeability. This soil liner will prevent conductivity between the existing City landfill and the proposed ultimate extension development;

f) An independent inspector shall be on-site during the preparation of the soil liner for verification that required conditions of installation are met, to the satisfaction of the Local Enforcement Agency and the Regional Water Quality Control Board;

g) An internal leachate collection and removal system will be installed at the base of the landfill. This system will collect any generated leachate for disposal consistent with RWQCB requirements. The collection system will consist of a filter rock blanket embedded with a system of collection pipes that collect and transport the fluid to a holding tank. The filter rock blanket will be comprised of clean, angular, well graded, crushed rock. The blanket will be placed over the sealed liner of the landfill and extend up the sides of the canyon. The collection piping will be sized and spaced so as to reduce the hydraulic head in the leachate collection system as specified in Waste Discharge Requirements. Leachate will be recovered and treated for reuse as a supplement to landscape irrigation and dust control. The treated leachate will be sampled on a regular basis to affirm suitability for re-use on-site;

h) Final design and operating conditions for the leachate removal and treatment system will be as specified by the Regional Water Quality Control Board in the Waste Discharge Requirements. The leachate collection and removal system (LCRS) will be designed and installed in accordance with Article 2543(a) of Chapter 15, Title 23, of the California Code of Regulations, which requires that the LCRS be "designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit";

i) The existing deep bedrock groundwater monitoring wells located within the City portion of the canyon

will continue to be monitored during the development of the Revised Project;

j) A closure/post closure plan will be required as part of the operating permit for the Revised Project. Closure regulations are contained in Title 14 of the California Code of Regulations. Completion of landfilling operations will occur once final approved elevations are reached;

k) The Revised Project is designed to control surface drainage and restrict the amount of infiltration of surface waters into the landfill that could generate leachate. Field and laboratory permeability tests have demonstrated that the overall permeability of the natural basement materials underlying the landfill and the permeability of remolded test samples for liner or final cover are adequate to prevent the infiltration of leachate into the underlying bedrock formation. Thus, leachate is effectively prevented from entering and degrading any subsurface waters that may underlie the site. On-site grading and compacting of the semi-permeable surface cover will prevent the infiltration of precipitation and will direct surface water away from the fill. Surface water will be handled with a drainage system, including ditches, berms, energy dissipators, and other stormwater management measures, all designed for capital storm capacity;

l) As the landfill is constructed, all alluvium will be removed to solid bedrock, thereby removing any connection with groundwater-bearing alluvium downgradient within the canyon; and

m) The operation and final closure of the landfill will be monitored by the Local Enforcement Agency, as well as by the RWQCB. These authorities have broad latitude in their authority to require measures of abatement regarding water quality problems that may arise during the operation of the landfill.

Finding 2: The recommended groundwater protection measures set forth above are within the responsibility and jurisdiction of another public agency (State Regional Water Quality Control Board) and not the County of Los Angeles, except for (1) measure (m) for which jurisdiction is shared by such agencies, and (2) measure (e) for which the City of Los

Angeles has jurisdiction. The analysis of the FEIR indicates that these measures are technically feasible and therefore, can and should be adopted by the RWQCB (although they remain subject to modification by RWQCB) and, with respect to measure (e), by the City. The RWQCB and the City have received a copy of the FEIR and other related documentation wherein these measures are presented.

Facts: The above finding is made in that:

a) The Regional Water Quality Control Board would issue Waste Discharge Requirements for the Revised Project wherein specific design measures, protection features and monitoring programs will be identified to ensure the Revised Project's compliance with Title 23, Chapter 15 of the California Code of Regulations governing waste disposal to land or other applicable law;

b) The Permittee has prepared a Report of Waste Discharge (incorporated by reference into the EIR) in accordance with standards of Title 23, Chapter 15 of the California Code of Regulations, and has submitted the report to the RWQCB for its review and approval as part of the application for Waste Discharge Requirements for the proposed Revised Project;

c) The RWQCB has issued Waste Discharge Requirements for the Revised Project which have and/or apparently will adopt the specific design measures, protection measures and monitoring program identified above or such other measures as required by law; and

d) The Permittee has submitted to the City for review a Closure and Postclosure Maintenance Plan, in which measure (e) identified above is proposed for adoption.

Remaining Potential Effect: Excess water use on-site for dust control and landscaping, or improper soil cover, may result in leachate formation.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) Application of daily, intermediate, and final covers in accordance with applicable regulatory requirements aids to restrict leachate formation by inhibiting the infiltration of water into the landfill;

b) Irrigation will be limited to insure a balance between irrigation and evapotranspiration. Where feasible, plant species (drought tolerant) with low water requirements will be used for revegetation;

c) Dust control water will be applied to wet only the upper soil surface. Evaporation is the natural means whereby this water is dissipated; and

d) The Revised Project will be operated as a Class III landfill and therefore will not accept hazardous materials or liquid waste. This will prevent additional leachate formation from excessive liquid waste disposal.

Biota

Effects of Revised Project: Same as Proposed Project.

Remaining Potential Effect: An increase in vector activity may occur if not properly controlled.

Finding: The Revised Project is not expected to generate a significant impact. Measures have also been recommended to further reduce potential project-related effects from vectors.

Facts: The above finding is made in that:

a) Periodic monitoring of the site for vector activity will be performed by the Permittee. Corrective measures will be taken should a problem be detected. Rodent-related problems will be controlled in accordance with recommendations from the County Department of Health Services and the California State Department of Health. Flies will be controlled by a trap-and-destroy program. The use of sprays will be avoided to the fullest extent possible. Gull activity can be effectively

eliminated by stringing wire or monofilament fishing line above the landfill working areas, at intervals of one hundred to one hundred and fifty feet.

Archaeological, Historical and Paleontological Resources

Effects of Revised Project: Same as Proposed Project.

Remaining Potential Effect: Archaeological or paleontological resources in the Revised Project area could be disturbed and may be lost.

Finding: Conditions of approval will reduce the impact identified in the FIER to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) Prior to the initiation of initial earth excavation, the need for specific sections of the landfill Revised Project area to be resurveyed as a precautionary measure to minimize potential loss of undiscovered archaeological or paleontological resources will be evaluated. Specific sections of the Revised Project area will be resurveyed will be as determined by proposed cut and fill operations for the landfill. As new areas for excavation are identified by the Permittee, an evaluation of the need for resurveying of those areas will be made based on the previous survey results and consultation with appropriate specialists. Factors to be considered in establishing criteria for delineation of areas to be resurveyed will be the known site selection factors associated with those aboriginal groups suspected of having inhabited the general area, such as proximity to water, type of local vegetation (food source, shelter, fuel, etc.), and topography (slope, aspect, etc.);

b) An archaeologist and paleontologist will be on-site during major infrastructure work requiring significant excavation;

c) Periodic monitoring by a paleontologist will occur when grading takes place in the Miocene-early Pliocene Towsley Formation; and

d) The Permittee will instruct landfill equipment operators to watch for archaeological and paleontological resources and immediately report any findings to their supervisor. If any evidence of aboriginal habitation or fossils is discovered during earth-moving activities, landfill operations will cease in that particular area until an archaeological expert or qualified paleontologist has made a determination as to the significance of the site or findings. Any significant archaeological or paleontological resources could then be recovered prior to resuming activities in that area of the landfill.

Air Quality

Effects of Revised Project: Pollutant emissions from gas flaring activities will be reduced in the future once the fill area is completed since there will be less total tonnage of waste material available for gas generation. Due to a reduction in daily intake limits from 17,500 tons per day in the Proposed Project to an average of 6,000 tons of refuse per day in the Revised Project, the potential daily emissions will be substantially reduced. Other project-related air quality emissions will also be reduced due to the decrease in daily intake amounts for the Revised Project.

Remaining Potential Effect: Localized dust impacts may occur from landfill activities.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The Permittee will control fugitive dust and minimize off-site migration of wind-blown dust from the landfill extension site in accordance with the South Coast Air Quality Management District's Rule 402 and Rule 403. Measures to be employed for dust control include containing: operations to small 2 to 3 acre active fill areas; paving of access roads; regular cleaning of pavement; daily

landfill surface watering, including the use of soil sealant where appropriate; and covering slopes with a hydro-mulch blanket. A soil stabilization product will be used to control blowing dust and silt, retard erosion, and enhance revegetation. The sealant is applied to selected working areas of the landfill at the end of each operating day. The sealant will also be used as a binder or tackifier to hold seed, mulch and fertilizers in place until grasses become established and stabilize the landfill surface. Equipment and operators will be working on-site and available on non-operating days for soil treatment and dust control;

b) Dust control will also be accomplished through temporary revegetation of the landfill surface. A temporary vegetation cover will be established on all slopes that are to remain inactive for a period longer than 180 days. Specifications of temporary revegetation measures are provided in the case permit conditions;

c) Records will be kept to track fill areas of the site which are transferred to an inactive status such that appropriate dust control and revegetation measures will be implemented;

d) Access roadways will be paved up to the active fill to minimize fugitive dust emissions. Paved roadways will progress up the canyon to new active areas as the fill level increases;

e) Material cut from one portion of the site will be used as cover material in an adjacent area, to the extent technically feasible, to reduce the distance cover material is transported; and

f) Subject to approval by regulatory agencies, a 20-foot maximum cell height (which includes 9-inch daily cover) will be utilized. In addition to allowing efficient filling operations, such a cell height will minimize the disturbed area of the landfill site at any one time since the longer period of operation on each cell will more effectively control fugitive dust emissions.

Remaining Potential Effect: Fugitive gases could be emitted from the landfill if not properly controlled, and flaring the landfill gas will create emissions from gas combustion. However, the SCAQMD has determined that on-site stationary source

emissions will not violate any ambient air quality standard.

Finding 1: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FIER to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The landfill will be operated in accordance with South Coast Air Quality Management District Rule 1150.1 and other applicable SCAQMD regulations and will also comply with applicable Department of Public Works requirements;

b) Landfill gases will be controlled and extracted to comply with South Coast Air Quality Management District (SCAQMD) Rule 1150.1 through a best available control technology (BACT) collection system consisting of a series of horizontal and vertical wells installed in phases as each portion of the landfill is developed. Regular landfill surface monitoring will determine additional specific areas requiring vertical collection wells; and

c) The gas flaring (incineration) system will be comprised of flares around the perimeter of the landfill for the total Revised Project. Landfill development will initially require two flare stations which should accommodate gas generation volumes for 10-15 years before additional stations are required. The landfill gas flares will be designed for the flame to be totally contained within the stack thus eliminating visibility of the flame and further directing the products of combustion to the atmosphere. The Permittee will recover and sell, as a renewable energy resource, as much gas as is technically and economically feasible to reduce total emissions from the landfill operations.

Finding 2: The recommended landfill gas control and flaring systems set forth above are within the responsibility and jurisdiction of another public agency (South Coast Air Quality Management District, "SCAQMD") and not specifically the County of Los Angeles. The FEIR indicates that these measures are

technically feasible and therefore, can and should be adopted by the SCAQMD. The SCAQMD has received a copy of the EIR and other related documentation wherein these measures are presented.

Facts: The above finding is made in that:

a) The South Coast Air Quality Management District would issue a Permit to Construct and Operate for the Revised Project wherein specific design measures, control and incineration systems and monitoring programs will be identified to ensure the Revised Project's compliance with SCAQMD Rule 1150.1 and other applicable District regulations governing landfill gas emissions;

b) The Permittee has completed a Permit to Construct application (incorporated by reference into the EIR), including a Public Health Analyses report and a Solid Waste Assessment Test report, and has submitted the application to the SCAQMD for its review and approval; and

c) The SCAQMD has issued the requisite permits for the construction and operation of the landfill gas collection and extraction system described in (b), above, and for the landfill gas incineration system described in (c), above, which permits adopt the specific design measures, control systems and monitoring program identified above.

Remaining Potential Effect: Vehicle exhaust emissions in the area will increase from additional waste hauling truck traffic.

Finding: The Revised Project is not expected to generate a significant impact. Measures have also been recommended to further reduce potential project-related contributions to vehicle emissions in the area.

Facts: The above finding is made in that:

a) The landfill's truck trips and associated emissions would exist within the basin regardless of the proposed landfill extension; i.e., solid waste is not generated by the landfill, it is generated by the land uses in the area, and would be hauled to other sites, potentially farther away, for disposal

if the proposed landfill extension were not available;

b) Implementation of the Revised Project may reduce overall vehicle emissions by reducing the travel distances from waste material sources to new landfills which may be located farther from these sources. The County's Solid Waste Management Plan has not identified any future waste disposal sites as close to the current waste sources that could serve the communities previously served by the Sunshine Canyon Landfill without an additional increase in emissions;

c) The County approval would limit the quantity of buried refuse to an average of 6,000 tons per day with an additional allowance for recyclable materials, an operating level very similar to that historically sustained at the former Sunshine Canyon Landfill and established as the baseline condition for environmental analyses in the EIR. The Revised Project approval would, thus, constitute a continuation of the magnitude of those operations and generate no additional truck traffic and associated pollutant emissions. The FEIR illustrates the Revised Project's relative effect as follows. Assuming an intake of 10,000 tons per day including approved refuse disposal overages and processing of recyclable and reusable materials, the Revised Project would generate approximately 795 additional daily trips above the historic landfill traffic volume. Such an increase would not exceed the South Coast Air Quality Management District's applicable threshold criteria levels for significance of 2,000 new trips added to the air basin by development projects;

Additionally, the following measures will further mitigate the identified impact:

d) The landfill site design includes queuing lanes at the check-in stations for early morning truck arrivals prior to opening of the landfill. Drivers will be given notices and signs will be posted stating a five-minute maximum idling allowance. Such a "no-idling" policy will remain in force throughout the operating day. Further, a streamlined computerized and/or express lane checking system will be considered for the proposed landfill to minimize on-site truck idling at the check-in station. At least one check-in gate will be utilized for major account haulers (likely to be

approximately 15 to 20% of landfill users with up to 40% of the total daily intake), with a magnetic identification tag reading system or manual quickreading account card display system implemented to achieve minimal waiting at the gate(s) and reduced queuing time for trucks to check-in;

e) Landfill operations employees will work on two primary schedules to avoid, for the most part, the peak hour traffic periods. The earlier work shift will generally begin at 6:00 a.m. finishing at 3:00 p.m., and the later shift will generally begin at 10:00 a.m. finishing between approximately 6:00 p.m. maintained for the proposed landfill; and

f) The Permittee will not knowingly deposit waste into the landfill which is required to be diverted or recycled in accord with City and County Source Reduction and Recycling Elements, as part of the County Integrated Waste Management Plan adopted pursuant to Division 30 of the Public Resources Code.

Odor/Landfill Gas

Effects of Revised Project: There will be less potential for odor problems from the Revised Project than for the Proposed Project because the distance from the landfill operation to sensitive receptors (primarily residential neighborhoods) would increase.

Remaining Potential Effect: Potential for odors from refuse and subsurface anaerobic reactions from waste decomposition in the landfill.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FIER to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) Landfill gases will be controlled from escaping to the atmosphere through control measures which are also effective in controlling odor. The control measures proposed include covering the working face on a daily basis, filling any surface cracks in the

cover material with clean dirt, and extracting landfill gas through the use of a landfill gas extraction system;

b) The gas collection system will be installed in phases, as each portion of the site is filled. The final system will contain a network of gas extraction wells, collection system piping, and flaring facilities. Because landfill gas generation begins at lower levels of volume and increases with time, the gas will be flared initially until sufficient quantities are available for possible renewable resource uses;

c) The following odor/landfill gas monitoring program will be implemented for the landfill. The monitoring program complies with the requirements of the South Coast Air Quality Management District Rule 1150.1 and those of the County Department of Public Works. This program will include:

* Probe installation - One probe per 500 to 1,000 feet of landfill perimeter, or as otherwise determined by the SCAQMD, will be installed in the locations of greatest concern. These probes will be monitored to ensure that gas is not migrating off-site through the subsurface soils.

* Integrated landfill surface sampling - The landfill surface will be periodically monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed the SCAQMD's standard of 50 ppm.

* Ambient air samples at the landfill perimeter - Periodically, 24-hour integrated gas samples and required meteorological data will be taken to assess any impact the landfill is having on the air at the landfill perimeter.

* Instantaneous landfill surface monitoring - Spot checks on the landfill surface will be made to determine that the maximum concentration of Reactive Organic gas compounds measured as methane measured at any one point on the landfill's surface does not exceed the SCAQMD's standard of 500 ppm; and

d) The Permittee will recover and sell as much gas as is technically and economically feasible to reduce

total emissions from the landfill operations. It is expected that the technical and economic feasibility of commercial recovery and sale of landfill gas as a renewable energy resource will occur at recovery rates below 40 MMCFD. The gas collection system will be installed progressively to allow for maximum gas recovery.

Traffic/Circulation

Effects of Revised Project: Since approval of the Revised Project authorizes an average daily intake of refuse of 6,000 tons per day and additional recyclable materials, as opposed to the 17,500 tons per day associated with the Proposed Project, potential traffic impacts are commensurately reduced.

Remaining Potential Effect: Increased peak-hour traffic from waste hauling trucks associated with the landfill may create additional congestion at intersections on San Fernando Road.

Finding 1: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FIER to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The Permittee will install, or fund the installation of, traffic improvements at the landfill entrance and the local feeder highways to the landfill deemed warranted by the City of Los Angeles. Warranted means justified on the basis of a certified project EIR, established standards of the City and by accepted traffic engineering practices. Improvements may include, as determined by the City:

* Widening and/or restriping and installation of traffic signals at the landfill entrance on San Fernando Road; and

* Restriping turning lanes at the intersection of San Fernando Road and Balboa Boulevard.

b) All necessary permits and approvals for the recommended San Fernando Road/landfill entrance upgrades would be necessary only if the landfill extension total intake of waste, including recyclable materials, reaches a regular level of 9,000 tons per day. The City of Los Angeles will also have discretion in determining the need for improvements to this intersection. The recommended San Fernando Road/Balboa Road improvements have already been initiated by the Permittee through coordination with the City Department of Transportation, West Valley District. Preliminary mitigation design plans for roadway improvements at those two intersections are provided in Appendix 5 of FEIR Responses to Comments Volume A. The City of Los Angeles Department of Transportation (DOT) will have permitting jurisdiction for all intersection modifications, and the Permittee will be required to fund any improvements;

c) A speed zoning survey should be conducted, if necessary, prior to operation to determine the need to post reduced speed signs on San Fernando Road in advance of the landfill entrance;

d) A radar measurement program will be conducted prior to operation to determine the advisability of posting advance warning signs on San Fernando Road (such as W-51, "SLOW TRUCKS," or the non-standard "TRUCK CROSSING") in advance of the landfill driveway;

e) Queuing space for up to 130 trucks will be provided to preclude the necessity for on-street parking prior to the morning opening of the landfill. Refuse authorized by the net tonnage of 36,000 tons per week and additional recyclable materials may be accepted at the landfill scales between the hours of 6:00 a.m. through 6:00 p.m., Monday through Saturday. The entrance gate at San Fernando Road will be open at least one hour prior to the scales being opened; and

f) The Permittee will post a notice at the entrance to the site, provide handouts, and maintain regular monitoring to discourage parking of commercial trucks along San Fernando Road. Regulatory agencies will be notified by the Permittee if parking enforcement is necessary. Weigh scales will be installed at the proposed landfill. The Permittee will charge differential tipping fees if

necessary to discourage trucking of partially filled loads to the landfill.

Finding 2: The recommended intersection improvements set forth above are within the responsibility and jurisdiction of another public agency (City of Los Angeles) and not the County of Los Angeles. The analysis of the FEIR indicates that such measures are technically feasible and the Board of Supervisors has required the Permittee to fund such measures as a condition of this action. Therefore, such measures can and should be adopted by the City DOT. The City of Los Angeles has received a copy of the FEIR wherein these improvements are presented. In the event that the recommended improvements are not adopted by the City, then it is recognized by the Planning Commission for the purpose of these findings that the traffic impacts identified in the FEIR may not be mitigated to a level of insignificance.

Facts: The above finding is made in that:

a) The City of Los Angeles Department of Transportation (D.O.T.) will have jurisdiction for permitting of all roadway improvements on San Fernando Road and Balboa Boulevard, and will also have discretion in determining the need for improvements to these intersections based on data provided in the EIR traffic analyses. The recommended improvements to the intersection of San Fernando Road/Balboa Road have already been initiated by the Permittee through coordination with the City D.O.T., West Valley District;

b) Preliminary mitigation design plans for roadway improvements at the two San Fernando Road intersections are provided in Appendix 5 of FEIR Responses to Comments Volume A. These plans will be reviewed by the City D.O.T. in making determinations to issue permits for necessary improvements;

c) As a condition of this action, the Permittee will be responsible for funding any roadway improvements to remedy impacts directly attributable to the landfill operations, as deemed warranted by the City of Los Angeles Department of Transportation, and will provide funding to the City for implementation of such improvements; and

d) All traffic mitigation measures will be funded by the Permittee upon approval by appropriate authorities and will be constructed by such authorities or the Permittee.

Remaining Potential Effect: The current accident rate at the Balboa Boulevard/San Fernando Road intersection may increase.

Finding 1: Conditions of approval will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) A second northbound left-turn lane will be provided on Balboa Boulevard at the intersection of Balboa Boulevard and San Fernando Road as described in Appendix 5 of the FEIR in order to reduce the number of left-turn conflicts with through traffic. The introduction of the second left-turn lane is expected to reduce the accident rate at this intersection to below the national average of 0.22 accidents per million vehicles; and

b) All necessary permits and approvals for the recommended San Fernando Road/landfill entrance upgrades would be necessary only if the landfill extension total intake of waste reaches a regular level of 9,000 tons per day. The City of Los Angeles will also have discretion in determining the need for improvements to this intersection. The recommended San Fernando Road/Balboa Road improvements have already been initiated by the Permittee through coordination with the City Department of Transportation, West Valley District. Preliminary mitigation design plans for roadway improvements at those two intersections are provided in Appendix 5 of EIR, Responses to Comments, Volume A. The City of Los Angeles Department of Transportation (D.O.T.) will have permitting jurisdiction for all intersection modifications, and the Permittee will be required to fund any improvements.

Finding 2: The recommended intersection improvements set forth above are within the responsibility and jurisdiction of another public agency (City of Los Angeles) and not the County of Los

Angeles. Such measures are technically feasible and the Board of Supervisors has required the Permittee to fund such measures as a condition of this action. Therefore, such measures can and should be adopted by the City DOT. The City of Los Angeles has received a copy of the EIR wherein these improvements are presented.

Facts: The above finding is made in that:

a) The City of Los Angeles Department of Transportation (D.O.T.) will have jurisdiction for permitting of any improvements to the Balboa Boulevard/San Fernando Road intersection. The recommended improvements to this intersection have already been initiated by the Permittee through coordination with the City D.O.T., West Valley District;

b) Preliminary mitigation design plans for improvements at this intersection are provided in Appendix 5 of EIR Responses to Comments, Volume A. These plans have been submitted to the City D.O.T. and will be reviewed in making a determination to authorize a work order for the necessary signing and striping improvements; and

c) These measures will be funded by the Permittee upon approval by appropriate authorities and will be constructed by the Permittee or such authorities.

Noise

Effects of Revised Project: A probable reduction in perceptible noise from on-site activities will occur because landfill operations of the Revised Project will be farther from surrounding sensitive receptors than those of the Proposed Project.

Remaining Potential Effect: Noise on San Fernando Road in the landfill area will increase from additional waste hauling trucks.

Finding: The Revised Project is not expected to generate a significant impact. Measures have also been recommended to further reduce any potential project-related contributions to noise impacts in the area.

Facts: The above finding is made in that:

a) Increases in noise levels on San Fernando Road due to project-related traffic will be imperceptible.

b) Additionally, the following measures will further mitigate the identified impact:

* Access to the landfill for refuse disposal will be limited to the hours of 6:00 a.m. to 6:00 p.m., Monday through Saturday; and

* Citizens and small commercial and private users using the landfill will be encouraged by the Permittee to use alternate routes other than Balboa Boulevard because of the close proximity to residential areas. This action will minimize the landfill-related traffic noise along the roadway and the surrounding residential areas.

Remaining Potential Effect: Noise from on-site landfill activities may be perceptible during certain meteorological conditions.

Finding: The Revised Project is not expected to generate a significant impact. Measures have also been recommended to further reduce any potential landfill-related noise effects.

Facts: The above finding is made in that:

Landfill operations will be a substantial distance from the nearest residential areas, and the intervening ridge surrounding the landfill will serve as a natural noise attenuation feature.

Additionally, the following measures will further mitigate the identified impact:

a) All landfill equipment will be equipped with low-noise mufflers and will be properly maintained; and

b) The exhaust (muffler) systems of on-site equipment will be maintained. The Permittee will also investigate options for other frequency backup alarms which meet State and Federal OSHA requirements.

Visual

Effects of Revised Project: The analysis of the FEIR indicated that the visibility of the Proposed Project would have been very limited from nearby locations, constituting an adverse, but not significant, effect. While potential effects of the Proposed Project on individual locations might have been considered significant, the Revised Project further limits areas of disturbance and portions of the landfill visible from nearby locations. Views from residential areas to the southeast will not change since only the existing City landfill will be visible. Potential litter may be reduced due to the lesser average daily intake of 6,000 tons per day approved for the Revised Project.

Remaining Potential Effect: Limited portions of the landfill will be visible from the adjacent freeways, trails in upper elevations of O'Melveny Park and a small number of homes in urbanized areas to the southeast.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The maximum permitted elevations for the landfill will not be allowed to be exceeded at any time during landfill development and will be verified through survey control points. Survey monuments will be installed around the perimeters of the initial and outer fill areas, as depicted on Exhibit A and A (Alternate), at points where they will not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments will be submitted to and approved by the Department of Public Works;

b) The finished elevations for the landfill extension surface will be maintained well below the closest adjacent abutting external ownership perimeter ridgeline, Exhibit A or Exhibit A (Alternate);

c) The landfill flares will be below the adjacent external perimeter ridges and the flame will be totally contained within the stack of the flare;

d) To reduce the total area disturbed and to minimize disturbance to existing vegetation, the cover-material excavation areas will be confined as much as possible to areas which will later be filled;

e) As part of revegetation efforts for the landfill extension, the upper ridges of the canyon will be planted with native species (oaks and ground cover) to both supplement the existing vegetation on the ridges and to reestablish naturally bare areas in order to protect and enhance views of Sunshine Canyon;

f) Trees will be planted around the outer enclosing ridges of the entire landfill perimeter to further avoid or minimize visibility of the landfill from hiking and riding trail areas; and

g) The landfill revegetation measures identified in the conditions of grant and closure plans will be implemented to minimize the overall visibility of the landfill.

Potential Effect: Disturbed areas of the landfill would alter the natural visual setting of the Revised Project site.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The landfill revegetation measures identified in the conditions of grant and closure plans will be implemented to minimize the overall visibility of the landfill:

b) The final cover will be landscaped with a ground cover mix and plant species that are compatible with the immediate area, and will be maintained in a natural setting until the time that it is converted to its final use. The timing will depend on the waste stream volume and policy actions of responsible agencies; and

c) The approximately 100-acre open space area located southeast of the existing City landfill will be maintained and enhanced by the Permittee as a nature preserve.

Remaining Potential Effect: Litter from the disposal area and from refuse-hauling vehicles may impact adjacent land uses and local roadways if not properly controlled and routinely cleaned up.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The Permittee's on-site litter control program will include, unless otherwise provided by the Local Enforcement Agency, the following:

* Landfill personnel will continuously patrol the access road to the scales from the time the landfill opens until the time it closes in the evening;

* Improperly covered or contained loads which may result in a significant release of litter will be immediately detained and the condition corrected, if practical, before the load proceeds to the working face. If correction cannot be made, the load will be conducted under escort to the working face;

* All debris found on or along the entrance and working face access roads will be immediately removed;

* Operating areas will be located in wind shielded portions of the landfill during windy periods; and

* The Permittee will install litter fences in the operating areas, as deemed necessary by the Local Enforcement Agency to enforce the intent of this condition;

b) The Permittee will, to the satisfaction of the Director of Public Works and the Local Enforcement Agency, maintain programs aimed at controlling the discharge on the landfill and recovery of litter from uncovered or improperly covered or contained loads traveling to the landfill; and

c) The measures will include an effective tarping program, which if necessary in the estimation of the Director of Public Works and the Local Enforcement Agency, shall provide for mandatory sale of tarps to violators and/or exclusion from the landfill of repeated violators.

Hazardous Materials

Effects of Revised Project: Due to the reduced daily intake authorized for the Revised Project, the total quantity of hazardous materials that could potentially enter the landfill is commensurately reduced.

Remaining Potential Effect: Small quantities of household hazardous waste may enter the landfill, and other hazardous materials could be brought to the site for disposal.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The landfill will be operated as a Class III landfill. Incinerator ash, sludge, radioactive material, hazardous waste, and medical waste as defined in Section 25023.2 of the California Health & Safety Code ("Unacceptable Waste") will not be accepted. The Permittee will implement a comprehensive waste load checking program;

b) A refuse inspection program which includes both direct visual inspection, remote television monitors to inspect incoming roll-off type loads and open top vehicles, radiation detector devices, and sensors capable of detecting volatile organic compounds will be used by the Permittee to prohibit the illegal dumping or disposal of Unacceptable

Waste at the landfill. The television monitor provides the ability to inspect incoming loads from above. This inspection process is intended primarily for roll-off type loads and open-top vehicles. The television monitors are an integral part of the overall inspection program. In addition, the Permittee will continue to conduct employee training programs on hazardous waste detection. Haulers disposing of drums shall have drums triple-rinsed with tops and bottoms removed prior to acceptance. A full-time staff inspector will be assigned to inspect materials as they are dumped on the operating face. These programs are presented during pre-employment and during quarterly reviews for all employees, and include a slide presentation titled "Hazardous Waste Identification and Response," written handouts, and informal discussions;

c) Full-time inspectors will be employed on the site for inspection on waste materials as they are spread on the working face of the landfill. Inspectors will be either qualified employees of the Local Enforcement Agency or persons employed under contract with the Local Enforcement Agency. Contract inspectors, if used, will be persons deemed by the Local Enforcement Agency to be qualified by training and experienced to carry out the assigned duties and having no conflict of interest. The Permittee will compensate the Local Enforcement Agency for any personnel, equipment and facilities costs incurred in administering this part not covered by fees paid for administration of the solid waste facility permit for the landfill;

d) Procedures for the disposal of Unacceptable Waste at qualified disposal sites will be provided to waste haulers. Notices will also be posted at convenient locations on the site to notify waste material haulers that such waste cannot be disposed of at the landfill and to inform them of the rules and regulations governing the disposal of hazardous waste at such qualified sites;

e) In the event that Unacceptable Waste is discovered by the Permittee, the Permittee shall 1) detain the vehicle driver and obtain his driver's license and vehicle license number; 2) notify the Hazardous Materials Units of the Los Angeles City Police Department; and 3) notify the County of Los Angeles Department of Health Services, Hazardous Waste Control Program and Regional Water Quality Control

Board so that proper action can be taken by the agencies;

f) The Permittee will post a sign at the entry gate at San Fernando Road which indicates the following:

* The telephone number by which persons may on a 24-hour basis contact the Permittee to register complaints regarding landfill operations;

* The telephone number of the Local Enforcement Agency and the hours when the number is manned; and

* The telephone number of the enforcement offices of the South Coast Air Quality Management District and the hours when the number is manned; and

g) The Permittee will fund fifty percent of the cost of not more than six hazardous waste roundups for the area surrounding the landfill, provided that the Board of Supervisors authorizes such roundups and at least fifty percent of the funding is provided by the County and/or other public agencies.

Fire Service

Effects of Revised Project: Same as Proposed Project.

Remaining Potential Effect: A potential fire hazard will exist from heavy equipment, fuel storage and human activity in the Revised Project area adjacent to mountainous region.

Finding: Conditions of approval and features incorporated into the Revised Project design will reduce the impact identified in the FEIR to an insignificant level.

Facts: The above finding is made in that the following measures will mitigate the identified impact:

a) The Permittee shall maintain brush clearance measures consistent with permit requirements of the County of Los Angeles and other applicable codes;

b) The Permittee will maintain and expand existing on-site fire response capabilities through use of heavy operating equipment and readily available fire-extinguishing equipment. A 200-foot long, 1-1/2 inch diameter fire hose will be available on water trucks for firefighting at the working area. In addition, earth moving equipment will be available for controlling fires by smothering fires with dirt. Access roads will be constructed and maintained around the working area of the landfill to provide emergency access for firefighting equipment;

c) The landfill will comply with all applicable code and ordinance requirements for fire access, water mains, fire flows and fire hydrants as specifically defined by the County Fire Department. New construction of water tanks, water mains and fire hydrants will be completed to meet the fire flow requirements of the Department; and

d) All fuel storage tanks used on-site will be installed under permit with the County of Los Angeles Fire Marshal, and storage and containment facilities will be installed in accordance with Fire Department, Regional Water Quality Control Board and other applicable regulations. Labeling and reporting of motor fuel storage will comply with provisions of Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986.

Public Utilities (Water)

Effects of Revised Project: The amount of water expected to be used for the Revised Project, which allows an average daily intake of 6,000 tons of refuse per day, will be less than that for the larger Proposed Project, having a daily intake of 17,500 tons per day.

Remaining Potential Effect: Water supplies will be required for dust suppression, landscape irrigation and fire protection.

Finding: The Revised Project is not expected to generate a significant impact. Measures have also been recommended to further reduce the Revised Project's potential effect on available water resources.

Facts: The above finding is made in that:

a) The Permittee has three potential sources of water supply to serve the Revised Project: private water wells; Newhall County Water District; and the Los Angeles Department of Water and Power.

b) Additionally, the following measures will further reduce water requirements for the Revised Project:

* The Permittee will collect and treat any leachate on-site for re-use in landfill operations, as allowed by the regulatory agencies, to reduce potable water supply demand;

* A dust suppression additive will be used to reduce the amount of water used for dust control; and

* Native and drought-tolerant plants will be used to revegetate the site which will help to reduce the amount of water required for landscape irrigation.

Cumulative Impacts

Effects of Revised Project: Cumulative impacts will be reduced to the extent that the underlying impacts of the Revised Project are less than those of the Proposed Project, as outlined above. In particular, cumulative impacts on air quality will be reduced because the number of additional vehicle trips generated by the Revised Project is reduced to well below SCAQMD's applicable threshold level for significance of 2,000 new trips, in contrast to the additional 3,180 vehicle trips that would have been generated by the Proposed Project.

Remaining Potential Effect: A number of development projects are pending or approved in the local vicinity of the Revised Project site. The effects of those projects, in conjunction with the Revised Project, could have adverse cumulative impacts upon traffic/circulation and air quality.

Finding: Significant cumulative impacts from development of the Revised Project and other local area proposed projects are not expected.

Facts: The above finding is made in that:

a) A review of proposed projects in the local vicinity of the Revised Project site was conducted in February 1988 with an update in March 1989 for the Draft EIR (page 207, Volume I), and updated again in March 1990 for the EIR Responses to Comments Volume A (Response 235).

b) Analysis of the intersection capacity utilization for each of the Revised Project's study intersections from the addition of peak-hour traffic generated by these projects reveals that none of the intersection levels of service would be significantly affected, as described in the Draft EIR (pages 207-209) and in FEIR Responses to Comments Volume A (Response 235). Roadway improvements recommended for the Revised Project (see Traffic/Circulation section of these Findings) would also accommodate the additional traffic from these other developments.

c) The incremental increase in vehicular emissions from additional traffic generated by these other developments is relatively small in comparison with the trash-hauling truck emissions associated with the Revised Project. Therefore, the cumulative emissions from these developments in conjunction with the Revised Project would not represent a significant increase since the trash-hauling truck emissions would exist in the South Coast Air Basin regardless of the Revised Project, as described in the Draft EIR (page 176).

Remaining Potential Effect: The County has identified several new landfill sites for potential development and/or protection as a public resource to meet potential solid waste disposal needs. The potential effects of those future projects, in conjunction with the Revised Project, could have adverse cumulative impacts upon traffic, biota, air quality and public health.

Finding 1: Significant cumulative impacts to local traffic, air quality and public health from development of the Revised Project and other potential future landfill projects are not

expected, especially since it appears unlikely that a number of these other potential new landfill projects will be developed (refer to Section 5-B of these findings).

Facts: The above finding is made in that:

a) The Revised Project would impact traffic primarily on San Fernando Road, and to some extent on The Old Road. Traffic associated with these other potential future landfill sites would not primarily utilize and impact the same local arterials and streets as the Revised Project, as described in detail in EIR Responses to Comments, Volume A (Topical Response 29).

b) Emissions from on-site landfill equipment, fugitive dust emissions and vehicle travel at the Revised Project site and these other potential future sites would be dispersed across a relatively large area and along different access routes, thus, emissions at any particular off-site location would not be significant. On a basin-wide level (South Coast Air Basin), vehicular emissions related to combined landfill traffic would not change significantly regardless of the development of one or more landfills in the locale since the total number of waste disposal trucks operating is not necessarily related to the number of landfills that are operational, as discussed in FEIR Responses to Comments Volume A (Topical Response 29).

c) Emissions from landfill gas flares at the Revised Project site and these other potential future landfill locations would impact very localized areas around each site and, due to the distances between the sites, would not cause significant cumulative air quality or public health impacts, as described in detail in FEIR Responses to Comments Volume A (Topical Response 29) and as concurred with by the SCAQMD.

Finding 2: Significant cumulative impacts to freeway traffic and biotic resources could result from development of the Revised Project and other potential future landfill projects and significant cumulative impacts to regional air quality could result in the unlikely event that all five potential landfills Sunshine, Elsmere, Towsley, Blind and Browns Canyons, are simultaneously operational. However, it appears unlikely that the proposed Towsley,

Blind and Browns Canyons projects will be developed (refer to Section 5-B of these findings).

Facts: The above finding is made in that:

a) Truck traffic from the Revised Project and these other potential future landfill sites could produce a cumulative impact on the freeways in the area and contribute to existing peak-hour congestion.

b) Potentially significant increases in regional ozone concentrations could occur from development of the Revised Project and these other potential future landfills due to the cumulative addition of nitrogen oxides and volatile organic compounds emissions in the region.

c) Direct biotic impacts from the Revised Project and the development of each of the other potential future landfill sites would depress the vegetation and habitat resources on each of the sites and in their immediately surrounding areas. Simultaneous operation of the Revised Project and these other sites could also result in additional fragmentation of habitat in the area and other regional cumulative impacts, as described in detail in FEIR Responses to Comments Volume A (Topical Response 29).

Finding 3: As indicated on page 166 of Volume 1 of the FEIR, the Revised Project may contribute to existing and future violations of ambient air quality standards on a cumulative basis. However, the same number of vehicle trips, and thus, the same or greater emissions, would be necessary even without the Revised Project.

Facts: The above finding is made in that:

a) The landfill's truck trips and associated emissions would exist within the basin regardless of this proposed landfill extension; i.e., solid waste is not generated by the landfill, it is generated by the land uses in the area, and would be hauled to other sites, potentially farther away, for disposal if the proposed landfill extension were not available;

b) Implementation of the Revised Project may reduce overall vehicle emissions by reducing the travel distances from waste material sources to new

landfills which may be located farther from these sources. The County's Solid Waste Management Plan has not identified any future waste disposal sites as close to the current waste sources that could serve the communities currently served by the Sunshine Canyon Landfill without an additional increase in emissions; and

c) The County approval would limit the quantity of buried refuse to an average of 6,000 tons per day with an additional allowance for recyclable materials, an operating level very similar to that historically sustained at the former Sunshine Canyon Landfill and established as the baseline condition for environmental analyses in the EIR. The Revised Project approval would, thus, constitute a continuation of the magnitude of the former operations and generate no additional truck traffic and associated pollutant emissions. The FEIR illustrates the Revised Project's relative effect as follows. Assuming an intake of 10,000 tons per day including approved refuse disposal overages and processing of recyclable and reusable materials, the Revised Project would generate approximately 795 additional daily trips above the existing landfill traffic volume. Such an increase would not exceed the South Coast Air Quality Management District's stated threshold level for significance of 2,000 new trips added to the air basin by development projects.

d) Additionally, the following measures will further mitigate the identified impact:

* The landfill site design includes queuing lanes at the check-in stations for early morning truck arrivals prior to opening of the landfill. Drivers will be given notices and signs will be posted setting a five-minute maximum idling allowance. Such a "no-riding" policy will remain in force throughout the operating day. Further, a streamlined computerized and/or express land checking system will be considered for the proposed landfill to minimize on-site truck idling at the check-in station. At least one check-in gate will be utilized for major account haulers (likely to be approximately 15 to 20% of landfill users with up to 40% of the total daily intake), with a magnetic identification tag reading system or manual quick-reading account card display system implemented to

achieve minimal waiting at the gate(s) and reduced queuing time for trucks to check-in;

* Landfill operations employees will work on two primary schedules to avoid, for the most part, the peak hour traffic periods. The earlier work shift will generally begin at 6:00 am finishing at 3:00 pm, and the later shift will generally begin at 10:00 am finishing between approximately 6:00 pm and 7:00 pm. These work schedules will be maintained for the proposed landfill;

* The Permittee will not knowingly deposit waste into the landfill which is required to be diverted or recycled in accord with City and County Source Reduction and Recycling Elements, the County Integrated Waste Management Plan adopted pursuant to Division 30 of the Public Resources Code.

City Use Restriction

Remaining Potential Effect: Condition 10d of the Conditional Use and Oak Tree Permit No. 86-312(5), which may result in the landfill being closed to certain City of Los Angeles generated waste, may cause (1) additional impacts relating to traffic, noise and air quality at other landfills in the County that accept City-generated waste and (2) those landfills to utilize their remaining disposal capacity sooner than if this condition had not been adopted.

Finding: These potential impacts associated with Condition 10d are too speculative to determine and, therefore, the significance or insignificance of such impacts cannot be ascertained.

Facts: The above finding is made in that:

a) Determination of which landfills trash haulers will select to dispose of City-generated waste in future years if the Sunshine Canyon landfill is unable to accept such trash is impractical to precisely predict. The decisions of trash haulers as to where to dispose of trash is based upon a variety of factors, including, among other things, varying disposal costs, operating constraints, daily disposal limitations, the distance from the waste

stream source, business decisions made by each landfill operator as to the desired level and period of use of the landfill and daily intake restrictions. Refer to the April 1993 Additional CEQA Document, p. 4-11;

b) Since a number of existing landfill facilities are expected to close in the near future, trash haulers who accept City-generated waste will have to select alternative facilities. However, given the variables inherent in the daily decisions of trash haulers as to where to dispose of waste and the absence of information concerning which alternative landfills trash haulers will select when other existing facilities close in the future, it is not possible to predict which alternative landfills the trash haulers will select under such circumstances. Such alternative facilities may, in the future, include newly developed landfills, but it is not possible to predict the level of use of those facilities since no information as to their operating factors currently exists. Refer to the April 1993 Additional CEQA Document, pp. 4-11 through 4-12; and

c) Despite the speculative nature of these potential impacts, the benefits of the condition have been discerned. As more fully explained in Condition 10 itself, this restriction was adopted to encourage the City to permit the expansion of the Sunshine Canyon Landfill into the City portion of Sunshine Canyon. Such an expansion of the City portion of the landfill has two objectives. The first objective is to allow a configuration of a landfill in Sunshine Canyon which provides waste disposal capacity for the residents of the County while reducing the environmental impacts of landfilling within the upper reaches of the canyon. The second objective is to establish and maintain adequate landfill capacity for City residents within the City's own jurisdictional boundaries in order to avoid the necessity of exporting City solid waste to landfills located in other cities or the unincorporated areas of the County, thereby exhausting County disposal capacity. Refer to the April 1993 Additional CEQA Document, pp. 4-2 through 4-3.

SECTION 2.

SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS WHICH CANNOT BE MITIGATED TO A LEVEL OF INSIGNIFICANCE

The County has determined that, although FEIR mitigation measures and proposals included as part of the Revised Project will provide a substantial mitigation of the following effects, these effects can not be feasibly or effectively mitigated to a level of insignificance. Consequently, in accordance with Section 15093 of the State CEQA Guidelines, a Statement of Overriding Considerations has been prepared (see Section 7) to substantiate the County's decision to accept these unavoidable adverse environmental effects because of the benefits afforded by the Revised Project.

Biota

Effects of Revised Project: There would be a reduction in the total area of vegetation disturbance in the canyon. More area would be retained for existing wildlife. However, the character of foraging areas throughout the canyon would still be disturbed by on-site operations in the upper portion of the canyon and by vehicle traffic traveling through the base of the canyon to access the landfill, although not all species would necessarily be affected by these disturbances.

Remaining Potential Effect: Filling the interior of Sunshine Canyon will destroy or displace existing vegetation, natural habitat and wildlife on the landfill site.

Finding: The impact identified in the FEIR can not be mitigated to a level of insignificance. However, conditions of approval and features incorporated into the Revised Project design will reduce, to the extent feasible, the adverse environmental effect.

Facts: The above finding is made in that a statement of Overriding Considerations has been prepared for the Revised Project (see Section 7), and that the following measures will partially mitigate the identified impact:

a) The perimeter ownership external abutting slopes and peaks of the ridgelines surrounding the

Sunshine Canyon Landfill shall remain undisturbed. The upper portions (50 vertical feet below ridgelines) of the closest adjacent abutting external ownership perimeter ridgeline will also be left undisturbed;

b) After development of the initial fill area and ancillary facilities, clearing of existing on-site vegetation for operations will be done only when necessary to provide for new cut and fill areas of the site. Only small areas will be cleared at any one time. Wholesale or large scale clearing in the canyons will not occur. With the removal of the trees, pests and the entire habitat (ecosystem), including slash and debris, the host materials for any pests will be totally removed. In addition, the soils which might provide suitable habitat for pests will be removed. Forestry experts, contracted by the Permittee, will monitor the condition of the trees in the canyon for pest infestation;

c) The Oak Tree Mitigation Plan, Exhibits C and D of the conditions of approval, is intended to meet or exceed the minimum replanting requirements of the Los Angeles County Oak Tree Ordinance and includes measures for new plantings in Sunshine Canyon, East Canyon, and other off-site areas acceptable to the County Forester. The plan also provides for a 5-year monitoring and management program to assure guaranteed survival for five years once trees are established and one inch in diameter at one (1) foot above the ground;

d) The Permittee will provide a minimum 2:1 replanting of oaks and a 5:1 replanting for big-cone Douglas fir with replacement oak and fir trees counting when attaining one inch in diameter at one foot above the ground. Other species will also be planted. The Permittee will maintain and monitor the oak trees for 5 years after reaching count-size status to provide a minimum 200% replacement. Oak Tree Mitigation Plans are provided in Exhibits C and D of the conditions of approval;

e) All oak trees will be counted when removed to verify that adequate mitigation has been provided in accordance with the Oak Tree Mitigation Plan;

f) The Permittee will replace all removed big-cone Douglas fir trees at a ratio of 5:1 (5 replants for each one removed) with guaranteed survival for 5

years following growth to one inch in diameter at one (1) foot above the ground. Seedlings are presently growing in the Permittee's greenhouse at Sunshine Canyon. The higher stand densities of existing fir trees are on the uppermost ridge slopes and will not be disturbed by landfill development;

g) Concurrent with and following landfilling operations, all grasses, trees and shrubs will be planted on the landfill face in increments as indicated in the Revegetation Plan. Areas of the site will be revegetated as required by conditions and requirements of the California Integrated Waste Management Board (Revegetation/Closure Plan). Grasses, trees and shrubs will be utilized to develop wildlife habitat and open space;

h) The new landfill will be planted with a mosaic of trees, shrubs and grasslands to provide a variety of wildlife habitats. As operating lifts are completed, the finished slope will be covered with 15 feet (in horizontal width) of amended soil and recycled green waste placed on the front surfaces of slopes that have received the site impermeable seal, as shown on Exhibit B of the conditions of approval. As soils are added, amendments will be included to balance any unsuitable characteristics such as acidity (pH). Fertilizers will be added at the time of soil placement and continued as part of the Permittee's ongoing maintenance program. This soil cover will provide rooting material for the final vegetation. Revegetation will take place concurrently with filling operations as the landfill progresses up the canyon; only the relatively small 2 to 3 acre active filling areas and other operations areas of a maximum five (5) acres each (liner preparation, cut-for-cover areas, etc.) of the landfill will be unvegetated. The remainder of the inactive disturbed areas on-site will be planted with either temporary or permanent vegetation as applicable;

i) The Permittee will provide replacement riparian habitat on a 2:1 ratio as part of the overall vegetation mitigation program. Mitigation for disturbance to 5.46 acres of riparian habitat from the Revised Project will be provided by expanding and enhancing existing riparian habitat and creating approximately 11.0 acres of new riparian habitat through a program of tree planting, streambank stabilization, streambed enlargement or

streamzone rehabilitation in existing degraded drainage channels. As a component of the mitigation plan, new streamzone/wetland areas that will meet U.S. Army Corps of Engineers criteria will also be created within the riparian systems so that there will be no net loss in wetland values or area as a result of the landfill project. Approximately 4.2 acres of streamzone/wetlands will be created to compensate for losses in the Revised Project area. Final site selection and detailed engineering plans and working drawings of the mitigation program has been coordinated fully with the applicable regulatory agencies so that a final acceptable plan was developed based on the concepts described in the proposed mitigation plan; and

j) Recycled green waste will be used to amend cover soils to provide an enhanced revegetation growing medium as permitted.

Finding 2: The mitigations set forth in (i) above are within the responsibility and jurisdiction of other agencies (the California Department of Fish and Game and the Army Corps of Engineers) and not specifically the County of Los Angeles. The FEIR indicates that such mitigation measures are technically feasible and therefore, that these measures can and should be adopted by the Department of Fish and Game and the Army Corps of Engineers. However, such measures remain subject to modification by those agencies. Both agencies have received copies of the FEIR and other related documentation wherein these measures are presented.

Facts: The above finding is made in that:

The Department of Fish and Game and the Army Corps of Engineers should (and has) issue permits wherein the specific design measures for mitigation have been identified to ensure the Revised Project's compliance with State and Federal wetlands regulations.

Remaining Potential Effect: The Revised Project will reduce the size of the County Significant Ecological Area (SEA) #20 by 2-1/2 percent, approximately 542 acres.

Finding: The impact identified in the FEIR can not be mitigated to a level of insignificance.

However, conditions of approval and features incorporated into the Revised Project design will reduce, to the extent feasible, the adverse environmental effect.

Facts: The above finding is made in that a Statement of Overriding Considerations has been prepared for the Revised Project (see Section 7), and that the following measures will partially mitigate the identified impact:

a) The Revised Project removes 2-1/2%, or 542 acres, of the 22,000-acre SEA #20. This represents a reduction in the initial plans by the City of Los Angeles to use both Sunshine Canyon and East Canyon for landfill purposes;

b) The Permittee has revised the landfill design to reduce areas of disturbance in the upper portions of Sunshine Canyon. The Revised Project will reduce the disturbed area and will leave undisturbed an estimated additional 3800 oak trees previously planned for removal;

c) The Permittee will dedicate, or enter into an irrevocable agreement with the County or an appropriate agency as designated by the County, to dedicate, in fee and as easements, the property it owns in East Canyon, approximately 507 acres, for permanent open space, park and recreational use, and wildlife preservation. The instrument of dedication or agreement shall provide that no uses inconsistent with the landfill shall be allowed and shall further provide for the right of Permittee and/or its contractors to enter onto the property to engage in studies or mitigation projects, the right to maintain water tanks and access fire roads and other facilities as required to operate the landfill;

d) The Permittee shall provide for riding and hiking trails within the limits of the area to be dedicated. The Permittee will further work with the Department of Parks and Recreation to identify, relocate, where appropriate, and dedicate the necessary rights-of-way for public use for the East Canyon, Bee Canyon, O'Melveny and Weldon Canyon Trails;

e) The Permittee will finance studies pertaining to the remaining Significant Ecological Areas (SEAs),

as set forth in the conditional Use and Oak Tree Permit;

f) The approximately 100-acre open space area located southeast of the existing City landfill will be maintained by the operator as open space and will be enhanced with vegetation to promote wildlife. The area will not be developed, with the exception of development necessary to continue the existing use for gas and oil operations, and the area will continue to serve as a buffer between the landfill operation and other properties;

g) Revegetation of slopes and fill areas with appropriate native flora will be accomplished to support local fauna;

h) Reestablishment of vegetation will be focused on revegetation with native species from local seed sources. Non-native species may be used only where quick cover or a nurse crop is desired. Acacias, eucalyptus and pepper grow more rapidly on bare site conditions than some natives. These planted trees will be removed by the Permittee to favor the native trees once the natives become established;

i) The Revised Project plan will obtain replacement cover material within the canyon to retain soil composition compatible with native flora and leave the surrounding topography undisturbed; and

j) The Significant Ecological Areas Technical Advisory Committee has reviewed the FEIR and submitted its recommendations to the decision-makers (which are contained in Appendix D of the April 1993 Additional CEQA Document). The Planning Commission has considered those recommendations and has acted upon those recommendations in accordance with the reasoning and recommendations of the County Department of Regional Planning as described in Section 3.0 of the April 1993 Additional CEQA Document (which reasons are incorporated herein by this reference).

SECTION 3.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The Revised Project will provide a current disposal source for the City and County's municipal solid waste stream that will be available into the next century if other sources for waste disposal are concurrently developed. In return for use of Sunshine Canyon as a sanitary landfill, a loss of the existing natural vegetation and wildlife habitat within the canyon will be experienced. Alternative uses of the canyon over the near term will also be lost as well as over the long-term.

In addition to providing a long-term disposal source for municipal solid waste for the area, if alternative disposal sites located farther from the waste source must otherwise be selected to solve the demand for additional landfill capacity, the Revised Project could be viewed as providing for: (1) a reduction in vehicle trip miles; (2) a savings in fuel use; and (3) a decrease in air pollutants. Due to the lack of success in permitting new landfills and expansions of existing landfills by proponents of such projects, as stated in the Los Angeles County Solid Waste Management Plan, Triennial Review Revision A, 1985, it is logical to assume that any new facility will be located in more rural and as yet undeveloped areas of Southern California.

SECTION 4.

GROWTH-INDUCING IMPACTS OF THE REVISED PROJECT

Section 15126(g) of the State CEQA Guidelines requires consideration of the ways that the Revised Project could be considered growth-inducing. Although development of a landfill does not itself induce growth, it could remove an obstacle to growth by providing a relatively inexpensive means of solid waste disposal, without which new development might be inhibited. However, under the present circumstances in the County of Los Angeles, the Revised Project is needed to provide disposal capacity for waste generated by existing urban development regardless of any substantial new growth. See Volume A, Responses to Comments Topical Response 26: Need for the Proposed Sunshine Canyon Landfill Extension and Availability of Short-term Alternatives; and Section 4.4.2 of the April 1993 Additional CEQA Document.

Even though the Revised Project could be viewed as accommodating growth to a certain extent as mentioned earlier, development of the Revised Project remains necessary to serve the existing solid waste disposal needs until advanced waste disposal technologies are

developed and become economically feasible to use. If the infrastructure of the former Sunshine Canyon landfill is not extended, the demand would be accommodated at another location, potentially at a greater cost, since additional infrastructure, such as access roads, would need to be built, and causing greater emissions, since any alternative landfill location would likely be farther from waste sources than Sunshine Canyon. Furthermore, any such growth accommodated by capacity within the Revised Project is well within the plans for growth set forth in the Air Quality Management Plan for the area, which projects an increase in population of 5.87 million persons. The AQMP specifically recognizes that expansion of existing infrastructure, including landfills, is necessary to accommodate projected development within the region.

SECTION 5.

FINDINGS REGARDING ALTERNATIVES

Alternatives to the Revised Project described in the FEIR were considered. The alternatives discussed in the FEIR constitute a reasonable range of potential options necessary to permit a reasoned choice. In this case, in response to the FEIR and public and agency input, the Planning Commission has approved a lesser alternative which generally corresponds to the Unincorporated County Area-Only Alternative as described in the FEIR. Selection of this alternative and the associated changes and/or alterations from the Permittee's Proposed Project as described in the FEIR will mitigate, avoid or lessen significant environmental effects.

A. "No Project" Alternative

Description of Alternative: The FEIR describes the "no project" alternative as a continuation of existing undisturbed natural conditions on the landfill site. The existing landfill facility within the City of Los Angeles portion of Sunshine Canyon would not be extended into adjacent County lands. This alternative does not, however, preclude the site's future development potential with various residential, commercial and agricultural uses in accordance with current General Plan and zoning designations.

Comparison of Effects of the Alternative to Effects of the Proposed Project: The "no project" alternative would eliminate those site-specific environmental effects of the Proposed Project identified in Sections 1 and 2 herein. However, many project-related impacts germane to development of solid waste landfills would be diverted to other existing, expanded and new landfill sites. It is also reasonable to assume that subsequent site development in accord with existing General Plan and zoning designations could occur at some time in the future and may impose or be exposed to environmental impacts similar to those associated with the Proposed Project.

Effectiveness in Meeting Project Objectives: The "no project" alternative would not meet the Permittee's objectives specified in the FEIR, or the County's goals in that it would not respond to the established County-wide need for additional waste disposal capacity and could impose a capacity shortfall, as described in detail in the FEIR. The Permittee, to the detriment of the County's regional integrated waste management system, would not be able to extend the infrastructure of the existing landfill facility or utilize the available disposal resource capacity afforded at the Sunshine Canyon location. Other landfill sites would ultimately need to be developed to provide the necessary future waste disposal capacity.

Feasibility: The "no project" alternative is not feasible.

Facts: The above findings are made in that:

a) The "no project" alternative is not feasible because this alternative fails to meet any of the objectives identified in the FEIR or to provide any of the benefits set forth herein;

b) The "no project" alternative would result in a loss or forfeiture of planned potential landfill capacity in that the site is designated as a potential Class III landfill site in the County Solid Waste Management Plan (CoSWMP, Revision A, 1985), and as a major planned extension of an existing landfill facility in the County Solid Waste Management Action Plan, as described in detail in FEIR Responses to Comments Volume A (Topical Response 25);

c) The "no project" alternative would necessitate the ultimate development of other landfill expansions and new sites within the County to meet the County's anticipated waste disposal capacity needs. However, due to timing and required environmental investigation and review, it is reasonable to assume that other landfills may not be developed in time to satisfy the County's disposal capacity needs; and

d) The "no project" alternative would not preclude the potential subsequent development of the site with other various urban, agricultural and industrial uses consistent with current General Plan and zoning designations for the site.

B. Alternate Project Location

Description of Alternative: This alternative would entail the development of a solid waste landfill facility at an acceptable

alternate location within the County of Los Angeles which could provide a similar waste disposal capacity to that afforded by the Proposed Project. Potentially acceptable landfill sites have been identified by the County in the Solid Waste Management Action Plan, and currently consist of Elsmere Canyon, Blind Canyon, Towsley Canyon and Mission/Rustic-Sullivan Canyon.

Comparison of Effects of the Alternative to Effects of the Proposed Project: The Towsley Canyon, Blind Canyon and Mission/Rustic-Sullivan Canyon sites were evaluated in the Draft Program Environmental Impact Report for the County Integrated Solid Waste Management System (Sanitation Districts of Los Angeles County & County Department of Public Works, August 1990). The Elsmere Canyon site will be evaluated in detail in an EIR/EIS being prepared under the direction of the County and the U.S. Forest Service. It is reasonable to expect that many of the same issues and impacts germane to development of a major solid waste landfill facility in an undeveloped area, such as the proposed Sunshine Canyon site, would also result from the development of a new landfill at any one of the alternate sites identified above. Such potential impacts would include, among others, geotechnical constraints and groundwater protection, disturbance of biological resources, and operational effects such as traffic generation, air pollutant emissions, potential for odors and noise, and changes to the visual environment.

Effectiveness in Meeting Project Objectives: None of the sites identified in the County Solid Waste Management Action Plan are owned by the Permittee nor are they currently available for acquisition. Furthermore, although the development of one or more of these alternate sites by the County or other entity as part of the County's Integrated Solid Waste Management System would help meet the regional objective of providing long-term major waste disposal capacity of the County, it cannot be reasonably anticipated that any of these alternative projects could be developed in time to provide the waste disposal capacity in the near term (see below). It should also be noted that the County Department of Public Works has indicated that the projected waste disposal needs for the County over the next twenty to thirty years will warrant the development of a number of potential new and expanded landfill sites to the maximum extent environmentally and technically feasible, as described in detail in the FEIR. Refer to Responses to Comments Volume A (Topical Response 25); and the April 1993 Additional CEQA Document, Section 4.4.2 and Appendix F. Even if any of the potential sites were available for development at this time, this option could not be considered an alternative to the Proposed Project because no single site can responsibly solve the County's waste disposal capacity needs in the near and distant future.

Feasibility: The "alternate project location" alternative is not considered feasible because it would not meet the Permittee's

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stated objectives nor would it adequately fulfill the short or long-term objectives of the County's Integrated Solid Waste Management System.

Facts: The above findings are made in that:

a) The Sanitation Districts of Los Angeles County prepared a Preliminary Alternate Site Study to identify the "best" potential new landfill sites currently not being used in the County. This study consisted of a three-phase approach which considered a complex set of technical, environmental and social factors to analyze 101 potential landfill sites. The six highest ranking sites presented in the report are: Blind Canyon; Browns Canyon; Elsmere Canyon; Rustic-Sullivan Canyons; Towsley Canyon; and, Toyon Canyon II. The Preliminary Alternate Site Study is provided in FEIR Responses to Comments Volume A, Appendix 11. These sites were then recommended for further detailed evaluation by the Solid Waste Management Action Plan. The Draft Program EIR for this plan has evaluated the Towsley, Blind and Mission/Sullivan-Rustic Canyon sites. The Elsmere Canyon site is being evaluated in a separate EIR/EIS. The Draft Program EIR indicates that the Browns Canyon and Toyon Canyon II sites "were dropped from further consideration due to problematic geological conditions;"

b) The County Solid Waste Management Action Plan (which is the basis for the Draft Program Environmental Impact Report referenced previously) identifies the need for the expansion of existing landfill sites and the development of new waste disposal sites in order to meet the long-term disposal demands of the County, as described in detail in FEIR Responses to Comments Volume A (Topical Response 25). The primary goal of the Action Plan is to provide for 50 years worth of permitted landfill capacity through use of all available options (i.e., expansions, new sites, waste diversion) to the maximum extent technically and environmentally feasible. The Action Plan is provided in FEIR Responses to Comments Volume A, Appendix 11;

c) The County Department of Public Works has prepared a Report of Needed Future Landfill Capacity for Los Angeles County, which was presented to the Regional Planning Commission during its public hearings on the landfill extension. The report reiterates the

significance of the projected need for additional waste disposal capacity over the next ten years and beyond. Refer to FEIR Responses to Comments Volume A (Topical Responses 25 and 26). The report recommends implementation of several landfill expansions and new facilities as part of the regional integrated waste management system, each of which is not to be considered mutually exclusive, and states that, "It is essential that the few sites . . . be permitted to their maximum, environmentally acceptable capacity to assure a long-term waste management resource for this County." The report also states that, "it is reasonable to assume that one or two facilities will not adequately provide the needed capacity . . . ."

d) The most recent projections prepared by the County Department of Public Works indicates that although the amount of waste that will be generated over the next twenty years and that needs to be disposed will slightly decrease (which projections assume compliance with the waste diversion goals of AB 939), the remaining disposal capacity will substantially decrease over the same period of time. These same projections indicate that, assuming that pending litigation involving the renewal of the land use permits for the Puente Hills landfill facility does not prevent that facility from continuing to operate, a daily disposal capacity shortfall of over 6,000 tons will occur by 1995. If the Puente Hills facility is forced to cease operations, a daily disposal capacity shortfall of almost 9,000 tons is projected to occur. On September 14, 1993, a Los Angeles Superior Court issued a ruling that the prior certification of the EIR prepared for those renewed permits would be vacated on two different grounds, although that court also ruled that that facility may continue to operate for a certain period of time; and

e) The April 1993 Additional CEQA Document indicates that the Santa Monica Mountains Conservancy has secured property purchase options and land swap agreements which, in the opinion of the County Department of Public Works, may severely limit the potential for the development of the Towsley and Blind Canyon sites as landfills. A potential landfill site located in the Mission-Rustic-Sullivan Canyons was also considered by the County, but the Santa Monica Mountains Conservancy is

attempting to obtain control of a parcel of land between the canyons proposed for access to a portion of the site, and the State has initiated a condemnation review for possible use of the site for park purposes. Finally, a draft EIR/EIS for a new landfill in Elsmere Canyon is being prepared. However, in the opinion of the County Department of Public Works, that proposed landfill will not be operational until late 1997.

C. Resource Recovery Systems

Description of Alternative: As discussed in the FEIR topical responses, resource recovery systems are not alternatives to a landfill facility, but are beneficial in conjunction with landfill disposal of solid waste. Material recovery at centralized processing locations (e.g., transfer stations) and source reduction and recycling programs (e.g., residential curbside recycling) can substantially decrease the volume of waste requiring disposal in landfills. To this end, the Permittee has proposed an On-Site Solid Waste Recovery and Recycling Program to be implemented at the site as a component of landfill operations.

Comparison of Effects of the Alternative to Effects of the Proposed Project: Implementation of resource recovery programs in conjunction with the proposed landfill may reduce some project-related operational impacts such as truck traffic volumes on local roadways and associated air pollutant emissions, as well as maximize the life and available long-term capacity of the environmental effects of resource recovery programs themselves. An environmental assessment of the recovery and recycling program proposed by the Permittee evaluates potential environmental effects of the Permittee's plan and identifies measures which would be taken to avoid or minimize those effects.

Effectiveness in Meeting Project Objectives: For reasons stated above, resource recovery systems alone would not be effective in meeting the Permittee's stated objectives, or satisfy the regional waste disposal capacity needs of the County as described in the Solid Waste Management Action Plan. However, implementation of resource recovery systems in conjunction with the proposed landfill and throughout the County will serve as a primary component of the County's Integrated Solid Waste Management System.

Feasibility: The "resource recovery systems" alternative is not feasible.

Facts: The above findings are made in that:

a) Assembly Bill 939, codified as Sections 40000 through 49620 of the Public Resources Code, was enacted on January 1, 1990. This Bill requires

that agencies undertake actions which, when implemented, will result in the reduction of solid waste entering landfills by means of an integrated waste management system incorporating waste reduction, recycling and re-use programs. Each agency is required to divert 25 percent of all solid waste from entering landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000. Future compliance with these diversion goals was assumed in the most recent disposal capacity projections prepared by the County Department of Public Works (identified above);

b) The County Solid Waste Management Action Plan identifies the need for waste reduction, recycling and re-use measures as a component of the integrated waste management system in order to reduce the dependency on landfilling of solid waste and prolong the life of landfills, as described in detail in FEIR Responses to Comments Volume A (Topical Response 25). The Action Plan is provided in FEIR Responses to Comments Volume A, Appendix 11;

c) Studies prepared by the County and City of Los Angeles indicate that with current technologies in waste diversion (prior to ongoing recent Assembly Bill 939 efforts), approximately 22 percent of the total municipal wastestream, including roughly 30 percent of residential waste, can be diverted/recycled, as described in detail in FEIR Responses to Comments Volume A (Responses 907 and 915); and

d) The County Department of Public Works' Report of Needed Future Landfill Capacity indicates that resource recovery systems alone cannot solve the waste disposal needs of the County or replace the need for additional landfill disposal capacity, stating that, "an Integrated Waste Management System, as required by AB 939, can only be provided if landfill capacity is available." The report is provided in FEIR Responses to Comments Volume A, Appendix 11. Resource recovery programs cannot effectively provide a short-term alternative to the Proposed Project or, in general, satisfy the County's need for additional waste disposal capacity, as described in detail in FEIR Responses to Comments Volume A (Topical Response 26) and the April 1993 Additional CEQA Document (Section 4.4.2 and Appendix F).

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D. Smaller Landfill Alternative

Description of Alternative: This alternative would allow for the County extension of the Sunshine Canyon Landfill to a total capacity of approximately 180 million tons, as opposed to the 215 million ton Proposed Project. This reduced alternative design provided for a maximum disposal capacity of 17,500 tons per day, with a probable daily waste stream of between 12,000 and 14,000 tons per day.

Comparison of Effects of the Alternative to Effects of the Proposed Project: The smaller landfill alternative would result in many of the same potential impacts as the Proposed Project. In general this is due to the fact that the majority of natural resource impacts will occur in the bottom of the canyon, regardless of the total landfill capacity, and because the intensity of the daily operation would be the same as for the Proposed Project.

Effectiveness in Meeting Project Objectives: This alternative would substantially meet the Permittee's stated objectives by allowing for the continued operation of landfill activities at the location.

Feasibility: This alternative was not selected because the approved Revised Project provides greater environmental mitigation potential.

E. Unincorporated County Area-Only Alternative

Description of Alternative: This alternative project would allow an initial extension of the landfill into unincorporated territory and, if further landfilling operations were not permitted within City territory, additional landfilling within unincorporated territory having a total waste capacity of approximately 70 million tons.

Comparison of Effects of the Alternative to Effects of the Proposed Project: The reduced capacity of the County area-only alternative would result in a reduction in some of the impacts from those associated with the Proposed Project, but would still result in many of the same significant adverse impacts associated with the landfill project.

Effectiveness in Meeting Project Objectives: The County area-only alternative would satisfy, in part, the County's objectives of additional waste disposal capacity over the next several years, but may still leave the County with a landfill shortage in the future.

Feasibility: This alternative was not selected because the approved Revised Project provides greater environmental mitigation potential. The Revised Project reduces the impacts associated with this County area-only alternative because the area of disturbance

within unincorporated territory is significantly reduced and the maximum capacity permitted within unincorporated territory is below the 70 million tons of fill that would have been allowed under the County area-only alternative.

F. Other Alternatives Raised During The Public Comment Period: Extension/Expansion of Existing Landfill Sites

This concept was not considered a feasible alternative to the Proposed Project for the following reasons. The Solid Waste Management Status and Disposal Options Report, included in the Appendix to Responses to Comments (Topical Response Section) dated June 1990 (the "Options Report"), demonstrates that extension/expansion of existing landfill sites is the primary means to satisfy the County's waste disposal capacity needs in the short-term. According to that report, in addition to the Sunshine Canyon Site, existing sites at Puente Hills (new, ten-year LUP recently issued), Scholl Canyon, Azusa Western, Chiquita Canyon and Bradley West all provide the potential for extension/expansion. The Options Report indicated that extending or expanding the permit at these sites would provide significant additional capacity.

However, expansion of the Azusa Western landfill has been blocked by rulings made by the State Water Resources Control Board and litigation has ensued. The BKK landfill is expected to close in 1995 under an agreement with the City of West Covina. The City of Los Angeles recently issued a zoning variance for the continued operation of the Bradley West landfill, but did not increase the permitted site capacity (exhaustion of capacity expected by 1997). Similarly, the term of the land use permit for the Chiquita Canyon landfill expires in 1997.

Furthermore, the Sunshine Canyon site, which has the largest remaining potential capacity of any existing site, is shown by the Options Report to be the key to averting the disposal capacity shortfall in the near term. The Options Report (Table 6A) indicated that if every site except Sunshine Canyon received an extension, a capacity shortfall would still occur and would continue to increase, reaching a capacity shortage of 31,800 tons per day by the year 2000 again, assuming no new sites and current levels of recycling. The most recent disposal capacity projections (referred to above) continued to show the need for the Sunshine Canyon site to satisfy the short and long term needs of the County. Therefore, extension or expansion of existing landfills is not an alternative to such an extension at Sunshine Canyon.

Landfill Diversion Alternatives

This concept was not considered a feasible alternative to the Proposed Project for the following reasons. The Options Report indicates that the landfill diversion alternatives could assist in long term waste management. Landfill diversion alternatives are

actions designed to divert portions of the total solid waste stream away from landfills and into other waste management options. The primary landfill diversion alternatives are refuse-to-energy operations, recycling, which has already been discussed above, and composting.

As the Options Report indicates, public resistance to refuse-to-energy plants in Southern California is high. The resulting lack of political support coupled with recently enacted South Coast Air Quality Management District "new source" rules makes it extremely unlikely that any substantial amount of solid waste will be diverted in this manner in the foreseeable future.

Composting refers to the controlled decomposition of organic waste (i.e., yard and garden wastes) resulting in a nutrient rich material that can serve as a soil conditioner. The Options Report indicates that, with maximum recovery, 7,200 tons per day of solid waste could be diverted through composting. The Options Report concludes that the actual diversion rate is likely to be significantly lower, however, based on the fact that only relatively pure yard and garden wastes are suitable for composting. In addition, as with other recyclables, the ability of markets to absorb additional compost materials is unclear and no such local market presently exists.

Also, while enhanced landfill diversion alternatives will be necessary to assist in the management of the County's waste disposal needs, the Options Report and the Needed Capacity Report makes it clear that enhanced diversion cannot solve the projected capacity shortfall.

Rail Haul and Out of County Landfills

These concepts were not considered feasible alternatives to the Proposed Project for the following reasons. With respect to the evaluation of a rail haul system, that alternative was found to be rife with economic and technical uncertainty. The location and number of necessary transfer stations (where collection vehicles could offload waste for loading on to rail cars), the design of the rail cars and the optimal train length are all subject to great uncertainty. The Options Report indicates that to handle only refuse produced by the City of Los Angeles would require a train of between four and ten miles in length crossing the County each day. The Options Report also indicates that rail haul is by far the most expensive option for waste disposal of those considered. Accounting only for known costs, rail haul would result in an increase over existing disposal costs of approximately 125%.

While a number of proposals are currently being pursued for waste-by-rail projects, their feasibility to provide additional disposal capacity in the short and long-term is still uncertain. The status of these development proposals is discussed in the April 1993

Additional CEQA Document, Appendix F, the Quarterly Status Report, pp. 9-13. That document indicates that these projects are still in various stages of the review and permit process (and some are already in litigation). The County Department of Public Works has projected that the earliest (under the most optimistic scenario) that any of these projects would be available to accept some level of County-generated waste is 1996. Adding to the uncertainty of this alternative, however, is the fact that the proposed rail loading station sites in the metropolitan area of Los Angeles County will have to undergo the intensive environmental review, public hearings and local and State permit processes and operating permit approvals must be granted by the local governing bodies. The only such facilities located in the Los Angeles Metropolitan area are relatively small in size and were primarily designed to process source separated recyclables. The materials recovery and rail loading facility recently approved for the Puente Hills landfill facility will only accept commercial waste, and its development will require the future acquisition of privately held land. Because waste-by-rail has not yet been demonstrated to be a feasible method of disposal for Los Angeles County waste, and is much more costly than in-County landfills, another major action that must be taken involves the need to obtain long term commitments of waste to the project. If a minimum of 4,000 tons per day of waste is committed, a Joint Powers Authority would be established to negotiate a long term contract for a waste-by-rail disposal system with one or both proposers. As of this date no waste commitments have been made, but there appears to be a great deal of interest on the part of a number of cities in pursuing this concept. Given the status of the two project proposals with which the Sanitation Districts have been working, it is estimated that a minimum sized system of 4,000 tons per day could be operating in the 1996-1997 time frame. It must be recognized however, that there are major uncertainties and potential controversies which could significantly delay implementation.

During the public hearing of July 14, 1993, some members of the public suggested that haulers who accept waste generated in Los Angeles County could transport that waste by truck to landfills in Orange and/or Riverside County. No substantial evidence to support that alternative was presented at the hearing, and this potential alternative is not considered feasible as it is currently speculative and will not satisfy the short and long-term objectives of the County's Integrated Waste Management Plan to secure and maintain adequate landfill capacity at all times. The County's Plan is necessarily dependent on sufficient disposal capacity within the County since out-of-County facilities are not within the jurisdictional control of the County and dependence on such facilities may be detrimental to the public health and safety of its citizens if the governing authorities of those out-of-County landfills decide at any future time to not accept or cease accepting Los Angeles County waste. Also, at the current time, Orange County prohibits the disposal of waste in landfills located

in that county that is generated in other counties. Refer to July 1993 Responses to Comment Document, Section 2.0, Comment/Response 3. More recently, Orange County decided against proceeding with its proposal for landfills located in that County to accept out-of-county waste.

City-Only Alternative

This concept was not considered a feasible alternative to the Proposed Project for the following reasons. A City-Only Alternative has been considered as suggested during the public review and hearing processes for the Revised Project. The City-Only proposal is that the existing 230 acre landfill facility in the City of Los Angeles be utilized for an additional 5 years in order to enable time to seek an alternative site or method of disposal to the Sunshine Canyon site. This alternative is discussed in more detail in Volume A, Topical Response 27 of the FEIR. Operations at that facility ceased in September 1991 due to the expiration of the applicable zone variance. This alternative fails to address the County's overall waste management policy as set forth in the Solid Waste Management Plan or related documents.

Moveover, there is evidence that this alternative would be infeasible from an economic and engineering standpoint, although there is disagreement with this analysis. As a consequence, the Planning Commission has rejected this option as an infeasible alternative to the selected alternative project.

North Valley Coalition City/County Landfill Alternative

This concept was not considered a feasible alternative to the Proposed Project for the following reasons.

An alternative fill design concept proposed by the North Valley Coalition recommended the use of City and County areas and purported to provide for 10 million tons of disposal capacity. The Sanitation Districts, incorporating engineering, operating and environmental considerations and constraints not recognized by the NVC's proposal, estimated that the designated area would accommodate only approximately 5 million tons of capacity. In addition, the presence of a series of electrical transmission lines and towers running along the boundary between the City and County is a potentially significant obstacle to implementing a fill operation in the proposed area within a reasonable time period. These towers would have to be moved prior to filling in this area or the designated area would be limited to a landfill with a capacity of only 1.5 to 2 million tons. Furthermore, environmental studies and approvals necessary for such relocation would require approximately 3 to 5 years, thus delaying the landfill extension so long as to render this alternative wholly infeasible because it fails to meet the County's short-term need for sufficient additional landfill capacity. The reduced amount of total disposal

capacity under this alternative would also not satisfy the County's long term capacity needs.

SECTION 6.

FINDINGS REGARDING MITIGATION MONITORING PROGRAM

Requirement of Mitigation Monitoring Program

Section 21081.6 of the Public Resources Code requires that when a public agency is making the findings required by State CEQA Guidelines Section 15091(a)(1) and Section 21081 of the Public Resources Code, the public agency shall adopt a reporting or monitoring program for the changes to the Revised Project which it has adopted or made a condition of Revised Project approval, in order to mitigate or avoid significant effects on the environment.

The County hereby finds that the Mitigation Monitoring Program and Summary attached to the Revised Project's Conditional Use and Oak Tree Permit Conditions meets the requirements of Section 21081.6 of the Public Resources Code by providing for the implementation and monitoring of Revised Project conditions intended to mitigate potential environmental effects.

SECTION 7.

FINDING REGARDING INDEPENDENT JUDGEMENT

Pursuant to 21082.1 of the Public Resources Code, the County finds that the FEIR reflects the independent judgment of the County as the lead agency for the Proposed Project.

SECTION 8.

STATEMENT OF OVERRIDING CONSIDERATIONS

The FEIR identified and discussed significant effects which will occur as a result of the Revised Project. With the implementation of the mitigation measures discussed in the FEIR, these effects can be mitigated to levels of insignificance except for unavoidable significant impacts on biotic resources, as identified in Section 2 of these Findings.

Having reduced the effects of the Proposed Project by adopting the Revised Project, outlined as the County-only alternative, and balanced the benefits of the Revised Project against the Revised Project's potential unavoidable adverse impacts (which includes due consideration of the recommendations and opinions made by the Significant Ecological Areas Technical Advisory Committee in May 1992), the Planning Commission hereby determines that the benefits of the Revised Project outweigh the potential unavoidable adverse

impacts, and that the unavoidable adverse impacts are nonetheless "acceptable," based on the following overriding considerations:

a) The Revised Project will provide needed landfill capacity, available to both public and private entities within the County, to help avert a County-wide waste disposal capacity shortfall that may occur as early as November 1993 or in 1995, as discussed at page four of these findings. Refer also to EIR Responses to Comments Volume A (Topical Response 26) and the April 1993 Additional CEQA Document (Section 4.4.2 and Appendix F).) The Revised Project will serve as a major Class III landfill site and as a component of the County's regional integrated waste management system and is expected to accommodate a substantial portion of the County's waste disposal needs well into the twenty-first century.

b) Provision of additional disposal capacity by the Revised Project allows a number of existing landfills to close in compliance with their permitted closure plans and will avoid the potential adverse effects associated with using these facilities beyond their design capacities should it become necessary.

c) The Revised Project site is designated both as a planned potential Class III landfill site in the County Solid Waste Management Plan (CoSWMP, Revision A, 1985) and as a major planned extension of an existing landfill facility in the County Solid Waste Management Action Plan, as described in detail in EIR Responses to Comments Volume A (Topical Response 25).

d) The Revised Project constitutes an extension of the infrastructure of an existing solid waste landfill facility located in Sunshine Canyon within directly adjacent City of Los Angeles lands. That existing facility was in operation from 1958 through September 1991 and encompassed approximately 230 acres within the canyon. The existing landfill entrance and main access roadway allow for effective access to the Revised Project site on adjacent county lands in Sunshine Canyon. Revised Project operations will for the most part assimilate the former operations of the existing City landfill structure, and will, therefore, provide a continuation of waste disposal services at the Sunshine Canyon location.

e) The Board has adopted a project which will substantially lessen the environmental effects of the Proposed Project and meet the primary objectives of the Permittee and the County. Potential short-term alternatives to the Revised Project would not be environmentally superior, nor would they allow the County to adequately satisfy its short-term waste disposal capacity needs, as described in detail in FEIR Responses to Comments Volume A (Topical Response 26) and the April 1993 Additional CEQA Document (Section 4.4.2 and Appendix F). The County has also determined that potential long-term waste management options are necessary in combination with the landfill capacity provided by the Revised Project, and in themselves do not constitute feasible or environmentally superior alternatives to the Revised Project, as described in detail in FEIR Responses to Comments Volume A (Topical Response 25).

f) The Revised Project would provide opportunities to implement various waste diversion, recovery and recycling measures, through an agreement(s) entered into between the County and the Permittee, to contribute to the County's efforts to comply with the requirements of Assembly Bill 939, codified as Sections 40000 through 49620 of the Public Resources Code. The Permittee has prepared a program for the recovery and recycling of various incoming waste materials, including yard wastes, wood wastes, inorganic material and corrugated paper, as part of the proposed landfill operation. In addition to off-site export for reuse by various market sources, these processed materials will be utilized at the landfill in daily operations. This proposed On-site Solid Waste Recovery and Recycling Program is provided in FEIR Responses to Comments Volume A, Appendix 6. Recycling of residential waste materials at the proposed landfill could also be possible in the future in combination with implementation of curbside recycling programs and/or transfer station processing centers.

g) The Revised Project site is located in an area in close proximity to the majority of waste sources in the County. The County's Solid Waste Management Plan has not identified any future waste disposal sites as close to the current waste sources that could serve the communities currently served by the Sunshine Canyon Landfill. Revised Project implementation may reduce overall vehicle emissions by reducing the travel distances from waste

material sources to new landfills which may be located farther from these sources.

h) The County will receive ten percent of the gross tipping fees collected by the landfill operator.

i) The County, or other designated public agency, will acquire 507 acres of land located primarily in East Canyon adjacent to the Revised Project site with a smaller portion in Sunshine Canyon, through dedication in fee and as easements by the Permittee, for use as permanent open space in perpetuity, as described in detail in FEIR Responses to Comments Volume A (Topical Response 16).

j) An approximately 100-acre open space area on the southern boundary of the Revised Project site will be maintained by the Permittee as a nature preserve and as a buffer area. Additional acreage on the northern perimeter of the site would also be maintained by the Permittee in its natural state.

k) The Permittee will provide for riding and hiking trails within the limits of the area to be dedicated. The Permittee will further work with the Department of Parks and Recreation to identify, relocate, where appropriate, and dedicate the necessary rights-of-way for public use of the East Canyon, Bee Canyon, O'Melveny and Weldon Trails.

l) The Permittee will finance studies pertaining to the remaining Significant Ecological Areas.

m) The Permittee has stated its intention to plant oak trees in and around the Revised Project site well in excess of the County Oak Ordinance's required 2:1 replacement ration for removed trees. Additionally, the Permittee will provide a 5:1 replacement ratio for Bigcone Douglas-fir trees at locations in the immediate vicinity of the site. It is the Permittee's expressed intent to plant all replacement trees for the entire Revised Project within the first three years of landfill development, and all oak and douglas-fir plantings will be monitored for five years following their establishment to provide guaranteed survival of each tree during that initial growth period, as described in detail in Response to Comments Volume A (Topical Response 14).

n) Permittee shall contract with Cal Poly University Pomona, or an institution of similar capabilities acceptable to the Forester and Fire Warden, to engage in a study of Los Angeles County's hardwood forest resources and reforestation needs.

o) The Permittee will fund fifty percent of the cost of up to six hazardous waste roundups for the area surrounding the landfill, provided that the Board of Supervisors authorizes such roundups and at least fifty percent of the funding is provided by the County and/or other public agencies.

p) The Revised Project has been down-scaled substantially as a result of careful review and extensive input from nearby residents and interested parties.

q) The Revised Project site itself will ultimately provide additional permanent open space for the County when the landfilling has reached final capacity and the facility's closure plan is completed. The completed landfill surface will be revegetated with substantial trees and vegetation, as described in FEIR Responses to Comments Volume A (Topical Response 15). The site will be maintained by the Permittee until the time that its final use is determined by the State and County, however, it is expected that ultimately it will be made available to the public at no additional acquisition cost to the agency designated to receive the land.

r) The foregoing benefits provided to the public through approval of and implementation of the Revised Project outweigh the identified significant environmental effects of the Revised Project which cannot be mitigated.

SECTION 9.

SECTION 15091 FINDINGS

Based on the foregoing findings and the information contained in the record, the Board of Supervisors has made one or more of the following findings with respect to the significant effects of the Revised Project:

a) Changes or alterations have been required in, or incorporated into, such Revised Project which mitigate or avoid many of the significant

environmental effects thereof as identified in the FEIR.

b) Some changes or alterations are within the responsibility and jurisdiction of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.

c) Specific economic, social, or other considerations make infeasible the mitigation measures or alternatives identified in the environmental impact report.

Based on the foregoing findings and the information contained in the record, and as conditioned by the foregoing findings:

a) All significant effects on the environment due to the Revised Project have been eliminated or substantially lessened where feasible.

b) Any remaining significant effects on the environment found to be unavoidable are acceptable due to the overriding concerns set forth in the foregoing Statement of Overriding Considerations.

COUNTY OF LOS ANGELES

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November 22, 1993

Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Re: CONDITIONAL USE PERMIT NUMBER 86-312
OAK TREE PERMIT NUMBER 86-312
FIFTH-SUPERVISORIAL DISTRICT/3-VOTE MATTER

Dear Supervisors:

Your Board recently conducted a public hearing on the above-entitled zoning permits which seek permission for extension of the Sunshine Canyon Landfill into the unincorporated area of the county.

At the conclusion of your deliberations, you rendered a preliminary order to approve the permits with conditions, and instructed this office to prepare findings and conditions for your review before entry of the final order. Such findings, conditions, and order are attached hereto.

Very truly yours,

DE WITT W. CLINTON
County Counsel

By
CHARLES J. MOORE
Principal Deputy County Counsel
Public Works Division

APPROVED AND RELEASED:

DE WITT W. CLINTON
County Counsel

CJM:vc
SS:board17.ltr

FINDINGS AND ORDER OF THE COUNTY OF LOS ANGELES BOARD OF SUPERVISORS

CONDITIONAL USE AND OAK TREE PERMIT CASE NO. 86-312(5)

BOARD HEARING DATE: OCTOBER 21, 1993

SYNOPSIS:

Browning Ferris Industries of California, Inc. has applied for a Conditional Use and Oak Tree Permit 86-312-(5) in connection with its request for the reapproval of the Sunshine Canyon Landfill Extension, a Class III nonhazardous solid waste landfill facility consisting of a 215-acre landfill footprint with an estimated net air space capacity of 16.9 million tons, providing for an average daily waste disposal intake of approximately 6,000 tons (proposed project). The project site is located in the unincorporated territory of the County of Los Angeles.

The Board previously held duly noticed public hearings on this proposed project on November 29, 1990; January 29, 1991; February 14, 1991; February 19, 1991; and July 28, 1992. Copies of all environmental documents which comprised the Final Environmental Impact Report, Sunshine Canyon Landfill Extension, State Clearinghouse Number 89071210 (FEIR) were provided to the Board before those public hearings. The Board initially approved the proposed project on February 19, 1991, and certified the FEIR, approved the land use entitlements (Compound Plan Amendment 90-2-(5) and Sub-Plan Amendment 86-312-(5)) and issued the requisite project permits (Conditional Use Permit and Oak Tree Permit 86-312-(5)).

Following FEIR certification and project approval, litigation commenced regarding those approvals and the FEIR for the project. Initial County approvals and permits were vacated pursuant to a Peremptory Writ of Mandate (Writ) by the Superior Court of California, County of Los Angeles on April 22, 1992.

The Addendum to the Final Environmental Impact Report for the Los Angeles County Board of Supervisors, State Clearinghouse 89071210, May 1992 (Addendum to the FEIR) was prepared by the County Department of Regional Planning (County Planning Staff) to bring the FEIR into compliance with the Writ. Copies of that Addendum to the FEIR were disseminated to the Board along with the previously certified FEIR and the administrative record of the proposed project's proceedings before its action on the proposed project of July 28, 1992. At that time, the Board recertified the FEIR, reapproved the project and the land use entitlements, and reissued the project permits.

A court order entered on October 30, 1992 required the County to recirculate for public review and comment certain information

pertaining to three environmental issues addressed in the Addendum to the FEIR prior to final consideration of the project. The Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension, State Clearinghouse Number 89071210, April 1993 (Additional CEQA Document) was then prepared by the County Planning Staff. Copies of this document were circulated for a 45-day public review and comment period, which commenced on April 21, 1993 and culminated on June 7, 1993. Written comments on this environmental document were accepted and responded to by County Planning staff.

Subsequent to that public review and comment period, the County Regional Planning Commission held duly noticed public hearings regarding the environmental matters addressed within the Additional CEQA Document. Noticed public hearings were held on July 14, 1993 to accept public testimony and on July 28, 1993 to deliberate on the proposed project. Final action on the proposed project was taken on August 4, 1993. At that time, the Regional Planning Commission approved the requisite permits and recommended to the Board of Supervisors that it approve the proposed General Plan Amendments.

PROCEDURE BEFORE THE BOARD OF SUPERVISORS

On October 21, 1993, the Board of Supervisors held a duly noticed public hearing. Staff provided its presentation and public testimony was then received. Written responses to that testimony were then prepared by the staff. At its meeting of November 18, 1993, the Board of Supervisors discussed and deliberated on the project.

FINDINGS

At its meeting of November 18, 1993, the Board of Supervisors, having completed its discussion, by a vote of 4-1, Supervisor Antonovich dissenting, instructed staff to prepare final findings and conditions for approval.

1. The applicant is the owner/operator of the Sunshine Canyon Landfill, a Class III nonhazardous solid waste landfill facility previously in operation within the jurisdiction of the City of Los Angeles.

2. According to certified land surveys, the overall area within the applicant's ownership and/or control is more or less 1,528 acres of land located adjacent to and southwest of the interchange of the I-5 (Golden State) and Route 14 (Antelope Valley) Freeways. The land is divided between the City of Los Angeles, about 494 acres in area, and unincorporated territory of the County of Los Angeles, about 1,034 acres in area.

3. The applicant requested entitlements to extend the existing landfill into unincorporated territory. As approved, the proposed expansion area encompasses an area of approximately 542 acres of the applicant's aforementioned ownership/control area. The balance of the applicant's ownership/control area within unincorporated territory, about 492 acres in size, is to remain undeveloped.

4. With respect to any future extension of the landfill, the County wishes to conserve and, if possible, avert destruction of significant ecological resources within unincorporated territory and to encourage the City of Los Angeles to, insofar that it is environmentally and economically appropriate, permit landfill capacity within the City's corporate limits adequate to meet the City's need for such disposal capacity. The County believes that these goals may be accomplished by the permitting of substantial additional fill on land within the City in the applicant's ownership and control. Accordingly, the conditions of approval require the applicant to diligently pursue its application to the City of Los Angeles for entitlements to expand Sunshine Canyon Landfill operations within the City. The conditions of approval further place restrictions upon access to the County portion of the landfill by City operated trash trucks, and eventually, by any truck carrying trash collection within the City, if the City has not granted a permit to allow at least 20 million tons of additional landfill capacity within City territory by certain dates.

5. The approved project proposal will begin within unincorporated County territory with a fill having an estimated waste capacity of approximately 16.9 million tons and covering a landfill footprint of approximately 215 acres exclusive of support facility sites (County Only Fill Design). If permitted by the City of Los Angeles, the filling would, after development of the initial increment of the 215 acre landfill in unincorporated territory, begin concurrent operations in the City's jurisdiction. The landfill would then increase progressively in height in the City and in the County area until the final elevation of the City-County landfill design (having approximately 100 million tons of waste disposal capacity) has been reached (City-County Fill Design). The canyons would then be filled and the landfill would close subject to a detailed closure plan unless further permits to expand the landfill were subsequently granted. If the City denies the applicant's request to extend into the City or grants a permit for a fill which does not overlay the project area associated with the County Only Fill Design, then, under the approved project, no portion of the landfill extension within the County may extend beyond the surface area associated with the County Only Fill Design.

6. The project area within unincorporated territory is zoned A-2-2 (Heavy Agriculture-Two Acre Minimum Lot Size). Waste disposal facilities require a conditional use permit in this zone.

7. Development of the unincorporated portion of the approved landfill would entail removal of an estimated 2,850 oak trees. Pursuant to the County's Oak Tree Ordinance, an Oak Tree Permit is required for the removal of one or more oak trees.

8. An environmental impact report (EIR) was prepared which addressed the environmental effects of implementing a 215 million ton landfill within the unincorporated area and the City of Los Angeles and alternatives thereto. The EIR contains detailed descriptions of the proposal and of the setting of the subject property and documents the potential impacts and proposed mitigation measures.

9. The environmental findings of fact with respect to the environmental impacts identified in the EIR, the planned mitigation measures, and the Board's Statement of Overriding Considerations are incorporated herein by this reference as if set forth in full.

10. Any landfill extension operations will entail the construction and maintenance of substantial ancillary facilities. These would include, but are not limited to, offices, employee wash rooms, caretaker's residences, parking, waste diversion, gas and leachate collection, water and waste recycling facilities, and distribution and processing installation. The EIR documents indicate there is sufficient area available for the necessary ancillary facilities.

11. The portion of the proposed landfill extension within unincorporated territory lies entirely within land designated as a "Significant Ecological Area" (SEA) on the County General Plan. The County Zoning Ordinance provides that projects within an SEA be designed so that wildlife corridors and water courses remain in their natural state. Since these provisions preclude the use of an SEA as a landfill, the applicant requested an amendment to the General Plan for deletion of 542 acres from the SEA. Based on the EIR and the studies contained therein, it has been determined that: (a) the area being deleted from SEA 20 is approximately 2.5% of SEA 20, (b) deletion of the area will not substantially inhibit gene flow and wildlife movement, and (c) in light of the impending waste disposal crisis within the County of Los Angeles, the deletion of the area from the SEA is in the public interest. The General Plan Amendment was heard concurrently with the Conditional Use and Oak Tree Permit 86-312-(5).

12. The Commission concurrently considered and, by resolution, recommended for adoption by the County Board of Supervisors the proposed amendments to the General Plan Policy, Land Use Policy, Special Management Areas and Santa Clarita Valley Maps of the Los Angeles County General Plan to exclude the proposed landfill expansion site from the aforementioned SEA; designate Sunshine Canyon as a planned landfill extension site on the Solid Waste Management Plan Map; and declare as a matter of policy in the Solid Waste Management Plan that uses inconsistent with the operation of the Sunshine Canyon landfill shall be prohibited within upper Bee and East Canyons adjacent to the landfill and, further, that these areas are expressly identified as unsuitable for future landfill extension.

13. The aforementioned General Plan Amendment will redesignate land uses within the areas as Hillside Management, Non-Urban Hillside and residential (non-urban). The general plan recognizes that many non-residential uses may be appropriately located in non-urban hillside management areas. Included in the listing of uses prospectively allowed are... "waste disposal facilities that require Canyon locations as a buffer to urban uses. Effectuation of approved site restoration plans shall be required at the termination of such uses".

14. The Solid Waste Management Plan Map shows the Sunshine Canyon Landfill as both an existing and potential landfill. The existing landfill site and the proposed site are identified on the current plan map, respectively, as "North Valley" and "North Valley Extension." Potential landfill sites were placed on the map on the basis of their incorporation in the Los Angeles County Solid Waste Management Plan (CoSWMP), as originally adopted by the Board of Supervisors on October 25, 1977, and subsequently amended. The CoSWMP was also approved by a majority of the cities within the County which contain a majority of the population of the incorporated areas of the County.

15. The General Plan provides that new and expanded landfill sites shown on the plan maps are potential only, and must be evaluated for possible impacts before actual approval. With respect to evaluation of proposed sites, the General Plan states in part:

> "The criteria to be applied by the Regional Planning Commission in considering an application include the regional and local need for the specific waste facility as well as the potential impacts the use will have on the community ... Regional need should not outweigh the impact on the community. Potential hazards should be given greater consideration than the regional need."

16. The County Department of Public Works is the County agency charged with integrated solid waste management planning. The Department of Public Works prepared and submitted estimates of the need for landfill capacity regionally and at the Sunshine Canyon Landfill, specifically. Reports were submitted, which have been incorporated into the project's EIR. Further evidence was presented to the Board of Supervisors during the public hearing process documenting the urgent need for additional disposal capacity at Sunshine Canyon Landfill notwithstanding existing and/or proposed landfill waste diversion programs such as recycling and waste by rail haul.

17. The applicant prepared and submitted an oak tree report concerning the proposed removal of trees in conjunction with the proposed landfill extension project in conformance with the County's Oak Tree Ordinance. The County Forester reviewed the report and made recommendations to the Regional Planning Commission as required by the provisions of Section 22.56.2140 of the County's Planning and Zoning Code. The report, recommendations and a proposed mitigation plan for the removal are included in the environmental impact report for the project.

18. Development of the initial 16.9 million ton landfill extension increment would entail removal of approximately 43 percent of the total number of oak trees within the unincorporated portion of the overall City-County project site area. This rate of oak tree removal within the project operational area results from the fact that the highest concentration of trees occurs within the canyon bottoms where filling must commence. Should further filling ultimately be approved in the City territory, additional removal of oak trees would occur over a longer duration and at a much lower rate since the density of oak trees in the City area is well below that in the unincorporated territory.

19. The conditions of approval include provisions for the replacement of removed trees. These provisions substantially exceed the minimum requirements of the Oak Tree Ordinance. The conditions further include provision for the protection of the remaining oak trees and a program for the enhancement of the regional oak tree resources. The basis for these provisions and program is described in the EIR and the findings.

20. During the consideration of the proposed oak tree removals, the County Forester and Fire Warden confirmed that the methodology utilized for preparation of the project oak tree report, including the sampling techniques utilized, was valid. The January 15, 1991 report of the Forester and Fire Warden in this regard is incorporated herein by this reference.

21. The conditions of the project approval further require the applicant to financially contribute to up to six hazardous waste round-ups in the area of the landfill expansion and to help finance additional studies and monitoring of Los Angeles County SEAs to help further mitigate potential project impacts.

22. Compatibility of the proposed landfill extension with surrounding land uses will be ensured by the project conditions, which provide, among other things, for dedication to the County in fee and as easements property consisting of approximately 507 acres of open space in East Canyon and additional buffers along the landfill boundary. The applicant is further required to arrange for the acquisition as public open space of approximately 450 additional acres along the southwest boundary of the landfill within Upper Bee Canyon.

23. With reasonable care and due diligence in the regulation and operation of the landfill, hazard to the neighboring community and public services will not occur.

24. The traffic/access and utilities/services for the project are addressed in detail in the EIR and environmental findings.

25. The landfill extension will not: (a) adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area; (b) be materially detrimental to the use, enjoyment or valuation of property or persons located in the vicinity of the site; or (c) jeopardize, endanger, or otherwise constitute a menace to the public health, safety or general welfare.

26. The landfill site is adequately served by: (a) highways and streets of sufficient width, and improved as necessary to carry the kind and quantity of traffic that the landfill extension will generate; and (b) other public and private facilities as are required.

BASED ON THE FOREGOING, THE BOARD OF SUPERVISORS CONCLUDES:

With Respect to the Conditional Use Permit 86-312-(5):

A. Upon adoption of the recommended General Plan Amendments, the proposed landfill extension will be consistent with the adopted County General Plan and, specifically, will be located in a land use area authorized and designated for solid waste facilities and, further, the land uses which would be authorized adjacent to and near the facility would be compatible with the extension of the landfill facility.

B. With the attached restrictions and conditions, the requested use will not adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area and will not be materially detrimental to the use, enjoyment, or valuation of property of other persons located in the vicinity of the site and will not jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare.

C. The project site is adequate in size and shape to accommodate the development features prescribed in the Zoning Ordinance and otherwise required to integrate the use requested with the uses in the surrounding area.

D. The project site has adequate traffic access and is adequately served by other public or private facilities which may be required.

With respect to the Oak Tree Permit 86-312-(5):

A. Absent the oak tree removal permitted by the attached conditions, the placement of trees approved for removal precludes the reasonable and efficient use of the property for a purpose otherwise authorized.

B. The oak tree removal approved is not contrary to or in substantial conflict with the intent and purpose of the oak tree permit procedure.

C. Compliance with the measures contained in the attached conditions and monitoring program will avert damages to the remaining oak trees on the property.

D. Compliance with grading, drainage and other requirements of County regulations and the attached conditions and monitoring program will satisfactorily mitigate any potential soil erosion through the diversion or increased flow of surface water which would otherwise result from removal of the oak trees.

THEREFORE, THE BOARD OF SUPERVISORS approves this Conditional Use Permit and Oak Tree Permit subject to the attached conditions; approves the FEIR prepared for the project and certifies that it has reviewed and considered the information contained therein; certifies that the final environmental impact report has been completed in compliance with the California Environmental Quality Act and the State and County Guidelines relating thereto and reflects the independent judgment of the Board of Supervisors; determines that the conditions of approval and mitigation measures discussed in the environmental impact report, environmental findings and monitoring program are the only

mitigation measures for this project which are feasible; determines that the remaining unavoidable environmental effects of the project have been reduced to an acceptable level and are outweighed by specific social, economic and environmental benefits of the project; adopts the statement of overriding consideration prepared for the project; and adopts the Sunshine Canyon Landfill Extension Monitoring Program.

CONDITIONAL USE PERMIT 86-312-(5)
OAK TREE PERMIT 86-312-(5)

CONDITIONS OF PROJECT APPROVAL

1. Unless otherwise apparent from the context, the term "permittee" shall include the applicant and any other person, corporation, or other entity making use of this grant.

2. This grant shall not be effective for any purpose until the permittee and the owner of the property involved (if other than the permittee) have filed at the office of the Department of Regional Planning their affidavit stating that they are aware of, and agree to accept, all of the conditions of this grant and the Board of Supervisors has adopted General Plan Amendments consistent with this grant.

3. The permittee shall defend, indemnify and hold harmless the County, its agents, officers, and employees from any claim, action, or proceeding against the County or its agents, officers, or employees to attack, set aside, void, annul or seek damages or compensation in connection with this permit approval or the conditions of permit approval, which action is brought within the applicable time period of Government Code Section 65907 or other applicable time period. The County shall promptly notify the permittee of any claim, action, or proceeding and the County shall cooperate fully in the defense. If the County fails to promptly notify the permittee of any claim action or proceeding, or if the County fails to cooperate fully in the defense, the permittee shall not thereafter be responsible to defend, indemnify, or hold harmless the County.

4. Attached to these conditions is a Monitoring Program which is incorporated into these conditions by reference. The permittee shall fully perform each action required of the permittee by the monitoring program as if it were specifically set forth in these conditions.

5. This grant will expire unless used within 2 years from the date of approval (excepting any period of time deemed "tolled" as provided by law). A one year time extension may be requested before the expiration date.

6. This grant will terminate upon completion of the approved County only fill design, as shown on Exhibit "A", or, if applicable, upon completion of a City-County fill within the limits shown on Exhibit "A" (Alternate). Exhibit "A" and Exhibit "A" (Alternate) are described in Condition 10b.

   Should this grant terminate without new or additional permits having been granted, no further waste shall be accepted for filling or processing. However, the permittee is authorized to continue such facilities in operation as are necessary to

complete mitigation measures required by this grant or foreclosure or post closure maintenance required by federal, state and local agencies. All facilities not required for mitigation, closure or post closure maintenance shall be removed unless they are of a type permitted as a matter of course by the zoning regulations then in effect.

7. If any provision of this grant that is challenged by the permittee is held or declared to be invalid, the permit shall be void and the privileges granted hereunder shall lapse.

8. The subject property shall be developed, maintained and operated in full compliance with the conditions of this grant and any law, statute, ordinance or other regulation applicable to any development or activity on the subject property, including but not limited to those permits issued by the following agencies:

   a. The Local Enforcement Agency and the California Integrated Waste Management Board

   b. The Los Angeles Regional Water Quality Control Board

   c. The South Coast Air Quality Management District

   d. The California Department of Fish and Game

   e. The U.S. Army Corps of Engineers

   f. The State Department of Health Services

   Failure of the permittee to cease any development of activity not in full compliance shall be a violation of these conditions.

9. Notice is hereby given that any person violating a provision of this grant is guilty of a misdemeanor. Notice is further given that the Regional Planning Commission or a hearing officer may, after conducting a public hearing, revoke or modify this grant, if the Commission or hearing officer finds that these conditions have been violated or that this grant has been exercised so as to be detrimental to the public health or safety or so as to be a nuisance.

10. This grant allows the establishment and operation of a Class III nonhazardous landfill facility together with certain

ancillary and related activities, as enumerated herein, subject to the following restrictions as to use.

a. Incinerator ash, sludge, radioactive material, hazardous waste, and medical waste as defined in Section 25023.2 of the Caliofrnia Health & Safety Code shall not be accepted. Should such waste be nevertheless received at the landfill, it shall be handled and disposed of as provided in Condition 26.

b. The County wishes to conserve and, if possible, avert destruction of oak trees and other significant ecological resources within unincorporated territory and to encourage the City of Los Angeles to, insofar that it is environmentally and economically appropriate, permit landfill capacity within the City's need for such capacity. The County believes that these goals may be accomplished by the permitting of substantial additional fill on land within the City in the permittee's ownership and control. Therefore, the permittee shall diligently pursue its application to the City of Los Angeles to expand the landfill within the City (as necessary to accomplish the purpose of this condition) to the highest level of appeal within the City's decision making hierarchy.

Pending action by the City of Los Angeles on the permittee's application, no portion of the landfill may extend above the plain or outside of the surface area of the fill design shown as Sequence 1 on Drawing 3A, revised February 4, 1991, (containing an estimated 16.9 million tons of waste capacity), attached as Exhibit "A". Should the City of Los Angeles approve a fill design which, projected into unincorporated territory, would overlay the fill shown on Exhibit "A", without further action by the County to amend this grant the permittee may, as necessary to complete the City authorized design, extend the horizontal and vertical limits of fill in unincorporated territory to but not beyond those shown on Sequence 2, Drawing 3A, revised February 4, 1991, attached as Exhibit "A" (Alternate).

If the City of Los Angeles denies the permittee's request to expand into the City or grants a permit for a fill which does not overlay the project area shown on Exhibit "A", no portion of the landfill may extend above the

surface plain or outside of the surface area shown on Exhibit "A".

As used in this Condition 10b, "landfill" refers to the portion of the subject property in which waste is to be permanently placed and then buried under daily and interim cover material but excludes adjacent cut slopes, temporary storage areas and ancillary facilities authorized by this grant. The restrictions of Condition 10b do not apply to final cover which may be added as provided in Condition 16. Allowance for settlement of fill shall not be made in determining compliance with this Condition 10b.

The purpose of this condition is to minimize this destruction of oak trees while providing for the landfill capacity in both the City of Los Angeles and County of Los Angeles landfill operations.

c. Nothing in Condition 10b or elsewhere in these conditions shall be construed to prohibit the permittee from applying for new permits to expand the landfill or to otherwise modify the conditions of grant.

d. If within one year from the date of this grant, the City of Los Angeles has not granted a permit to expand the landfill within City territory by at least 20 million tons of waste capacity, the permittee shall thereafter exclude waste from City-operated trucks from any portion of the landfill within County territory. This exclusion shall continue in effect unless and until the City subsequently approves such a permit.

If within 18 months from the date of this grant, the City of Los Angeles has not granted a permit to expand the landfill within City territory by at least 20 million tons of waste capacity, the permittee shall exclude all waste collected within the corporate limits of the City and transported in City operated or commercial trucks from any portion of the landfill within County territory. This exclusion shall continue in effect unless and until the City subsequently approves such a permit.

For the purposes of this Condition 10d, the assumed weight to volume ratio shall be 0.71 tons per cubic yard.

e. The net tonnage placed in the landfill shall not exceed 36,000 tons per week (6,000 tons per day average based upon 6 working days per week).

f. The net tonnage of waste placed in the landfill on any given day shall not exceed 6,600 tons.

g. Net tonnage shall not include:

- Clean dirt imported to cover and prepare interim and final fill slopes for planting;

- Waste processed and put to a beneficial use on the landfill or separated or otherwise diverted from the waste stream and exported from the landfill for the purpose of recycling, in accord with the restrictions of Conditions 10k and 10m and the agreement entered into pursuant to the provisions of the attached monitoring program.

h. The Board of Supervisors may increase the net tonnage allowed by Section 10e and 10f to 48,000 tons per week (8,000 tons per average day) and 8,800 tons maximum per day if the Board of Supervisors, upon the joint recommendation of the Local Enforcement Agency and the Director of Public Works, determines that an increase is necessary to appropriately manage the overall County waste stream for the protection of the public health and safety. No more than 313 days of overages (as provided for in this Condition 10h) may be granted over the term of this permit.

i. The permittee shall by January 1, 1994 complete a comprehensive study of the feasibility of night time landfill operations as outlined in "Modification VIII, Attachment F" to the memorandum from the Director of Planning to the Board of Supervisors concerning the Sunshine Canyon Landfill, dated January 18, 1991. In the event the conclusion is reached that night time operations would be feasible, the permittee shall return to the County with an application to permit such operations. Such application shall be limited only to the request for night time operation. If approved, the permit shall be subject to the restrictions and requirements established by the Regional Planning Commission.

j. The permittee shall operate the landfill in a manner which maximizes the amount of waste which can be placed within the available (approved) volume, including but not limited to the following:

- Implement methods of waste compaction which equal or exceed compaction rates achieved at comparable landfills operated by the County Sanitation Districts;

- Investigate and implement, as appropriate, methods of diverting or reducing high volume - low density materials which are not capable of being readily compacted;

- Investigate and implement, as permitted by the appropriate regulatory agencies, methods to reduce the volume of daily cover required;

- Utilize waste materials received and processed at the landfill, such as shredded green waste, as a supplement to daily, intermediate and final cover, to the extent deemed technically feasible and acceptable by regulatory agencies.

k. Notwithstanding any other provision of this grant, the permittee shall not knowingly deposit waste into the landfill which is required to be diverted or recycled in accord with City and County Source Reduction and Recycling Elements, the County Integrated Waste Management Plan adopted pursuant to Division 30 of the Public Resources Code, and the agreement entered into between the County and permittee pursuant to Part II of the attached monitoring program.

l. The subject property may be used for the following ancillary facilities:

- Offices and employee facilities related directly to the landfill and waste handling and processing operations allowed under this grant, but excluding offices and other facilities related to any other enterprises operated by the permittee or others;

- Two caretaker's residences or mobile homes;

- Leachate collection and processing facilities;

- Facilities necessary for the collection, disposal, utilization and distribution of landfill gases as required and/or approved by the South Coast Air Quality Management District;

- Facilities necessary for the maintenance of machinery and equipment employed at the landfill, excluding equipment or machinery utilized by the permittee in other enterprises, including refuse collection.

m. The permittee shall maintain on-site waste diversion and recycling facilities consistent in scale and purpose with the provisions of Condition 10k and the agreement entered into pursuant to Part II of the attached monitoring program.

n. The hours of operation for landfill activities shall be as follows:

- The landfill shall be closed on Sunday;

- Refuse may be accepted at the landfill scales between the hours of 6:00 a.m. through 6:00 p.m., Monday through Saturday, provided, however, that the entrance gate at San Fernando Road shall be opened at least one hour before opening the scales to avert queuing of trucks on the public street and provided, further, that refuse or dirt may be accepted at other times if the Local Enforcement Agency determines that extended hours are necessary to handle emergency disposal for the preservation of the public health and safety;

- Landfill operations such as site preparation and maintenance, the application of cover, and waste processing, but excepting activities such as gas control which require continuous operation, shall be conducted between the hours of 6:00 a.m. and 9:00 p.m., Monday through Saturday;

- Equipment maintenance shall be limited to the hours of 4:00 a.m. through 9:00 p.m., Monday through Saturday;

- Mitigation and emergency operations which cannot be accomplished during the hours stated above may be performed at any time;

o. Nothing in this Condition 10 or elsewhere in these conditions of grant shall be construed to require the permittee to engage in any act which is in violation of any state or federal regulation.

p. The County reserves the right to exercise its police power to protect the public health, safety and general welfare by managing the County-wide waste stream, including such activities as the appropriate regulation of tipping fees and similar landfill rates.

11. If the landfill regularly meets its weekly and/or daily maximum limit, as set forth in Condition 10e-h, the permittee shall implement a program to avert wasted trips to the landfill and illegal disposal, which program shall include:

a. Scheduling of regular users, such as commercial and municipal haulers, to avoid them from arriving at the landfill and being diverted to other landfills;

b. Reservation of capacity for small commercial and private users, unless an alternate landfill located within 5 miles of the permittee's landfill is available to accept such users;

12. The permittee shall charge differential tipping fees if necessary to discourage hauling of partially filled loads to the landfill.

13. The permittee shall install traffic improvements (as set forth below) at the landfill entrance and the local feeder highways to the landfill deemed warranted by the City of Los Angeles. As used in this condition "warranted" means justified on the basis of established standards of the City and/or accepted traffic engineering practice. Improvements may include, as determined by the City:

a. Widening and/or restriping and installation of traffic signals at the landfill entrance on San Fernando Road;

b. Restriping turning lanes at the intersection of San Fernando Road and Balboa Boulevard;

c. Traffic control signs and markers.

14. The permittee shall pay to the County of Los Angeles a fee equal to ten percent of the sum of the following:

- The net tipping fees collected at the landfill, (including any fees received as a part of a materials recovery program), the net tipping fee being the total collected less any other fees or taxes imposed by any federal, state or local agency and included in the fee charged at the landfill entrance;

- Gas-to-energy or direct gas sale revenues, less any federal, state, or local fees or taxes included in such revenues.

Should the County impose a business tax on landfill revenues, the amount received from the permittee shall be credited against the fees required by this Condition 14.

If at any time during the life of this grant the permittee is operating the landfill within both unincorporated and City territory, the fee required by this Condition 14 shall be reduced in proportion to the relative amounts of waste placed or processed and the gas produced and used or sold in the two jurisdictions.

15. The permittee shall dedicate to the County of Los Angeles or to a public agency designated by the County of Los Angeles for open space and park and recreational use the westerly portion of the permittee's ownership, consisting of 507 acres (as determined by a certified land survey), primarily within an area referred to as East Canyon, with a smaller portion located in Sunshine Canyon.

Before commencing any site preparation work, excepting any work necessary to obtain permits for the landfill, the permittee shall either dedicate the property to the County or enter into an irrevocable agreement with the County to dedicate the property. The instrument of dedication or agreement may provide for the following:

a. The right of the permittee and/or its contractors to enter on to the property to engage in oak tree, wetlands and other mitigation projects required by this grant or other permits;

b. The right of the permittee to maintain such water tanks and fire access roads and other safety facilities as may be required in the operation of the landfill;

c. A provision that no restriction upon landfill operations shall result from the dedication or agreement;

d. A provision that the land be restricted to open space, wildlife preservation and recreational uses.

The agreement shall provide for riding and hiking trails to the satisfaction of the Director of Parks and Recreation within the limits of the area to be dedicated. The permittee shall further work with the Department of Parks and Recreation to identify, relocate where appropriate and dedicate the necessary rights-of-way for public use for the East Canyon, Bee Canyon and East Canyon/O'Melveny and Weldon Canyon Trails on other lands within the permittee's ownership and control.

The agreement shall also provide for the permittee to retain an individual who is well-qualified by education and training in the biological sciences, including local animal and plant communities, and whose duties shall include participation in the review of any installation of equipment or other activity in East Canyon and any resource assessment prepared in connection with such activity.

Within thirty days of the effective date of this grant and before commencement of disposal operations at the landfill under the terms of this grant, the permittee shall commence negotiations for the acquisition as public open space of the real property located in Upper Bee Canyon consisting of (1) the entirety of Parcels 335 and 337 on the submitted one half mile ownership map of file, and (2) the portion of Parcel 336 on that same map which lies easterly of the road commonly known as the East Canyon Motorway (hereafter collectively designated as open space parcels). After acquisition of open space parcels, the permittee shall dedicate the parcels to the County or such other public agency acceptable to the County. Within three months from the effective date of this grant, or before commencement of disposal operations, whichever event occurs sooner, and in the event permittee is unable to obtain the open space parcels, permittee shall enter into an off-site acquisition agreement with the County. Said agreement shall provide, among other things, that all acquisition costs and expenses are to be paid by permittee. Said agreement shall be in substantial conformity with the terms and form of the

standard off-site acquisition agreement utilized by the County Department of Public Works.

16. Except as otherwise provided in this condition, the final fill slopes shall be concurrently reclaimed and revegetated in lifts substantially as shown on Figure 5, "Typical Cross-Section Final Landfill Cover and Revegetation Plan", Page 39, DEIR, Volume A, Responses to Comments (dated July 13, 1990) and as described in the "Sunshine Canyon Landfill Extension Revegetation/Closure Plan", Appendix 3, Volume A, Responses to Comments, which figure and plan are attached as Exhibit "C". The permittee shall retain an independent, qualified biologist to assist in carrying out this condition.

Final cut slopes shall not exceed an overall incline of 1.5:1.

If the Local Enforcement Agency (LEA) determines that a different design or plan would better protect the public health and safety and would enable revegetation of the final slopes as well or better than the design or plan described in Exhibit "B", and/or a change is dictated by revisions to the minimum standards adopted by the California Integrated Waste Management Board, and the LEA, therefore, directs the implementation of a different design and/or plan, the permittee shall not be bound by the provisions of this condition; provided, however, that the maximum elevations and area of fill may not exceed that permitted in Condition 10b.

The provisions of this condition requiring concurrent reclamation shall not be operative until completion of all processing of the permittee's application with the City of Los Angeles (for expansion of the landfill within City territory) as required in Condition 10b, or on January 1, 1995, whichever occurs first.

17. A temporary vegetation cover shall be established on all slopes and other areas that are to remain inactive for a period longer than 180 days.

The permittee shall employ expert assistance to carry out this condition, including an independent, qualified biologist. Soil sampling and laboratory analysis shall be conducted on all areas before revegetation to identify chemical or physical soil properties that may adversely affect plant growth and establishment. Soil amendments and fertilizer recommendations shall be applied and plant materials selected based upon the above-referenced testing procedures and results. To the

extent possible, plant types shall blend with species indigenous to the area and be drought tolerant and shall be capable of rapid establishment.

18. The permittee shall utilize the most effective available technology and methodology to avert fugitive dust emissions which may be a nuisance or hazard in adjacent populated or recreational areas or cause significant damage to wildland resources. In addition to the revegetation measures required in Conditions 16 and 17, the program shall include the following:

    a. The permittee shall not engage in any excavation or other operation during high wind conditions, or when such conditions may reasonably be expected, that would result in significant emissions of fugitive dust which cannot be confined to the area under the permittee's control.

    b. Working faces shall be kept to small contained areas of approximately 2 to 3 acres and, at times of the year when high wind conditions may be expected, shall be located within areas of minimal wind exposure. Other operations areas shall be contained to sites less than five acres each.

    c. Daily cover shall be moistened with water. A soil sealant shall also be used as necessary to supplement water for dust control and to retard erosion when wind conditions dictate.

    d. Any active area or active cover soil stockpile shall be moistened with water on a daily basis unless wind conditions dictate otherwise, in which case soil sealant shall be used in addition to water. Material cut from one portion of the site shall be used as a cover material in an adjacent area, to the extent feasible, to reduce the transport distance.

    e. Before each day when the landfill will be closed to refuse receipt, the permittee shall apply soil sealant to any previously active dirt area which has not already been sealed or revegetated.

    f. Inactive areas of exposed dirt that have been sealed shall be regularly monitored to determine the need for additional sealing and to prevent unauthorized access that might disturb the sealant and, if additional

treatment is required, it shall be promptly applied to assure full control of the soil particles.

g. All access roads to permanent facilities, excepting those infrequently used, shall be paved.

h. The paved access road to the fill areas shall be extended as new areas are opened to minimize the length of dirt road.

i. All paved roads in regular use shall be regularly cleansed to remove dirt left by trucks and other vehicles.

j. All dirt roads in regular use shall be watered at least once daily on operating days and more often as needed or otherwise treated to control dust emissions.

k. Loads capable of producing significant dust shall be watered during the dumping process, if such a practice is deemed acceptable to the Regional Water Quality Control Board.

l. The permittee shall maintain water tanks and piping capable of supplying by gravity at least one full day's maximum water usage to the fill areas for dust control, which capacity shall be in addition to any fire flow required by the County Forester and Fire Warden.

m. The permittee shall install and maintain devices to monitor wind speed and direction, as specified by the South Coast Air Quality Management District, and shall retain qualified personnel to read and interpret the data, to obtain or utilize information on predicted wind conditions and to assist in the planning of operations at the landfill.

19. The permittee shall employ the most effective available technology and methodology to prevent litter which enters the area under the permittee's control in the form of waste from escaping the area. Notwithstanding other provisions of this condition or of this grant, the permittee shall close the landfill to incoming waste during high wind conditions if, despite the application of the most effective available technology and methodology, litter cannot be confined to the area of the permittee's control.

The permittee's on-site litter control program shall include, unless otherwise provided by the Local Enforcement Agency, the following:

a. Landfill personnel shall continuously patrol the access road to the scales from the time it opens to the time it closes in the evening.

b. Improperly covered or contained loads which may result in a significant release of litter shall be immediately detained and the condition corrected, if practicable, before the load proceeds to the working face. If correction cannot be made, the load shall be conducted under escort to the working face.

c. All debris found on or along the entrance and working face access roads shall be immediately removed.

d. Operating areas shall be located in wind shielded portions of the landfill during windy periods.

e. The permittee shall install litter fences in the operating areas, as deemed necessary by the Local Enforcement Agency to enforce the intent of this condition.

20. The permittee shall, to the satisfaction of the Director of Public Works and the Local Enforcement Agency, maintain programs aimed at controlling the discharge and recovery of litter from uncovered or improperly covered or contained loads traveling to the landfill.

The measures shall include an effective tarping program, which if necessary in the estimation of the Director of Pubic Works and the Local Enforcement Agency, shall provide for mandatory sale of tarps to violators and/or exclusion from the landfill of repeated violators.

21. The permittee shall post a sign at the entry gate at San Fernando Road which indicates the following:

a. The telephone number by which persons may on a 24 hour basis contact the permittee to register complaints regarding landfill operations.

b. The telephone number of the Local Enforcement Agency and the hours when the number is manned.

c. The telephone number of the enforcement offices of the South Coast Air Quality Management District and the hours when the number is manned.

22. The permittee shall at all times between the hours of 6:00 a.m. and 9:00 p.m., Monday through Saturday, maintain adequate staff to promptly respond to litter and other complaints from the surrounding neighborhood.

At all other times, the permittee shall maintain on-site at least one person who is qualified to assess the need for remedial action and is authorized to summon the resources to perform any necessary remedial action. The personnel assigned shall be provided with the means to be continuously in response to the telephone number posted at the entry gate.

23. Except as otherwise provided in this condition, areas outside of and above the cut and fill shown on Exhibit "A", or Exhibit "A" (Alternate), if applicable, shall not be graded or similarly disturbed to create the landfill areas approved in Condition 10b. The Director of Public Works may approve additional grading if the Director determines, based upon engineering studies provided by the permittee and independently evaluated by the Director, that such additional grading or disturbance is necessary for slope stability or drainage purposes. Such a determination shall be documented as provided in Part I of the attached monitoring program.

No approval shall be granted under this condition which will result in expanding the area or height of fill or in lowering or significantly modifying any of the ridgelines surrounding the landfill.

The Director of Public Works shall confer with the County Forester before approving excavation in areas of more than five acres containing significant stands of oak and/or douglas fir trees.

Nothing in this condition shall be construed as prohibiting the installation of water tanks, access roads, flares, or similar facilities or mitigation programs required by this grant or by permits issued by other public agencies.

24. The upper perimeter ridges of the landfill shall be planted with native trees in order to minimize visibility of the landfill. Such plantings shall be coordinated with the oak

tree and douglas fir mitigation program required by Conditions 39-46.

25. The permittee shall implement a program to identify and conserve any significant archaeological and paleontological materials which may be present in accord with this condition and Part V of the attached monitoring program. If any evidence of aboriginal habitation or fossils is discovered during earthmoving activities, landfill operations shall cease in that immediate area and that shall be preserved until a qualified archaeologist or paleontologist (as appropriate) has made a determination as to the significance of the site of findings. Any significant archaeological or paleontological resources shall be recovered to the extent practicable before resuming activities in that area of the landfill.

26. The following types of waste shall be considered unacceptable waste for disposal at the landfill: incinerator ash, sludge, radioactive material, hazardous waste, and medical waste as defined in Section 25023.2 of the California Health & Safety Code ("Unacceptable Waste"). The permittee shall implement a comprehensive waste load checking program to exclude disposal of Unacceptable Waste at the landfill, which program shall comply with the requirements of this condition and Part III of the attached monitoring program and any additional requirements of the Local Enforcement Agency, the State Department of Health Services and the Regional Water Quality Control Board.

    Restrictions on disposal of Unacceptable Waste and the procedures for proper disposal at other appropriately classified disposal sites for waste processing facilities shall be provided to waste haulers on a routine basis. Notices shall also be posted at prominent locations at the landfill to inform waste haulers of the rules governing the disposal of Unacceptable Waste.

    In the event that material known or suspected to be Unacceptable Waste is discovered at the landfill, the permittee's agent shall:

    a. If the vehicle that delivered the waste is still present, detain the driver and obtain his drivers license and vehicle license number;

    b. Immediately make all required notifications to State and County agencies;

c. If possession of the material is not immediately taken by a public official, store the material at a site developed in accord with the regulations of the State Department of Health Services and the Regional Water Quality Control Board until disposed of in accord with applicable State and Federal regulations.

The permittee shall also provide effective vector control measures as directed by the County Department of Health Services.

Nothing in this condition shall be construed to permit the maintenance of a hazardous waste disposal facility at the landfill.

27. The permittee shall contact the Department of Public Works to determine whether an Industrial Waste Disposal Permit is required. No activity for which a permit is required shall be initiated on the subject property before a permit is obtained and any required facilities are installed. The permittee shall keep any required permits in full force and effect and shall fully comply with any requirements thereof.

28. The permittee shall install drainage structures and comply with all other drainage requirements of the Department of Public Works and any additional requirements of the Regional Water Quality Control Board and any other regulatory agency. Except as specifically otherwise provided by the Department of Public Works, all drainage structures, including sedimentation basins, shall be designed and constructed so as to accommodate run off from a capital storm.

The landfill and drainage structures shall in all cases be designed so as to cause surface water to be diverted away from disposal areas.

The permittee shall further comply with all grading requirements of the Department of Public Works and County Ordinance.

29. The permittee shall install and maintain containment (liner) systems and leachate collection and removal systems as approved and required by the State Regional Water Quality Control Board. Such systems shall, as determined by the State Regional Water Quality Control Board, equal or exceed the specifications set forth in Topical Responses 7 and 8, DEIR Volume A, Responses to Comments, July 13, 1990.

30. The permittee shall install and test ground water monitoring wells as required by the State Regional Water Quality Control Board and shall promptly undertake any action directed by the Regional Water Quality Control Board to correct or prevent contamination which may affect ground water quality or water conveyance or storage facilities, including the Metropolitan Water District Balboa Inlet Tunnel and the City of Los Angeles aqueduct and Van Norman Reservoir. Any testing or remedial actions deemed necessary by the Regional Water Quality Control Board to correct or prevent contamination or to determine the existence of any contamination from the existing landfill previously operated by the permittee shall be completed or guaranteed by the permittee before commencement of the landfill expansion authorized by this grant to the satisfaction of the Regional Water Quality Control Board.

31. The permittee shall maintain on-site fire response capabilities, construct access roads, provide water tanks, water mains, fire hydrants and fire flows and perform brush clearance to the satisfaction of the County Forester and Fire Warden.

32. All on-site fuel storage tanks shall be installed and necessary containment and air quality controls provided in accord with the requirements of the County Forester and Fire Warden, the County Department of Public Works, the Regional Water Quality Control Board, and the South Coast Air Quality Management District.

33. The permittee shall take all necessary measures to ensure that noise emissions from the landfill at any residential receptor are within the limits of the County Noise Ordinance, as contained in Title 12 of the County Code.

34. The permittee shall install and maintain a best available control technology landfill gas collection system in compliance with the requirements of the South Coast Air Quality Management District and shall control the lateral migration of gases to the satisfaction of the Department of Public Works and the South Coast Air Quality Management District, as applicable.

35. Landfill gas flares shall be below the adjacent ridges (unless otherwise required by the South Coast Air Quality Management District) and the flames shall be totally contained within the stack. Flame arrestors shall be provided to the satisfaction of the County Forester and Fire Warden. To the extent

technically and economically feasible, gas recovered at the landfill shall be converted to energy or put to other beneficial use rather than flared.

36. The permittee shall adopt and implement operational practices to mitigate vehicular and other air quality impacts as required by the South Coast Air Quality Management District.

37. The permittee shall operate the landfill in a manner which conserves water, including but not limited to the following:

    a. Any water wells used for the project shall, if approved by the appropriate agencies, draw from the Sunshine Canyon watershed;

    b. The permittee shall investigate the feasibility of treating collected leachate on-site for reuse in the landfill and shall, if feasible and approved by the appropriate agencies, implement a program to utilize such water;

    c. Soil sealant, pavement and other control measures shall be used wherever possible in preference to water for dust control;

    d. Drought-tolerant plants shall be used to the extent possible to revegetate.

38. The permittee shall replace disturbed riparian habitat to the satisfaction of the California Department of Fish and Game and the U.S. Army Corps of Engineers in accord with plans approved before commencement of landfill development. Replacement habitat shall be provided on a 2:1 ratio through a program of tree planting streambank stabilization, streambed enlargement and/or streamzone rehabilitation in degraded drainage channels. The program shall also provide mitigation sufficient to prevent any net loss of wetland area.

    Preference shall be given to habitat mitigation in the immediate vicinity of the landfill. Final site selection and the review of detailed engineering plans and working drawings shall be coordinated among the involved regulatory agencies.

39. The permittee is authorized to remove oak trees within the project areas as necessary to conduct landfill operations authorized by this grant and subject to the requirements of

Conditions 40-45 and Part VII of the attached monitoring program.

40. Except where necessary to carry out testing required to obtain permits, no oak trees shall be removed within unincorporated territory until the permittee has obtained all permits necessary to begin initial site development.

41. Except for initial site clearance and as necessary for slope stability, cover stockpile, drainage, flare installation or fire suppression or other ancillary facilities, oak trees and other native vegetation more than 50 feet above the working elevation of the landfill shall not be removed.

This condition is intended to control the rate of oak tree removal and shall not be construed to allow the disturbance of areas not authorized for disturbance pursuant to Conditions 10b and 23.

42. During site clearing operations, slash or debris and soils which may harbor pests shall be removed.

The permittee's consulting horticulturalist shall monitor the condition of trees in adjacent areas for pest infestation and shall take necessary remedial action, subject to the recommendations of the County Forester and the County Agricultural Commissioner.

43. At least two replacement oak trees for each tree removed shall be in the ground within one year of removal. Trees of various sizes may be planted, but no tree shall be counted as a replacement oak unless it has reached specimen size, defined as a tree measuring at least one inch in diameter one foot above the base.

NOTE: It is the permittee's expressed intent to plant well in excess of the required number of replacement trees in the initial three year period of development at the landfill.

44. Unless otherwise approved by the County Forester, replacement trees shall be indigenous varieties grown from a local source. The trees shall be planted in public areas located in the vicinity of the landfill and on portions of the permittee's land not proposed for eventual landfill development, substantially as shown on Figure 4, Page 35, DEIR, Volume A, Responses to Comments, entitled "Proposed Oak Tree Mitigation

Areas," attached as Exhibit "C". The planting specifications shall be substantially in accord with the "Summary-Oak Tree Mitigation Plans for the Sunshine Canyon Landfill Project," contained in Appendix 1, DEIR, Volume A, Responses to Comments, attached as Exhibit "D". The final planting locations, tree varieties and specifications, as set forth in Exhibits "C" and "D", may be adjusted in the field with the approval of the County Forester as provided in Part VII of the attached monitoring program.

45. The permittee shall maintain each replacement tree for a period of at least 5 years following attainment of specimen size or planting in the ground if the tree is specimen size or larger at the time of planting. Any tree failing to survive shall be replaced by a specimen or larger tree, which in turn shall be maintained for a minimum of five years (so that at the end of the replacement program there will be at least twice the number of trees growing for more than five years after having attained specimen size than were removed).

46. The permittee shall replace each Bigcone Douglas-fir tree removed at the rate of 5:1 at locations in the immediate vicinity of the landfill which are similar in elevation to the elevations of the trees removed. Such trees shall be selected, planted, maintained and replaced as provided above for oak trees.

47. The permittee shall contract with Cal Poly University Pomona, or an institution of similar capabilities acceptable to the County Forester, to engage in a study of Los Angeles County's hardwood forest resources and reforestation needs. The resultant study shall be provided to the County Forester and the Angeles National Forest Superintendent.

48. The permittee shall deposit the following with the Director of Planning to finance studies of remaining Significant Ecological Areas:

    - Before commencing construction of the landfill, the sum of $432,000;

    - On each January 10 following opening of the landfill for the life of this grant, the sum of $81,000.

It is the intent of the Board of Supervisors that if permits are granted for other projects that remove portions of the Significant Ecological Areas, such permittees will be required to share in

financing the studies on a prorata basis determined by the amount of acreage removed from the Significant Ecological Areas and this permittee shall be reimbursed accordingly.

49. The permittee shall fund fifty percent of the cost of not more than six hazardous waste roundups for the area surrounding the landfill, provided that the Board of Supervisors authorizes such roundups and the balance of required funding is provided by the County and/or other public agencies.

50. To the extent permitted by law, the Local Enforcement Agency shall have the authority to order the immediate cessation of landfilling or other activities at the site if it determines that the health, safety and/or welfare of inhabitants of the County of Los Angeles so requires. Such cessation shall continue until such time as the Local Enforcement Agency determines that the conditions leading to the cessation have been eliminated or reduced to a level which no longer poses an unacceptable threat to such health, safety and/or welfare.

51. The Department of Public Works, the Local Enforcement Agency, and the Community Advisory Committee shall monitor the performance of mitigation measures designed to minimize truck traffic, and in the event such measures are inadequate, shall recommend to the Board of Supervisors additional measures.

MONITORING PROGRAM

PROJECT NO. 86-312-(5)
THE SUNSHINE CANYON LANDFILL EXPANSION
(State Clearinghouse Number 89071210)
An Attachment to the Conditions of Grant for
Conditional Use and Oak Tree Permit 86-312-(5)

DEFINITIONS. Unless otherwise apparent from the context, the term "Condition(s)" shall refer to a condition or conditions of Conditional Use and Oak tree Permit No. 86312-(5), also referred to herein as the "grant", and "project" shall refer to the overall landfill expansion and other ancillary facilities approved by said use and oak tree permit. The term "permittee" shall be as defined in Condition 1 of the permit. The term "Local Enforcement Agency" shall refer to the entity or entities [currently the Los Angeles County Department of Health Services] designated pursuant to the provisions of Division 30 of the Public Resources Code to permit and inspect solid waste disposal facilities and to enforce state and local regulations and permits; provided, however, that should at any time the function of Local Enforcement Agency be assigned to an entity which is not designated by the Board of Supervisors, any functions assigned to the Local Enforcement Agency through the monitoring program and the conditions of grant which are not by law the prerogative of the Local Enforcement Agency shall be delegated by the Board of Supervisors to an entity of its selection.

PURPOSE. This monitoring program is intended to ensure compliance with the conditions of grant and other mitigations as set forth in the final environmental impact report for the project, in accord with the provisions of Section 21081.6 of the Public Resources Code, and to compliment the enforcement and monitoring programs routinely administered by County agencies, including the Local Enforcement Agency, and by public agencies other than the County of Los Angeles. Such other agencies include the California Integrated Waste Management Board, the Los Angeles Regional Water Quality Control Board, the California Water Resources Control Board, the South Coast Air Quality Management District, the California Department of Fish and Game, the State Department of Health Services, the U.S. Army Corps of Engineers, and the City of Los Angeles.

The overall responsibilities of the various agencies are more specifically described in the document entitled "Sunshine Canyon Landfill Extension-Mitigation Monitoring Summary", which is incorporated herein by reference.

PART I - LANDFILL ELEVATIONS. The following measures shall be carried out to monitor compliance with Conditions 10(b), 10(c) and 23 which set limits upon the height of fill and disturbance to adjacent areas.

A. The permittee shall before commencing development of the landfill install survey monuments around the perimeter of the

approved fill area (as depicted on Exhibit "A" and Exhibit "A" (Alternate) described in Condition 10b) at points where they will not be subject to disturbance by landfill development.

The specific spacing, location, and characteristics of the monuments shall be as specified by the Department of Public Works.

The monuments shall be inspected and approved by the Department of Public Works after installation and an "as installed" plan, approved by the Department of Public Works, shall be provided to the Local Enforcement Agency.

Not less than 60 nor more than 90 days before the due date for the Biennial Report required in Part X, the permittee shall cause a licensed surveyor or registered civil engineer to conduct a survey of the landfill elevations and to submit the results to the Department of Public Works for approval. Such a survey shall also take place in the event of an earthquake in the vicinity of the landfill of magnitude (Richter) 5.0 or greater (wherein significant shaking or rolling movement was experienced) and upon completion of the final fill.

The Department of Public Works may also conduct or order such on-site surveys as it deems necessary or as requested by the Local Enforcement Agency or the County Forester (in connection with the Forester's oak tree monitoring responsibilities) and shall promptly report any apparent violation revealed by a survey to the Department of Regional Planning and the Local Enforcement Agency and, where appropriate, to the County Forester.

B. Should the Director or Public Works approve grading or other disturbance to areas outside the cut landfill shown on Exhibit "A" and Exhibit "A" (Alternate), as applicable, pursuant to the provisions of Conditions 23, the Director shall refer a copy of such authorization to the Department of Regional Planning, the County Forester and the Local Enforcement Agency.

C. The Department of Public Works shall not give final approval for grading, drainage or other administrative permits necessary for development until confirmation of compliance with all requirements which must be met before initiating development is received pursuant to Part IX. The Department

may grant conditional approval subject only to receipt of confirmation of compliance.

D. The permittee shall pay to the Department of Public Works all plan checking and inspection fees associated with the Department's administration of this Part I and other permits or approvals.

PART II - WASTE PLAN CONFORMANCE. The provisions of this part are intended to insure compliance with the provisions of Conditions 10e-10m and conformity of landfill operations with City and County Plans adopted pursuant to Division 30 of the Public Resources Code.

A. Before opening the landfill, the permittee shall enter into an agreement with the County of Los Angeles providing for:

1. Controlling and accounting (as further provided in part IIB) for waste entering and (in the form of recycled or diverted material) leaving the landfill, in accord with plans adopted by cities and the County pursuant to Division 30 of the Public Resources Code;

2. The implementation and enforcement of programs intended to maximize utilization of the available fill capacity, as set forth in Condition 10j;

3. The implementation of waste diversion and recycling programs on and off-site in accord with the adopted City and County plans;

The agreement required in this Part IIA, or any portion thereof, may be waived if the Local Enforcement Agency, the Director of Public Works and the County Counsel, jointly, determine that such provisions may be incorporated in the Solid Waste Facilities Permit for the landfill. Notice of such waiver shall be incorporated in the document adopting the Solid Waste Facilities Permit and copies shall be sent to the Departments of Public Works and Regional Planning.

Should all or parts of the relevant City and County plans not be adopted before the opening of the landfill, an interim agreement may be entered into pending adoption of the plans.

The agreement required by this Part IIA shall include provision for amendment as necessary to maintain conformity

with City and County plans. Copies of the initial agreement and any amendments shall be referred to the Departments of Public Works and Regional Planning, the Local Enforcement Agency and to each City within the County of Los Angeles which has adopted plans.

B. The agreement required in Part IIA shall provide that the permittee shall, before opening the landfill, install scales to verify the weight of waste received, diverted and recycled. The agreement shall also provide that the permittee shall, as set forth in the agreement, maintain records necessary to document tonnage and compliance with waste restrictions imposed pursuant to the conditions of grant and the agreement together with such additional records concerning the composition and origin of waste that are needed to develop city and County waste management plans.

The agreement may provide, subject to the availability of appropriate hardware and software, for electronic recording devices to document weights and other records.

All records shall be available at the landfill for inspection by the Local Enforcement Agency and authorized representatives of the Departments of Public Works and Regional Planning and the Treasurer and Tax Collector during normal business hours and shall be routinely forwarded to such agencies as may be provided in the agreement and in the agreement adopted pursuant to Part IV.

PART III - HAZARDOUS WASTE EXCLUSION. This part incorporates the program which the permittee and the Local Enforcement Agency shall carry out to exclude incinerator ash, sludge, radioactive material, hazardous waste, and medical waste as defined in Section 25023.2 of the California Health and Safety Code ("Unaccceptable Waste") from the landfill in accord with the provisions of Conditions 10a and 26.

A. The permittee shall maintain a comprehensive waste load checking program, which shall include the following:

1. All waste hauling vehicles shall be screened at the scales with a radiation detector device, acceptable to the Local Enforcement Agency, for the presence of radioactive materials.

2. The scale operator shall question each incoming driver as to the nature of the load. Sensors capable of detecting volatile organic compounds, acceptable to the Local Enforcement Agency, shall be installed and used as directed by the Local Enforcement Agency.

3. A remote television monitor shall be installed to inspect incoming roll-off type loads and open top vehicles.

4. The scale operator shall inspect for contamination all large loads of earth brought into the landfill from points not known to be free of contamination.

5. The dumping area shall be continuously inspected for Unacceptable Waste. This inspection shall be accomplished by equipment operators and spotters who have been trained in an inspection program approved by the Local Enforcement Agency, and as provided in Part IIIB.

6. Daily checks of randomly selected refuse loads shall be conducted. The checking program shall examine a minimum of thirty-six incoming waste loads per week. In addition, a test series of twelve, intensive unannounced manual inspections of refuse loads shall be conducted over the twelve month period commencing from the opening of the landfill. The checking programs shall be conducted by personnel trained by and under the supervision of the Local Enforcement Agency inspectors provided for in Part III B and in accord with a plan approved by the Local Enforcement Agency.

7. If on the basis of continuing inspections of the dumping area and of daily random inspections, the Local Enforcement Agency determines that significant amounts of Unacceptable Waste may be entering the landfill, the Local Enforcement Agency may direct an expanded inspection program, including additional, unannounced manual inspections.

B. The Local Enforcement Agency shall maintain at least one inspector at the landfill at times when waste is being received and processed. An inspector shall be either a qualified employee of the Local Enforcement Agency or a person employed under contract with the Local Enforcement Agency.

Contract inspectors, if used, shall be persons deemed by the Local Enforcement Agency to be qualified by training and experience to carry out the assigned duties and having no conflict of interest.

The inspectors may be used, as directed by the Local Enforcement Agency, for inspection and enforcement activity other than hazardous waste exclusion.

C. The permittee shall compensate the Local Enforcement Agency for any personnel, equipment and facilities costs incurred in administering this part not covered by fees paid for administration of the solid waste facilities permit for the landfill.

PART IV - MITIGATION AGREEMENT. Before opening the landfill, the permittee shall enter into an agreement with the County providing for indemnification of the County for any damages to public property which may result from landfill operations and for any expenses which may be incurred by the County in performing any on and off-site remedial work which may be necessitated by the permittee's failure to operate or maintain the landfill at an acceptable level or the permittee's failure to perform in a timely manner. The performance areas covered shall include, but not be limited to, landscaping, litter and dust control, noise control, vector control and maintenance of slopes and drainage structures. The standard for operation and maintenance shall be as established by the provisions of this grant and by accepted industry practice.

To secure performance on the agreement the permittee shall deposit in a fund held by the County of Los Angeles a sum equal to one percent of the net tipping fee charged at the landfill, the net tipping fee being as described in Condition 14. Until the fund reaches $3,000,000 dollars, the permittee shall tender to the County a letter of credit or other security acceptable to the County in the amount of $3,000,000 dollars.

The security shall be in addition to all other security required by federal, state and local regulations and permits, including other performance security required by this permit and State landfill closure regulations.

PART V - ARCHAEOLOGICAL/PALEONTOLOGICAL MONITORING.
The permittee shall implement the monitoring program described in this part to conserve archaeological and paleontological resources as required by Condition 25.

A. Before commencing any work to develop the landfill, the permittee shall nominate to the Director of Planning a qualified archaeologist and a qualified paleontologist which the permittee intends to retain to perform the monitoring and conservation work required by this part and Condition 25. If approved by the Director the archaeologist and paleontologist shall each submit a letter to the Director stating that he or she has been retained to perform or supervise the work required by Condition 25 and this part and that he or she agrees to report to the Director any noted failure to comply with the conditions of grant or this part.

B. In addition to the on-site supervision required by Condition 25, the selected archaeologist shall upon identification by the permittee of new areas of excavation determine the need for archaeological resurveying based upon previous survey results, field investigation and consultation with appropriate specialists.

C. In addition to the on-site supervision required by Condition 25, the selected paleontologist shall perform periodic monitoring when significant excavation occurs in the Miocene-early Pliocene Towsley Formation.

D. The archaeologist and the paleontologist shall submit a written report to be included with each biennial monitoring report and/or to the Director upon termination of employment.

E. Should the selected archaeologist or paleontologist terminate employment before completion of all excavation associated with the landfill, a replacement shall be selected, approved, retained and certified as described above.

PART VI - BIOLOGICAL/HORTICULTURAL MONITORING. This part is intended to promote compliance with provisions of Conditions 16, 17 and 24 concerning on-site planting, revegetation and maintenance, and portions of the oak tree mitigation program contained in Conditions 39-45.

A. The permittee shall, before commencing any work to develop the site, retain the services of a consulting horticulturalist/ forester to supervise the on and off-site slope planting and oak tree mitigation programs required as a condition of grant and this monitoring program. The permittee's selection shall be approved by the County Forester.

The consulting horticulturalist/forester shall be a person who by education, training, experience and professional standing, as evidenced by appropriate licensing, registration and/or academic standing in the field of horticulture/forestry, is qualified to carry out the specific requirements of the position.

B. The Permittee shall, before commencing any work to develop the site, retain the services of a consulting biologist, whose duties shall include (a) periodic review of any updated listings of threatened and endangered species contained in the Federal Register for the purpose of determining whether species existing at the project site have been re-classified as a species with a "Category 1" status; (b) participation in the revegetation program adopted for the landfills; and (c) participation in the review in any installation of equipment or other activity in East Canyon and any resource assessment prepared in connection with such activity.

The consulting biologist shall be a person who by education, training, experience and professional standing, as evidenced by appropriate licensing, registration and/or academic standing in the field of biology, is qualified to carry out the specific requirements of the position.

C. Should at any time during the life of the grant plus any additional required maintenance period the initially selected consultant terminate employment, a replacement shall be retained and approved as provided in Part VIA.

D. The permittee shall make and maintain records to track fill areas in accordance with Regional Water Quality Control Board requirements. These records shall be used to indicate areas transferred to an inactive status and therefore potentially subject to being vegetated as provided in Condition 17. The permittee shall make copies of such records available to the consulting horticulturalist/forester and the Local Enforcement Agency on a routine basis and to the County Forester and other regulatory agencies upon request.

E. The County Forester shall provide consulting services to the Local Enforcement Agency in its review and monitoring of planting programs.

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(State Clearinghouse No. 84082908)
An Attachment to the Conditions of Grant for
Conditional Use and Oak Tree Permit 86312-(5)

PART VII - OAK TREE MONITORING. This part is intended to ensure compliance with the oak tree/Bigcone Douglas-fir mitigation program required by Conditions 39-46.

A. The County Forester shall serve as the monitor for all oak tree and Bigcone Douglas-fir removal and replacement and mitigation programs authorized or required by the conditions of grant and this monitoring program.

Before commencing oak or Bigcone Douglas-fir removal (except as provided in Condition 40), the permittee shall deposit the sum of $30,000 with an escrow agent or trust company acceptable to the County for the purpose of paying costs incurred by the County Forester in monitoring the permittee's compliance. The County Forester shall present invoices documenting the costs incurred to the escrow agent or trust company on a monthly basis. Invoices not exceeding $10,000 in a single month shall be automatically paid to the County Forester. Invoices in excess of $10,000 in any single month shall be subject to reasonable review and approval by the permittee. The permittee shall make regular deposits so that the balance of said escrow or trust account shall at no time be less than $10,000.

B. Before removing any oak or Bigcone Douglas-fir tree (except as provided in Condition 40), the permittee shall enter into an agreement with the County specifying the procedures which shall be followed by the permittee and the County Forester in monitoring compliance with the oak tree and Bigcone Douglas-fir replacement program. The agreement shall include:

1. Provision for accounting for each tree removed, provided that trees removed before consummation of the agreement to enable site testing as provided in Condition 40 shall be added to the total of trees removed under the agreement;

2. Provision for a comprehensive annual inventory to be conducted in August of each year by the County Forester and the consulting horticulturalist/forester to document the growth, the condition and survival of all oak and Bigcone Douglas-fir trees planted;

3. Provision for additional regular and unannounced inspection conducted by the County Forester;

4. Provision that the permittee shall submit a corrective plan to the County Forester within 15 days after receipt of a notice of correction, with corrective measures timed to good horticultural practices and seasonal conditions;

5. Provision that should the County Forester determine the permittee has at any time failed to plant and maintain adequate replacement trees, as provided in Conditions 43 and 45, the County Forester shall direct that further cutting be suspended until the deficiency is corrected;

6. Provision that disputes between the County Forester and the permittee which cannot be mutually resolved between the parties shall be referred to the Regional Planning Commission for disposition; and

7. Provision that the agreement shall be secured by a letter of credit or other instrument acceptable to the County in the initial amount of $1,000,000, which security shall be reduced as provided in the agreement upon successful completion of planting and post planting maintenance.

C. The permittee shall submit a comprehensive, biennial report detailing oak tree and Bigcone Douglas-fir removal and the status of all replacement oaks and Bigcone Douglas-fir trees to the County Forester. The form and content of the report shall be as approved by the County Forester. The initial report shall be due on or before January 31st of the year in which the first biennial project monitoring report is to be submitted pursuant to Part X. An executive summary of each such report, approved by the County Forester, shall be included in the next biennial project monitoring report.

PART VIII - ANCILLARY FACILITIES. This part is intended to provide a means to enforce compliance with Condition 10 (1) concerning the provision of ancillary facilities at the landfill, and to verify that such facilities are consistent with other conditions of the grant and monitoring program and with the provisions of the County Zoning Ordinance.

Before commencing development of the landfill or obtaining building permits for any of the ancillary facilities to be provided at the landfill, the permittee shall submit to the Director of Planning specific site plan for such facilities. The plan shall be in sufficient detail to establish compliance with the conditions of grant and with the standards of the County Zoning Ordinance,

including the provisions of said ordinance relating to the provision and development of parking, as set forth in Part 11, Chapter 52, Title 22 of the County Planning and Zoning Code.

If approved, the Director shall forward copies of the plans to the Department of Public Works and the Local Enforcement Agency.

PART IX - COMPLIANCE COMMITTEE. An ad hoc committee of County agencies shall be established for the purpose of reviewing coordinating and certifying satisfactory completion of plans, permits and agreements required and/or authorized by the grant and this monitoring program before commencing work or opening of the landfill.

The committee shall be composed of representatives of the following County officers and departments:

- The Chief Administrative Officer
- The County Counsel
- The Department of Public Works
- The Local Enforcement Agency [Department of Health Services]
- The Forester and Fire Warden
- The Department of Parks and Recreation
- The Department of Regional Planning.

During the preparation of plans, permits and agreements required by the conditions of grant, the committee shall meet as often as it deems necessary. It shall, as necessary to carry out the purposes of this Part IX, invite the participation of other County agencies as well as city, state and federal agencies involved in the regulation and permitting of the landfill.

Upon application of the permittee, the committee shall meet to determine if all requirements precedent to commencement of development of the landfill (excepting final approval of plans, permits and agreements) have been met. If the committee so determines, it shall certify completion and notify each affected agency.

Upon application of the permittee, the Committee shall meet to determine if all requirements precedent to opening the landfill (excepting final approval of plans, permits and agreements) have been met. If the Committee so determines, it shall certify completion and notify each affected agency.

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No County agency shall give final approval to any administrative permit or to any plan or agreement required or entered into pursuant to the conditions of grant or this monitoring program until the committee has made a determination of compliance. However, county agencies shall give conditional approval, subject only to the committee's determination, if the plans otherwise comply with requirements.

The permittee may appeal an adverse determination of the Committee to the Regional Planning Commission. An adverse decision of the Regional Planning Commission shall be further appealable by the permittee to the Board of Supervisors.

PART X - MONITORING REPORTS. This part is intended to provide for a means of continuing oversight of landfill operations as a supplement to the routine enforcement activities of the various regulatory agencies having control over the development, operation and maintenance of the landfill.

A. The permittee shall prepare and submit biennial monitoring reports to the Regional Planning Commission, the first such report being due June 1, 1993 and subsequent reports being due June 1, every other year until closure of the landfill. At least 60 days before the due date, draft copies of the report shall be submitted to the following for review and comment;

1. The Local Enforcement Agency;
2. The Director of Public Works;
3. The Los Angeles County Forester and Fire Warden;
4. The Los Angeles Regional Water Quality Control Board;
5. The South Coast Air Quality Management District;
6. The Community Advisory Committee, required pursuant to Part XI of this monitoring program.

Each referral shall include a request that comments be sent to the Commission in care of the Director of Planning on or before the due date of the report. The permittee shall provide documentation of each referral to the Director in a form acceptable to the Director.

B. Except as otherwise provided in this Part X B, each monitoring report shall contain the following:

1. A cumulative total of all waste deposited in the landfill and the percent of total available volume consumed.

2. A copy (which may be reduced and simplified to fit the report format) of the most recent approved landfill survey (as required in Part I of the monitoring program) showing the height and extent of the fill.

3. The achieved ratio of weight to volume of waste placed in the landfill and a comparison of that ratio with the ratio achieved at comparable landfills operated by the County Sanitation Districts, and an explanation of any significant deviation.

4. A summary of the rates of waste received, recycled or otherwise diverted at the landfill since opening or the last report, as applicable, in sufficient detail to explain significant changes and variations over time and an explanation of any significant variations or changes.

5. A summary of measures undertaken by the permittee to divert and recycle material at the landfill, and how such measures interact with waste management plans adopted by cities and the County and the overall effectiveness of such measures in achieving the intent of the grant and the waste management plans.

6. A summary of the number and character of litter, fugitive dust and odor complaints received in the reporting period, the disposition of such complaints, and any new or additional measures which have been undertaken to abate or address future complaints.

7. A detailed accounting of any citations for violations received from any regulatory agency in connection with operation of the landfill (including those for litter, odor or fugitive dust) and the disposition of the citations.

8. A report on interim and final fill revegetation, including an assessment of the success of such revegetation and any additional measures necessary or proposed to effect successful revegetation.

9. The approved summary oak tree/Bigcone Douglas-fir mitigation report (as required in Part VII of this monitoring program).

10. The archaeological and paleontological reports required in Part V.

11. A summary of progress implementing the wetlands/habitat mitigation programs required pursuant to Condition 38.

Upon receipt of the report and agency comments, the Commission may request that the permittee submit such additional information as it deems necessary to carry out the purposes of this Part X.

The initial report required on June 1, 1993, shall include an accounting of the status of the application to expand the landfill into the City of Los Angeles.

Notwithstanding any other provision of this Part X B, should the landfill not have opened by March 1, 1993, the initial report due June 1, 1993, shall be limited to an account of progress toward opening the landfill and the status of the application filed with the city.

C. Nothing in this Part X shall be construed to in any way limit the authority of the Commission or the Board of Supervisors to initiate any proceeding to revoke or modify the grant as provided in Condition 9 and Part 13, Chapter 56, of Title 22 of the County Planning and Zoning Code.

PART XI - COMMUNITY ADVISORY COMMITTEE. The Board of Supervisors shall appoint a Community Advisory Committee to serve as a liaison between the permittee and the community and as a means for the community to communicate with the Regional Planning Commission and other regulatory agencies on an ongoing basis regarding issues involved in the development and operation of the landfill. The committee shall be composed of persons who reside in the vicinity of the landfill and are nominated by recognized community and neighborhood associations. The supervisors in whose district the landfill is located and the district most nearly adjacent to the landfill shall appoint a representative from each such district to serve as coordinators for the Committee and shall nominate Committee members.

Upon appointment of the Committee by the Board of Supervisors, the permittee shall do the following:

1. Provide qualified personnel to regularly attend Committee meetings;

2. Provide reasonable access to the landfill site and information concerning landfill operations necessary for the committee to perform the committee's functions;

3. Provide accommodations for committee meetings; and

4. Provide funding, not to exceed $11,000 dollars per annum, for the committee to retain independent consultants; provided that any consultant retained shall be a person who by education, training and experience is qualified to undertake the work for which the consultant is retained and who has no conflict of interest with the permittee or any member of the Committee.

PROJECT NO. 86312-(5)
THE SUNSHINE CANYON LANDFILL EXPANSION
(State Clearinghouse No. 84082908)
An Attachment to the Conditions of Grant for
Conditional Use and Oak Tree Permit 86312-(5)

EXHIBIT A

PROJECT NO. 86312-(5)
THE SUNSHINE CANYON LANDFILL EXPANSION
(State Clearinghouse No. 84082908)
An Attachment to the Conditions of Grant for
Conditional Use and Oak Tree Permit 86312-(5)

EXHIBIT A (ALTERNATE)

EXHIBIT A

PROJECT NO. 86312-(5)
THE SUNSHINE CANYON LANDFILL EXPANSION
(State Clearinghouse No. 84082908)
An Attachment to the Conditions of Grant for
Conditional Use and Oak Tree Permit 86312-(5)

EXHIBIT B

EXHIBIT A (ALTERNATE)

EIR - SEQUENCE 2, DRAWING 30

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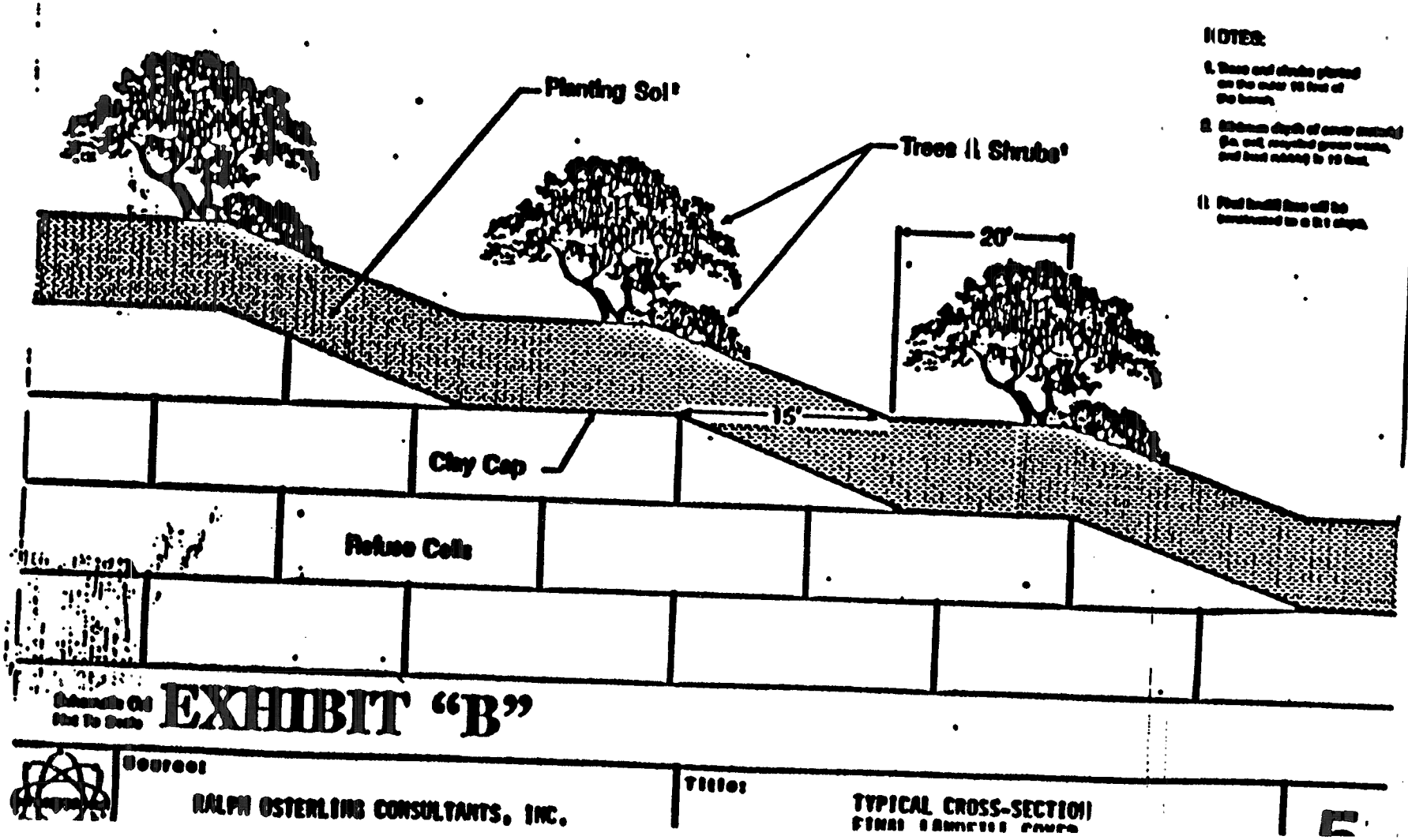

EXHIBIT "B"

Source: RALPH OSTERLING CONSULTANTS, INC.

Title: TYPICAL CROSS-SECTION

SUNSHINE CANYON SANITARY LANDFILL EXTENSION
REVEGETATION/CLOSURE PLAN

prepared for:

BROWNING-FERRIS INDUSTRIES, INC.
Sylmar, California

prepared by:

Ralph S. Osterling, RPF #38, CPESCS #143
Douglas E. Nix, RPF #2246, CPESCS #565
RALPH OSTERLING CONSULTANTS, INC.
San Mateo, California

October 31, 1989

INTRODUCTION

The following revegetation specifications have been developed for the Sunshine Canyon Sanitary Landfill Extension project. Revegetation of the proposed landfill will consist of two phases. The first is a temporary vegetative cover for erosion control, dust control and aesthetics. The second phase will be a permanent vegetative cover for long term erosion control, aesthetic enhancement and wildlife habitat establishment.

SOIL TESTING AND AMENDMENT

Thorough soil sampling and laboratory analysis will be conducted on all areas prior to revegetation efforts. The soil sampling program will identify chemical or physical soil properties that may adversely affect plant growth and establishment. Required soil amendments and fertilizer recommendations will be determined by laboratory analysis. Soil amendments such as liming or mulching will be incorporated during the placement of interim and final soil cover.

TEMPORARY VEGETATION COVER

A temporary vegetation cover will be established on all slopes that are to remain inactive for a period longer than 180 days. The vegetation will provide rapid establishment and complete cover for erosion control, dust control and aesthetics. Inactive areas will be seeded with a mixture of grasses and legumes. The species mix will be composed of drought and low pH tolerant plants. Although a temporary overhead irrigation system may be used, the selected species will not require irrigation once established. The selected plant species will blend with the annual grasslands found scattered throughout the surrounding hills.

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The following specifications will be used for all temporary revegetation.

SEED MIX

Species		lbs./acre
'Zorro' annual fescue	Vulpia myuros	6
'Geraldton' subclover*	Trifolium subterraneum	8
'Hykon' rose clover*	Trifolium hirtum	6
'Lana' woollypod vetch*	Vicia dasycarpa	5
bicolored lupine	Lupinus bicolor	1
'Briggs' barley	Hordeum vulgar	20
TOTAL		46

*Pellet inoculation by CelPril or approved equal.

HYDROSEEDING MIX

Material	Application Rate
seed mix	46 lbs./ac.
wood fiber mulch (Silva Fiber, Spray Mulch or approved equal)	2,000 lbs./ac.
fertilizer (Formulation and rated based on laboratory recommendations.)	
tackifier (Az-Tac or approved equal)	70 lbs./ac.

Seed will be the last material added to the hydroseeder tank before application. Once the seed has been added, the material will be sprayed onto the slopes without delay. At no time will the seed be allowed to remain in the hydroseeder tank for more than 45 minutes. This is to prevent the seed from imbibing water and germinating before field conditions may be appropriate.

PERMANENT VEGETATION COVER

Completed slopes not subject to further refuse filling or other disturbances will be revegetated with trees and shrubs. This phase of the revegetation program will follow the successful establishment of a temporary grass and legume cover for erosion control, dust control and aesthetics. The final vegetation cover will be a mosaic of trees and shrubs interspersed with annual grasslands. This will provide a natural appearance and a diversity of food and cover for wildlife habitat.

A drip irrigation system will be installed to aid in the rapid establishment and growth of the trees and shrubs. Irrigation will be used for establishment only. The selected species are drought tolerant and adapted to the environmental conditions of the site. The Oak Tree Revegetation Specifications for the Sunshine Canyon Sanitary Landfill Extension Project details the irrigations specifications which will also be used for this irrigation system.

Whenever possible, native species of trees and shrubs will be used for landfill revegetation. However, in some instances, non-native species may be used to meet the revegetation goals. Most selected plant species will have wildlife value either as food or cover.

The following plant species are candidates for landfill revegetation.

1.	coast live oak	Quercus agrifolia
2.	Marana fourwing salt bush	Atriplex canescens
3.	Casa quailbush	Atriplex lentiformis
4.	California buckwheat	Eriogonum fasciculatum
5.	black sage	Salvia mellifera
6.	tree tobacco	Nicotiana glauca

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7.	mulefat	Baccharis glutinosa
8.	coast beefwood	Casuarina stricta
9.	tamarisk	Tamarix aphylla
10.	chamise	Adenostoma fasciculatum
11.	California walnut	Juglans californica
12.	Sydney golden wattle	Acacia longifolia

Tree planting specifications are presented in the Oak Tree Revegetation Specifications for the Sunshine Canyon Sanitary Landfill Extension Project. The procedures outlined in this document will be used for all landfill tree and shrub planting. Plant spacing will range from 6 to 10 feet for shrubs and 10 to 20 feet for trees.

ONSITE NURSERY

Many of the trees and shrubs to be used for revegetating the landfill and for offsite mitigation planting will be grown at the existing Sunshine Canyon Landfill nursery facility. Seed collected from Sunshine Canyon and surrounding areas will be grown at the nursery facility. The nursery will serve as a headquarters for coordinating manpower, seed processing, plant production and storage of plants grown by commercial nurseries.

OFFSITE VISUAL CHARACTER

Placement of the permanent vegetation will reflect the bands of vegetation that currently outline the canyons. The proposed placement of trees and shrubs will provide a natural appearance to the face of the finished landfill. Aerial photographs of the existing undisturbed canyons will be used to design the actual layout of the vegetation mosaics. In addition to revegetating the face of landfill, the site perimeter will be planted and enhanced as well. Planting of buffer zone, located south of the existing landfill, began in 1988.

MAINTENANCE AND MONITORING

A maintenance and monitoring program will be implemented for each planting area. Maintenance of the planting areas will include fertilization and replacement of dead plants. Irrigation systems will be monitored to detect and correct any problems.

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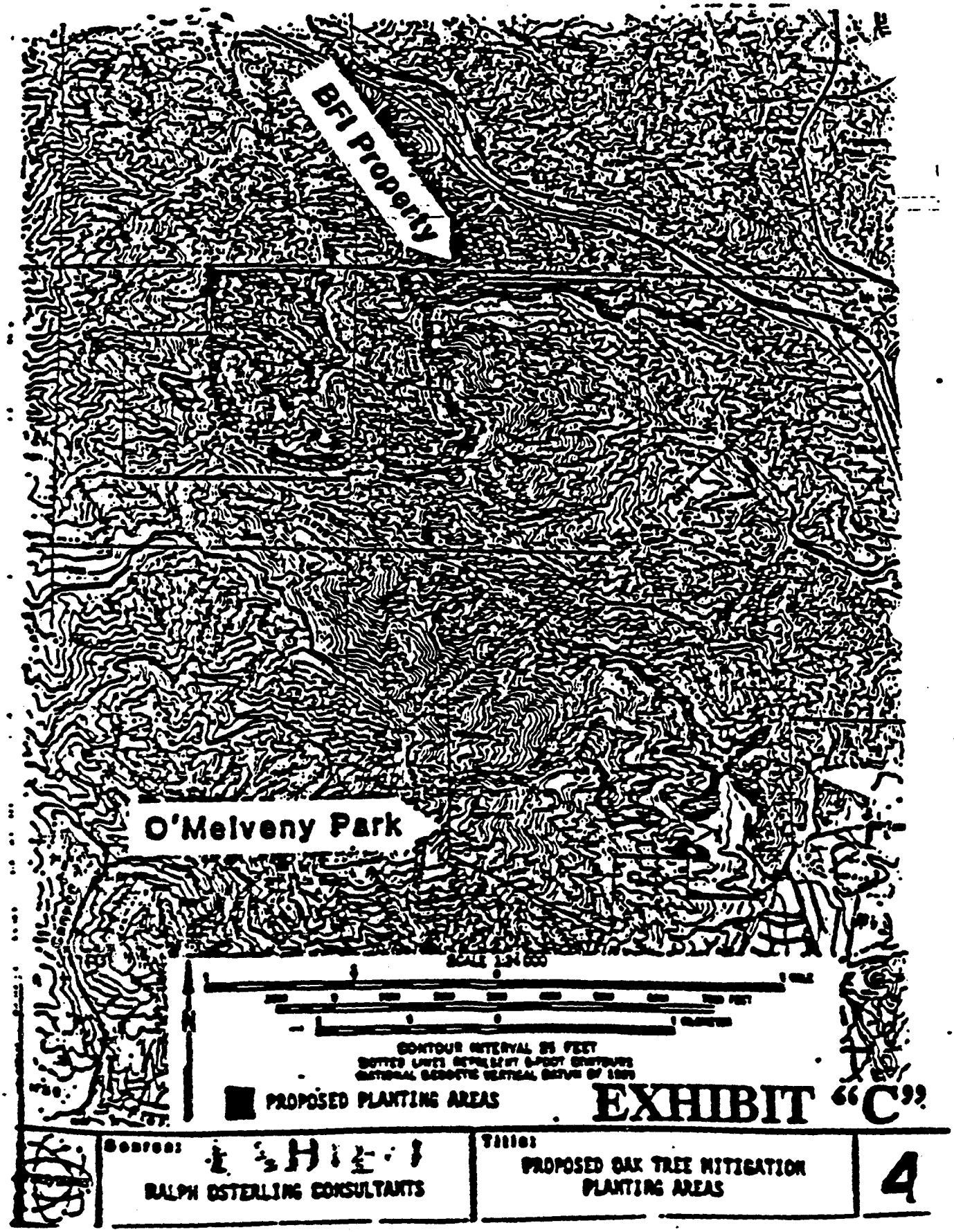
BFI Property
O'Melveny Park
CONTOUR INTERVAL 25 FEET
PROPOSED PLANTING AREAS
EXHIBIT "C"
Source:
RALPH OSTERLING CONSULTANTS
Title:
PROPOSED OAK TREE MITIGATION PLANTING AREAS
4

SUMMARY
OAK TREE MITIGATION PLANS
FOR THE
SUNSHINE CANYON LANDFILL
EXTENSION PROJECT

prepared for:
BROWNING-FERRIS INDUSTRIES, INC.
Sylmar, California

prepared by:
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San Mateo, California

June 11, 1990

EXHIBIT "D"

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INTRODUCTION

The Oak Tree Mitigation Plan for the Sunshine Canyon Landfill Extension Project, dated June 22, 1989 has since been expanded with the following supplemental reports to better respond to agency concerns and to provide additional details and specifications.

1. Sunshine Canyon Landfill Oak Tree Mitigation Plan Supplement, September 22, 1989.

2. Oak Tree Revegetation Specifications for the Sunshine Canyon Sanitary Landfill Extension Project, October 20, 1989.

3. Sunshine Canyon Oak Tree Count Revision, October 20, 1989.

4. Oak Tree Conditions, January 31, 1990

The purpose of this document is to consolidate the information contained in the above noted reports.

SUMMARY

The permitted City portion of the Sunshine Canyon Sanitary Landfill is nearing capacity and is scheduled for closure in September, 1991. BFI is in the process of filing for permits to extend its current operation onto adjacent land it owns within Los Angeles County jurisdiction. Construction of the County Landfill Extension will result in the removal of a maximum of 6,656 native oak trees. Before these trees can be removed, Los Angeles County Ordinance 88-0157 requires that an Oak Tree Permit must be obtained. A prerequisite to the issuance of a permit is the

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preparation of an Oak Tree Report. That completed report now identifies the location, and the number of trees to be removed. Due to the rugged terrain, large area, and high number of trees, BFI submitted a proposal to the Los Angeles County Department of Forester and Fire Warden to conduct a statistical inventory of the extension area. The Department determined that the statistical sampling was in compliance with the ordinance and accepted the proposal on October 17, 1988. The final Oak Tree Report dated March 26, 1989 was accepted on May 10, 1989.

As mitigation for oak tree removal the ordinance requires that each tree removed be replaced 2:1 with native oak trees. BFI will plant, maintain and guarantee plant survival for a period of five years. In addition, BFI will also plant big cone Douglas-fir, black walnut, sycamore and revegetation grasses for the creation and enhancement of balanced oak woodland ecosystems for high wildlife values. The tree planting program will plant all oak trees during the first three years following issuance of the of all landfill operation permits. By planting all of the trees during the initial stages of landfill development, the mitigation plantings will be sexually mature, seed producing trees by the time the landfill is completed.

GENERAL BACKGROUND

Browning-Ferris Industries of California, Inc. (BFI) owns and operates the Sunshine Canyon Sanitary Landfill located in Sylmar, California. The existing facility has been in operation since 1958 and has been owned and operated by BFI since 1978. Currently, the landfill operates on approximately 230 acres within the Los Angeles

city limits. The presently permitted City portion of the landfill is nearing capacity and is scheduled for closure in September, 1991. BFI is in the process of acquiring permits to extend its current operation onto adjacent land it owns within Los Angeles County.

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The extension area is located northwest of the existing operation and consists of a series of eastward trending canyons and intervening ridges. Vegetation within the extension area is composed of oak woodlands, chaparral, grasslands and oak/big cone Douglas-fir types.

As part of the project application process, Los Angeles County requires an oak tree removal permit before any native oak trees can be removed from the extension area. The County Regional Planning Department is responsible for processing all oak tree removal permits while the Los Angeles County Department of Forester and Fire Warden is responsible for implementing the ordinance and reviewing all oak tree reports and requests.

The County's Oak Tree Ordinance (Ord. 88-0157) requires that oak trees to be removed, trimmed or impacted be measured and identified in an oak tree report. Another requirement of the ordinance is that each oak tree removed must be replaced at a minimum 2:1 ratio with indigenous oak trees. For this project replacement trees ("count" trees) must have a 1" diameter stem measured 1' above the ground. The County Forester will require maintenance and replacement of dead plants for five years after each tree reaches the one inch in diameter criteria.

Due to the rugged terrain, the large area, and the number of oak trees to be counted, a proposal to conduct a statistical sampling of the oak trees was submitted to the Los Angeles County Department of Forester and Fire Warden. The Department determined that the statistical sampling was in compliance with the Oak Tree Ordinance and accepted the proposal on October 17, 1988. The resultant Oak Tree Report, dated March 26, 1989, was accepted on May 10, 1989.

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The sampling program indicated a mean of 7,741 oak trees within the original combined City and County portions of Sunshine Canyon, with a lower and upper range (± 10%) of 6,870 and 8,613 oak trees, respectively. This assumes all existing trees are in perfect health and condition. The high range of 8,613 trees was accepted by the County as the number to be used for mitigation purposes for the original County/City Project. This is the maximum number of oak trees to be removed over the life of the combined County/City project area, as described in the Project Draft Environmental Impact Report.

On October 10, 1989, the grading plan for the County-only extension was revised. The new grading plan will save approximately 42 acres of oak trees between the new clearing limits and the visually important ridge line. Retention of the 42 acres will save 1,363 oak trees compared to the original grading plan. In addition, the tree count contained in the March 26, 1989 Oak Tree Report includes both the City and County portions of Sunshine Canyon. The Project area located within the City limits contains 594 oak trees. Based on these revisions, the total number of oak trees to be removed over the life of the County Landfill Project is 6,656 (the upper statistical range) trees; a reduction of 1,957 trees. This results in a required 2:1 replacement ratio of 13,312 trees.

OBJECTIVES

BFI's declared objective is to achieve the maximum possible long-term public benefit from the required investment of effort and expense for mitigation of the incremental removal of oak trees. In implementing the mitigation plan, BFI will guarantee the successful establishment of a 2:1 oak tree replacement for the entire project during the County Landfill Extension development. All trees will be planted within the first three years after commencement of landfill operations. BFI will plant various sized oak trees including seed spots, liner stock, 1-gallon, 5-gallon and 15-

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gallon. These trees shall "count" as replacement trees when they have a stem diameter of 1 inch measured 1 foot above the ground. Two (2) trees of this size are required for each oak tree removed from Sunshine Canyon. These trees will be maintained for the first five year period following reaching "count" status. This exceeds the required two year maintenance requirement by three years. Mitigation sites will be planted as necessary, until the 2:1 replacement is attained.

All planting sites shall be suitable to support healthy viable oak communities. BFI will locate and preselect sites for review by the County Forester. The County Forester must approve each planting site prior to the commencement of planting operations. All lands chosen shall be in public or other ownership subject to open space easement where future development or oak tree removal is not possible. In addition, drip irrigation and the five-year maintenance program will be provided to ensure successful plant growth and establishment. All oak trees will be planted by the end of the third year following beginning of filling operations in the extension area. Under the County-only proposal, by the end of landfill operations, the initial mitigation planting will have developed into 25 year old, sexually mature, seed producing trees, capable of self perpetuation.

This mitigation plan provides detailed plans for on-site and off-site replacement of removed trees and related habitat. This includes identifying potential mitigation sites on which to plant oak trees. In addition, bigcone Douglas-fir (Pseudotsuga macrocarpa), black walnut (Juglans californica), western sycamore (Platnus racemosa) and annual grasslands will be established. Although not required by the County Oak Tree Ordinance, BFI will plant these additional species to further perpetuate the oak ecosystem and the foothill woodlands. The plan includes technical specifications for the installation and maintenance of the trees.

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In addition to the more conventional mitigations described above, BFI will establish a framework of planning for improved utilization throughout the County of oak plantings that are now required under the County's Oak Tree Ordinance. Through California State Polytechnic University (Cal-Poly), Pomona, opportunities for enhanced public benefit will be pursued. These will include: 1) technical factors, such as the potential for natural propagation after establishment of seed groves through planting and initial maintenance, and 2) institutional factors, such as the linkage of tree plantings to soil erosion, flood mitigation and water conservation, with the potential of additional resources to be supplied from other sources.

MITIGATION SITE CHARACTERISTICS

Successful implementation of this mitigation plan requires that the mitigation sites possess topographic and site characteristics conducive to the growth and establishment of oak trees. One of the most important physical characteristics is aspect. Aspect is the direction or exposure towards which a slope faces. In most instances, natural stands of native oak trees within the Los Angeles area are found growing on north and east facing slopes. These aspects have cooler, moister environments than south and west exposures. Moisture deficiencies during establishment can be overcome on the drier aspects with drip irrigation. However, preference will be given to north and east aspects when selecting mitigation sites on moderate to steeply sloping sites. The following site selection factors will be considered for all potential mitigation sites:

1. Slope Aspect. On sloping mitigation sites, preference will be given to north and east facing slopes. These aspects provide cooler and moister environments for tree establishment and growth.

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2. Local Microclimates. Meteorological data for the region will be evaluated to identify sites with favorable microclimates. Factors such as local precipitation and mean daily temperatures will be evaluated.

3. Soil Conditions. All sites will have laboratory soil analysis conducted to identify specific limiting factors to plant growth. Based on the soil analysis, soil amendments will be provided to correct nutrient or chemical imbalances. Green waste from the landfill operation will be used for mulching and soil amendment.

4. Accessibility. Site accessibility will be considered for each site. Equipment access will be required for maintenance and to mobilize labor, plants and equipment.

5. Water Availability. Water availability or accessibility will be a primary consideration in site selection. The ability to provide water for irrigation will be required on most sites. Sources of water may include onsite wells, domestic water lines and transported potable water.

6. Ecosystem Development or Enhancement. Strong emphasis will be given to selecting sites that have potential for developing new oak woodland ecosystems or enhancing existing ecosystems. Isolated sites cutoff from other natural areas will be avoided, thereby reducing the possibility of creating "islands" with low ecological value.

All mitigation sites will be located within ownerships that preclude land development and removal of oak tree plantings at any future date. In most cases this includes state, federal, or municipal lands. However, private land can be

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considered, provided deed restrictions ensure protection of the plantings in perpetuity.

MITIGATION SITE LOCATIONS

Offsite mitigation locations were actively explored with suggestions and guidance from the Los Angeles County Department of Forester and Fire Warden, the California Department of Water Resources, the California Parks and Recreation Department, the U.S. Department of the Interior, the National Park Service, the Los Angeles City Parks Department, the Mountain Conservancy Foundation, and the Santa Monica Mountains Conservancy. Offsite locations under consideration include:

1. Bee Canyon
2. O'Melveny Park
3. East Canyon

In addition to exploring publicly owned off-site locations for oak plantings, the applicant is investigating the possibility of oak planting on adjacent dedicated open space lands.

Onsite planting will be done on the upper slopes between the upper limit of the proposed landfill and the ridgetops. This area presently contains a mature mixture of native oaks and big cone Douglas-fir. This ridgetop buffer will remain undisturbed by landfill construction and operation. Mitigation planting will interplant and expand these existing woodland areas plus add a young age class of oak, bigcone Douglas-fir, black walnut and sycamore trees grown from local seed sources.

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Work is currently underway to establish a native oak woodland ecosystem within the canyons located southeast of the existing landfill (buffer zone area between the existing landfill and Granada Hills). Over 500 oak trees have been established in this area. An additional 9,500 trees and shrubs have been planted in the buffer zone and surrounding areas. These trees have all been planted for aesthetic enhancement of the area separating the existing landfill and Granada Hills. These trees will not be used to meet the oak tree planting commitment. Additional oak tree plantings could establish native trees within these canyons to create new oak woodland ecosystems in areas where they did not recently exist. This will enhance the offsite visual appearance of the existing landfill.

TREE SPECIES AND SEED SOURCES

Seed used for mitigation planting will be local seed adapted to Los Angeles County conditions. This will help ensure that the planting stock has genetic strength and is adapted to the local environment. Should poor local seed crops be encountered, seed from outside the immediate area may be used, if approved in writing by the County Forester. Oak tree seedlings will be grown from seed at the BFI Sunshine Canyon Landfill nursery facility.

Because coast live oak (Quercus agrifolia) is the primary species scheduled for removal, efforts shall be concentrated on reestablishing coast live oak. However, valley oak (Quercus lobata), interior live oak (Quercus wislizeni) and canyon live oak (Quercus chrysolepsis) may also be used. The minimum planting ratios shall be 70%, 10%, 10% and 10%, respectively, for the above species. In addition to the oak tree planting, BFI will also plant bigcone Douglas-fir, black walnut and sycamore grown from local seed sources. Although these species are not protected by ordinance, BFI wishes to plant these additional species to help establish oak woodland ecosystems that are ecologically balanced and similar to the existing oak woodland ecosystems.

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Establishment of a multiple species planting program will result in the formation of habitats that are more desireable ecologically and beneficial for wildlife. The above species will be planted on the upper slopes of Sunshine Canyon between the upper limit of the proposed landfill and the ridgetop. These species will also be planted at offsite locations that have the appropriate site requirement or existing dwindling populations. Bigcone Douglas-fir, black walnut and sycamore (on appropriate sites) when planted will be intermixed with oak trees. Actual numbers of non-oak trees to be planted will be determined by the existing natural ratio of these species, the availability of viable seed and the number of trees lost within the County project area.

PLANTING STOCK SIZES

It is BFI's intent to plant all replacement trees within three years after project approval. A variety of plant sizes will be planted during the oak tree revegetation program. As stated in the Los Angeles County Department of Forester and Fire Warden's letter, dated, October 20, 1989, the following specifications will apply to replacement tree sizes and replacement schedules:

1. All oak trees approved for removal during the first five years will be replaced at a minimum of 2:1 with 15-gallon (1 inch diameter measured 1 foot above the ground) or 3:1 with 5-gallon sized planting stock.

2. Smaller liner sized seedlings will only be acceptable as replacement trees provided they grow to meet the sizing of 1 inch diameter measured 12 inches above the ground at which time the 5-year maintenance period will start.

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SPACING AND PLANTING PATTERNS

Tree planting patterns will be natural in appearance, avoiding geometric patterns or lineal forms. Trees will be planted in groves or scattered clumps in such a way as to imitate the natural patterns of Southern California oak woodlands. Spacing between trees will average 20 feet. This will provide space for the trees to grow and develop without undue competition for water and nutrients.

DEER AND RODENT CONTROL

Predation of young seedlings by browsing, deer and rodents can prevent successful plant establishment if not controlled. All seedlings will be protected with browse protection screens, animal repellents or a combination of the two. Larger size plants (5 feet or taller) will not be screened. Should browsing become a problem with these larger trees, they will be screened or treated with animal repellents.

PLANTING SPECIFICATIONS

The following specifications will be used for all tree planting projects:

1. A minimum three foot diameter area around each planting spot will be scalped to bare soil to remove all grass and competing vegetation.

2. A catch basin will be constructed around each plant to trap rainfall and irrigation water. The basin will be constructed so that the bottom of the berm is level with the top of the root collar of the tree. Depth from the top of the berm to the bottom of the basin will be between 4 and 6 inches.

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3. The planting hole will be over-sized and backfilled with loose friable soil. Care will be taken to assure that the trees are planted to the proper depth.

4. Agriform fertilizer tablets or approved equal will be placed in each planting hole. The tablet will be placed to the side of the root wad at approximately one-half of the root depth. Liner-size plants will receive one (1) 20 gram tablet, 5-gallon size plants will receive three (3) 20 gram tablets and 15-gallon size plants will receive five (5) 20 gram tablets.

5. Liner size plants will be provided with browse protection. Screening material will be wire mesh screen. Animal repellents such as RoPel may be used in conjunction with browse screens.

6. All plants will be mulched with recycled green waste from the landfill. Mulching will retard weed competition and reduce evaporation of soil moisture.

Planting spots will be located on 20 foot centers with random, natural appearing placement. Non-irrigated plants will be installed in the fall after sufficient precipitation has moistened the soil to a minimum depth of 12 inches. This will allow time for suitable root development prior to the onset of summer drought conditions. The normal planting season for nonirrigated plants ranges between mid November and mid March. Irrigated plants may be planted at any time of the year. During the dry season, all planting spots will be thoroughly wetted before planting.

MAINTENANCE AND MONITORING

A 5-year maintenance and monitoring program will be implemented for each oak tree. The time period for maintenance will begin when a tree reaches "count" status.

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Maintenance of the planting areas will include biannual fertilization with a slow release fertilizer, spring and fall weed control and replacement of damaged or dead plants. The 5-year maintenance period for replacement plants will begin at the time they reach "count" status. Irrigation systems will be monitored to detect and correct any problems.

A monitoring program will be implemented to collect survival and growth data and provide photographic documentation. Permanent photo points will be established for the determination of oak tree conditions. Color photographs will be taken annually (at a minimum) to document oak growth and establishment. Representative photos will be included in each annual inventory report. Monthly inspections will be conducted by the County Forester.

Representatives from the County Forester and BFI shall conduct an annual inventory in August of each year to document growth, condition and survival of all oak trees planted by the BFI. The final checklist and inventory format shall be approved by the County Forester prior to any oak tree removal.

A comprehensive report detailing the status of all replacement oak trees and BFI's compliance with these conditions shall be submitted annually to the County Forester and bi-annually by the BFI to Los Angeles County Regional Planning. All reports shall be submitted on November 1.

IRRIGATION SPECIFICATIONS

Drip irrigation will be supplied with water from acceptable sources. Any permits needed for the installation of the irrigation systems will be obtained from the appropriate agencies prior to any installation.

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The emitters used in drip irrigation have extremely small openings through which the water passes. These small openings may become clogged if clean water is not used. To assure proper operation a filter must be installed to prevent clogging; the filter must be between 150 and 200 mesh. If line pressures exceed 60 p.s.i., the filter will be installed downstream of a pressure reducing valve to prevent damage to the filter.

Irrigated trees will receive a deep watering with a minimum of 1 gallon of water per week. Standard one-gallon/hour Vortex emitters will be used requiring a minimum watering time of 1 to 5 hours per week. To provide consistent watering schedules, battery operated controllers and electric valves will be used to automate all irrigation systems.

Conventional one-half inch polyethylene tubing will be used for the drip distribution lines. Supply lines will be schedule 40 p.v.c. pipe. Pipe sizing will be dependent upon the number of plants and the amount of water required for each planting area. To reduce line pressure losses tubing lengths will not exceed 1500 feet. Tubing will be installed above ground and pinned in place with heavy wire staples. Emitters are to be placed approximated 6-12 inches away from the plant on the uphill side. Wire staples are to be placed 6 inches from the emitter on both sides.

OTHER MITIGATION PROGRAMS

Other mitigation programs proposed in addition to the oak tree replacement program are:

1. Prepare an inventory of dedicated open space properties (public and private ownerships) to determine the need for oak tree establishment. All candidate areas will be mapped and categorized according to their suitability for oak tree

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establishment and potential planting expanse. This information will be used to develop a County wide oak tree replacement plan. In cooperation with Cal-Poly and other consultants, BFI will develop a comprehensive reforestation plan to provide the County of Los Angeles with a long-range planning document for tree mitigation of County projects. Appendix A outlines the scope of the long-range reforestation plan.

2. Conduct literature and site specific studies to determine reason(s) for the lack of oak tree regeneration in Los Angeles County. Based on the findings of the study, provide guidelines for site evaluation and techniques for increasing oak tree planting successes and seed crop evaluation.

3. Preserve and enhance the bigcone Douglas-fir/oak vegetation type within the upper canyon and ridgetop areas.

4. The grading limits of the landfill construction area will be marked on the ground including fencing prior to construction activities. These limits will serve as equipment exclusion areas to protect and preserve trees bordering the landfill construction area.

5. As part of a public education program, BFI will coordinate with the Los Angeles County Department of Forester and Fire Warden, County Parks and Recreation Department, other museums, and other appropriate agencies to develop an oak education program. This program will include informative posters and display material that explain the ecology and benefits provided by the native oak trees.

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Appendix C7
IMPACTS ON MINORITIES AND LOW-INCOME COMMUNITIES

IMPACTS ON MINORITIES AND LOW-INCOME COMMUNITIES

On February 11, 1994, President Clinton signed Executive Order 12898, amended by Executive Order 12948, January 30, 1995 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population)*. This order calls on federal agencies to encourage environmental fairness by developing individual strategies to prevent disproportionate environmental inequities and directing agencies to collect and analyze information and provide assessments of environmental and human risk. Furthermore this order is designed to increase public participation in the environmental decision-making process.

Moreover, this order directed the U.S. Environmental Protection Agency to lead an interagency effort to carry out the executive order, which requires federal agencies to

- develop strategies to identify and address disproportionately high and adverse human health or environmental effects on low-income and minority populations regarding their programs, policies, or activities;
- ensure that minority and low-income populations have access to public information related to human health and the environment;
- conduct activities related to human health and the environment in a manner that does not discriminate or have the effect of discriminating against low-income and minority populations; and
- consider disproportionately high and adverse human health effects of environmental hazards on minority and low-income populations in conducting research and data collection related to human health or the environment.

Framework Element

The Framework Element specifically addresses the issue of environmental justice through Goal 3A that states:

> "A physically balanced distribution of land uses that contributes towards and facilitates the . . . assurance of environmental justice and a healthful living environment . . ."[1]

This goal would be implemented through the Policy 3.1.9 that states:

> "Assure that fair treatment of people of all races, cultures, incomes, and education levels with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in early planning stages through notification and two-way communication."[2]

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[1]/ *The Citywide General Plan Framework, An Element of the City of Los Angeles General Plan*, City of Los Angeles, Department of City Planning, p. 3-7.

[2]/ Ibid, p. 3-8.

Granada Hills-Knollwood Community Plan Area/City of Los Angeles

Because the proposed City Landfill project is located within the Granada Hills-Knollwood Community Planing area of the City, a review of existing distribution patterns of minority populations and low-income populations living within the City's Granada Hills-Knollwood Community Planning area was conducted. The following information relates to that matter and is primarily excerpted from portions of the *Granada Hills-Knollwood District Plan Revision Environmental Impact Report* (EIR) Final Volume, November 1994.

In general, the majority of the ethnic composition within the Granada Hills-Knollwood Community Planning area can be classified as non-Hispanic White. This ethnic distribution is further defined as 72.2 percent non-Hispanic White, 11.8 percent Hispanic, 2.3 percent Black, and 13.7 percent Asian/other based on 1990 Census information. The population within the Granada Hills-Knollwood community is comprised of 56,352 residents (or 1.6 percent of the City's total population of 3.5 million residents).[2] This compares with a Citywide population distribution of 37.3 percent non-Hispanic White, 39.9 percent Hispanic, 13.0 percent Black, and 10.3 percent Asian/other[3]. The Hispanic population distribution within a 2-mile radius of the landfill site is presented in **Table C7-1**. The Hispanic population by communities in proximity to the landfill site is presented in **Table C7-2**.

Table C7-1
HISPANIC POPULATION DISTRIBUTION WITHIN 2-MILE RADIUS OF THE SUNSHINE CANYON LANDFILL

Distance from Project Site[1] (miles)	Total Population[2]	Hispanic Population Percentage
0.5	[3]	[3]
1.0	[3]	[3]
1.5	5,849	15.2
2.0	11,139	21.1

Source: Urban Decision Systems, Inc. and Ultrasystems Environmental Incorporated

Notes:
1. Measured from the intersection of San Fernando Road and landfill entrance.
2. 1993 estimate based on 1990 Census.
3. Population summary within the 0.5- and 1.0-mile distances is not shown since the majority of the population distribution within these Census blocks is located within the 1.5- and 2.0- mile radii.

The average household income of residents within the Granada Hills-Knollwood Community Plan boundaries was $63,115, with only 5.7 percent below the poverty level (based on 1990 Census data and presented in the City of Los Angeles Socio-Demographic Statistics). This compares to an average Citywide

2/ *Granada Hills-Knollwood District Plan Revision Final EIR*, Final Volume 1, City of Los Angeles Department of City Planning, p. 2.9-1. November 1994.

3/ Ibid., p. 2.9-2.

Table C7-2
HISPANIC POPULATION DISTRIBUTION BY COMMUNITIES IN PROXIMITY TO THE PROJECT SITE [1]

Community/City [2]	Approximate Distance (miles)	Total Population	Number of Hispanics	Percentage of Total Population
Porter Ranch City of Los Angeles	3.5	79,666	10,245	12.86
Granada Hills City of Los Angeles	2.0	56,352	6,766	12.00
Sylmar City of Los Angeles	2.0	59,996	31,554	52.59
Northridge City of Los Angeles	5.0	58,985	10,614	18.00
Mission Hills City of Los Angeles	4.0	106,317	48,212	45.35
San Fernando City of San Fernando	4.0	22,580[3]	18,683[3]	82.70[3]

Source: Ultrasystems Environmental Incorporated

Notes:
1. "Race/Ethnicity in the City of Los Angeles (as of April 1990)," City of Los Angeles Planning Department, Research Section. May 21, 1991.
2. Boundaries based on City of Los Angeles Planning areas.
3. "Population and Percentage Distribution by Race," Table 1, *Report C90-PC-1*, State Department of Finance, based on 1990 Census.

household income of $45,701, with over 18 percent of the population below the poverty level. These household incomes reflect the economic profile, housing demands, and employment status of the population[4].

Potential Impacts

Implementation of the proposed City Landfill Project is not expected to result in any disproportionate adverse burden of incompatible or undesirable land uses on minority and/or low-income populations in the area(s) of the project site. For a further discussion of both City- and County-adopted plans pertaining to the issue of land use and future development patterns, refer to Section 4.7, Land Use, of this Draft SEIR.

4/ The national average poverty level for a family of four persons in 1989 was $12,674 as reported in the City of Los Angeles, Census Socio-Demographic Statistics.

ATTACHMENT 1 - Executive Order #12898

Below is a memorandum from President Clinton to the heads of all departments and agencies on "Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" -- February 11, 1994:

Today I have issued an Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. That order is designed to focus Federal attention on the environmental and human health conditions in minority communities and low-income communities with the goal of achieving environmental justice. That order is also intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment, and to provide minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health and the environment.

The purpose of this separate memorandum is to underscore certain provisions of existing law that can help ensure that all communities and persons across this Nation live in a safe and healthful environment. Environmental and civil rights statutes provide many opportunities to address environmental hazards in minority communities and low-income communities. Application of these existing statutory provisions is an important part of this Administration's efforts to prevent those minority communities and low-income communities from being subject to disproportionately high and adverse environmental effects.

I am therefore today directing that all department and agency heads take appropriate and necessary steps to ensure that the following specific directives are implemented immediately:

In accordance with Title VI of the Civil Rights Act of 1964, each Federal agency shall ensure that all programs or activities receiving Federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin.

Each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. section 4321 et seq. Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental effects of proposed Federal actions on minority communities and low-income communities.

Each Federal agency shall provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of meetings, crucial documents, and notices.

The Environmental Protection Agency, when reviewing environmental effects of proposed action of other Federal agencies under section 309 of the Clean Air Act, 42 U.S.C. section 7609, shall ensure that the involved agency has fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects.

Each Federal agency shall ensure that the public, including minority communities and low-income communities, has adequate access to public information relating to human health, or environmental planning, regulations, and enforcement when required under the Freedom of Information Act, 4 U.S.C. section 552, the Sunshine Act, 5 U.S.C. section 552b, and the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11044.

***

Source: United States Environmental Protection Agency. Office of Environmental Justice

THE WHITE HOUSE
OFFICE OF THE PRESS SECRETARY

FOR IMMEDIATE RELEASE **CONTACT: 202/456-7035**
FRIDAY, February 11, 1994

PRESIDENT CLINTON SIGNS EXECUTIVE ORDER ON ENVIRONMENTAL JUSTICE

Fulfilling a commitment he made on Earth Day 1993 to address the problem of environmental inequities and discrimination, President Clinton today signed an Executive Order on Environmental Justice to protect American -- particularly those who can least afford it -- from pollution and to help provide safe, clean communities.

The Executive order calls on federal agencies to encourage environmental fairness by developing individual agency strategies to prevent disproportionate environmental inequities and directing agencies to collect and analyze information and provide assessments of environmental and human risk. The Executive Order will increase public participation in the environmental decision-making process.

"All Americans have a right to be protected from pollution-- not just those who can afford to live in the cleanest, safest communities. Today, we direct Federal agencies to make environmental justice a part of all that they do," said President Clinton.

The executive order is expected to have a sweeping impact on lead removal in public housing, pollution control in urban rivers, and exposure of farm workers to dangerous pesticides. The order will require environmental justice strategies from each federal agency that conducts programs substantially affecting human health and the environment.

Vice President Gore said, "Every community must be included in making decision abut their health and their environment. Under today's executive order, we will ensure that disadvantaged populations have an opportunity to participate fully in making health and environmental decisions."

Environmental Protection Agency Administrator Carol M. Browner said, "For too long, low-income and minority communities have borne a disproportionate burden of modern industrial life. Today's Executive order seeks to bring justice to these communities."

EPA will lead an interagency effort to carry out the executive order, which requires Federal agencies to:

-Develop strategies for identifying and addressing disproportionately high and adverse human health or environmental effects on low income and minority populations of their programs, policies or activities.

-Ensure minority and low income populations have access to public information related to human health and the environment.

-Conduct activities related to human health and the environment in a manner that does not discriminate or have the effect of discriminating against low-income and minority populations.

-Consider disproportionately high and adverse human health effects of environmental hazards on minority and low-income populations in conducting research and data collection related to human health or the environment.

##

EXECUTIVE ORDER 12898

FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS

HISTORY: Feb. 11, 1994; 59 FR 7629, Feb. 16, 1994; amended by Executive Order <eoamdnum>12948, Jan. 30, 1995; 60 FR 6381, Feb. 1, 1995

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1-1. Implementation.

1-101. Agency Responsibilities. To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

1-102. Creation of an Interagency Working Group on Environmental Justice. (a) Within 3 months of the date of this order, the Administrator of the Environmental Protection Agency ("Administrator") or the Administrator's designee shall convene an interagency Federal Working Group on Environmental Justice ("Working Group"). The Working Group shall comprise the heads of the following executive agencies and offices, or their designees: (a) Department of Defense; (b) Department of Health and Human Services; (c) Department of Housing and Urban Development; (d) Department of Labor; (e) Department of Agriculture; (f) Department of Transportation; (g) Department of Justice; (h) Department of the Interior; (i) Department of Commerce; (j) Department of Energy; (k) Environmental Protection Agency; (l) Office of Management and Budget; (m) Office of Science and Technology Policy; (n) Office of the Deputy Assistant to the President for Environmental Policy; (o) Office of the Assistant to the President for Domestic Policy; (p) National Economic Council; (q) Council of Economic Advisers; and (r) such other

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Government officials as the President may designate. The Working Group shall report to the President through the Deputy Assistant to the President for Environmental Policy and the Assistant to the President for Domestic Policy.

(b) The Working Group shall: (1) provide guidance to Federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(2) coordinate with, provide guidance to, and serve as a clearinghouse for, each Federal agency as it develops an environmental justice strategy as required by section 1-103 of this order, in order to ensure that the administration, interpretation and enforcement of programs, activities and policies are undertaken in a consistent manner;

(3) assist in coordinating research by, and stimulating cooperation among, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Housing and Urban Development, and other agencies conducting research or other activities in accordance with section 3-3 of this order;

(4) assist in coordinating data collection, required by this order;

(5) examine existing data and studies on environmental justice;

(6) hold public meetings as required in section 5-502(d) of this order; and

(7) develop interagency model projects on environmental justice that evidence cooperation among Federal agencies.

1-103. Development of Agency Strategies. (a) Except as provided in section 6-605 of this order, each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)-(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of

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consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable for undertaking identified revisions and consideration of economic and social implications of the revisions.

(b) Within 4 months of the date of this order, each Federal agency shall identify an internal administrative process for developing its environmental justice strategy, and shall inform the Working Group of the process.

(c) Within 6 months of the date of this order, each Federal agency shall provide the Working Group with an outline of its proposed environmental justice strategy.

(d) Within 10 months of the date of this order, each Federal agency shall provide the Working Group with its proposed environmental justice strategy.

(e) By March 24, 1995, each Federal agency shall finalize its environmental justice strategy and provide a copy and written description of its strategy to the Working Group. From the date of this order through March 24, 1995, each Federal agency, as part of its environmental justice strategy, shall identify several specific projects that can be promptly undertaken to address particular concerns identified during the development of the proposed environmental justice strategy, and a schedule for implementing those projects.
[1-103(e) amended by E.O. 12948, 60 FR 6381, Feb. 1, 1995]

(f) Within 24 months of the date of this order, each Federal agency shall report to the Working Group on its progress in implementing its agency-wide environmental justice strategy.

(g) Federal agencies shall provide additional periodic reports to the Working Group as requested by the Working Group.

1-104. Reports to the President.Within 14 months of the date of this order, the Working Group shall submit to the President, through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy, a report that describes the implementation of this order, and includes the final environmental justice strategies described in section 1-103(e) of this order.

Sec. 2-2. Federal Agency Responsibilities for Federal Programs.

Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs,

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policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

Sec. 3-3. Research, Data Collection, and Analysis.

3-301. Human Health and Environmental Research and Analysis. (a) Environmental human health research, whenever practicable and appropriate, shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to substantial environmental hazards.

(b) Environmental human health analyses, whenever practicable and appropriate, shall identify multiple and cumulative exposures.

(c) Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order.

3-302. Human Health and Environmental Data Collection and Analysis. To the extent permitted by existing law, including the Privacy Act, as amended (5 USC . section 552a): (a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(b) In connection with the development and implementation of agency strategies in section 1-103 of this order, each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public, unless prohibited by law; and

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(c) Each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding Federal facilities that are: (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001-11050 as mandated in Executive Order No. 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding populations. Such information shall be made available to the public, unless prohibited by law.

(d) In carrying out the responsibilities in this section, each Federal agency, whenever practicable and appropriate, shall share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments.

Sec. 4-4. Subsistence Consumption of Fish and Wildlife.

4-401. Consumption Patterns. In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

4-402. Guidance. Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or wildlife. Agencies shall consider such guidance in developing their policies and rules.

Sec. 5-5. Public Participation and Access to Information.

(a) The public may submit recommendations to Federal agencies relating to the incorporation of environmental justice principles into Federal agency programs or policies. Each Federal agency shall convey such recommendations to the Working Group.

(b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations.

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(c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

(d) The Working Group shall hold public meetings, as appropriate, for the purpose of fact-finding, receiving public comments, and conducting inquiries concerning environmental justice. The Working Group shall prepare for public review a summary of the comments and recommendations discussed at the public meetings.

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Sec. 6-6. General Provisions.

6-601. Responsibility for Agency Implementation. The head of each Federal agency shall be responsible for ensuring compliance with this order. Each Federal agency shall conduct internal reviews and take such other steps as may be necessary to monitor compliance with this order.

6-602. Executive Order No. 12250. This Executive order is intended to supplement but not supersede Executive Order No. 12250, which requires consistent and effective implementation of various laws prohibiting discriminatory practices in programs receiving Federal financial assistance. Nothing herein shall limit the effect or mandate of Executive Order No. 12250.

6-603. Executive Order No. 12875. This Executive order is not intended to limit the effect or mandate of Executive Order No. 12875.

6-604. Scope. For purposes of this order, Federal agency means any agency on the Working Group, and such other agencies as may be designated by the President, that conducts any Federal program or activity that substantially affects human health or the environment. Independent agencies are requested to comply with the provisions of this order.

6-605. Petitions for Exemptions. The head of a Federal agency may petition the President for an exemption from the requirements of this order on the grounds that all or some of the petitioning agency's programs or activities should not be subject to the requirements of this order.

6-606. Native American Programs. Each Federal agency responsibility set forth under this order shall apply equally to Native American programs. In addition, the Department of the Interior, in coordination with the Working Group, and, after consultation with tribal leaders, shall coordinate steps to be

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taken pursuant to this order that address Federally-recognized Indian Tribes.

6-607. Costs. Unless otherwise provided by law, Federal agencies shall assume the financial costs of complying with this order.

6-608. General. Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.

6-609. Judicial Review. This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person. This order shall not be construed to create any right to judicial review involving the compliance or noncompliance of the United States, its agencies, its officers, or any other person with this order.

/s/ William J. Clinton
THE WHITE HOUSE
February 11, 1994.

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Appendix C8
NORTHRIDGE EARTHQUAKE INFORMATION

NORTHRIDGE EARTHQUAKE

The following information presents an overview of the Northridge earthquake and details some of the damage and disruption caused to residences, businesses, public facilities, and other structures within the general region where the epicenter was located. The information in this section was obtained primarily from two government publications: The U.S. Department of Commerce, *1994 Northridge Earthquake Performance of Structures, Lifelines and Fire Protection Systems* and the University of California at Berkeley, *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake*.

Introduction

The Northridge earthquake occurred on January 17, 1994 (a federal holiday), within the community of Northridge, which is located in the San Fernando Valley within the City. The earthquake's epicenter was located approximately 30 kilometers (km) west-northwest of downtown Los Angeles, and the surface magnitude of the quake measured $M_s = 6.7$. Strong motion shaking lasted approximately 15 seconds in the area of the epicenter.

This event was the largest to have occurred in the Los Angeles region during this century. Another earthquake occurred in 1971 and is known as the San Fernando (Sylmar) earthquake. That earthquake measured 6.6 on the Richter scale and was centered approximately 25 km northeast of the 1994 event. The Northridge earthquake occurred on an unidentified fault; nearby faults in this area included both the Frew and Santa Susana Faults. Areas within the San Fernando Valley and adjoining regions were strongly or moderately shaken due to earthquakes.

Extent of Damage

Damages resulting from the earthquake were widespread and included the collapse of six sections of highway structures, thousands of damaged or destroyed residential and commercial structures, widespread disruption of utilities and other lifeline facilities in the epicentral region, and a number of soil embankment failures and numerous landslides.[1]

The earthquake resulted in 61 deaths that were generally attributable to the collapse of residential structures. The economic toll was estimated to range between $13 to $15 billion. Perhaps the most visible extent of damage was from collapsed freeway and apartment structures located near the campus of California State University at Northridge. Estimates by the Governor's Office of Emergency Services (OES) indicated that over 14,000 structures in 28 cities were damaged by the earthquake and that approximately 2,900 structures were sufficiently impacted and determined by agencies (building and safety officials) to be unsafe for entry.

General Seismology

The epicenter of the Northridge earthquake determined by the U.S. Geological Survey was 34.213 N and 118.537 W, with a focal depth of 18.4 km. A moment magnitude of $M_w = 6.7$ was estimated by the University of California at Berkeley Seismographic Station from the modeling of broadband records for the

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[1]/ *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake*, p. 1. June 1994.

main shock from the TERRA scope network and the Berkeley Digital Seismic Network. This is in agreement with the local magnitude M = 6.7 determined by Caltech.[2]

The Northridge earthquake was located in a complex transitional region of predominant south-dipping reverse faults to the west and north-dipping structures to the east. This earthquake occurred on a south-dipping fault adjacent to the north-dipping structures involved in the 1971 San Fernando earthquake. The aftershock distribution clearly defines this structure at depths greater than 5 to 10 km. At shallower depths, the pattern is more complex, and the rupture did not extend all the way to the surface. The aftershocks define a wedge-shaped volume with no clear planer structures, and the rupture did not make it to the surface. It remains unclear whether this earthquake occurred on an eastward extension of the Oak Ridge Fault, a previously unknown "blind thrust" truncated at depth by the north-dipping Sierra Madre fault system, or a "blind" back thrust of the Elysian Park system.[3]

The University of California at Berkeley, College of Engineering, Earthquake Engineering Research Center revealed a source duration of approximately 6 seconds, with evidence for directivity toward the north, indicating that the event ruptured primarily updip. The thrust mechanism of this earthquake and the direction of rupture propagation may be partly responsible for the unusually strong shaking experienced in some areas. Also, there is nothing unusual about the time sequence of aftershocks for the Northridge earthquake. The sequence had six aftershocks of a magnitude greater than 5, the largest of which was M_w = 6.0 and had a similar mechanism to the main shock.

A series of significant earthquakes has occurred since 1987 in the Los Angeles Basin. The largest of these were the 1987 Whittier Narrows earthquake (M = 6.0) and the 1991 Sierra Madre earthquake (M = 5.6). All of these earthquakes occurred to the east of the Northridge epicenter and had similar thrust mechanisms. In comparison to the Northridge event, those earthquakes occurred on north-dipping planes, as did the 1971 San Fernando earthquake (M = 6.6). The latter occurred at a depth of 13 km on a previously unmapped fault, and surface rupture was found in a zone directly east of the surface projection of the Northridge fault plane.[4]

Landslides

The tectonically active Transverse Ranges bordering the Los Angeles Basin are characterized by high relative relief, deep dissection, and average steep slopes with gradients exceeding 60 to 70 percent. Along the coastal areas, active uplift has produced extensive marine terrace deposits characterized by steeply eroded slopes along the beaches and in canyons extending inland. Landslides in the Los Angeles area are a relatively common phenomenon, necessitating planning for emergency repairs after major storms and earthquake events. Typically, most landslide damage follows large storm events (major rainstorms in the Los Angeles region have occurred in 1969, 1978, 1980, 1992, and 1995). Historically, earthquake-induced landslides have caused significant impacts. Both the 1971 San Fernando earthquake and the 1991 Sierra Madre

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[2]/ Ibid., p. 7.

[3]/ Ibid.

[4]/ Ibid.

earthquake created hundreds of shallow surficial failures, rockfalls, small slumps, and debris slides and reactivated several large, deep-seated landslides in the affected regions.[5]

Hundreds of scattered rockfalls and landslides throughout Los Angeles and Ventura Counties were attributable to the Northridge earthquake. Generally, landslides were distributed approximately 25 km from the epicenter, including the Simi Hills; Big Mountain; the Santa Monica, San Gabriel, and Santa Monica Mountains; and along the marine terrace bluffs in Santa Monica and Pacific Palisades. The seismically induced failures occurred in areas of known landslide susceptibility. Impacts due to these landslides included road closures, damaged and destroyed homes, and the increased susceptibility to debris flows during subsequent storms. The predominant modes of slope failures included shattered ridges, shallow surface slides, and rockfalls and rockslides. Numerous rockslides and landslides activated in the mountainous areas by the main shock and aftershocks were visible from long distances by rising dust clouds.[6]

Damage to Structures

According to the OES, approximately 2,900 structures had been red tagged (unsafe) and 11,000 had been issued yellow tags (limited entry) as of April 1994. As expected, the majority of damage to structures occurred in the Northridge epicentral region; however, several significant concentrations of structural damage also occurred in a number of areas away from the epicentral region, including Sherman Oaks near Highway 101 just east of Highway 405, at Hollywood north of Santa Monica Boulevard between Interstate 5 Freeway (I-5) and Los Angeles Brea Avenue, along an arc in central Los Angeles just northeast of Culver City, in the Newhall area east of I-5 in the Santa Clarita Valley, and in Santa Monica north of Colorado Avenue. Damage was also evident as far away as Fillmore, Santa Clarita, Pasadena, and the Port of Los Angeles. Many of the areas of concentrated structural damage are underlain by deep Holocene deposits and pronounced alluvial basins.[7]

As identified within the *Los Angeles County General Plan*, Safety Element, evidence of localized site conditions was apparent when compared to areas of "potentially liquefiable deposits." Areas underlain with these deposits are zones likely to contain softer or more recent soil deposits and relatively shallow groundwater. Additionally, partial pore pressure generation within potentially liquefiable deposits may have led to softening of soil at these sites, altering the soil's dynamic properties to influence site amplification effects and contribute to observed structural damage by affecting the characteristics of the ground motions. As a result, there is a very strong relationship between these areas and the areas in which structural damage was concentrated, particularly outside of the epicentral region.[8]

Damaged structures in the epicentral area included residential and commercial buildings (one to three stories in height), generally all types of construction. Those structures with soft-bottom stories and unreinforced masonry buildings were particularly vulnerable.

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[5]/ Ibid., p. 147.

[6]/ Ibid.

[7]/ Ibid., p. 49.

[8]/ Ibid.

Lifeline Systems

Following the Northridge earthquake, over 1,600 breaks and leaks arose in the existing water distribution system for the San Fernando Valley area. In addition, hundreds of water breaks and gas line failures were reported in the City of San Fernando. Most of the zones of concentrated pipe breakage were located in liquefiable areas. The exception to this trend was the concentration of breaks in Granada Hills near Highway 118, an area approximately bounded by the Santa Susana Mountains to the north and by Sepulveda Boulevard, Nordhoff Street, and Zelzah Avenue to the east, south, and west, respectively.[9] Additionally, over 450 pipe breaks occurred within the central Los Angeles region.[10]

The Van Norman Complex and surrounding areas experienced damage from liquefaction during the 1971 San Fernando earthquake. Most damage to this complex included substantial slippages in the shell materials of the Upper and Lower San Fernando Dams, including a major upstream slope stability failure and near release of the reservoir at the Lower San Fernando Dam, lateral spreading and settlement that damaged the nearby Joseph Jensen Filtration Plant, and a landslide located beneath a portion of the San Fernando Valley Juvenile Hall facility and a large area downslope.

Most of these facilities and/or structures were either abandoned or improved between 1971 and 1994, and damage resulting from the Northridge event was relatively modest.[11] The Joseph Jensen Filtration Plant experienced considerable damage during the 1971 San Fernando earthquake from liquefaction-induced ground movements. The plant was again damaged by liquefaction during the Northridge earthquake, but the damage was less severe. Nonetheless, the facility was forced to shut down for several days, affecting water service to over 1 million customers.[12]

Damage to Bridges

The majority of bridges in the Los Angeles Basin performed well during and following the Northridge earthquake. However, several bridges suffered severe damage and/or collapsed. These failures resulted in serious impacts on transportation patterns in the metropolitan area of Los Angeles. Tremendous economic and social costs resulted from transportation delays due to the direct cost of repairing or replacing earthquake-damaged bridges. In addition, those bridges that were out of service hampered emergency response efforts immediately after the event.

Currently, 2,523 bridges are located in Los Angeles County, and 716 need some form of seismic retrofitting. About 16 percent of this total number have been retrofitted.[13] The total cost of seismic damage to highway bridges in California (before 1971) was approximately $100,000. Following the 1971 San Fernando earthquake, the cost of repair work to highway bridges totaled approximately $15 million. As a result of the

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9/ Ibid., p. 75.

10/ Ibid., p. 137.

11/ Ibid., p. 88.

12/ Ibid., p. 92.

13/ *1994 Northridge Earthquake Performance of Structures, Lifelines and Fire Protection Systems*, p. 75. March 1994.

Northridge earthquake, six major highway bridges collapsed and 157 other highway bridges were damaged. The estimated cost to replace or repair these bridges was estimated to be approximately $1.5 billion.

Extensive damage was incurred to the following bridges after the Northridge earthquake: I-5 Freeway at Gavin Canyon Undercrossing; Antelope Valley Freeway (SR-14) Interchange with I-5; Simi Valley Freeway (SR-118) at San Fernando-Mission Boulevard and Gothic Avenue; SR-118 at Bull Creek Canyon Channel; Santa Monica Freeway (I-10) at Los Angeles Cienega Boulevard/Venice Boulevard separation; I-10 at the Fairfax Avenue/Washington Boulevard undercrossing; Ventura Freeway (SR-134) at the Hollywood Freeway (U.S. 101) Interchange; I -5 at SR-118 southwest connector; and Marina Freeway (SR-90)/San Diego Freeway (I-405) interchange at the Jefferson Boulevard undercrossing.

Damage to Lifeline Systems

Lifeline systems generally include water, sewer, gas, fuel, electric power, telecommunications, and transportation systems and provide functional services to the community to maintain its safety, health, and financial transactions and to stimulate economic activities. Damage to these systems can impede emergency response activities following an earthquake and can further hinder postearthquake recovery. Typically, disruption of regional lifeline systems due to a major natural disaster such as an earthquake can have a profound effect on the entire nation because of the economic interdependence of lifeline systems and the functions these systems support. Because the Northridge earthquake is the costliest (in terms of fiscal resources) natural disaster this country has experienced to date, a portion of those losses is directly attributable to the loss of function and the subsequent costs for their repair and replacement.[14]

The Northridge earthquake resulted in the breakage of all four pipelines that provide water to the region's three water treatment facilities. This damage resulted in the lateral spreading of the ground or soil settlement around the facilities as well as leaks in the pipelines and at construction joints. The existing system failed to provide water to those customers living near the epicenter. Thousands of main-line leaks were reported to agencies and the repairs were very time-consuming.[15]

Natural gas systems consist of transmission, distribution, and service lines. In the earthquake-affected area, transmission lines are typically steel pipes with diameters ranging from 12 to 30 inches. Most of these lines were constructed prior to 1971. The distribution lines are either steel or plastic pipes. Compared with the effects of the 1971 San Fernando earthquake, the Northridge earthquake resulted in more ruptures in the distribution lines than in the transmission lines. Most of the breaks occurred to old steel pipes. Plastic pipes used in the distribution system seemed to perform well.[16]

Following the earthquake, approximately 2 million customers were temporarily out of service due to power outages within the Los Angeles Basin. Most customers had power restored within a 1-day time frame; all power was restored within 10 days after the event. Because some transmission towers suffered foundation

[14]/ Ibid., p. 131.

[15]/ Ibid., p. 132.

[16]/ Ibid., p. 138.

failure, damage to several high-voltage substations occurred near the epicenter area. This led to widespread power outages in the Los Angeles Basin, as well as the isolated outages throughout seven western states.[17]

Following the earthquake, there was a freight train derailment in the Northridge area. Of the 64 cars on the freight train, 25 cars derailed, and 16 of those cars carried sulfuric acid or diesel fuel. Approximately 650 feet of railroad tracks had to be replaced immediately following the earthquake. Rail service was restored on January 19, 1994.[18]

The earthquake resulted in many fires that taxed the deployment fire service systems due to the number of fires and the existing disruption of the water supply. The majority of the estimated 30 to 50 fires located in the San Fernando Valley were confined to the building of origin either by separation or fire department action. The primary cause of the fires was due to natural gas leaks. Fire incidents occurred at a greater-than-normal rate in the days following the earthquake event and were directly attributable to the restoration of power and gas to buildings shaken in the initial earthquake and aftershocks.[19]

Performance of Bridge Structures Within the Immediate Area of the Project Site

The bridge structure at the I-5 Freeway at Gavin Canyon undercrossing was constructed in 1967 and carries I-5 over Gavin Canyon. This structure is located about 2 miles north of the intersection of I-5 and SR-14 and consists of two parallel bridges. Despite the presence of cable restrainers at the hinges, failure of three of the four end spans of the bridge was initiated by the spans falling off the hinge seats. The fourth span, located at the far western corner of the bridge, partially came off its hinge seat but did not collapse. After support was lost at the hinges, a triangular portion of three of the end spans collapsed. Demolition of the remaining portions of the end spans was performed very soon after the earthquake.[20]

The two bridges of the SR-14 interchange with I-5 Freeway constructed in 1971 partially collapsed at this interchange. Both structures consist of multiple-cell concrete box girders, which are post-tensioned and supported on single pier bents with flared tops. There was evidence of pounding between spans at several hinges, and permanent differential offsets (both horizontal and vertical) were observed between the ends of the spans.[21] Both bridges suffered from the compression and collapse of piers, which led to the failure of the superstructure.

A number of bridges along SR-118 received minor, repairable damage, but two bridges were severely damaged. Both of these bridges were constructed after the 1971 San Fernando earthquake and included improved seismic details, which improved details used in the 1960s. The piers of the Mission-Gothic undercrossing suffered severe damage in the Northridge earthquake, and one of the two parallel spans partially collapsed. In addition to pier damage, there was also severe damage to the abutments, including cracked wing walls, settlement of soil behind the abutments, and apparent shifting of the abutments.

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[17]/ Ibid., p. 143.

[18]/ Ibid., p. 146.

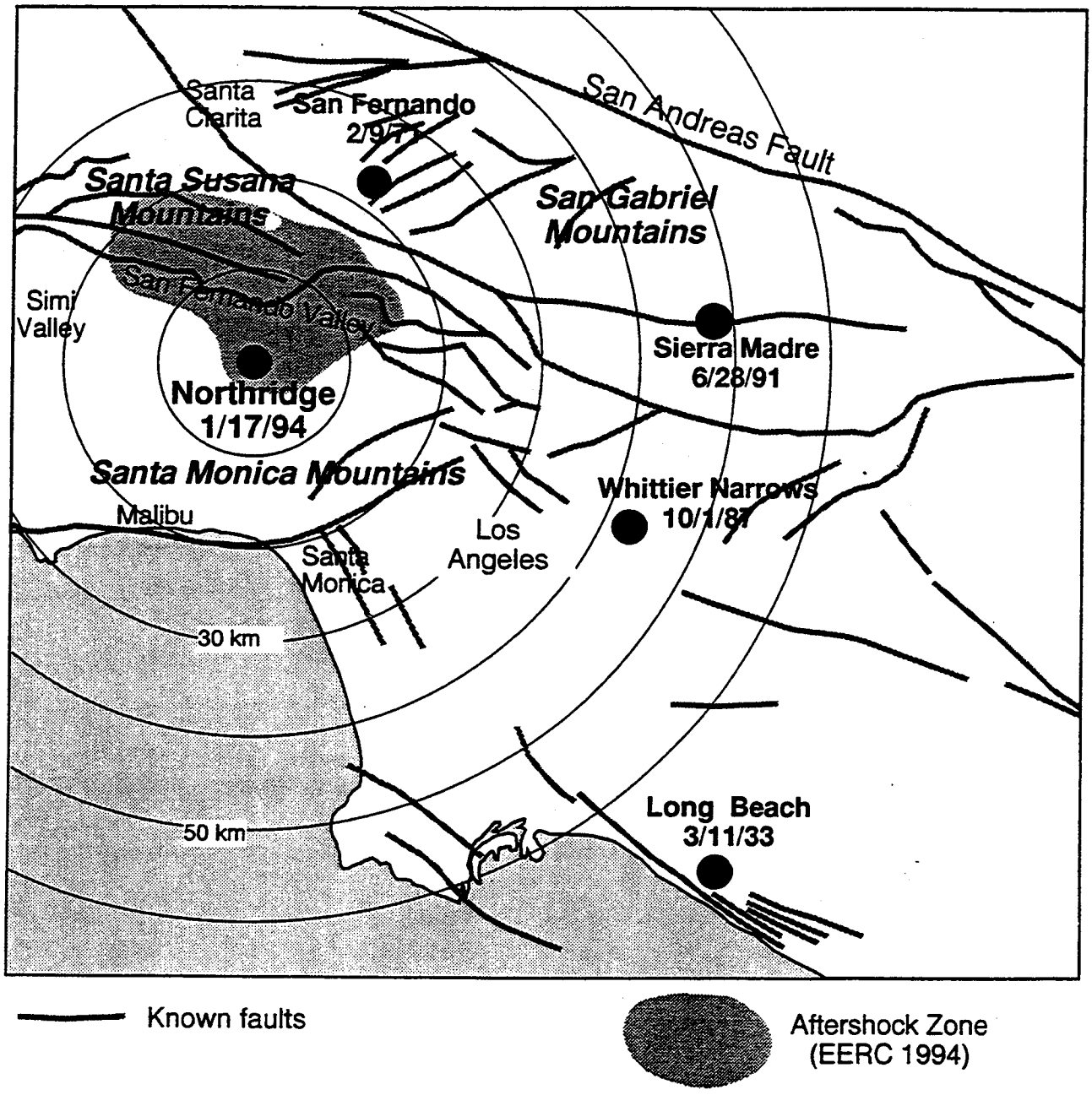
[19]/ Ibid., p. 151.

[20]/ Ibid., p. 77.

[21]/ Ibid., p. 81.

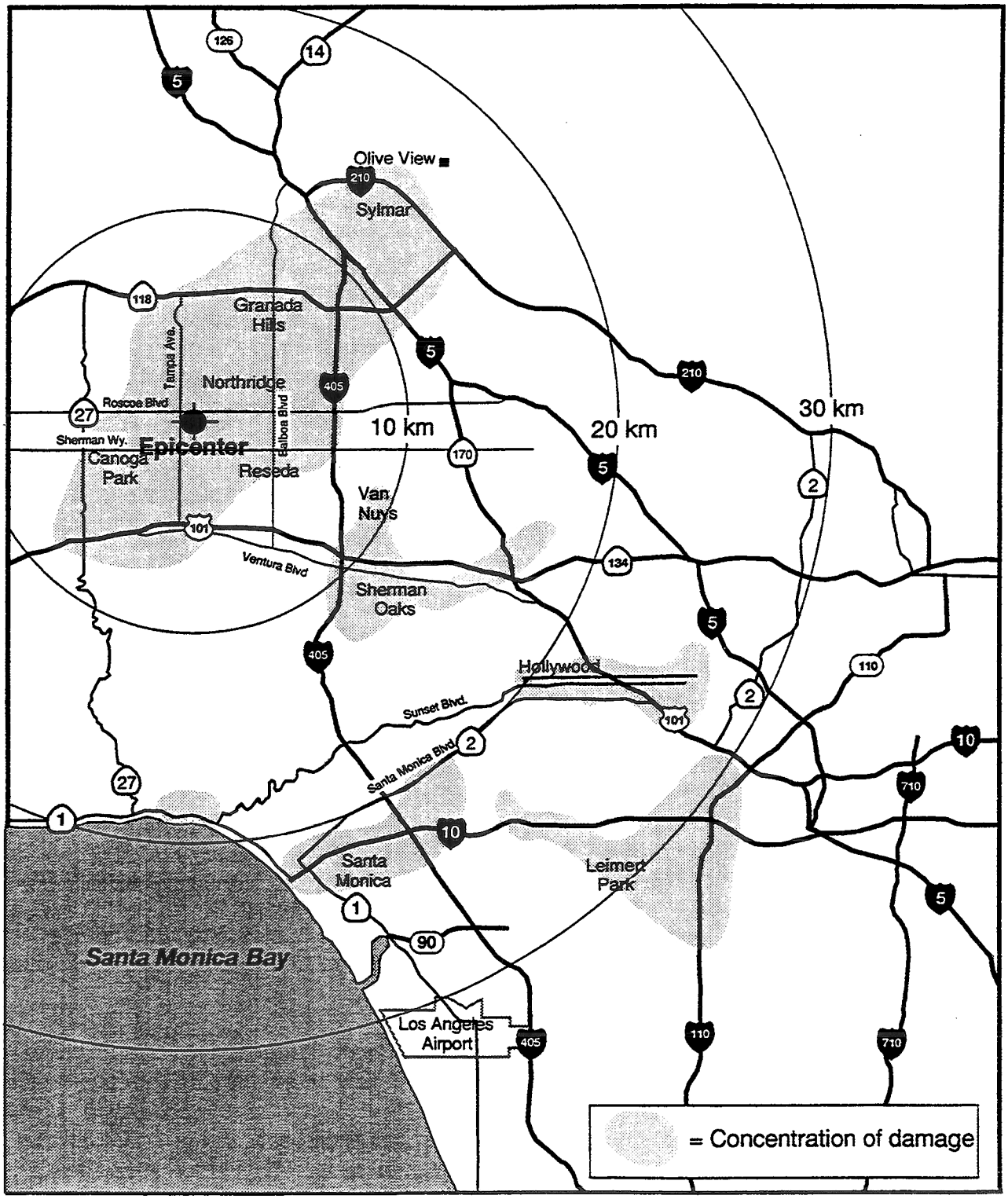
Summary

Given the location of Los Angeles Basin within a seismically active region, this area will continue to experience seismic activity in the future. Currently, it is estimated that the probability of occurrence of one or more events with an $M_w = 7.0$ or greater over the next 30 years is high.



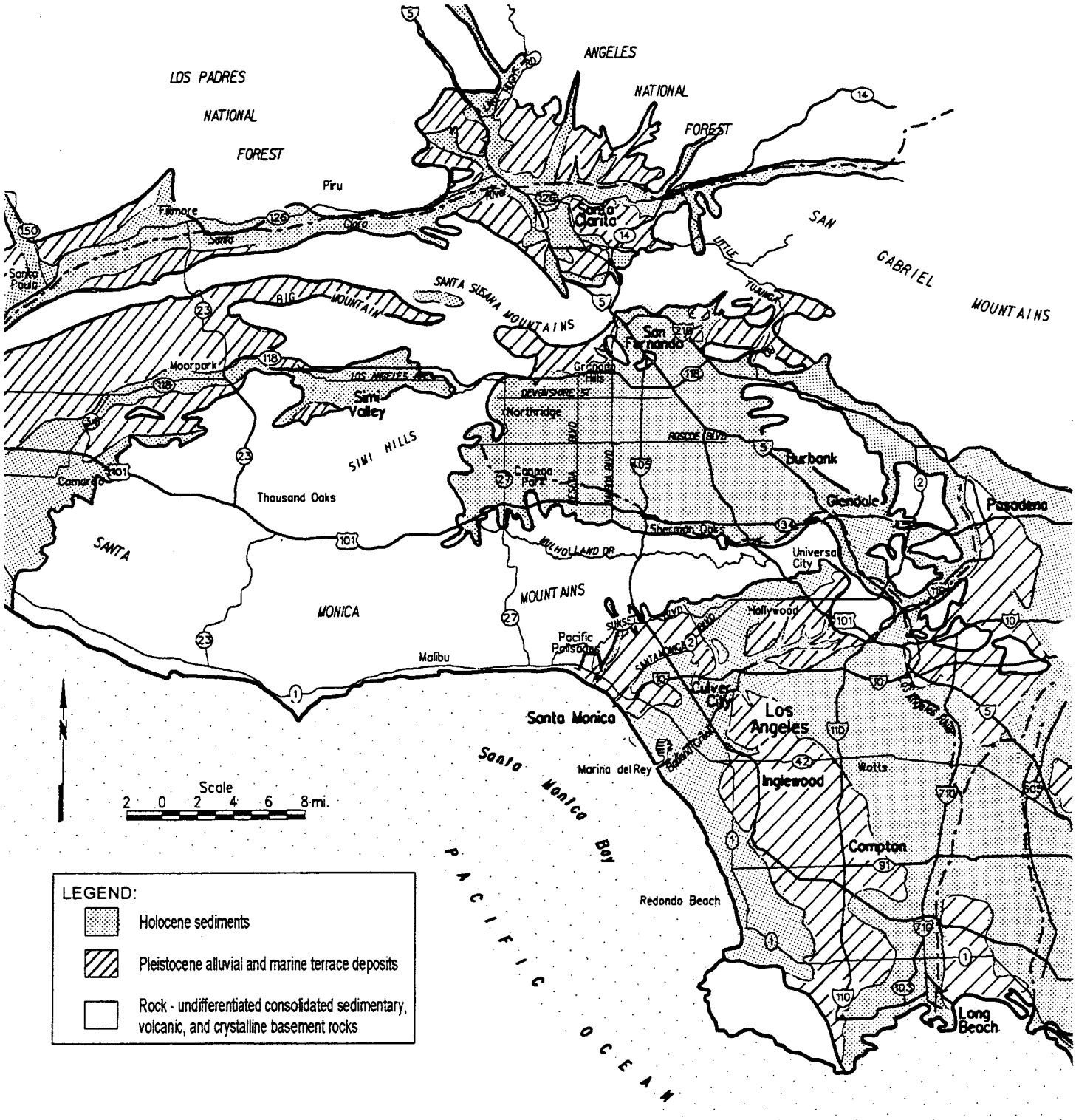
Source: *1994 Northridge Earthquake Performance of Structures, Lifelines and Fire Protection Systems.* March 1994.

Note: The Northridge epicenter was about 25 km southwest of the epicenter of the 1971 magnitude 6.6 San Fernando earthquake. Aftershock activity of the 1994 event has been concentrated to the north and northwest of the epicenter.



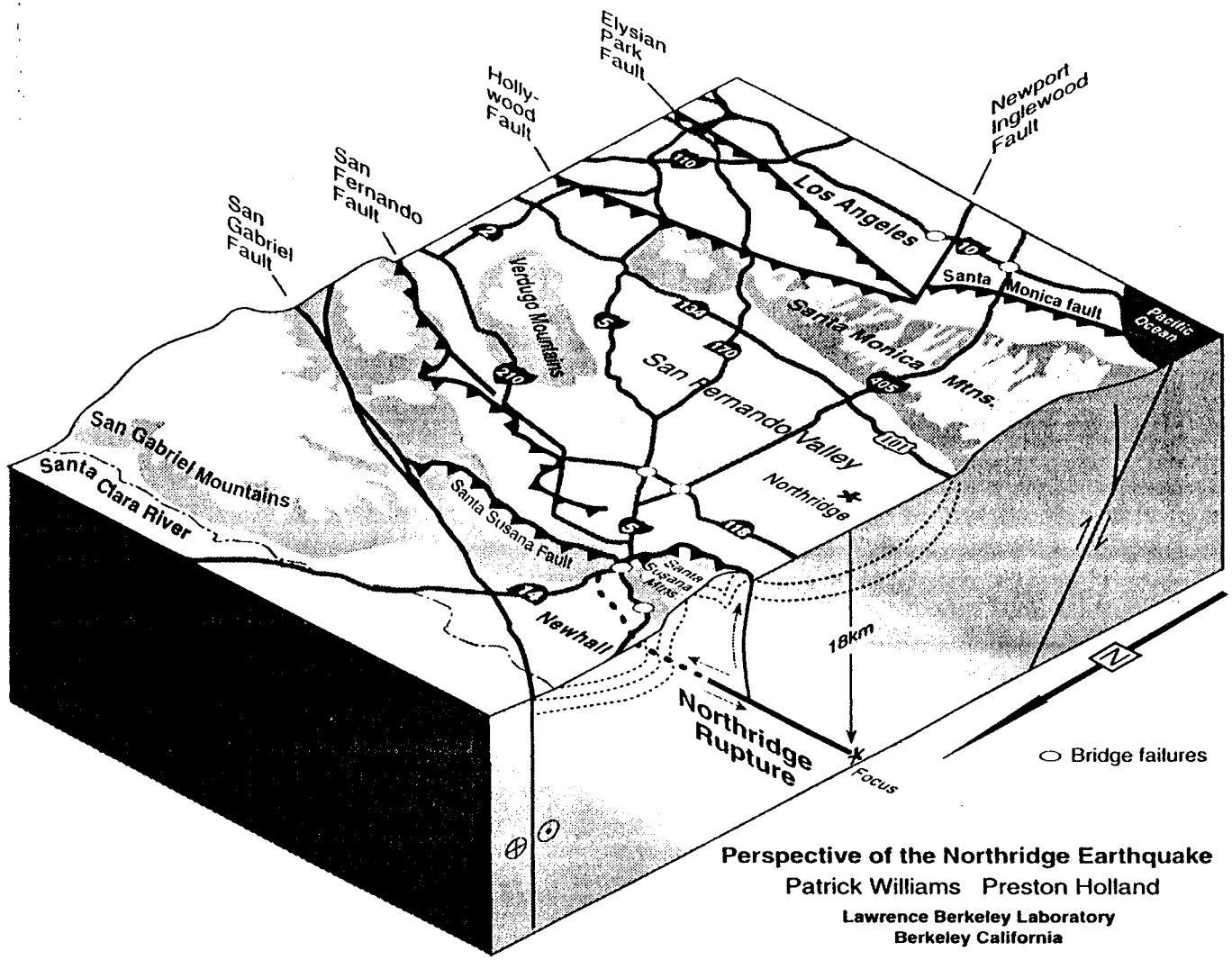
Source: *1994 Northridge Earthquake Performance of Structures, Lifelines and Fire Protection Systems.* March 1994

Note: Serious damage to buildings caused by the magnitude 6.7 Northridge earthquake was widespread, but outside the epicentral area, seriously damaged buildings tended to occur in pockets.



Generalized Geologic Conditions in the Los Angeles Area

Source: *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake.* June 1994.



Source: *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake.* June 1994.

Note: Geologic model of the Northridge earthquake. View is to the southeast. As compiled from the analysis of regional and local seismic data by U.C. Berkeley, U.S. Geological Survey, and Caltech. The rupture began about 18 km below the surface and propagated up to a depth of about 5 km. The fault plane dipped 40 to 45 degrees to the south and projects to the northern margin of the Santa Susana Mountains. Sedimentary rocks are closely folded in the rupture area, reflecting north-verging compressional shortening of the Santa Susana Mountains. Some of the extensional fractures observed in these mountains were likely produced by the "bending-movement" growth of these folds.

Appendix C9
FEIR MITIGATION REPORTING AND MONITORING SUMMARY

FINAL ENVIRONMENTAL IMPACT REPORT
MITIGATION MONITORING AND REPORTING SUMMARY

Conditional Use Permit 86-512-(5)
Oak Tree Permit 86-512-(5)

SUNSHINE CANYON LANDFILL EXTENSION
COUNTY OF LOS ANGELES
State Clearinghouse Number 89071210

COUNTY OF LOS ANGELES
Department of Regional Planning
Hall of Records
320 West Temple Street
Los Angeles, CA 90012

NOVEMBER 1993

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printed on recycled paper

SUNSHINE CANYON LANDFILL EXTENSION
MITIGATION MONITORING AND REPORTING SUMMARY
Project No. 86-312-(5)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY				
◦ Survey monuments will be installed around the perimeter of the approved fill area, as depicted on Exhibit "A" and "A" (Alternate), at points where they will not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments will be submitted to and approved by the Department of Public Works.	Inspection and approval by Dept. of Public Works after installation. An approved "as installed" plan shall be provided to the Local Enforcement Agency (LEA). Landfill elevations shall be surveyed by a licensed surveyor or registered civil engineer, and submitted to the Dept. of Public Works for approval not less than 60 nor more than 90 days before the due date for the Biennial Report to the Regional Planning Commission.	-Dept. of Public Works -LEA	Before commencing devleopment of the landfill and periodically throughout fill operations.	C#10(b) MP-Part I(A) MP-Part X(B)(2)
◦ Final designs for major engineered structures will be based on the results of the detailed stability analyses of potential seismic events.	Approval of grading and drainage plans.	-Regional Water Quality Control Board (RWQCB) -Dept. of Public Works	Prior to commencing construction of structures.	C#28 MP-Part I(C)
◦ Final maximum refuse slope gradient at the site will be no steeper than 3 horizontal to 1 vertical for the landfill extension.	Review and approval of periodic inspection reports of fill operations.	-Dept. of Public Works -LEA	Throughout fill operations.	C#16 MP-Part I(C) MP-Part X(B)(3)

The *Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Program* was prepared in compliance with the California Environmental Quality Act (CEQA), CEQA Statutes, § 21081.6. Pursuant to this section, "The public agency [County] shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation." This *Summary* is a part of the County's approved *Mitigation Monitoring and Reporting Program*.

NOTE: All mitigation measures will have oversight by the Compliance Committee prior to the opening of the landfill, and by the Community Advisory Committee and the County Regional Planning Commission through biennial reporting, provided for in the Sunshine Canyon Landfill Extension, Conditional Use Permit and Oak Tree Permit 86-312-(5), Mitigation Monitoring Programs. Requirements which are primarily the prerogative of Responsible Agencies are subject to refinement by each Responsible Agency during its discretionary permit process.

MP: Conditional Use Permit and Oak Tree Permit, Monitoring Program.
C: Conditional Use Permit and Oak Tree Permit, Condition of Project Approval.

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
o Areas outside of and above the cut and fill as shown on Exhibit "A" or Exhibit "A" (Alternative) will not be graded or similarly disturbed to create landfill areas. The Director of Public Works may approve additional grading, based upon engineering studies provided by the permittee and independently evaluated by the Director. Additional grading would be necessary for slope stability or related drainage purposes.	Approval of grading and drainage plans.	-Dept. of Public Works -County Forester -LEA	Prior to commencement of the required activity.	C#23 C#28 MP-Part I(B) MP-Part VII(A) MP-Part X(B)(2)
o No approval would be granted which will result in expanding the area or height of fill or in lowering or significantly modifying any outer perimeter ownership ridgelines.	Approval of grading and drainage plans.	-Dept. of Public Works -County Forester -LEA	Prior to commencement of the required activity.	C#23 C#28 MP-Part I(B) MP-Part VII(A) MP-Part X(B)(2)
o When excavating for the landfill operation, once the toe of a landslide is encountered, all material constituting that landslide will be eventually removed. Excess slide material not used for immediate cover material will be stockpiled on-site for future use. The landslide area will be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area will be used between the active cells receiving waste and areas under excavation to remove overburden soils, landslide debris and weathered bedrock. A geotechnical engineer will delineate the limits of the landslide during excavation. Landslide removal will not be commenced during the rainy season or when the ground is saturated, unless removed under the direction and specifications of a certified engineering geologist.	Retention of certified engineering geologist and registered civil engineer by permittee for regular inspections and oversight.	-LEA -Project certified engineering geologist -Project registered civil engineer -Dept. of Public Works -County Forester	Throughout fill operations.	Report of Waste Discharge C#18(a) C#18(d) C#23 C#41 MP-Part I(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
◦ Grading allows for ancillary facilities outside of the landfill footprint.	Approval of grading and drainage plans.	-Dept. of Public Works -County Forester -LEA	Prior to commencement of the required activity.	C#10(l)
◦ Areas of excavation and areas of loose soil (i.e., around haul roads, etc.) will be stabilized before the onset of the rainy season.	Retention of certified engineering geologist and registered civil engineer by permittee for regular inspections and oversight.	-LEA -Dept. of Public Works	Throughout fill operations.	C#10(b) C#18(b) C#23
◦ Revegetation and erosion control of all exposed slopes will be an ongoing process. The erosion controls to be implemented at the site will include soil stabilization measures and revegetation in accordance with the approved Revegetation Program. The installation of interceptor ditches shall be designed for the diversion of storm runoff to sedimentation basins. Sediment traps will be used at points of runoff concentration along the perimeter of exposed slopes surfaces.	Approval of drainage plan. Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for ongoing supervision of revegetation programs. Review and monitoring of planting programs by County Forester.	-Dept. of Public Works -Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -RWQCB	Approval prior to commencement of the required activity. Revegetation throughout fill operations and on an ongoing basis.	C#16 C#17 C#23 C#28 MP-Part I(C) MP-Part VI(A-D) MP-Part X(B)(8)
◦ To prevent soil erosion on the face of the landfill, interim vegetation measures will be taken after placement of the temporary soil layer even though the area may be disturbed by future filling operations. Vegetative cover will be placed as in the approved Revegetation Program.	Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for ongoing supervision of revegetation programs. Review and monitoring of planting programs by County Forester.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -RWQCB	Throughout fill operations and on an ongoing basis.	C#17 MP-Part VI(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
◦ The permittee's On-site Solid Waste Recovery and Recycling Program includes the removal of green waste and yard waste materials from the incoming waste stream at the landfill and the processing of these materials for various uses at the landfill. If sufficient quantities are available, the use of shredded green and yard waste materials may be used as a supplement to daily, intermediate and final cover, to the extent deemed technically feasible and acceptable by regulatory agencies.	Approval of shredded green and yard waste materials as a supplemental cover material.	-California Integrated Waste Management Board (CIWMB) -LEA	Prior to use in fill operations and on an on-going basis.	County Source Reduction and Recycling Element (SRRE) C#10(j) C#10(m) MP-Part II(A) MP-Part X(B)(5)
◦ An operations checklist will be used by a certified engineering geologist, registered civil engineer or licensed surveyor for surveys following all earthquake events of 5.0 magnitude or greater wherein significant shaking or rolling movement was experienced at the landfill. All environmental protection and control systems for the landfill will use the best available control technology (BACT) and will be designed to withstand a maximum probable earthquake in accordance with Title 23, Chapter 15, § 2547 of the California Code of Regulations (CCR). A comparison of operating parameters and site conditions before and after major earthquake events (5.0 magnitude or greater) will be made to verify that the designed systems are operational.	Retention of a certified engineering geologist, registered civil engineer or licensed surveyor (for survey only) by the permittee and submittal of survey results to Dept. of Public Works.	-Dept. of Public Works -Project certified engineering geologist, registered civil engineer or licensed surveyor (for survey only)	After earthquake events of 5.0 magnitude or greater.	CCR, Title 23, Chapter 15, § 2547 MP-Part I(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
SURFACE WATER				
◦ To insure that leachate within the landfill is minimized, surface water runoff will be intercepted and diverted around the landfill. The method of diversion that will be implemented includes the use of lined interceptor ditches placed along the edges of the fill area. This system of ditches will flow into the monitored sedimentation basin.	Approval of drainage plan and Waste Discharge Requirements. On-site inspections by the appropriate regulatory agencies.	-Dept. of Public Works -RWQCB	Prior to commencement of landfill development and on an ongoing basis through landfill closure.	RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ The surface water runoff collected in interceptor ditches will be returned to the natural stream channel below the operational portion of the site after passing through the monitored sedimentation basin to reduce final sediment content.	Approval of drainage plan and Waste Discharge Requirements. On-site inspections by the appropriate regulatory agencies.	-Dept. of Public Works -RWQCB	Prior to commencement of landfill development and on an ongoing basis through landfill closure.	RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ As development of the site proceeds, surface drainage control facilities will be maintained so that surface water runoff is diverted from the working faces and isolated from contact with the waste. On-site drainage control channels will be designed per CCR, Title 23, Chapter 15, § 2546, which mandates the requirements for a capital storm event (100-year, 24-hour precipitation).	Approval of drainage plan. Retention of registered civil engineer by permittee for inspections and supervision.	-Dept. of Public Works -Project registered civil engineer -RWQCB	Plan approval prior to commencement of landfill development. Surface drainage controls will be phased over the life of the project.	CCR, Title 23, Chapter 15, § 2546 RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ All perimeter ditches will be lined.	Approval of drainage plan.	-RWQCB -Dept. of Public Works	Prior to commencement of the required activity.	CCR, Title 23, Chapter 15, § 2546 RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ The County-only landfill will have a sedimentation basin within the County portion of Sunshine Canyon designed to accommodate a capital storm event.	Approval of drainage plan.	-RWQCB -Dept. of Public Works	Prior to commencement of the required activity.	CCR, Title 23, Chapter 15, § 2546 RWQCB Regulations C#28 C#29 MP-Part I(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
SURFACE WATER (con't)				
◦ Placement of a series of underdrains in areas where seeps and springs have been identified will collect and convey any water from these sources.	Retention of certified engineering geologist by permittee for inspections and oversight.	-RWQCB -Project certified engineering geologist	Prior to commencing landfill operations. Throughout fill operations.	C#29 MP-Part I(C)
◦ The final cover will be compacted and graded with a minimum three percent (3%) gradient to preclude percolation of rainwater and to direct surface water runoff away from the refuse into drains that ultimately discharge into the monitored sedimentation basin.	Approval of Closure and Postclosure Maintenance Plans. Review of periodic inspection reports of fill operations.	-RWQCB -LEA	Prior to placement of the final cover.	CCR, Title 23, Chapter 15, § 2581 RWQCB Regulations C#10(j) C#16 C#29
◦ The Department of Public Works will review the drainage control system design for conformance with County Flood Control Standards.	Approval of drainage plan.	-RWQCB -Dept. of Public Works	Prior to commencement of the required activity.	C#28
◦ Surface water runoff will be handled with a drainage system, including ditches, berms, energy dissipators, and other stormwater management measures, all structures will be designed for capital storm capacity.	Approval of the drainage plan.	-Dept. of Public Works -RWQCB	Prior to commencement of the required activity.	RWQCB Regulations County Ordinance C#28 MP-Part I(C)
◦ The drainage control system will be designed to collect surface water runoff and suspended solids. Water leaving the sedimentation basin will be monitored for suspended solid contents. County Department of Public Works storm/surface water standards will be met.	Approval of drainage plan.	-RWQCB -Dept. of Public Works	Prior to commencement of the required activity.	RWQCB Regulations C#28 C#29
◦ Surface water quality will be monitored by collecting samples taken from the monitored sedimentation basin on a regular basis for analysis to ensure that water quality protection standards are not exceeded as determined for the site by both the RWQCB and the County Department of Public Works.	Review and approval of periodic inspection reports, and field inspections by RWQCB personnel. Monitoring in accordance with Waste Discharge Requirements.	-Dept. of Public Works -RWQCB -LEA	Monitoring will occur during landfilling and during the closure and postclosure monitoring period at the landfill.	RWQCB Regulations C#27 C#29 C#30 MP-Part X(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER[1]				
◦ The landfill will be operated as a Class III nonhazardous landfill. This landfill will not accept for disposal hazardous wastes, radioactive materials, infectious or liquid wastes.	Issuance of Solid Waste Facilities Permit.	-CIWMB -LEA	Prior to commencement of the required activity.	C#10(a) C#26 MP-Part III(A)(B)
◦ For the composite liner system, the upper component will consist of a minimum 30-mil flexible membrane liner (FML), and the lower component will consist of at least a 2-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. The FML component will be installed in direct and uniform contact with the compacted soil component. The liner system will be comprised of a minimum 1-foot thick subgrade gravel drainage blanket with discharge to a sedimentation basin; a compacted 3-foot soil layer over the drain blanket; and a minimum 1-foot thick leachate drainage blanket and collection system. There will also be a protective toe berm at the landfill terminus.	Review and approval of project's design and Report of Waste Discharge and issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2452 Report of Waste Discharge RWQCB Regulations C#29 C#30 C#37(b)
◦ Underlying the toe berm, would be a triple-row subsurface barrier or grout curtain. A series of groundwater monitoring wells will be installed both upgradient and downgradient to monitor the effectiveness of the toe berm/grout curtain as part of the overall groundwater monitoring network for sampling and testing. These project design features are described in detail in the Report of Waste Discharge and in the permittee's RWQCB Waste Discharge Requirements (Order No. 91-091).	Review and approval of project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2545 Report of Waste Discharge RWQCB Regulations C#29 C#30

[1]/ Mitigation measures pertaining to the landfill liner system for regulation of discharges of municipal solid waste are subject to change pending approval of proposed Federal and State regulation revisions.

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ The flexible membrane liner (FML) will be placed along the graded flowline of the canyon bottom. Design details of each site specific liner system that will be constructed are described in detail in the permittee's technical supplements to the Report of Waste Discharge. The liner system will be constructed and field tested in accordance with strict Quality Assurance/Quality Control (QA/QC) procedures and criteria submitted to and approved by the RWQCB prior to construction.	Review and approval of project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2542 Report of Waste Discharge RWQCB Regulations C#29
◦ Areas of natural groundwater seepage will be intercepted by the installation of a subgrade gravel drainage blanket.	Review and approval of the Report of Waste Discharge	-RWQCB	Prior to commencement of the required activity.	RWQCB Regulations C#28 C#29 C#30
◦ The placement of a soil liner upon side slopes will be accomplished by compacting acceptable material upon a series of benches excavated into the side slope. The soil liner on the side slope area will be placed at a greater thickness than required (overfilled) and then cut back to yield the minimum required 2-foot thickness. The compacted soil liner surface will be covered with a protective soil cover to prevent drying.	Review and approval of the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of initial fill operations and on an ongoing basis.	Report of Waste Discharge RWQCB Regulations C#29 C#30
◦ An independent inspector shall be on-site during the preparation of soil liner for verification that required conditions of installation are met, to the satisfaction of the LEA and the RWQCB.	Retention of a certified engineering geologist by permittee for inspections.	-Project certified engineering geologist -RWQCB	During the installation of the soil liner.	RWQCB Regulations C#29

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Prior to the ultimate development of the landfill back into the City portion of the canyon from the County-only operation, the existing City landfill will have a final cover at its interface with the new landfill which will include a one foot minimum compacted soil liner of $1x10^{-6}$ cm/sec permeability. This soil liner will prevent conductivity between the existing City landfill (closed on September 21, 1991) and the proposed ultimate extension development.	Approval of the Closure and Postclosure Maintenance Plan by the CIWMB for existing City Landfill. Review by the City Department of Environmental Affairs (LEA) and the RWQCB.	-RWQCB -LEA	Prior to the placement of final cover on City Landfill.	RWQCB Regulations C#29 City Facility Permit
◦ An internal leachate collection and removal system will be installed at the base of the landfill. This system will collect any generated leachate for disposal consistent with RWQCB requirements. The collection system will consist of a filter rock blanket embedded with a system of collection pipes that collect and transport the liquid to a holding tank. The filter rock blanket will be comprised of clean, angular, well-graded, crushed rock. The blanket will be placed over the sealed liner of the landfill and extend up the sides of the canyon. The collection pipe will be sized and spaced so as to reduce the hydraulic head in the leachate collection system as specified in Waste Discharge Requirements. Leachate will be recovered and treated for reuse as a supplement to landscape irrigation and dust control. The treated leachate will be sampled on a regular basis to affirm suitability for re-use on-site.	Review and approval of the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of fill operations.	RWQCB Regulations C#29 C#37(b)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Final design and operating conditions for the leachate removal and treatment system will be as specified by the RWQCB in the Waste Discharge Requirements. The leachate collection and removal system (LCRS) will be designed and installed in accordance with CCR, Title 23, Chapter 15, § 2543(b) which requires that the LCRS be "designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit."	Review and approval of the project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	-RWQCB	Prior to commencement of the required activity.	Report of Waste Discharge CCR, Title 23, Chapter 15, § 2543 C#29 C#37(b)
◦ The existing deep bedrock groundwater monitoring wells located within the City portion of Sunshine Canyon will continue to be monitored during the development of the landfill within the County portion of Sunshine Canyon.	Monitoring and inspections in accordance with Waste Discharge Requirements	-Project certified engineering geologist -RWQCB -LEA	Throughout fill operations and during the closure and postclosure maintenance period.	RWQCB Regulations C#30 City Facility Permit
◦ The Closure and Postclosure Maintenance Plans will be required as part of the operating permit for the landfill. Closure regulations are defined in the CCR, Title 14, Chapter 5, Article 3.4. Landfilling operations will cease once final approved elevations are reached.	Approval of the Closure and Postclosure Maintenance Plans.	-CIWMB -RWQCB -LEA	Prior to placement of final cover at final approved elevations.	CCR, Title 14, Chapter 5, Article 3.4 RWQCB Regulations C#8 C#16 MP-Part III(B) MP-Part IV
◦ The operation and final closure of the landfill will be monitored by the LEA, as well as by the RWQCB.	Inspections and review of monitoring reports.	-LEA -RWQCB	Throughout fill operations and during final closure activities.	RWQCB Regulations C#8 C#16 MP-Part III(B) MP-Part IV
◦ As the landfill is constructed, all alluvium will be removed to solid bedrock, thereby removing any connection with groundwater-bearing alluvium down-gradient within Sunshine Canyon.	Retention of certified engineering geologist by permittee for supervision and on-site inspections by the RWQCB.	-RWQCB -Project certified engineering geologist -Dept. of Public Works	Throughout fill operations.	County Ordinance C#29

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Application of daily, intermediate, and final cover in accordance with applicable regulatory requirements will restrict leachate formation by inhibiting the infiltration of water into the landfill.	Review and approval of periodic inspection reports during fill operations.	-LEA -RWQCB	Throughout fill operations.	RWQCB Regulations C#8 C#10(j) C#17 MP-Part III(B)
◦ Irrigation will be limited to insure a balance between irrigation and evapotranspiration. Where feasible, plant species (drought tolerant) with low water requirements will be used for revegetation.	Retention of consulting horticulturalist/Registered forester and an independent qualified biologist for ongoing supervision of revegetation programs.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -LEA	Throughout fill operations.	C#16 C#17 C#37(d) MP-Part III(B) MP-Part VI(A)
◦ Dust control water will be applied to wet only the upper soil surface. Evaporation is the natural means whereby this water is dissipated.	Field inspections by permittee and RWQCB.	-Project facility manager -RWQCB	Throughout fill operations and on an ongoing basis.	C#18(c)(d)(j) C#37(c)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA				
◦ The permittee will dedicate to the County or to a public agency designated by the County the westerly portion of the permittee's ownership, consisting of approximately 426 acres primarily within an area referred to as East Canyon and the use of approximately 76 acres located along the northerly and westerly perimeters of the landfill site. This property will be used for open space, wildlife preservation and recreational use. The instrument of dedication or agreement will provide that no uses inconsistent with the landfill will be allowed and will further provide for the right of permittee and/or its contractors to enter onto the property to engage in oak tree, wetlands and other mitigation projects, the right to maintain water tanks, fire access roads and other safety facilities as required to operate the landfill.	Dedication to County or other public agency designated by the County.	-Dept. of Parks and Recreation -Project facility manager	Prior to commencement of development activities on the landfill site.	C#15
◦ The permittee in cooperation with the County Department of Parks and Recreation will identify, where feasible, relocate and dedicate the necessary rights-of-way for public use for horseback riding and hiking trails within areas of East Canyon, Bee Canyon, O'Melveny Trail and/or Weldon Canyon Trail.	Dedication to County or other designated public agency.	-Dept. of Parks and Recreation -Project facility manager	Prior to commencement of development activities on the landfill site.	C#15
◦ The permittee will retain an individual who is well-qualified by education and training in the biological sciences, including local animal and plant communities, and whose duties will include participation in the review of any installation of equipment or other activity in East Canyon and any resource assessment prepared in connection with such activity.	Retention of independent qualified biologist by the permittee.	-Dept. of Regional Planning	Prior to commencement of development activities on the landfill site.	C#15 MP-Part VI(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Within thirty (30) days of project grant effectuation, and before commencement of disposal operations at the landfill, the permittee will commence acquisition negotiations (for public open space) with the owners of Parcels 335 and 337 located within Upper Bee Canyon, and with the owner of that portion of Parcel 336 located easterly of the East Canyon Motorway. In the event that the permittee is unable to obtain Parcels 335, 337 and that portion of Parcel 336 previously referenced, an off-site acquisition agreement will be entered into between the permittee and the County. Terms of said agreement will stipulate that all property acquisition costs and expenses incurred by the County will be reimbursed by the permittee.	Dedication to County or other public agency designated by the County. Off-site property acquisition agreement will be in conformity with the terms and conditions of the County's standard off-site acquisition agreement utilized by the Dept. of Public Works.	-Dept. of Regional Planning	Within thirty (30) days from effectuation of project grant or before commencement of disposal operation negotiations for parcels will take place. Within three (3) months after acquisition, parcels will be dedicated to the County or other public agency designated by the County.	C#15
◦ The permittee will finance studies pertaining to the remaining Significant Ecological Areas (SEA's). As permits are granted for other projects removing portions of the remaining SEA's, such permits will be required to share in the financing of additional studies, on a pro rata basis determined by the amount of acreage removed from SEA's and the permittee will be reimbursed accordingly.	Permittee will deposit with the Director of Planning the following: - A sum of $432,000.00 prior to the commencement of construction of the landfill, and - Annually (on January 10th of each year) for the life of the project's grant submit the sum of $81,000.00 to update County SEA studies.	-Dept. of Regional Planning	Prior to commencement of the required activity and annually for the duration of the grant.	C#48

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Subject to approval by the City of Los Angeles and except as may otherwise be provided by the City, the approximate 100-acre buffer (open space area) zone located southeast of the existing City landfill in the City of Los Angeles, will be maintained by the operator as a nature preserve and will be enhanced with vegetation to promote wildlife.	Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation programs.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -City of Los Angeles	Throughout fill operations and on an ongoing basis.	C#44 MP-Part VI(A)(B)
◦ The 100-acre buffer zone will not be developed with the exception of development necessary to continue the existing use for gas, oil and lease operations. This area will continue to serve as a buffer between the landfill operation and other properties.	Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation programs.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -City of Los Angeles	Throughout fill operations and on an ongoing basis.	C#44 MP-Part VI(A)(B)
◦ The external abutting slopes and peaks of the ridgelines surrounding the Sunshine Canyon Landfill shall remain undisturbed as shown on Exhibit "A" or "A" (Alternative). The upper portions (50 vertical feet below ridgelines) of the closest adjacent abutting external perimeter ownership ridgeline will also be left undisturbed. The upper perimeter ridges of the landfill will be planted with native trees in order to minimize visibility of the landfill.	Installation of survey monuments for verification of landfill elevations and conductance of survey for inclusion in Biennial Monitoring Reports to Regional Planning Commission.	-Dept. of Public Works -Dept. of Regional Planning -County Forester -LEA	Throughout fill operations and on an ongoing basis.	C#10(b) C#23 C#24 C#41 MP-Part I(A)(B) MP-Part III(B) MP-Part X(B)(2)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ After development of the initial fill area, clearing of existing on-site vegetation for operations will be done only when necessary to provide for new cut and fill areas of the project site. Only small areas will be cleared at any one time. Wholesale or large scale clearing of vegetation in Sunshine Canyon will not occur. Additionally, the soils, slash and debris which might provide suitable habitat for harboring pests will be removed. Registered forestry experts under contract by the permittee will monitor the condition of the trees in the Sunshine Canyon for pest infestation.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for supervision. Inspections by County Forester.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester	Throughout fill operations and on an ongoing basis.	C#23 C#40 C#42 MP-Part VI(A) MP-Part VII(A)
◦ The Oak Tree Mitigation Plans, Exhibit "C" and "D" are intended to meet or exceed the minimum replanting requirements of the Los Angeles County Oak Tree Ordinance No. 88-0157 and includes measures for replacement oak tree planting within Sunshine Canyon, East Canyon, and other off-site areas acceptable to the County Forester. This plan also provides for a 5-year Monitoring and Management Program to guarantee survival of replacement trees for a minimum of 5 years after the trees are established at 1-inch in diameter and 1-foot above the natural grade.	Issuance of the Oak Tree Permit. Monitoring and inspections by County Forester pursuant to formal "Agreement" with permittee. Agreement will include provisions for: - Permanent photo points established to document oak tree growth and establishment; - Accounting for each tree removed; - Comprehensive annual inventory; and - Monthly inspections by County Forester.	-County Forester -Project Registered Forester -Dept. of Regional Planning -LEA	Throughout fill operations and on an ongoing basis.	County Oak Tree Ordinance No. 88-0157 (County Planning and Zoning Code, Title 22, Part 16, Chapter 22.56) C#39 C#40 C#44 C#45 MP-Part VI (A)(B)(C) MP-Part VII (A)(B)(C) MP-Part X(B)(9)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
	Additional provisions will specify corrective procedures for the permittee, suspension circumstances, dispute resolution and financial security for implementation guarantee. Retention of a Registered Professional Forester by permittee for implementation of the replanting programs.			
◦ The permittee will provide a minimum 2:1 replacement for oaks and a 5:1 replacement for Bigcone Douglas-fir. Replacement oak and fir trees will be counted when the tree reaches 1-inch diameter at 1-foot above the natural grade. Other tree species will also be planted. The permittee will maintain and monitor the oak trees for a minimum 5-year period after reaching count-size status to provide a minimum two-hundred 200% replacement. Oak Tree Mitigation Plans are provided in Exhibits "C" and "D".	Issuance of the Oak Tree Permit. Monitoring and inspections pursuant to formal Agreement.	-County Forester -Project Registered Forester -Dept. of Regional Planning	Throughout fill operations and on an ongoing basis.	County Oak Tree Ordinance No. 88-0157 (County Planning and Zoning Code, Title 22, Part 16, Chapter 22.56) C#39 C#43 C#44 C#46 MP-Part VI(A)(B)(D) MP-Part VII(A)(B)(C) MP-Part X(B)(9)
◦ All oak trees will be counted when removed to verify that adequate mitigation has been provided in accordance with the Oak Tree Mitigation Plan.	Monitoring by County Forester. Submittal of biennial report by permittee.	-County Forester -Project Registered Forester	Throughout fill operations and on an ongoing basis.	C#39 MP-Part VI(A)(B) MP-Part VII(A)(B)(C) MP-Part X(B)(9)
◦ The permittee will guarantee the survival of Bigcone Douglas-fir for a 5-year period after trees are established at 1-inch in diameter at 1-foot above the natural grade. Tree seedlings would be grown on-site, in the permittee's greenhouse. The higher stands of existing fir trees located on the uppermost ridge slopes will not be disturbed by the landfill development.	Monitoring and inspections pursuant to formal Agreement.	-County Forester -Project Registered Forester	Throughout fill operations and on an ongoing basis.	C#24 C#45 C#46 MP-Part VI(A)(B)(C) MP-Part VII(A)(B)(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Concurrent with, and following landfilling operations, all grasses, trees and shrubs will be planted on the landfill face in phases as indicated in the Revegetation Plan.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of revegetation programs in accordance with the Revegetation Plan and Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -LEA -CIWMB	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part IV MP-Part VI(A)(B)(C) MP-Part X(B)(8)
◦ Areas of the site will be revegetated as required by the Conditional Use Permit, Conditions of Project Approval and the requirements of the CIWMB (Revegetation Plan and Closure and Postclosure Maintenance Plans). Suitable vegetation will be planted as part of the Revegetation Plan to provide habitat for wildlife and enhance existing open space areas.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of revegetation programs in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -LEA -CIWMB	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part IV MP-Part VI(A)(B)(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
∘ The landfill will be planted with a mosaic of trees, shrubs and grasslands to provide a variety of suitable habitats for wildlife. As operating lifts are completed, the finished slope will be covered with 15 feet (i.e., horizontal width) of amended soil and recycled green waste placed on the front surfaces of slopes that have received the impermeable seal as shown on Exhibit "B." Soil amendments will be included to balance any unsuitable characteristics such as acidity (Ph). Fertilizers will be added at the time of soil placement and will continue as part of the permittee's ongoing maintenance program. This soil cover will provide rooting material for the final vegetation. Revegetation will take place concurrently with landfilling operations as development of the landfill progresses up the canyon. Relatively small (2 to 3 acres) active filling areas and other operations areas (maximum 5 acres each for liner preparation, cut-for-cover areas, etc.) of the landfill will not be revegetated. The remainder of the inactive disturbed areas on-site will be planted with either temporary or permanent vegetation.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans. Approval and monitoring by County Forester and LEA.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -LEA -CIWMB	Throughout fill operations.	C#10(j) C#16 C#17 C#18(b) MP-Part II(A)(2) MP-Part VI(A)(B)(C) MP-Part X(B)(8)
∘ Recycled green waste will be used (i.e., as permitted) to amend cover soils to provide an enhanced revegetation growing medium.	Approval of green waste material as soil amendment.	-County Forester	Throughout fill operations.	C#10(j) C#17 MP-Part II(A)(2)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Revegetation of slopes and fill areas with appropriate native flora will be accomplished to support local fauna.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part VI(A) MP-Part X(B)(8)
◦ As part of the Revegetation Plan, the reestablishment of vegetation will focus on utilizing native species from local seed sources. Non-native species may be used only where quick cover or a nurse crop is needed and if approved by the consulting biologist and would be removed later if appropriate.	Revegetation planting in accordance with Revegetation Plan and the Closure and Postclosure Maintenance Plans. Monitoring by County Forester.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part VI(A)
◦ The Revegatation Plan will, in so far as possible, obtain replacement cover material from within Sunshine Canyon to retain soil composition compatible with native flora and leave the surrounding topography undisturbed.	Revegetation measures in accordance with Revegetation Plan and the Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#16 MP-Part VI(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Areas inactive for 180 days or longer will be planted with interim vegetation. Records will be kept to track fill areas of the site which are transferred to an inactive status so that appropriate dust control and revegetation measures can be implemented.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee to review fill records and implement revegetation measures. Monitoring by the LEA and the County Forester.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester -LEA	Throughout fill operations and on an ongoing basis.	C#16 C#17 MP-Part VI(A)(B)(D) MP-Part X(B)(8)
◦ The permittee will provide replacement riparian habitat on a 2:1 ratio as part of the overall Riparian and Wetland Mitigation Plan. Mitigation for the disturbance to 5.46 acres of riparian habitat from the landfill will be provided by expanding and enhancing existing riparian habitat and creating approximately 11.0 acres of new riparian habitat through a program of tree planting, streambank stabilization, streambed enlargement or streamzone rehabilitation in existing degraded drainage channels. As a component of the Riparian and Wetland Mitigation Plan, new streamzone/wetland areas will meet U.S. Army Corps of Engineers criteria, and will also be created within the riparian systems so that there will be no net loss in wetland values or area as a result of the landfill project. Approximately 4.2 acres of stream-zone/wetlands will be created to compensate for losses due to development within the landfill project site area. Final site selection and detailed engineering plans and working drawings of the Riparian and Wetland Mitigation Plan will be coordinated fully with the applicable regulatory agencies so that the final acceptable plan will be developed based on the concepts described in the permittee's Riparian and Wetland Mitigation Plan.	Issuance of Section 1603 Permit by Dept. of Fish and Game. Issuance of Nationwide Permit (No.26) by U.S. Army Corps of Engineers. Implementation of mitigation programs in accordance with approved plans.	-CA Dept. of Fish and Game -U.S. Army Corps of Engineers	Prior to commencement of landfill development. Implementation throughout fill operations.	CA Fish and Game Code (1980), § 1603 Clean Water Act, 33 CFR, 320-330, §404 C#38 MP-Part X(B)(11)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ The Riparian and Wetland Mitigation Plan represents mitigation for the permittee's 70 million ton landfill proposal and the on-site acreage of disturbance to riparian and wetland habitats would be reduced with the development of the 16.9 million ton landfill.	Issuance of a § 1603 Permit by Dept. of Fish and Game. Issuance of Nationwide Permit (No. 26) by U.S. Army Corps of Engineers. Implementation of mitigation programs in accordance with an approved Riparian and Wetland Mitigation Plan.	-CA Dept. of Fish and Game -U.S. Army Corps of Engineers - RWQCB	Prior to commencement of landfill development. Implementation throughout fill operations.	CA Fish and Game Code (1980), § 1603 Clean Water Act, 33 CFR, 320-330, § 404 C#38 MP-Part X(B)(11)
◦ Periodic monitoring of the site for vector activity will be performed by the permittee. Corrective measures will be taken should a problem be detected. Rodent-related problems will be controlled in accordance with regulations established by the County Department of Health Services and the California State Department of Health. Flies will be controlled by a trap-and-destroy program and by the use of daily cover. The use of sprays will be avoided to the fullest extent possible. Gull activity can be effectively eliminated by stringing wire or monofilament fishing line above the landfill working areas at intervals of one hundred to one hundred and fifty feet.	Review and approval of periodic monitoring reports and field inspections.	-County Dept. of Health Services	Throughout fill operations.	C#8 C#10(p) C#26 C#42 MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ARCHAEOLOGICAL, HISTORICAL AND PALEONTOLOGICAL RESOURCES				
◦ Prior to the commencement of initial earth excavation, specific sections of the landfill project area will be resurveyed as a precautionary measure to minimize potential loss of undiscovered archaeological or paleontological resources. Specific sections of the project area to be resurveyed will be determined by the intended cut and fill areas proposed for landfill development. As new areas for excavation are identified by the permittee, an evaluation of the need for resurveying of those areas will be made based on prior survey results and consultation with the appropriate technical specialists. Factors to be considered for delineation of areas to be resurveyed will be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include: proximity to water; the type of local vegetation (e.g., food source, shelter, and fuel); and the topography (e.g., slope and aspect).	Retention of a qualified archaeologist and a paleontologist by the permittee for implementation of surveying measures. Written reports to be submitted with each Biennial Monitoring Report to the Regional Planning Commission.	-Dept. of Regional Planning -Project archaeologist and paleontologist	Prior to commencement of landfill development and throughout fill operations.	C#25 MP-Part V (A-E) MP-Part X (B)(10)
◦ An archaeologist and paleontologist will be on-site during major infrastructure work which requires significant excavation.	Retention of a qualified archaeologist and a paleontologist by permittee for surveying.	-Project archaeologist and paleontologist	Throughout fill operations.	C#25 MP-Part V(B)
◦ Periodic monitoring by a paleontologist will occur during grading activities in the Miocene-early Pliocene Towsley Formation.	Retention of a qualified paleontologist by permittee for surveying.	-Project paleontologist	Throughout fill operations.	C#25 MP-Part V(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ARCHAEOLOGICAL, HISTORICAL AND PALEONTOLOGICAL RESOURCES (con't)				
◦ The permittee will instruct landfill equipment operators to look out for archaeological and paleontological resources and upon discovery of such findings immediately report the location of the finding site to their supervisor. If any evidence of aboriginal habitation or fossils are discovered during earthmoving activities, landfill operations will cease in that particular location until a qualified archaeologist or paleontologist has made a determination as to the significance of the site or findings. Any significant archaeological or paleontological resources will be recovered to the extent practicable prior to resuming activities in that area of the landfill.	Retention of a qualified archaeologist and a paleontologist by permittee for supervision.	-Project archaeologist and paleontologist	Throughout fill operations.	C#25

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY				
◦ The permittee will control fugitive dust and minimize off-site migration of wind-blown dust from the landfill site in accordance with the SCAQMD Rule 402 and Rule 403 and the conditions of project grant. Measures to be employed for dust control include: (1) containing operations to small 2 to 3-acre active fill areas; (2) containing other operational areas for liner preparation, cut for cover, etc., to a maximum 5-acre area each; (3) paving access roads and regularly cleaning pavement surfaces; (4) daily landfill surface watering; (5) using soil sealant where appropriate; and (6) covering slopes with a hydro-mulch blanket. A soil stabilization product will be used to control blowing fugitive dust and silt, to retard soil erosion and to enhance revegetation. Soil sealant will be applied when necessary to selected working areas of the landfill. The sealant will also be used as a binder or tackifier to hold seed, mulch and fertilizers in place until grasses become established and stabilize upon the landfill surface. Landfill equipment and operators will be available (if necessary) on non-operating days for soil treatment and dust control.	Monitoring and inspections by the SCAQMD and the LEA.	-SCAQMD -LEA	Throughout fill operations and on an ongoing basis.	SCAQMD Rule 402 and Rule 403 C#8 C#18(a-m) C#37(c) MP-Part X (B)(6)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
◦ Dust control will also be accomplished through the temporary revegetation of the landfill surface. A temporary vegetation cover will be established on all slopes that are to remain inactive for a period longer than 180 days. Specifications of temporary revegetation measures are provided in the Revegetation Plan and the Closure and Postclosure Maintenance Plans and the Conditional Use Permit, Conditions of Project Approval.	Monitoring and inspections by the SCAQMD and the LEA. Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	-SCAQMD -LEA -Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#17 MP-Part X(B)(6)
◦ Access roadways will be paved up to the active fill area to minimize fugitive dust emissions. Paved roadways will extend up Sunshine Canyon to new active fill areas as development of the landfill progresses.	Review and approval of periodic inspection reports of fill operations.	-LEA	Throughout fill operations.	C#18(h)(i) MP-Part X(B)(6)
◦ Material cut from one portion of the site will be used as cover material in an adjacent area, to the extent technically feasible; thereby reducing the travel distance cover material is transported.	Periodic inspection reports of fill operations.	-Project facility manager	Throughout fill operations.	C#18(d) MP-Part X(B)(6)
◦ Subject to approval by the CIWMB, a 20-foot maximum cell height (which includes 9-inch daily cover) will be utilized. To allow for efficient filling operations, this cell height will minimize the disturbance to the landfill site because a longer period of operation on each cell will provide for an effective control of any fugitive dust emissions.	Issuance of the Solid Waste Facilities Permit by the CIWMB.	-CIWMB	Permit issuance prior to commencement of fill operations.	C#8 C#10(j) C#18(b) MP-Part II(A)
◦ The landfill will be operated in accordance with SCAQMD Rule 1150.1 and other SCAQMD regulations and with applicable Department of Public Works requirements.	Issuance of the SCAQMD Permit to Construct and Operate. Monitoring and inspections by the SCAQMD.	-SCAQMD	Throughout fill operations.	SCAQMD Rule 1150.1 C#8 C#34 C#36 MP-Part X(B)(6)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
o Landfill gases will be controlled and extracted in compliance with SCAQMD Rule 1150.1. The gas collection and extraction system will utilizes a best available control technology (BACT) collection system, which consists of a series of horizontal and vertical wells installed in phases as each portion of the landfill is developed. Regular landfill surface monitoring will determine which specific areas will require additional vertical collection wells.	Issuance of the SCAQMD Permit to Construct and Operate. Inspections by the SCAQMD and the Dept. of Public Works. Monitoring programs and reports in accordance with SCAQMD permit regulations.	-SCAQMD -Dept. of Public Works	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Rule 1150.1 SCAQMD Permit to Construct and Operate C#8 C#34
o The landfill gas flaring (incineration) system will be comprised of flares located around the perimeter of the landfill. Landfill development will initially require two flare stations which should accommodate gas generation volumes for a 10 to 15-year period, before any additional stations are required. The gas flares will be designed to contain the flame within the flare stack; thus, eliminating flame visibility and further eliminating the products of combustion into the atmosphere. Flame arrestors for the gas input to the flare will also be provided to the satisfaction of the County Forester and the Fire Warden. The permittee will recover and sell gas, as a renewable energy resource and as it becomes technically and economically feasible, in order to reduce total air quality emissions from landfilling operations.	Approval of gas collection system plan and issuance of the SCAQMD Permit to Construct and Operate.	-SCAQMD	Permit issuance prior to commencement of landfill development.	SCAQMD Permit to Construct and Operate C#8 C#10(l) C#14 C#34 C#35 C#36

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
◦ The site design of the landfill includes queuing lanes at the check-in stations for early morning truck arrivals (prior to the opening of the landfill). Drivers will be given notices and signs will be posted at the landfill entrance which will indicate a 5 minute maximum idling allowance. Such a policy will remain in effect throughout the landfill's operating hours. Further, an efficient, computerized, express checking-in system will be considered for the landfill to minimize on-site truck idling at the check-in station. This system will be utilized for major account haulers (i.e., approximately fifteen (15%) to twenty (20%) of landfill users and up to forty (40%) of the total daily intake). This express system will achieve minimal waiting at the check-in stations and reduced on-site queuing time for trucks to check-in.	Review and approval of periodic inspection reports of fill operations.	-LEA	Throughout fill operations and on an ongoing basis.	C#10(n) C#36 MP-Part II(B)
◦ Landfill operation employees will be scheduled to work during designated work shifts to avoid for the most part the peak hour traffic periods. The first work shift will generally begin at 6:00 a.m. and finish at 3:00 p.m. and the second shift will generally begin at 10:00 a.m. and finish between 6:00 p.m. or 7:00 p.m.	Continuation of existing work schedules for landfill extension.	-Project facility manager	Throughout fill operations.	C#8 C#10(n) C#22 C#36
ODOR/LANDFILL GAS				
◦ Landfill gases will be prevented from escaping to the atmosphere through control measures which also will effectively control odor. These control measures include (1) small 2 to 3-acre active fill areas; (2) covering the working face on a daily basis; (3) filling surface cracks in the cover material with clean dirt; and (4) extracting landfill gases through the use of the landfill gas extraction system.	Approval of gas collection system plan and issuance of Permit to Construct and Operate. Review and approval of periodic inspection reports of fill operations.	-SCAQMD -LEA	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Permit C#8 C#34 C#36 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ODOR/LANDFILL GAS (con't)				
∘ The gas collection system will be installed in phases, as each portion of the landfill is filled. The gas collection system will contain a network of gas extraction wells, collection piping and flaring facilities. Because landfill gas generation begins at lower levels of volume and increases with time, the gas will be initially flared until sufficient quantities are available for possible use as a renewable energy resource.	Approval of gas collection system plan and issuance of Permit to Construct and Operate.	-SCAQMD	Permit issuance prior to commencement of landfill development.	SCAQMD Permit C#8 C#10(l) C#34 MP-Part X(B)(7)
∘ The following odor/landfill gas monitoring program will be implemented for the landfill. The monitoring program complies with the requirements of the SCAQMD Rule 1150.1 and those of the County Department of Public Works. This program will include: (1) Probe installation. One probe will be installed per 500 to 1,000 feet of landfill perimeter or as otherwise determined by the SCAQMD. Probes will be installed in the locations of greatest concern. All probes will be monitored to ensure that landfill gas is not migrating off-site through the subsurface soils; (2) Integrated landfill surface sampling. The landfill surface will be periodically monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed the SCAQMD's standard of 50 ppm;	Issuance of Permit to Construct and Operate. Monitoring programs conducted by permittee (monthly monitoring reports) and SCAQMD in accordance with permit requirements.	-SCAQMD	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Permit to Construct & Operate SCAQMD Rule 1150.1 C#8 C#10(l) C#18(m) C#34 C#36 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ODOR/LANDFILL GAS (con't)				
(3) Ambient air samples at the landfill perimeter. Periodic, 24-hour integrated gas samples and required meteorological data will be taken to assess any impact the landfill is having on air quality at the landfill perimeter; and				
(4) Instantaneous landfill surface monitoring. Spot checks on the landfill surface will be provided to determine that the maximum concentration of total organic compounds measured as methane at any one point on the landfill's surface does not exceed the SCAQMD's standard of 500 ppm.				
◦ The permittee will recover and sell as much gas as is technically and economically feasible to reduce total air quality emissions from the landfill operations. It is expected that the technical and economic feasibility of commercial recovery and sale of landfill gas as a renewable energy resource will occur at levels below 40 MMCFD. The gas collection system will be installed in increments to allow for maximum gas recovery.	Inclusion of reports of fill operations in Biennial Monitoring Reports to Regional Planning Commission.	Project facility manager	Throughout fill operations.	C#10(l) C#14 C#36 MP-Part IV MP-Part X(A)(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION				
◦ The permittee will install or fund traffic improvements at the landfill entrance and to local feeder highways deemed "warranted" by the City of Los Angeles. Warranted, means justified on the basis of established standards of the City and by accepted traffic engineering practices. As determined by the City, traffic improvements may include: (1) The widening and/or restriping and installation of traffic signals at the landfill entrance located on San Fernando Road, and (2) The restriping of turning lanes at the intersection of San Fernando Road and Balboa Boulevard.	Review and approval of intersection improvement plans.	-LADOT	Prior to landfill operations reaching a total waste intake level of 9,000 tons per day. Application to all waste received including recyclable material.	C#13(a)(b)
◦ A radar measurement program will be conducted prior to landfill operation to determine the advisability of posting advance warning signs on San Fernando Road (i.e., W-51, "SLOW TRUCKS," or the non-standard "TRUCK CROSSING") in advance of the landfill entrance.	Retention of traffic engineer by permittee to conduct program, submit results for review.	-Project traffic engineer -LADOT	Prior to commencement of fill operations	C#13
◦ A speed zoning survey will be conducted (if necessary) prior to landfill operation to determine the need to post reduced speed signs at San Fernando Road in advance of the landfill entrance.	Review of survey results for determination.	-LADOT	Prior to commencement of fill operations.	C#13
◦ Weigh scales will be installed at the landfill.	Implementation in accordance with an agreement with County.	-Dept. of Public Works -LEA	Prior to commencement of fill operations.	MP-Part II(A)(1),(B) MP-Part III(B)
◦ The permittee will charge differential tipping fees if necessary to discourage trucking of partially filled loads of refuse to the landfill.	Biennial Monitoring Report to the Regional Planning Commission.	-Project Facility Manager	Throughout fill operations.	C#12 C#14 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION (con't)				
◦ The landfill entrance gate will be opened at least 1-hour prior to the opening of the landfill scales to provide adequate queuing space for incoming waste hauling trucks. This will avert parking of waste trucks on San Fernando Road. Refuse authorized by the SWFP (net tonnage 36,000 tons per week, 6,000 tons per day average based upon 6 working days per week) may be accepted at the landfill scales between the operating hours of 6:00 a.m. through 6:00 p.m., Monday through Saturday.	Review of periodic inspection reports of fill operations.	-LEA -Dept. of Regional Planning	Throughout fill operations and on an ongoing basis.	C#10(e)(f)(n)
◦ By January 1, 1994, the permittee will complete a comprehensive study of the feasibility of nighttime landfill operations. If nighttime operations are found to be feasible, the permittee will return to the County with an application to permit such operations. Nighttime operations would include the receipt at the landfill up to 2,000 gross tons of material from solid waste transfer stations and material recovery facilities. Subject to future conditions imposed by the Board, the waste trucks must arrive at the landfill between the hours of 3:00 a.m. to 6:00 a.m. and the waste delivered to the landfill will not be delivered by more than 100 transfer trucks.	Comprehensive study on the feasibility of nighttime landfilling operation to be prepared by the permittee and submitted to the Department of Regional Planning.	-Dept. of Regional Planning	By January 1, 1994.	C#10(i)
◦ The permittee will post signage at the landfill entrance, provide handouts and maintain regular monitoring to discourage the parking of commercial trucks along San Fernando Road. If necessary, regulatory agencies will be notified by the permittee of parking enforcement problems.	Review of periodic inspection reports of fill operations.	-LEA	Throughout fill operations and on an ongoing basis.	C#21 MP-Part II(B) MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION (con't)				
◦ All traffic mitigation measures will be funded by the permittee upon approval by appropriate authorities and will be constructed by such authorities or the permittee.	Compliance with permit requirements for roadway mitigation.	-LADOT	As required for implementation.	C#13
NOISE				
◦ Landfill access for the disposal of refuse will be limited to the operating hours of 6:00 a.m. to 6:00 p.m., Monday through Saturday.	Field inspections by the LEA.	-LEA	Throughout fill operations and on an ongoing basis.	C#10(n)
◦ Small commercial and private users who will use the landfill will be encouraged by the permittee to use alternate routes other than Balboa Boulevard, because of this roadway's close proximity to residential areas.	Provide information to small commercial and private users.	-Project facility manager	Throughout fill operations and on an ongoing basis.	C#33
◦ All landfill equipment will be equipped with low-noise mufflers and will be properly maintained.	Field inspections by the LEA and provide periodic maintenance of landfill equipment.	-LEA	Throughout fill operations and on an ongoing basis.	County Noise Ordinance, Title 12 State and federal requirements C#33 C#10(n) MP-Part III(B) MP-Part X(B)(7)
◦ The permittee will also investigate options for other frequency backup alarms systems which meet State and federal (OSHA) standards.	Field inspections by the LEA and provide periodic maintenance of landfill equipment.	-LEA	Throughout fill operations and on an ongoing basis.	State and federal requirements C#10(l) C#33 MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL				
◦ The maximum permitted elevations for the landfill will not be exceeded at any time during landfill development. Elevations will be verified periodically through survey control points.	Installation of survey monuments for verification of landfill elevations and the conductance of a survey for inclusion in Biennial Monitoring Reports to the Regional Planning Commission.	-Dept. of Public Works	Prior to commencement of the required activity. Surveys throughout fill operations.	C#10(b) C#23 MP-Part I(A)(B) MP-Part X(A),(B)(2)
◦ The final fill elevations for the landfill will be maintained below the closest adjacent abutting external ownership perimeter ridgeline, as shown on Exhibit "A" or "A" (Alternative) and the County's approved construction plans.	Installation of survey monuments for verification of landfill elevations.	-Dept. of Public Works	Prior to commencing landfilling operations.	C#23 C#41 MP-Part X(A),(B)(2)
◦ The highest point of the landfill flares will be located below the adjacent ridges and the flame will be totally contained within the flare stack.	Issuance of SCAQMD Permit to Construct and Operate.	-SCAQMD	Permit issuance prior to commencement of fill operations.	SCAQMD Permit to Construct and Operate C#8 C#10(l) C#35 MP-Part X(B)(7)
◦ The excavation of cover material will be confined to several areas at the landfill site. These areas may or may not be landfilled dependent upon location.	Review of periodic inspection reports of fill operations.	-LEA	Throughout fill operations.	C#18(a)(b) MP-Part I(C)
◦ As part of revegetation efforts for the landfill extension, the upper ridges of Sunshine Canyon will be planted with native tree and vegetation species (oaks and ground cover) to supplement the existing vegetation on the ridges and to reestablish bare areas.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for supervision and oversight. Monitoring by the County Forester.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#37(c) C#44 MP-Part VI(A)(B) MP-Part VII(A)(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
◦ Trees will be planted around the outer enclosing ridges of the landfill perimeter.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of planting programs.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -County Forester	Throughout fill operations and on an ongoing basis.	C#24 C#44 MP-Part VI(A)
◦ The landfill revegetation measures identified in the Conditional Use Permit and the Closure and Postclosure Maintenance Plans will be implemented.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for supervision.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations.	C#16 MP-Part VI(A)
◦ The final cover of the landfill will be landscaped with a ground cover mix and plant species that are compatible with the immediate area and will be maintained in a natural setting until the time that it is converted to its final use.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for supervision. Approval of Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist -LEA	Throughout fill operations.	C#16 C#17 C#37(C) MP-Part X(A)(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
◦ The 100-acre buffer zone on the southern boundary of the landfill will be maintained and enhanced.	Monitoring by consulting horticulturalist/Registered Professional Forester and an independent qualified biologist.	-City of Los Angeles -Project Facility Manager	Throughout fill operations and on an ongoing basis.	C#44 C#46 MP-Part VI MP-Part VII
◦ The permittee's on-site Litter Control Program will include, unless otherwise provided for by the LEA, the following: (1) Landfill personnel assigned to patrol the access road to the landfill scale area from the time the landfill opens until the time it closes in the evening; (2) Improperly covered or contained loads which may result in a significant release of litter will be immediately detained and the condition corrected, if practicable, before the load proceeds to the working face. If correction cannot be made, the load will be conducted under escort to the working face; (3) All debris found along the landfill entrance area and access road to the working face will be immediately removed; (4) Operating areas will be located in shielded portions of the landfill during windy periods; and (5) The permittee will install litter fences at the operating areas, as deemed necessary by the LEA.	Monitoring and field inspections by the LEA. Inspection report results included in Biennial Monitoring Reports to Regional Planning Commission.	-LEA -Project facility manager -Dept. of Public Works	Throughout fill operations and on an ongoing basis.	C#19 C#20 C#22 MP-Part X(A)(B)(6)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
◦ To the satisfaction of the Director of Public Works and the LEA, the permittee will maintain programs aimed at controlling the discharge on the landfill and recovery of litter from uncovered or improperly covered or contained loads traveling to the landfill, including:	Monitoring and field inspections by the LEA. Inspection report results included in Biennial Monitoring Reports to Regional Planning Commission.	-LEA -Project facility manager -Dept. of Public Works	Throughout fill operations and on an ongoing basis.	C#19 C#20 C#22 MP-Part X (A)(B)(6)(7)
(1) An effective tarping program, which at the discretion of the Director of Public Works and the LEA will provide for mandatory sale of tarps to violators and/or exclusion from the landfill of repeated violators.				
WATER CONSERVATION				
◦ As allowed by the regulatory agencies, the permittee will collect and treat any leachate on-site for reuse in landfill operations to reduce the demand for potable water.	Review and approval by responsible agencies.	-LEA -RWQCB	Throughout fill operations.	C#37(b)
◦ A dust suppression additive will be used to reduce the amount of water used for fugitive dust control.	Monitoring by Project facility manager.	-Project facility manager	Throughout fill operations.	C#37(c)
◦ Native and drought tolerant plant species will be used to revegetate the landfill site.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist to implement planting measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	-Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#37(d)
FIRE SERVICE				
◦ The permittee will maintain brush clearance measures consistent with permit requirements of the County of Los Angeles municipal code.	Review and approval of development plans by Dept. of Forester and Fire Warden. Periodic inspections.	-Dept. of Forester and Fire Warden	Inspections throughout fill operations and on an ongoing basis.	C#18(l) C#31

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
FIRE SERVICE (con't)				
◦ The permittee will maintain and expand existing on-site fire response capabilities through use of heavy operating equipment and readily available fire extinguishing equipment. A 200-foot long, 1-1/2 inch diameter fire hose will be available on water trucks for fire fighting at the working area. In addition, earth moving equipment will be available for controlling fires by smothering fires with dirt. Access roads will be constructed and maintained around the working area of the landfill to provide emergency access for firefighting equipment.	Review and approval of development plans by Dept. of Forester and Fire Warden. Periodic inspections.	-Dept. of Forester and Fire Warden	Inspections throughout fill operations.	C#18(g)(l) C#31
◦ The landfill will comply with all applicable County codes and ordinances which delineated the requirements for fire access, water mains, fire flows and fire hydrants, specifically defined by the County Fire Department. New construction of water tanks, water mains and fire hydrants will be completed to meet the fire flow requirements of the Fire Department.	Review and approval of development plans.	-Dept. of Forester and Fire Warden	Prior to commencement of fill operations.	C#18(l) C#31 MP-Part X(A)
◦ All fuel storage tanks used on-site will be installed under permit with the County of Los Angeles Fire Marshal, and storage and containment facilities will be installed in accordance with Fire Department, RWQCB and other applicable regulations. Labeling and reporting of motor fuel storage will comply with provisions of Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986.	Issuance of fuel storage permit.	-County Fire Marshal -RWQCB	Prior to installation of storage tanks.	Proposition 65 C#32

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS				
◦ The landfill will be operated as a Class III nonhazardous landfill. The following types of waste will be considered unacceptable for disposal at the landfill: incinerator ash; sludge; radioactive waste material; hazardous waste; and infectious medical waste. The permittee will implement a comprehensive Waste Load Checking Program.	Maintenance of at least one LEA inspector at the landfill for inspection and enforcement activity.	-LEA	Throughout fill operations.	C#10(a) C#26 MP-Part III(A)(B)
◦ The Waste Load Checking Program to be implemented by the permittee will include: (1) Direct visual inspection; (2) Remote television monitors to inspect incoming roll-off type loads and open top vehicles; (3) Radiation detector devices; and (4) Sensors capable of detecting volatile organic compounds to prohibit the illegal dumping or disposal of liquids and hazardous wastes at the landfill. Additionally, the permittee will continue to conduct employee training programs on hazardous waste detection.	Implementation by permittee of comprehensive Waste Load Checking Program accepted by the LEA. Maintenance of at least one LEA inspector at the landfill for inspection and enforcement activity.	-LEA	Before opening the landfill and throughout fill operations.	C#10(a) C#26 MP-Part III(A)(B)
◦ Waste haulers disposing of drums at the landfill, shall have drums triple-rinsed with tops and bottoms removed.	Maintenance of at least one (1) LEA inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activities other than hazardous waste exclusion.	-LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS (con't)				
◦ A full-time LEA inspector will be assigned to inspect materials as they are disposed of at the working landfill face.	Maintenance of at least one (1) LEA inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activities other than hazardous waste exclusion.	-LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ Hazardous Materials Programs will be presented to landfill personnel during their pre-employment and during each employee's quarterly review period to address hazardous waste identification. Additionally a slide presentation entitled "Hazardous Waste Identification and Response," along with written handouts and informal discussions will be given to each new employee at the landfill.	Implementation by permittee of comprehensive Hazardous Materials Program accepted by the LEA.	-LEA -Project Facility Manager	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ Procedures for the disposal of hazardous waste at permitted disposal sites will be provided to waste haulers. Signage will be posted at convenient locations on-site to notify hazardous waste haulers that hazardous waste cannot be disposed of at the landfill and to inform them of the rules and regulations governing the disposal of hazardous waste at permitted sites.	Field inspections by the LEA.	-LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ The permittee will post a sign at the entry gate located on San Fernando Road which indicates the following: (1) The telephone number that individuals may call on a 24-hour basis to register complaints regarding landfill operations;	Field inspections by LEA.	-Project Facility Manager	Throughout fill operations and on an ongoing basis.	C#21

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS (con't)				
(2) The telephone number of the LEA and the hours when that number is attended; and (3) The telephone number of the enforcement offices of the SCAQMD and the hours when that number is attended.				
◦ A full-time LEA inspector will be employed on-site to provide inspection of waste materials as they are disposed of at the landfill. The permittee will compensate the LEA for any personnel, equipment and facility costs incurred in administering the SWFP for the landfill.	Maintenance of at least one (1) inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activity other than hazardous waste exclusion.	-LEA	Throughout fill operations.	MP-Part III (B)(C)
◦ If contract inspectors are used by the County, these individuals will be deemed by the LEA to be qualified by training and experience to carry out the assigned duties and will not have a conflict of interest with the permittee.	Maintenance of at least one (1) inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activity other than hazardous waste exclusion.	-LEA	Throughout fill operations.	MP-Part III(B)
◦ The permittee will fund not more than six hazardous waste roundups for the area surrounding the landfill, provided that the Board of Supervisors authorizes such roundups. At least fifty (50%) of the funding of each roundup will be provided by the County and/or other public agencies.	Review and approval of hazardous waste roundups by the Board of Supervisors and the County Sanitation Districts.	-County Sanitation Districts -LEA -Project Facility Manager	Throughout fill operations.	C#49

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
RECYCLING MEASURES				
◦ In accordance with the permittee's Conditional Use Permit and prior to the opening of the landfill, the permittee will enter into an agreement with the County which provides for the implementation of on-site waste diversion and recycling measures and participation in programs implemented in association with adopted County/City SRRE's prepared pursuant to Assembly Bill 939.	Formal agreement entered into by the County and permittee.	-LEA -Dept. of Regional Planning -County Counsel	Before the opening the landfill.	C#10(K) MP-Part II(A)(3) MP-Part X(B)(5)
◦ The permittee will not knowingly dispose of waste into the landfill which is required to be diverted or recycled. The permittee will maintain on-site waste diversion and recycling facilities consistent in scale and purpose with the provisions of the City and County Source Reduction and Recycling Elements, the County Integrated Waste Management Plan adopted pursuant to Division 30 of the Public Resources Code.	Implementation of recycling measures in accordance with City/County Source Reduction and Recycling Elements (SRRE): - Controlling and accounting for recyclable waste at the landfill consistent with City and County Waste; - Maximum utilization of landfill capacity; and - Waste diversion and recycling programs consistent with City and County waste management plans.	-LEA	Throughout fill operations.	PRC,Division 30 C#10(k)(m) MP-Part II(A)(3) MP-Part X(B)(4)(5)

Appendix C10
ADDITIONAL CORRESPONDENCE

The Resources Agency

Pete Wilson
Governor

Douglas P. Wheeler
Secretary

of California

California Conservation Corps • Department of Boating & Waterways • Department of Conservation
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Water Resources

FOR IMMEDIATE RELEASE
January 24, 1995

CONTACT: Andy McLeod
916-653-5656
Anita Garcia-Fante
916-653-7431

WHEELER URGES CALIFORNIANS TO CONTINUE WATER PRUDENCE

AS STATE PROJECT PREPARES TO DELIVER FULL SUPPLIES

SACRAMENTO -- Due to the recent storms and the resulting increased reservoir storage, the State Water Project (SWP) will deliver full supplies of water - a total of up to 3.2 million acre-feet - to its 29 contractors for 1995, Douglas P. Wheeler, Secretary for Resources, today announced.

"We are delighted to be able to meet the needs of those agencies that purchase water from the State," said Wheeler, who also confirmed that the State's 'drought watch' has been formally ended.

"While the damage and hardship from the recent flooding has been severe, it would be imprudent to think that one season of heavy rain and snow can end the water dilemma faced by 33 million Californians. Our state faces a serious, long-term challenge in meeting the growing demand for water from urban, agricultural, and environmental users.

"If we fail to take the type of actions outlined by Governor Wilson in his water policy, we face a chronic shortage of water in California," he stated.

"We've made important progress by, for instance, increasing water conservation and agreeing on water quality standards for the San Francisco Bay-Delta. But additional steps - such as water transfers, effective ground water management, and State takeover of the Central Valley Project - are necessary if we are to move beyond regular cycles of drought in California."

- more -

Wheeler cited the Department of Water Resources' California Water Plan Update, Bulletin 160-93. That report, which was released in November, made the following key finding:

> "By 2020, without improved water management and additional facilities, annual shortages of 3.7 to 5.7 million acre/feet could occur in average water years. Annual drought year shortages could increase to 7 to 9 million acre/feet."

The Secretary stated that the SWP deliveries of up to 3.2 million acre-feet - 100% of the amount that the contractors requested - were approved because recent snow and rain storms have increased storage at the State's Oroville Reservoir to near normal capacity for this time of year. Snowfall in the northern Sierra, a key indicator of how much the SWP and other water projects can supply, has already topped the amount normally recorded in an average winter.

In 1994, the SWP delivered only 50% of the amount requested by its contractors - approximately 2 million acre-feet. Overall, approximately 60% of the SWP's annual deliveries go to urban users, and 40% to agricultural contractors.

Wheeler stated that the 'drought watch' was imposed last May because, while sufficient precipitation during the winter of 1993-94 technically ended the six-year drought, the state's longer term water situation remained precarious. For instance, if precipitation had been low in the current water year, a drought would likely have been declared later this year.

The 'drought watch' has been canceled, Wheeler explained, because two important criteria have been met. First, storage within the 155 major in-stream reservoirs in California has risen to more than 90% of average. In addition, releases are now being made from two of the largest reservoirs in California - Shasta and Folsom - in order to provide for additional flood control capacity, while two other reservoirs - Oroville and New Bullards Bar - are currently approaching flood control levels.

Wheeler emphasized that the State Water Conservation Center established by Governor Wilson during the drought remains open. The center phone number is 916-653-2980.

Water supply and flood information is also available on CERES, the State's internet source for natural resources information and data. The electronic address for CERES is:

* http://agency.resource.ca.gov.

FROM : Ultrasystems Environmental, Inc
SEP. 13. 1996 3:03PM P 1
PHONE NO. : 714 367 8890

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED
26461 Crown Valley Parkway, Suite 140 ■ Mission Viejo, CA 92691-6377
Telephone: (714) 367-8888/1-(800)-908 EIRS ■ Facsimile: (714) 367-8890

Facsimile Transmittal Sheet

*** September 13, 1996 ***

TO: Pat Dean
Agency: Los Angeles Unified School District
Fax: (213) 633-7546

SENDER: Betsy Lindsay, Principal
SUBJECT: Sunshine Canyon Landfill SEIR
Job No: 4651
Number of Pages: 1 (Cover Only)
COPIES TO: Project File

MESSAGE: Pat, here's the information that I would like to update; specifically, the October 1995 enrollment data, operating accommodations, and the status of the Van Gogh School site. You can assist us, by sending back to us (by fax) the information next week. Thanks.

School Address/Location	Grade Levels	Approximate Distance from Nearest Project Boundary (Feet)	October 1995 Enrollment	Operating Accommodation	Remaining Student Capacity
El Oro Way Elementary 12230 El Oro Way Granada Hills	K-5	8,880	424	656	232
Van Gogh Street Elementary 17160 Van Gogh Street Granada Hills	K-5	3,600	354	457	73
Frost Middle School 12314 Bradford Place Granada Hills	6-8	10,800	1,246	2,010	764
Kennedy High School 11254 Gothic Avenue Granada Hills	9-12	19,200	2,282	3,064	782

Source: Los Angeles Unified School District and Ultrasystems Environmental Incorporated.
Note: The Van Gogh Street Elementary School building is being reconstructed to meet current building code requirements.

Re: info on enrollment, etc. for Oct' 96 -- data is collected in October, so probably not ready until Nov/Dec.

Van Gogh ES is relocated at a middle school site. Original building is closed but will be reopened at a later date after rebuilding/repairs -- don't know when it will reopen.

LOS ANGELES UNIFIED SCHOOL DISTRICT
STUDENT GENERATION FACTORS

TYPE	NO. OF BEDROOMS	GENERATION FACTORS				
		ELEMENTARY		MIDDLE	HIGH	
		K-6	K-5	7-9 & 6-8	10 '- 12	9'-12
Lower Income Areas						
Single-family	2	0.300	0.260	0.150	0.150	0.200
	3 or more	0.600	0.520	0.250	0.250	0.340
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.100	0.086	0.040	0.040	0.054
	3 or more	0.400	0.340	0.200	0.200	0.280
Medium Income Areas						
Single-family	2	0.250	0.220	0.100	0.100	0.140
	3 or more	0.500	0.430	0.250	0.250	0.340
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.080	0.070	0.040	0.040	0.054
	3 or more	0.300	0.260	0.150	0.150	0.200
Higher Income Areas						
Single-family	2	0.200	0.170	0.100	0.100	0.140
	3 or more	0.400	0.350	0.200	0.200	0.270
Townhouse/Condo	1	0.000	0.000	0.000	0.000	0.000
	2	0.060	0.052	0.040	0.040	0.054
	3 or more	0.150	0.130	0.060	0.060	0.080
Multiple (Rented)	1	0.000	0.000	0.000	0.000	0.000
	2	0.250	0.220	0.100	0.100	0.140
	3 or more	0.600	0.520	0.200	0.200	0.270

District Households per Worker

The number of households added to the District by local workers can range from a high of one per worker, to as low as perhaps 0.5 households per worker, depending on how workers group themselves into households. On average, in 1990, in the City of Los Angeles, households with at least one worker had 1.56 workers. Inversely, there are 0.641 households per worker throughout the District among households with at least one worker. The number of households in the District generated by each new employee is equivalent to 77.7 percent of new employment times 0.641 households per worker, or 0.498 households per worker.

Unfunded Facility Cost per Worker

The unfunded school facility cost per unit was identified in Table VIII.2 as $7,607. To arrive at the unfunded cost per worker, this number is multiplied by the number of households per worker, 0.498. Thus, approximately $3,788 of unfunded costs can be attributed to each worker, according to this methodology.

This set of calculations is shown in Table VIII.3 below.

Table VIII.3
Unfunded Cost per Worker
LAUSD School Fee Plan

WORKERS PER HOUSEHOLD	
Percent Local Workers	77.7%
Average Households per Worker	0.641
District Households per Worker	0.498
UNFUNDED COST PER WORKER	
Unfunded Cost per Household	$7,607
District Households per Worker	0.498
Unfunded Cost per Worker	$3,788

Source: Recht Hausrath & Associates

Table VIII.4 calculates the impact per square foot based on an unfunded cost per worker of $3,788 and the employment densities established by SANDAG and presents the maximum fee per square foot that can be charged. The impact per square foot represents the amount of funding,

METROLINK

Southern California Regional Rail Authority
700 South Flower Street, 26th Floor
Los Angeles, California 90017-4606

VIA FAX (714) 367-8890

File: G0000126

September 24, 1996

Ms. Margaret Shekell
Associate Planner
ULTRASYSTEMS ENVIRONMENTAL
INCORPORATED
26461 Crown Valley Parkway
Suite 140
Mission Viejo, CA 92691-6377

Dear Ms. Shekell:

Please reference your FAX to METROLINK of September 23, 1996 requesting certain train information.

First please be advised that the Southern Pacific Railroad has been purchased by the Union Pacific Railroad Company. All references to Southern Pacific Railroad should now be shown as Union Pacific Railroad.

The Union Pacific Railroad does use the tracks adjacent to the proposed project area. They will continue to do so as a function of rights formerly held by the Southern Pacific. The Union Pacific operates about five (5) freight trains daily over the METROLINK Valley Subdivision. These operations are variable and may increase or decrease at any time. It is useful to assume that the Union Pacific will be more likely to increase operations than to decrease them. Freight train movements can occur at any time of day or night. At the moment, most freight activity is at night, although some does move during non-commuter hours in the daytime.

The following information is provided in direct response to your questions, following the same sequence:

(1) METROLINK schedules 18 commuter trains daily (Monday through Friday) across the Valley Subdivision (Santa Clarita Line), passing by the proposed project site. In addition, from time to time special trains are operated, including on weekends. No schedule data can be provided for such activities. The Santa Clarita Line is one of six (6) METROLINK commuter routes. A copy of the current Timetable is attached.

(2) METROLINK currently operates 15 of 18 trains passing the proposed development site between the hours of 7:00 AM and 10:00 PM. The other three current trains operate past the site between 5:30 AM and 7:00 AM. METROLINK schedules are subject to in-

creases without prior notice and as a function of growing consumer demand.

(3) See (2) above.

(4) METROLINK trains normally are operated with one engine. If the number of cars are increased beyond six (6) cars, it is likely that an additional locomotive will be required. METROLINK locomotives are fairly quite compared to older models. Freight trains will use from two (2) to eight (8) or more locomotives depending on the type of cargo (weight) and length of train.

(5) METROLINK trains are up to six (6) cars in length and may operate with as few as two (2) cars. Freight trains are variable and calculated as a function of length and weight. By way of example, a train of 100 x 50' cars would be 5000 feet. A coal train of 100 cars can easily reach 10,000 tons or more. A local switcher may have a handful of cars. It's quite variable. Any size or type of freight train can be expected to use the tracks adjacent to the development site. All rail lines with freight service carry a variety of chemicals and petroleum products.

(6) METROLINK trains are authorized a maximum speed of 79 MPH on the Valley Subdivision. Speeds adjacent to the site are 45 MPH. Freight speeds are a maximum of 50 MPH and in the site vicinity 40 MPH.

(7) Train horns will probably be audible when sounded. However, there is minimal need for horn use in the immediate vicinity of the project site since there are no grade crossings involved. When trespassers are observed on the railroad right-of-way, the horn and locomotive bell will both be sounded until said trespasser(s) has/have moved out of danger.

I hope this information has been helpful for you. If you need additional information, please call B. Alfred Nordberg of my staff at (213) 452-0254.

Sincerely, RON MATHIEU By
B. ALFRED NORDBERG
(AN)

RON MATHIEU
Manager Public Projects

RM:ban

DISTRIBUTION:

B. Nordberg - SCRRA
L. Cluster - SCRRA

CENTRAL FILE

[ULTRASYSTEMSENV.001]

SENT BY:ENGINEERING ; 9-24-96 ; 14:44 ; METROLINK→ 714 367 8890;# 3/ 3

Santa Clarita Line Timetable

Monday through Friday only

TO LOS ANGELES

TRAIN NUMBERS	201	203	205	207	209	SC295	211	213	215
LANCASTER	4:37	5:31	6:31	8:32		2:04			
VINCENT GRADE/ACTON	4:52	5:46	6:16	8:47		2:35			
PRINCESSA	5:23	6:17	6:47	7:18	7:48	8:48	3:05	3:19		7:18
SANTA CLARITA	5:29	6:23	6:53	7:24	7:53	8:53	3:15	3:26	5:31	7:24
SYLMAR/SAN FERNANDO	5:47	6:41	7:11	7:42	8:11	9:11		3:44	5:31	7:42
*BURBANK	5:53	6:52	7:22	7:53	8:22	9:22		3:56	5:44	7:53
*GLENDALE	6:04	6:58	7:28	7:59	8:28	9:28		4:02	5:50	7:59
L.A. UNION STATION	6:18	7:12	7:42	8:13	8:42	9:42		4:16	6:07	8:14

FROM LOS ANGELES

TRAIN NUMBERS	202	SC296	204	SC298	206	SC296	208	210	SC299	212	214	216	SC300	218
L.A. UNION STATION	6:32		7:30		1:58		3:45	4:14		4:57	5:34	6:14		8:25
*GLENDALE	6:43		7:41		2:09		3:56	4:25		5:08	5:45	6:25		8:36
*BURBANK	6:49		7:47		2:15		4:02	4:31		5:14	5:51	6:31		8:42
SYLMAR/SAN FERNANDO	7:03		8:07		2:26		4:13	4:42		5:25	6:02	6:42		8:53
SANTA CLARITA	7:27	7:35	8:28	8:35	2:45	2:50	4:32	5:03	5:30	5:44	6:22	7:01	7:10	9:12
PRINCESSA	7:39	7:45	8:37	8:45	2:54	3:00	4:37		5:40	5:49	6:26	7:07	7:20	9:17
VINCENT GRADE/ACTON		8:15		9:15		3:30	5:09		6:13	6:21	6:58		7:50	9:49
LANCASTER		8:46		9:46		4:01	5:27		6:41	6:39	7:18		8:2'	10:08

*Please see system timetable for additional service to Burbank and Glendale.

L: Regular stop to receive or discharge passengers. Train may leave up to five minutes ahead of schedule.

This Santa Clarita Line schedule includes connecting Santa Clarita Transit bus line 795. For more information, see the system

SOUTHERN CALIFORNIA
EDISON
An *EDISON INTERNATIONAL* Company

REC'D FEB 19 1997

Ultra Systems Environmental
Attn: Margaret Shekell
26461 Crown Valley Park Way Suite #140
Mission Viejo, CA 92691

February 13, 1997

SUBJECT: Request for Map
Sunshine Cyn. Landfill - Browning Ferris Industries
Chatsworth-McNeil-Newhall-San Fernando 66kV T/L R/W
Our File #: R96N213-3-59/REL 961043

Dear Ms. Shekell:

As per your request, I have enclosed a map of the 66kV transmission line which crosses the above-referenced project.

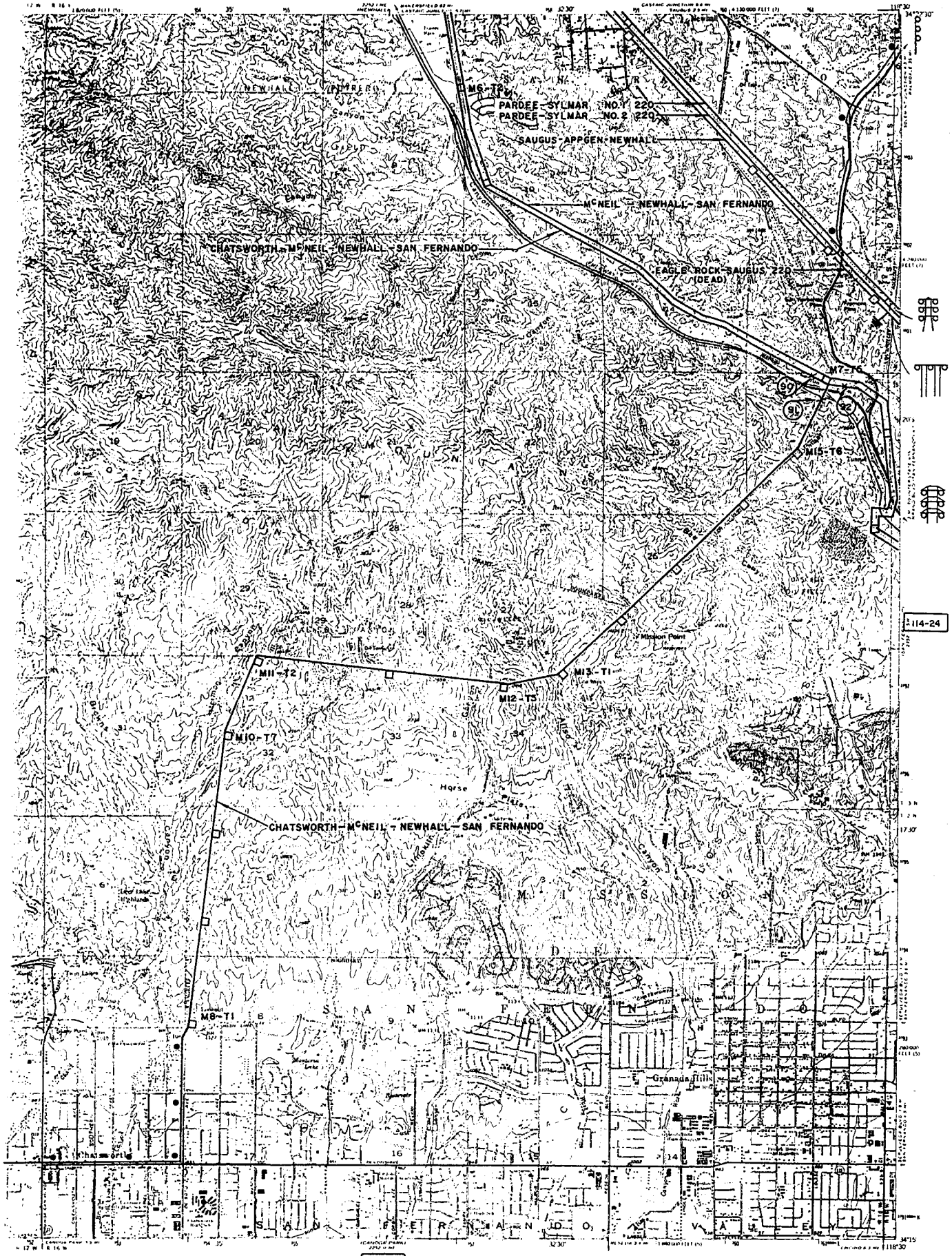
Please refer to our file number indicated above for all correspondence.
Should you have any questions, please contact me at (805) 654-7278.

Sincerely,

Robert D. Crosby
Right of Way Agent

cc:
J. Anderson
Northern Grid Operations & Maintenance

10060 Telegraph Rd.
Ventura, CA 93004-1705
P. O. Box 4757
Ventura, CA 93007-4757
805-654-7244
Fax 805-654-7275



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1 5 0 1 KILOMETER

4600 NORTHERN

OAT MOUNTAIN, CALIF.
1952
PHOTO REVISED 1969

114-23

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company

REC'D APR 2 2 1997

April 21, 1997

Ultrasystems Environmental Incorporated
ATTN: Margaret Shekell
26461 Crown Valley Parkway, Suite 140
Mission Viejo, CA 92691-6377

SUBJECT: **Request for Information**
Sunshine Canyon Landfill

Dear Ms. Shekell:

Per your request, I have enclosed copies of our distribution facilities maps. Highlighted in green are the facilities that serve the Edison side of the landfill. These facilities are served from Newhall Substation located on the north/west corner of Lyons Ave. and Wiley Canyon St. in Newhall. Also enclosed is the "Will Serve" letter for your use.

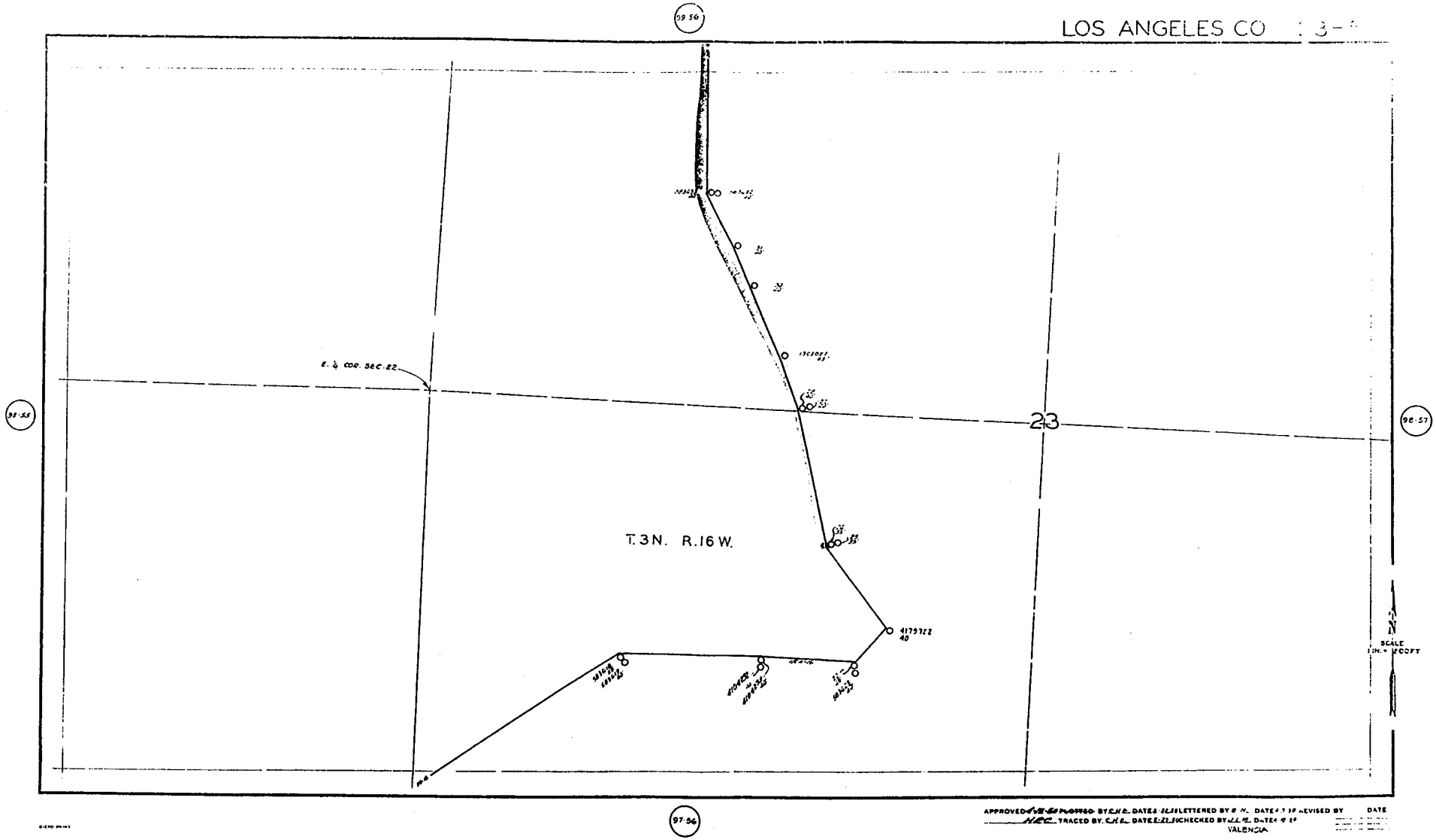
Should you have any questions, please do not hesitate to call me at 805-257-8276.

Sincerely,

Joe Montoya
Customer Service Planner

Enclosure

25625 W. Rye Canyon Rd.
Valencia, CA 91355



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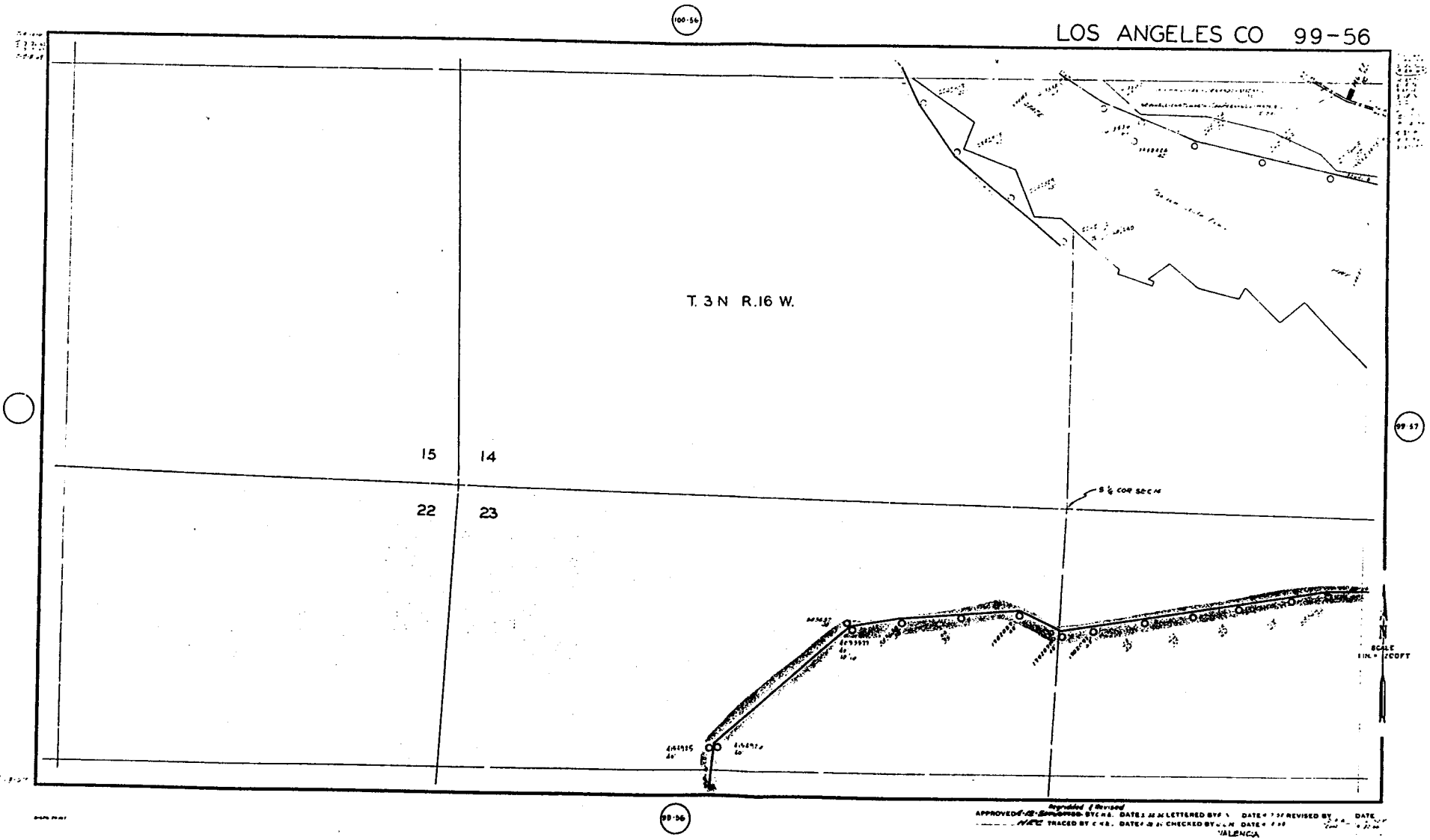
300' 100 SCALE

300' 200 SCALE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100-56
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15
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23
S ¼ COR SEC 14
99-57
98-56
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REVISED BY
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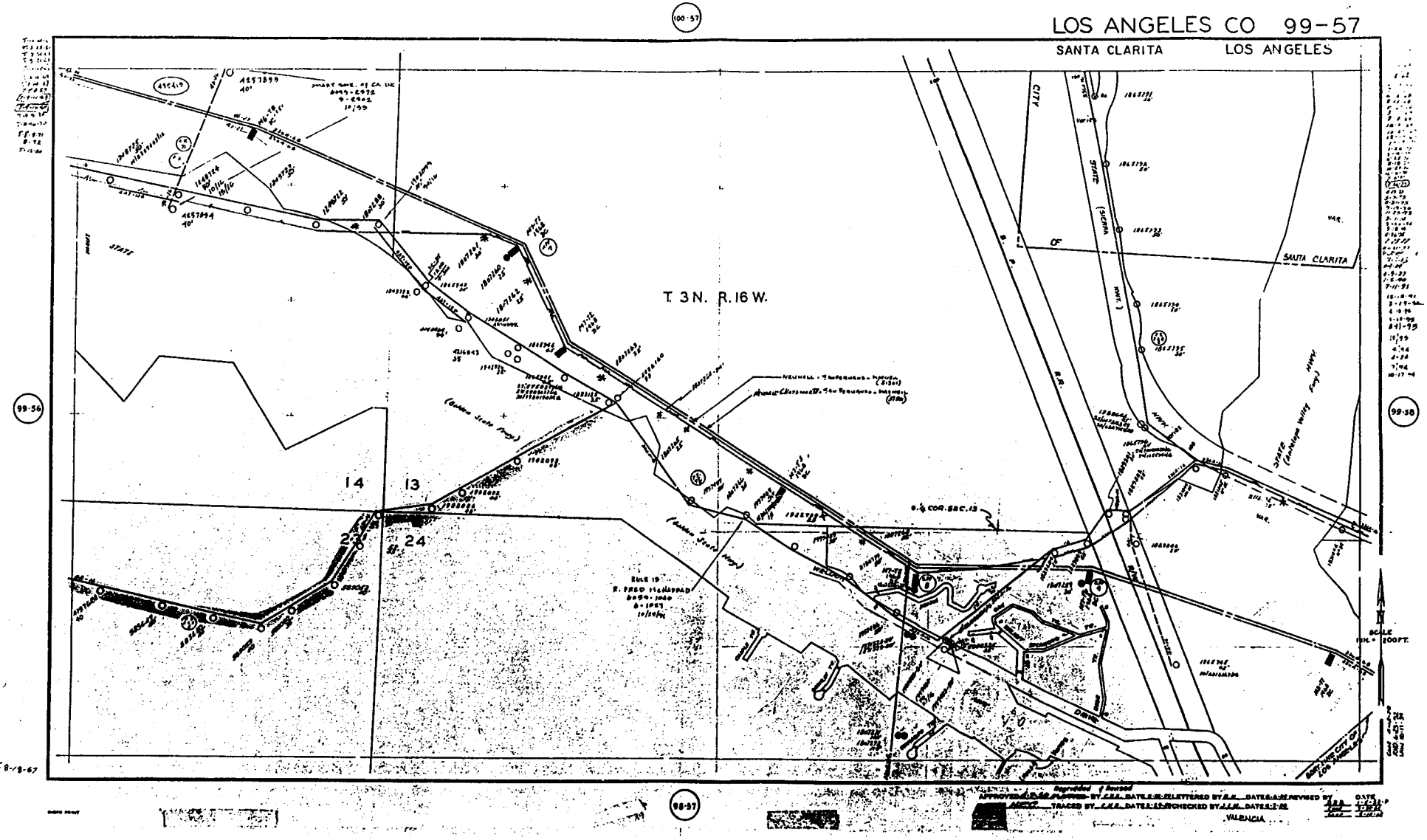
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SANTA CLARITA
LOS ANGELES
T. 3 N. R. 16 W.
SANTA CLARITA
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100-57
SCALE
1IN. = 200FT.
VALENCIA

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company

April 18, 1997

Ultrasystems Environmental Incorporated
ATTN: Margaret Shekell
26461 Crown Valley Parkway, Suite 140
Mission Viejo, CA 92691-6377

SUBJECT: **Will Serve Letter**
Sunshine Canyon Landfill at 14747 San Fernando Road

Dear Ms. Shekell:

We have been requested to advise you that the Southern California Edison Company stands ready to install electrical distribution facilities within the location known as Sunshine Canyon Landfill in Los Angeles, State of California, in accordance with the then applicable tariff schedules which are the effective rates and rules of the Southern California Edison Company on file with and approved by the California Public Utilities Commission and subject to the receipt of such permits or other authorizations from public agencies as may be required for such installation. Also, rules hereinafter referred to in this letter include such changes, modifications and amendments which the Public Utilities Commission may from time to time direct in the exercise of its jurisdiction.

Should a shortage of energy and/or generating capacity ever occur, the Utility will apportion its available supply of electricity among its customers as set forth in Rule No. 14, Shortage of Supply and Interruption of Delivery.

When requested by the developer, distribution facilities within the tract or parcel require advances under provisions set forth in Rule No. 15. Requirements for advances from the developer for distribution lines to reach the subdivision are set forth in Rule No. 15. An underground service lateral from the installed distribution system within the development to individual parcels will be in accordance with Rule No. 16.

Should an individual applicant require service to his parcel prior to the installation of an underground distribution system to and within the development, as may be installed at the expense of a developer, or within a development for which the developer has undertaken no obligation for the installation of a distribution system, an advance will be required from the individual as set for in Rule No. 15.

Should you have any questions, please do not hesitate to call me at 805-257-8276.

Sincerely,

Joe Montoya
Customer Service Planner

25625 W. Rye Canyon Rd.
Valencia, CA 91355

Appendix C11
BROWNING-FERRIS INDUSTRIES CORPORATE HISTORY AND ENVIRONMENTAL, HEALTH AND SAFETY REPORT

FACT SHEET

Corporate Address: Browning-Ferris Industries, Inc.
Browning-Ferris Building
757 N. Eldridge
Post Office Box 3151
Houston, Texas 77253
Telephone: 281/870-8100

Company Overview

Browning-Ferris Industries, Inc. is one of the largest publicly held companies whose subsidiaries and affiliates collect, transport, treat and dispose of commercial, residential and municipal solid waste and industrial wastes. BFI subsidiaries are also involved in recycling, resource recovery facilities and medical waste services.

Browning-Ferris is headquartered in Houston, Texas. The company's subsidiaries and affiliates operate in approximately 750 operating locations in the United States, Australia, Canada, the Dominican Republic, Finland, Germany, Hong Kong, Italy, Kuwait, Mexico, The Netherlands, New Zealand, Puerto Rico, Spain, Switzerland and the United Kingdom.

Operating Data as of September 30, 1996 (most numbers are approximate):

Employees	43,000
Solid Waste Trucks, Including Collection and Transfer Vehicles	14,400
Steel Containers	1,300,000
Commercial and Industrial Accounts	950,000
Municipal Contracts (North America)	1,800
Solid Waste Residential Accounts	14,000,000
Recycling Curbside Residential Units (Households Served):	7,000,000
Recycling Commercial and Industrial Accounts	203,000
Recycleries	202
Medical Waste Accounts	153,000
Medical Waste Treatment Facilities	30
Transfer Stations	159
Owned or Operated Sanitary Landfills	164
Tons of Solid Waste Disposed of Annually at BFI Landfills	32 million tons
Total Locations Where Solid Waste is Collected	475

Common Stock: Browning-Ferris Industries, Inc. common stock is traded under the symbol BFI on the New York Stock Exchange, Inc., the Chicago Stock Exchange, the Pacific Stock Exchange and the International Stock Exchange of the United Kingdom and Republic of Ireland Ltd.

For additional data, contact:

Eileen Schuler
Assistant Corporate Secretary
281/870-7893

CORPORATE HISTORY

In the last few months of 1969, Browning-Ferris Industries was on the threshold of a program that would result in the acquisition by the end of 1973 of more than 150 privately owned, local waste service businesses throughout the United States, Canada and Puerto Rico. In the aggregate, these businesses represented approximately one and a half percent of the estimated 10,000 independent waste service companies operating in the U.S. at the time. Together, however, these acquired businesses became the nucleus of an international, $3 billion, New York Stock Exchange company: Browning-Ferris Industries, Inc., headquartered in Houston, Texas.

Browning-Ferris Industries now provides waste collection services from approximately 680 operating locations throughout the United States, Australia, Canada, Finland, Germany, Hong Kong, Italy, Kuwait, The Netherlands, New Zealand, Puerto Rico, Spain, United Kingdom and Venezuela. Today the company employs over 36,000 employees, utilizes approximately 13,000 collection vehicles, and owns or manages over 110 sanitary landfills. For the 12 months ending September 30, 1993, revenues reached $3.5 billion. BFI has approximately 196 million shares outstanding with approximately 21,000 stockholders of record. It is considered today as one of the world's leading waste services companies.

BFI evolved from a small residential waste collection firm, American Refuse Systems, Inc., (ARS) that was founded in 1967 with a single truck providing garbage collection service to a Houston subdivision. American Refuse Systems in 1969 acquired a controlling interest in Browning-Ferris Machinery Company, a distributor of heavy construction equipment, changed its name to Browning-Ferris Industries and used the company as the base for a nationwide waste services firm.

Raising the expansion capital necessary for a nationwide firm through private investors had its limitations. The machinery company, however, possessed several key advantages that would make initiation of ARS' expansion plans possible. Browning-Ferris Machinery Company was an old, established regional business, publicly held, with its common stock traded in the over-the-counter market. In 1969, the plan to build a nationwide waste services firm was initiated when Browning-Ferris Industries made its first acquisition–the solid waste collection and disposal operations of ARS that had by then become a successful business in the Houston area. From this initial entry into the waste services business, BFI's plan to develop a nationwide waste services organization was implemented over the next four years by a highly successful acquisition program.

In October 1970, Patterson Waste Control, Inc., located in Memphis, Houston Disposal Services, Inc., based in Houston, and Waste Control of Puerto Rico, Inc., located in San Juan, were acquired. The president and majority owner of these three companies was Harry J. Phillips. One of the most experienced and respected men in the waste industry, Phillips joined BFI as president and chief operating officer. Phillips brought to BFI the ability to integrate the business operations of the various companies that had been acquired previously, and the ability to manage their operations.

Other companies BFI acquired included many owned and operated by some of the long-established, highly respected names in the waste services industry. Many of BFI's current regional vice presidents and district managers came from the management ranks of these companies.

By 1973, annual revenues had increased to approximately $300 million, making BFI the largest waste services company in the world. And by the beginning of the Eighties, BFI's revenues were more than one-half billion dollars.

Solid Waste

Despite the numerous changes in the waste services industry in recent years, solid waste–the traditional trash and garbage that formed the content of old city dumps–continues to be the mainstay of business for BFI and other firms in the industry. Of the millions of tons of waste materials handled by BFI each year, the bulk consists of ordinary materials discarded by householders and businesses.

BFI has helped to make the open dump virtually nonexistent in the United States by developing modern landfilling techniques to dispose of these substances in a manner that is both environmentally safe and aesthetically pleasing.

Sites for BFI landfills are selected under a rigorous procedure that includes geologic assessments of the subsurface features of the land, measures to protect against pollution, and evaluations of the effects of each site on nearby communities.

While BFI's basic direction in the solid waste

management field has maintained a steady course, the company's profile in other areas went through some alteration and refinement over the period of rapid corporate development between 1970 and 1974.

Resource Recovery

BFI entered the resource recovery business in June 1972 through the acquisition of Consolidated Fibres Inc. (CFI), then a leading independent marketer of wastepaper for recycling. With the acquisition of CFI, BFI sought to complement its existing services and to strengthen its commitment to resource recovery. Like most other companies in the U.S. during 1975 and 1976, BFI also felt the effects of the national recession. That recession was far more evident in the paper industry, and the negative impact of this highly cyclical business on BFI led to the spin-off of CFI in 1976.

BFI, together with Air Products and Chemicals, Inc., of Allentown, Pennsylvania, established the American Ref-Fuel company in 1984 to market waste-to-energy facilities to utilize proven mass-burning technology of the West German firm, Deutsche Babcock Anlagen, for which BFI is the exclusive licensee in North America. This technology recovers energy through the mass burning of solid waste and is used successfully in over 50 cities in Europe and Asia. Access to this technology permits American Ref-Fuel to design, construct and operate plants for municipalities to convert the combustible portions of solid waste to steam and/or electricity. Three facilities are presently operating in the Northeast, two capable of incinerating approximately 2,500 tons per day of municipal solid waste into about 60 megawatts of electricity for sale to the local utility, and a third that has a 600 ton-per-day capacity.

Recycling

BFI has been involved in various aspects of the recovery of secondary, post-consumer materials for recycling since the early 1970s. The company operated a recovery center in Houston, Texas, that processed about a third of the municipally-collected waste from the city. In 1972, the company acquired Consolidated Fibres Inc., and in the late 1970s the company began a 10-year management contract under the Ministry of the Environment for Canada's Ontario province for a resource recovery plant to extract recyclable materials from the waste stream.

In 1988 BFI served about 43,000 households with curbside collection of post-consumer recyclable materials. By 1994, the company was operating under more than 660 contracts to provide these services to over 3.5 million households. Curbside collection programs are only a part of BFI's recycling activities. The company also operates buy-back centers, recycleries, yard waste composting programs, tire shredding operations, used oil collection programs and other recovery operations to remove recyclable materials from the waste stream.

Medical Waste Services

BFI offers medical waste collection, treatment, and disposal services in a market area that covers 45 states, four Canadian provinces and Puerto Rico. Medical Waste Systems owns, operates or leases the capacity of processing sites, including incineration facilities, autoclave facilities where steam sterilization takes place, and facilities where both incineration and autoclave sterilization occur.

Committed to Quality

BFI has moved from an early strategy of primary expansion through acquisitions toward greater emphasis on growth through increased services and operations in foreign markets.

The company has modernized the disposal sites and facilities it acquired in past years, and designs all new disposal sites to include the most innovative operating features and technology in the waste services industry.

BFI's business practices and corporate policies are formulated with the goal of making the Earth a cleaner and safer place to live.

For additional data, contact:

Browning-Ferris Industries, Inc.

757 N. Eldridge • Post Office Box 3151 • Houston, Texas 77253

Telephone: 713/870-8100 • Fax: 713/870-7182

Printed on recycled paper.

CAPABILITIES

The Look of a Leader

Browning-Ferris Industries, Inc. (BFI) is one of the world's largest publicly-held waste service companies. BFI's primary business is collecting, processing and disposing of waste, as effectively and economically as possible. Operations are conducted in a manner that is compatible with the protection of the environment and conservation of natural resources.

The company's leadership role is the result of three important elements: 1) The creation of a professional systems approach to waste handling. 2) The development of competent, experienced, concerned personnel. 3) The building of a worldwide network of professionally managed operations.

BFI and its subsidiaries and affiliates employ thousands of people worldwide, serving commercial, industrial, governmental and residential customers through operating locations in North and South America, Australia, Hong Kong, Italy, the Netherlands, New Zealand, Spain and the United Kingdom.

The BFI approach to waste control provides an improved, more efficient way of meeting customer needs. BFI identifies the waste handling problem... determines the best solution... and provides the necessary equipment, technology and personnel to ensure dependable, economical service.

Commercial/Industrial Collection

BFI serves shops, hospitals, apartments, airports, restaurants, manufacturing plants, shopping centers, schools and other institutions and businesses with waste collection systems utilizing on-site containers. Container types and sizes, and frequency of waste collection are tailored to each customer's individual needs. Front-end loader systems, rear-end loader systems, side-loader systems, roll-off systems and stationery compactor systems provide alternatives to meet every service situation.

Residential Collection

In setting up a residential solid waste collection program, BFI matches labor and equipment to the specific population geography and waste generating characteristics of the area. Curbside collection and back-door pickup are the two most frequently provided services. Rear-end loader or side-loader systems and support equipment are chosen to provide efficient, rapid collection and reliability. This BFI service may be provided under contract with municipal governments, subdivisions, or directly to homeowners.

Recycling

As an industry leader in waste collection and disposal, and as a pioneer in America's efforts to recycle reusable materials, BFI has developed successful RecycleNOW® recycling programs that include residential curbside collection, recycling centers, commercial collection and programs for landfills. All have two purposes–return valuable secondary materials as raw material for industry, and reduce the amount of waste material that is sent to landfills.

The company has hands-on experience in designing and implementing successful neighborhood-oriented recycling activities through its multi-material curbside programs and yard waste curbside programs.

Resource Conservation Services (RCS), a wholly-owned subsidiary of BFI, helps communities recover sludges, yard and food wastes, and wood and coal ash through organic waste recycling programs. The BFI Tire Recyclers group provides scrap tire collection, stockpile abatement and processing programs customized to meet local recycling goals.

BFI can also help a community implement any combination of three types of recycling centers: RecycleNOW Buy-Back Centers, RecycleNOW Drop-off Centers and the BFI Recyclery™.

Solid Waste Disposal

Millions of tons of solid waste are disposed of annually by BFI at company owned and/or operated sanitary landfills throughout North America. The sanitary landfill method, pioneered by BFI, is currently the most economically feasible and environmentally compatible alternative for solid waste disposal. Thoughtfully engineered BFI sanitary landfills are valuable assets to the areas they serve during their operation. Upon completion, they can be converted to recreational and other types of open areas.

Printed on recycled paper

Resource and Energy Recovery from Waste

BFI is at the forefront of developing technologies for the recovery of energy and reusable resources from wastes. In January 1984, Browning-Ferris teamed with Air Products and Chemicals, Inc., to market waste-to-energy plants. The joint venture operates as American Ref-Fuel® Company.

The heart of the technology is a unique grate system that efficiently burns waste on a series of downward-sloping, slowly rotating cylinders that promote drying and thorough combustion. Through BFI, American Ref-Fuel Company has an exclusive license for this proprietary, West German technology. The advantage offered by this type of waste disposal is that municipal waste can be burned without complicated pre-processing. This waste-to-energy system has been successfully incorporated in a 2,319 ton-per-day, 60 megawatt facility on Long Island, NY and a similar facility in Essex County, New Jersey. Two other facilities are under construction and four more are planned.

Medical Waste Systems

BFI Medical Waste Systems® specializes in the treatment and disposal of medical waste from healthcare facilities by either steam sterilization or incineration. BFI operates the nation's largest network of medical waste disposal facilities and offers broad-based support in hygiene, safety, engineering, transportation, regulatory activities and environmental affairs. BFI Medical Waste Systems serves an increasing number of medical facilities from its network of operating locations.

Pharmaceutical Services

BFI Pharmaceutical Services is an affiliate of BFI Medical Waste Systems that tracks and disposes of outdated, unsalable or damaged pharmaceuticals for manufacturers, wholesalers, chain-store operators and other dispensers. In addition, BFI offers recall notification, reporting and certified disposal services to pharmaceutical manufacturers who handle product recalls.

International Operations

The trend toward municipalities contracting with private waste companies to perform vital waste handling functi is worldwide in scope. Since 1980, BFI has obtained waste collection and street cleaning contracts abroad, including cities in Venezuela, Kuwait, and Saudi Arabia.

In support of ongoing international operations, affiliates of the company have started or expanded private commercial operations in the United Kingdom, Australia, New Zealand, the Netherlands, Italy, and Spain, and continue to open new marketing offices abroad to expand the thrust of international services.

A recent BFI expansion, for example, involves the design, construction and operation of a 2,200 ton-per-day transfer station in Hong Kong by a jointly owned subsidiary for the compaction and containerization of solid waste.

BFI Services Group

Portable Services

BFI Portable Services® provides and maintains portable restrooms for the construction industry, special events, parks and recreational areas, and other outdoor applications. In addition, BFI offers waste collection, waste disposal and cleanup services for these temporary applications. In many areas, BFI Portable Services can provide construction offices, fencing, barricades, power poles and other construction site necessities.

Street Cleaning

Browning-Ferris serves cities and states in North America and abroad with contract street cleaning services. BFI also provides commercial sweeping to industrial complexes, parking lots and malls.

Before the first street is swept, experts from Browning-Ferris analyze traffic conditions and other special characteristics of the area, then select the right equipment, develop a sound preventive maintenance program, and establish optimum frequency sweeping schedules.

For additional data, contact:

Browning-Ferris Industries, Inc.

757 N. Eldridge • Post Office Box 3151 • Houston, Texas 77253

Telephone: 713/870-8100 • Fax: 713/870-7182

BROWNING-FERRIS INDUSTRIES, INC.

ENVIRONMENTAL, HEALTH & SAFETY REPORT

BFI MISSION STATEMENT

Our mission is to provide the highest quality waste collection, transportation, processing, disposal and related services to both public and private customers worldwide. We will carry out our mission efficiently, safely and in an environmentally responsible manner with respect for the role of government in protecting the public interest.

CORPORATE DESCRIPTION

Browning-Ferris Industries, Inc. is one of the largest publicly-held companies engaged in providing waste services. Subsidiaries and affiliates collect, transport, recycle, treat or dispose of commercial, residential and municipal solid waste and industrial wastes in 45 states, Australia, Canada, Finland, Germany, Hong Kong, Italy, the Netherlands, New Zealand, Puerto Rico, Spain and the United Kingdom.

BFI's medical waste collection, treatment and disposal business is the largest in the United States, serving more than 114,000 medical waste customers. BFI owns or operates 27 treatment centers. Medical waste services also include a collection and disposal program for obsolete or outdated pharmaceutical materials.

BFI provides collection for a wide variety of recyclable materials, including used oil, paints, tires and paper mill sludge. In addition to glass, aluminum, steel, tin, plastics and paper, BFI provides recycling collection services to approximately five million households and to over 160,000 commercial customers. The company operates 104 material recovery facilities to process recyclable materials collected by us and others.

BFI subsidiaries are also involved in resource recovery facilities, portable restroom and sweeping services.

BFI subsidiaries and affiliates have approximately 37,000 employees around the world, operating in some 660 districts. In 1994, the company disposed of almost 28 million tons of waste in the 97 U.S. landfills it owns or operates. BFI provides collection services to approximately 800,000 commercial and industrial customers, and more than 9.4 million households, including 1.5 million households in Europe.

Data for fiscal year ending September 30, 1994

This is BFI's second Environmental, Health and Safety Report. Our first report, issued in November 1992, set out BFI's environmental, health and safety policy and our basic approach to compliance. This report will provide an update on our progress over the last two years in achieving our goal of environmental, health and safety excellence. It is our intention to issue these full reports every two years, and to provide interim reports as needed.

Our goal at BFI is environmental excellence. You will see that in our EHS goals spelled out in this report. Our operating philosophy is that if we are not in substantial compliance, we are not going to be in business; it's as simple as that.

We operate with the permission of the public, and if we abuse that trust, they will revoke their permission to us to stay in business. That commitment to excellence and respect for the public is deeply held at BFI and embodied in our Corporate Mission Statement.

We believe our record since our last report demonstrates continuous improvement in the areas of environment, health and safety; we feel good about our progress.

Much has happened in the two years since our first report. Perhaps the most significant development has been the almost complete implementation of the Federal regulations governing the siting, design, construction, operation, groundwater monitoring, closure and long-term care of municipal solid waste disposal landfills; the so-called Subtitle D regulations. These are tough standards that will require significant investment by both private and public municipal landfill operators.

The immediate impact of these regulations has been the closure of over 1,000 small, substandard landfills around the country, almost 20% of all operating landfills in the U.S. The long-term impact of these regulations will be to assure the environmentally safe disposal of municipal solid waste, and the guarantee of long-term care of such facilities once they have closed.

As we learn more about the environment and our impact on it, we develop additional concerns; that is the history of our evolving regulatory structure in this country. As large sources of pollutants of concern are controlled, we turn our attention to smaller sources, often less easily or efficiently controlled.

In the case of air pollutants, we are anticipating the imminent promulgation of regulations to control emissions of certain gases from landfills. These gases, mostly methane with small amounts of other organics, are of concern because of their potential contribution to global warming. The regulations will require collection, destruction or alternative use of the gases. At BFI, we are already capturing landfill gases at 55 landfills, with another 39 projects in the development stage. We believe we have a substantial lead on these impending requirements.

We are also awaiting additional environmental regulations, both at the Federal and state level affecting our industry. They will involve tighter controls on the combustion of both municipal solid waste and medical waste.

BFI's basic approach to environmental, health and safety management is sound, and, we believe, as our record will show, effective. Our philosophy translates into the core elements of our environmental, health and safety programs. Those elements are:

• Training: We provide comprehensive training to all new employees, with regular refresher courses. Our programs reach virtually every employee at BFI. Knowledgeable, trained people are critical to the success of our EHS programs.

• Corporate support: Our people in the field avail themselves of a wide variety of centralized resources, from engineer-

ing and design to specialized operational support, such as data management and landfill gas recovery.

• Audits: We have an aggressive corporate auditing program whose goal is to help our managers achieve full environmental compliance. Coupled with our mandatory self-audit program for all facility managers, and regular training, these audits provide the check and the tools for our managers to meet their goals.

• Accountability: We tie a significant portion of managers' compensation to environmental, health and safety performance. If annual, and ever-increasing environmental, health and safety goals are not achieved, no matter how well a line manager has done in meeting his other goals, including financial performance, his incentive compensation is impacted accordingly. This is a unique incentive system that has received national recognition. We are very proud of it.

In late 1993, BFI's Council for Environment, Health and Safety Excellence adopted a set of EHS goals for the company; they are described in detail in this report. They quantify our commitment to continuous improvement, and they challenge our people to excel. These goals will be expanded and updated in the future as new circumstances require. We will regularly update our progress in meeting these goals.

One of the most significant developments in our industry over the past two years has been the explosive growth of recycling. It has become a permanent part of how we manage waste in this country, and, indeed, in many developed countries throughout the world. Recycling is now part of our mainstream economy, something few would have predicted five years ago.

Growing efficiencies in collection and processing on the supply side, coupled with major capital investments by manufacturers on the demand side have created a permanent infrastructure for the recycling of post-consumer materials. Recycling is with us because it works. We at BFI support recycling completely, and we are now the largest collector and processor of recyclable materials in the world.

Concern for the environment is one of the most enduring social issues in this country. The level of support for environmental protection is still high, 25 years after the first Earth Day and the creation of the U.S. Environmental Protection Agency. During that time, we, as a society, have periodically examined how we go about meeting our national commitment, and rightly so. We are in such a period today.

The country is looking for ways to make our environmental protection programs more efficient and more effective. That examination does not necessarily represent any lessening of our country's commitment to the goals of clean air and water; it may just mean we want to meet those goals in different ways. As the Congress reviews the scope of our programs, we must not lose sight of the fact that the public expects a certain level of protection, and makes no distinction between the public and private sectors in achieving that protection. Public facilities must meet the same standards as those operated by private industry.

We at BFI think the results presented here validate the environmental, health and safety programs we have put in place. The key point, we believe, is that we are delivering improved results over time. Unfortunately, there will be glitches and one-time occurrences, but the established trends are there. While we are pleased with our performance to date, we will continue to strive for our goal of no violations.

Finally, it is important to put all of the information contained in this Report in the overall context of the size of our business. In North America, BFI operates almost 100 landfills, over 100 recycling centers, over 100 medical waste collection centers, over 30 organic processing facilities and 27 medical waste treatment facilities. We put over 8,000 trucks on the street every day, serving over 7,000,000 residential customers, 5,000,000 recycling customers, over 100,000 medical waste customers and over 600,000 commercial solid waste customers. We employ over 25,000 people in North America alone.

As always, we welcome your comments about our EHS record and this report. If you have any questions or want further information, please write to me directly.

William D. Ruckelshaus
Chairman and Chief Executive Officer
February 1995

Note: BFI operates on an October through September fiscal year. All compliance information is reported on a calendar year basis; all other data, including audits and OSHA statistics, are reported here on a fiscal year basis.

CHAPTER 1

BFI'S EHS MANAGEMENT PROGRAM

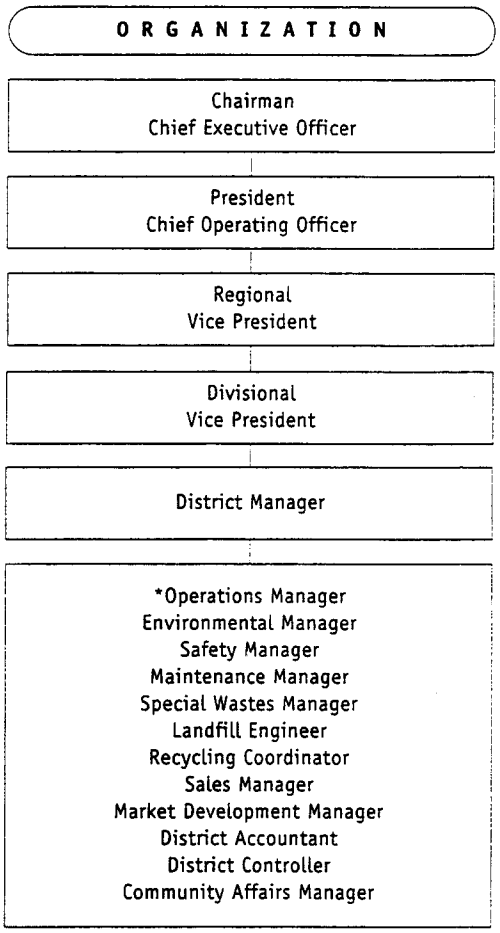
The environmental, health and safety program at BFI is responsible for the integration and implementation of Federal, state and local regulations, and company policies at each of the company's operating locations. BFI works hard to integrate EHS awareness and compliance in all our operations and in every job function. The corporate office is responsible for designing overall management and accountability systems to ensure we achieve that end.

While policy, training, audits, compliance monitoring and technical assistance are all corporate functions, we strongly believe that the manager closest to the customer, the facility, and the community is responsible for meeting the company's EHS goals. That is consistent with BFI's organizational structure. A strong accountability system ensures that all levels of management have responsibility for achieving EHS goals and overall compliance.

BFI conducts its business from some 400 operating locations, or districts, in North America. Districts report to divisions, which roughly correspond to major market areas; 46 divisions report to regions. There are six BFI Regions in North America: five in the United States, and one in Canada.

The following chart and map detail BFI's overall organization as well as the organization of its regional structure.

Environmental programs in the regions are coordinated through Regional Environmental Managers (REM). Depending on the scope of operations, there are two to five individuals per region responsible for ensuring the implementation of environmental programs. Each region also has a corresponding structure for the implementation of health and safety programs. Most districts also have environmental, health and safety managers; some larger districts have dedicated environmental staff.



* The exact mix of positions depends upon the type of operation in the district.

Council for Environmental, Health and Safety Excellence

The Council for Environmental, Health and Safety Excellence was established in 1989. It is composed of individuals from a broad cross-section of BFI; it has representatives from all levels of field management, as well as technical, legal, environmental, regulatory and corporate senior management. A membership list is provided in the appendix.

The Council is responsible for reviewing all corporate environmental, health and safety policies before they become final and before they are implemented. The Council also sets the company's specific EHS goals; they are discussed later in this report. The Council reviews all EHS policy issues raised within the company and determines the company's response.

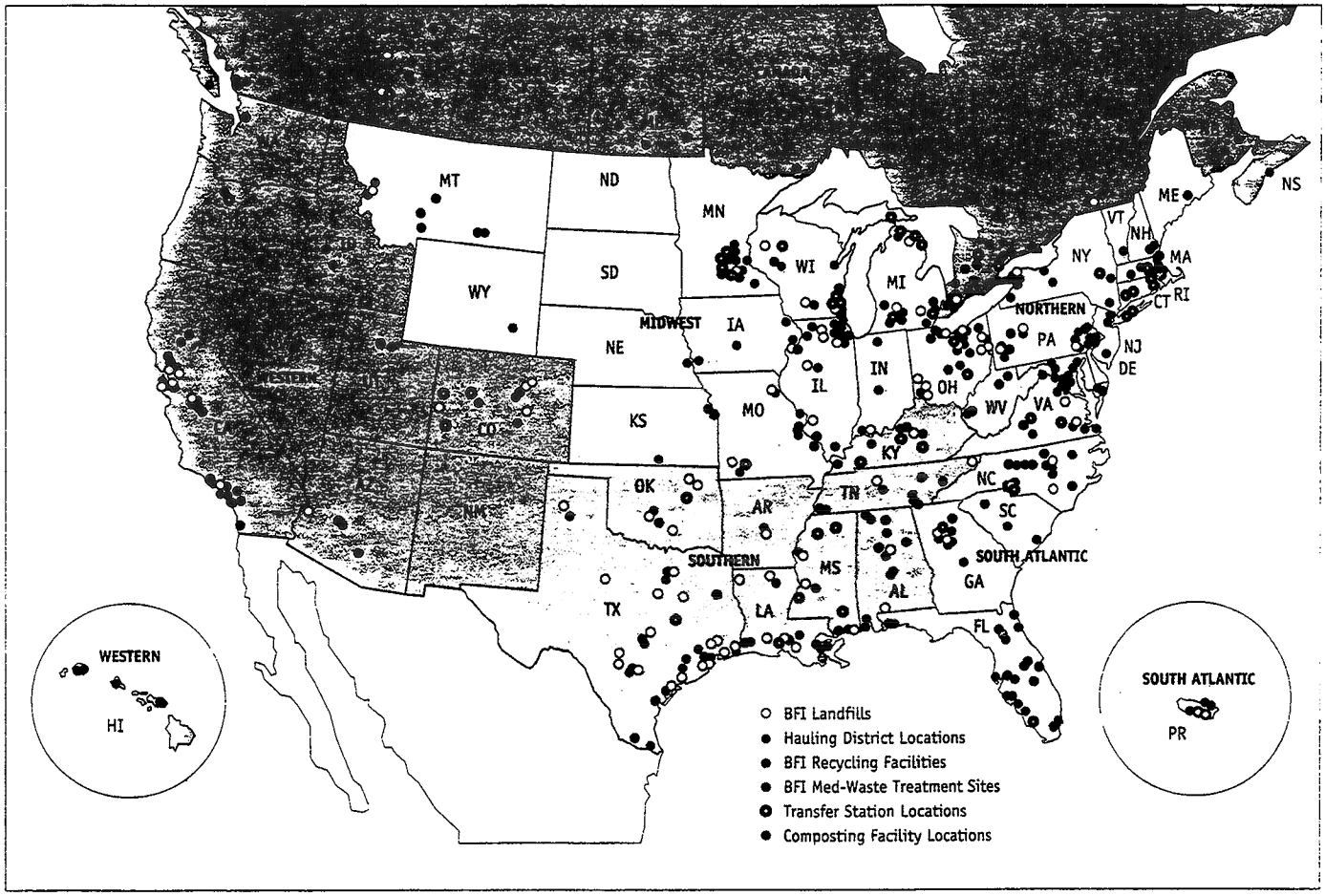
Finally, the Council periodically reviews all EHS management systems and accountability programs to ensure overall EHS compliance program suitability and effectiveness. When necessary, the Council will recommend changes to the Senior Management Committee.

BFI's EHS Program

The environmental, health and safety programs at BFI consist of four basic elements: training, centralized corporate support, audits, and accountability.

Environmental Training

Training at BFI is the foundation of our EHS program. It is comprehensive and ongoing. As discussed in our previous report, BFI developed its A.C.T. training (Awareness and Compliance Tools for Environmental Responsibility). The goals of A.C.T. are to increase awareness of environmental performance, create responsibility for environmental excellence in every BFI employee, introduce the policies and systems the company has put in place, and provide the needed regulatory knowledge base. Refresher courses and updates are also part of A.C.T. training. All new employees are expected to complete the appropriate A.C.T. training courses.



A.C.T training programs were developed for each major business segment: landfills, medical waste and solid waste. Landfill training was introduced in 1990, and completed in 1992; the program was updated in 1993 to include Subtitle D regulations. Medical waste training was completed in 1993. Training for solid waste employees began in 1993 and was completed in 1994. A.C.T training modules have been developed for our recycling and organics businesses.

By the end of 1994, virtually every district and facility employee in North America, some 25,000 BFI people, participated in a job-based environmental training program under A.C.T.

Specialized skill training has also been created for stormwater sampling and management at all affected facilities and for the conduct of random environmental inspections at landfills, at recycling centers, and at organic waste processing operations.

Health and Safety Training

For over 15 years, BFI has tracked company-wide injury and vehicle accident rates. This large database provides valuable information about our health and safety training programs. It helps guide our future training efforts as well as pinpointing areas that may need improvement.

We have recently produced new training materials designed to help district personnel with the placement of waste containers at a customer's place of business. Analysis of accident data suggested that proper placement could avoid certain vehicle backing and clearance problems.

All new BFI operations employees receive 5-10 days of classroom and vehicle training before performing work for the company without supervision. All employees attend monthly health and safety update meetings in the district offices. New developments or concerns can be rolled-out to employees almost immediately at daily district meetings before each work-day begins.

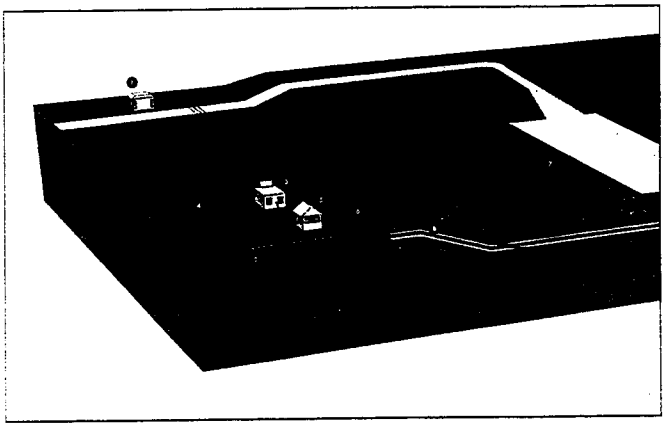
Special tags and lock-out procedures are an integral part of BFI's safety program.

BFI produces almost all of its training material; that allows us to specifically target our training to company and industry needs and concerns.

Corporate Technical and Operational Support

Managers in our regional and district offices with responsibility for environmental, health and safety issues have a broad array of support services available to them from our corporate office. These are specialized resources that it makes sense to centralize or where the cost of maintaining them in a variety of locations would lessen their effectiveness. The following are examples of these services:

- All our landfill gas recovery installations are supervised from our Houston headquarters. Everything from system design to construction to safety and operations training to regulatory updates are provided for our landfill managers.
- Engineering and design services are available to all our districts and regions. Our Engineering Department keeps abreast of all safety and environmental issues and factors them into new facility designs. The department publishes a Facilities Design Manual that specifies minimum standards for new and modified facilities. The department also publishes a regular newsletter updating regional and district managers.



The Engineering Services Department uses computer aided design equipment to visualize such elements as final landfill contour, cell placement and infrastructure location.

- All special waste (non-hazardous industrial waste) managed at BFI's permitted disposal facilities must receive approval from the Corporate Environmental Management Department Special Waste Approval group before acceptance. The process uses a specialized imaging system that provides for sophisticated tracking and quick turn-around. This is one of a number of specialized technical services that are provided.
- All BFI facilities are maintained on our computerized Site Profile System, a master log of all facilities, permits, permit requirements, and operational issues. It is updated regularly and provides managers with immediate status reports on every facility. It also allows the company to quickly determine which facilities are impacted by any new regulations.

Testing ensures that non-hazardous industrial waste conforms to the original specifications provided by the generator, as verified by BFI's Waste Approval Group.

• All groundwater monitoring data from our landfills is managed by the Groundwater Services Division. The division is responsible for all quality assurance and quality control of our monitoring systems. It maintains all monitoring data on computer. The division provides standard specifications for all well construction and sampling, and audits laboratories used by individual landfills.

• Implementation support for new Federal and state regulations is also provided by the Safety and Health Department. Support includes computer-based templates for facility-specific design of compliance programs.

The Audit Program

BFI's Environmental, Health and Safety Audit Department operates separately from the Operations and Environmental Management groups, including Health and Safety management, within the company. The Divisional Vice-President for EH&S Auditing reports directly to BFI's Senior Vice President and General Counsel. The Department is staffed by five professionals with anywhere from 5 to 20 year's experience in the management of health, safety and environmental issues.

The Audit Department is responsible for the systematic auditing of all BFI facilities in North America for environmental, health and safety issues. Under BFI's corporate and regional structure, our individual facilities must establish their own management systems, within certain guidelines and standards set by headquarters, to achieve and sustain a high level of compliance and environmental excellence.

Auditing is not the mechanism to implement day-to-day compliance efforts. The primary purpose of the company's auditing program is to validate the effectiveness of management systems in place; it can also alert management to emerging issues before they become serious problems.

A landfill audit starts with planning and moves through all operations, reviewing regulatory and corporate policy compliance.

The company has established a schedule of regular audits for all of its facilities. Audits normally take over a week, including preparation and on-site inspection. Auditors not only review facility conformance with Federal, state and local regulatory requirements, they also review conformance with company established policies and procedures. In addition, auditors, as well as regional and corporate staff, are required to make formal recommendations for improvements at a facility, even if not mandated by regulation, permit or policy.

Many findings from an audit can be acted on right away, and are addressed in exit interviews with facility managers. Other items require an action plan. Plans are required within 30 days of the audit; all plans require corrective measures and preventive measures to make sure problems do not recur.

All data from all audits, as well as action plans and due dates, are kept on a central computer database. This is a powerful tool for corporate and regional managers to ensure that facilities are meeting the environmental, health and safety obligations. We can easily document problem areas and chart progress with as much precision as necessary.

Accountability

BFI has developed a program that we believe creates the right incentives for our managers and their supervisors to meet their environmental, health and safety goals.

BFI may be the only company in this industry, and one of the few in any industry, that ties its managers' incentive compensation system directly to the achievement of EHS goals.

Bonuses, a significant part of every manager's compensation package, are awarded to managers based on meeting a series of specific goals for each year. Key EHS measures include facility compliance, self-inspection program, internal recycling and waste prevention and energy efficiency.

Each goal has a certain weight toward the total bonus award. The EHS component acts as a multiplier to the financial component of the bonus for district managers; if a certain minimum of EHS achievement is not reached, that multiplier is zero and that part of the bonus tied to EHS goals is zero. For managers of facilities that are particularly environmentally sensitive, such as landfills and medical waste treatment facilities, the multiplier affects the entire bonus such that if the multiplier is zero, no bonus is awarded. Last year, over one dozen BFI managers failed to receive any incentive compensation as a result of this program.

While district managers are clearly responsible for EHS performance at their facilities, BFI also holds Regional Vice Presidents and Divisional Vice Presidents accountable by linking their bonus compensation to the EHS performance of their district managers, as well as to other EHS performance criteria. This linkage helps assure that sound EHS management systems are in place, and it makes sure EHS compliance is integrated throughout the company's management structure.

Environment, Health and Safety Staffing

	1992*	1993*	1994**
Corporate	68	59	99
Region	43	31	57
District	139	200	258

* *Includes Health & Safety, and related Risk Management functions.*
** *EHS staff totals.*

CHAPTER 2

OUR EHS PERFORMANCE

This chapter contains a detailed description of our compliance record over the last two years, presented by business type. It also contains an update of the regulatory framework within which each of our businesses must operate. We believe the record presented here, in its entirety, is one that demonstrates the validity of our approach to EHS management.

We will discuss both the nature of the violations that have occurred, as well as any penalty that may have been assessed. For our landfill business, we discuss the details of each violation. For our other businesses, we present a summary chart of violations and a description of the nature of those violations. A number of year's data is included for comparison purposes.

We present penalty figures because such numbers are widely reported and are used by some as a measure of environmental, health and safety performance. Since penalties are assessed inconsistently from jurisdiction to jurisdiction, we do not believe that penalty figures are necessarily an accurate indicator of the severity of a violation or of the integrity of a compliance program. We think that the extent of citations and their specific nature are much better indicators of a company's approach to environmental, health, and safety compliance; thus our detailed descriptions. As well, we believe that audit results: number of findings, their severity and action plan completion time may be the best overall indicators of the effectiveness of an EHS program.

Finally, we discuss alleged violations if they are part of a consent decree and a penalty was involved. We do not discuss Notices of Violations or alleged violations that have not been finally resolved. We believe this a fair way to report this kind of information, since NOV's and allegations may not ultimately prove to be actual violations.

Violations discussed in each calendar year are those finally resolved in that year, though they may have resulted from events that took place in previous years; that fact is noted in the discussion.

Our EHS goal at BFI is no violations; the EHS management systems are designed to assure continuous improvement. We believe our record over the past years reflects that trend, even after increased scrutiny of our key businesses.

We would note finally that the numbers presented here for comparison are unadjusted for any factors, such as the growth in the number of facilities we operate, the growth in the number of customers we service or the increase in regulation.

Regulatory Overview and Update

The comprehensive Federal regulations issued in 1991 (Subtitle D regulations) covering the siting, design, construction, operation, groundwater monitoring, and closure of solid waste landfills are almost completely implemented. Certain provisions relating to financial assurance are expected to become final by 1996. The impact of these regulations in the long term will be environmentally sound disposal of municipal solid waste. All BFI landfills are in compliance with the Subtitle D regulations, as they are being administered by the respective states.

A synthetic liner is one of many elements of the total liner system of any newly constructed Subtitle D landfill.

The U.S. EPA will soon issue comprehensive regulations to systematically control the release of municipal landfill gas into the atmosphere. The waste industry has been collecting gas from large landfills for years for energy recovery purposes.

The new rule will not only address concerns about migrating gas causing fires and explosions, but will also result in reductions in greenhouse gas emissions, such as methane, that are believed to be a cause of global warming. The EPA regulations will cover landfills, based on total capacity; the regulations will specify certain gas collection, treatment and destruction technologies to be used.

The U.S. EPA has also announced its intention to issue three new regulations in the next 2-3 years to control the combustion of solid waste. Municipal waste incinerators will be further regulated by a rule that covers the emissions of dioxin and metals; existing regulations already control a broad range of emissions and operation conditions. Finally, EPA will be proposing regulations for the combustion of commercial and non-hazardous industrial waste. All of these regulations will affect both new and existing incinerators.

In November 1993, the U.S. EPA released its proposed "Multi-Sector General Stormwater Permits" for 29 specific industries. BFI actively participated in the group application process from which these permits were developed; approximately 300 BFI landfills, solid waste collection and transfer stations and recycling centers are involved. BFI initiated a survey of all facilities and identified those best practices that would meet requirements; those have been shared and implemented at the appropriate facilities.

In addition to permit requirements, all BFI facilities subject to stormwater regulations collect and analyze discharge samples for comparison to internal benchmarks; this program has been in place at BFI for over three years and has helped improve the quality of stormwater runoff.

The EPA is developing a set of regulations under the Clean Water Act that would apply directly to landfills. It will set standards for the treatment of landfill leachate, the liquid generated by the decomposition of waste and by precipitation that percolates through a landfill not yet capped. Two standards will be proposed: one covering treated leachate discharged into a body of water, and the other covering partially treated leachate discharged in a sewer system. The rules are expected in 1996.

The Federal government has recently issued comprehensive regulations governing acceptable levels of certain metals and other contaminants in sewage sludge that are applied to land, either as dried sludge or as composted sludge.

The Federal government is about to increase its control over medical waste through two sets of regulations: the Department of Transportation has issued regulations, effective late in 1995, setting out standards for the transportation and handling of infectious wastes, and the U.S. EPA has announced its intention to issue updated standards for medical waste incinerators.

OSHA is in the process of preparing a comprehensive new set of regulations relating to the ergonomics of physical labor in the workplace. These will primarily cover repetitive lifting and other repetitive activities. The goal is to reduce the number and severity of injuries related to such activity. We are cooperating with the government as these regulations are developed.

Audit Results

We believe our audit program, begun over four years ago, is one of the most comprehensive in the industry.

As stated earlier, the purpose of the formal audit program is to validate our environmental, health and safety programs. It provides a check of the management systems in place to achieve compliance. It complements and supplements facility-specific self-evaluation programs that are a required and integral part of each BFI facility's daily operation.

The audit program is valuable in a number of other respects as well. It is a critical learning tool for all of our line managers, it yields important data as to where we must target training and

other resources, and it provides an ongoing management system for continuous improvement at all of our facilities.

In addition to formal, full-scale audits, the company has initiated a follow-up, verification audit program of previously audited facilities to make sure that corrective actions and procedural changes required by the formal audit have been made and are effective.

A total of 179 BFI facilities were audited in fiscal years 1993 and 1994; 17 were verification audits. That compares with 74 audits conducted during the two previous years. Of that 179 audits, 31 were at active landfills, 72 were solid waste collection companies, and the balance were medical waste treatment facilities, recycling facilities, transfer stations, composting facilities and closed sites.

Audits By System

Business System	# of Audits 7/90 thru 9/94	FY 95 audit goals
Solid Waste Landfills	66	28
Remedial/closed landfills	22	13
Medical Waste facilities	18	10
Other solid waste (coll. co's, trans)	135	50
Other Misc.	19	0
Total	260	101

Our audits cover a full-range of environmental management areas, as well as some Department of Transportation (DOT) and Occupational Safety and Health Administration (OSHA) areas. In both 1993 and 1994, the scope of our audits was broadened, which accounts for some increases in the number of findings. We greatly expanded the number of OSHA issues covered, as well as expanding the scope of review to include Subtitle D regulations.

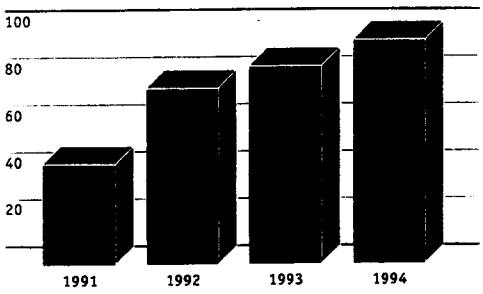
The average number of findings per facility for 1993 was 17.4; for 1994, the number of findings was 19.4. We define "findings" as any deviation from regulations, company policy or site-specific company policy. An example of a finding is a facility spill prevention plan that has not been updated.

The number of findings provides just one measure of performance; it can be influenced by factors other than site conditions. The ability to complete action plans by deadline is a key measure that gets a lot of attention at BFI; we believe strongly that audit results, taken in their entirety, provide one of the best measures of the strength and effectiveness of an EHS program.

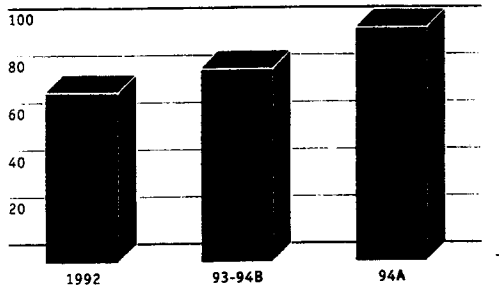
For landfills, on-time completion of action plans was 94% in 1994, a significant improvement from the 84% completion rate in 1993, 79% in 1992 and 41% in 1991.

On-time completion of action plans for collection companies improved from 82% in 1993-94 (before A.C.T. training) to 99% in 1994 after A.C.T. training had been implemented in all our districts.

On-Time Completion — Landfills
(Percentage Action Items Completed On-Time)



On-Time Completion — Solid Waste Hauling
(Percentage Action Items Completed On-Time)



93-94B- Audits Before A.C.T. Training Completed
94A- Audits After A.C.T. Training Completed

Health and Safety Results

The accompanying chart documents the continued progress we are making in our health and safety programs. Our lost-time injury rates show improvement, even in the face of expanding new businesses, such as recycling and composting, and the acquisition of over 200 companies in the last two years. The difficulties inherent in integrating new companies into our operating systems make this improvement even more significant.

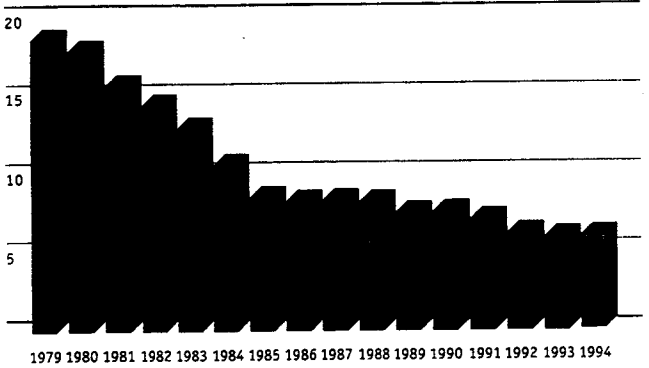
Our rate of improvement, however, has leveled off, as the chart shows. We are now faced with the challenge of continuous improvement of our record from year to year in an industry that still must utilize a very high degree of manual labor.

In the past, the key to our improved record has been a safety training program that has focused on the specific skills necessary to the waste industry. Our in-house-produced materials have won awards for creativity and effectiveness, as our rates have shown.

To meet our EHS goals (see chapter III) and continue reducing these rates, we must not only re-emphasize our commitment to training; but also devote more attention to other loss prevention strategies such as improved equipment and facility design, hiring practices, automation, and increased supervisor training.

We are already seeing improved progress, as early results for FY 1995 indicates a downward trend.

Sixteen-year History of Lost Time Injury Frequency Rates
(Lost time injuries per 200,000 hours worked)



The following chart details the number of OSHA violations at our facilities for the past three fiscal years. Measured on the basis of violations per inspection, our record continues to improve. These data must also take into account the growth in our business and the addition of almost 7,000 new employees in the last two years.

The majority of the citations are related to hazard communication and personal protective equipment. All violations cited have been corrected, and the appropriate steps have been taken to prevent recurrence.

OSHA Inspections/Citations

Year	# of Inspections	# of Citations
1992	16	10
1993	27	14
1994	25	18

The company paid a total of $15, 864 in penalties in 1992; $29,038 in 1993, and $24,868 in 1994.

Environmental Compliance Results

SOLID WASTE LANDFILLS

Landfills are the most extensively regulated part of our business and that aspect of solid waste management most subject to public concern.

Our record continues to improve. The number of violations and the amount we pay in penalties continues to decline; though, as we discuss above, we do not believe the amount of penalties is necessarily a good measure of performance. We think that our audit results are the best measure of the performance of our EHS systems. The type of violations are ones that do not have a serious, direct impact on human health or the environment. At BFI, no violation is acceptable, and our goal is to eliminate them altogether.

The following chart summarizes our landfill compliance history. We believe this is a good, solid record of improvement.

Landfill Violation Summary

Landfills	1991	1992	1993	1994
Violations	13	6	6	7
Penalties	$56,000	$34,950	$16,500	$59,370[1]

[1] *Includes one penalty for $40,000; see explanation in 1994 Results.*

In 1992, we were cited for failure to perform certain soil tests during landfill construction, rainwater discharge violations, maintenance of monitoring wells, and inadvertent filling of a small wetland area.

In 1993, the citations involved four odor violations at one landfill, failing to provide adequate supply of daily cover, and leaving a small amount of waste uncovered for a day.

In all cases, corrections have been made and steps taken to prevent recurrence.

1994 RESULTS

- In 1991 BFI acquired a landfill in Arkansas that had effluent discharge problems; in cooperation with the State authorities, BFI substantially upgraded the treatment system. Since 1992 there has been 1 ph effluent exceedence and several suspended solids violations. A consent decree requires BFI to collect stormwater in sedimentation ponds and to submit quarterly status reports to the State. A fine of $1,500 was paid as well as the State's administrative costs.
- A California landfill violated its downtime permit requirement for its gas control system; it also exceeded a limit on a gas control valve. Two fines totalling $765 were paid.
- An Indiana landfill paid a fine of $8,135 for a 1991 violation involving filling above the grade without a permit modification.
- A Pennsylvania landfill had an unauthorized leachate discharge; a fine of $500 was paid.
- At an Ohio landfill, the County alleged that the facility had overbuilt its permitted boundary by approximately 7 acres; a fine of $6,970 was paid.
- A landfill in Missouri was charged with exceeding maximum elevation levels. A penalty of $1,800 has been assessed but not yet paid.
- A Pennsylvania landfill discharged leachate in violation of its permit; a penalty of $800 was paid. The landfill made significant changes in its operating procedures to prevent recurrence; 11 inspections in 8 months found no further problems.
- In 1994, a Pennsylvania landfill paid a total of $40,000 in penalties for exceeding the lower explosive limit at 60 landfill gas probes during the latter part 1993 and the early part of 1994. With the installation of the landfill gas recovery system, there has been only one violation at one probe.

VIOLATION SUMMARY: OTHER BUSINESSES.

The following chart details the number of violations and penalties paid in our other business areas. In each case, we provide a description of our business, its scope, and a summary of the types of violations.

Violation Summary

Business	1991	1992	1993	1994
MEDICAL WASTE				
Violations	1	8	6	15
Fines	$ 25,000	$ 8,900	$ 12,334[1]	$ 92,013[1]
COLLECTION				
Violations	NA	7	7	16
Fines	NA	$ 5,767[2]	$15,826[2]	$ 5,996
RECYCLING				
Violations	0	0	0	0
Fines	0	0	0	0
OTHER[3]				
Violations	NA	2	1	0
Fines	NA	$ 8,350	$ 16,234	0

1. *See discussion of penalties in medical waste section.*
2. *See discussion of penalties in collection and transfer section; three incidents in 1992 and 1993 totaled $17,000.*
3. *Includes Organics, Tire Recycling and Portable Services.*

MEDICAL WASTE

As with solid waste disposal, the treatment and disposal of medical waste has become a highly regulated business, and is likely to become more so. Virtually every state in the country now has laws on the books controlling the collection, transportation and treatment of medical waste; six years ago, less than a dozen states regulated this waste. The Federal government regulates medical waste management through OSHA regulations covering health care workers.

The medical waste business, involving collection, transportation, treatment and ultimate disposal, has grown very quickly in a very short period of time. It has been marked by the emergence of a large number of small companies, followed by a period of consolidation. We are still in that consolidation phase. That growth has paralleled the growth of the regulatory environment, and, in some cases, we have seen compliance problems in an industry marked by such rapid change.

BFI's medical waste collection and disposal business is the largest in the world. In North America alone, we operate 27 regional treatment facilities, using both autoclave and incineration technologies. We serve more than 114,000 customers, including over 3,000 hospitals.

The results in this business this year are not as we would have hoped them to be. We have experienced some compliance problems in the medical waste business and we are working hard to rectify them. We take our goal of no violations very seriously.

One of the areas of regulatory concern in this business is mercury discharges. BFI has undertaken an aggressive customer education program to reduce the amount and number of sources of mercury in the medical waste stream.

1992 RESULTS

For calendar year 1992, there were eight citations at five medical waste facilities. One facility had four citations; certain employees at that facility have been disciplined and others have been terminated.

The violations involved incomplete manifests and tracking forms, an incorrectly marked vehicle, insufficient scrubber water pH level, and waste water discharge exceedences. All violations have been corrected.

1993 RESULTS

For calendar year 1993, there were six citations at five facilities: three collection facilities and two incinerators. The collection company violations involved failing to secure a medical waste transportation vehicle, improper markings and labeling, improper vehicle registration, no spill kit, and failing to submit a hazardous waste assessment document to state authorities.

At one incinerator, the alleged violations involved ash handling practices, unauthorized discharge of cooling water, as well as issues relating to the emergency contingency plan. All violations have been corrected. No penalty has been deter-

mined. At the other, in Ohio, two penalties totalling $8,434 for waste water permit discharge violations were paid.

1994 RESULTS

For calendar year 1994, there were 15 citations at five separate facilities; seven involved the Ohio incinerator. Five citations at a New York facility involved failure to file a timely quarterly report, failure to secure a transport truck and to properly label containers, improper signage and storage, and transportation of regulated waste without a permit. Four penalties totalling $36,250 were paid. All problems have been corrected; the manager of the facility has been dismissed.

An Illinois facility failed to obtain the necessary operating permits in a timely manner. The issue, a 1989 allegation, was resolved with the State authorities in 1994 and a civil penalty of $20,000 was paid.

A BFI collection company unknowingly transported radioactive medical waste from a customer to our autoclave in New York; sensors at the facility alerted staff who notified state authorities. A penalty of $5,000 was paid.

For 1993 and 1994, significant fines were paid for citations involving waste water discharge permit exceedences at one incineration facility in Ohio. We are working to upgrade and improve the operations of that facility so that there are no further exceedences. In 1994, $30,663 in penalties were paid.

As a result of the 1994 record, we have increased regional environmental oversight to improve the ability of each operating location to manage increased regulatory issues and to correct problems so as to prevent recurrence.

SOLID WASTE COLLECTION AND TRANSFER

These business areas have been traditionally less regulated than other parts of our business. Like any business, however, we have to meet certain operating and environmental, health and safety requirements. Health and safety have been and remain the biggest areas of concern, and the OSHA results discussed earlier document our continued improvement.

Regulatory oversight of this business will increase in the future. Through training and other systems, we are laying the foundation for a strong compliance program.

Our record for the past three years involves a small number of citations. For the years 1992 and 1993, those have involved such items as incomplete manifests, incorrect truck signage, no tarps on trucks, not carrying correct documentation, permit discharge violations, and a parking lot oil spill.

For those two years, we paid a total of $21,593 in penalties. Two incidents, an oil spill in a truck staging area and the inadvertent pickup of unauthorized waste accounted for $9,000 of that total. We also paid the Commonwealth of Pennsylvania $8,000 to settle a complaint that involved several housekeeping violations, including extended storage of waste.

For calendar year 1994, there were 16 citations requiring the payment of $5,996 in penalties. The incidents involved such items as improper manifest, incorrect signage, no tarps, leaking loads, improper route, not carrying correct documentation, and a leaking hydraulic line. A 1993 stormwater runoff violation was settled in 1994; a fine of $2,000 was paid.

All problems have been corrected.

RECYCLING

With our partnership with Otto Waste Services in Germany and our recent acquisition of Attwoods plc (a U.K. company with extensive operations on the East Coast of the United States), BFI is now the largest collector and processor of recyclable material in the world.

Recycling is the fastest growing part of our business, and we see no slowdown in the near term. It's what our customers want. In North America, we now provide recycling services to some five million residential and commercial customers. We have expanded the number of recycling centers, "Recycleries," to 104 from 67 in our last report.

BFI has centralized the marketing of the materials we collect and process; that makes us unique in the industry. It allows us to efficiently access markets around the world and

guarantees we sell every ton of recycled material coming through our system. In 1994, we processed and sold almost 2.5 million tons of recyclable material.

As recycling becomes part of the mainstream economy, technological improvements and operational efficiencies will continue to make recycling an attractive and permanent part of how we manage waste in this country. While it is impossible to predict just how much of our waste stream can be recycled effectively, we at BFI do not believe we have reached the limit yet.

In calendar years 1992, 1993, and 1994, there were no violations.

The other measure of performance at our recycling facilities, as well as in our collection and transfer businesses, is OSHA compliance. As discussed earlier, the trend at BFI for lost time due to injuries is down.

The widespread collection and processing of recyclables is a relatively new industry, requiring a large degree of manual labor; in certain aspects of it we have seen higher injury rates than in our other business areas. We are working with the Federal government and with our facility managers to find ways of eliminating those injuries.

The EHS goals related to worker safety and accident reduction will have a significant impact on these businesses in the future.

OTHER BUSINESSES

BFI Organics BFI is in the business of collection, processing and disposal of a wide range of organic wastes. They include yard wastes, food and food processing wastes, certain agricultural wastes, ashes and sludges from sewage treatment plants and industrial facilities such as paper mills, and wood processing wastes.

Like the recycling business, and we believe composting is recycling, the development of stable, sustainable markets is crucial to the long-term success of the organic waste business. BFI believes a wide variety of uses for organic waste-derived products, from decorative garden cover, to soil improvements to interim daily cover at a landfill are all appropriate and acceptable recycling uses of processed organic wastes.

This business has grown significantly in the last two years, and we expect that high rate to continue. Next to paper, yard waste and other organics make up the largest part of the municipal waste stream; with 25 states now banning yard waste from landfills and 26 states crediting organic material re-use toward recycling mandates or initiatives, we believe that organic waste recycling/composting will play an increasingly larger role in the waste business.

BFI uses a wide range of processes to handle these wastes, including land application and composting. For certain wood wastes, we process and bag wood chips and other wastes for retail sale through our Pioneer Southern division. Composting, however, remains the primary means of processing.

BFI operates over 30 organic processing facilities; of those, over two-thirds are composting facilities. A number of them are located at BFI landfills. In 1994, BFI processed approximately one million tons of organic wastes at its various facilities. Last year, BFI sold some 15 million bags of various organic products, primarily wood chips and compost, in the retail market at home improvement centers and garden centers.

As with other aspects of the waste business, organic waste is coming under increasing regulatory scrutiny and control. In 1993, the EPA issued definitive regulations on the classification and usage of biosolids (sewage sludge). Also, most states have developed regulations controlling the land application of certain wastes and have developed standards for compost used on various soils (gardens, roadsides, etc).

Except for some concerns about odor, BFI's organic waste facilities have operated without any problems in 1992 and 1993. In 1994, a composting facility in California was cited by the State for not adequately controlling the release of dust and dirt into the air. The facility has been closed.

Special Services BFI provides street and parking lot sweeping, portable toilet and septage services at a limited number of districts around the country. A significant review of our compliance practices in this business took place in 1992 and 1993; training was also increased for employees in this business.

In 1992 and 1993, there were three violations at three facilities for which a total of $24,584 in penalties was paid. Violations involved permits for septage transfer, late submission of sampling data and POTW discharge exceedences.

There have been no other problems in this business.

AMERICAN REF-FUEL

American Ref-Fuel Company (ARC) is a joint venture between BFI and Air Products and Chemicals, Inc. of Allentown, Pennsylvania, formed to develop and operate waste-to-energy facilities using the Deutsche Babcock Anlagen mass-burn technology. The company now operates four plants in Hempstead, New York; Newark, New Jersey; Preston, Connecticut; and Niagara Falls, New York. The Niagara Falls facility is a refuse-derived fuel plant purchased in 1993. ARC has received permits and is currently retrofitting the Niagara plant to use its mass-burn technology and is installing new air pollution control equipment.

ARC has instituted management systems at all of its plants to promote superior safety and environmental performance; they include an incentive bonus system in which one-half of each employee's target bonus is based on meeting defined EHS performance objectives. The result has been reductions in EHS exceedences.

In 1994, the U.S. Occupational Safety and Health Administration (OSHA) awarded ARC's Hempstead, NY, facility its highest level of recognition for safety and health performance by nominating the facility for participation in its Star Voluntary Protection Program. This was the only waste-to-energy plant, and one of only 200 facilities nationwide, out of a possible universe of 100,000 facilities, approved for this program. The company is applying to OSHA for Star facility status at its Connecticut and New Jersey plants.

In New Jersey, under State permit conditions, each self-monitored emission or effluent exceedence may be treated as a violation subject to administrative orders and automatic fines, no matter what the cause.

As discussed in the initial EHS Report, in 1991 ARC received Administrative Orders from New Jersey alleging emissions limit exceedences for sulfur dioxide, mercury, nitrogen oxides and opacity (smoke). On January 11, 1994, ARC executed an Administrative Consent Order with the State. It included provisions for additional testing and for investigating other means to further reduce mercury emissions. The order also provided for payment of $212,600 in penalties for exceedences through September 30, 1993; it also provided for stipulated penalties for any future exceedences as recorded by the plant's continuous emission monitoring system. ARC has paid stipulated penalties of $32,400 through September 30, 1994.

Throughout all this, ARC has worked closely with Essex County to control the content of the waste coming to the plant to reduce certain emissions and to improve emission reductions techniques. We have reduced the number of exceedences by 80% since 1991. In fiscal year 1994 (through September 30, 1994), the plant's compliance rate was 99.99%.

Also in New Jersey, in 1992, the company entered into an Administrative Consent Order for stormwater discharge permit exceedences; ARC paid a penalty of $333,000 and agreed to construct modifications to its system. The violations were caused primarily by leaks from waste trucks traveling through the facility. ARC has instituted Best

Management Practices measures in the interim and has submitted a plan to capture and recycle stormwater; the plan has been accepted by the State.

In March 1993, the ARC New Jersey facility received a proposed Administrative Order and fine with regard to certain interior housekeeping concerns in the ash handling area. In November 1994, the company agreed to settle the matter and entered in to a Stipulation of Settlement; the company believes that no violations took place.

In 1994, at the Connecticut facility, the company entered into a Stipulated Judgment with the State as a result of an employee improperly adjusting a continuous emission monitor during annual accuracy testing. ARC cooperated with the state's investigation of the matter, disciplined the employee, and instituted new oversight procedures. ARC believes the employee's action did not represent a permit violation. The company paid a $20,000 penalty.

In May of 1994, the U.S. Supreme Court determined that ash from incinerators that burn municipal solid waste must be tested to determine whether or not it must be managed as a hazardous waste. EPA has issued interim protocols outlining testing procedures for ash and how it is to be managed, depending on testing results.

ARC has routinely tested ash from its facilities as a standard operational practice; no ash generated at ARC facilities qualifies as a hazardous waste.

In accordance with the Clean Air Amendments of 1990, the U.S. EPA has proposed new emission standards for new and existing waste-to-energy plants. All ARC facilities are equipped with advanced combustion controls, scrubbers, and high-efficiency electrostatic precipitators or baghouses; that equipment is being installed at the Niagara Falls plant as part of its retrofitting. To meet these new standards, as proposed, ARC will have to install additional nitrogen oxide controls at its Hempstead and Preston plants, and additional mercury controls at Preston.

CLOSED FACILITIES AND REMEDIAL ACTIVITIES

BFI manages its closed solid waste landfills, those facilities involved in some manner with the Federal Superfund program, and sites undergoing remedial activity and monitoring through its Department of Environmental Remediation and Closure Activities (ERCA). The company also manages certain closed facilities from its discontinued hazardous waste business in this department.

Superfund (CERCLA) As with almost every other major company is this country, BFI is involved with Federal and State Superfund programs. Virtually all of that involvement stems from BFI's transportation of waste to disposal facilities. BFI's ongoing policy is to work cooperatively with the government and other potentially responsible parties (PRP's) to reach settlements as quickly as possible so that remedial action, if necessary, can be implemented in a timely manner. BFI's policy also requires that the company work in an open and cooperative manner with local citizens and community groups that may be involved in a particular site.

Involvement in Superfund is an ongoing process; the numbers presented here represent our cumulative totals for our Superfund program. As of the end of fiscal 1994 (September 30, 1994), BFI had been named as a PRP (potentially responsible party) at 84 sites listed on the National Priorities List (NPL). BFI was the owner or operator at four of these sites.

The company has negotiated full settlements at 61 of those sites and partial settlements at 10 of the sites. At the remaining 13 sites, the extent of BFI's involvement has yet to be determined.

The company has also been asked to provide the government, or other PRP's, with information with regard to its potential involvement at 64 additional sites on the NPL. BFI has determined that it is not a PRP at 35 of those sites; our status at the remaining 29 sites has yet to be determined.

BFI has been diligent in setting aside the accruals necessary to discharge its potential liabilities under Superfund. We review the status of our involvement on a regular basis and make adjustments and accruals accordingly. The company has accrued almost $300 million to cover potential corrective action costs at closed solid waste landfills, closed hazardous waste facilities, and at Superfund sites where BFI is a responsible party. This figure does not include BFI's accruals to cover closure and post-closure costs of its landfills under the Subtitle D regulations.

Closed Facilities As of the end of our 1994 fiscal year, BFI is managing 64 closed facilities, which are principally closed solid waste landfills. In the past, management of these facilities has been the responsibility of local districts and our regional offices. In 1992, BFI instituted a program to centralize the control and oversight of all closed facilities in the ERCA department. That process is now complete.

The company manages the four closed hazardous waste disposal sites that were part of CECOS, BFI's hazardous waste subsidiary which ceased operations in early 1990. It also manages certain treatment and transfer operations that were also part of CECOS. Formal closure plans have been filed for all four sites; three have been approved; one is under final review by State authorities.

CHAPTER 3

OUR COMMITMENT IN ACTION

Every company in America has to be aware of the environment as it goes about its business these days. At BFI, we are particularly sensitive to such considerations because protecting the environment is so much a part of how we must conduct our operations. Environmental compliance is our number one priority; it's what our customers expect in all of our business operations. If we're not in substantial compliance day in and day out, we won't stay in business.

EHS Goals

At BFI, we are committed to continuous improvement, whether it's changing our operations to make them more efficient, or working toward our goal of no health, safety or environmental violations. In 1994, the Council on Environmental, Health and Safety Excellence adopted a number of company-wide EHS goals that we believe define a new level of excellence for the company. They represent significant challenges for our managers; they are achievable and they are measurable.

The goals are not designed to replace our ongoing commitment to EHS excellence as described in Chapter I, but rather to improve our performance in quantifiable ways over discreet periods of time. The program anticipates setting new goals and standards in the future, when these initial goals are met. We will update our progress in achieving these goals in subsequent reports. These goals are part of our regional and district manager accountability compensation system, described in Chapter I.

Our current goals are:

Compliance (EHS Management):

BFI will institute a formal EHS self-inspection procedure at all facilities by September 30, 1995; inspections will be conducted annually. The goal is to reduce the number of "findings" by 10% each year, with a long-term goal of zero defects.

Accident and Injury Prevention:

BFI is committed to the safety of our workers and the public in the communities in which we operate through aggressive reduction of accidents and injuries on the job. To accomplish that:

- By September 30, 1998, we will reduce our OSHA recordable employee injury rate by 30% from the base of Fiscal Year 1994.
- By September 30, 1998, we will reduce our vehicle accident rate by 30% from the base of Fiscal Year 1994.

Recycling:

Creating markets for recycled materials closes the loop on recycling. BFI's goal is for 100% of all centrally-purchased paper products to contain post-consumer fiber. To achieve that, we have set this goal:

- All centrally purchased paper will contain 30% or more post-consumer fiber by December 31, 1997. This is one year ahead of the goal set by the Federal government.

Community Involvement:

Our business directly affects our employees, our customers, the regulators, government officials, investors and the communities we serve. These groups and many other organizations are our stakeholders. We are committed to keeping our stakeholders informed of our activities, giving them a forum to provide guidance and suggestions for improvements. We will hold two stakeholder meetings in each BFI Region by the end of FY '95, and each year thereafter.

Recycling, Reuse and Waste Prevention

BFI is committed to recycling, both as part of our core business, as well as how we conduct ourselves as a major U.S. corporation. We are committed to developing markets for recycled materials to ensure that recycling becomes and remains fully integrated into the mainstream of our industrial society.

We are managing the purchases of materials we use in the conduct of our business to give preference to recycled or recyclable materials. For example, all bins provided by BFI in its curbside recycling programs have a minimum post-consumer HDPE plastic content of 25%. The feedstock comes primarily from milk jugs and other plastics collected in our programs.

We are an active member of the Buy Recycled Business Alliance and the National Office Paper Recycling program, two nationwide organizations of private companies and public organizations committed to increasing the use of materials with recycled content and increasing corporate programs that recycle valuable materials for reuse. BFI is also a Charter Member of EPA's Waste-Wise Program.

BFI was the only major waste services company to support the President's Executive Order establishing minimum recycled content requirements for all paper purchased by the Federal Government.

BFI has had active, though largely unmeasured, recycling and waste reduction programs in most of our North American districts for the last three years. In 1994, under the direction of the Council for Environment, Health and Safety Excellence, BFI adopted a comprehensive program to measure the use and disposition of those materials most widely used in the conduct of our business: oils, solvents, batteries, and anti-freeze.

We now have data for the first six months of this program. They provide us with a baseline against which we will measure improvement as we work to recycle or reuse these materials. The following chart shows the average amount/volume of each material that was recycled on a monthly basis for the last half of 1994; it also shows the percent of the total amount of these materials that was recycled. These numbers should be viewed as approximate averages that indicate trends.

Recycling Monthly Averages

	Recycled		Disposed		Fuel	
Material	Vol.	%	Vol.	%	Vol.	%
Oil	68,924	84.7	10,162	12.4	2,287	3.0
Antifreeze	2,726	78.4	751	21.6	na	
Filters	13,899	59.4	9,528	40.6	na	
Batteries	795	93.8	52	6.2	na	
Solvents	3,750	100	0	0	na	

Conservation of Resources

ENERGY MANAGEMENT

BFI has undertaken a number of initiatives in the past several years to reduce the consumption of energy. This not only conserves non-renewable resources, but it also makes BFI a more efficient business.

The Green Lights program is a U.S. EPA-sponsored program in which participating companies agree to survey all facilities and, where applicable and feasible, install energy-efficient lighting systems. We have adopted the Green Lights program at BFI, and we have reduced our lighting energy usage at our corporate headquarters in Houston by over 30%.

In addition, the Green Lights survey is now required as part of the Environmental, Health and Safety goals for our regional and district managers. By September 30, 1995, one third of all our facilities in North America will have completed the Green Lights survey and taken appropriate action. We have established a corporate Energy Management Department to provide technical assistance to our managers in the field, selected two national contractors to provide retrofits, and designated energy management coordinators in all of our regions.

BFI is actively involved in the development and use of alternative fuel vehicles for use in our waste collection and recycling operations. By the end of 1995, we will have 12 liquid natural gas (LNG) trucks in a major testing program in Atlanta, Georgia. Previous testing of compressed natural gas vehicles shows lower emissions and reduced operating noise levels.

LANDFILL GAS RECOVERY

The U.S. EPA has announced its intention to regulate the emissions of certain gases from solid waste landfills under the Clean Air Act. Landfill gas is generated by the natural decomposition of municipal refuse. Gas migration controls are already required under the provisions of the Subtitle D regulations. The primary purpose of migration controls is to prevent fire and explosion hazards. The new rules under the Clean Air Act will require large landfills to collect, destroy or reuse landfill gas. The primary purpose is to reduce emissions of methane, a potential contributor to global warming. The regulations are expected to become final this year (1995).

BFI has had programs in place to capture and dispose of landfill gases for many years. Our goal, where feasible, is to put these gases to some kind of beneficial use. These efforts are managed by Browning-Ferris Gas Services, Inc. (BFGSI), a separate department in our corporate headquarters. Presently, we have methane gas collection systems at 55 landfills; another 39 projects are under construction or in the design phase.

Eight landfills in North America presently recover gas for energy generation, either produced right at the landfill, or collected and piped to a generation facility; another 19 are in construction, being designed, or have firm energy sales contracts for the future. BFI estimates the current operations produce the energy equivalent of almost 300,000 barrels of oil a year; when the facilities planned or under construction come on line, that savings will exceed 2,000,000 barrels of oil a year.

In some cases, energy is produced for use at the BFI facility; in most cases, however, we have contracts with electric utilities to sell them the excess power produced. We have 20 such contracts now in place in anticipation of future energy production.

Where the volume or quality of gas generated by a landfill is insufficient for beneficial use, it is flared, or burned off in conformance with current State and Federal permits. BFI uses systems that have destruction efficiencies in excess of the Federal standard of 98% for both methane and non-methane organic components.

CHAPTER 4

OTHER INITIATIVES

The Pacesetter Award for Environmental Excellence

In 1993, BFI instituted this new, company-wide award to recognize those operating locations in North America for outstanding achievement in waste minimization/pollution prevention and in community involvement. The latest awards were made to two districts at our Annual Worldwide District Managers Meeting in Houston in the Fall of 1994.

The Award for waste minimization/pollution prevention went to our Lorain County Landfill district in Ohio. In cooperation with the State EPA and the county resource recovery facility, the district developed a landfill liner design that utilizes ground glass cullet in place of sand for drainage layers.

The Award for community involvement/community outreach went to our landfill district at the Charlotte Motor Speedway. This district forged a strong community partnership organization with surrounding subdivisions to address issues arising from the expansion of this landfill. The result was community approval of the expansion.

Starting in 1995, the Pacesetter Award program is being expanded to include BFI's international operations.

MOBIUS: BFI's Environmental Curriculum

Eight years ago, well before it became popular, BFI developed a solid waste curriculum for elementary school students. Entitled "Understanding the Waste Cycle," MOBIUS is a complete program for elementary grades four through six. It was developed and tested by teachers before being available to school districts.

MOBIUS takes its name from the German mathematician, Augustus F. Mobius, who described the concept of the continuous loop with only one side, the "mobius strip." The MOBIUS curriculum is designed to teach children about all aspects of the solid waste cycle, from generation, reduction, recycling and disposal.

Since the inception of the program, more than 20,000 copies of the curriculum have been provided to educators and school districts throughout North America, in 45 states and Canada. The MOBIUS program has been chosen for use by the Peace Corps for use in its environmental teaching programs in some 87 countries.

In 1994, The MOBIUS Program was recognized by SWANA, the Solid Waste Association of North America, the organization of solid waste professionals who work for local and state government; BFI received SWANA's Excellence in Solid Waste Education Award. Our entry was the only one to achieve a perfect score from all judges.

Also in 1994, The National Environmental Awards Council awarded the MOBIUS program a Certificate of Environmental Achievement Award.

The MOBIUS curriculum is revised and updated regularly.

Wildlife Habitat Council

BFI is a charter member of the Wildlife Habitat Council (WHC), a non-profit organization of private companies dedicated to using their lands to preserve and enhance wildlife. WHC now has over 125 members worldwide.

BFI has certified wildlife habitats at four landfills, with 10 more planned. These habitats are located in every BFI region, in the following states (and Canada): California, Illinois, Minnesota, North Carolina, Ohio, Tennessee, Texas, Virginia, Louisiana, Massachusetts, Maryland, Pennsylvania and Quebec.

These dedicated habitats provide educational and recreational opportunities for communities, civic groups and schools in the surrounding area. BFI's policy is to involve local communities in the development and on-going use of these wildlife resources.

Currently, BFI's Senior Vice-President for Processing and Disposal serves on the Board of the WHC.

Community Involvement

BFI puts a great deal of emphasis on local community involvement by our managers; that is one reason why our Environmental Pacesetter Award recognizes achievement in that area. We believe at BFI that community understanding of our business and operations are key elements of our success; we operate, in essence, with the approval and tolerance of the community.

All our local managers are required to develop community involvement plans as part of their overall business strategies that are reviewed by senior management each year. In addition, we are asking each of our regions to organize and convene meetings of their "stakeholders" on a regular basis to discuss the company's operations and to get reactions from various community interest groups. Two such meetings were held last year. Twelve new meetings will be held in 1995.

BFI's Community Partnership Program is a voluntary landfill siting initiative first introduced in New York State. The basis of the program is to involve the community ahead of site selection, using a community referendum vote to approve continuation of the project.

In La Paz County, Arizona, BFI has developed a partnership with the local government to upgrade and expand the local solid waste landfill and to jointly pursue marketing opportunities for the new capacity. This project, with full community approval, provides BFI with landfill capacity to serve the important Southwest market, preserves local capacity for a remote Arizona community and provides a source of revenue for the local government.

Organizations

As part of its commitment to be involved in the critical issues facing this industry and the environment, BFI and its executives are active members of a number of national and international organizations. They include the National Wildlife Federation's Corporate Conservation Council, the Business Council for Sustainable Development, The Global Environmental Management Initiative (GEMI), and the National Recycling Coalition. BFI is also a member of the President's Council on Sustainable Development.

It is the company's policy to:

- Comply with all applicable environmental, health and safety laws and regulations, minimize adverse environmental health or safety effects from the company's business activities and take positive action toward achieving a cleaner global environment;
- Adopt administrative and operational standards where protective laws do not exist or where the company believes existing laws or regulations may not be fully protective of health and the environment;
- Cease to operate a facility or process, temporarily or permanently, if necessary, to conform to this policy in a manner consistent with the highest industry standards or otherwise to control environmental, health or safety risks;
- Work constructively with host communities and appropriate regulatory agencies in the implementation of this policy.

To carry out this policy, the company will:

- Conduct appropriate training and audit programs to ensure that all employees are equipped with necessary information relevant to their duties within the company to implement this full policy;
- Proactively identify and control hazards to health, safety and the environment resulting from its operations;
- Conduct appropriate information sharing programs to communicate the significant operating aspects of the company's facilities with employees, the surrounding communities and appropriate regulatory agencies;
- Utilize cross-company quality committees to identify and develop, where appropriate, additional company environmental, health and safety policies which are more protective than existing laws and regulations;
- Encourage those affiliations where the company would not be the majority owner to adopt policies comparable to this Environmental, Health and Safety Policy;
- Require each business segment to develop specific plans, programs and procedures appropriate to that segment to ensure effective implementation of this policy;
- Work constructively with trade associations, elected officials, governmental agencies and others to develop equitable and effective laws and regulations to protect human health and the environment;
- Conduct reviews of new facility designs and construction specifications to assure that appropriate environmental, health and safety controls are in place.

Every employee is expected to adhere to the spirit as well as to the letter of this policy. Should there be any question concerning the lawfulness or protectiveness of any activity, then the employee should consult his/her immediate supervisor, any higher level of management or the General Counsel's office of the Corporate Legal Department. Any employee who, within the scope of his or her duties, engages in, authorizes or fails to take reasonable steps to prevent violations of environmental, health and safety laws, regulations, permits or orders applicable to any of the company's operations or facilities, shall be subject to appropriate disciplinary action (which may include censure, reduction in pay, suspension or discharge). The company will not take disciplinary action against an individual on the basis that he/she exercised his or her responsibilities under this policy by consulting management and or the office of the General Counsel.

Managers have a special obligation to keep fully informed about health, safety and environmental requirements applicable to their operations and to take all reasonable and appropriate steps to ensure that the activities of their employees comply with this policy. Managers are further obliged to consult with legal counsel and to advise their supervisors promptly should any adverse situation concerning this policy come to their attention.

Adopted April 1991

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Appendix C12

TESTIMONY BY JACK R. MICHAEL, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS BEFORE THE LOS ANGELES COUNTY REGIONAL PLANNING COMMISSION (AUGUST 9, 1995) AND QUARTERLY STATUS REPORT ON SOLID WASTE MANAGEMENT ACTION PLAN (AUGUST 1, 1995)

TESTIMONY
BY
JACK R. MICHAEL
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BEFORE THE
LOS ANGELES COUNTY REGIONAL PLANNING COMMISSION
REGARDING
CHIQUITA CANYON LANDFILL EXPANSION
PROJECT 89081-(5)
AUGUST 9, 1995

GOOD MORNING MR. CHAIRMAN AND COMMISSION MEMBERS, I AM JACK R. MICHAEL, SPECIAL ASSISTANT FOR WASTE MANAGEMENT PROGRAMS, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS, SPEAKING TODAY ON BEHALF OF MR. HARRY W. STONE, LOS ANGELES COUNTY DIRECTOR OF PUBLIC WORKS. THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE YOU THIS MORNING TO AGAIN DISCUSS SOLID WASTE MANAGEMENT ISSUES IN LOS ANGELES COUNTY.

OVER THE PAST FEW YEARS, I HAVE PROVIDED TESTIMONY TO THE COMMISSION, ON SEVERAL OCCASIONS, REGARDING THIS ISSUE AND WILL, THEREFORE, SUMMARIZE THE BACKGROUND INFORMATION. HOWEVER, FOR THE RECORD IN THIS PARTICULAR CASE, I CONSIDER IT IMPORTANT TO TOUCH ON ALL ASPECTS OF THE SOLID WASTE MANAGEMENT ISSUE IN LOS ANGELES COUNTY. TODAY I WILL SUMMARIZE THE ROLE AND RESPONSIBILITIES OF THE DEPARTMENT OF PUBLIC WORKS WITH REGARD TO SOLID WASTE MANAGEMENT AND THE WASTE MANAGEMENT SYSTEM IN THE COUNTY; A BRIEF OVERVIEW OF THE COUNTY SOLID WASTE MANAGEMENT PLANNING PROCESS; THE STATUS OF SOLID WASTE MANAGEMENT IN THE COUNTY TODAY; EXPLAIN THE NEED FOR ADDITIONAL IN-COUNTY DISPOSAL CAPACITY IN THE SHORT AND LONG TERM;

AND DEMONSTRATE THE IMPORTANCE OF EXPANDING THE CHIQUITA CANYON LANDFILL TO ASSIST IN MEETING THIS NEED.

THE DEPARTMENT OF PUBLIC WORKS IS RESPONSIBLE FOR THE PREPARATION, IMPLEMENTATION, AND ADMINISTRATION OF THE COUNTY SOLID WASTE MANAGEMENT PLAN (COSWMP); THE NEW INTEGRATED WASTE MANAGEMENT PLANNING PROCESS MANDATED BY STATE LAW AS OF JANUARY 1, 1990; AND IS DESIGNATED, BY THE COUNTY CODE, AS THE LEAD COUNTY AGENCY RESPONSIBLE FOR ADVISING THE BOARD OF SUPERVISORS ON WASTE MANAGEMENT ISSUES. IN THIS LATTER ROLE, AND WITHIN THE FRAMEWORK OF THE COSWMP, THE DEPARTMENT DEVELOPED AND IS RESPONSIBLE FOR THE COUNTY'S IMPLEMENTATION OF THE COUNTY SOLID WASTE MANAGEMENT ACTION PLAN ADOPTED BY THE BOARD OF SUPERVISORS IN 1988.

THE DEPARTMENT ALSO ADMINISTERS, ON BEHALF OF THE COUNTY, THE SEVERAL JOINT POWERS AGREEMENTS BETWEEN THE COUNTY AND THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY WHICH PROVIDES FOR THE COUNTY PUBLIC LANDFILL SYSTEM. THE COUNTY AND THE SANITATION DISTRICTS, IN A PARTNERSHIP OF NEARLY 40 YEARS, HAVE PROVIDED THE RESIDENTS OF LOS ANGELES COUNTY WITH A RELIABLE, COST-EFFECTIVE PUBLIC SYSTEM OF SOLID WASTE DISPOSAL. IN THE LATE 50'S, WHEN THE BOARD OF SUPERVISORS BANNED THE BACKYARD INCINERATORS BECAUSE OF

AIR QUALITY CONSIDERATIONS, THE BOARD ALSO RECOGNIZED THE NECESSITY OF PROVIDING RESIDENTS WITH A REASONABLY PRICED MEANS OF DISPOSING THEIR GARBAGE. THE AGREEMENTS WERE, THEREFORE, ENTERED INTO WHEREBY THE COUNTY PURCHASED PROPERTY FOR LANDFILLS, THE SANITATION DISTRICTS OPERATE THE FACILITIES, AND UPON COMPLETION, THE COUNTY UTILIZES THE PROPERTY FOR PARK AND RECREATION PURPOSES. THE "COUNTY SYSTEM" HAS PROVIDED THE RESIDENTS WITH A COMPETITIVE BALANCE TO THE PRIVATELY OPERATED FACILITIES, RESULTING IN REASONABLY PRICED DISPOSAL RATES, AND PROVIDED ENOUGH SURPLUS OPERATING REVENUES TO ENABLE THE "SYSTEM" TO MEET OR EXCEED ALL REGULATORY REQUIREMENTS, PROVIDE FOR EXPANSION OF SITES AND OTHER FACILITIES, AND FUND NECESSARY STUDIES ON MEETING THE COUNTY'S SOLID WASTE MANAGEMENT NEEDS.

THE DEPARTMENT OF PUBLIC WORKS ALSO ADMINISTERS SIX GARBAGE DISPOSAL DISTRICTS WHICH WERE ESTABLISHED MANY YEARS AGO IN CERTAIN UNINCORPORATED AREAS TO ASSURE THAT GARBAGE WAS COLLECTED TO PROTECT PUBLIC HEALTH.

WITH RESPECT TO SOLID WASTE PLANNING, PRIOR TO JANUARY 1990, EACH COUNTY WAS REQUIRED TO PREPARE AND ADOPT A COUNTY SOLID WASTE MANAGEMENT PLAN (COSWMP), SUBJECT TO THE APPROVAL OF A MAJORITY OF THE INCORPORATED CITIES WITH A MAJORITY OF THE INCORPORATED

POPULATION, AND THE CALIFORNIA WASTE BOARD. IN 1989, THE INTEGRATED WASTE MANAGEMENT ACT, AB 939, WAS ENACTED WHICH RECAST SOLID WASTE POLICY IN THE STATE AND REQUIRES A NEW PLANNING PROCESS. IN ADDITION, THE ACT REQUIRES EACH CITY AND COUNTY TO REDUCE ITS DISPOSED WASTE STREAM 25% BY 1995 AND 50% BY THE YEAR 2000 THROUGH SOURCE REDUCTION, RECYCLING, AND COMPOSTING. THE ACT REQUIRES EACH CITY AND COUNTY TO PREPARE A SOURCE REDUCTION AND RECYCLING ELEMENT WHICH SETS FORTH HOW THIS WASTE REDUCTION WILL BE ACCOMPLISHED. THE COUNTY AND CITIES ARE WELL INTO IMPLEMENTATION OF THEIR DIVERSION PROGRAMS. IN ADDITION TO OTHER PLANNING ELEMENTS TO BE PREPARED BY EACH COUNTY AND CITY, THE ACT REQUIRES EACH COUNTY TO PREPARE A COUNTYWIDE SITING ELEMENT AND COUNTYWIDE INTEGRATED WASTE MANAGEMENT PLAN THAT INCORPORATES ALL THE ELEMENTS. THE COUNTYWIDE SITING ELEMENT IS TO ADDRESS THE WASTE DISPOSAL NEEDS OF THE COUNTY AND ALL THE CITIES WITHIN THE COUNTY FOR AT LEAST A 15-YEAR PERIOD. THE DEPARTMENT OF PUBLIC WORKS IS COMPLETING AN ADMINISTRATIVE DRAFT OF THE LOS ANGELES COUNTYWIDE SITING ELEMENT PRIOR TO ITS BEING RELEASED FOR PUBLIC REVIEW AND COMMENT, PREPARATION OF A FINAL DRAFT, AND APPROVAL BY A MAJORITY OF THE CITIES WITH A MAJORITY OF THE INCORPORATED POPULATION, THE BOARD OF SUPERVISORS, AND THE CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD. UNDER STATE LAW, PENDING STATE APPROVAL OF THE NEW COUNTYWIDE PLANS, THE LAST APPROVED COSWMP IS IN EFFECT.

WITH RESPECT TO THE COUNTY SOLID WASTE MANAGEMENT ACTION PLAN, IT WAS ADOPTED BY THE BOARD OF SUPERVISORS, THE SANITATION DISTRICTS BOARDS, THE CITY OF LOS ANGELES BOARD OF PUBLIC WORKS, AND GENERALLY ENDORSED BY THE LOS ANGELES CITY COUNCIL. IN 1987, THE BOARD OF SUPERVISORS, CONCERNED ABOUT THE RAPID DEPLETION OF WASTE DISPOSAL CAPACITY, INSTRUCTED THE DEPARTMENT OF PUBLIC WORKS, IN COOPERATION WITH THE SANITATION DISTRICTS AND THE CITY OF LOS ANGELES, TO THOROUGHLY ANALYZE THE STATUS OF SOLID WASTE MANAGEMENT IN THE COUNTY AND PROVIDE THE BOARD WITH THE FULL RANGE OF OPTIONS AVAILABLE TO ADDRESS AN IMPENDING SOLID WASTE CRISIS. THE ACTION PLAN WAS DEVELOPED AS AN ADJUNCT TO THIS ANALYSIS TO PROVIDE THE BOARD WITH A RECOMMENDED COURSE OF ACTION TO ADDRESS THE GARBAGE CRISIS. THE ACTION PLAN IS WITHIN THE FRAMEWORK OF THE COSWMP, IS THE BASIS FOR THE DRAFT COUNTYWIDE SITING ELEMENT WHICH I MENTIONED A MOMENT AGO, AND IS BASED, IN PART, ON THE SUCCESS OF THE REGIONAL COUNTY LANDFILL SYSTEM, OVER THE LAST NEARLY 40 YEARS, IN PROVIDING A COST-EFFECTIVE WASTE MANAGEMENT DISPOSAL SYSTEM FOR THE COUNTY'S RESIDENTS AND BUSINESSES, THROUGH A BALANCE BETWEEN THE PUBLIC AND PRIVATE SECTOR. THE WASTE MANAGEMENT SYSTEM IN THIS COUNTY, AS YOU HAVE LEARNED, IS PROBABLY ONE OF THE MOST COMPLEX IN THE COUNTRY BECAUSE OF THE MANY CITIES AND THE PUBLIC/PRIVATE MARKET-DRIVEN SYSTEM THAT EXISTS. CITIES, FOR THE MOST PART, PROVIDE FOR RESIDENTIAL WASTE COLLECTION WITH THEIR OWN FORCES, OR THROUGH

CONTRACTS OR FRANCHISES WITH PRIVATE HAULERS. COLLECTION OF COMMERCIAL WASTE IS USUALLY A MARKET-DRIVEN ARRANGEMENT BETWEEN PRIVATE HAULERS AND THE INDIVIDUAL BUSINESS. IN THE UNINCORPORATED AREA, WASTE COLLECTION IS PROVIDED ON A MARKET-DRIVEN BASIS, EXCEPT FOR THE GARBAGE DISPOSAL DISTRICTS I MENTIONED EARLIER, WHERE COLLECTION IS PROVIDED BY PRIVATE HAULERS UNDER CONTRACT. FOR THE MOST PART, THE HAULERS DETERMINE WHERE THEY WILL TAKE THE WASTE FOR DISPOSAL. EACH DAY, IN EXCESS OF 250 COLLECTION COMPANIES DETERMINE WHERE THEY WILL TAKE THE WASTE COLLECTED IN THEIR THOUSANDS OF TRUCKS WITH AVAILABILITY OF FACILITIES AND ECONOMICS BEING THE DETERMINING FACTORS.

THE ACTION PLAN CONTAINS SEVERAL KEY POLICIES, ALL OF WHICH ARE OF EQUAL IMPORTANCE:

- IMPLEMENTATION OF WASTE DIVERSION PROGRAMS COUNTYWIDE
- EXPANSION OF EXISTING LANDFILLS TO THE MAXIMUM EXTENT ENVIRONMENTALLY AND TECHNICALLY FEASIBLE
- A BALANCE BETWEEN PUBLIC AND PRIVATE WASTE MANAGEMENT OPERATIONS
- SECURE 50 YEARS OF NEW DISPOSAL CAPACITY IN PUBLIC CONTROL, PERMITTED FOR LANDFILL USE AND PROTECTED FROM LAND USE ENCROACHMENT; THE OPERATION OF WHICH CAN BE PRIVATE, PUBLIC, OR PUBLIC/PRIVATE JOINT VENTURE AS NECESSARY TO MAINTAIN A PUBLIC/PRIVATE BALANCE.

AS I INDICATED EARLIER, THE ACTION PLAN IS THE BASIS FOR THE ADMINISTRATIVE DRAFT COUNTYWIDE SITING ELEMENT CURRENTLY UNDER PREPARATION, THEREFORE, THESE KEY POLICIES ARE EMBODIED IN THE SITING ELEMENT. IN PREPARING THE ACTION PLAN, WE ALSO EVALUATED 101 POTENTIAL SITES THROUGHOUT THE METROPOLITAN LOS ANGELES COUNTY AREA FOR NEW LANDFILLS, AND UTILIZING AN EXTENSIVE RATING CRITERIA, DETERMINED THE SIX BEST SITES. THE SITES WERE: TOWSLEY CANYON; BLIND CANYON; ELSMERE CANYON; BROWNS CANYON; TOYON II, AND MISSION/RUSTIC/SULLIVAN CANYONS. EXPANSION OF EXISTING SITES AS WELL AS NEW SITES WITH 50 YEARS CAPACITY, BOTH PUBLIC AND PRIVATE, ARE THE NECESSARY BACKBONE OF A MARKET-DRIVEN REGIONAL SYSTEM TO HANDLE THE WASTE THAT CANNOT BE REDUCED, RECYCLED, AND COMPOSTED OR INCINERATED. SINCE ADOPTION OF THE ACTION PLAN, DETAILED STUDIES HAVE BEEN COMPLETED ON THESE SITES AND BROWN CANYON AND TOYON II HAVE BEEN REMOVED FROM FURTHER CONSIDERATION DUE TO GEOLOGIC DEFICIENCIES. ALSO IN PREPARATION OF THE EIR/EIS FOR THE PROPOSED ELSMERE PROJECT ON WHICH YOU HAVE HELD SEVERAL HEARINGS, THE 101 SITES WERE RE-EVALUATED AND AN ADDITIONAL 50 SITES IN THE AREA NORTH OF THE METROPOLITAN AREA WERE EVALUATED. THE FOUR REMAINING NEW SITES WHICH I JUST MENTIONED WERE STILL DETERMINED TO BE THE BEST.

ALONG WITH THIS JOINT PLANNING EFFORT WITH THE SANITATION DISTRICTS, IN 1989, THE SANITATION DISTRICTS, AT THE REQUEST OF AND

IN COOPERATION WITH THE SAN GABRIEL VALLEY ASSOCIATION OF CITIES, ISSUED A REQUEST FOR PROPOSALS FOR A WASTE-BY-RAIL SYSTEM OF TRANSPORTING WASTE TO REMOTE DISPOSAL LOCATIONS. SEVERAL PROPOSED PROJECTS HAVE DEVELOPED FROM THIS EFFORT THAT ARE CURRENTLY IN THE EIR/PERMITTING PROCESS. THROUGH THIS SIX-YEAR EFFORT, IT HAS BEEN DETERMINED THAT THE MAIN OBSTACLES TO WASTE-BY-RAIL ARE DEVELOPING A LOCAL RAIL-LOADING FACILITY, ASSURING A MINIMUM COMMITMENT OF WASTE, AND THE HIGH COST. ONE SOLUTION THAT IS BEING PURSUED IS THE DEVELOPMENT OF A MATERIALS RECOVERY/RAIL-LOADING FACILITY IN CONNECTION WITH THE PUENTE HILLS LANDFILL THAT WOULD ASSURE A MINIMUM 3,500 TONS PER DAY TO WASTE-BY-RAIL, WITH RATES LEVELIZED AT THIS FACILITY SO THERE WOULD BE NO DIFFERENCE IN THE COST OF WASTE PROCESSED FOR DISPOSAL AT THE REMOTE LOCATION FROM THAT DISPOSED AT THE LANDFILL PORTION OF THE FACILITY.

THIS COMMISSION AND THE BOARD OF SUPERVISORS APPROVED A C.U.P. FOR THE PUENTE HILLS MATERIALS RECOVERY/RAIL LOADING FACILITY, BUT THE BOARD'S APPROVAL WAS LITIGATED AND THE COURT ORDERED ADDITIONAL ENVIRONMENTAL DOCUMENTATION, THE FINAL OF WHICH WILL BE CONSIDERED BY THE COURT IN THE NEAR FUTURE.

WHY ALL THIS BACKGROUND? FIRST, I BELIEVE IT HELPS TO PUT THE MAGNITUDE OF THIS ISSUE IN PERSPECTIVE. SECOND, IT CLEARLY DEMONSTRATES THAT THE JOINT EFFORTS OF THE COUNTY, THE COUNTY

SANITATION DISTRICTS, AND THE PRIVATE SECTOR REPRESENT NEARLY 40 YEARS OF EXPERIENCE IN MANAGING LOS ANGELES COUNTY WASTE. OVER THAT 40 YEARS, VAST KNOWLEDGE HAS BEEN GAINED THROUGH THE NUMEROUS PLANNING EFFORTS, AND SPECIAL STUDIES THAT HAVE BEEN CONDUCTED TO ASSURE THAT THE COUNTY MEETS ITS RESPONSIBILITY TO PROTECT PUBLIC HEALTH AND SAFETY THROUGH THE SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE.

YOU HAVE HEARD OPPONENTS OF OTHER SOLID WASTE FACILITIES AND YOU WILL HEAR THE OPPONENTS OF THE CHIQUITA CANYON LANDFILL EXPANSION SAY THAT THE COUNTY'S STRATEGY FOR MANAGING WASTE IS ARCHAIC; THAT URBAN LANDFILLS ARE A THING OF THE PAST; THAT MORE RECYCLING AND SOURCE REDUCTION WILL ALLEVIATE THE NEED FOR MORE DISPOSAL CAPACITY; AND THAT THE REAL SOLUTION IS TO JUST HAUL THE WASTE THAT CANNOT BE REDUCED OR RECYCLED TO REMOTE LOCATIONS BY RAIL.

FOR THE PAST NINE YEARS, WE HAVE CONSISTENTLY SAID THAT THERE IS NO SINGLE SOLUTION TO MANAGING THE COUNTY'S WASTE; THAT ALL ALTERNATIVES MUST BE PURSUED. ONE OF THE KEY POLICIES OF THE BOARD-APPROVED ACTION PLAN, WHICH I JUST MENTIONED, IS THE EXPANSION OF EXISTING LANDFILLS, INCLUDING THE CHIQUITA CANYON LANDFILL, TO THE MAXIMUM EXTENT ENVIRONMENTALLY AND TECHNICALLY FEASIBLE. THE IDEA OF WASTE-BY-RAIL IS NOT NEW, BUT THE CURRENT INTEREST IN HAULING WASTE TO REMOTE LOCATIONS BY RAIL ONLY CAME

ABOUT BECAUSE OF SPECIFIC STUDIES OR EFFORTS THE COUNTY AND THE COUNTY SANITATION DISTRICTS EITHER PARTICIPATED IN OR INITIATED. WE HAVE SAID IN PREVIOUS TESTIMONY TO THIS COMMISSION THAT DEVELOPMENT OF OUT-OF-COUNTY DISPOSAL CAPACITY IS ESSENTIAL IN THE LONG TERM, AND THAT NEW IN-COUNTY CAPACITY IS ALSO ESSENTIAL TO EFFECTIVELY UTILIZE OUT-OF-COUNTY CAPACITY AND HAVE AN EFFECTIVE, EFFICIENT, MARKET-DRIVEN SYSTEM.

AS FOR REDUCE, REUSE, AND RECYCLE, I WON'T TAKE THE TIME TO REVIEW THE EXTENSIVE EFFORTS UNDERWAY BY THE COUNTY AND ALL THE CITIES, AND THE HUNDREDS OF MILLIONS OF DOLLARS BEING SPENT TO REDUCE DISPOSAL BY 25% IN 1995 AND 50% BY 2000, BUT WILL REMIND YOU THAT THE ARGUMENT THAT MORE DISPOSAL CAPACITY IS A DETERRENT TO MORE WASTE DIVERSION IS BOGUS. THE LAW IS VERY CLEAR! EACH COUNTY AND CITY IN CALIFORNIA IS MANDATED TO REDUCE ITS WASTE DISPOSED BY 25% IN 1995 AND 50% BY 2000. THE SAME LAW IS ALSO VERY CLEAR THAT WE ARE MANDATED TO PROVIDE FOR 15 YEARS OF DISPOSAL CAPACITY. AT ONE OF YOUR RECENT HEARINGS ON THE PROPOSED ELSMERE FACILITY, THE OPPONENTS HAD WASTE MANAGERS FROM THE CITY OF SEATTLE AND KING COUNTY, IN THE STATE OF WASHINGTON, TESTIFY AS TO HOW THEY CHOSE TO INCREASE THEIR RECYCLING GOALS TO 60% OR MORE AND TO USE THE FUNDING THAT WOULD OTHERWISE BE SPENT ON LANDFILL CAPACITY TO MEET THIS HIGHER DIVERSION GOAL. THE CLEAR INFERENCE WAS THAT LANDFILL CAPACITY WAS NOT NEEDED! THEY DIDN'T TELL YOU ABOUT THE REST OF

THE INTEGRATED WASTE MANAGEMENT EQUATION, THAT PART OF THE EQUATION THAT DEALS WITH THE 40% OF THEIR WASTE STREAM THAT WON'T BE REDUCED, REUSED, OR RECYCLED. I PARTICULARLY FOUND THIS TESTIMONY INTERESTING IN THAT PRIVATE LANDFILL OPERATORS IN THE STATE OF WASHINGTON ARE SOLICITING WASTE FROM CALIFORNIA CITIES AND COUNTIES FOR IMPORTATION BY RAIL TO THEIR FACILITIES.

I CALL YOUR ATTENTION TO THIS EXAMPLE BECAUSE I MUST MAKE IT VERY CLEAR THAT THIS HEARING TODAY IS NOT ABOUT OUR EFFORTS TO REDUCE, REUSE, AND RECYCLE, BUT ABOUT THE REST OF THE EQUATION, THE PART OF THE EQUATION THAT DEALS WITH WHAT CANNOT BE REDUCED, REUSED, OR RECYCLED! OUR PROJECTIONS OF NEEDED DISPOSAL CAPACITY, THE OTHER PART OF THE EQUATION, WHICH I WILL REVIEW NEXT, ASSUMES THAT EACH CITY AND THE COUNTY WILL MET THE 25% AND 50%.

FROM OUR PLANNING PROCESS, STARTING WITH THE ACTION PLAN, WE HAVE DEVELOPED AN ANALYTICAL PROCEDURE BASED ON SURVEYS, ACTIONS BY REGULATORY AGENCIES, AND NEW LEGISLATIVE MANDATES THAT REVIEWS REMAINING DAILY DISPOSAL CAPACITY AT PERMITTED LANDFILLS AND PROJECTS WHEN THE AMOUNT OF WASTE IN NEED OF DISPOSAL WOULD EXCEED THE AVAILABLE DAILY DISPOSAL CAPACITY. THIS PROCEDURE PROVIDES FOR UPDATING ON A REGULAR BASIS. WE HAVE MADE ASSUMPTIONS IN PROJECTING THE AMOUNT OF WASTE IN NEED OF DISPOSAL. THESE SAME ASSUMPTIONS HAVE BEEN CONSISTENTLY USED SINCE 1990, AND WE BELIEVE

THEY ARE VERY CONSERVATIVE. THIS ANALYSIS BECAME KNOWN AS THE "TIME TO CRISIS."

NOW, WHAT DO WE MEAN BY "TIME TO CRISIS?" I HAVE TRIED ON SEVERAL OCCASIONS TO MAKE THIS CLEAR, BUT BASED ON QUESTIONS RAISED BY YOUR COMMISSION IN RECENT HEARINGS, I HAVEN'T DONE A VERY GOOD JOB! SO I WILL TRY AGAIN! THE LAND USE PERMIT, FOR WHICH YOU ARE RESPONSIBLE, IS JUST THE BEGINNING OF A VERY LENGTHY PROCESS TO ESTABLISH ADDITIONAL DISPOSAL CAPACITY. YOU HAVE BECOME VERY AWARE OF THE TIME INVOLVED FROM YOUR HEARINGS ON THE PROPOSED ELSMERE PROJECT. YOU WERE ADVISED ON MONDAY THAT RESPONSES TO ALL THE COMMENTS MADE DURING THESE HEARINGS WILL NOT BE AVAILABLE FOR YOUR USE IN DELIBERATING THAT CASE UNTIL THE END OF THE YEAR. AGAIN, THIS IS ONLY THE BEGINNING! I AM CERTAIN THAT EVERY LAND USE PERMIT FOR A LANDFILL WILL BE APPEALED TO THE BOARD OF SUPERVISORS NO MATTER WHAT DECISION YOU MAKE, AND THE ENTIRE HEARING PROCESS AND DELIBERATION PROCESS REPEATED. FURTHER, NO MATTER WHAT DECISION IS MADE BY THE BOARD OF SUPERVISORS, THE DECISION WILL BE LITIGATED IN A LENGTHY COURT PROCESS. AGAIN, THIS IS JUST THE FIRST STEP--A LAND USE PERMIT. NO OTHER REQUIRED REGULATORY PERMITS OR ACTIONS SUCH AS AIR QUALITY, WATER QUALITY, FEDERAL AGENCY, STATE AGENCY PERMITS OR APPROVALS CAN BE SECURED UNTIL THE LAND USE PERMIT IS ISSUED. WE ARE TALKING YEARS, AND DURING THIS TIME WE MUST PROJECT HOW MUCH WASTE WILL NEED TO BE DISPOSED DAILY

DAILY AND HOW MUCH DAILY DISPOSAL CAPACITY WILL BE AVAILABLE. SINCE WE CAN'T ACCURATELY PROJECT THE LENGTH OF TIME THESE DECISION PROCESSES WILL TAKE, WE BASE OUR ANALYSIS ON NO ADDITIONAL CAPACITY BEING PERMITTED AND ESTIMATE HOW MANY YEARS THE REMAINING CAPACITY WILL LAST. OUR EXPERIENCE HAS SHOWN THAT IT TAKES THREE TO MORE THAN TEN YEARS TO PERMIT ADDITIONAL CAPACITY. IF OUR ANALYSIS SHOWS THAT WE HAVE LESS THAN THREE YEARS OF REMAINING DAILY CAPACITY, WE HAVE A CRISIS.

I'LL USE THE SUNSHINE CANYON LANDFILL AS AN EXAMPLE. AS YOU KNOW, THIS WAS AN EXPANSION INTO A NEW AREA. THE LAND USE PERMIT APPLICATION WAS FIRST FILED IN 1984. NOW 11 YEARS LATER, ITS PERMITTED CAPACITY IS STILL NOT USEABLE, AND MAY NOT BE AVAILABLE UNTIL 1996.

IN 1988, OUR FIRST ANALYSIS PROJECTED THREE YEARS OF REMAINING USEABLE, DAILY PERMITTED CAPACITY, AND--ACCORDING TO OUR DEFINITION--WE WERE FACING A CRISIS. REMEMBER THE WASTE MANAGEMENT SYSTEM IN THIS COUNTY IS DYNAMIC AND MARKET DRIVEN. EACH ANALYSIS WE DO IS JUST A SNAPSHOT AT THAT PARTICULAR POINT IN TIME. THE CIRCUMSTANCES CAN CHANGE EACH DAY. RIGHT, TODAY, WE HAVE ABOUT 19,000 TONS OF EXCESS, DAILY PERMITTED CAPACITY. HOWEVER, THE 12,000 TONS PER DAY CAPACITY AT BKK WEST COVINA IS IN LITIGATION

OVER WHETHER THE SITE IS TO CLOSE BY DECEMBER 1995 OR IN THE YEAR 2006. IF THE DECISION IS DECEMBER 1995, AND THE CAPACITY AT SUNSHINE IS NOT AVAILABLE, WE WOULD BASICALLY HAVE NO EXCESS CAPACITY BY THE END OF THIS YEAR. IF THIS SITUATION WERE TO CONTINUE, AND NO NEW CAPACITY BECAME AVAILABLE, AND EXPECTED CLOSURES OCCUR, BY THE END OF 1999, 4-1/2 YEARS FROM NOW, WE PROJECT A CAPACITY SHORTFALL OF 11,000 TONS PER DAY.

YOU MAY RECALL THE TESTIMONY I GAVE TO THE COMMISSION IN OCTOBER LAST YEAR, DURING WHICH I INDICATED THAT EXCESS DAILY CAPACITY WAS ESSENTIAL FOR AN EFFICIENT, MARKET DRIVEN, PUBLIC/PRIVATE WASTE MANAGEMENT SYSTEM TO FUNCTION EFFECTIVELY. WE HAVE INDICATED IN PREVIOUS TESTIMONY THAT THE EXCESS CAPACITY SHOULD BE EQUAL TO THE SINGLE FACILITY IN THE SYSTEM WITH THE GREATEST DAILY CAPACITY. IN THIS COUNTY, THAT IS 13,200 TONS PER DAY. THE POINT IS, YOU CANNOT HAVE A SYSTEM THAT HAS AN AMOUNT OF AVAILABLE DISPOSAL CAPACITY JUST EQUAL TO THE DISPOSAL NEED. WHO CAN ANTICIPATE DISASTERS LIKE THE FIRES OR THE FLOODS? WHO ANTICIPATED THE NORTHRIDGE EARTHQUAKE? FORTUNATELY, A LARGE AMOUNT OF THE RUBBLE FROM THE EARTHQUAKE WAS ULTIMATELY RECYCLED OR COULD BE DISPOSED AT INERT LANDFILLS OF WHICH WE HAVE SUBSTANTIAL CAPACITY. BUT, IN THE INITIAL STAGES OF THE EMERGENCY, WASTE HAD TO BE TAKEN TO THE REGULAR LANDFILL SYSTEM TO CLEAR THE WAY FOR COMMUNITIES TO GET

BACK ON THEIR FEET. WHAT IF THAT CAPACITY HAD NOT BEEN AVAILABLE? I WOULD LIKE TO PAUSE HERE AND ASK IF ANY OF THE COMMISSIONERS HAVE ANY QUESTIONS, BECAUSE THE ISSUE OF DISPOSAL CAPACITY NEED IS CRITICAL?

I WANT TO RETURN TO OUR 1988 PROJECTIONS FOR A MOMENT, BECAUSE WE DID PROJECT THAT TRASH COULD BE ON THE STREET BY LATE 1991 OR EARLY 1992. THAT DIDN'T HAPPEN, AND THE LANDFILL OPPONENTS USE THAT FACT TO ATTACK THE CREDIBILITY OF OUR PROJECTIONS, AND EVEN GO SO FAR AS TO SAY THAT OUR PROJECTIONS ARE JUST A SCARE TACTIC! NO ONE TO MY KNOWLEDGE, IN 1988, FORECAST A RECESSION TO BEGIN IN 1989. CERTAINLY NOT A RECESSION THAT HAS BEEN, AND CONTINUES TO BE, SO DEVASTATING TO THIS COUNTY'S ECONOMY. IT HAS BEEN DEVASTATING TO OUR PROJECTIONS AS WELL. BUT FORTUNATELY IT DID PROTECT OUR PUBLIC HEALTH AND SAFETY FROM A WASTE MANAGEMENT STANDPOINT!

ABOUT TWO-THIRDS OF THE DISPOSED WASTE STREAM, COUNTYWIDE, IS COMMERCIAL, INDUSTRIAL, CONSTRUCTION, AND DEMOLITION WASTE. THAT IS NEARLY 67% OF THE DISPOSED WASTE STREAM THAT IS DIRECTLY IMPACTED BY THE ECONOMIC ACTIVITY OF THE COUNTY. THE TOTAL AMOUNT OF WASTE BEING DISPOSED IN THE MAJOR LANDFILLS IN 1989 WAS APPROXIMATELY 46,000 TONS PER DAY. AT THE END OF 1992, THERE WAS APPROXIMATELY 40,000 TONS PER DAY BEING DISPOSED. THAT DROPPED TO JUST UNDER 35,000 TONS PER DAY, AND AT THE END OF 1994, IT WAS JUST

OVER 35,000 TONS PER DAY. INCREASED WASTE DIVERISON FROM THE AB 939 PROGRAMS HAS CONTRIBUTED TO THE DECREASE, BUT THE GREATEST REDUCTION HAS BEEN THE RECESSION.

I WILL COMPLETE MY TESTIMONY BY DISCUSSING OUR LONGER TERM DISPOSAL CAPACITY NEEDS AND THE ALTERNATIVES TO MEET THE NEED-- OR IT MAY BE MORE APPROPRIATE TO SAY THE LACK OF ALTERNATIVES TO MEET THE NEED.

WE CONSIDER OUR MOST RECENT PROJECTIONS TO BE CONSERVATIVE. AS I STRESSED EARLIER, WE HAVE ASSUMED THAT THE COUNTY AND EACH CITY WILL MEET THE WASTE DIVERSION MANDATES OF 25% BY 1995 AND 50% BY THE YEAR 2000. MANY BELIEVE THAT ACHIEVING THE 50% DIVERSION MANDATE BY THE YEAR 2,000 WILL BE DIFFICULT AT BEST. IN FACT, THERE IS SOME DISCUSSION IN SACRAMENTO, NOW; WASHINGTON D.C. AND AROUND THE COUNTRY, THAT ACHIEVING REDUCTIONS GREATER THAN 35% MAY BE UNREALISTIC. YOU RECEIVED SOME MATERIAL AT YOUR HEARING ON MONDAY IN THIS REGARD. IN ANY EVENT, WE ARE COMMITTED TO THE 50%, AND AGAIN IT IS INCLUDED IN OUR PROJECTIONS, BUT IF THESE DIVERSION LEVELS ARE NOT MET, WE HAVE UNDERSTATED OUR DISPOSAL NEEDS. ANOTHER FACTOR THAT AFFECTS PROJECTIONS OF CAPACITY NEEDS AND CAPACITY SHORTFALLS ARE OPERATIONAL CONSTRAINTS AT CERTAIN LANDFILLS OR CORPORATE OBJECTIVES THAT MAY RESULT IN SITES OPERATING AT LESS THAN PERMIT LIMITS.

REMEMBER, ALSO, THAT STATE LAW MANDATES THAT THE COUNTY DEMONSTRATE HOW WE WILL PROVIDE AT LEAST 15 YEARS OF DISPOSAL CAPACITY FROM NOW, 1995. THAT IS THE YEAR 2010. WITH THIS IN MIND, USING PROJECTIONS PREPARED IN CONNECTION WITH THE ADMINISTRATIVE DRAFT COUNTYWIDE SITING ELEMENT WHICH IS STILL UNDER REVIEW, AND ASSUMING THAT EVERY EXISTING SITE IN THE COUNTY THAT CAN BE EXPANDED IS IN FACT EXPANDED TO ITS MAXIMUM DAILY CAPACITY, WE PROJECT A DISPOSAL CAPACITY SHORTFALL OF OVER 6,000 TONS PER DAY BY THE YEAR 2008. THAT MEANS THAT THE EXPANSION OF CHIQUITA CANYON, THE PROJECT BEFORE YOU TODAY, TO 10,000 TONS PER DAY, THE EXTENSION OF THE PUENTE HILLS LANDFILL BEYOND THE CURRENT 10-YEAR PERMIT AND EXPANSION OF SUNSHINE CANYON INTO THE CITY OF LOS ANGELES TERRITORY WILL NOT MEET OUR STATE-MANDATED DISPOSAL CAPACITY NEEDS.

FURTHER, EXTENSION OF THE PROJECTIONS SHOW A SHORTFALL OF MORE THAN 10,000 TONS PER DAY AT THE END OF 2013, THE LAST POSSIBLE YEAR THAT PUENTE HILLS COULD OPERATE; AND OVER 30,000 TONS PER DAY BEYOND THAT.

SO, WHAT ARE THE ALTERNATIVES IN PROVIDING THIS LONG-TERM NEED? I HAVE INDICATED THAT EXPANSION OF EXISTING SITES SUCH AS CHIQUITA CANYON IS ESSENTIAL, I HAVE LISTED THE BEST FOUR POTENTIAL NEW IN-COUNTY LANDFILL SITES BASED ON AN EXTENSIVE REVIEW OF 151 POSSIBILITIES, THERE IS RAIL HAUL TO REMOTE LOCATIONS IN AND OUT OF STATE, THERE IS POSSIBLY SOME CAPACITY IN ADJOINING COUNTIES, AND SOME BELIEVE THAT A NEW TECHNOLOGY WILL SUDDENLY APPEAR. IN PREVIOUS HEARINGS, I KNOW COMMISSIONER CLARK HAS BEEN PARTICULARLY INTERESTED IN ALTERNATIVES AND I DON'T RECALL THAT YOU HAVE HEARD MANY PRACTICAL SUGGESTIONS. AT PREVIOUS HEARINGS, I BRIEFLY DISCUSSED WASTE-TO-ENERGY AS AN ALTERNATIVE INDICATING THAT ECONOMICS AND POLITICAL CONCERNS REGARDING AIR QUALITY MAKE THIS A REMOTE POSSIBILITY AT THIS TIME.

I HAVE PREVIOUSLY INDICATED THAT OUT-OF-COUNTY CAPACITY IS ESSENTIAL IN THE LONG TERM. BUT SUCH CAPACITY MUST BE DEVELOPED WITHIN A COMPETITIVE STRUCTURE. THE CURRENT MOST ACTIVE IN-STATE PROJECTS THAT WOULD ACCEPT LOS ANGELES COUNTY WASTE ARE THE RAIL CYCLE PROJECT AT BOLO STATION IN SAN BERNARDINO COUNTY, THE EAGLE MOUNTAIN PROJECT IN RIVERSIDE COUNTY, AND THE INTERAIL PROJECT IN IMPERIAL COUNTY. AS A RESULT OF A CEQA LAWSUIT, ALL PREVIOUSLY GRANTED LAND USE ENTITLEMENTS FOR THE EAGLE MOUNTAIN

PROJECT HAVE BEEN RESCINDED AND A NEW EIR IS BEING PREPARED. THE SAN BERNARDINO COUNTY PLANNING COMMISSION RECOMMENDED LAND USE PERMITS FOR THE RAIL CYCLE PROJECT AND THE BOARD OF SUPERVISORS IS HOLDING HEARINGS. HOWEVER, AN OPPOSITION MOVEMENT IS UNDERWAY TO QUALIFY AN INITIATIVE FOR THE BALLOT IN THE SPRING OR SUMMER OF 1996 THAT, IF SUCCESSFUL, WOULD LIKELY PRECLUDE DEVELOPMENT OF THE BOLO STATION FACILITY. THE INTERAIL PROJECT IN IMPERIAL COUNTY IS IN THE PROCESS OF PREPARING A FINAL EIR/EIS WITH LAND USE DECISIONS BY IMPERIAL COUNTY POSSIBLY BY LATE 1995.

ANOTHER ISSUE REGARDING RAIL HAUL TO REMOTE LOCATIONS THAT IS NOT OFTEN HIGHLIGHTED IS THE NEED FOR FACILITIES IN-COUNTY TO EFFICIENTLY LOAD WASTE INTO CONTAINERS AND LOAD CONTAINERS ONTO RAIL CARS. NO SUCH FACILITIES EXIST IN THIS COUNTY, AND OPPOSITION AND LITIGATION AGAINST PROPOSED FACILITIES IS THE SAME AS WE SEE AGAINST LANDFILLS. THE RAIL CYCLE PROJECT HAS RECEIVED PERMITS FOR A LOADING FACILITY IN THE CITY OF COMMERCE, BUT CONSTRUCTION IS APPARENTLY PENDING DECISIONS ON THE BOLO STATION PROJECT. IT IS CLEAR THAT THE OPPOSITION TO OUT-OF-COUNTY FACILITIES IS JUST AS STRONG AS OPPOSITION TO ADDITIONAL IN-COUNTY CAPACITY.

WE CONTINUE TO WORK IN SUPPORT OF OUT-OF-COUNTY CAPACITY AND SUPPORT THE SANITATION DISTRICTS EFFORTS TO DEVELOP A LOADING FACILITY THAT WILL ALLOW RATE LEVELIZATION BETWEEN IN-COUNTY AND

OUT-OF-COUNTY DISPOSAL. BUT, AGAIN, WE BELIEVE THIS MUST BE ACCOMPLISHED SUCH THAT COMPETITION DRIVES THE DEVELOPMENT AND OPERATION OF FACILITIES BOTH IN AND OUT-OF-COUNTY. WE HAVE DONE SOME ROUGH CALCULATIONS ON THE IMPACT TO THE LOCAL ECONOMY IF THE COUNTY'S ENTIRE WASTE STREAM IN NEED OF DISPOSAL IS DISPOSED BY RAIL HAUL TO REMOTE LOCATIONS. I INDICATED A MOMENT AGO THAT PROJECTIONS SHOW THE NEED FOR DISPOSAL CAPACITY OF IN EXCESS OF 30,000 TONS PER DAY AFTER THE YEAR 2013. DEVELOPERS OF RAIL HAUL PROJECTS ARE ESTIMATING COSTS OF $50 TO $60 PER TON TODAY. AT THE LOW END, THIS EQUATES TO A $300 MILLION PER YEAR IMPACT ON THE LOCAL ECONOMY. WITH TWO-THIRDS OF THE WASTE STREAM DIRECTLY RELATED TO BUSINESS, THAT IS A $200 MILLION IMPACT DIRECTLY ON BUSINESS. AGAIN, THAT IS AT TODAY'S ESTIMATED COSTS. WHAT MIGHT IT BE 25 YEARS FROM NOW PARTICULARLY IF THE CAPACITY IS CONTROLLED BY A MONOPOLY? WE BELIEVE COMPETITION IS CRITICAL.

SOME WASTE MAY BE DISPOSED OUT-OF-STATE DEPENDING ON DECISIONS BY INDIVIDUAL CITIES AND WASTE HAULERS. HOWEVER, WE HAVE CONCERNS ABOUT RELYING ON SUCH AN ALTERNATIVE BECAUSE OF FEDERAL LEGISLATION THAT MAY RESTRICT THIS OPTION IN THE FUTURE. WE ALSO DO NOT SUPPORT EXPORTING RESOURCES -- DOLLARS AND JOBS -- OUT OF THIS STATE.

WITH REGARD TO ALTERNATIVES FOR IN-COUNTY CAPACITY. I HAVE ALREADY EXPLAINED THAT OUR MID- AND LONG-TERM CAPACITY NEED PROJECTIONS ASSUME THAT ALL POSSIBLE EXPANSION OF EXISTING SITES IS ACCOMPLISHED AND DIVERSION MANDATES ARE MET, AND SHOW THAT OUR STATE-MANDATED DISPOSAL NEEDS CANNOT BE MET. THAT LEAVES ONLY NEW SITES. AGAIN, AFTER EXTENSIVE REVIEW, THERE ARE FOUR POTENTIAL NEW SITES; BLIND CANYON, THE PROPOSED ELSMERE FACILITY, MISSION/RUSTIC/SULLIVAN CANYONS, AND TOWSLEY CANYON. BLIND CANYON, MISSION/RUSTIC/SULLIVAN CANYONS, AND TOWSLEY CANYON ARE WITHIN THE SANTA MONICA MOUNTAINS CONSERVANCY. IN IMPLEMENTING THE ACTION PLAN, WE TOOK AGGRESSIVE ACTIONS IN PURSUING POTENTIAL LANDFILLS IN TOWSLEY CANYON AND BLIND CANYON. THIS RESULTED IN THE SANTA MONICA MOUNTAINS CONSERVANCY SECURING PROPERTY PURCHASE OPTIONS AND LAND SWAP AGREEMENTS WHICH SEVERELY LIMIT THE POTENTIAL OF THESE SITES TO MEET ANY OF OUR MID-TERM OR LONG-TERM CAPACITY NEEDS. MISSION/ RUSTIC/SULLIVAN CANYONS ARE OWNED BY THE COUNTY AND THE SANITATION DISTRICTS, AND ARE WITHIN THE CITY OF LOS ANGELES. THE CITY HAS BEEN FORCEFULLY OPPOSED TO THIS SITE SINCE 1980. ALL THREE SITES ARE ALSO WITHIN THE SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA. RECENT FEDERAL REGULATIONS LIMIT THE DEVELOPMENT OF THESE SITES. I BELIEVE THIS DISCUSSION DEMONSTRATES THAT THE REALISTIC ALTERNATIVES FOR ADDITIONAL IN-COUNTY CAPACITY FROM NEW SITES ARE SEVERELY LIMITED.

SOME SUGGEST THAT NEW TECHNOLOGY WILL COME ALONG IN TIME TO MEET OUR NEEDS. THAT MAY HAPPEN, BUT I BELIEVE THIS ALTERNATIVE TO BE UNREALISTIC PARTICULARLY CONSIDERING THE LONG LEAD TIME NECESSARY TO DEVELOP ANY ALTERNATIVE. WE MUST BE RESPONSIBLE, AND WE MUST MAKE REALISTIC RECOMMENDATIONS THAT ENABLE THE COUNTY TO MANAGE SOLID WASTE IN A MANNER THAT ASSURES ITS RESPONSIBILITY TO PROTECT PUBLIC HEALTH AND SAFETY IS FULFILLED. BEYOND THAT, IT SEEMS TO ME THAT WITH THE FIERCE COMPETITION THAT EXISTS WITHIN THE PRIVATE WASTE INDUSTRY, IF THERE WAS A VIABLE NEW TECHNOLOGY, YOU WOULD BE SEEING APPLICATIONS TO PERMIT SUCH OPERATIONS, PARTICULARLY CONSIDERING THE SUBSTANTIAL TIME AND EXPENSE REQUIRED TO PERMIT DISPOSAL CAPACITY.

BEFORE I CLOSE, I WOULD ALSO LIKE TO ADDRESS THE ISSUE OF PLACING IMPORT RESTRICTIONS ON PRIVATE LANDFILLS, SUCH AS THE CHIQUITA CANYON EXPANSION BEFORE YOU. IN THE HEARINGS THE COMMISSION HELD ON THIS ISSUE LAST YEAR, YOU HEARD THAT UNDER CURRENT FEDERAL LAW SUCH RESTRICTIONS MAY VIOLATE THE COMMERCE CLAUSE OF THE U.S. CONSTITUTION. THE WASTE SYSTEM IN THIS COUNTY IS BOTH AN IMPORTER AND EXPORTER OF WASTE. THIS RESULTS FROM DECISIONS OF THE PRIVATE WASTE INDUSTRY BASED ON ECONOMICS, NOT BASED ON AN EVALUATION OF AVAILABLE CAPACITY. I MUST STRESS, AS I DID LAST YEAR AT YOUR HEARINGS, THAT AN EFFICIENT, MARKET DRIVEN, PUBLIC/PRIVATE WASTE

SYSTEM THAT PROVIDES ECONOMIC FLOW CONTROL IS SUPERIOR TO ANY CONCEPT OF LEGAL FLOW CONTROL. THEREFORE, WE DO NOT RECOMMEND THE IMPOSITION OF IMPORT RESTRICTIONS, AND CONTINUE TO HAVE CONCERNS THAT SUCH RESTRICTIONS COULD IMPACT FUTURE EXPORT CAPABILITY. BEYOND THAT, THE COUNTY HAS NO AUTHORITY TO DIRECT WASTE FLOW, THESE DECISIONS ARE MADE BY INDIVIDUAL HAULING AND COLLECTION COMPANIES BASED ON ECONOMICS.

IN SUMMARY, OUR SUBSTANTIAL PLANNING EFFORT HAS REVIEWED EVERY KNOWN ALTERNATIVE AND CONTINUES TO CLEARLY DEMONSTRATE THE MID- AND LONG-TERM NEED FOR IN-COUNTY AND OUT-OF-COUNTY DISPOSAL CAPACITY. AND DEMONSTRATES THAT THIS IN-COUNTY NEED CANNOT BE MET EVEN WITH EXPANSION OF EXISTING FACILITIES. NEW DISPOSAL SITES ARE NECESSARY AS WELL JUST TO MEET THE NEED.

THE DEPARTMENT OF PUBLIC WORKS BELIEVES THAT LANDFILLS IN URBAN AREAS EXIST, AND CAN BE DEVELOPED, THAT ARE ENVIRONMENTALLY AND TECHNICALLY SOUND. THE DEPARTMENT APPRECIATES THE EXPERTISE AND PROFESSIONALISM OF YOUR STAFF AND WILL CONTINUE WORKING CLOSELY WITH YOU AND OUR STAFF ON THIS MOST IMPORTANT ISSUE. WE WILL ALSO MAKE ANY RECOMMENDATIONS, AS NECESSARY, AS THIS HEARING PROCESS CONTINUES.

AGAIN, THANK YOU FOR THE OPPORTUNITY TO SPEAK TO YOU THIS MORNING, AND FOR THE TIME YOU HAVE ALLOWED. I WILL TRY TO ANSWER ANY QUESTIONS YOU MIGHT HAVE.

(JM:MARY - CHIQRPC.JM)

August 1, 1995

TO: Each Supervisor

FROM: Harry W. Stone
Director of Public Works

QUARTERLY STATUS REPORT ON SOLID WASTE MANAGEMENT ACTION PLAN SYNOPSIS NO. 32, APRIL 30, 1991

As directed by the Board of Supervisors on April 30, 1991, Synopsis No. 32, the attached provides the status report of the Solid Waste Management Action Plan through July 31, 1995.

The Action Plan instructs the Department of Public Works, in cooperation with the County Sanitation Districts of Los Angeles County and the City of Los Angeles, to: a) investigate the feasibility and secure purchase options, as appropriate, for identified potential landfill sites, and recommend methods of financing acquisition of landfill capacity; b) support and foster maximum expansion of existing landfill sites; and c) implement a Countywide recycling and composting program.

For your information, the Draft EIR for the proposed expansion of the Chiquita Canyon Landfill was released for public review in May 1995. The public review period will end November 16. The proposed project would increase the Landfill's life by a minimum of eight years (29.4 million tons) at a proposed maximum daily disposal rate of 10,000 tons per day. The County Regional Planning Commission (RPC) will conduct a public hearing on August 9, 1995. A second hearing will be held on August 23, 1995, at Valencia High School in the City of Santa Clarita.

In regard to the proposed Elsmere Canyon Landfill, the RPC will conduct its fourth public hearing on August 7, 1995, in Room 150 at the Hall of Records.

As required by State law, the Disposal Quantity Reporting Origin Survey forms for the first quarter of 1995 have been received from all permitted solid waste disposal facilities in Los Angeles County. Operators reported a total of 3.15 million tons of solid waste disposed. Of this total, 2.96 million tons (94 percent) originated in Los Angeles County and the remaining 0.19 million tons (six percent) were imported from out-of-County jurisdictions. Waste was received from 160 different jurisdictions including the 89 jurisdictions of Los Angeles County. Pursuant to State law, the information has been consolidated and forwarded to all jurisdictions that have utilized landfill and/or transformation facilities in the County. Overall, the total reported tonnages parallel 1994 disposal figures for the first quarter (approximately 3.16 million tons).

CR:mv
WM-2\AUG95.DOC

Attach.

WASTE MANAGEMENT DIVISION

cc: Chief Administrative Office
Executive Office
County Sanitation Districts of Los Angeles County

ATTACHMENT

Quarterly Status Report on the County Solid
Waste Management Action Plan
August 1, 1995

The following information represents the current status of program activities as outlined in the Solid Waste Management Action Plan. In addition, other relevant information pertaining to the Action Plan has been incorporated.

- **PROPOSED ELSMERE CANYON LANDFILL**

  The County Regional Planning Commission (RPC) conducted public hearings on May 10, May 31, and July 12, 1995, on the proposed Elsmere Canyon Solid Waste Management Facilities. Major concerns regarding potential impacts of the project were: impacts on the quality of the local groundwater supply, threats to endangered species, the removal of 5,500 oak trees, increased traffic and pollution, and disruption to area business. BKK Corporation, the project proponent, will give rebuttal testimony on August 7, 1995.

  The public review period for the draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) ends August 4, 1995.

- **LANDFILL EXPANSION**

  Antelope Valley Landfill (County unincorporated area)

  The proposed expansion into the County unincorporated area would be located adjacent to the existing facility in the City of Palmdale. The proposed facility would provide for a disposal capacity of 6.4 million tons and a life expectancy of 14.5 years at a disposal rate of 1,800 tons per day. The proposed expansion has all the necessary permits with the exception of the Solid Waste Facility Permit. According to the project proponent, the expanded facility will not become "operational" until the year 2001 when the remaining capacity of the existing Landfill is projected to be exhausted.

  Currently, the Landfill owner/operator is working on a revised Solid Waste Facility Permit to allow for an increase of the existing Landfill's daily permitted tonnage from 750 to 1,400 tons per day and the use of a geosynthetic blanket as an alternative daily cover.

Azusa Land Reclamation Landfill

Browning-Ferris Industries, Inc., (BFI) the landfill owner/operator, has submitted to the California Regional Water Quality Control Board, Los Angeles Region, (Water Board) a complete Report of Waste Discharge, as well as the groundwater monitoring data and analyses required as part of the Cleanup and Abatement Order issued on February 28, 1995. The Water Board is requesting these submittals to process BFI's request for a revised Waste Discharge Requirements permit. However, the Water Board has delayed any decision on the revised permit until staff has completed its evaluation of groundwater monitoring data and analyses of proposed engineered alternatives. All groundwater data from the evaluation monitoring plan and any proposed engineered alternatives must be submitted to the Water Board by September 1995.

Based on the results of the above studies and analyses, the Water Board will determine whether the Landfill will be allowed to continue to accept municipal solid waste, be restricted to receiving construction/demolition waste or have its Waste Discharge Requirements permit withdrawn. This action is not expected to occur before October 1995.

Chiquita Canyon Landfill

The Draft EIR for the proposed expansion of the Chiquita Canyon Landfill was released for public review in May 1995. The public review period will end November 16. The proposed project would increase the Landfill's life by a minimum of eight years (29.4 million tons) at a proposed maximum daily disposal rate of 10,000 tons per day. The proposal also calls for a seven-day/week, 24-hour/day operation.

The RPC will conduct a public hearing on August 9, 1995. A second hearing will be held on August 23, 1995, at Valencia High School in the City of Santa Clarita.

Lancaster Landfill

The preparation of the Draft EIR for the proposed Landfill expansion is continuing. The document is expected to be ready for public review by this fall. The proposed Landfill expansion would provide an additional 10.5 million tons of disposal capacity.

Puente Hills Landfill Expansion, and Materials Recovery and Rail Loading Facility

The construction of the composite liner system for the first phase of the expansion of the Puente Hills Landfill has been completed. Refuse placement on the completed liner system began on July 21, 1995.

On June 14, 1995 the Board of Directors of the County Sanitation Districts of Los Angeles County-Sanitation District No. 2 recertified the Final EIR for the Puente Hills Materials Recovery Facility (MRF) and certified the Final EIR for an Intermodal Facility and Waste-by-Rail Disposal System Originating from the Puente Hills MRF. On the same date, the Board of Directors also reapproved the Puente Hills MRF project. The RR&C Development Company has filed a new lawsuit against the CSD claiming that the Final EIRs are not in compliance with the California Environmental Quality Act (CEQA). As currently planned, the CSD will return to Superior Court for its concurrence that the EIRs were prepared in compliance with the Court rulings and with the CEQA. A hearing date is scheduled for September 14, 1995. Following the Court's approval, the CSD will request that the Board of Supervisors reauthorize Conditional Use Permit 92-251(4) for the Puente Hills MRF.

Lopez Canyon Landfill

On June 16, the City of Los Angeles Board of Public Works voted to apply for a one-year extension of the facility's Conditional Use Permit (CUP), which is due to expire on February 4, 1996. The City Department of Public Works

submitted its CUP application to the City Planning Commission on July 11.

During the next year, the City Bureau of Sanitation will revise the Final Supplement to the Subsequent Environmental Impact Report (SSEIR) for the subject Landfill to incorporate new comments received at a June 5 public hearing, the additional detailed information received in proposals submitted for the privatization of waste disposal services, an updated detailed cost analysis of operating the Landfill through 2001, and a revised estimate of the disposal capacity remaining at the Landfill.

The California Integrated Waste Management Board (CIWMB) is currently conducting a routine review of the Landfill's Local Enforcement Agency (LEA) activities. The City Environmental Affairs Department currently serves as the Landfill's LEA as it has since it took over this role from the Bureau of Sanitation and the Los Angeles County Department of Health Services in 1993.

Sunshine Canyon Landfill

On April 24, 1995, BFI, the Landfill owner/operator, filed a claim with the City of Los Angeles for $400 million in damages due to the City's denial of access to the Landfill. The City denied the claim and on June 30, BFI filed a lawsuit in Superior Court against the City.

BFI proposes to dedicate property to the County that includes the private access road into the Landfill and, via the dedication agreement, to have the County authorize BFI to use the access road for landfill-related purposes. On May 4, the Board of Supervisors requested a detailed analysis of the legal issues arising from a land dedication proposal submitted by BFI. Additional information regarding the proposal was requested by the Board at the June 20 meeting. The Board has scheduled a hearing for October 5, 1995, to consider this issue and the North Valley Coalition's appeal of the RPC action of February 1, 1995, removing the restriction

prohibiting the use of the facility by the City of Los Angeles as stipulated in Conditional Use Permit 86-312(5).

BKK Landfill

The issue of the 1985 City of West Covina/BKK Memorandum of Understanding (MOU) went to trial in May 1995. On June 5, the City of West Covina agreed to suspend the trial in one-month increments so that BKK can conduct negotiations for a partner for its Elsmere Canyon Landfill project without interference from the MOU trial. The trial is in its second month of postponement and the next meeting with the court to possibly resume the trial is August 28. A fee schedule has been established for BKK to pay the City for every month the trial is delayed.

The CIWMB is currently overseeing the environmental review process required as part of the update of the facility's Solid Waste Facility Permit (SWFP) which was issued in 1979. The CIWMB took over the role as lead agency for conducting the environmental review process from the City of West Covina Local Enforcement Agency (LEA) on April 25 after what the CIWMB considered the LEA's failure in its duties to update the Landfill's SWFP.

On April 28, BKK filed a civil rights lawsuit against the City of West Covina, city officials, and community activists in the United States District Court. BKK has since removed the names of individuals from the list of defendants. The lawsuit alleges that the remaining defendant, the City of West Covina, has violated BKK's civil rights by acting "to paralyze operations at the landfill and force its early closure" by, among other things, disseminating information implying that emissions from the landfill are causing cancer. A Court hearing date has not been set.

- **PROPOSED WHEELABRATOR COMPOSTING FACILITY (BIOGRO)**

The proposed Wheelabrator Composting Facility would occupy 67 acres of a 640-acre ranch. It would accept up to 500 wet

tons per day of digested and undigested sludge, and up to 1,000 tons daily of other organic wastes, such as green waste.

As directed by the Board of Supervisors on April 7, 1994, a draft EIR for the proposed project was prepared and distributed by the RPC for review and comment on April 24, 1995. The public review period ended June 15 and a public hearing was held by the RPC on June 21 to solicit public comments regarding the draft EIR. At this hearing, Department representatives presented an overview of biosolids (sludge) management in Los Angeles County. The next public hearing is scheduled for August 2, 1995.

- **COUNTY RECYCLING PROGRAM**

Woody Woodpecker Calendar Contest

During the month of May, the Department conducted the fourth annual Woody Woodpecker Environmental Calendar Contest for kindergarten through sixth grade schoolchildren in Southern California. Participants submitted drawings of Woody Woodpecker demonstrating one of the "New Three R's" - Reduce, Reuse, and Recycle.

The 14 winners and 35 runners-up, selected from more than 1,700 participants, have been invited to a special awards ceremony be held in their honor on Saturday, August 19, 1995, at the California Museum of Science and Industry in Los Angeles. This program is sponsored by Browning-Ferris Industries, California Disposal Association, California Museum of Science and Industry, GTE California, KIIS-FM/AM, Los Angeles Times, MCA, Inc., Southwest Airlines and Target.

Telephone Book Recycling Program

Department staff is coordinating a Telephone Book Recycling Program with Pacific Bell and private waste haulers. This program was conducted for residents in the unincorporated areas near Newhall from May 9, 1995, through June 23, 1995. The program is in progress for residents in the unincorporated

areas of La Crescenta and Montrose beginning July 3, 1995, through August 4, 1995.

Woody Woodpecker Environmental Award

The Woody Woodpecker Environmental Award was judged and presented in conjunction with the California State Science Fair on May 23, 1995, in Los Angeles. The award was coordinated by Department staff and sponsored by Lucky Stores, Inc., to recognize science projects which focus on one or more of the New Three R's: Reduce, Reuse, and Recycle. One junior and senior division project was selected with a cash award of $1,000 and a County scroll of commendation given to each division winner.

Multi-Family Residential Recycling

Beginning on June 1, 1995, waste haulers serving multi-family residential complexes in the unincorporated areas, with the exception of the Antelope Valley, began providing recycling services to those customers.

- **COUNTY COMPOSTING PROGRAM**

The Department continues to work toward increasing the number of County Backyard Composting Demonstration facilities and participating Master Composter volunteers. Staff has continued to work with local cities in securing additional locations for backyard composting demonstration facilities. We expect to develop four more facilities by November and conduct four corresponding Master Composter training courses. During the reporting period, volunteers have presented information at 28 community service organizations or gardening group meetings, schools, and environmental awareness events.

Composting speaking engagements will be offered by volunteers on a continual basis.

Composting workshops were held by Master Composters at the South Coast Botanic Garden in Palos Verdes Peninsula on May 13; Caruthers Park in the City of Bellflower on

June 10;Columbia Park in the City of Torrance on June 24; Gates Canyon Park in the City of Calabasas on July 8 and 29; and the Havenhurst Community Garden in the City of West Hollywood on July 8 and 29.

The existing contract with the University of California Cooperative Extension for the Master Composter Program will expire on November 1, 1995. Staff has reviewed and revised the Scope of Work proposed by the University and recommends the renewal of a one-year contract. This contract renewal will require more frequent training sessions and workshops, but no new sites are proposed.

- **COUNTYWIDE HOUSEHOLD HAZARDOUS WASTE MANAGEMENT PROGRAM**

During this reporting period, seven Countywide Roundups were held in the Cities of Downey, Pasadena, Redondo Beach, Culver City, Bellflower, Pomona, Lancaster, Carson, and Cudahy. A total of 12,150 residents participated, disposing of approximately 105,896 gallons of household hazardous waste.

In addition to the Countywide Roundups, the City of Los Angeles, under an agreement with the County, conducted six Hazmobile collections. The Hazmobile operated in the communities of Chatsworth, Sunland, Eagle Rock, Westwood, Van Nuys, Sun Valley, and Pacific Palisades providing service to 4,344 residents Countywide. A total of 41,437 gallons of household hazardous waste was collected.

The Department began operation of ten Used Oil Collection Centers on June 9, 1995 - nine at Department of Public Works maintenance yards and one in Marina del Rey, which is being operated in conjunction with the Department of Beaches and Harbors. As of July 31, 1995, approximately 13,000 gallons of used oil have been received from the public.

- **RAIL HAUL**

City of Industry

The Industry City Council has approved the re-drafting of the EIR (third redraft) for the proposed City of Industry Materials Recovery/Transfer Facility with a proposed capacity of 5,700 tons per day. In this regard, a new Notice of Preparation is expected to be released within the next two months. The project description has been expanded from previous versions and will include identifying impacts associated with rail haul. The location of the proposed project site remains unchanged. The Cities of Diamond Bar and Walnut remain opposed to the proposed Facility's location.

Rail-Cycle and Other Related Projects - San Bernardino County and City of Commerce

This project is proposed by a limited partnership between Waste Management of North America and The Atchison, Topeka, and Santa Fe Railway Company.

The final EIR for the Bolo Station Landfill was released in August 1994. In November 1994, following a series of public hearings, the San Bernardino County Planning Commission recommended approval of the Landfill's Final EIR/EIS and the land use permit to the San Bernardino County Board of Supervisors. Subsequently, the San Bernardino County Board of Supervisors conducted a public hearing in April 1995, with two more hearings held in May 1995. The Board of Supervisors will make a determination on the land use permit possibly at a meeting tentatively scheduled for August 29, 1995.

With regard to the project's Material Recycling and Rail-Loading Facility component in the City of Commerce, some demolition and light construction work has begun at the site, however, proponents are waiting for the rail haul market to develop before starting heavy construction. Once the decision to begin heavy construction is made, proponents expect the facility to be operational within 12 months.

Construction plans for development of the Franconia Landfill in Mohave County, Arizona, continue to be on hold pending the decision on the proposed Bolo Station Landfill. Once heavy construction begins, proponents also expect this facility to be operational within 12 months.

Campo Reservation Project - San Diego County

The Campo Environmental Protection Agency (Campo EPA) has issued the Authority to Construct Permit to the project proponent, Mid-American Waste Systems, Inc. The Campo EPA has approved approximately half of the technical plans required for the project, with some plans still under review. Construction of groundwater monitoring wells is complete, with data being retrieved for a sampling program and to provide data for the Permit To Operate application. The project proponents have also submitted an application for air quality permits to the U.S. EPA which is expected to issue the permits by the end of August 1995. The proponents will submit the Application for Permit to Operate after obtaining air quality permits from the U.S. EPA. Proponents expect to begin excavation work for the project in mid-1996, after obtaining the necessary air quality and other permits.

The proponents expect an appeal to be filed by the opponents to the project. Should an appeal be filed, it would result in an automatic injunction which will result in delay of the project.

Eagle Mountain Project - Riverside County

The Eagle Mountain Landfill Project is proposed by the Mine Reclamation Corporation. As a result of three California Environmental Quality Act lawsuits claiming deficiencies in the final EIR, a San Diego County Superior Court issued a final judgment in September 1994. In the judgment, the Court ruled that a new EIR would be required which, in effect, nullified entitlements, including the CUP.

Based on the Court decision, Riverside County officials decertified the EIR and have required the project proponent to

obtain a new CUP and to prepare a new EIR. The project proponent has now submitted a new CUP application and is preparing a new EIR/EIS. The Notice of Preparation of the EIR/EIS was issued in May 1995, and its scoping period ended June 30, 1995. As such, it is expected that the draft EIR/EIS may be released for public review during the fall of 1995.

County of La Paz - Arizona

BFI is proposing to expand the existing landfill and redesign the facility to provide rail access. The process of acquisition of adjacent Bureau of Land Management land is continuing. If consummated, the total site will encompass 640 acres. At this time, proponents expect to complete the land acquisition and obtain all necessary approvals by late 1995.

California InteRail - Imperial County

The Draft EIR/EIS for the Landfill component for this project, the Mesquite Regional Landfill, was released for public review in April 1994. The proponent completed the final EIR/EIS, which was released on June 30, 1995. A public hearing before the Planning Commission is tentatively scheduled for August 23, 1995, after which the Commission will make its advisory decision to the Board of Supervisors. The matter is tentatively scheduled to go before the Board of Supervisors for approval/certification on September 5, 1995. Proponents are anticipating a Record of Decision from the bureau of Land Management by fall 1995 and to obtain all (20) major permits by February 1996.

East Carbon City - Utah

On January 1, 1995, Laidlaw, Inc., acquired a majority (80 percent) interest in the East Carbon Development Corporation, the project proponent and owner/operator of the Landfill facility which is located near East Carbon City, Utah. Laidlaw has decided not to proceed with the development of the rail loading facility for contaminated soil that had previously been proposed in the City of Vernon.

CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT OF 1989 ASSEMBLY BILL 939 DOCUMENTS

The Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force has received and reviewed submittals of final draft Source Reduction and Recycling Elements from all cities. The preliminary draft Household Hazardous Waste Elements for the Cities of Avalon and Sierra Madre, and the final draft Household Hazardous Waste Elements for nine cities, need to be submitted.

Nondisposal Facility Elements have been received by the Task Force from 81 cities and the County. Seven cities have yet to submit their Nondisposal Facility Elements to the Task Force for review and concurrence.

Disposal Quantity Reporting

As mandated by State law, the Disposal Quantity Reporting Origin Survey forms for the first quarter of 1995 have been provided to the Department by all permitted landfill and transformation facility operators in the County. The information has been consolidated by the Department and forwarded prior to the State deadline of July 15, 1995, to all jurisdictions that have utilized disposal facilities in the County. During the first quarter, permitted solid waste facility operators reported disposing of 3.15 million tons of solid waste from nine different counties including Los Angeles County. Of this total, 2.96 million tons (94 percent) originated in Los Angeles County and the remaining 0.19 million tons (six percent) was imported from out-of-Los Angeles County jurisdictions. Waste was received from 160 different jurisdictions including the 89 jurisdictions of Los Angeles County. Overall, the total reported tonnages parallel the 1994 disposal figures for the first quarter (approximately 3.16 million tons).

Facility operators are required to submit the second quarterly report to this Department by August 1, 1995.

Countywide Siting Element

The Administrative Draft of the Countywide Siting Element has been prepared by the Department. On April 24, 1995, the

document was submitted to the Board of Supervisors for informal review and discussion.

Countywide Integrated Waste Management Summary Plan

The Department is currently preparing the Countywide Integrated Waste Management Summary Plan for Los Angeles County as mandated by Assembly Bill 939. On May 18, 1995, your Board approved the Agreement with the consultant, Emcon Associates, to assist the Department in developing the Administrative Draft of the Summary Plan.

The Summary Plan is an aggregate of all the Elements of the Countywide Solid Waste Management planning process which includes the Source Reduction and Recycling Elements, Household Hazardous Waste Elements, and Nondisposal Facility Elements of the 89 jurisdictions in Los Angeles County. The Summary Plan also includes Countywide goals, policies, and objectives for coordinating Countywide diversion programs, marketing strategies, and disposal strategies.

As mandated by the State, the draft document must be released to cities and the public for a 45-day review period. The final document must be submitted to the cities for a 90-day approval/disapproval period. Prior to adoption of the Plan by the Board and approval by the CIWMB the document must be approved by a majority of cities containing a majority of incorporated population.

- **ASSEMBLY BILL 939 PROGRAM IMPLEMENTATION**

The waste diversion programs identified in the County Source Reduction and Recycling Element and Household Hazardous Waste Element are continuing to be developed and implemented. As previously indicated, multi-family residential recycling began on June 1, 1995, in all the unincorporated areas with the exception of the Antelope Valley.

A proposal for a study project to determine the best way to fund separate green waste collection in the unincorporated County area is being developed with Pepperdine University. An earlier proposal received from the University of Southern California was not pursued due to costs. The study will determine current public attitudes toward the concept of

separate green waste collection and how to minimize the financial impact on residents. Current estimates indicate that a separate collection could cost an average of $4 per month per single-family household. Recent survey results indicate that many residents would participate in such a program.

Commercial and Industrial Technical Assistance Program

The contractor, PS Enterprises, has completed the final data base of 22,000 businesses for the County unincorporated areas and will be submitting it, along with other items required under Phase 2, for approval within the next two weeks. The development of the pre- and post-program survey forms has been completed pending the result pre-testing which was conducted on July 27 and 28. The pre-survey of 2,400 businesses will begin shortly after final approval of the survey form which is expected within the next few weeks.

Curbside Recycling Public Education Program

The contractor, Cerrell and Associates, has concluded a telephone survey of 2,400 single-family and duplex residences in the unincorporated County areas to determine the current level of participation, knowledge regarding the recycling program, and how the curbside recycling program is perceived by residents. The Contractor has tabulated the telephone survey results and a summary of the findings will be provided with the next Quarterly Report.

Household Hazardous Waste Public Education Program

The goal of the Household Hazardous Waste Public Education Program is to increase the public's awareness of the proper use and disposal of products that can become household hazardous waste. In doing so, it is expected to also increase the participation rates at the various roundups and Hazmobile programs conducted throughout the County.

Four telephone surveys have been completed. These surveys have revealed the following:

-- Residents have a difficult time identifying household hazardous waste even though all residents report having some.

-- Less than half of those surveyed believe that non-hazardous alternative products could be used.

-- Few residents presently dispose of their household hazardous waste properly.

-- Residents are most concerned about the health and safety aspects of household hazardous waste.

-- The maximum optimal distance from the average County resident's home for disposal is six miles.

-- Residents need more information regarding disposal options, but if given the information about the program, they express strong interest in participating.

Elementary School Public Education Program

The Contractor, Pacific/West Communications Group, has reached more than 182,180 students in 445 schools since the contract began on January 23, 1995. The Contractor has begun work on the implementation of the approved program enhancements and have contacted a number of potential sponsors to assist in financing the cost of equipment and/or materials needed for the enhancements. Department staff is working with the contractor and MCA/Universal Studios in the organization of an Environmental Olympics contest. The event is tentatively scheduled for spring 1996 and will be held at the Universal Studios theme park. The Contractor is currently seeking sponsors for this event.

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Appendix C13
REGULATORY OVERVIEW OF STATE-, COUNTY-, AND CITY-ENACTED WASTE MANAGEMENT ACTS

REGULATORY OVERVIEW OF STATE-ENACTED WASTE MANAGEMENT ACTS

The City/County Landfill project implementation would be consistent with and in accordance to mandated State solid waste management acts to provide for a comprehensive approach to solid waste management planning. In recognition of the above objective, an overview of applicable policies will serve to define those State-mandated objectives that the project seeks to fulfill. The following information provides a brief history of these acts.

Nejedly-Z'berg-Dills Solid Waste Management and Resource Recovery Act of 1972

The regulation, collection, and disposal of solid waste is performed primarily by cities, counties, and special districts throughout the State. In 1972, the California Legislature enacted Senate Bill (S.B.) 5, introduced by Senate member Nejedly and is known as the Nejedly-Z'berg-Dills Solid Waste Management and Resource Recovery Act of 1972 (codified in Government Code, Title 7.3, § 66700 through 66750 and Health and Safety Code, Part 2, Division 5, Chapter 5, § 4500 et seq.). The intent of this Act was to establish a comprehensive State solid waste management and resource recovery policy, with primary responsibility for adequate solid waste management and planning established by local jurisdictions. The State policy was to be implemented through County Solid Waste Management Plan(s) (CoSWMP); thereafter, these plans were to be approved by the California Waste Management Board (CWMB).

In response to this legislation, the Los Angeles County Board of Supervisors, in October 1973, adopted a resolution accepting responsibility for the preparation of the County CoSWMP. The County also created the Los Angeles County Solid Waste Management Committee (SWMC) to ensure the participation of the many responsible public agencies, interested business organizations, and civic groups during the development of the County CoSWMP.

The County CoSWMP was prepared by the staffs of the County Department(s) of Engineer-Facilities, Regional Planning, County Counsel, and the Sanitation Districts of Los Angeles County. Similarly, this document was developed through input from various agencies, local jurisdictions (i.e., City of Los Angeles), and in collaboration with representatives from private industry and the general public for approval by the Board of Supervisors.[1] This plan was eventually submitted to the CWMB for final approval. At that time, the plan was also subject to approval by a majority of cities within the County, which contained a majority of the population of the incorporated area of the County, including the City of Los Angeles. The primary intention of the County CoSWMP was to coordinate solid waste management on a countywide basis by developing solid waste disposal facilities and solid waste management programs that would effectively serve the public need.

Z'berg-Kapiloff Solid Waste Management Control Act of 1976

In 1976 the California Legislature enacted A.B. 2439, introduced by Assembly member Z'berg, known as the Z'berg-Kapiloff Solid Waste Management Control Act of 1976. This Act substantially supplemented the Nejedly-Z'berg-Dills Solid Waste Management and Resource Recovery Act of 1972 and mandated provisions that established a program for the issuance of permits for the operation of a solid waste facility.

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[1]/ The initial County CoSWMP was adopted by the Board of Supervisors on June 6, 1976, and subsequently approved by the California Waste Management Board during December 1977. In accordance with State enacted regulations (at that time), a CoSWMP review was required every three years by the CWMB.

It also established procedures for the development of an enforcement program to ensure compliance with State Minimum Standards for Solid Waste Handling and Disposal, established local enforcement agencies (LEA's) designated by local governments, permit and inspection programs, administrative and judicial procedures, and remedies for enforcement.

The California Integrated Waste Management Act of 1989

In 1989 the California Legislature enacted A.B. 939, introduced by Assembly member Sher and known as the California Integrated Waste Management Act of 1989 (codified in Public Resources Code, Division 30, § 40000 et seq.). In comparison to these previously enacted laws, which focused primarily on landfill regulations, A.B. 939 focuses on the reduction of the volume of solid waste required for landfill disposal. Similarly, A.B. 939 specifically mandates that cities and counties throughout the State establish goals of reducing the generation of solid waste by 25 percent by 1995 (short-term planning) and 50 percent by the year 2000 (mid-term planning). Furthermore, A.B. 939 promotes activities such as limiting the production of solid waste at its generated source, mandates recycling and composting, and promotes the development of safe landfill disposal and waste transformation facilities.[2]

Countywide Integrated Waste Management Plan

As mandated by A.B. 939, counties throughout the State are now required to prepare a Countywide Integrated Waste Management Plan (CoIWMP) instead of a CoSWMP. The CoIWMP requires that each county and its incorporated cities cooperatively prepare the CoIWMP. The primary components of this solid waste management planning document, incorporate the following elements: (1) the Countywide Siting Element; (2) the Countywide Nondisposal Facility Siting Element (introduced as A.B. 3001 by Assemblyman Cortese and enacted by the California Legislature on September 30, 1992); (3) Source Reduction and Recycling Element (County SRRE), prepared for the County and each of the incorporated cities; and (4) Household Hazardous Waste Element (HHWE) also prepared for the County and each of the incorporated cities located within the County.

The CoIWMP is intended to provide: (1) a summary of the significant solid waste management problems facing each county, (2) an overview of the specific steps that its local agencies will take to meet the goals of A.B. 939, and (3) a statement of countywide mandated waste diversion goals and objectives relating to solid waste management.

Additionally, every county throughout the State was mandated by A.B. 939 to convene a countywide task force (on or before March 1, 1990) to develop its goals and objectives for integrated solid waste management planning and to address the preparation of the CoIWMP, along with comprehensive elements of this plan. The primary goal of the county task force is to adequately ensure that a coordinated and effective integrated management program is developed. The primary responsibilities of the countywide task force are to: (1) identify solid waste management issues of countywide or regional concern; (2) determine the need for solid waste collection systems, processing facilities, and marketing strategies; (3) facilitate the development of multi-jurisdictional arrangements for marketing recyclable materials; and (4) mediate potential conflicts and inconsistencies (to the extent possible) among the incorporated cities' SRRE's.

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[2]/ "Transformation" is defined as incineration, pyrolysis, distillation, gasification, or any other biological conversion other than composting.

The CoIWMP for each county as well as any subsequent amendments to it (except for the individual cities SRRE's, and the County SRRE) must be approved by each county's Board of Supervisors and by the councils of a majority of the cities containing a majority of the county's population (according to PRC, § 41760). Subsequent to Board of Supervisors approval of the County CoIWMP, the California Integrated Waste Management Board (CIWMB) must also approve this plan based upon evidence in the record that demonstrates implementation of this plan will meet the mandated requirements established under A.B. 939 for waste diversion.

Countywide Siting Element

As an integral part of the CoIWMP, counties are required to prepare a Countywide Siting Element, which describes the site areas to be developed as landfill disposal or waste management facilities. This element is based on the existing information provided by the individual SRRE of the unincorporated area of the County and the SRRE's of the incorporated cities located within the county's boundary. They would contain the following (A.B. 939 mandated) information: (1) goals and policies for the environmentally safe transformation or disposal of solid waste which cannot be reduced, recycled, or composted; (2) an estimation of the total transformation or disposal capacity (in cubic yards and in years) that will be needed for a 15-year planning period to handle safely solid wastes generated within the county which cannot be reduced, recycled, or composted; (3) a statement of the remaining capacity of existing solid waste transformation and disposal facilities (in cubic yards and years) at the time the element was prepared or revised; and (4) specified areas for new or expanded solid waste transformation or disposal facilities, consistent with the county or cities' General Plans (identification of new facilities is only required if the county determines that existing capacity will be exhausted within the 15-year planning horizon).

On September 30, 1990, A.B. 2296 (introduced by Assembly member Cortese) was enacted by the California Legislature as an urgency statute to resolve potential conflicts between A.B. 939 and the prior regulatory requirements of approved CoSWMP's. Specific provisions under A.B. 2296, codified under Public Resource Code, § 50000, subd.(a)(1)(2), read in part:

> "Until a countywide integrated waste management plan has been approved by the California Integrated Waste Management Board pursuant to Division 30 (commencing with § 40000), no person shall establish a new solid waste facility or transformation facility or expand an existing solid waste facility or transformation facility which will result in a significant increase in the amount of solid waste handled at the facility without a certification by the local enforcement agency that one of the following has occurred:
>
> The facility is identified and described in or found to conform with a county solid waste management plan which was in compliance with the law and regulations existing on December 31,1989, adopted pursuant to former Title 7.3 (commencing with § 66700) of the Government Code as it read on December 31, 1989. The conformance finding with that plan shall be in accordance with the procedure for a finding of conformance which was set forth in the plan prior to January 1, 1990.
>
> The facility is identified and described in the most recent county solid waste management plan which has been approved by the county and by a majority of the cities within the county which contain a majority of the population of the incorporated area of the county, except in those counties which have only two cities, in which case, the plan has been

approved by the county and by the city which contains a majority of the population of the incorporated area of the county."

Until a county's CoIWMP is adopted by the CIWMB, this provision of A.B. 2296 provides a so-called "post-gap" measure which establishes the causal relationship between the enactment of A.B. 939 and the statutory requirements of that specific Act. The proposed Sunshine Canyon Landfill project would effectuate the provisions of A.B. 2296 (described above) until the County of Los Angeles implements an approved CoIWMP. Moreover, the City/County Landfill project was identified (as part of the Ultimate Landfill) as a future proposed landfill expansion in the County's CoSWMP, Triennial Review, Volume I, Nonhazardous Element, dated March 1984 and Revision A, dated August 1985. Both of these documents were previously approved by the CIWMB on March 12, 1986.

Source Reduction and Recycling Element (SRRE)

As mandated in A.B. 939, the unincorporated area within the County and the incorporated cities located within the County were required to prepare an individual SRRE. The SRRE's set forth a program for the management of solid waste generated within their political jurisdiction with the emphasis of the SRRE on the implementation of all feasible source reduction, recycling and composting programs. Further the SRRE identifies the amount of landfill and transformation capacity that will be needed for solid waste disposal, which cannot be reduced at the source, recycled or composted. Each individual SRRE incorporate components for: (1) waste characterization; (2) source reduction; (3) recycling; (4) composting; (5) solid waste disposal facility capacity; (6) education and public information; (7) funding; (8) special wastes; and (9)integration.

The SRRE also addresses how each jurisdiction will meet mandated A.B. 939 solid waste reduction goals and a implementation schedule that delineates how each county and city will, by January 1, 1995, divert 25 percent and, by January 1, 2000, divert 50 percent of its solid waste from transformation and landfill facilities through reduction, recycling, and composting programs.

One of the mandatory components contained within a SRRE is the solid waste disposal facility capacity component. In addition to landfill facilities expected to close, this component provides an overview of the existing, planned, proposed, or newly established solid waste disposal facilities available to a jurisdiction. Further, it provides estimates for the amount of additional disposal capacity needed to accommodate anticipated solid waste generation for a 15-year planning period.

County SRRE

In December 1991 the County Department of Public Works prepared the Preliminary Draft, Source Reduction and Recycling Element for Unincorporated Los Angeles County (County SRRE) and the Preliminary Draft, Household Hazardous Waste Element for Unincorporated Los Angeles County (County HHWE), along with required CEQA environmental documentation. During August 1993 the Board of Supervisors approved the contents of the Final County SRRE and Final County HHWE.

City SRRE

The City of Los Angeles Source Reduction and Recycling Element (City SRRE) was approved by the Los Angeles City Council in December 1994. Similar to the County's SRRE, the City SRRE establishes an integrated waste management hierarchy that includes source reduction, recycling and composting, and

environmentally safe transformation and land disposal of solid wastes. Included within the SRRE are goals and objectives for the short-term (1991-1995) and for the medium-term (1996-2000) planning periods.

SOLID WASTE MANAGEMENT DOCUMENTS - COUNTY/CITY OF LOS ANGELES

Document Title	Document Description
COUNTY OF LOS ANGELES	
Solid Waste Management Status and Disposal Options in Los Angeles County (Options Report) (February 1988)	The Options Report presented information on the existing nonhazardous solid waste management system in metropolitan Los Angeles County, projected future quantities for use in solid waste management planning, and outlined feasible future solid waste management strategies for the County.
Los Angeles County Solid Waste Management Action Plan (County Action Plan) (April 1988)	The County Action Plan summarized a detailed report on the existing solid waste management system and presented options for the future management of the County's waste, including the economics of each option.
Integrated Solid Waste Management System Draft Program Environmental Impact Report (August 1990)	The *Integrated Solid Waste Management System Draft Program Environmental Impact Report* (DPEIR) evaluated the environmental effects of a regional integrated solid waste management system to avert the impending disposal crisis in Los Angeles County. An "integrated" waste management system is one that minimizes land disposal of solid waste through aggressive waste diversion programs and provides adequate landfill capacity to ensure that disposal of remaining wastes can be accomplished in a safe and environmentally sound manner.
County of Los Angeles Source Reduction and Recycling Element (County SRRE) (August 1993)	The County SRRE was prepared by the County Department of Public Works (County DPW) in response to A.B. 939 and in accordance with guidelines developed by the California Integrated Waste Management Board (CIWMB). The County SRRE is comprised of planning components to effectively provide an integrated waste management plan for the environmentally safe disposal of solid waste. The disposal facility capacity component presented an overview of the existing, planned, and proposed solid waste landfill and transformation facilities available to the various unincorporated communities in the County. This component incorporated the policies of the County Action Plan for maintaining adequate disposal capacity.
County of Los Angeles Countywide Integrated Waste Management Plan (CoIWMP) (January 1996)	The purpose of the CoIWMP was to establish Countywide goals and objectives for integrated waste management; establish an administrative structure for preparing and maintaining the summary plan; describe the Countywide system of governmental solid waste management infrastructure; describe the current system of solid waste management in the unincorporated County areas and the cities; summarize the types of programs planned in the SRREs, household hazardous waste elements, and nondisposal facility elements; and describe programs that could be consolidated or coordinated Countywide and how these Countywide programs are financed.

Document Title	Document Description
County of Los Angeles Countywide Siting Element (CSE) (January 1996)	The CSE provided a means for proper planning and management of solid waste transformation and land disposal facilities on a Countywide basis. It offered policies and established siting criteria to evaluate sites proposed for development of needed solid waste transformation and land disposal facilities to effectively serve the public need. This document is still in draft form and has not been adopted by the County.
CITY OF LOS ANGELES	
City of Los Angeles Solid Waste Management Action Plan (City Action Plan) (June 1988)	The City Action Plan was approved by the Board of Public Works and supported the County's Action Plan policies of managing solid waste in the County through public and private operations and facilities, provided 50 years of permitted landfill capacity to be held in public ownership, and encouraged implementation of residential and commercial recycling, composting, and household hazardous waste programs.
City of Los Angeles Solid Waste Management Plan, Phase I Report: Existing Conditions (CiSWMP) (August 1989)	This report provided an analysis of existing solid waste conditions. It included an inventory and evaluation of existing solid waste management facilities, analyzed current costs of solid waste management services, and characterized the City's waste stream and its permitting process for solid waste management facilities.
City of Los Angeles Solid Waste Management Plan, Phase II Report: Component Alternatives (CiSWMP) (December 1989)	This report evaluated a variety of options for each major component of the solid waste management system. Components analyzed include waste reduction, recycling, waste collection, waste transportation and transfer, waste processing facilities, and landfilling. Landfill disposal options were based on a review of the status of proposed or potential landfill expansions and new landfill sites that were previously identified.
City of Los Angeles Solid Waste Management Plan, Phase III Report: Description of Solid Waste Management System Alternatives (CiSWMP) (December 1989)	This report combined feasible component options from the Phase II report into several comprehensive waste system alternatives. Each combination included waste reduction, recycling, collection, transportation, and disposal components.
City of Los Angeles Solid Waste Management Plan Draft Program Environmental Impact Report (CiSWMP) (July 1990)	This report summarized major characteristics that included each component of the solid waste management alternatives considered by the City. Environmental impacts were discussed for each component, and alternatives and mitigation measures were provided for impacts.
City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP) (October 1993)	The CiSWMPP addressed solid waste collection and disposal services necessary for residents, commercial establishments, and industrial operations over a 30-year period. It provided citywide diversion goals and disposal capacity needed over that period. The CiSWMPP set a goal of 70 percent diversion in the year 2020.[3] The CiSWMPP will become part of the Infrastructure Systems Element (Solid Waste Disposal) of the City General Plan.

[3]/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 1-6. October 1993.

Document Title	Document Description
City of Los Angeles Source Reduction and Recycling Element (City SRRE) (October 1994)	The City SRRE established an integrated waste management hierarchy that included source reduction, recycling and composting, and environmentally safe transformation and land disposal of solid wastes. The SRRE described how the City would meet its waste diversion goals of 25 percent by 1995 and 50 percent by the year 2000.
Citywide General Plan Framework, an Element of the City of Los Angeles General Plan (December 1996)	This element provided Citywide, comprehensive long-range growth policies for land use, housing, urban form and neighborhood design, open space and conservation, economic development, transportation, infrastructure, and public services. Solid waste disposal policies were included within the infrastructure and public services chapter of the element.

Source: Ultrasystems Environmental Incorporated

The following information is derived from County and City solid waste management documents and briefly demonstrates the regional need for the proposed City/County Landfill Project by these jurisdictions.

Solid Waste Management Status and Disposal Options in Los Angeles County

In February 1988 a study entitled *Solid Waste Management Status and Disposal Options in Los Angeles County* was completed by the solid waste staffs of the County DPW, City of Los Angeles Bureau of Sanitation, and Sanitation Districts of Los Angeles County. The report evaluated the complex waste management system that involves public and private refuse collection, transfer, and disposal services. The study indicated that a solid waste disposal capacity shortfall will occur unless waste diversion activity is increased, existing landfills are expanded, or new landfills are sited. As stated in this plan, "as existing landfills begin to close due to expired permits or exhausted capacity, the amount of City generated waste, which will no longer have a disposal location within the City and presumably would be exported to more distant disposal facilities in the County, will dramatically increase."[4] This plan identified Sunshine Canyon Landfill as a major Class III landfill in Los Angeles County where the potential exists for "site expansion."[5]

Los Angeles County Solid Waste Management Action Plan

In response to the *Solid Waste Management Status and Disposal Options in Los Angeles County* report, a coordinated Solid Waste Management Action Plan (County Action Plan) was formally approved by the Los Angeles County Board of Supervisors (April 1988) and the Sanitation Districts Board of Directors (signatory to the Joint Refuse Transfer and Disposal System Agreement dated May and June 1988). The County Action Plan reaffirmed the policy of managing solid waste in the County through a reasonable balance of public and private operations and facilities, including a regional public landfill system. Additionally, this adopted plan embraced a policy to provide 50 years of permitted landfill capacity, held in public ownership with appropriate land use protections, for use through public, private, or public/private joint venture operations.

4/ *Solid Waste Management Status and Disposal Options in Los Angeles County*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; County of Los Angeles, Department of Public Works; and Sanitation Districts of Los Angeles County, Solid Waste Management Department, p. III-3. February 1988.

5/ Ibid., p. 24.

One of the nine primary recommendations of the County Action Plan is to "support the revision of all existing permits at the Azusa Western, Chiquita Canyon, North Valley (Sunshine Canyon), Puente Hills, and Scholl Canyon Landfills to provide for the maximum technically and environmentally feasible expansion of these sites. . . ."[6]

City of Los Angeles Solid Waste Management Action Plan

The City Board of Public Works approved the *City of Los Angeles Solid Waste Management Action Plan* (City Action Plan) in June 1988. In general, the City Action Plan supported the County Action Plan with specific support for the County's policies of managing solid waste in the County through public and private operations and facilities, provided for 50 years of permitted landfill capacity to be held in public ownership, and encouraged implementation of residential and commercial recycling, composting, and household hazardous waste programs. The City Board of Public Works also supported the County in its proposal "to revise existing permits for expansion at Azusa Western, Chiquita Canyon, North Valley (Sunshine Canyon), Puente Hills, and Scholl Canyon Landfills if such expansions can be shown to be technically feasible and environmentally acceptable."[7]

City of Los Angeles Solid Waste Management Plan

In response to the City Action Plan and the termination of City attempts to site waste-to-energy (WTE) facilities (e.g., Los Angeles City Energy Recovery Projects I, II, and III) within the City as an alternative to landfilling, the City Council authorized the development of a 30-year Solid Waste Management Plan. This plan will eventually become part of the Infrastructure Element of the City General Plan and will serve as a guide to manage the City's solid waste over the period of 1990 to 2020. In this plan, the City recognized that "recycling is not the sole answer to growing solid waste problems within its jurisdiction. While recycling could reduce the volume of solid waste to be landfilled, it could not preclude the need for future disposal facilities."[8]

This Solid Waste Management Plan identified the Sunshine Canyon Landfill in a table entitled "Potential Landfill Expansions in the City of Los Angeles."[9] In addition, the plan stated, "the only alternative for disposing waste that is not recycled is burying it in landfills. Regardless of the programs that are undertaken by the City for reducing, recycling, collecting and processing solid waste, some portion of the waste stream will have to be disposed of in landfills. Since current space is limited, new landfills will be required."[10] In

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[6]/ *Los Angeles County Solid Waste Management Action Plan*, Sanitation Districts of Los Angeles County; County of Los Angeles, Department of Public Works; and City of Los Angeles, Bureau of Sanitation, p. 2. Adopted by Los Angeles County Board of Supervisors in April 1988 and Sanitation Districts Board of Directors in June 1988.

[7]/ *City of Los Angeles Solid Waste Management Plan, Draft Program Environmental Impact Report,* City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 1-6. July 1990.

[8]/ *City of Los Angeles Solid Waste Management Plan, Phase I Report: Existing Conditions*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 1-3. August 1989.

[9]/ *City of Los Angeles Solid Waste Management Plan, Phase II Report: Component Alternatives,* City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 9-4. December 1989.

[10]/ Ibid., p. 9-28.

addition, one of the goals of this plan states, "provide a technically and operationally reliable solid waste management system," and the objective of this goal is to "provide adequate system capacity to accommodate projected waste quantities."[11]

The *City of Los Angeles Solid Waste Management Plan, Draft Program Environmental Impact Report* (DPEIR) lists one of the goals of the City's Solid Waste Management Plan as "Goal 2: A solid waste management system with adequate system capacity to dispose of the waste stream after source reduction and diversion."[12] In addition, the DPEIR stated, "Development or expansions of landfills, despite siting difficulties, is justified by the counter effects of not providing a waste disposal site or sites. The health risks of uncontrolled waste disposal under the 'No Project' alternative present a significant hazard to the population."[13] The DPEIR stated that the City Bureau of Sanitation and the Department of City Planning recommended primary system Alternative 3. This alternative recommended that 50 percent of the wastes generated in the City be source reduced and recycled. Implementation of this alternative would require that of the remaining 50 percent of solid wastes that cannot be reduced or recycled, 70 percent of this remainder be disposed of in local (City and County) landfills, with the remaining 30 percent of solid wastes disposed of in remote landfill facilities that utilize waste-by-rail systems. This is the near-term goal of the City, which is expected to be achieved by the year 2000.[14]

City of Los Angeles Solid Waste Management Policy Plan

In October 1993 the City released the Phase IV report of the Solid Waste Management Plan (now referred to as the Solid Waste Management Policy Plan). Included within the plan is the following policy related to solid waste disposal capacity: "Policy 3.3.1 (Local Disposal) - It is the policy of the City of Los Angeles that the City shall work closely with the Los Angeles County Department of Public Works, the Los Angeles County Sanitation Districts, other jurisdictions, and private firms to identify and secure additional disposal capacity in and/or outside the County to meet the needs of the City of Los Angeles." The plan further reiterated the point that, "Even with the implementation of the source reduction, recycling, and composting programs, the City will have inadequate disposal capacity within its borders to dispose of all waste generated in the City."[15]

City of Los Angeles Source Reduction and Recycling Element

The City SRRE stated that, "To meet its 15-year disposal requirements, an additional 24.47 million tons of disposal capacity is required through the year 2005, assuming the City continues to dispose of waste in Bradley West, Chiquita, BKK, and Calabasas Landfills at current levels until either they reach capacity or

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[11]/ *City of Los Angeles Solid Waste Management Plan, Phase III Report: Description of Solid Waste Management System Alternatives*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 4-1. December 1989.

[12]/ *City of Los Angeles Solid Waste Management Plan, Draft Program Environmental Impact Report*, op. cit., p. S-3.

[13]/ Ibid., p. S-33.

[14]/ Ibid., p. S-1.

[15]/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, op. cit., p. 6-7.

their permit expires."[16] The City SRRE further stated that the City will "provide support to the County for expanding existing landfills and developing new landfills provided it can demonstrate that the expansions and developments are technically and environmentally feasible."[17]

Citywide General Plan Framework, an Element of the City of Los Angeles General Plan

The Framework Element of the General Plan provides Citywide, comprehensive long-range growth policies for land use, housing, urban form and neighborhood design, open space and conservation, economic development, transportation, infrastructure, and public services.[18] The infrastructure and public services chapter of the Framework Element stated, "For the solid waste remaining after diversion, the City will have a continuing need for solid waste transfer and disposal facilities."[19] The FEIR prepared for the Framework Element further concluded, "If there are no expansions of existing sites or new sites, the City of Los Angeles would have no remaining disposal capacity within the City by the next ten years" and "The next few years could bring about a refuse crisis, due to dwindling landfill capacity, permit expirations and closures, and increased solid waste tonnages."[20]

County of Los Angeles Integrated Solid Waste Management System

The *Integrated Solid Waste Management System for Los Angeles County Draft Program Environmental Impact Report*, prepared by the County DPW and the Sanitation Districts of Los Angeles County, evaluated the environmental effects of a regional integrated solid waste management system that must be implemented to avert the impending disposal crisis in Los Angeles County. An "integrated" waste management system minimizes land disposal of solid waste through aggressive waste diversion programs but provides adequate capacity to ensure that disposal of remaining wastes can be accomplished in a safe, environmentally sound manner. The primary components of the integrated system included waste diversion (e.g., source reduction, recycling, and reuse) programs, expanding existing landfills, and siting new landfills, when environmentally feasible.[21] This DPEIR referenced the proposed project as a "potential expansion."[22]

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[16]/ *City of Los Angeles Source Reduction and Recycling Element (SRRE), Volume III: Compliance Document*, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management, p. 9-6. October 1994.

[17]/ Ibid., p. 9-7.

[18]/ *Citywide General Plan Framework, an Element of the City of Los Angeles General Plan*, City of Los Angeles. Department of City Planning. Adopted by City Council on December 11, 1996.

[19]/ Ibid, p. 9-4.

[20]/ *Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report*, City of Los Angeles, Department of City Planning, pp. 2.4-1 and 2.4-2. January 19, 1995.

[21]/ *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, Sanitation Districts of Los Angeles County, Solid Waste Management Department; and County of Los Angeles, Department of Public Works, p. 1-1. August 1990.

[22]/ Ibid., p. 3-17.

County of Los Angeles Source Reduction and Recycling Element

The County SRRE was prepared by the County DPW in response to A.B. 939 and in accordance with guidelines developed by the CIWMB. The County SRRE is comprised of planning components to effectively provide an integrated waste management plan for the environmentally safe disposal of solid waste. The Disposal Facility Capacity Component presented an overview of the existing, planned, and proposed solid waste landfill and transformation facilities available to the various communities in the unincorporated areas of the County. This component incorporated the policies of the County Action Plan for maintaining adequate disposal capacity. The proposed project is identified as a planned landfill expansion facility in the County SRRE.[23]

Los Angeles County Countywide Integrated Waste Management Plan

The CoIWMP stated that one of its primary goals is to "assure adequate long-term solid waste disposal capacity for the cities and County unincorporated areas."[24] The CoIWMP further stated that the County and participating cities in Los Angeles County will support the development of new disposal facilities and expansion of existing facilities identified in the Los Angeles County Solid Waste Management Action Plan adopted on April 5, 1988, by the County Board of Supervisors (as revised by the Countywide Siting Element), as long as they are found to be technically and environmentally feasible.[25]

Los Angeles County Countywide Siting Element

The CSE was prepared by the staff of the County DPW under the auspices of the Solid Waste Management Committee/Integrated Waste Management Task Force (SWMC/IWMTF). The Siting Element was prepared pursuant to the statutory requirements for the content and format of the Countywide Siting Element found in the California Public Resources Code, § 41700 through 41721.5. These requirements are further clarified in regulations adopted by the CIWMB and approved by the Office of Administrative Law for the preparation of a Siting Element found in CCR, Title 14, Division 7, Chapter 7, Article 6.5, § 18755 through 18756.7.

The CSE stated as one of its goals that, "The cities in Los Angeles County, the County, and the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force will encourage and assist other jurisdictions in utilizing, to the maximum extent feasible, disposal capacity available for expansion within their boundaries, provided it is technically feasible and environmentally safe." This goal further stated, "Specifically, the jurisdictions in Los Angeles County will encourage the following: . . . the expansion of the Sunshine Canyon Landfill located in the northern San Fernando Valley within the City of Los Angeles and the County unincorporated area."[26] In addition, the Siting Element identified the Sunshine

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[23]/ *Los Angeles County Source Reduction and Recycling Element (SRRE), Volume I: The Element*, Los Angeles County Department of Public Works, Waste Management Division, p. 8-14. August 1993.

[24]/ *Preliminary Draft Summary Plan of the Los Angeles County Countywide Integrated Waste Management Plan, Volume I: The Plan*, Los Angeles County Department of Public Works, Environmental Programs Division, p. 2-5. January 1996.

[25]/ Ibid.

[26]/ *Preliminary Draft Los Angeles County Countywide Siting Element (CSE)*, Los Angeles County Department of Public Works, Environmental Programs Division, p. 2-3. January 1996.

Canyon Landfill in the City of Los Angeles as a "potential Class III landfill expansion."[27] The document further stated that, "The proposed project would consist of a horizontal expansion of the City side, and vertical expansions of the currently closed City site and the recently approved County site. The expansion, if approved, will provide approximately 75 million tons . . . of additional capacity and would increase the facility's daily capacity to 11,000 tons."[28]

The CSE further mentioned the Sunshine Canyon Landfill as follows: "The proposed expansion of this facility [Sunshine Canyon] consists of an area which is partially located in the City of Los Angeles and partially in the unincorporated area. Conditional Use Permit 86-312 approved by the Los Angeles County Board of Supervisors on October 21, 1993, allows for initial expansion in the unincorporated areas. This permit also allows further expansion should the City of Los Angeles also approve the requested expansion into the area within the jurisdiction of the City of Los Angeles."[29] The Siting Element identified the proposed Sunshine Canyon Landfill in the City as a "potential expansion site."[30] One of the primary goals of the CSE is to "Protect the health, welfare, and safety of all Los Angeles County citizens by addressing their solid waste disposal need."[31] One of the primary methods of accomplishing this goal is to "assist jurisdictions in utilizing available disposal capacity expansion within their boundaries."[32]

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[27]/ Ibid., p. 6-5.

[28]/ Ibid., p. 6-8.

[29]/ Ibid., pp. 7-3 and 7-4.

[30]/ Ibid., p. 7-4.

[31]/ Ibid., p. 2-2.

[32]/ Ibid.

Appendix C14
PROPERTY VALUATION STUDIES SUMMARY

SUMMARY OF PROPERTY VALUATION STUDIES

SUNSHINE CANYON LANDFILL

In response to public comments received during the environmental review period for the County Landfill about the potential negative impact of landfill development on the value of existing homes in the vicinity of the project site, a property valuation study was conducted. The study assessed the impact that the proposed Sunshine Canyon Landfill Extension project (±215 acre landfill with a maximum intake of 17,500 tpd) would have on the value of homes in the neighboring community of Granada Hills.

The study, "An Evaluation of the Sunshine Canyon Landfill's Impact on the Value of Homes in Adjacent Residential Neighborhoods " (JurEcon, Inc., November 1988) evaluated the landfill's effect on the sale price of homes or rate of price appreciation of homes in defined areas. Data was compiled on over 2,000 home sales transactions within the Granada Hills area and spanned over a 10-year period. A model was constructed by JurEcon, Inc. to delineate transaction prices in terms of year of sale, housing variables (for example, size and year built) and neighborhood variables.

The study concluded that the proposed landfill would not affect housing values. As noted in the study, homes of given characteristics adjacent to the landfill would on average sell for the same price as a similar homes in a comparable neighborhood at some distance from the landfill. Furthermore, once adjustments for prestigious neighborhood differences were made, a home adjacent to the landfill could even be expected to sell for the same price as a similar home in a non-comparable neighborhood. The lack of a statistically significant difference between the target neighborhoods adjacent to the landfill and comparable neighborhoods indicated that the Sunshine Canyon Landfill did not impact local housing prices.[1]

The study identified "target neighborhood" and "comparison neighborhoods." Homes within approximately 1 mile from the landfill were designated as the target neighborhood. Concentric rings were identified at 1.5 miles, 3 miles, and 6 miles from the landfill to locate comparison neighborhoods. These areas were selected using sociodemographic and real estate market data to control secondary factors. Information was obtained from the U.S. Census that detailed ethnicity, family size, and family income. Areas were eliminated from consideration if they deviated substantially from the target neighborhood and those remaining areas had homes of approximately the same size and age as the target neighborhood.

Four neighborhoods were identified as being similar to the target neighborhood. The first comparison neighborhood was adjacent to the target neighborhood and was located between 1 to 1.5 miles south of the landfill. The second and third comparison neighborhoods, in the Knollwood Country Club and Porter Ranch areas, were approximately 2 to 3 miles from the landfill and east and west, respectively, of the first comparison neighborhood. The fourth comparison neighborhood was a large tract located along the Northridge/Chatsworth border, between 3 to 6 miles from the landfill.[2]

After the neighborhoods were identified, data corresponding to those homes in the neighborhoods that were of similar size to those in the target neighborhood (between 1,700 and 3,000 square feet) were obtained from

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[1]/ *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A (July 13, 1990), Appendix 7, "JurEcon Evaluation of Landfill Impacts on Home Values", p. 1. November 1988.

[2]/ Ibid., p. 7.

the computerized real estate database and analyzed. About 2,000 transactions from 1978 through early 1988 were included in the analysis. Besides neighborhood identifiers, explanatory variables were used as predictors in the analysis and included: the square footage of the house, the ratio of the building size to the lot size, the presence of a swimming pool, the year the house was built, and the year the observed transaction occurred. Usually, theses variables were found to be statistically important when the price increased as square footage increased, decreased as site coverage increased (because there is relatively less yard for the house), increased if a pool is present, decreased when the house was older (many older houses need repairs and reflect less popular styles), and increased with more recent transactions reflecting the general increase in housing prices.[3]

This resulting statistical analysis determined that housing prices in the target neighborhood by the landfill, the adjacent neighborhood, and in Northridge/Chatsworth neighborhood were all predicted by the same mathematical equation. The resulting analysis showed that there was no measurable "landfill effect" that would either positively or negatively affect housing values. There was also no statistically significant difference between the target neighborhood, adjacent neighborhood, or the Northridge/Chatsworth neighborhood indicating that the existing landfill within Sunshine Canyon and proposed landfill would have no impact on surrounding housing prices.[4]

PUENTE HILLS LANDFILL

In addition, a study was conducted in 1989 by Parkcenter Realty Advisors to assess the impacts on residential property values near the Puente Hills Landfill. Sales data were compared between two study areas near the landfill and two control groups with similar housing located at a distance from the landfill. The two study areas consisted of single-family residential homes located in Western Hacienda Heights and Avocado Heights. The two control groups chosen were located in south-central Hacienda Heights and in Rowland Heights.

Sales data were analyzed using overall price levels, price per square foot, and appreciation rates over a 5-year period as indicated by resales. The average price per square foot in the study areas closely mirrored those of the control areas with nearly identical patterns of price trends. A review of resale information indicated a consistent range of annual average appreciation rates for each of these four areas. The highest rates of appreciation for individual resales were experienced in the study areas. Median home prices for the study areas were within the range of those of the control areas with the exception of a dissimilar portion of Avocado Heights. Also, all areas experienced lower annual increases during 1984 to 1986 because of a sluggish real estate market. A regression analysis was used to incorporate all data collected. The results of this analysis supported an earlier study on values to property (adjacent to the Puente Hills Landfill) that was conducted in 1983. Based on the two studies conducted in 1983 and 1989, single-family residential property values near the Puente Hills Landfill are not adversely affected by their proximity to the landfill.[5]

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[3]/ Ibid.

[4]/ Ibid., p. 12.

[5]/ *Draft Environmental Impact Report, Puente Hills Waste Management Facilities*, County Sanitation Districts of Los Angeles County, p. 5-2. June 1992.

Appendix C15
STATIC AND SEISMIC STABILITY ASSESSMENT COUNTY LANDFILL, PHASE II CONSTRUCTION

STATIC AND SEISMIC STABILITY ASSESSMENT PROPOSED PHASE II CONSTRUCTION SUNSHINE CANYON LANDFILL EXTENSION COUNTY OF LOS ANGELES

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November 1996

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1. INTRODUCTION

1.1 Terms of Reference

This report was prepared by the Huntington Beach, California, office of GeoSyntec Consultants (GeoSyntec) for the Sunshine Canyon Landfill District of Browning-Ferris Industries, Inc. (BFI). Preparation of this report was authorized by Mr. Daniel S. Tempelis, P.E., of BFI under the terms and conditions of GeoSyntec's Revised National Services Agreement with BFI. This report was prepared by Mr. Paul D. Guptill, R.G., C.E.G., Dr. Neven Matasovic, P.E., and Mr. Tom Williamson of GeoSyntec. In accordance with the peer review policies of the firm, Dr. Edward Kavazanjian, Jr., P.E., G.E., of GeoSyntec provided peer review for the work presented herein.

1.2 Objective

This report presents the result of the static and seismic stability assessment of the proposed Phase II Construction for the Sunshine Canyon Landfill County Extension (the County Extension). The objective of this report is to demonstrate that the proposed Phase II Construction complies with the applicable regulatory standards and standards of practice for the static and seismic stability of California Class III (Municipal Solid Waste) landfill containment systems. The containment system is interpreted herein to include the waste mass liner system (including the leachate collection and removal system) and the surface water control system. As such, this report includes static and seismic stability analyses of the liner system and of cut and fill slopes the failure of which would impact either the waste mass liner system or the surface water control system.

1.3 Scope of Work

The scope of work of this report encompasses static and seismic stability analysis of the liner system and of cut and fill slopes for the proposed Phase II Construction at the Sunshine Canyon Landfill County Extension. The following work is included in this scope:

- supplemental geologic mapping of the Phase II Construction area;
- interpretation of landslide mechanisms within the Phase II Construction area that would impact the Phase II waste containment system, including the waste mass liner system and the surface water control system;
- static and pseudo-static limit equilibrium slope stability analyses of both interim and final (permanent) cut and fill slopes in the Phase II Construction area;
- static and pseudo-static limit equilibrium analysis of the Phase II Construction waste mass; and
- seismic response and deformation analyses of the Phase II Construction waste mass.

1.4 Organization of the Report

Section 2, Background Information, provides background information relevant to static and seismic stability analyses of the proposed Phase II Construction at the County Extension Landfill. Included in Section 2 are:

- description of the site conditions following the completion of Phase I Construction activities;
- the proposed grading plans for Phase II Construction;
- the proposed Phase II waste grading plan;
- a brief description of the seismic setting of the site; and
- a description of the design earthquake for the landfill.

Section 3, Geology, describes the geology of the Phase II Construction area. Included in Section 3 is the updated geologic map for the project site developed on the basis of the in-grade mapping of the Phase I Construction area and supplemental field mapping performed specifically for the purposes of this report. Section 3 also provides interpretation of the mechanisms of the landslides that could impact Phase II Construction.

Section 4, Cut and Fill Slope Stability, describes the static and pseudo-static limit equilibrium analysis of Phase II Construction cut and fill slopes. The analysis includes both final (permanent) slopes and interim slopes. Final slopes include all slopes that are in their final configuration for the currently permitted 17 million-ton County Extension Landfill and any other slopes the failure of which would adversely affect the waste containment system. Interim slopes include slopes that have been cut to their final configuration but will eventually be buttressed by waste and slopes, which are not yet in their final configuration and which will not adversely impact the containment system should they fail.

Section 5, Waste Mass Stability Evaluations, describes the static and seismic stability analysis of the Phase II Construction waste mass. Included in this section of the report are:

- static and pseudo-static limit equilibrium analysis of Phase II Construction waste mass stability, focusing on failures along the liner system;
- two-dimensional finite element analyses of the response of the Phase II Construction waste mass to the Maximum Credible Earthquake (MCE); and
- Newmark-type analyses of the permanent seismic deformation of the Phase II Construction waste mass when subject to the MCE.

Section 6, Summary and Conclusions, presents the summary and conclusions drawn from the analyses presented herein.

A set of seven drawings entitled, "Phase II Liner System Design Drawings, Sunshine Canyon Landfill County Extension," submitted to the Regional Water Quality Control Board accompanies this report.

2. BACKGROUND INFORMATION

2.1 Existing Conditions

At the present time, grading for the waste containment system in Phase I Construction of the County Extension Landfill has been completed. Construction of the liner system for Phase I Construction is in progress and is currently scheduled for completion in early December 1996. Figure 2-1 shows the Phase I Construction grading plan. Phase I provides an estimated capacity for waste disposal of approximately 1.9 million cubic yards (1.4 million cubic meters) or 1.3 million tons of solid waste.

2.2 Proposed Grading

Figure 2-2, also presented as Plate A-1 of this report and as Drawing 3 in the set of permit drawings accompanying the report, presents the proposed Phase II Construction base grading plan. For purposes of describing geology and referencing locations within the Phase II Construction area, the two canyons, which correspond to the Phase I Construction area and which bracket the Phase II Construction area (See Figures 2-1 and 2-2) are designated the "southwest canyon" (including north and south branches), and the "northwest canyon" (i.e., Sunshine Canyon proper).

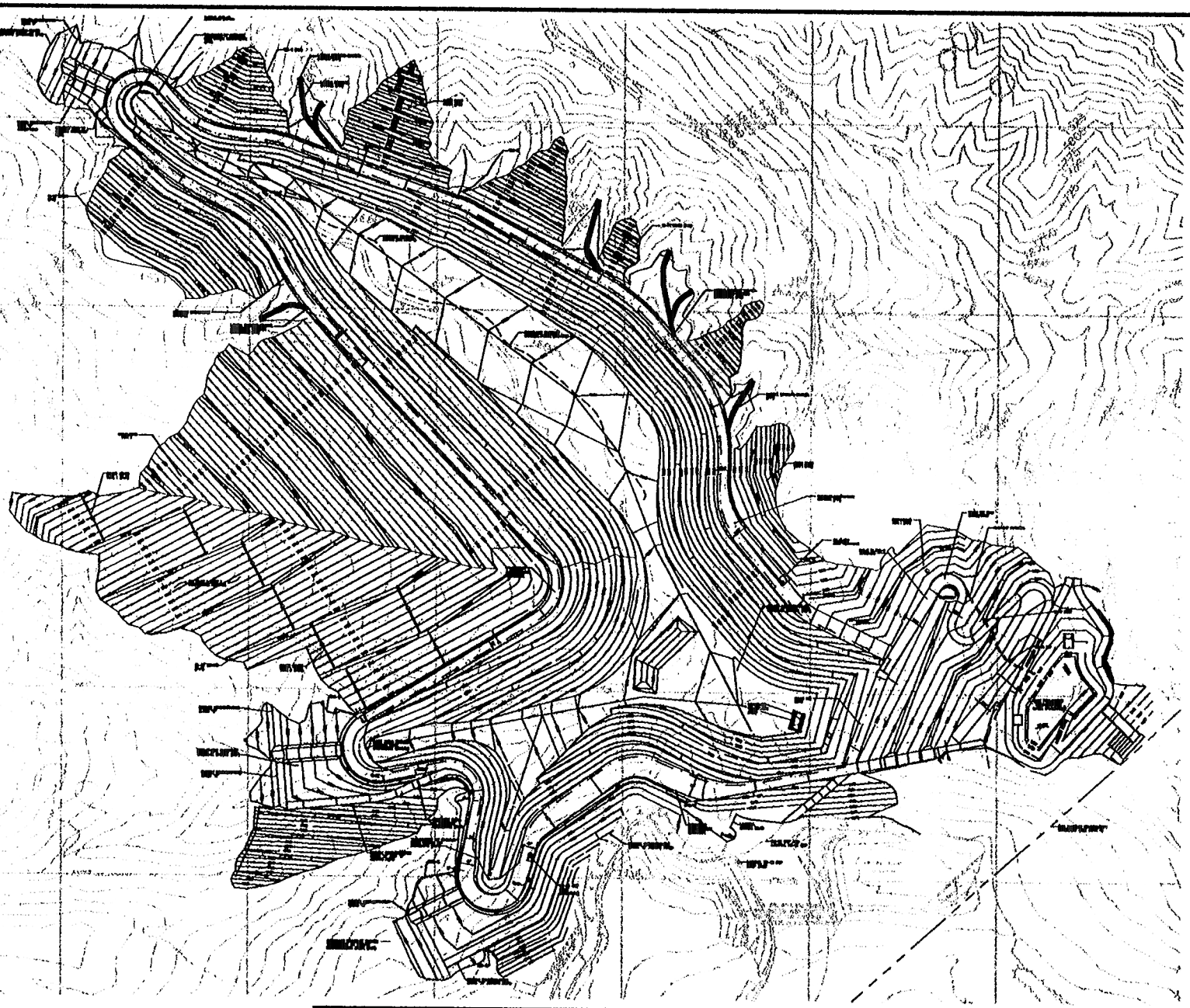
As shown in Figure 2-2, Phase II Construction consists of excavating the ridge between the areas of the northwest and southwest canyons lined during Phase I from the "nose" of the ridge, where the two canyons converge, back to the limits of the currently permitted 17 million-ton landfill. Over the segment of the landfill between the northwest and southwest canyons in which the excavation is extended to its permitted limit, the drainage corridor for the 17 million-ton landfill will be constructed. To the north of this area, in the upper reaches of the northwest canyon, soil extracted from the ridge between the northwest and southwest canyons will be stockpiled for later use. To the south of this area, drainage Basin B-C will be regraded and a buttress fill will be placed to support an interim alignment for the drainage corridor that will direct surface water from the permanent segment of the perimeter corridor into the regraded Basin B-C. The deck area created by excavation of the ridge between the northwest and southwest canyons will be lined and waste will be placed in accordance with the Phase II Construction Waste Grading Plan provided as Figure 2-3, Plate A-2 of this report, and Drawing 4 in the set of permit drawings accompanying this report.

The Phase II Construction Base Grading Plan, Waste Grading Plan, and liner system details are presented in the accompanying set of seven drawings entitled, "Phase II Liner System Design Drawings, Sunshine Canyon Landfill County Extension," submitted to the Regional Water Quality Control Board with this report. Construction specifications for Phase II Construction will be essentially the same as those developed for Phase I Construction.

2.3 Evaluation of the Design Earthquake

2.3.1 Geomorphic and Physiographic Setting

The project site lies within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys that truncate the prevailing north-northwest trend of the southern Coast Ranges and Peninsular Ranges. The Transverse Ranges province extends from Point Augello, located along the western coast of California, eastward to Joshua Tree National Park where it merges with the Mojave and Colorado Deserts. The northern boundary of this province stretches along the San Andreas Fault from northwest Ventura County east to the Cajon Pass. The southern



400 200 0 400

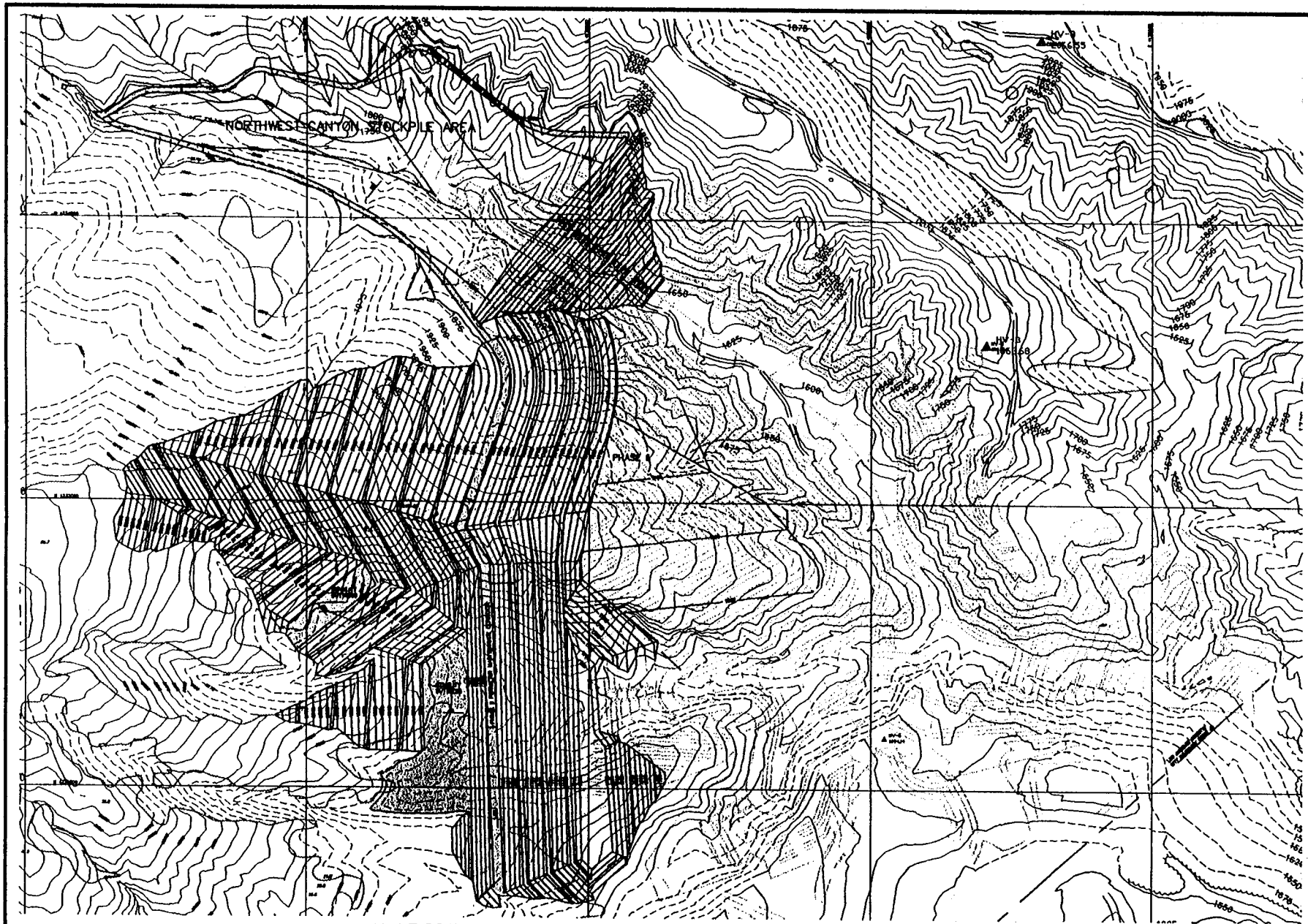
SCALE IN FEET

GEOSYNTEC CONSULTANTS

PHASE I CONSTRUCTION BASE GRADING PLAN
SUNSHINE CANYON COUNTY EXTENSION LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	2-1
PROJECT NO.	CE4085-23
DATE.	12 NOV 96

DWG: 4085 /19 199611121216 KDB



*LARGER VERSION INCLUDED IN APPENDIX A-1

500 250 0 500

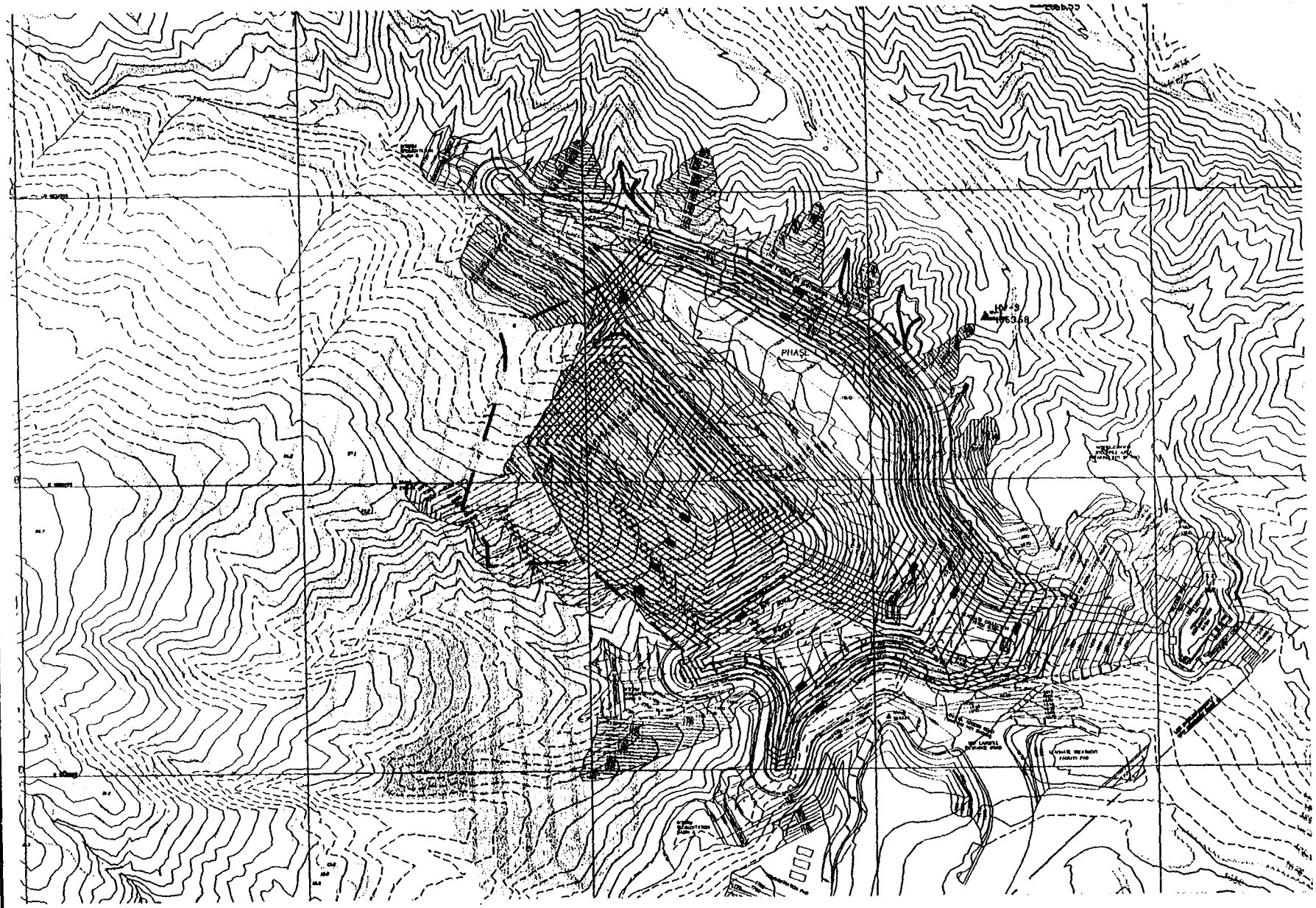
SCALE IN FEET

GeoSyntec Consultants

PHASE II CONSTRUCTION BASE GRADING PLAN
SUNSHINE CANYON COUNTY EXTENSION LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	2-2*
PROJECT NO.	CE4085-23
DATE:	12 NOV 1996

DWG: 4085720F 199611120826 KDB



*LARGER VERSION INCLUDED IN APPENDIX A-2

500 250 0 500

SCALE IN FEET

GeoSyntec Consultants

PHASE II WASTE GRADING PLAN
SUNSHINE CANYON COUNTY EXTENSION LANDFILL
SYLMAR, C. ORNIA

FIGURE NO.	2-3*
PROJECT NO.	CE4085-
DATE:	12 NOV 06

DWG: 4085721, 99611121203 KDB

boundary is defined by east-west trending mountain ranges that include the San Bernardino Mountains, the San Gabriel-Verdugo Mountains, and the Santa Monica Mountains.

Within the Transverse Ranges, there are compressional thrust (i.e., reverse slip) faults and curvilinear strike-slip faults that generally trend in an east-west direction. For comparison, the northwest-striking faults within the Coast Ranges province located to the north and the Peninsular Ranges province located to the south of the project site are characterized by strike-slip movement with minor dip-slip displacement.

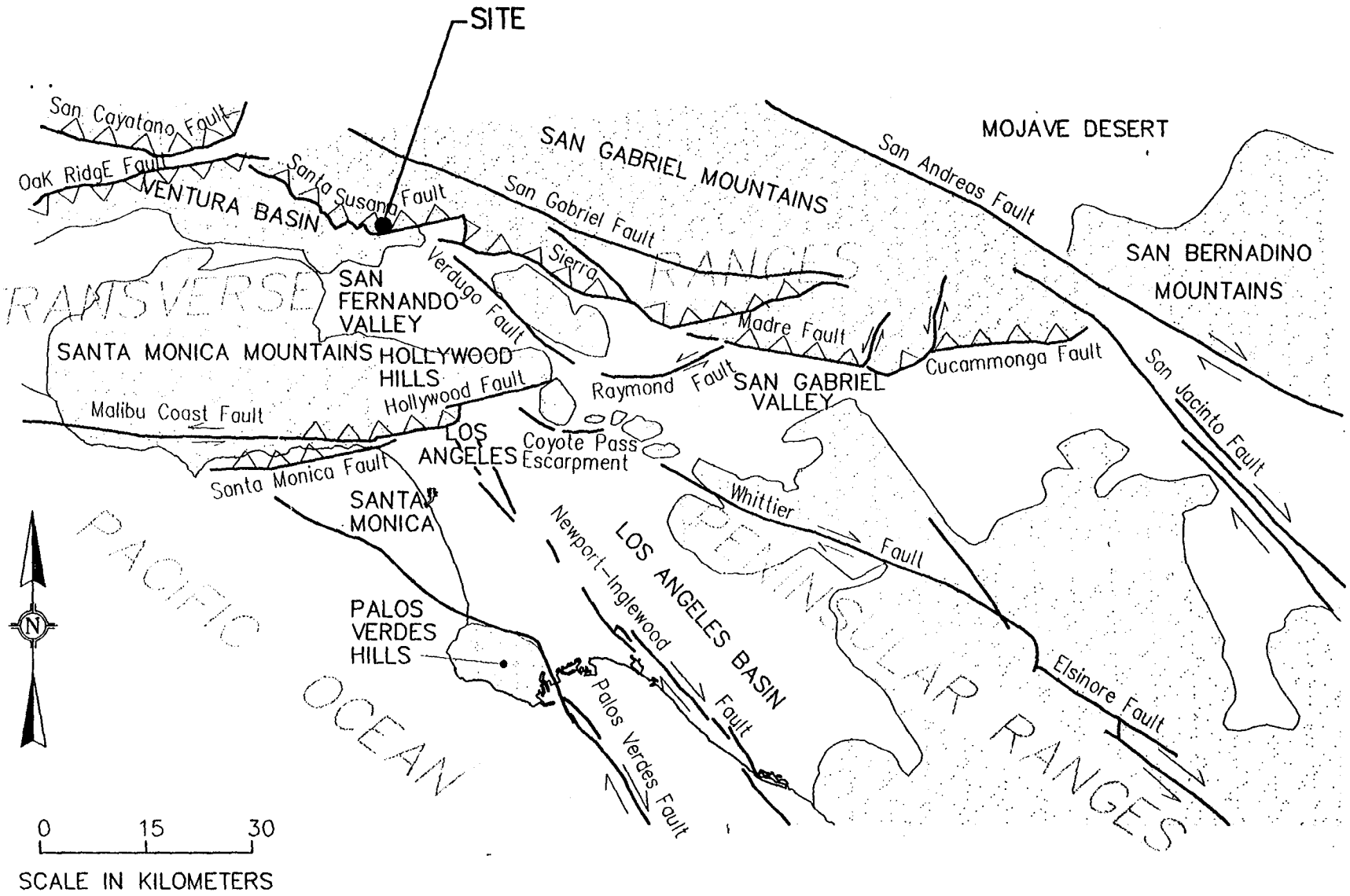
The foremost structural feature that has affected the geologic evolution of the province is the San Andreas Fault. This fault strikes northwest both to the north and south of the Transverse Ranges, but it changes to a west-northwest strike within the Transverse Ranges, thus forming a bend in the fault. The bend in the San Andreas Fault is associated with a 100-mile "left step" in the fault located between the Coachella Valley and the Carrizo Plain. This "big bend" in the fault induces a component of north-south convergence across the fault. The compression associated with this convergence has created the Transverse Ranges and an associated family of east-west trending thrust faults. Many of these thrust faults break the ground surface south of the San Andreas Fault along the southern flank of the San Gabriel and Santa Monica Mountains and dip either southward or northward and merge with the broad, buried fold and thrust belts that underlie the Los Angeles Basin and the southern margin of the Transverse Ranges.

2.3.2 Seismic Sources

Southern California is recognized as a seismically active area. Numerous potentially damaging earthquakes (magnitude greater than 5.0) have been recorded in Southern California in historic time. These earthquakes result from tectonic forces that have been ongoing for millions of years. Earthquake activity tends to aggregate around the boundaries of the Earth's tectonic plates, and southern California has been the location of a plate boundary for at least 100 million years (Wright, 1991).

At the present time, as it has been for the past 20 million years, the plate boundary in southern California is a transform boundary. At a transform boundary, two plates slide horizontally past each other with relatively little movement perpendicular to the boundary. The San Andreas Fault is generally considered to be the transform boundary between the North American plate and Pacific plate. However, not all of the lateral movement between the North American and Pacific plates occurs along the San Andreas Fault. Some lateral movement occurs along other strike-slip faults associated with the Coastal ranges that are parallel and subparallel to the San Andreas Fault. Furthermore, as noted above, movement between the plates along the trace of the San Andreas Fault that runs through the Mojave Desert and San Bernardino Mountains, adjacent to the big bend, is accommodated by thrusting and folding along the east-west trending Transverse Ranges. Most of the historic earthquakes in the Los Angeles Basin have occurred on the strike-slip San Andreas transform boundary and on the reverse faults associated with the Transverse Ranges. However, the buried, or blind, low-angle thrust faults that underlie the northern end of the Los Angeles Basin along the southern margin of the Transverse Ranges have recently been recognized as a significant source of earthquake activity and seismic hazard.

The tectonic setting of the project site is shown in Figure 2-4. Active and potentially active faults that have the potential to generate significant strong ground motions at the site include the San Fernando - Sierra Madre, Santa Susana, San Gabriel, and Northridge Blind Faults in the near-field (less than 6 miles [10 km] from the site); the Simi-Santa Rosa, Oakridge, Elysian Park, and Malibu Coast - Santa Monica - Raymond Faults in the mid-field (between 6 and 20 miles [10 and 33 km] from the site); and the Whittier-North Elsinore and San Andreas Faults in the far-field (greater than 20 miles [33 km] from the site). Among the most important of these sources with respect to the intensity of strong ground motions at the site are the



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TECTONIC SETTING OF THE PROJECT SITE
SUNSHINE CANYON LANDFILL
SYLMAR, CA[illegible]ORNIA

FIGURE NO.	2-4
PROJECT NO.	CE4085-[illegible]3
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Santa Susana, San Fernando - Sierra Madre, San Gabriel, and Northridge Blind-Thrust near-field sources; and the San Andreas far-field source.

The San Fernando - Sierra Madre Fault (thrust fault), with a site-to-source distance of 4.8 kilometers the closest fault to the project site, was the source of the 1971 San Fernando earthquake (Magnitude M 6.6). This fault stretches approximately 52 miles (87 km) along the base of the San Gabriel Mountains from the vicinity of the Newhall Pass southeasterly toward San Bernardino. The northwestern end of this fault ruptured in 1971.

The Santa Susana Thrust Fault, with a site-to-source distance of approximately 3 miles (5 km), underlies the project site. The fault stretches approximately 17 miles (28 km) from the edge of the San Gabriel Mountains, where it intersects with the San Fernando - Sierra Madre Fault, westward into Ventura County. The Santa Susana Fault is a complex structure, with numerous strands mapped by field investigators. The eastern edge of the Santa Susana Fault, where it intersects with the San Fernando - Sierra Madre Fault, was active during and following the 1971 San Fernando Earthquake and the fault may have been the source of the 1893 Pico Canyon Earthquake (Yeats, 1987). Yeats et al. (1993) divided the fault into three discrete segments, each of which could rupture independently.

The San Gabriel Fault, with a site-to-source distance of approximately 5 miles (8 km) is the closest major fault to the site. Regional geologic studies of the San Gabriel fault led to the conclusion that it is the ancestral segment of the San Andreas fault within the Transverse Ranges. Although abandoned as the primary dislocation between plate boundaries in Pliocenetime, offset geologic units indicate right lateral slip on the order of 0.6 miles (1.0 km) within Quaternary time. Evidence of dip slip is also documented but is likely only localized. The fault trace extends for approximately 45 miles (73 km) and is capable of generating up to magnitude 7.0 earthquakes. The California Division of Mines and Geology has suggested the San Gabriel fault as a possible source of the 1893 Pico Canyon earthquake.

The Northridge Blind-Thrust Fault was the source of the January 17, 1994, M 6.7 Northridge earthquake. The Northridge earthquake occurred in a structurally complex zone between the San Fernando - Sierra Madre, Oakridge, and Santa Susana Faults. While initial reports on surface displacements due to the earthquake were inconclusive, it is now generally accepted that the Northridge event occurred on a blind fault with no surface expression of primary faulting. It has been suggested that the Northridge Blind Thrust is a southward-dipping thrust that roots in a "detachment" zone between the rigid upper thrust and more ductile lower crust beneath the San Fernando Valley. However, other experts suggest that the Northridge Blind Thrust is an eastward extension of the Oak Ridge Fault of the Ventura Basin.

The San Andreas Fault stretches several hundred miles from the Salton Sea in the south to Cape Mendicino in the north. The San Andreas Fault is considered the source of the largest magnitude earthquake that is capable of generating strong ground motions at the project site. The 80-mile (129-km) long Mojave segment and the 50-mile (81-km) long San Bernardino Mountains segment are the closest segments of the San Andreas Fault to the project site. The southern end of the Mojave segment was the southern terminus of the rupture zone for the M 7.8 event of 1857. The 1857 event also ruptured the Carrizo segment to the north of the Mojave segment. The San Bernardino Mountains segment is believed to have last ruptured in 1812, based on paleoseismic studies.

2.3.3 Regulatory Background

Chapter 15 of the California Code of Regulations prescribes seismic loading criteria for the design of Class III (MSW) landfill liner systems. Specifically, §2547 of Chapter 15 states that "*Class III waste*

management units shall be designed to withstand the maximum probable earthquake without damage to the foundation or to the structures which control leachate, surface drainage, erosion, or gas." The Maximum Probable Earthquake (MPE) is defined in California Division of Mines and Geology (CDMG) Note 43 (1975) as the maximum earthquake likely to occur at the site in a 100-year period. CDMG Note 43 further requires that the MPE not be less than the maximum earthquake known to have occurred at the site in historic time. Browning-Ferris Industries is committed to designing the Sunshine Canyon Landfill County Extension to a higher seismic design standard, the Maximum Credible Earthquake (MCE). The MCE is defined in CDMG Note 43 as *"...the maximum earthquake that appears capable of occurring under the presently known tectonic framework. It is a rational and believable event that is in accordance with all known geologic and seismologic facts. Little regard is given to its probability of occurrence, except that its likelihood of occurring is great enough to be of concern..."*

2.3.4 Strong Shaking Hazard Analysis

A site-specific seismic hazard study for the Sunshine Canyon Landfill County Extension was first performed by PRA (1988). The study by PRA (1988) has been updated by GeoSyntec Consultants. This updated seismic hazard analysis, documented in UEI (1996) and summarized below, has been adopted as the basis for seismic design of the Sunshine Canyon Landfill County Extension.

The known active and potentially active faults considered capable of generating strong ground motions at the project site are identified in Table 2-1. Design earthquake parameters are presented in Table 2-2. Each fault is characterized by the style of faulting, site-to-source distance, and the moment magnitude, M_w, for both the MCE and the MPE. The MCE and MPE are defined in accordance with CDMG Note 43 guidelines. The MCE is defined as the maximum event considered likely within the "known tectonic framework" of the region. The MPE is defined as either the maximum event anticipated within the next 100 years or the maximum historic earthquake, whichever is greater.

Seismic activity occurring in the vicinity of the site can produce strong ground shaking. Strong shaking can result in damage to the landfill waste containment system due to seismically induced displacement of the waste mass. Strong shaking can also induce landsliding and liquefaction in natural geologic materials that could, in turn, result in damage to the landfill containment systems. Landfill containment systems are broadly defined in this respect to include the liner, cover, leachate collection and removal, gas extraction, and surface water drainage systems.

MCE magnitudes cited in Tables 2-1 and 2-2 are based on values cited by Dolan et al. (1995), Southern California Earthquake Center (SCEC, 1995), Petersen and Wesnousky (1994), Working Group on California Earthquake Probabilities (WGCEP, 1995), and Mualchin and Jones (1992), in order of priority. MPE magnitudes are based on the catalog of historic earthquakes, fault segmentation, and relationships between fault length, fault plane area, and earthquake magnitude (Wyss, 1979; Bonilla et al., 1984; Woodward-Clyde Consultants, 1979; dePolo and Slemmons, 1990; Hanks and Kanamori, 1979; Wells and Coppersmith, 1994). The magnitude for the fault segment closest to the project site is the MPE magnitude reported in Tables 2-1 and 2-2. MPE values for the San Fernando - Sierra Madre, Northridge Blind Thrust, and San Andreas Faults represent the largest earthquakes known to have occurred on these faults in historical time.

Table 2-2 presents expected (mean) values of the free-field peak horizontal ground acceleration (PGA) in hypothetical bedrock outcrop at the project site from both the MPE and the MCE for each causative fault. These PGA values were estimated using the cited magnitude, style of faulting, and site-to-source distances. In calculating PGA values, the Abrahamson and Silva (1996) attenuation relationship was used. It was

TABLE 2-1
SIGNIFICANT EARTHQUAKE SOURCES
SUNSHINE CANYON LANDFILL COUNTY EXTENSION, PHASE II
SYLMAR, CALIFORNIA

EARTHQUAKE SOURCE	STYLE OF FAULTING	SITE-TO-SOURCE DISTANCE[1] (km)	DESIGN EVENT[2]	
			MCE	MPE
San Fernando - Sierra Madre	Reverse	4.8	$M_w = 6.8$	$M_w = 6.4$
Santa Susana	**Reverse**	**5.0[3]**	**$M_w = 6.9$**	**$M_w = 6.5$**
San Gabriel[5]	**Reverse-Oblique**	**8.0**	**$M_w = 7.5$**	**$M_w = 7.0$**
Northridge Hills	Reverse-Oblique	8.0	$M_w = 6.5$	$M_w = 5.0$
Verdugo	Reverse-Oblique	9.7	$M_w = 6.75$	$M_w = 6.25$
Northridge Blind-Thrust	**Reverse**	**9.9[3]**	**$M_w = 7.0$**	**$M_w = 6.7$**
Holser	Reverse-Slip	11.3	$M_w = 6.6$	$M_w = 6.0$
Simi - Santa Rosa	Reverse-Oblique	14.5	$M_w = 7.5$	$M_w = 7.0$
Oakridge (onshore)	Reverse-Oblique	20.9	$M_w = 7.5$	$M_w = 6.75$
San Cayetano	Reverse	25.7	$M_w = 7.2$	$M_w = 6.5$
Clearwater[4]	Normal-Oblique	29.0	$M_w = 7.0$	$M_w = 6.5$
Newport-Inglewood	Strike-Slip	30.6	$M_w = 6.7$	$M_w = 6.5$
Malibu Coast - Santa Monica Raymond	Reverse-Oblique	30.6	$M_w = 7.5$	$M_w = 6.8$
Elysian Park Seismic Zone	Reverse	32.2	$M_w = 7.1$	$M_w = 6.7$
Whittier - North Elsinore	Strike-Slip	37.0	$M_w = 7.4$	$M_w = 7.1$
San Andreas	**Strike-Slip**	**38.6**	**$M_w = 8.3$**	**$M_w = 7.8$**

Notes:

(1) Map distance unless otherwise noted.
(2) MPE = Maximum Probable Earthquake, MCE = Maximum Credible Earthquake, M_w = Moment Magnitude.
(3) Site-to-source distance evaluated as shortest distance to the fault plane.
(4) Evidence of late Quaternary displacement not definitive.
(5) Evidence of thrust faulting not definitive. Reverse-Oblique style of faulting conservatively assumed.

conservatively assumed that the landfill is located on the "hanging wall" of both the Northridge and Santa Susana Thrust Faults.

The significant duration of strong shaking, D_S, as defined by Trifunac and Brady (1975), was estimated for each MPE and MCE event using the Dobry et al. (1978) duration model. These duration values are reported in UEI (1996) and are presented in Table 2-2. The Dobry et al. (1978) duration model is 18 years old and is based on a limited database. A recent study by GeoSyntec (1996d) has indicated that the Dobry et al. (1978) duration model may be significantly conservative (i.e., it tends to overpredict the extent of strong shaking).

TABLE 2-2
DESIGN EARTHQUAKE PARAMETERS
SUNSHINE CANYON LANDFILL COUNTY EXTENSION, PHASE II
SYLMAR, CALIFORNIA

EARTHQUAKE SOURCE[1]	MCE[2]			MPE[2]		
	M_w	PGA (g)	D_s (sec)	M_w	PGA (g)	D_s (sec)
San Fernando - Sierra Madre	6.8	0.73	13	6.4	0.68	9
Santa Susana[4]	**6.9**	**0.81**	**14**	**6.5**	**0.74**	**10**
San Gabriel	**7.5**	**0.57**	**26**	**7.0**	**0.50**	**16**
Northridge Hills	6.5	0.44	10	5.0	0.15	2
Verdugo	6.75	0.41	12	6.25	0.34	7
Northridge Blind-Thrust[4]	**7.0**	**0.71**	**16**	**6.7**	**0.65**	**12**
Holser	6.6	0.39	11	6.0	0.32	6
Simi - Santa Rosa	7.5	0.36	26	7.0	0.31	16
Oakridge (onshore)	7.5	0.26	26	6.75	0.20	12
San Cayetano	7.2	0.22	19	6.5	0.17	10
Clearwater[3]	7.0	0.16	16	6.5	0.13	10
Newport-Inglewood	6.7	0.12	12	6.5	0.11	10
Malibu Coast - Santa Monica Raymond	7.5	0.19	26	6.8	0.14	13
Elysian Park Seismic Zone	7.1	0.17	17	6.7	0.14	12
Whittier - North Elsinore	7.4	0.13	23	7.1	0.11	17
San Andreas	**8.3**	**0.19**	**57**	**7.8**	**0.15**	**35**

Notes:

(1) Earthquake source as characterized in Table 2-1.
(2) MPE = Maximum Probable Earthquake, MCE = Maximum Credible Earthquake, M_w = Moment Magnitude.
(3) Evidence of late Quaternary displacement not definitive.
(4) The hanging wall option from Abrahamson and Silva [1966] attenuation relationship was used to evaluate PGA for this source.

The "design earthquake" used to evaluate the landfill is the earthquake with the potential to cause the most damage at the site. Therefore, the candidate "design earthquakes" in Table 2-2 must be screened for their damage potential. The design earthquakes in Table 2-2 may be screened for damage potential on the basis of magnitude, site-to-source distance (shortest distance to the fault plane), and peak horizontal ground acceleration. Starting the screening process with the closest source and working away from the site, design earthquakes with a lower magnitude *and* PGA than a closer source need not be considered for design. Therefore, the governing seismic sources with respect to the project site are:

- the Santa Susana Reverse (thrust) Fault with a site-to-source distance of 3.1 miles (5 km), capable of a M_w 6.9 MCE with an estimated free-field PGA of 0.81 g and a significant duration of 14 seconds;

- the San Gabriel Reverse-Oblique Fault with a site-to-source distance of 5 miles (8 km), capable of a M_w 7.5 MCE with a free-field PGA of 0.57 g and a significant duration of 26 seconds;

- the Northridge Blind-Thrust fault with a site-to-source distance of 6.2 miles (9.9 km), capable of a M_w 7.0 MCE with a free-field PGA of 0.71 g and a significant duration of 16 seconds; and

- the San Andreas Strike-Slip Fault with a site-to-source distance of 24 miles (39 km), capable of a M_w 8.3 MCE with a free-field PGA of 0.19 g and a significant duration of 57 seconds.

Considering that the M_w 7.0 Northridge Blind-Thrust MCE is only 0.1 larger in magnitude than the M_w 6.9 Santa Susana event and is 0.1 g less in PGA (0.71 g for the Northridge MCE compared to 0.81 g for the Santa Susana MCE), the Northridge Blind-Thrust event can be eliminated from further consideration. This leaves a family of three MCE events: the M_w 6.9 Santa Susana event, the M_w 7.5 San Gabriel event, and the M_w 8.3 San Andreas event. Table 2-3 provides the characteristics of these three design MCE events relevant to their damage potential, including:

- the expected root mean square acceleration (RMSA) estimated by the Kavazanjian et al. (1985) model;

- the expected energy content, equal to 1.1 times the RMSA times the significant duration (the 1.1 factor is introduced because significant duration captures only 90 percent of the total energy of an earthquake record);

- the bracketed duration (Bolt, 1973) (0.05 g bracket) estimated using the Leeds (1992) model; and

- the Earthquake Severity Index (ESI) developed by Bureau et al. (1985), defined as: $ESI = PGA\ (M_w - 4.5)^3$, where PGA is Peak Horizontal Ground Acceleration, and M_w is Moment Magnitude (DWR (1995) notes that ESI is a convenient approximate means of evaluating the damage potential of an earthquake).

To represent the above characterized family of three maximum credible earthquakes, GeoSyntec used a suite of four accelerograms, two for the near-field events (the Santa Susana and San Gabriel MCE's) and two for the far-field event (the San Andreas MCE). The accelerograms were selected on the basis of similarity in magnitude, frequency content, duration, and energy content. These accelerograms were then scaled to a PGA such that their PGA and ESI values were, at a minimum, equal to those of the design event they were selected to represent. The suite of accelerograms selected on this basis to model the family of MCEs for the Sunshine Canyon Landfill are:

- the HBS-Synthetic accelerogram, developed by Professor H.B. Seed (Seed, 1985) of University of California Berkeley to model a magnitude 7.5 earthquake on the Hayward fault, scaled to a PGA of 0.7 g to represent the near-field San Gabriel MCE. It should be noted that this accelerogram was recommended by DWR (1995) to represent MCE at the site;

TABLE 2-3
SUMMARY OF TARGET DESIGN EARTHQUAKE PARAMETERS
SUNSHINE CANYON LANDFILL COUNTY EXTENSION, PHASE II
SYLMAR, CALIFORNIA

EARTHQUAKE SOURCE	MCE MAGNITUDE[1]	ESTIMATED PGA[2]	RMSA[3]	SIGNIFICANT DURATION[4]	ENERGY CONTENT[5]	BRACKETED DURATION[6]	ESI[7]	OTHER
Santa Susana Fault	6.9	0.81	0.13 g	14 sec	2.0 g-sec	4.5 sec	11.2	See target spectra on Figure 2-5
San Gabriel Fault	7.5	0.57	0.14 g	26 sec	4.0 g-sec	8.0 sec	15.3	See target spectra on Figure 2-6
San Andreas Fault	8.3	0.19	0.05 g	57 sec	3.1 g-sec	12.0 sec	10.4	See target spectra on Figure 2-7

(1) Moment Magnitude (M_w) scale.
(2) PGA = Peak Horizontal Ground Acceleration in hypothetical bedrock outcrop at the site estimated by Abrahamson and Silva [1996] attenuation relationship.
(3) RMSA = Root Mean Square Acceleration estimated by Kavazanjian et al. (1985) model.
(4) D_s = significant duration of strong shaking estimated by (Dobry et al., [1978] model).
(5) Expected energy content estimated as 1.1 • (RMSA) D_s.
(6) Bracketed duration of strong shaking (0.05 g bracket) estimated using Leeds (1992) model.
(7) ESI = Earthquake Severity Index calculated as ESI = PGA $(M_w - 4.5)^3$; with PGA expressed in g's.

- the C3-Synthetic accelerogram, developed by Dr. Silva (Silva, 1995) to represent the ground shaking from the M_w 6.7 Northridge earthquake at the Sunshine Canyon site, scaled to 1.06 g to model the near-field Santa Susana MCE;

- the A1-Synthetic record, developed by Jennings, et al. (1968) at Caltech to model a magnitude 8^+ event on San Andreas fault, scaled to a PGA of 0.26 g to represent the far-field San Andreas MCE; and

- the Tabas-e-Golshan M_w 7.7 record, scaled to a PGA of 0.34 g to represent the far-field San Andreas MCE.

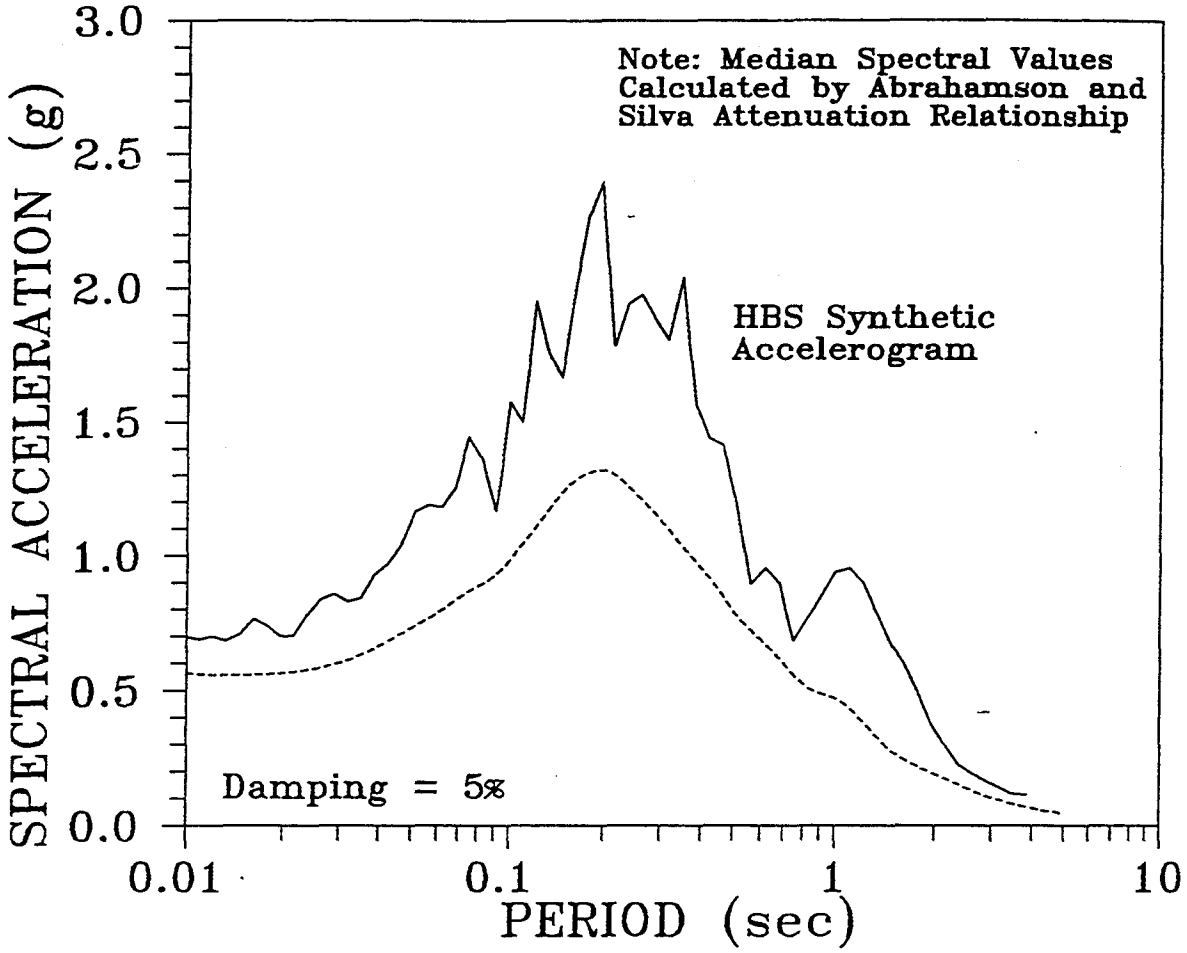
As noted above, the HBS-Synthetic record was chosen to represent the 0.57 g M_w 7.5 MCE on the San Gabriel fault. When scaled to 0.7 g, this record has an ESI of 18.9 compared to the ESI of 15.3 estimated for the San Gabriel MCE. Figure 2-5 compares the acceleration response spectra (ARS) for the HBS-Synthetic accelerogram to the ARS for the San Gabriel MCE estimated by Abrahamson and Silva (1996) model. The Figure indicates that the frequency content of the HBS-Synthetic record is sufficient to represent the entire range of significant frequency for the San Gabriel event.

The C3-Synthetic record, originally generated to simulate the M_w 6.7 Northridge event at the site, was chosen to represent the 0.81 g M_w 6.9 Santa Susana MCE. This record was scaled to PGA 1.06 g so that the ESI was equal to 11.3, slightly greater than the ESI of 11.2 estimated for the Santa Susana MCE. Figure 2-6 compares the ARS from this record to the ARS for the Santa Susana MCE estimated by Abrahamson and Silva (1996) model, demonstrating that this record adequately represents the frequency range of interest for the Santa Susana MCE.

The M_w 7.7 Tabas-e-Golshan record scaled to PGA of 0.34 g and the M_w 8^+ A1-Synthetic record scaled to PGA 0.26 g were selected to represent the 0.19 g M_w 8.3 San Andreas MCE. These records were scaled to their respective PGA values so that their ESI value equaled 11.1, greater than the ESI of 10.4 calculated for the San Andreas MCE. Figure 2-7 compares the ARS from the Tabas-e-Golshan and A1-Synthetic records, scaled as described above, to that estimates for a 0.19 g San Andreas event by the Abrahamson and Silva (1996) model, demonstrating that these two records are sufficient to represent the frequency range of interest for the San Andreas MCE.

The characteristics of the four accelerograms chosen to model this family of three MCEs for the site are presented in Table 2-4 and in Appendix B. The actual acceleration time histories scaled to their respective PGA values are shown in Figure 2-8. Corresponding response spectra are shown in Figures 2-5 to 2-7.

SUNSHINE CANYON LANDFILL COUNTY EXTENSION
SYLMAR, CALIFORNIA



—— HBS-Synthetic Accelerogram
—— Scaled to PGA=0.7g
------ MCE on San Gabriel Fault

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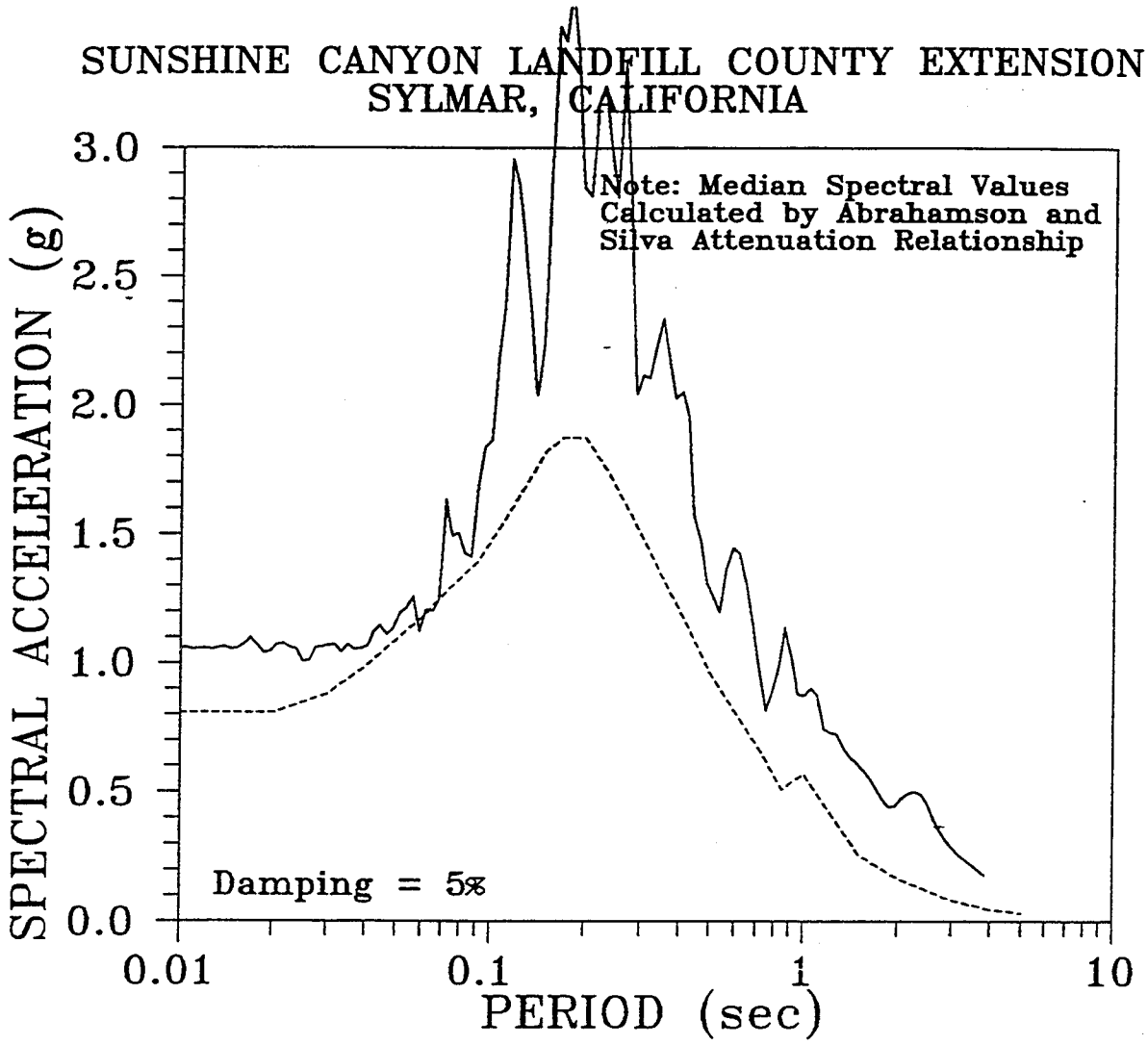
ACCELERATION RESPONSE SPECTRA FOR SAN GABRIEL MCE AND HBS-SYNTHETIC RECORD SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	FIGURE NO. 2-5
	PROJECT NO. CE4085-23B
	DATE: 5 November 1996



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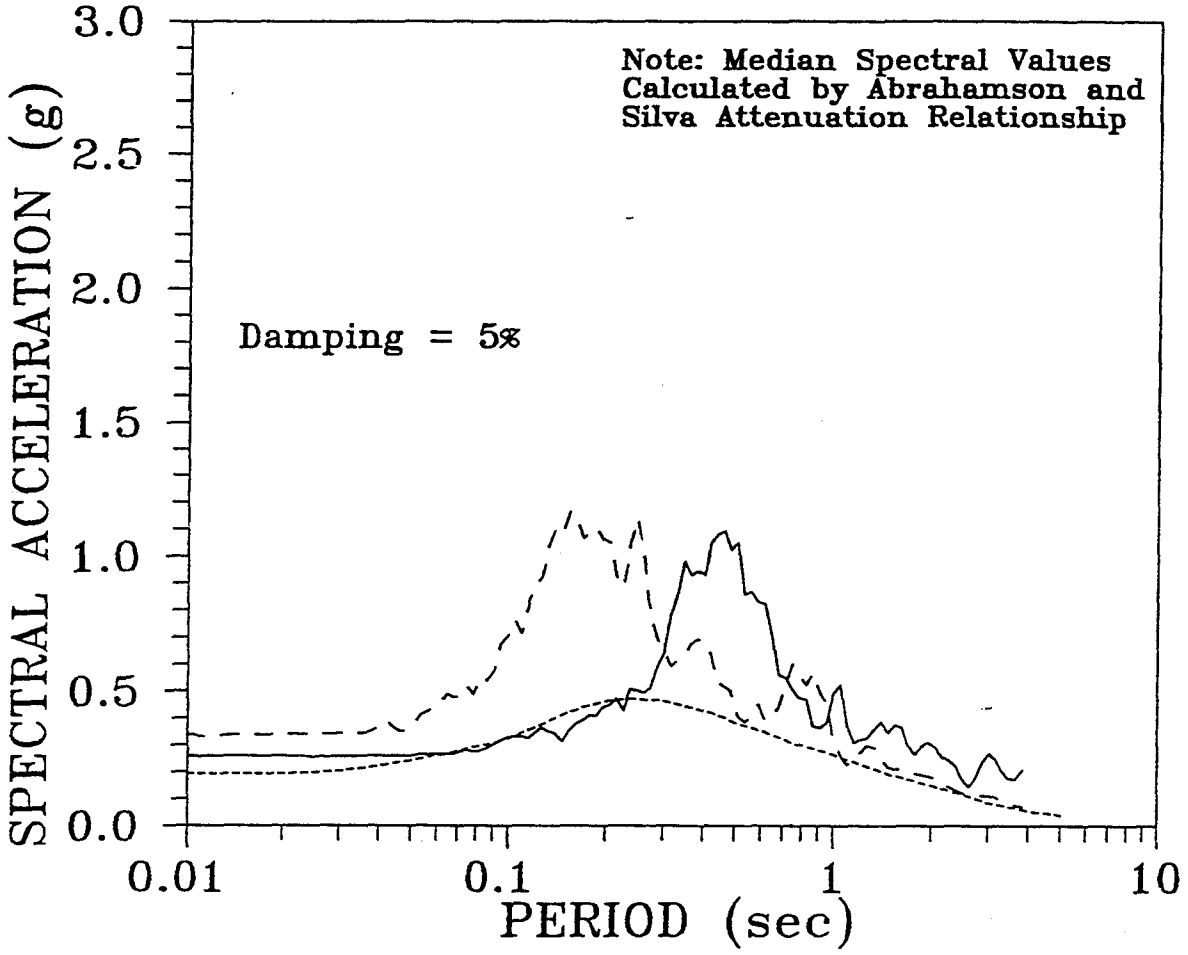
ACCELERATION RESPONSE SPECTRA FOR SANTA SUSANA MCE, C3-SYNTHETIC RECORD, AND PACOIMA - KAGEL CANYON RECORD SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	FIGURE NO. 2-6
	PROJECT NO. CE4085-23B
	DATE: 5 November 1996

SUNSHINE CANYON LANDFILL COUNTY EXTENSION
SYLMAR, CALIFORNIA



------- MCE on Sant Andreas Fault
——— A1–Synthetic Accelerogram
- - - Tabas Accelerogram

GEOSYNTEC CONSULTANTS

ACCELERATION RESPONSE SPECTRA FOR SAN ANDREAS MCE, A1 SYNTHETIC RECORD, AND TABAS-E-GOLSHAN RECORD SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	FIGURE NO. 2-7
	PROJECT NO. CE4085-23B
	DATE: 5 November 1996

TABLE 2-4
SUMMARY OF DESIGN ACCELEROGRAMS
SUNSHINE CANYON LANDFILL COUNTY EXTENSION, PHASE II
SYLMAR, CALIFORNIA

DESIGN EVENT[1]	DESIGN ACCELEROGRAM[2]	M_w	DESIGN PGA[3]	RMSA[4]	SIGNIFICANT DURATION[5]	ENERGY CONTENT[6]	BRACKETED DURATION[7]	ESI	PREDOMINANT PERIOD[8]	EFFECTIVE STRAIN FACTOR[9]
MCE on the Santa Susana Fault	C3-Synthetic (Silva, 1995)	6.7	1.06 g	0.27 g	7 sec	2.1 g-sec	16 sec	11.3	0.1778 sec	0.59
MCE on the San Gabriel Fault	HBS-Synthetic (Seed, 1985)	7.5	0.7 g	0.16 g	19 sec	3.3 g-sec	35 sec	18.9	0.1957 sec	0.65
MCE on the San Andreas Fault	Caltech A1-Synthetic (Jennings et al., 1968)	8.0	0.26 g	0.08 g	41 sec	3.6 g-sec	52 sec	11.1	0.4642 sec	0.73
	Tabas-e-Golshan	7.7	0.34 g	0.08 g	16 sec	1.4 g-sec	22 sec	11.1	0.1540 sec	0.73

Notes:

(1) Design event is the Maximum Credible Earthquake (MCE), characterized by the Moment Magnitude, M_w and parameters estimated from M_w, style of faulting and site-to-source distance. These parameters are listed in Table 2-3.

(2) Time histories are plotted on Figure 2-8. Corresponding spectra are shown on Figures 2-5 to 2-7.

(3) This Design Peak Horizontal Ground Acceleration was estimated from Earthquake Severity Index (ESI) as: $PGA = ESI/(Mw - 4.5)^3$.

(4) RMSA = Root Mean Square Acceleration of record scaled to PGA.

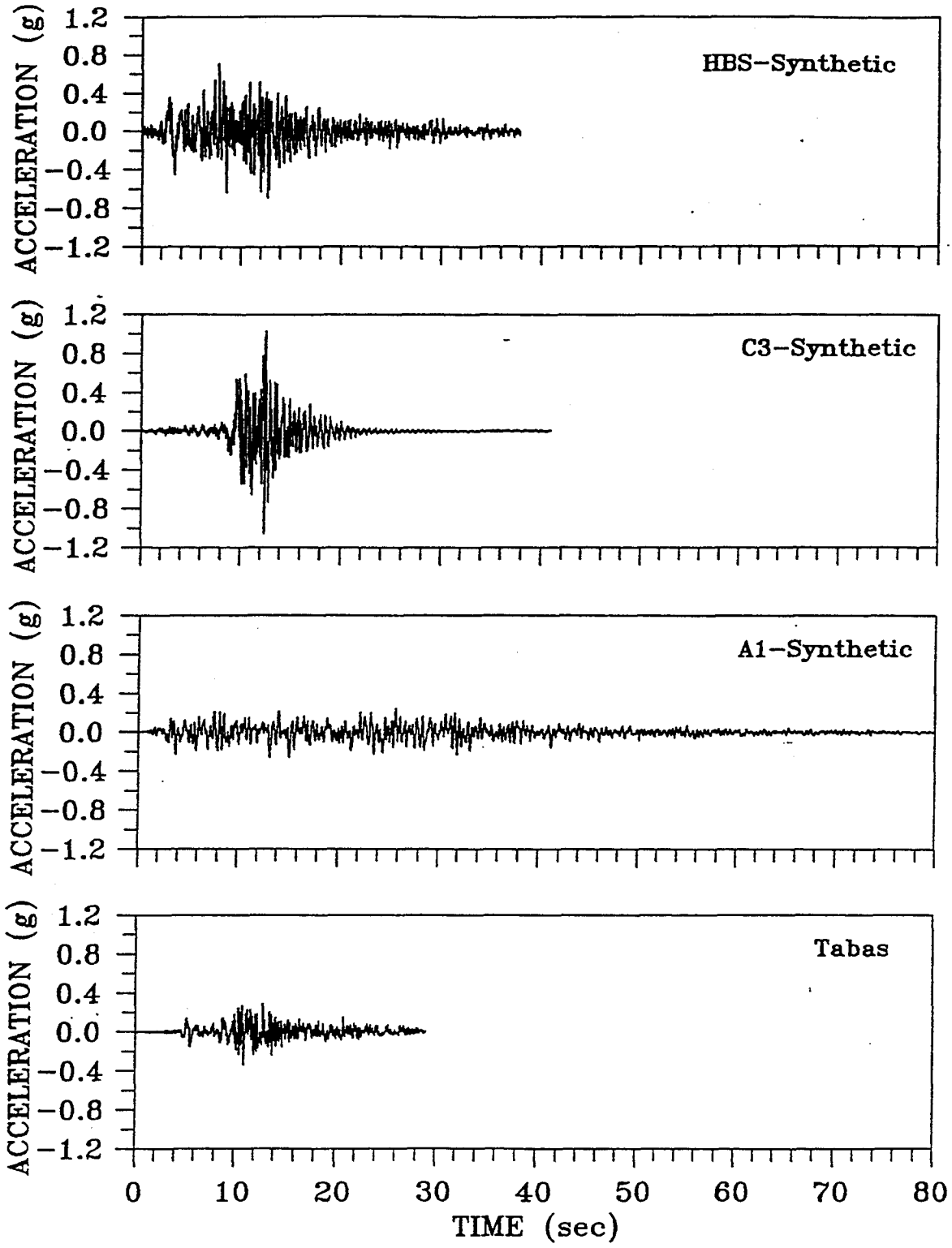
(5) Significant duration, D_s, of strong shaking of accelerogram scaled to PGA. Note that significant duration does not depend on PGA value.

(6) Energy content of the accelerogram calculated as 1.1 (RMSA) D_s.

(7) Bracketed duration of strong shaking (0.05 g bracket) of record scaled to PGA. Note that the bracketed duration depends on PGA value.

(8) Predominant period corresponds to the period of which the response spectrum (typically at spectral damping of about 0.05) of a given accelerogram has the largest peak.

(9) Effective strain factor, n, is a ratio between the effective and maximum shear strain. Values listed were calculated as $n = (M_w - 1)/10$.



GEOSYNTEC CONSULTANTS

ACCELERATION TIME HISTORIES
FOR SEISMIC SITE RESPONSE ANALYSIS
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	2-8
PROJECT NO.	CE4085-23B
DATE:	5 November 1996

CE4083-23/SUN96159.F09

3. SITE GEOLOGY

3.1 Previous Geologic Work

Geology in the Sunshine Canyon area was first documented by Winterer and Durham (1958 and 1962), who mapped and described the geology of the southeastern Ventura Basin, Los Angeles County, California. The most recently published work on the area was compiled and mapped by Thomas W. Dibblee (Dibblee, 1992). Site-specific geology was mapped by PRA (1988 and 1990), who conducted geologic mapping and subsurface exploration of the site for the expansion of the Sunshine Canyon Landfill. The PRA geologic mapping indicated broad folding and minor faulting of the Towsley Formation at the landfill site. Also, numerous active and inactive landslides were identified on the county side of the landfill site, indicating that the Towsley Formation had undergone large slope failures, when the bedding was adversely oriented with respect to the steep canyon walls.

3.2 General Geology

Sunshine Canyon is at the northern end of the San Fernando Valley, east of the east-west trending Santa Susana Mountains and west of the San Gabriel Mountains. The site is located near the eastern margin of the Santa Susana Mountains, which are part of the Transverse Range geomorphic province of southern California. The east-trending Santa Susana Mountains lie generally along the southeastern margin of the similarly trending Ventura basin, separating it from the San Fernando Valley to the south. Since its inception, the Ventura basin has received thick deposits of marine and non-marine, sedimentary rocks. In the vicinity of the landfill site, these rocks are mapped primarily as the Towsley Formation of late Miocene to early Pliocene age (Winterer & Durham, 1962). The Towsley Formation overlies and locally interfingers with the Miocene-age Modelo Formation and grades upward into the Pliocene-age Pico Formation, which in turn grades into the Saugus Formation in the southeast part of the site. In addition to these formations, landslide debris, alluvium, and colluvium of varying thicknesses and ages overlie the formational material.

The structural geology of the site is relatively simple, consisting of an east-west trending anticline in the northern part of the site paired with a syncline to the south. The anticline, which plunges to the east, is the eastern extension of the Pico anticline, so named by the oil industry. The syncline, named the Oat Mountain syncline, also plunges to the east within the site limits. Minor faults have been mapped at the site trending along and sub-parallel to the axis of the Pico anticline (Winterer and Durham, 1958).

In the vicinity of the Sunshine Canyon site, the late Miocene to early Pliocene Towsley Formation consists of yellowish gray-brown mudstone and siltstone, and fine-grained, light yellow-brown to tan sandstone with lenticular interbeds of conglomerate. The sandstone/conglomerate units consist of a massively bedded sandstone, pebbly sandstone, and conglomeratic sandstone. Locally, the sandstones are well cemented and contain sandstone concretions that are boulder size. The conglomerates are massive to poorly bedded pebbles and cobbles, generally in an open matrix of sand. The mudstone/siltstone units are composed of massively-bedded to well-bedded brown-gray shale and siltstone. Individual beds in the formation range in thickness from laminae to beds more than 5 ft (1.5 m) thick (Winterer and Durham, 1958 and 1962).

Alluvial materials are present in the lower reaches of the larger tributaries within the landfill site and along most of the length of the main canyons. Two ages of alluvium have been mapped by PRA (1988), older and younger alluvium. The older deposits occur along the sides of the canyons adjacent to the active stream bed. The younger deposits lie in the active stream channels. The alluvial sediments consist of unconsolidated brownish sand, gravel, silt and clay. Sandstone boulders, derived from weathered sandstone concretions

present within the Towsley Formation, are a common component of the alluvium. The thickness of alluvium in Sunshine Canyon and its tributaries is variable, ranging from less than 5 ft (1.5 m) to approximately 20 ft (6 m). Colluvial sediments occur at the base of slopes and commonly interfinger with alluvium. The composition of the colluvium generally reflects the local bedrock source material as opposed to the typical alluvial sediments that are generally better sorted having been transported down the canyon by water.

3.3 Phase II Construction Area Geology

The geology of the Phase II Construction area was evaluated based on previous geologic mapping and subsurface exploration of the site performed by PRA (1988) and supplemental mapping performed by GeoSyntec Consultants geologists. The supplemental mapping included both mapping performed during grading of Phase I Construction and mapping performed for the specific purpose of evaluating the Phase II Construction area in 1996. The GeoSyntec geologic mapping conducted specifically for the Phase II Construction area focused on defining the geologic structure and the geometries of landslides along the perimeter drainage and maintenance corridor for the purpose of design. Plate C-1 (Appendix C) presents the compiled geologic map for the Phase II Construction area. As Phase II and subsequent phases of landfill construction continue and details of the geology are better defined, this geologic map will be improved and updated continuously by incorporating new data as they become available.

For purposes of describing geology and referencing locations within the Phase II Construction area, the two canyons, which correspond to the Phase I Construction area and which bracket the Phase II Construction area (See Figures 2-1 and 2-2) are designated the "southwest canyon" (including north and south branches), and the "northwest canyon" (i.e., Sunshine Canyon proper).

3.3.1 Phase II Stratigraphy

The northern side of the northwest canyon consists of relatively thick sections of interbedded gray siltstone and yellow brown sandstone of the Towsley Formation. The stratigraphic section is well exposed in the Phase I cut slopes, as the bedding dips north into the slopes. The major siltstone and sandstone sections vary in thickness from 50 ft (15 m) to over 100 ft (30 m) in thickness. Beds of sandstone or siltstone up to a few feet (a few meters) in thickness occur within these sections. Locally, the sandstones contain conglomeratic lenses and beds. The siltstone exposed in the cut slopes is a dark gray color, where not weathered and is massive without any indications of layering except where thin interbeds of sandstone occur.

The southern side of the northwest canyon consists of Towsley Formation sandstone and conglomerate beds exposed in dip slopes (i.e., the dip of the bedding is approximately the same as the cut slope inclination) (Plate C-1, Appendix C). In natural outcrops and in the Phase I cut slopes the same lithologies are exposed for long distances due to the dip slope relationship of bedding to the slopes. Thus, the geology exposed on the slopes on the southern side of the northwest canyon is a relatively thin section of sandstone and conglomerate sandwiched between siltstone beds exposed to the west and at the base of the canyon (Plate C-1, and Geologic Cross Section J-J', Plate C-3, Appendix C).

The southwest canyon stratigraphy is exposed in the tall southeast-facing slope of the north branch canyon cut during Phase I grading. This slope is on the opposite side of the ridge from the dip slopes on the south side of the northwest canyon discussed above. Since the bedding dips to the northeast at approximately 20 to 30 degrees, the stratigraphy of the southwest canyon is lower in the section (underlies the geologic section) of the Towsley Formation than the stratigraphy exposed in the northwest canyon. The sandstone exposed in the dip slopes of the northwest canyon grades down section to a well cemented basal conglomerate. The basal conglomerate overlies dark grey massive siltstone, which is exposed across the

west edge of the southeast-facing cut slope. Stratigraphy of much of the Phase II Construction area is illustrated on Cross Section J-J' (Plate C-3, Appendix C).

3.3.2 Phase II Structural Geology

The structural geology of the Phase II Construction area is relatively simple, consisting of east-northeast dipping bedding. Bedding dips generally steepen from the area of the southwest canyon, where the bedding dips at approximately 20 to 30 degrees east-northeast, to the northwest canyon where bedding dips steeper at approximately 40 to 55 degrees east-northeast (Plate C-1, Appendix C). The gradual steepening of bedding occurs from west to east as the bedding plunges from the Pico anticline axis down the north flank of the fold (Geologic Cross Section J-J'). The axis of the Pico anticline is located east of the Phase I Construction area, in the vicinity of the west edge of the proposed Phase II Construction cut slopes. The anticlinal axis trends east-northeast and is a very gradual structural transition from bedding dipping northeast to dipping southeast across the fold axis (Plate C-1, Appendix C). The nose of the anticline plunges to the east and the fold structure flattens to a broad structure within the Sunshine Canyon site. Geologic Cross Section D-D' (Plate C-2, Appendix C) illustrates bedding dipping due east essentially down the plunge of the fold.

Several north-dipping reverse-slip faults have been identified within the north wall of the northwest canyon. During grading of the Phase I Construction cut slopes and removals of surficial deposits (alluvium and colluvium) from the tributary drainages, fault traces were mapped that trend subparallel to the bedding. Although the stratigraphy could not be correlated across individual fault traces to help determine the amount of offset, there was little structural change observed across the fault traces. Only local drag folding was visible within outcrops immediately adjacent to the faults. The fault traces divide into several splays westerly along their mapped traces and appear to die out farther to the west. Trench excavations across this family of splay faults at the eastern edge of the Sunshine Canyon site led PRA (1982) to conclude that the faults have not been active in Holocene time.

3.4 Landslides

A number of slope failures have been mapped as landslides within the Sunshine Canyon Landfill site (See Plate C-1, Appendix C). The mapped landslides occurred on the natural slopes as drainages deepened and the canyon slopes steepened through thousands of years of erosion processes. Where the bedding and lithology was unfavorable, the steepened canyon slopes became unstable and failed into the canyon bottom as landslides. Through site exploration by PRA (1988) and more recent investigations and geologic mapping by GeoSyntec, the predominant mechanism of slope failures at the Sunshine Canyon Landfill site has been found to consist of a combination of three factors: slope orientation, geologic structure (bedding orientations), and stratigraphy. The known landslides have failed along clay seams lining bedding planes and are translational failures. Where bedding planes are dipping (true dip or apparent dip) out of a slope less steep than the slope itself, the potential exists for slope failure along weak (clay-lined) bedding planes. Generally, the clay-lined bedding planes occur in association with the siltstone facies of the Towsley Formation. Thus the stratigraphic position of the clay seams is also important to the slope stability. Other factors that influence the stability of slopes are the moisture content of the clay seams and degree of saturation of the overlying rock mass. In some instances, the weak seam may be a clay-lined joint or a fault or a clay-lined joint or a fault may combine with a weak bedding plane to define the landslide mass.

The bedding in the Phase II Construction area, which is on the north flank of the Pico anticline, dips consistently to the east and northeast. Thus slopes in the Phase II Construction area, either natural or cut slopes, tend to be less stable if they face north or easterly in the general direction of the dipping beds. For example, the northeast-facing slopes of the northwest canyon are inherently less stable than the southwest-

facing slopes, where bedding dips into the side of the canyon. However, as noted above, stratigraphy is also an important factor with respect to slope stability. Several landslides exist in the upper reaches of the northwest canyon that are interpreted to be translational failures along weak clay bedding planes within the Towsley Formation (Plate C-1, Appendix C). Yet, along the lower reaches of the northwest canyon, the northeast-facing slopes show no signs of landslides but the stratigraphy of the slopes is sandstone and conglomerate without any apparent siltstone or shale beds. Therefore, there was no weak bedding plane along which failures could occur.

For identification purposes in this report, the landslides within the Phase II Construction area have been labeled with the prefix II (i.e., Phase II) and then numbered consecutively 1 through 14. Each of the landslides in the Phase II Construction area is described below. References to mapped locations and interpretive geologic cross sections are included to help characterize each of these landslides. Slope stability analyses of proposed Phase II Construction grading taking into account the known landslides and the geologic structure, are presented in Section 4.0 of this report.

3.4.1 Landslides II-1 (QlsII-1), II-2 (QlsII-2), and II-3 (QlsII-3)

Three landslides, denoted landslides II-1, II-2 and II-3, were mapped on the north side of the northwest canyon within the upper reaches of the of the northwest drainage. Landslides II-1, II-3 and II-3 were delineated based on field reconnaissance by geologists and analyses of stereo-pairs of aerial photographs and topographic maps. They were identified in the report by PRA (1988) and range in size from one to three acres. They were mapped by GeoSyntec based on the surface morphology that is characteristic of landslides. Each of these landslides displays hummocky subdued topography backed by an oversteepened slope or headscarp marking the upper slope limits of slope failure. The toes of each of the landslides reaches to the bottom of the northwest canyon and tends to close off or narrow the canyon as if obstructed by the landslide mass as it moved down slope.

The mechanism of slope failure for landslides II-1, II-2, and II-3 is interpreted to be a combination of faulting, jointing and bedding acting together to allow downslope movement. This mechanism is counter to the pure translational failure mechanism attributed to most of the landslides at the site. The regional bedding dips to the north into slope in this area, however, the trend of faults mapped along the north side of the canyon is likely causing local changes of bedding dips. The faults may also contribute directly to these slope failures involving the preexisting bedrock shears related to the faulting.

Landslides II-1, II-2, and II-3 underlie an area that will be used for stockpiling future cover soil during Phase II of the landfill development. The toes of landslides II-1, II-2, and II-3 will be buried and buttressed by the stockpile fill, providing improved stability of the landslides. Furthermore, these landslides are outside the area of the waste containment system and thus any additional movement of these slide masses will have no impact on the operations, safety of the lining system, the leachate collection system or the surface water control system. Landslide II-3 is located west of the map edge and does not appear on Plate C-1. Because the landslides do not impact the waste containment system of the Phase II Construction area, they were not studied further for the planning and design of Phase II. Remedial stabilization measures for these landslides will be considered in subsequent phases of landfill development.

3.4.2 Landslide II-4 (QlsII-4)

Landslide II-4 was mapped by PRA (1988) based on the topography and morphology of the canyon slopes as observed in the field and on aerial photographs and topographic maps. Landslide II-4 covers approximately four acres on the south side of the northwest canyon. The upper part of the landslide mass is expressed as a flattened part of the slope, or bench, on the south side of the canyon. This bench is

indicative of back rotation of the head of the landslide as the toe of the landslide moved into the canyon bottom. The back rotation of the slide mass has left a headscarp that is oversteepened and upslope from the bench area. Based on the regional bedding dips on the north flank of the Pico anticline, landslide II-4 is interpreted to be a translational failure along bedding that dips into the canyon.

Like landslides II-1, II-2, and II-3, landslide II-4 also underlies an area of the upper northwest canyon that is planned to be filled with stockpiled soil resulting from cuts to be made during the Phase II Construction. The stockpiled soils will bury and buttress the toe of landslide II-4. The location of the landslide is up canyon from the proposed Phase II waste containment area and temporary sedimentation basin. Therefore, landslide II-4 will not impact Phase II Construction and has not been studied specifically for the planning and design of Phase II Construction area. Remedial stabilization measures for landslide II-4 will be considered in subsequent phase of landfill development, when the upper part of the northwest canyon is scheduled for development.

3.4.3 Landslides II-5 (QlsII-5) and II-6 (QlsII-6)

Landslides II-5 and II-6 are two mappable landslides within a larger complex of landslides that covers approximately 30 acres. The total area of landslides is divided almost equally between landslides II-5 and II-6. The landslides were mapped by PRA (1988) using stereo pairs of aerial photographs and field reconnaissance. PRA (1988) also conducted one exploratory borehole in each of the landslides in order to further understand their subsurface characteristics. GeoSyntec's analysis of aerial photographs and topographic maps indicate that both landslides II-5 and II-6 are characterized by distinct headscarp areas and bench-like areas of back rotation resulting from downslope slippage. The toes of these landslides have pushed into and across the canyon bottom, buttressing themselves against the north side of the canyon. Continuing erosion of the canyon bottom after the latest major episode of landslide movement has left an oversteepened slope at the canyon bottom. The geomorphic expression of the landslides is not sharp or fresh, indicating that landslides are relatively old and erosion processes have had time to subdue fissures and scarps. From the subdued topographic expression, GeoSyntec infers that the landslide complex has not been active within the past several hundreds, if not thousands, of years.

The regional bedding is dipping to the north and northeast in the upper part of the northwest canyon. Such bedding is interpreted to act as the basal slip surface for landslides II-5 and II-6, resulting in a translational failure of the slope along weak bedding planes. The two boreholes reported by PRA (1988), boreholes C-10 and C-11, indicate sandstone, clay, and siltstone underlie the ground surface. Interpretation of the landslide geometries from the limited number of boreholes is uncertain. However, borehole C-11 indicates the top of bedrock at 47 ft (14 m) below ground surface. That depth may correspond to the base of landslide II-6, however confirmation with additional boreholes would be required. However, at depths greater than 47 ft (14 m) drill fluid circulation loss was reported in each of the boreholes possibly indicating highly fractured rock that would be consistent with landslide debris to greater depths than indicated from the limited data.

The locations of landslides II-5 and II-6 are in the upper part of the northwest canyon, where stockpiling of extra soil is planned during the development of the Phase II Construction area. The stockpile will be placed against the toe of the II-5 and II-6 landslide complex causing a buttress effect for the landslides. The landslides are located outside the proposed limits of the Phase II waste containment area and interim sedimentation basin. Landslides II-5 and II-6 are not expected to impact the operations or performance of the Phase II landfill facilities and have not been investigated for the design of the Phase II Construction. Investigations and stabilization measures of the landslides will be deferred until future development of the upper northwest canyon is scheduled.

3.4.4 Landslide II-7a and II-7b (Inferred QlsII-7A and QlsII-7B)

On the south slide of the northwest canyon, an area of potential slope instability was identified during the Phase I grading. Designated as QlsII-7a on Plate C-1 (Appendix C), several seeps and mapped shears tend to outline the base of a possible landslide perched at elevation 1,765 ft (540 m) MSL above the proposed perimeter maintenance corridor. Structural cross section K-K' (Plate C-3, Appendix C) indicates inferred structure of the subsurface, which could support the presence of a landslide. If it is a landslide, the toe and a large part of the landslide could have been either excavated during the Phase I grading or the toe of the landslide may have been near its present elevation being controlled by structural geology (Geologic Cross Section K-K,' Plate C-3, Appendix C). Another part of the same cut slope is labeled QlsII-7b where geologic mapping during Phase I grading identified rotated bedding that could either be back rotated bedding (dips 55 to 70 degrees southwest) due to landsliding or localized folding of the bedding adjacent to a fault projected to the south side of the canyon from the Phase I cut slopes on the north side of the canyon (Plate C-1 and Plate C-3, Appendix C).

Both of these inferred landslides are located outside the Phase II waste containment area and do not impact the lining system and the leachate collection system. Part of landslide II-7a will be removed during grading of Phase II and all of the area mapped as II-7b will be buried beneath engineered fill. Due to the limited areal extent of landslide II-7a and its location on the slope, all of the inferred landslide should be removed prior to placing the adjacent engineered fill slope across the canyon (Appendix F). The area of inferred landslide II-7b will be stabilized by engineered fill and need not be removed for the Phase II Construction area. Detailed investigations of landslide II-7b will be deferred until the upper end of the canyon is to be developed.

3.4.5 Landslide II-8 (QlsII-8)

The area mapped as landslide II-8 consists of a series of scarps and fissures that formed in an abandoned exploratory oil pad at elevation 2,135 ft (650 m) MSL. The pad area was constructed by cutting into the ridge top and filling in two small drainages. The scarps and fissures appear to be related to the fill/native soil contact where differential settlement and down-slope creep of the fill at the native soil contact has occurred. Thus the scarps and fissures do not represent a bedrock landslide but are due to non-engineered fill being placed on steep natural slopes. Due to the shallow depth and lack of definition of the limits of the fill, only the fissures and scarp locations are illustrated on Plate C-1 (Appendix C).

The area of landslide II-8 is outside the Phase II waste containment area and does not impact any of the landfill facilities. It is located within the limits of the cut slope planned above Phase II. However, at that location, the planned cut slopes will be cut between elevations 1,980 and 2,030 ft (600 and 620 m, respectively). The planned cuts will be on the order of 100 ft (30 m) lower than the oil pad site, eliminating the uncontrolled fill and the causes of the fissures and scarps associated with landslide II-8. No mitigation will be needed for landslide II-8 and it is not considered further.

3.4.6 Landslides II-9 (QlsII-9), II-10 (QlsII-10), and II-11 (QlsII-11)

Landslides II-9, II-10, and II-11 are located in the upper reaches of the southwest canyon, north branch. One landslide had been mapped by PRA (1988) covering approximately two acres of the south-facing slope of the canyon wall. Subsequently GeoSyntec discovered the one landslide was part of a larger complex of landslides involving approximately 10 acres of the canyon. The landslides were mapped by GeoSyntec based on analyses of aerial photographs and topographic maps and geologic field mapping specifically for the Phase II Construction area design.

Landslide II-9 is the smallest of three landslides covering approximately one acre. Its headscarp, at approximate elevation 2,125 ft (650 m) MSL, is well developed and appears to be quite youthful with little vegetation and no degradation due to erosion or soil development on the scarp face. Upslope from the top of the headscarp, a smaller scarp and fissure indicates very recent landslide movement. The toe of the landslide is at the bottom of the canyon at elevation 1,850 ft (560 m) MSL demonstrating a very steep face of the landslide and vertical difference of 275 ft (84 m).

Landslides II-10 and II-11 cover approximately 4 and 5 acres, respectively. They have been mapped by GeoSyntec based on analyses of aerial photographs, topographic maps and geologic reconnaissance of the area for the Phase II Construction area design. The landslides extend from near the top of the ridge to the base of the canyon representing a vertical drop on the order of 350 ft (110 m) from the headscarp areas to the toes of the landslides.

Geologic mapping around the edges of the landslides and on the adjacent ridges indicates consistency of geologic structure and bedding dips. The structural data were projected to the landslides for interpreting geology beneath the landslides. Geologic Cross Sections C-C' and E-E' illustrate probable subsurface geologic structure that controls the landslide slip surface geometry of landslide II-10. From the elevation of the toe of each landslide and the adjacent geologic structure, the potential slip surface was estimated assuming that the landslides are translational, being controlled by weak bedding planes. The data suggest that the landslides are on the order of 100 ft (30 m) thick.

Landslides II-9, and II-10 underlie a part of the Phase II grading upslope from the perimeter maintenance corridor. Both landslides will be stabilized by the engineered fill slopes planned in the northwest branch of the southwest canyon. The proposed fill area will not extend far enough up canyon to reach landslide II-11. Therefore, landslide II-11 does not encroach upon the Phase II Construction area and does not impact the waste containment area. Thus, future movement of landslide II-11 should not impact the Phase II grading or facilities. Slope stability analyses of the landslides are presented in Section 4 of this report.

3.4.7 Landslide II-12 (QlsII-12)

Landslide II-12 occurred on the south-facing slope of the southern tributary to the north branch canyon. The limits of the landslide were delineated by GeoSyntec geologists based on aerial photograph analyses, topographic map analyses and field reconnaissance. During the field reconnaissance, fissures were mapped in association with the landslide suggesting very recent activity. The landslide may consist of several landslides as indicated by several possible headscarps or areas suggesting back rotation of the landslide surface.

The mechanism of failure for landslide II-12 is interpreted to be similar to landslides II-9, II-10 and II-11, controlled by bedding that dips to the east and southeast at the nose of the Pico anticline. Thus, landslide II-12 is translational in mechanism.

The grading of the Phase II Construction area indicates part of a stability buttress will be located in the canyon where landslide II-12 exists. The buttress is designed to support a cut slope located to the north. A small part of the toe of landslide II-12 will be buried by the engineered fill, which is insufficient to stabilize the landslide. However, the landslide II-12 is located outside the Phase II waste containment area and facilities. Future movement of the landslide would not impact the landfill or its operations. Detailed evaluation of landslide II-12 for remediation will be deferred to a subsequent stage of landfill development.

3.4.8 Landslides II-13 (QlsII-13) and II-14 (QlsII-14)

Two landslides have been mapped on the south-facing slopes of the southwest branch canyon. The limits of the landslides are mostly beyond the subgrade grading plan as designated in Plate F-1 (Appendix F) of this report. Together the landslides cover approximately fifteen acres as mapped by PRA (1988). Because the landslides do not directly involve the proposed Phase II Construction grading, detailed investigation and evaluation of stability will be deferred until a subsequent stage of landfill development.

4. CUT AND FILL SLOPE STABILITY

4.1 Introduction

Limit equilibrium stability analyses were performed in order to evaluate the minimum acceptable inclination of cut and fill slopes in the Phase II Construction area. Back-analyses of existing landslides performed previously (GeoSyntec, 1995c) and during this investigation were used to estimate the residual shear strength parameters along clay seam bedding planes of the Towsley Formation. It is these clay seams which govern the stability of the cut and fill slopes in the Phase II Construction area. The back-calculated clay seam shear strength parameters were used along with representative shear strengths for compacted fill and intact rock to establish the acceptable inclination of cut and fill slopes as a function of bedding inclination and the acceptable values of factor of safety and yield acceleration.

4.2 Design Criteria

4.2.1 Final Slopes

Slope stability analyses of final (permanent) cut and fill slopes were performed using static and pseudo-static limit equilibrium analysis. The accepted standard of practice of a static factor of safety of 1.5 for permanent slopes was employed in determining the acceptable inclination of final cut and fill slopes for the Phase II Construction at the County Extension Landfill.

Seismic design criteria established for the permanent cut and fill slopes were based upon the Maximum Credible Earthquake. Seed (1979) states that, in the absence of significant soil strength loss due to cyclic loading (e.g., liquefaction), slopes found to have a factor of safety greater than 1.15 for a seismic coefficient of 0.15 have sustained acceptable deformations when subject to earthquakes of magnitude as great as 8.25 with peak accelerations as high as 0.75 g. A magnitude 8.25 event generating a peak ground acceleration of 0.75 g has an ESI of 57.6, significantly greater than any of the Maximum Credible Earthquake events at the site as established in Chapter 2 of this report. Therefore, the seismic design criterion for final cut and fill slopes in the Phase II Construction area was established as a factor of safety of 1.15 for a seismic coefficient of 0.15.

4.2.2 Interim Slopes

Slope stability analyses of interim cut and fill slopes were performed using static limit equilibrium analyses. Slopes are considered to be interim if either they will eventually be buttressed by waste placement or if they will be removed or re-configured by grading during subsequent phases of landfill development. Considering that a residual shear strength back-calculated from existing landslides was used in the stability analysis, GeoSyntec deemed that a minimum static factor of safety of 1.25 was appropriate for the interim stability of cut and fill slopes in the Phase II Construction area. This factor of safety is consistent with established grading recommendations for interim slopes at other landfills in California (e.g., the Olinda Alpha Landfill, the Vasco Road Landfill), with the design criteria employed for Phase I Construction at the County Extension Landfill and with recommendations for interim factors of safety developed by the U.S. Navy Facilities Engineering Command (NAVFAC, 1982). Due to the limited duration during which the interim slopes will exist and since failure of the interim slopes in the Phase II Construction area will not affect the integrity of the waste containment system, interim cut and fill slopes were not evaluated for seismic resistance.

4.3 Method of Analysis

Both the back-analyses of former landslides and the stability analyses of the cut and fill slopes were performed using the computer program PCSTABL5 (Achilleos, 1988). The program PCSTABL5 employs limit equilibrium principles to provide general solutions to slope stability problems. The program includes provisions for using the simplified Bishop, simplified Janbu or Spencer method of slices. Potential sliding surfaces, both circular and polygonal, can be pre-specified or randomly generated. As recommended by the Department of Water Resources (DWR) (1995), the Spencer method was used in this study. The Spencer method is considered an "exact" method in that it satisfies both force and moment equilibrium. "Exact' methods are in general preferable to approximate methods such as the Janbu method which satisfy either force or moment equilibrium but not both.

4.4 Material Parameter Assumptions

4.4.1 General

The interbedded nature of the Towsley Formation renders the evaluation of representative shear strength parameters difficult. Relatively well defined alternating layers of sandstone, siltstone, and claystone are observed at the site. The sandstone layers tend to be massive and the siltstone and claystone often appear as thin but continuous beds with clay-lined bedding planes (clay seams) at the Sunshine Canyon site. With well defined bedding such as that observed in the Towsley Formation at the site, the choice of the design shear strength is dictated by the anticipated direction of movement relative to the bedding orientation as follows:

- if sliding is expected along bedding planes, then the representative shear strength will be that of the weakest bedding plane material, which for the Towsley Formation in the Phase II Construction area are clay seams; and

- if sliding is expected to occur across bedding planes, the representative shear strength will be dominated by that of the intact bedrock layers.

The shear strength parameters for the Towsley Formation in the stability analyses are summarized in Table 4-1 and discussed in the following sections.

4.4.2 Intact Bedrock

Shear strength parameters for the Towsley Formation intact bedrock was estimated on the basis of observations of stable vertical slopes with favorable bedding at Sunshine Canyon and GeoSyntec's past experience with cut slopes in the Towsley Formation at the Sunshine Canyon Landfill and at the nearby Lopez Canyon Sanitary Landfill in Lakeview Terrace, California (GeoSyntec, 1995c). A cohesion of 1,000 psf (47.8 kPa) was used for intact bedrock based upon observed vertical cuts of over 50 ft (15 m) in height in intact bedrock. A friction angle of 36 degrees was assigned to the intact bedrock based upon typical values for this type of material. A unit weight of 130 pcf (20.4 kN/m^3) was assigned to the intact bedrock material. These assigned values are consistent with values published in the literature for similar materials and are the same values used for the Phase I cut slope design at Sunshine Canyon Landfill (GeoSyntec, 1995c).

4.4.3 Clay Seam Material

The shear strength parameters of clay seam materials were selected based on a review of previous investigations (GeoSyntec, 1995c, GeoSyntec, 1996c) and on the back-analysis of a landslide that is located in the Phase II Construction area.

For the development of Phase I at Sunshine Canyon Landfill, the clay seam material shear strength parameters were back-calculated from two existing landslides in the Phase I Construction area. The results of those back-analyses indicated that the shear strength of the clay seam material could be described by a friction angle of 14 degrees and a cohesion of 400 psf (19.1 kPa) (GeoSyntec, 1995c). Subsequent to Phase I grading design, back analysis was conducted by GeoSyntec of a landslide, denoted as landslide I-3 on the geologic map, in the vicinity of the permanent sedimental basin. Results of this analysis indicated that the shear strength of the clay seam in the vicinity of the permanent sedimentation basin could be described by a friction angle of 14 degrees and zero cohesion (GeoSyntec, 1996c).

An additional landslide was back-analyzed during this investigation. The landslide is located in the Phase II Construction area and is denoted as landslide II-10 on the geologic map presented in Appendix C. Back-analyses were conducted on two different cross sections through the landslide. The results of the back-analysis for the first cross section (Cross Section E-E'), oriented in the direction of movement of the landslide, indicates that this clay seam material can also be characterized by a friction angle of 14 degrees and zero cohesion. The results of the back-analysis for the other cross section (Cross Section C-C'), oriented perpendicular to the proposed Phase II cut slope face, indicates that the clay seam material can be characterized by a friction angle of 16 degrees and zero cohesion. For both back-analyses, the disrupted slide mass material within the active wedge of the landslide was characterized by a friction angle of 20 degrees and zero cohesion. The use of intact strength parameters was deemed inappropriate for the active wedge material because shearing has disrupted this material. Therefore, the shear strength of the active wedge material was reduced from the shear strength of intact rock to a shear strength closer to that of the clay seam material.

Based on the back-analyses conducted during this investigation and on the Phase I investigation back-analyses (GeoSyntec, 1995c, GeoSyntec, 1996c), a friction angle of 14 degrees and a cohesion of 400 psf (8 kPa) were selected as the strength parameters parallel to the bedding in areas where evidence of landslides has not been observed. In areas of where evidence of landslides has been observed, a friction angle of 14 degrees and zero cohesion were assumed as the strength parameters parallel to the bedding. A unit weight of 120 pcf (18.9 kN/m^3) was assigned to clay seam material. These assigned values are consistent with the values published in literature.

4.4.4 Compacted Fill

The shear strength of the compacted fill was characterized by a friction angle of 35 degrees and a cohesion of 170 psf (8.1 kPa). These strength parameters were based on site-specific laboratory testing on compacted fill performed during Phase I, Stage 1 construction quality assurance testing (GeoSyntec, 1996a). The laboratory testing consisted of back-pressure saturated Consolidated Undrained triaxial compression tests performed on fill from the site compacted to 90 percent of the maximum dry density measured in accordance with ASTM D 1557. The results from these triaxial tests are provided in Appendix D of this report. Specifications for Phase II Construction will call for use of fill material that provides, at a minimum, this strength and will require conformance testing to demonstrate that the selected fill material meets the specifications. A unit weight of 125 pcf (19.7 kN/m^3) was assigned to the compacted fill.

4.4.5 Solid Waste

Solid waste materials that are (and will be) disposed of at the site are characterized by the unit weight profile shown on Figure 4-1, a cohesion of 900 psf (43.1 kPa), and a friction angle of 31 degrees. The unit weight profile shown on Figure 4-1 is representative of the six unit weight profiles estimated from shear wave velocity measurements at Azusa Landfill in Southern California. More details on these measurements can be found in Kavazanjian et al. (1996), included in Appendix E. The thickness of waste against the Phase II cut and fill slopes will be approximately 150 ft (45.7 m) deep. The average unit weight evaluated from Figure 4-1 for waste 150 ft (45.7 m) thick is approximately 85 pcf (13.4 kN/m^3). Therefore, an average unit weight of 85 pcf (13.4 kN/m^3) was used for cut and fill slope stability.

The selected shear strength parameters represent a lower bound value for the shear strength of solid waste developed on the basis of laboratory testing performed at the Operating Industries, Inc. (OII) Landfill, Superfund Site in Southern California. These parameters were developed on the basis of direct shear and direct simple shear testing on 18-in. (750-mm) diameter reconstituted specimens of solid waste. The testing and results were subjected to the scrutiny of separate blue ribbon panels assembled by the steering committee and the United States Environmental Protection Agency. These values are slightly different from but consistent with the solid waste shear strength envelope recommended by Kavazanjian et al. (1995) of a cohesion of 500 psf (24 kPa) at low confining pressure and a friction angle of 33 degrees at high confining pressure.

4.5 Cross Sections Analyzed/Analysis

A total of five cross sections (A-A', B-B', C-C', D-D' and E-E') were analyzed for the development of the Phase II Construction cut and fill slopes. The plan view of the Phase II Construction area presented in Figure 4-2 shows the proposed cut slope configuration, existing grade, and the locations and orientations of the cross sections. This figure on a larger scale is included as Plate F-1 (Appendix F). Profiles of the five cross sections showing the proposed cut and fill slope configurations, existing grade, and geologic features (i.e., apparent dip and the extent of the landslide) are presented as Plate C-2 (Appendix C), Cross Sections A-A', B-B', C-C' and D-D' are oriented roughly perpendicular to the slope face along the length of the Phase II Construction cut slope. Cross Section E-E' is oriented in the direction of movement of the landslide in the Phase II Construction cut slope area. This landslide is also intersected by Cross Section C-C'.

For each cross-section, the geologic bedding dips unfavorably out of slope. Therefore, the potential failure surfaces were assumed to be parallel to the apparent dip of the bedding in each cross section. Apparent dip was based on true dips identified during the geologic investigation and projected along strike into each cross section. However, to check that sliding along bedding planes was the critical failure mode, several circular failure surfaces through intact bedrock and compacted fill were investigated.

For cross sections not located near an existing landslide (i.e., Cross Sections A-A', B-B', and D-D'), stability was analyzed by varying the depth to the potential failure surface until a failure surface corresponding to the minimum factor of safety was found. For cross sections located near an existing landslide (i.e., Cross Sections C-C' and E-E'), stability was analyzed by assuming that the critical failure plane was the failure plane of the mapped landslide.

Five different potential failure mechanisms were investigated, three for the interim slopes and two for the final slopes. A general cross section of the interim slope configuration showing the three potential failure mechanisms investigated is presented as Figure 4-4. A general cross section of the final slope configuration showing the two potential failure mechanisms investigated is presented as Figure 4-5. While shorter failure

mechanisms than those shown schematically in Figures 4-4 and 4-5 were evaluated, the longest kinematically feasible failure mechanism generally gave the lowest factor of safety.

4.6 Results

The results of the limit equilibrium slope stability analyses conducted for Cross Sections A-A' through E-E' are presented in Table 4-2. The analyses were conducted to evaluate acceptable inclinations for the Phase II Construction cut and fill slopes.

Based on the results of the slope stability analyses, the proposed grading plan satisfies the established design criteria. In general, the average slope inclinations are not steep, ranging from 2.7H:1V (Horizontal:Vertical) to 4.4H:1V. The predominant apparent dip along each cross section ranged from 18 to 27 degrees out of slope. For each cross section, polygonal failure surfaces sliding along weak clay seams oriented along bedding planes served as the critical failure mechanism that governed design. Circular failure surfaces through intact bedrock and compacted fill revealed significantly higher factors of safety than those from polygonal failure surfaces. Slope stability output, including graphical plots is included in Appendix G.

5. WASTE MASS STABILITY EVALUATIONS

5.1 General

The analyses presented in this Section were carried out in order to evaluate stability of the waste mass that will be developed following Phase II Construction under static and seismic loading conditions. The analyses conducted to evaluate waste mass stability included static and pseudo-static limit equilibrium analyses, two-dimensional finite element seismic response analyses, and Newmark seismic deformation analyses. Background information on design earthquakes used in the seismic response analyses is presented in Section 2 of this report. Material parameters employed in the analyses are discussed in Section 5.2. Section 5.3 summarizes the design criteria for the static and seismic analyses. General method of stability analysis is described in Section 5.4. Justification for selection of characteristic cross sections is presented in Section 5.5. The static and pseudo-static analyses of the waste mass are described and documented in Section 5.6. The finite element seismic response and Newmark seismic deformation analyses are described in documented in Sections 5.7 and 5.8, respectively.

5.2 Material Parameters

5.2.1 General

Total unit weight and material and interface shear strength parameters are needed to characterize materials for the static and pseudo-static limit equilibrium analyses of liner stability. Total unit weight, shear wave velocity, Poisson's ratio, the shear modulus reduction curve, and the equivalent viscous damping ratio curve are needed to characterize materials for the dynamic response analyses. The seismic deformation analyses depend upon the results of the other analyses and do not require any additional parameters. With the exception of the unit weight, the parameters used in the limit equilibrium and dynamic analyses are different and are therefore treated separately in the following subsections.

5.2.2 Material Parameters for Static and Pseudo-Static Analyses

For the static and pseudo-static limit equilibrium analyses of the Sunshine Canyon Landfill County Extension Phase II waste mass stability, the material parameters may be divided into the following three groups: (i) solid waste materials; (ii) compacted soils; and (iii) interface materials. Characteristic interfaces within the composite liner system, such as the compacted low-permeability soil-geomembrane interface, are treated as a fictitious "massless" material characterized solely by its shear strength parameters.

As discussed in Section 4 of this report, the solid waste materials that are (and will be) disposed of at the site are characterized by the unit weight profile shown on Figure 4-1, a cohesion of 900 psf (43.1 kPa) and a friction angle of 31 degrees. For the Phase II waste grading plan for the Sunshine Canyon County Extension (see Figure 2-3), the average unit weight of solid waste evaluated from Figure 4-1 is approximately 85 pcf (13.4 kN/m^3). This constant value was used in the static and pseudo-static limit equilibrium analyses.

The selected shear strength parameters represent a lower bound value for the shear strength of solid waste developed on the basis of laboratory testing performed at the OII Landfill, Superfund Site in Southern California. These parameters were developed on the basis of direct shear and direct simple shear testing on 18-in. (750-mm) diameter reconstituted specimens of solid waste. The testing and results were subjected to the scrutiny of separate blue ribbon panels assembled by the steering committee and the United States Environmental Protection Agency. These values are slightly different from but consistent with the solid

waste shear strength envelope recommended by Kavazanjian et al. (1995) of a cohesion of 500 psf (24 kPa) at low confining pressure and a friction angle of 33 degrees at high confining pressure.

Toe berm, stability berm, liner and cover soils are assumed to be constructed from compacted soils with similar representative properties. A unit weight of 125 pcf (19.7 kN/m^3) and a cohesion of 170 psf (8.1 kPa) with a friction angle of 35 degrees, corresponding to on-site soils compacted to approximately 90 percent of the maximum dry density measured in accordance with ASTM D 1557, were used to represent these materials.

The properties of the Phase I side slope liner were based upon the results of Phase I conformance testing. The conformance testing results for Phase I (GeoSyntec, 1996a) yielded a minimum adhesion of 35 psf (1.7 kPa) and friction angle of 10 degrees for the side slope liner system. For Phase II Construction, GeoSyntec conservatively assumed the minimum values allowed by the specifications: zero adhesion and a friction angle of 8 degrees.

The base liner geomembrane-compacted low-permeability soil interface is the most important interface of the liner system with respect to waste mass stability. Three sets of base liner interface properties were identified from the results of Phase I conformance testing: the minimum interface adhesion case with an adhesion of 665 psf (31.8 kPa) and an interface friction angle of 15 degrees. The minimum interface friction angle case with an adhesion of 1,070 psf (51.2 kPa) and interface friction angle of 13 degrees, and the average interface properties case with an adhesion of 1,110 psf (527 kPa) and a friction angle of 15.4 degrees. GeoSyntec investigated all three cases, as elaborated upon subsequently.

Material parameters selected for static and pseudo-static liner stability analyses are summarized in Table 5-1.

5.2.3 Material Properties for Dynamic Analyses

For the dynamic analyses of waste mass stability, GeoSyntec divided materials into the following three characteristic groups: (i) solid waste materials; (ii) compacted soils; and (iii) weak rock materials. Material parameters for the fictitious elastic halfspace assumed to underlie the weak rock in the finite element model used in the dynamic response analyses (see Section 5.7), are assumed identical to the parameters of the weak rock.

Solid waste materials that are (and will be) disposed of at the site are characterized by the unit weight profile shown on Figure 4-1, the shear wave velocity profile shown on Figure 5-1, a Poisson's ratio of 0.33, and the modulus reduction and damping curves shown on Figure 5-2. The shear wave velocity profile shown on Figure 5-1 was established based upon shear wave velocity measurements at six southern California solid waste landfills, including the Sunshine Canyon City Landfill, as part of a joint GeoSyntec/University of California Berkeley research project on seismic response of solid waste landfills in Northridge earthquake. The measurements at the Sunshine Canyon City Landfill were compared to the range of "typical of typical values" established based upon the results at all six landfills to establish the shear wave velocity profile used for solid waste in the analyses presented herein, as illustrated in Figure 5-1. Development of the "range of typical values" is described in the paper by Kavazanjian et al. (1996), including in Appendix E. Poisson's ratio equal to 0.33 for solid waste was established from OYO suspension logging measurements (in-hole measurement of shear and compressional wave velocities) at the OII landfill. The modulus reduction and damping curves (upper bound modulus and lower bound damping) were also developed for the OII project. Figure 5.3 compares these "new" modulus reduction and damping curves to curves previously recommended by Kavazanjian and Matasovic (1995) and by Idriss et al. (1995). Both the Poisson's ratio and modulus reduction and damping curves were subjected to scrutiny of USEPA review.

GeoSyntec assumed that both cover and liner soils will be low-plasticity clayey materials (anticipated plasticity index (PI) in the range between 18 to 25). Therefore, modulus reduction and damping curves that correspond to PI ≈ 15 (see Figure 5-3 reproduced from Vucetic and Dobry, 1991) were used to characterize these materials. A constant shear wave velocity of 600 ft/sec (183 m/sec) and a Poisson's ratio of 0.3 was assigned to these soils.

A constant shear wave velocity of 3,000 ft/s (915 m/s) was assumed for the underlying weak rock (bedrock). This bedrock shear wave velocity is close to the upper limit on the velocity expected in bedrock at the site based upon surface wave measurements made by Professor Ken Stokoe (Stokoe, 1995) of the University of Texas. The actual shear wave velocity measured at depths up to 100 ft (30 m) by Professor Stokoe in bedrock at the site varied between 2,000 and 3,300 ft/s (610 and 1,005 m/s). Use of a value close to the upper bound value is conservative, as it increases the impedance contrast between the waste and the foundation, thereby increasing the response of the landfill to the input motions. Poisson's ratio equal to 0.30 was assumed for bedrock.

Material parameters selected for dynamic analyses of waste mass stability are summarized in Table 5-2.

5.3 Stability Criteria

Requirements for stability of Class III landfill waste containment systems are contained in §2547 of Chapter 15, Title 23 (Chapter 15) of the California Code of Regulations. Specifically, §2547 (a) requires that *"Class III waste management units shall be designed to withstand the maximum probable earthquake without damage to the foundation or to the structures which control leachate, surface drainage, erosion, or gas."* As noted previously, BFI is committed to designing the County Extension Landfill to the higher design standards of the maximum credible earthquake. Chapter 15 provides no additional details on stability criteria. However, requirements for stability of final waste slopes are contained in § 17777 of Title 14 of the California Code of Regulations. Specifically, § 17777 (c) requires that "A slope or foundation stability report shall be prepared by a registered civil engineer or certified engineering geologist. The report must indicate a factor of safety for the critical slope at least 1.5 under dynamic conditions." Section 17777 (c) (11) provides for the use of alternative analytical methods in lieu of achieving a factor of safety of (FS) of 1.5. These alternative methods must provide a quantified estimate of the magnitude of movement and ". . . demonstrate that this amount of movement can be accommodated without jeopardizing the integrity of the final cover or the environmental control systems."

The current standard of practice in California for static and seismic design of Class III landfills has evolved from these two sections of the regulations. In current practice, a static factor of safety of 1.5 is generally required for all final waste slopes and any cut or fill slopes the failure of which would impact the integrity of the waste containment, affect off-site property, or endanger life safety. Seismic design is generally based upon the concept of "acceptable deformation." A deformation-based design may be established either by using a combination of seismic coefficient and pseudo-static factor of safety large enough with respect to design earthquake accelerations such that permanent deformations that accommodate during the design earthquake will be within "acceptable limits" or by formal computation of permanent seismic deformations in the design earthquake. While the seismic coefficient approach is commonly used for cut and fill soil slopes, as described in the previous section, the current standard of practice for seismic design of liner systems is to perform a quantitative analysis of permanent deformations in the design earthquake.

Consistent with the above discussion of current practice, for the Sunshine Canyon County Extension Phase II Construction liner system static stability, GeoSyntec employed a factor of safety ≥ 1.5 as the stability criterion. For seismic stability of the Phase II Construction liner system, GeoSyntec used a Newmark-type deformation analysis to calculate permanent seismic displacement. For the County Extension liner system,

GeoSyntec has accepted a maximum calculated permanent displacement of 6 in. (150 mm) as the seismic stability criterion based upon comments on the Phase I liner system by DWR (1995). It should be noted that Seed and Bonaparte (1992) report that allowable calculated permanent displacements of 6 to 12 in. (150 to 300 mm) are commonly used in California in landfill engineering practice.

The static and seismic stability criteria for the Sunshine Canyon Landfill County Extension liner system are summarized in Table 5-3. Also indicated in Table 5-3 are combinations of interface shear strength parameters to be used in the static and pseudo-static limit equilibrium liner stability analyses.

5.4 Method of Analysis

The static and seismic stability analyses of Sunshine Canyon County Extension Phase II Construction liner system were carried out following the methodology outlined below:

(i) Select characteristic cross sections. The characteristic cross sections are selected based upon past experience and engineering judgment.

(ii) Perform static and pseudo-static stability analyses on the characteristic cross sections. Express the results of static analyses in terms of the Factor of Safety, $(FS)_{STAT}$, and express the results of pseudo-static analyses in terms of the yield acceleration of critical failure mass, k_y. Identify the "critical" cross sections as the cross sections with lowest calculated yield accelerations.

(iii) Perform two-dimensional finite element seismic response analyses of the critical cross sections. Express the results in terms of the average acceleration time history of the expected failure mass for each critical cross section.

(iv) Perform Newmark-type deformation analyses for each critical cross section by processing the average acceleration time histories calculated in step (iii). Express the results in terms of the maximum calculated permanent seismic displacements.

(v) Compare the calculated static factors of safety and maximum permanent displacements to the stability criterion and evaluate the results.

It should be noted that the above outlined methodology is essentially the same as the *decoupled approach* developed by Seed and Martin (1966), Ambraseys and Sarma (1967), and Makdisi and Seed (1978) for seismic analysis of earth dams. Lin and Whitman (1983) and Gazetas and Uddin (1994) have demonstrated that this decoupled approach is generally conservative and typically overestimates permanent displacements by a factor of two compared to more rigorous (and more complicated) "fully coupled" seismic deformation analysis.

5.5 Characteristic Cross Sections

Selection of the characteristic cross sections for the Phase II Construction liner stability analysis was guided by the following:

- steepness of the back slopes;
- thickness of the solid waste;
- steepness of the proposed final cover;
- location of the internal stability and toe berms;
- relative locations of side slope and base liners; and

- relative location of cross sections with respect to each other.

The final decision was also influenced by GeoSyntec's experience with analysis of Phase I Construction liner stability and by engineering judgment. The selected characteristic cross sections are shown in plan view on Figure 5-4 and in cross section on Figures 5-5 to 5-7. More detailed information can be found on Drawings 4 and 5 in the attached Drawing Set (Appendix A).

5.6 Static and Pseudo-Static Limit Equilibrium Analyses

Static and pseudo-static limit equilibrium analyses of waste mass stability were performed using the computer program PCSTABL5 (Achilleos, 1988). PCSTABL5 employs limit equilibrium principles to provide general solutions to slope stability problems. The program includes provisions for using the simplified Bishop, simplified Janbu or Spencer method of slices. Potential sliding surfaces, both circular and polygonal, can be pre-specified or randomly generated. As recommended by DWR (1995) and as discussed in Section 4 with respect to cut and fill slope stability, the Spencer (1967) method with polygonal failure surfaces was used in this study.

The cross sections shown on Figures 5-5 to 5-7 indicate the distribution of materials and interfaces (e.g., base liner and side slope liner). Corresponding material properties are listed in Table 5-1. Results of the static and pseudo-static liner stability analyses are presented in Appendix H and are summarized in Table 5-4 and on Figures 5-5 to 5-7. Table 5-4 indicates that static stability criterion ($(FS)_{STAT} \geq 1.5$) is satisfied for all three characteristic cross sections. Table 5-4 further indicates that the lowest yield acceleration values for each cross section. The failure wedges corresponding to these minimum yield accelerations are illustrated in Figures 5-5 to 5-7.

5.7 Dynamic Site Response Analyses

Two-dimensional finite element seismic response analyses of the waste mass were conducted using the computer program QUAD4M. QUAD4M was initially developed as QUAD4 by Professor I.M. Idriss, et al. in 1973 (Idriss, 1973) and has recently been updated by Idriss and his co-workers at the University of California, Davis (Hudson et al., 1994). QUAD4M is generally considered to be one of the state-of-the art program for two-dimensional dynamic response analysis of earth structures, including landfills. QUAD4M has been used by Dr. Idriss and his co-workers to evaluate the seismic response of the OII landfill to the Northridge earthquake (Idriss et al., 1995), by the University of California, Berkeley/GeoSyntec team in their National Science Foundation - sponsored research on the performance of landfills in the Northridge Earthquake (Augello et al., 1995), and by GeoSyntec in its ongoing work on closure design of the OII landfill, with technical oversight being provided by Dr. Idriss as a member of a blue ribbon USEPA review panel.

QUAD4M performs time domain seismic response analyses using the equivalent linear constitutive model implemented in an iterative method of analysis. At the end of each iteration, the computer program re-assigns shear modulus and equivalent viscous damping ratio values for each element based upon input modulus reduction and damping curves and an effective strain. The effective strain is calculated as the maximum cyclic shear strain induced in the element times an effective strain factor.

QUAD4M finite element analyses were conducted on Cross Sections F-F' and G-G,' shown in Figures 5-5 and 5-6. Cross Section H-H' was not modeled because it is geometric similar to Cross Section G-G,' as evidenced by the fact that the minimum yield accelerations of the two cross sections are equal. The finite element meshes used to model Cross Sections F-F' and G-G' are shown on Figures 5-8 and 5-9. Note that in modeling these cross sections, a single row of elements was used to model the compacted clay and

foundation soil layers beneath the geomembrane liner. This row of elements is required to employ the "seismic coefficient" option in QUAD4M to calculate the average acceleration time history of potential failure masses bounded by the liner.

The input design earthquake ground motions (strong motion accelerograms) were applied as outcrop motions at the bottom of the finite element meshes, at the boundary between the compacted soils and the underlying "elastic halfspace." The predominant periods and effective strain factors needed as input to constitutive models embedded in QUAD4M are listed in Table 2-4 for the five accelerograms used in the analysis. Figures 5-8 and 5-9 show the critical potential failure masses that were specified for calculation of the average acceleration time histories (seismic coefficient). These seismic coefficient time histories were saved for further processing, as elaborated upon in the following subsection. Output of QUAD4M analyses are included in Appendix I.

5.8 Newmark Deformation Analyses

The results of the QUAD4M two-dimensional finite element seismic response analyses (in the form of the average acceleration time histories for the potential failure masses identified in the pseudo-static analyses) were used as input for Newmark deformation analyses to evaluate the permanent seismic deformation potential of the Phase II Construction liner system. The deformation calculated by this method is a function of the yield accelerations which were evaluated in the pseudo-static limit equilibrium analyses summarized in Table 5-4. The processing of the average acceleration time histories for each critical potential failure surface and accelerogram was performed using the computer program YSLIP_PM (Yan et al., 1996).

Results of the Newmark deformation analyses are presented as a function of yield acceleration on Figures 5-10 to 5-13 and are summarized in Table 5-5. Figures 5-10 to 5-13 indicate that HBS and C3 synthetic accelerograms induce the largest permanent displacements. Based upon the minimum yield accelerations calculated for each section, Table 5-5 indicates that the largest permanent displacements are induced in block N-W of Cross Section F-F' for the HBS accelerogram. The calculated displacements for this maximum case are on the order of 5 in. (127 mm). Therefore, the calculated permanent seismic deformation in the MCE for both section is below the maximum allowable value of 6 in. (150 mm). Output of Newmark Deformation Analyses are included in Appendix J.

6. SUMMARY AND CONCLUSIONS

6.1 Summary

An assessment of the static and pseudo-static stability of the proposed Phase II Construction at the Sunshine Canyon County Extension landfill has been conducted to demonstrate that the proposed base and waste grading plans and liner construction details provide adequate stability. The stability of both interim and final (permanent) cut and fill slopes were evaluated along with the stability of the waste mass. The cut and fill slopes were evaluated using static and pseudo-static limit equilibrium analysis. Waste mass stability was evaluated using static limit equilibrium analyses and Newmark seismic deformation analyses. Pseudo-static limit equilibrium and two-dimensional finite element seismic response analyses were required to provide input for the Newmark seismic deformation analyses.

Seismic stability was evaluated for the Maximum Credible Earthquake (MCE), a more stringent standard than the minimum regulatory requirement of the Maximum Probable Earthquake. A family of three maximum credible events were identified in the seismic hazard analysis:

- A M_w 6.9 earthquake on the Santa Susana fault generating a free-field bedrock PGA of 0.81 g at the site;
- A M_w 7.5 earthquake on the San Gabriel fault generating a free-field bedrock PGA of 0.57 g at the site; and
- A M_w 8.3 earthquake on the San Andreas fault generating a free-field bedrock PGA of 0.19 g at the site.
- A family of five strong motion accelerograms were selected to represent these three MCE events:
- The HBS-Synthetic accelerogram scaled to 0.7 g, selected to represent the San Gabriel MCE;
- The C3-Synthetic and Pacoima-Kagel Canyon accelerograms scaled to 1.06 g, selected to represent the Santa Susana MCE; and
- 0.26 g, selected to represent the San Andreas MCE.

Supplemental geologic mapping was combined with in-grade mapping of the Phase I Construction area to help define the site stratigraphy and the mechanisms of existing landslides for use in the slope stability analyses. An updated geologic map is presented as Plate C-1 (Appendix C) of this report. Interpretation of the existing landslides clearly indicates that the potential for landsliding is controlled by structure, lithology and topography. Landslides tend to form when weak (clay-lined) bedding planes are adversely oriented to the slope.

Static and pseudo-static limit equilibrium analyses were conducted for both interim and final (permanent) cut and fill slopes proposed for Phase II Construction. Final slopes were defined as slopes that have been buttressed by waste. Interim slopes were defined as slopes that will eventually be buttressed by waste or re-configured by grading during subsequent phases of landfill development. The updated geologic map was used to define bedding orientation for these analyses. Based upon backanalyses, a shear strength represented by zero cohesion and a friction angle of 14 degrees was used parallel to the bedding in areas where evidence of landslides has been observed. A shear strength represented by 400 psf (19.1 kPa) and 14 degrees was used parallel to bedding in areas where no evidence of landslide has been observed. Final cut and fill slopes were

designed for a minimum static factor of safety of 1.5 and a pseudo-static factor of safety of 1.15 for a seismic coefficient of 0.15. Interim cut and fill slopes were designed for a factor of safety of 1.25.

Static limit equilibrium and Newmark seismic deformation analysis were used to evaluated waste mass stability. A static factor of safety of 1.5 and a calculated permanent seismic deformation of less than 6 in. (150 mm) were established as the seismic design criteria. Pseudostatic limit equilibrium analyses and two-dimensional finite element seismic response analyses were used to provide input to the Newmark analyses. Liner interface properties were based upon Phase I Construction conformance test results. Solid waste properties were based upon GeoSyntec's recent work at the OII Landfill and the results of the joint GeoSyntec-University of California Berkeley research project on the performance of landfills in the Northridge earthquake.

6.2 Conclusions

Results of the analyses indicate that the proposed Phase II Construction conforms with regulatory requirements for the stability of solid waste landfills. The static factor of safety for permanent cut and fill slope, including slopes in their final configuration for the currently permitted 17 million-ton landfill and slopes which would impact the integrity of the waste containment system should they fail, is greater than or equal to 1.5. Pseudo-static limit equilibrium analyses indicate acceptable deformation for these slopes for the Maximum Credible Earthquake. Static limit equilibrium analyses of waste mass stability also indicate a factor of safety greater than 1.5. Newmark seismic deformation analyses yielded calculated deformations of less than 6 in. (150 mm) along the liner interfaces. Based upon these results, the proposed Phase II Construction is deemed to be in compliance with applicable state and federal regulations on landfill stability.

6.3 Limitations

The professional opinions and recommendations expressed in this report are made in accordance with generally accepted standards of geotechnical practice. This warranty is in lieu of any other warranty either express or implied. We are responsible for the conclusions and recommendations contained in this report based on the data relating only to the specific project and location discussed herein. We are not responsible for use of the information contained in this report for purposes other than those expressly stated in this report. In the event that there are changes in the design or location of this project that do not conform to the project as described herein, we will not be responsible for these changes unless given the opportunity to review them and concur with them in writing. We are not responsible for any conclusions or recommendations made by others based upon the data or conclusions contained herein unless given the opportunity to review them and concur with them in writing.

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REFERENCES

Abrahamson, N. and Silva, W., "Preliminary Attenuation Relations for Horizontal Response Spectra Including Data from the 1994 Northridge Earthquake," *Draft Report to Brookhaven National Laboratory, New York.* 1996.

Achilleos, E., "PC STABL5M, User Manual" *Informational Report*, School of Civil Engineering, Purdue University, West Lafayette, Indiana, 132 p. 1988.

Ambraseys, N.N. and Sarma, A.K., "The Response of Earth Dams to Strong Earthquake," *Geotéchnique*, London, England, Vol. 17, 181-213. 1967.

Augello, A.J., Matasovic, N. Bray, J.D., Kavazanjian, E., J., and Seed, R.B., "Evaluation of Solid Waste Landfill Performance During the Northridge Earthquake," In: *Earthquake Design and Performance of Solid Waste Landfills,* ASCE Geotechnical Special Publication No. 54, pp. 17-50. 1995.

Bolt, B.A., "Duration of Strong Ground Motion," Proc. 5th World Conference on Earthquake Engineering, Rome, Italy. 1973.

Bonilla, M.G., Mark, R.K., and J.J. Lienkaemper, "Statistical Relations Among Earthquake Magnitude, Surface Rupture Length and Surface Fault Displacement," Journal of Geophysical Research, Vol. 74(6), pp. 2379-2411. 1984.

CDMG,, "Recommended Guidelines for Determining the Maximum Credible and the Maximum Probable Earthquakes," *Technical Note No. 43*, California Division of Mines and Geology, Sacramento, California, 1 p. 1975.

dePolo, C.M. and Slemmons, D.B., "Estimation of Earthquake Size for Seismic Hazards," in *Neotectonics in Earthquake Evaluation, Chapter 1*, E.L. Krinitsky and D.B. Slemmons (editors), Geological Society of America, Vol. 8. 1990.

Dibblee, T.W., "Geologic Map of the Oat Mountain and Canoga Park (North ½) Quadrangles, Los Angeles County, California," Published by the Dibblee Geological Foundation, Santa Barbara, California, 1:24,000 scale. 1992.

Dobry, R., Idriss, I.M. and Ng, E.,"Duration Characteristics of Horizontal Components of Strong-Motion Earthquake Records," *Bulletin of the Seismological Society of America*, Vol. 68, No. 5, pp. 1487-1520 1978.

Dolan, J.F., Shieh, K., Rockwell, T.K., Yeats, R.S., Shaw, J., Suppe, J., Huftile, G.J., and Gath, E., "Prospects for Larger or More Frequent Earthquakes in the Los Angeles Metropolitan Region," *Science*, Vol. 267, pp. 199-205. 1995.

DWR, "Review of Seismic Slope Stability of the Proposed Sunshine Canyon Landfill County Extension," Letter from Department of Water Resources to Mr. Rodney Nelson, Chief, Landfills Unit, California Regional Water Quality Control Board, Los Angeles Region, 26 December. 1995.

Elgamal, A-W.M., Scott, R.F., Succarieh, M.F., and Yan, L., "La Villita Dam Response During Five Earthquakes Including Permanent Deformation," *Journal of Geotechnical Engineering*, Vol. 116, No. 10, pp. 1443-1462. 1990.

Gazetas, G. and Uddin, N., "Permanent Deformation on Pre-Existing Sliding Surfaces in Dams," Journal of Geotechnical Engineering, ASCE, Vol. 120, No. 11, pp. 2041-2061. 1994.

ieoSyntec, "Slope Stability Report, Phase I Grading Design, Sunshine Canyon Landfill County Extension," Technical Report prepared for Browning-Ferris Industries, 31 January. 1995a.

ieoSyntec, "Subtitle D Liner System Stability Evaluation, Sunshine Canyon Landfill County Extension, Phase I," Letter to Mr. Rodney Nelson, Head, Landfills Unit, California Regional Water Quality Control Board, Los Angeles Region, 23 February. 1995b.

ieoSyntec, "Revised Subtitle D Liner System Stability Evaluation, Sunshine Canyon Landfill County Extension, Phase I," Letter to Mr. Rodney Nelson, Head, Landfills Unit, California Regional Water Quality Control Board, Los Angeles Region, 5 August. 1995c.

ieoSyntec, "Final Report of Construction Quality Assurance Monitoring, Phase I, Stage I Development, Sunshine Canyon Landfill County Extension," report prepared for Browning-Ferris Industries, July 1996, Vol. 2. 1996a.

ieoSyntec, "Two-Dimensional Finite Element Seismic Response Analysis, Sunshine Canyon Landfill County Extension Phase I Liner Design," Technical Memorandum, GeoSyntec Consultants, Huntington Beach, California. 1996b.

ieoSyntec, "Geotechnical Investigation, Sedimentation Basin Access Road, Sunshine Canyon Landfill County Extension," Report prepared for Browning-Ferris Industries, in progress. 1996c.

ieoSyntec, "Seismic Exposure Evaluation, OII Landfill, Monterey Park, California," Report No. SWP-1, GeoSyntec Consultants, Huntington Beach, California. 1996d.

anks, T.C. and Kanamori, H., "A Moment Magnitude Scale," Journal of Geophysical Research, Vol. 84 (B5), pp. 2348-2350. 1979.

udson, M., Idriss, I.M. and Beikae, M., "QUAD4M - A Computer Program to Evaluate the Seismic Response of Soil Structures using Finite Element Procedures and Incorporating a Compliant Base." *User"s Manual*, Center for Geotechnical Modeling, Department of Civil and Environmental Engineering, University of California, Davis, California, 27 p. (plus Appendices). 1994.

uftile, G.J. and Yeats, R.S., "Deformation Rates Across the Placerita (Northridge M_w = 6.7 Aftershock Zone) and Hopper Canyon Segments of the Western Transverse Ranges Deformation Belt," *Bulletin of the Seismological Society of America*, Vol. 86, No. 1B, pp. S3-S18. 1996.

driss, I.M., Lysmer, J., Hwang, R., and Seed, H.B., "QUAD4 - A Computer Program for Evaluating the Seismic Response of Soil Structures by Variable Damping Finite Element Procedures," *Report No. EERC 73-16*, Earthquake Engineering Research Center, University of California Berkeley, California, 67 p. 1973.

driss, I.M., Fiegel, G., Hudson, M.B., Mundy, P.K. and Herzig, R., "Seismic Response of Operating Industries Landfill," In: *Earthquake Design and Performance of Solid Waste Landfills*, ASCE Geotechnical Special Publication No. 54, pp. 83-118. 1995.

nnings, P.C., Housner, R.W. and Tsai, N.C., "Simulated Earthquake Motions," *Research Report*, Earthquake Engineering Research Laboratory, California Institute of Technology, Pasadena, California. 1968.

Kavazanjian, E., Jr., Echezuria, M. and McCann, M.W., "RMS Acceleration Hazard for San Francisco," *Soil Dynamics and Earthquake Engineering*, Vol. 4, No. 3, pp. 106-123. 1985.

Kavazanjian, E., Jr., and Matasovic, N., "Seismic Analysis of Solid Waste Landfills," In; *Geoenvironment 2000*, ASCE Geotechnical Special Publication No. 46, Vol. 2, pp. 1066-1080. 1995.

Kavazanjian, E., Matasovic, N., Stokoe, K. and Bray, J.D., "In-Situ Shear Wave Velocity of Solid Waste from Surface Wave Measurements," Proc. *2nd International Congress Environmental Geotechnics*, Osaka, Japan (in press, November 5-8). 1996.

Leeds, D.J., "State-of-the-Art for Assessing Earthquake Hazards in the United States, Report 28 - Recommended Accelerograms for Earthquake Ground Motions," Miscellaneous Paper 5-73-1, U.S. Army Corps of Engineers, Vicksburg, Mississippi, 171 p. (plus appendices). 1992.

Lin, J.S. and Whitman, R.V., "Decoupling Approximation to the Evaluation of Earthquake-Induced Plastic Slip in Earth Dams," *Earthquake Engineering and Structural Dynamics*, Vol. 11, 667-678. 1983.

Makdisi, F.I. and Seed, H.B., "Simplified Procedure for Estimating Dam and Embankment Earthquake-Induced Deformations," *Journal of Geotechnical Engineering Division*, ASCE, Vol. 104, No. GT7, pp. 849-867. 1978.

Mualchin, L. and Jones, A.L., "Peak Acceleration from Maximum Credible Earthquakes in California (Rock and Stiff-Soil Sites)," DMG Open-File Report 92-1, Division of Mines and Geology, California Department of Natural Resources, Sacramento, California. 1992.

NAVFAC, "Soil Mechanics Design Manual 7.1" Department of the Navy, Naval Facilities Engineering Command. 1982.

Newmark, N.M., "Effects of Earthquakes, on Dams and Embankments," *Geotechnique*, Vol. 15, No. 2, pp. 139-160. 1965.

Petersen, M.D. and Wesnousky, S.G., "Fault Slip Rates and Earthquake Histories for Active Faults in Southern California," Bulletin of Seismological Society of America, Vol. 84, No. 5, pp. 1608-1649. 1994.

PRA, "Phase II Fault Evaluation and Seismic Hazard Study, Proposed Expansion Site, Sunshine Canyon, Los Angeles, California: Consultant, Hayward, California, Job No. 2-0118/3040-01, report prepared for Browning-Ferris Industries, 41 p., 7 figures, tables, 4 April. 1982.

PRA, "Report of Waste Discharge, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Sylmar, California; Consultant, Hayward, California, Job No. 2-0118/3040-01, report prepared for Browning-Ferris Industries, 120 p., figures, tables, appendices A-G, exhibits A-D, 16 September. 1988.

PRA Group, "Geotechnical Study. Proposed Incinerator No. 3 Site, Sunshine Canyon Extension Area, Los Angeles," Prepared for Browning-Ferris Industries, 18 July 1990. 1990.

SCEC, "Seismic Hazards in Southern California; Probable Earthquakes, 1994-2024," The Phase II Report, Southern California Earthquake Center, Los Angeles, California, 69 p. (plus Appendices). 1995.

Seed, H.B., Personal Communications with Dr. Leslie Harder of Department of Water Resources. 1985.

Seed, H.B. and Martin, G.R., "The Seismic Coefficient in Earth Dam Design," Journal of Geotechnical Engineering, ASCE, Vol. 92, No. 3, pp. 25-58. 1966.

Seed, H.B., "Consideration in the Earthquake-Resistant Design of Earth and Rockfill Dams," *Geotechnique*, Vol. 29, No. 3, pp. 215-263. 1979.

Seed, H.B., and Bonaparte, R., "Seismic Analysis and Design of Lined Waste Fills: Current Practice," Proc. *Stability and Performance of Slopes and Embankments -II*, Vol. 2, Berkeley, California, ASCE Geotechnical Special Publication No. 31, pp. 1521-1545. 1992.

Silva, W., Personal Communication with Prof. Jonathan D. Bray of University of California, Berkeley. 1995.

Spencer, E., "A Method of Analysis of the Stability of Embankments Assuming Parallel Inter-Slice Forces", *Geotechnique*, Vol. 17, pp. 11-26. 1967.

Stokoe, K., "Shear-Wave Velocity Measurements at Four Southern California Landfills," *Letter Report* to GeoSyntec Consultants, 31 October 1995. 1995.

Trifunac, M.D. and Brady, A.G., "A Study of the Duration of Strong Earthquake Ground Motion," *Bulletin of the Seismological Society of America*, Vol. 65, pp. 581-626. 1975.

UEI, "Environmental Impact Report," Sunshine Canyon Landfill Technical Report, Ultrasystems Environmental Incorporated. 1996.

Vucetic, M. and Dobry, R., "Effect of Soil Plasticity on Cyclic Response." *Journal of the Geotechnical Engineering*, ASCE, Vol. 117, No. 1, pp. 89-107. 1991.

WGCEP, "Seismic Hazards in Southern California; Probable Earthquakes, 1994-2024," Working Group on California Earthquake Probabilities, *Bulletin of the Seismological Society of America*, Vol. 85, No. 2, pp. 379-439. 1995.

Wells, D.L. and Coppersmith, K.J., "New Empirical Relationship among Magnitude, Rupture Length, Rupture Width, Rupture Area, and Surface Displacement," *Bulletin of Seismological Society of America*, Vol. 84, No. 4, pp. 974-1002. 1994.

Winterer, E.L. and D. L. Durham, Geology of southeastern Ventura basin, Los Angeles County, California; U.S. Geological Survey Professional Paper 344-H, P275-336; pl. 44, map scale 1:24,000, colored. 1962.

Winterer, E.L. and D.L. Durham, "Geologic map of a part of the Ventura basin, Los Angeles County, California; U.S. Geological Survey Oil and Gas Investigations Series Map OM-196, map scale 1:24,000. 1958.

Woodward-Clyde, "Report of the Evaluation of Maximum Earthquake and Site Ground Motion Parameters Associated with the Offshore Zone of Deformation, San Onofre Nuclear Generating Station," Unpublished Report for Southern California Edison Company, p. 241. 1979.

Wright, T.L., *Structural Geology and Tectonic Evolution of the Los Angeles Basin, California.* Biddle, K.T., (ed), Active Basin Margins; American Association of Petroleum Geologists Memoir 52. pp. 35-134. 1991.

Wyss, M., Estimating Maximum Expectable Magnitude of Earthquakes from Fault Dimensions. Geology. Vol. 7. pp. 336-340. 1979.

Yan, L., Matasovic, N. and Kavazanjian, E., "YSLIP_PM - User's Guide," *Research Report*, GeoSyntec Consultants, Huntington Beach, California, 21 p. (plus Appendix). 1996.

Yan, L.P., "Seismic Deformation Analysis of Earth Dams: A Simplified Method," *Research Report No. SML 91-01*, California Institute of Technology Soil Mechanics Laboratory, Pasadena, California. 1991.

Yeats, R.S., "Late Cenozoic Structure of the Santa Susana Fault Zone," Professional Paper 1339, United States Geological Survey, Golden, Colorado, pp. 137-160. 1987.

Yeats, R.S., Huftile, G.J., Hummon, C., Schneider, C., and Tsutsumi, H., "Northern Los Angeles Fold-Thrust Belt," Paper C28, Southern California Earthquake Center Annual Report, University of Southern California, Los Angeles, California. 1993.

Appendix C16
ASSESSMENT OF THE PERFORMANCE OF CLASS III NONHAZARDOUS SOLID WASTE LANDFILLS IN RECENT EARTHQUAKES

ASSESSMENT OF THE PERFORMANCE OF LANDFILLS IN RECENT EARTHQUAKES WITH RESPECT TO THE DESIGN OF THE SUNSHINE CANYON LANDFILL CITY EXTENSION LOS ANGELES, CALIFORNIA

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EXECUTIVE SUMMARY

At the request of Browning-Ferris Industries Sunshine Canyon Landfill District (BFI), GeoSyntec Consultants (GeoSyntec) has reviewed and summarized observations of landfill performance in recent earthquakes and assessed the implication of these observations on the design of the proposed Sunshine Canyon Landfill City Extension (City Extension Landfill). The City Extension Landfill will be designed to resist earthquake-induced strong ground motions in accordance with both State and Federal regulations for design of Municipal Solid Waste (California Class III) landfills. Observation of landfill performance in recent earthquakes indicates that these State and Federal standards, standards that are significantly more stringent than seismic standards for design of commercial and residential structures and are comparable to modern design standards for many highway bridges and other important facilities, provide a high level of protection against seismic upset.

Many operating solid waste landfills in California are located in areas of high seismicity with seismic exposure comparable to the Sunshine Canyon site. Many of these landfills have been subject to strong shaking in recent earthquakes. Over 30 California landfills were subjected to strong ground motions in the 1987 Whittier Narrows earthquake, 1989 Loma Prieta earthquake, and 1994 Northridge earthquake. The record of performance of these solid waste landfills in recent earthquakes is excellent. Observations of solid waste landfill performance in these earthquakes provide no evidence of damage resulting in a release of waste to the environment due to seismic shaking. The primary impact of strong ground motions on the performance of landfills in recent earthquakes has been cracking of cover soils and disruption of landfill gas collection systems. In almost every case, repair of significant earthquake damage has been completed within 48 hours of the event. The repairs have been completed by landfill staff using routine maintenance procedures with little to no disruption to landfill operations.

Observations of the performance of geosynthetic-lined areas at the Lopez Canyon and Bradley Avenue Landfills in the Northridge earthquake provide a clear demonstration that geosynthetic-lined landfills designed in accordance with current State and Federal regulations can withstand strong ground shaking without damage. The performance of the Lopez Canyon Landfill is particularly noteworthy in this

respect due to the similarity between the design of the Lopez Canyon facility and that proposed for the City Extension Landfill. Shear strength parameters for geomembrane-soil interfaces and for solid waste have been back-calculated from the observed performance of the Lopez Canyon and Chiquita Canyon Landfills in the Northridge event. The back-calculated strengths are larger than the design shear strengths used in seismic analysis of the Sunshine Canyon Landfill.

From the information presented in this report, it is concluded that the Sunshine Canyon Landfill City Extension will be very resistant to seismic upset and will be secure for the design earthquake at the project site.

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1. INTRODUCTION

1.1 Terms of Reference

At the request of Browning-Ferris Industries Sunshine Canyon Landfill District (BFI), GeoSyntec Consultants (GeoSyntec) has reviewed and summarized observations of landfill performance in recent earthquakes and assessed the implication of these observations on the design of the proposed Sunshine Canyon Landfill City Extension (the City Extension Landfill). This work was performed in accordance with the terms and conditions of GeoSyntec's Revised National Services Agreement with BFI. This report was prepared by Dr. Neven Matasovic, P.E., and Mr. Jeffrey Dobrowolski, P.E., both of GeoSyntec. This report was reviewed by Dr. Edward Kavazanjian, Jr., P.E., G.E., of GeoSyntec, in accordance with the peer review policy of the firm.

1.2 Purpose and Scope of this Report

The purpose of this report is to assess the implications of observations of the performance of landfills in recent earthquakes on the seismic design of the Sunshine Canyon Landfill City Extension. The City Extension Landfill will be designed in accordance with current State and Federal standards for seismic design of Municipal Solid Waste (California Class III) landfills. Detailed information on seismicity and seismic setting of the general landfill area, on site geologic conditions, and on design of the landfill waste containment system, is summarized by Ultrasystems Environmental, Inc. [1996].

Observations of solid waste landfill performance in three recent earthquakes are summarized herein based upon information available in the technical literature. The implications of these observations with respect to the seismic design of the City Extension Landfill are presented. Particular attention is paid to the performance of Lopez Canyon Landfill in the Northridge earthquake of 17 January 1994 due to the similarities in design between the Lopez Canyon and City Extension facilities. Observations of performance of the Lopez Canyon Landfill in the Northridge earthquake provide direct evidence of the ability of landfills designed in accordance

with current regulations using liner systems similar to those proposed for the City Extension Landfill to withstand strong ground motions from earthquakes without damage.

1.3 Organization of this Report

The remainder of this report is organized as follows:

- *Section 2* - Background information on the seismic exposure and design features of the City Extension Landfill is discussed in this section.

- *Section 3* - A review of observations of the performance of solid waste landfills in recent earthquakes is presented in this section.

- *Section 4* - Implications of the observed seismic performance of solid waste landfills in recent earthquakes on the seismic design of the City Extension Landfill are discussed in this section. Assumptions regarding the material properties currently used in design analyses for the Sunshine Canyon Landfill are assessed in light of observed landfill performance.

- *Section 5* - A summary and conclusions, along with a discussion of the limitations of the assessment of the performance of landfills in recent earthquakes described herein, are presented in this section of the report.

2. BACKGROUND INFORMATION

2.1 Introduction

The proposed Sunshine Canyon Landfill City Extension Landfill will occupy approximately 205 acres (83 hectares) of the 494 acre (200 hectare) Sunshine Canyon Landfill site. As shown in Figure 1, the Sunshine Canyon site is located at the northern end of the San Fernando Valley, adjacent to Interstate Highway 5 and its intersections with Interstate Highway 405 and State Route 14, and spans the border line between the City of Los Angeles and unincorporated territory in Los Angeles County. At the present time, there is an inactive landfill awaiting closure termed the Sunshine Canyon City Landfill (the City Landfill) on the city side of the Sunshine Canyon site and an operating California Class III (Municipal Solid Waste) landfill termed the Sunshine Canyon Landfill County Extension (the County Extension Landfill) on the county side of the site.

Figure 2 shows the proposed final cover plan by the City Extension Landfill. As shown in this figure, approximately 205 acres (83 hectares) of the proposed City Extension Landfill will overly the existing City Landfill, with the remaining 289 acres (117 hectares) over ground not presently used for landfilling. As currently envisioned, the City Extension Landfill will be contiguous to and continuous with the County Extension Landfill.

2.2 Seismic Design Criteria

The City Extension Landfill (and the County Extension Landfill) will be designed in accordance with current State and Federal regulations for seismic design of California Class III, Municipal Solid Waste (MSW) landfills. Federal regulations for seismic design of MSW are contained in Title 40, Section 258 of the Code of Federal Regulations (40 CFR 258). These regulations are commonly known as Subtitle D of the Resource Conservation and Recovery Act (RCRA), or just Subtitle D. California regulations for seismic design of MSW landfills are contained in Title 14, Chapter 7 (Title 14) and Title 23, Chapter 15 (Chapter 15) of the California Code of Regulations

(CCR). The Title 14 and Chapter 15 regulations on MSW landfills will soon be combined into the new CCR Title 27.

Subtitle D requires that the containment system for MSW landfills located within seismic impact zones be designed to resist the maximum expected horizontal acceleration in lithified earth at the site (the MHA). The MHA is defined as either the peak horizontal ground acceleration (PHGA) depicted on a seismic hazard map with a 90 percent or greater probability of not being exceeded in 250 years or the PHGA expected at the site determined on the basis of a site specific analysis. According to USEPA guidance documents, the details of what constitutes an acceptable site specific analysis are left up to the discretion of regulatory agencies in state with USEPA-approved enforcement programs. The entire state of California is located within a Subtitle D seismic impact zone. Therefore, the City Extension Landfill, along with every other MSW landfill in the state, is subject to the above-cited federal regulations.

California has a USEPA-approved enforcement program for MSW landfills. The California regulations require that the waste containment system for Class III landfills be designed to withstand without the Maximum Probable Earthquake (MPE) defined in accordance with California Department of California Division of Mines and Geology (CDMG) standards. CDMG Note 43 [CDMG, 1975] defines the maximum earthquake expected to impact the site in a 100-year period, established on the basis of a site-specific seismic hazard analysis. The term, "maximum earthquake" is generally interpreted to mean the most damaging earthquake, not just earthquake with the largest PGA. As California is a USEPA state, MPE satisfies the site-specific analysis approach for determining the MHA under Subtitle D.

In California, the Regional Water Quality Control Boards can, at their discretion, impose more stringent standards upon landfills than prescribed by state regulations. Therefore, the MPE must be considered the regulatory minimum standard for seismic design under current State and Federal standards. However, BFI has committed to design the Sunshine Canyon Landfill to withstand the Maximum Credible Earthquake (MCE), a higher (more stringent) seismic design standard than the regulatory minimum MPE.

2.3 Design Earthquake

Figure 3 shows the location of the Sunshine Canyon site with respect to significant sources of seismic strong ground motions at the site. Based upon a comprehensive, site specific seismic hazard assessment described in detail by Ultrasystems Environmental, Inc. [UEI, 1996], a family of three MCE's among these potential sources were identical for use in design of the City Extension Landfill.

The three MCE's identified for use in landfill design are:

- a moment magnitude 6.9 event on the Santa Susana fault, with a site-to-source distance of within 2 miles (3 km), generating a free-field PHGA of 0.81 g in weak rock at the site;

- a moment magnitude 7.5 event on the San Gabriel fault, with a site-to-source distance of 8.5 miles (14 km), generating a free-field PHGA of 0.57 g in weak rock at the site; and

- a moment magnitude 8.3 event on the San Andreas fault, with a site-to-source distance of 58 miles (93 km), generating a free-field PHGA of 0.19 g in weak rock at the site.

2.4 Landfill Design

Although denoted the Sunshine Canyon Landfill City Extension, the City Extension Landfill is not a canyon-fill type of landfill. Because it is located primarily in the relatively broad and flat area at the mouth of Sunshine Canyon and at the toe of the existing City Landfill, the proposed City Extension Landfill is actually more of an area-type of landfill, with a broad, flat base. To the north, this broad base is bounded by the sloping face of the existing City Landfill. To the south, the base is bounded by cut slopes up to 150 ft (45 m) high along the ridge line that parallels San Fernando Road. The western boundary of the City Extension Landfill is contiguous to and continuous with the active County Extension Landfill. The eastern edge of the proposed City Extension Landfill in an engineered "toe berm" embankment.

The liner system proposed for the City Extension Landfill is similar in detail to that used at the County Extension Landfill and in Disposal Area C at the nearby City of Los Angeles Lopez Canyon Landfill. The base liner system will consist of, from top to bottom:

- a protective "operations" layer which is a minimum of 2 ft (0.6 m) thick, composed of soil with a maximum particle size of 4 in. (100 mm);
- a non-woven filter geotextile with a minimum weight of 8 oz/yd (210 gr/m);
- a gravel or coarse sand leachate collection layer with a minimum thickness of 1 ft (0.3 m);
- a non-woven cushion geotextile with a minimum weight of 12 oz/yd (315 gr/m);
- a 60-mil (1.5-mm) thick geomembrane textured on both sides; and
- a layer of compacted soil with a saturated hydraulic conductivity less than 1×10^{-7} cm/s and with a minimum thickness of 2 ft (0.6 m).

On the side slopes of the toe berm, the cut slopes along San Fernando Road, and the face of the existing City Landfill, the proposed liner system consists of:

- a protective "operations" soil layer a minimum of 2 ft (0.6 m) thick;
- a non-woven filter geotextile with a minimum weight of 8 oz/yd (210 gr/m);
- a geonet leachate collection layer with a nominal thickness of 0.1 in. (2.5 mm);

- a 60-mil (1.5-mm) thick geomembrane textured on the bottom and smooth on the top; and

- a geosynthetic clay liner (GCL) composed of dry bentonite with a nominal thickness of 0.25 in. (6.25 mm) and a saturated hydraulic conductivity less than 5×10^{-9} cm/s.

When the side slope liner is placed against the existing City Landfill, the GCL will be underlain by a layer of compacted and/or reinforced soil to mitigate the impact of differential settlement of the waste on liner system performance.

Figure 4 shows the details of the proposed base and side slope liner systems for the Sunshine Canyon City Extension Landfill.

3. OBSERVATIONS OF THE PERFORMANCE OF SOLID WASTE LANDFILLS IN RECENT EARTHQUAKES

3.1 Introduction

Observational data on the performance of the solid waste landfills subject to strong shaking in recent earthquakes provide strong evidence of the ability of solid waste landfills to withstand strong ground shaking from earthquakes without damage. There is no known incident of a breach in a modern landfill containment system resulting in a release of contaminants to groundwater or surface water due to damage suffered in an earthquake [Anderson and Kavazanjian, 1995].

Observational data on the performance of solid waste landfills subject to strong ground shaking is available from three recent earthquakes: the M 6.1 Whittier Narrows earthquake of 1 October 1987, the M 7.1 Loma Prieta earthquake of 17 October 1989, and the M 6.7 Northridge earthquake of 17 January 1994. All three of these events subjected landfills to ground motions similar to those considered in the design of the Sunshine Canyon Landfill. Relevant observations of the performance of landfills in these three earthquakes are summarized in this section of the report. Observations of landfill performance in the Northridge earthquake is of particular significance because it provides direct evidence of the ability of geosynthetic-lined landfills designed in accordance with Subtitle D standards to withstand strong ground motions. Observations of the performance of the Lopez Canyon Landfill in the Northridge earthquake is the most relevant of these observations due to the similarity between the designs of the waste containment systems at Lopez Canyon and at Sunshine Canyon.

3.2 Whittier Narrows Earthquake

The performance record of solid waste landfills subjected to strong ground motions in the M 6.1 Whittier Narrows earthquake of 1 October 1987 is excellent, with only very limited, minor cracking in cover soils on the side slopes at one landfill reported following the earthquake. Furthermore, the one landfill at which this minor damage was reported is atypical of solid waste landfills in general and of the Sunshine

Canyon Landfill in particular. The slopes on which the cracking occurred are some of the steepest slopes known to exist at any solid waste landfill in the United States and are approximately twice as steep as the waste slopes proposed for the Sunshine Canyon facility.

The epicenter of the Whittier Narrows earthquake of 1 October 1987 was located at the eastern edge of the Los Angeles basin, near the border of the basin with the San Gabriel Valley to the east. The main shock occurred as a reverse (thrust) motion on a buried fault at an approximate depth of 6.2 to 8.7 miles (10 to 14 km) with no surface expression of fault displacement. Performance information is available for five unlined landfills located in the area subject to strong shaking. Two of the landfills, the Operating Industries, Inc. (OII) Landfill and the Puente Hills Landfill, were within the zone of very strong ground motion for the event. Three other landfills, Savage Canyon, BKK, and Azusa, were subject to ground motions of moderate to strong intensity. None of these landfills are reported to have suffered any damage of significance, and only the OII Landfill is reported to have suffered minor damage.

Siegel et al. [1990] report on observations at the OII Landfill made immediately following the Whittier Narrows event. Slopes at the OII Landfill range from 3H:1V (horizontal to vertical) to as steep as 1.3H:1V for heights up to 246 ft (75 m). The epicenter for the earthquake is reported to have been approximately 2.5 miles (4 km) from the OII Landfill. The closest point to the landfill at which ground motions were recorded was the Garvey reservoir, also located approximately 2.5 miles (4 km) from the OII Landfill. Recordings at Garvey reservoir suggest that the PGA at the base of the OII Landfill could have been as high as 0.45 g.

Visual observations at the OII Landfill immediately following the Whittier Narrows Earthquake identified ground cracking in cover soils on the benches of the steeper side slopes, but no evidence of waste slope instability [Siegel et al., 1990].

3.3 Loma Prieta Earthquake

More than a dozen solid waste landfills were subjected to strong ground motions in the M 7.1 Loma Prieta earthquake of 17 October 1989, the largest

magnitude earthquake to strike the continental United States since the M 7.7 Kern County earthquake of 1952. Neither major damage nor a release of contaminants to the environment were reported at any of the landfills impacted by the Loma Prieta event. Several of the impacted landfills, some with slopes steeper than those proposed for the Sunshine Canyon Landfill, were subjected to bedrock peak ground accelerations calculated to be in excess of 0.50 g.

The Loma Prieta earthquake was a strike slip event located in the Santa Cruz Mountains at the southern end of the San Francisco Bay area. Orr and Finch [1990] report on inspections performed by the California Integrated Waste Management Board (CIWMB) of ten unlined landfills after the 1989 Loma Prieta event. The PGA at the base of these landfills during the Loma Prieta event was estimated by the authors to have ranged from 0.1 g to 0.45 g. Only minor damage was reported at the ten landfills. The most common type of observed damage was minor cracking of the cover soil on the landfill slopes. However, the authors noted that it was often difficult to distinguish between "normal" cracks induced by waste settlement and decomposition and earthquake-induced cracking. Repair of this type of cover soil cracking is performed regularly as part of routine landfill maintenance activities. Repair of the earthquake induced cracks in the cover soil was typically carried out by landfill maintenance crews immediately following the earthquake without disruption to landfill operations.

Orr and Finch note that the landfill gas recovery systems were temporarily affected by power loss and above-ground pipe breakage at a number of the landfills impacted by the Loma Prieta earthquake. However, all landfill gas recovery systems were repaired and back in operation within 24 hours of the earthquake and no post-earthquake changes in quantities of leachate and landfill gas recovery were reported. In their conclusions, these authors report that a total of 13 solid waste landfills, including the ten inspected by CIWMB, subjected to strong ground motions in the Loma Prieta event experienced only minor damage evidenced by cracking in surficial cover soils and temporary disruption to gas collection systems.

The performance of landfills during the Loma Prieta earthquake was also investigated by Johnson et al. [1991]. These investigators report on the behavior of ten unlined landfills, including seven of those reported on by Orr and Finch [1990]. PGAs at the ten landfills investigated by Johnson et al. were estimated to have varied from

0.04 g to 0.50 g. The authors report that the slopes of landfills performed well, with minor cracking of cover soils the only observed damage. This included 2H:1V (Horizontal:Vertical) slopes up to 150 ft (45 m) high at the Santa Cruz Landfill, where the estimated free-field PGA was 0.45 g, 3H:1V slopes up to 150 ft (45 m) high at the Ben Lomond Landfill, where the estimated free-field PGA was 0.50 g, and 2H:1V slopes up to 250 ft (75 m) high at the Kirby Road Landfill where the estimated free-field PGA was 0.50 g. The authors note that cracking of cover soils on the slopes at these landfills was generally limited to contact zones between areas of dissimilar materials and areas of changes in geometry. These are the same areas where cracks tend to form in the cover soil due to waste settlement under normal operating conditions.

Buranek and Prasad [1991] report on the performance of six unlined landfills in the Loma Prieta earthquake, including two landfills reported on by Johnson et al. [1991] and Orr and Finch [1990]. PGAs at the base of the six landfills reported on by Buranek and Prasad were estimated to range from 0.15 g to 0.45 g. Minor cover soil cracking was observed at four of these sites. Transition zones between different materials (e.g., waste fill and natural ground) and between areas of different waste face geometry were cited for most crack locations. Typical crack displacements were on the order of 1 to 3 in. (25 to 75 mm). At one site, minor downslope cover soil movement was observed. At another site, apparent horizontal displacement was observed in rigid landfill gas control piping.

3.4 Northridge Earthquake

The M 6.7 Northridge earthquake of 17 January 1994 provides direct evidence of the ability of geosynthetic-lined landfills designed in accordance with Subtitle D regulations to withstand strong shaking from a major earthquake without damage. Three landfills located in the epicentral area of this event had geosynthetic liner systems designed in compliance with Subtitle D regulatory requirements. Two of these landfills withstood the earthquake without damage to the liner system or disruption to landfill operations. The third landfill suffered some damage to the containment system, but the damage was above the waste and did not result in a release of contaminants to the environment. Furthermore, mobilized shear strengths back

calculated for solid waste and for geosynthetic interfaces from the observed performance of lined and unlined landfills in the Northridge event [Augello et al., 1995] indicate that the shear strength parameters used in design of the Sunshine Canyon Landfill provide a conservative basis for seismic design of the facility.

The main shock of the Northridge earthquake occurred as a reverse (thrust) motion on a southward-dipping plane at a depth of approximately 9.3 miles (15 km) at the northern end of the San Fernando Valley in the Los Angeles metropolitan area. Numerous active, inactive, and closed solid waste landfills are located within 62 miles (100 km) of the earthquake epicenter. Stewart et al. [1994] provide preliminary data on the performance of several major landfills in the epicentral region. Matasovic et al. [1995] summarize information on the performance of 22 landfills that experienced shaking estimated to be in excess of 0.06 g. The locations of these landfills are shown on Figure 5. At 16 of these sites the free-field PGA at the base of the landfill was estimated to be in excess of 0.24 g. At six sites the free-field PGA at the base of the fill was estimated to be in excess of 0.38 g.

Figure 6 shows the generic configurations of the 22 landfills encompassed by the Matasovic et al. [1995] study. Slope heights at these landfills were up to 295 ft (90 m) at inclinations as steep as 1.3H:1V. Damage at the 22 landfills was classified according to the five damage categories presented in Table 1, varying from "Little or No Damage" (Damage Category I) to "Major Damage" (Damage Category V). Table 2 summarizes damage observations at the 22 landfills. Major Damage was defined as a breach of the waste containment system and release of contaminants to the environment, while Significant Damage (Damage Category IV) was defined as impairment of the waste containment system but no release of contaminants. Of the 22 landfills surveyed, none suffered Major Damage and only two suffered Significant Damage. Note that the Significant Damage classification in Table 2 does not imply a release of contaminants to the environment or irreparable damage to the waste containment system. It only connotes that damage could not be repaired by landfill staff within 48 hours.

Four of the landfills surveyed suffered Moderate Damage, defined as damage repaired by landfill staff within 48 hours, and the remaining 17 suffered Minor

Damage or No Damage, according to the survey. These data, taken together, indicate very good performance of landfill facilities during the M 6.7 Northridge event.

Three of the landfills subject to the strongest shaking in the Northridge event had geosynthetic liner systems meeting current Subtitle D liner system design requirements. Two of these landfills, the Lopez Canyon Landfill and the Bradley Avenue Landfill, withstood the earthquake without any indications of damage to their geosynthetic liner systems. The Lopez Canyon Landfill is located within 5.2 miles (8.4 km) of the zone of energy release and was subject to an estimated free-field PGA of 0.44 g. The Bradley Avenue Landfill is located within 6.7 miles (10.8 km) of the zone of energy release and was subject to an estimated free-field PGA of 0.45 g. At both sites, local tears in the geotextile overlying the side-slope geomembrane were observed by the CIWMB in post-earthquake inspections [CIWMB, 1994]. However, at both landfills, subsequent investigations indicated that the tear was caused by operating equipment [GeoSyntec, 1994; Augello et al., 1995] and was not attributable to earthquake ground motions. Observed damage at the Bradley Avenue Landfill was classified as Moderate Damage and included cover soil cracking. The earthquake-induced damage was quickly repaired at the Bradley Avenue Landfill by landfill staff.

The performance of the Lopez Canyon Landfill in the Northridge earthquake is particularly relevant to the ability of the Sunshine Canyon Landfill to resist strong ground motions because the liner system configuration at Lopez Canyon is identical to that proposed for the Sunshine Canyon Landfill City Extension. Furthermore, at the time of the earthquake, the face of the landfill sloped at 2H:1V. Observed damage at the Lopez Canyon Landfill was classified as Moderate Damage and included cracking in the cover soils and damage to the landfill gas recovery system. The earthquake-induced damage was quickly repaired by landfill staff with no disruption to landfill operations.

Even though the Chiquita Canyon Landfill was located further from the zone of energy release than either the Lopez Canyon Landfill or Bradley Avenue Landfill, and was subject to ground motions calculated to be of lesser intensity than at either of those sites, the geosynthetic liner system was damaged in the Northridge event. This damage may be attributable to the details of the design of the geosynthetic liner system at the landfill. The Chiquita Canyon Landfill is located approximately

7.6 miles (12.2 km) from the zone of energy release and was subject to an estimated free-field PGA of 0.39 g. Damage at this landfill, classified as Significant Damage, consisted of tears in the geomembrane liner at two locations. In Area C, there was a single tear approximately 14 ft (4 m) in length. In Area D, there was a series of three parallel tears with a total length of approximately 75 ft (23 m) [EMCON, 1994]. Both tears occurred parallel to anchor trenches on benches above the waste. Forensic analysis by the Geosynthetic Research Institute (GRI) indicates that the tears initiated from the locations of pre-existing cracks at locations where a "coupon" was cut out during construction quality assurance (CQA) activities for laboratory testing of seam strength [GRI, 1994a; 1994b]. The anchor trench appears to have been a factor in both the initiation and propagation of the tear [Anderson and Kavazanjian, 1995; Augello et al., 1995]. No disruption of the underlying low permeability soil liner was reported in either case. Note that anchor trenches will only be used at the Sunshine Canyon Landfill above the waste as temporary measures. Furthermore, destructive seam samples will be prohibited within 5 ft (1.5 m) of the crest of a slope.

Cracking of cover soils and downslope movement of the waste mass were also observed at the Chiquita Canyon Landfill following the earthquake. The downslope movement was most pronounced in an area where a smooth geomembrane was used at the base of the landfill. Neither the Lopez Canyon Landfill nor the Bradley Avenue Landfill employed smooth geomembranes at the base of the lined areas.

Matasovic et al. [1995] report that, as in other earthquakes, the most prevalent damage to landfills in the Northridge event was superficial brittle cracking in cover soil at transitions between waste fill and natural ground areas. Cracks were typically 0.4 to 2.8 in. (10 to 70 mm) wide and of similar vertical relief. Cover soil cracking of this type did occur at the Sunshine Canyon Landfill, the closest landfill to the zone of energy release from the earthquake, but presented no serious problems and was repaired by landfill staff within a few days of the earthquake.

As in previous earthquakes, disruption to landfill gas recovery systems was common during the Northridge earthquake. Loss of power was perhaps the most common source of disruption, followed by breakage of gas and condensate lines and well heads. In all cases, gas recovery systems were repaired by landfill maintenance

personnel without disruption to landfill operations and were back in operation within 24 hours.

Augello et al. [1995] report on back analyses of solid waste and liner interface shear strengths from observations of the behavior of the Chiquita Canyon and Lopez Canyon landfills in the Northridge earthquake. The analyses were conducted using a range of dynamic material properties believed to bracket the actual properties existing in the field. The range of properties resulted in a range of back calculated solid waste and liner interface shear strengths.

At the Lopez Canyon landfill, the landfill most relevant to the Sunshine Canyon Landfill seismic performance, no permanent seismic deformation along a liner system interface or within the waste mass was observed. Due to the absence of displacement, the back-calculated shear strengths at Lopez Canyon may be considered to represent a lower bound on the available shear strength at Lopez Canyon, as the analysis yields the minimum strength required to maintain stability. The available strength may actually exceed this minimum value. The analyses of Disposal Area C at the Lopez Canyon Landfill yielded mobilized friction angles of 20 degrees to 25 degrees for the textured liner compacted clay interface and mobilized friction angles of 35 degrees to 54 degrees for the solid waste.

For the Chiquita Canyon Landfill, where earthquake induced displacements of up to 12 in. (300 mm) were observed, the back analyzed shear strengths are considered to represent the actual shear strengths mobilized during the earthquake. Back calculated friction angles along the smooth geomembrane-soil interface on the base of Area C at Chiquita Canyon varied from 10 degrees to 16 degrees, while back calculated shear strength for the solid waste in Area C varied from 34 degrees to 44 degrees, depending on the assumed material properties.

4. IMPLICATIONS OF OBSERVATIONS OF SOLID WASTE LANDFILL PERFORMANCE IN RECENT EARTHQUAKES RELATIVE TO SUNSHINE CANYON LANDFILL

4.1 Introduction

Observations of the performance of solid waste landfills in recent earthquakes can provide insight into the appropriateness of the design of the Sunshine Canyon Landfill City Extension. Observations of the performance of solid waste landfills in recent earthquakes indicate that the proposed design for the Sunshine Canyon Landfill City Extension can withstand strong ground motions similar in magnitude and intensity to those established for design of the existing Sunshine Canyon Landfill.

4.2 Qualitative Observations of the Performance of Landfills in Earthquakes

Despite numerous landfills subjected to strong shaking in large magnitude earthquakes, there is no recorded incident of significant damage resulting in a release of contaminants to the environment from a landfill because of seismic loading. This record of performance includes geosynthetic-lined landfills in the epicentral region of the Northridge event constructed in compliance with Subtitle D regulatory requirements. Most noteworthy of these geosynthetic-lined landfills is the Lopez Canyon Landfill due to the similarity between the liner system at Lopez Canyon and that proposed for the Sunshine Canyon Landfill City Extension.

The most common form of damage observed at solid waste landfills in earthquakes is cracking of interim cover soils and temporary disruption of the landfill gas collection system. Disruption to the gas collection system is frequently associated with loss of power and is easily mitigated by installation of an emergency generator. The cracking of cover soils is typically hard to distinguish from cracking that develops under "normal" operating conditions and is repairable using standard landfill maintenance procedures. This includes landfills with waste slopes as steep as 2H:1V subject to free field ground motions in excess of 0.50 g from a M 7.1 earthquake. In

virtually every case, the limited damage was repaired within 48 hours by landfill staff using equipment and materials available on site with little to no disruption in landfill operations. Based on this very good record of performance, the 2:3H:1V waste slopes proposed for the Sunshine Canyon Landfill should perform in a satisfactory manner if ever subjected to strong shaking from an earthquake of up to magnitude 7.1.

The performance of the Lopez Canyon and Bradley Avenue Landfills in the Northridge earthquake provide direct evidence that landfills designed in accordance with current standards can withstand strong ground motions similar to those for which the Sunshine Canyon Landfill was designed. As noted previously, performance of the Lopez Canyon Landfill is particularly relevant to the performance of the Sunshine Canyon Landfill City Extension due to the similarity in liner design details at these two landfills. Both landfills performed very well during the Northridge earthquake, with no evidence of seismically-induced displacement between the waste mass and liner system.

There was damage to the geosynthetic liner system at the Chiquita Canyon Landfill in the Northridge earthquake, even though this landfill was located further from the zone of energy release and subject to ground motions calculated to be of lesser intensity than either the Lopez Canyon or Bradley Avenue Landfills. The tear in the liner system at the Chiquita Canyon Landfill is attributable to a combination of design and construction details, including stress concentrations located adjacent to anchor trenches and pre-existing cracks at locations where coupons were removed for laboratory tests during CQA activities. The potential for these effects will be mitigated at Sunshine Canyon by eliminating unnecessary anchor trenches, by using anchor trenches above the waste only and abandoning anchor trenches when the liner system is extended past the anchor trench limits, and by the use of revised CQA procedures during liner system installation, including prohibiting destructive testing of seams within 5 ft (1.5 m) of the slope crest.

4.3 Quantitative Evaluation of Material Properties

Observations of the performance of the Chiquita Canyon and Lopez Canyon Landfills in the Northridge earthquake and of the OII Landfill during the Whittier Narrows earthquake allow for back-calculation of mobilized shear strengths along

smooth and textured geomembrane interfaces and within the solid waste mass during earthquakes. Comparison of these back-calculated values to the values used in the design of the Sunshine Canyon Landfill indicate that the Sunshine Canyon Landfill design parameters provide a conservative basis for the seismic performance evaluation of the landfill.

Interface friction angles back calculated along a smooth geomembrane-soil interface in Area C at the Chiquita Canyon Landfill varied between 10 and 16 degrees, depending on the choice of dynamic material properties. These values are consistent with the value of 8 degrees assumed in design analyses for the smooth interfaces at the Sunshine Canyon Landfill. Interface friction angles back calculated for textured geomembrane-compacted clay interface at the Lopez Canyon Landfill varied between 20 and 25 degrees. These values indicate that the textured geomembrane interface shear strength of 16 degrees assumed in design analyses for the Sunshine Canyon Landfill can be achieved and/or even exceeded in some cases. Interface friction angles for solid waste back calculated for both Lopez Canyon and Chiquita Canyon varied between 34 and 54 degrees. These values indicate that the solid waste shear strength parameters of a friction angle of 31 degrees and a cohesion of 900 psf (45 kPa) used in seismic design analyses of the Sunshine Canyon Landfill are appropriate.

5. SUMMARY, CONCLUSIONS AND LIMITATIONS

5.1 Summary

Many solid waste landfills in California are located in areas of high seismicity comparable to the Sunshine Canyon Landfill. A significant number of these landfills have been subjected to strong ground motions in recent earthquakes. Observations of the behavior of solid waste landfills in recent earthquakes provide no evidence of significant damage resulting in a release of contaminants to the environment due to seismic shaking. The primary impact of strong ground motions on the performance of landfills in recent earthquakes has been cracking of cover soils and disruption of landfill gas collection systems. In virtually every case, repair of this type of damage has been completed within 48 hours by landfill staff using routine maintenance procedures with little to no disruption of landfill operations.

Observations of the performance of geosynthetic-lined areas at the Lopez Canyon and Bradley Avenue Landfills in the Northridge earthquake indicates that facilities designed in accordance with current State and Federal regulations can withstand strong ground shaking without damage to the liner system. The excellent performance of the Lopez Canyon Landfill in the Northridge event is particularly relevant due to similarities in design between Lopez Canyon and the proposed Sunshine Canyon Landfill City Extension. Damage observed to the liner system of the Chiquita Canyon Landfill, subjected to ground motions of lesser intensity than either the Lopez Canyon or Bradley Avenue Landfills, indicate the importance of attention to details in design and construction of geosynthetic-lined landfills. These back-calculated strengths indicate the proposed design for the Sunshine Canyon Landfill provides a high degree of protection against seismic upset.

5.2 Conclusions

The record of performance of solid waste landfills in recent earthquakes is excellent. The performance of the geosynthetic-lined landfills at Lopez Canyon and Bradley Avenue in the Northridge earthquake indicates that facilities designed to Federal Subtitle D regulatory standards, such as Sunshine Canyon Landfill, are capable

of resisting strong ground motions. The comprehensive approach to the design of the Sunshine Canyon Landfill, coupled with the various conservatisms incorporated into the design, should cause this landfill to be very resistant to seismic upset and secure for any reasonably anticipated earthquake.

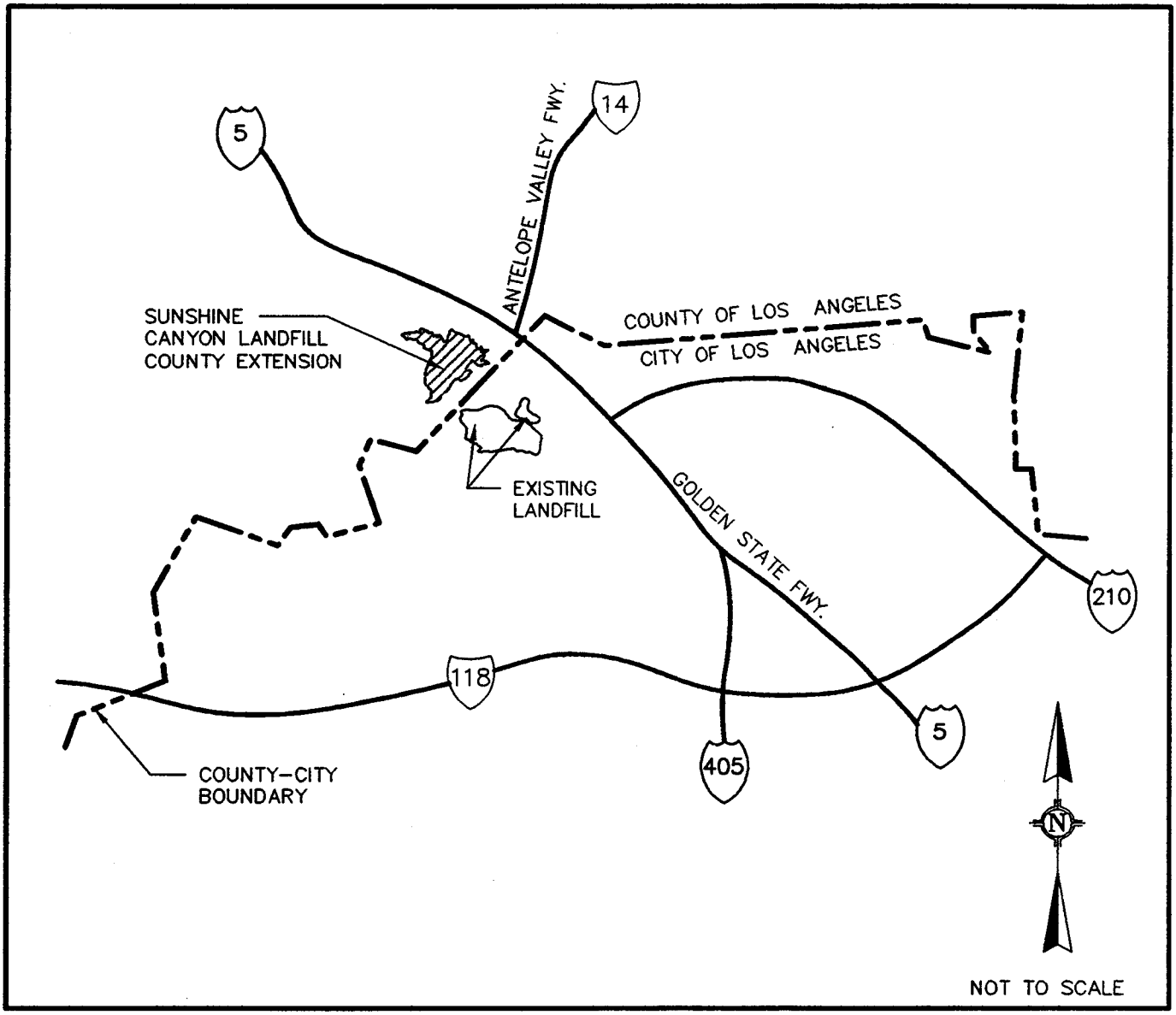
Table 1

Damage Categories for Solid Waste Landfills
[Matasovic et al., 1995]

	Damage Category	Description
V.	Major Damage	General instability with significant deformations. Integrity of the waste containment system compromised.
IV.	Significant Damage	Waste containment system impaired, but no release of contaminants. Damage cannot be repaired within 48 hours. Specialty contractor needed to repair the damage.
III.	Moderate Damage	Damage repaired by landfill staff within 48 hours. No compromise of the waste containment system integrity.
II.	Minor Damage	Damage repaired without interruption to regular landfill operations.
I.	Little or No Damage	No damage or slight damage but no immediate repair needed.

Table 2 Seismic response of solid waste landfills during the 17 January 1994 Northridge earthquake.

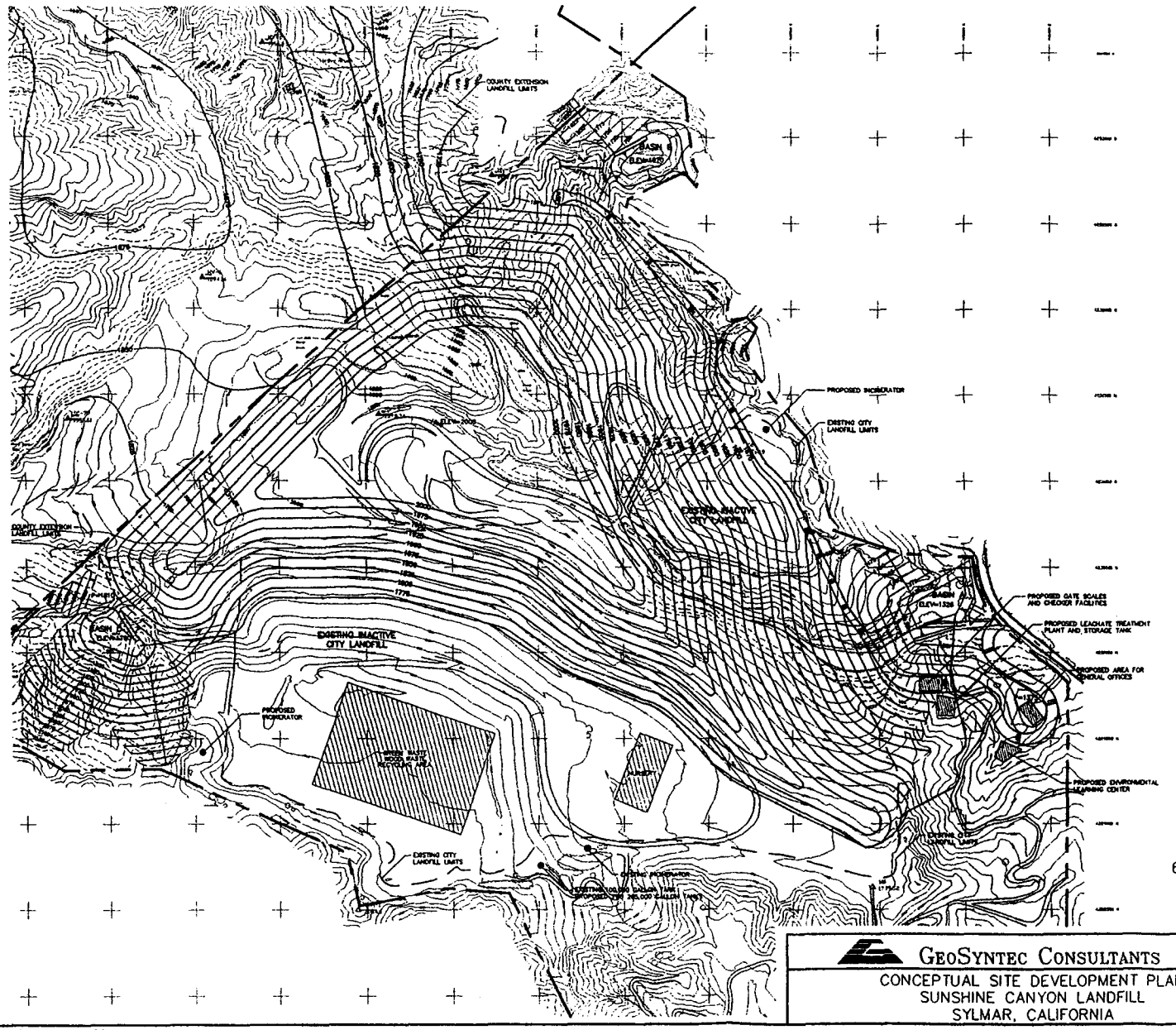
SOLID WASTE LANDFILL	EPICENTRAL DISTANCE miles (km)	DISTANCE FROM ZONE OF ENERGY RELEASE miles (km)	ESTIM. PEAK HORIZONTAL ACCELERATION g	DAMAGE CATEGORY (I-V)	DAMAGED ELEMENT
1. Oil	27.9 (44.9)	26.7 (43)	0.25 - 0.26 g	Minor Damage (II)	Cover Soil
2. Chiquita Canyon	16.0 (25.8)	7.6 (12.2)	0.39 g	Significant Damage (IV)	Cover Soil; 2 Geomembrane Liner Tears
3. Sunshine Canyon	8.5 (13.7)	4.4 (7)	0.52 g	Moderate Damage (III)	Cover Soil
4. Lopez Canyon	10.5 (16.9)	5.2 (8.4)	0.44 g	Moderate Damage (III)	Cover Soil; Gas System
5. Bradley Avenue	9.5 (15.3)	6.7 (10.8)	0.45 g	Significant Damage (IV)	Cover Soil
6. Calabasas	9.5 (15.3)	14.4 (23.1)	0.25 g	Moderate Damage (III)	Gas System; Cover Soil
7. BKK	38.5 (62.0)	35.5 (57.2)	0.14 g	No Damage (I)	None
8. Azusa	37.5 (60.4)	32.1 (51.7)	0.10 g	No Damage (I)	None
9. Bishop Canyon	17.8 (28.7)	19.1 (30.7)	0.30 g	Little Damage (I)	Cover Soil
10. Toyon Canyon	14.5 (23.3)	13.8 (22.2)	0.25 g	Minor Damage (II)	Cover Soil; Gas Collection Header
11. Sheldon-Arleta	7.9 (12.7)	6.7 (10.7)	0.51 g	Minor Damage (II)	Cover Soil; Gas Collection Headers
12. Scholl Canyon	21.0 (33.8)	17.6 (28.4)	0.26 g	Moderate Damage (III)	Cover Soil
13. Palos Verdes	32.0 (51.5)	31.6 (50.8)	0.12 g	No Damage (I)	None
14. Mission Canyon	8.7 (14.0)	11.4 (18.4)	0.40 g	No Damage (I)	None
15. Puente Hills	33.5 (53.9)	30.9 (49.7)	0.11 g	No Damage (I)	None
16. Simi Valley	17.0 (27.4)	13.9 (22.3)	0.28 g	Minor Damage (II)	Cover Soil; Gas System; Leachate Pump
17. Penrose	9.0 (14.5)	7.6 (12.2)	0.35 g		
18. Russel Moe	10.0 (16.1)	4.9 (7.8)	0.44 g	Moderate Damage (III)	Cover Soil
19. Palmdale	35.0 (56.4)	25.5 (41.1)	0.07 g	Minor Damage (II)	Cover Soil
20. Savage Canyon	35.0 (56.4)	32.8 (52.8)	0.16 g	No Damage (I)	None
21. Terra Rejada	17.5 (28.2)	13.9 (22.4)	0.27 g	Minor Damage (II)	Cover Soil
22. Spadra	44.0 (70.8)	34.2 (55.1)	0.06 g	No Damage (I)	None



GeoSyntec Consultants

SITE LOCATION MAP SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	FIGURE NO. 1 PROJECT NO. CE4085-25 DATE: 11 NOV 1996

DWG: 4085F002 199611111539 SOS



LEGEND

- 1800 — EXISTING GROUND ELEVATION
- 1800 — PROPOSED GRADE
- BOUNDARY LINE
- PROPOSED DAYLIGHT LINE
- PROPOSED DRAINAGE CHANNEL

600 300 0 600 1200

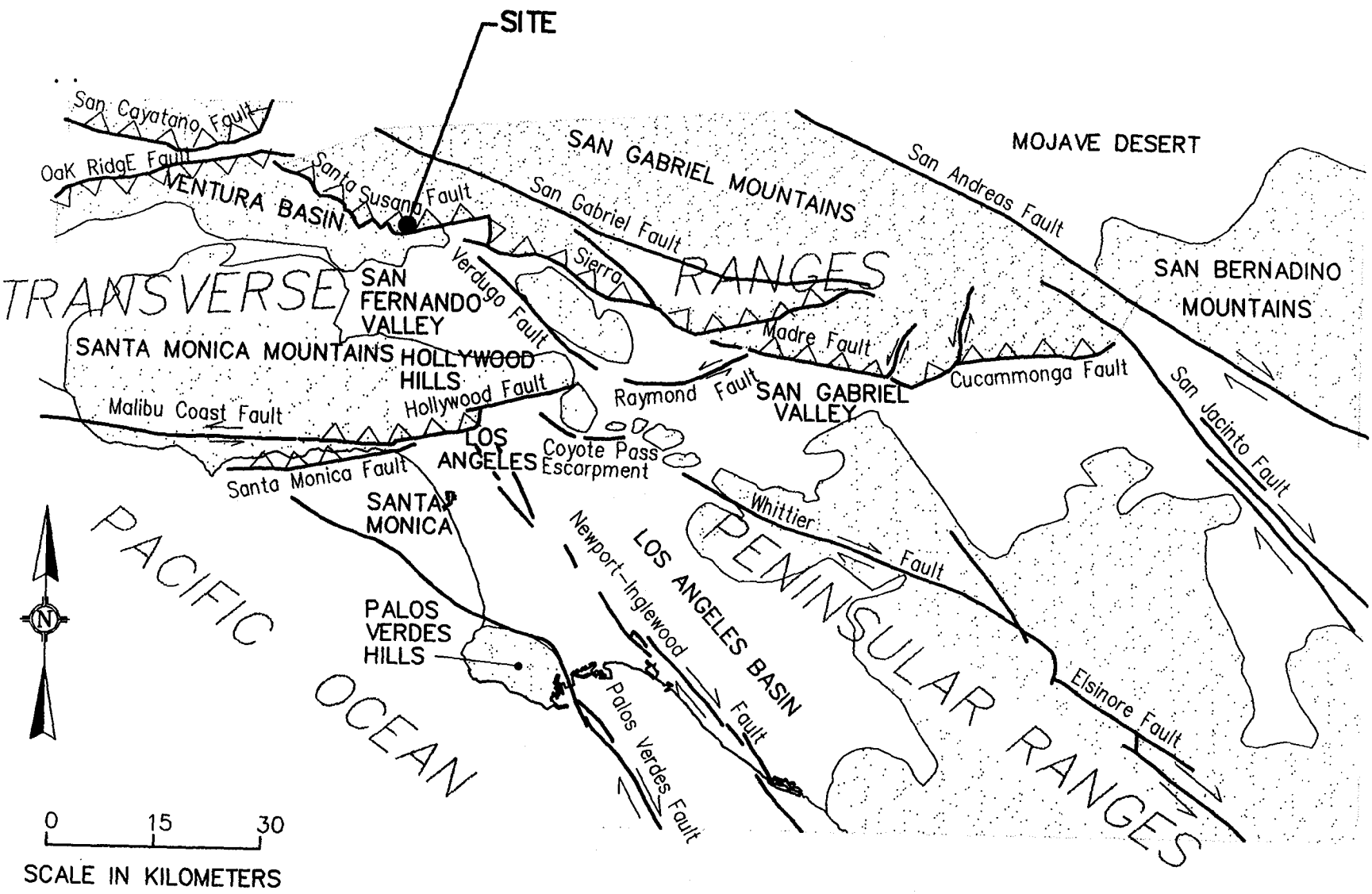
SCALE IN FEET

GeoSyntec Consultants

CONCEPTUAL SITE DEVELOPMENT PLAN
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	2
PROJECT NO.	CE4085-25
DATE:	11 NOV 1996

DWG: 4085F707 199611111544 SOS

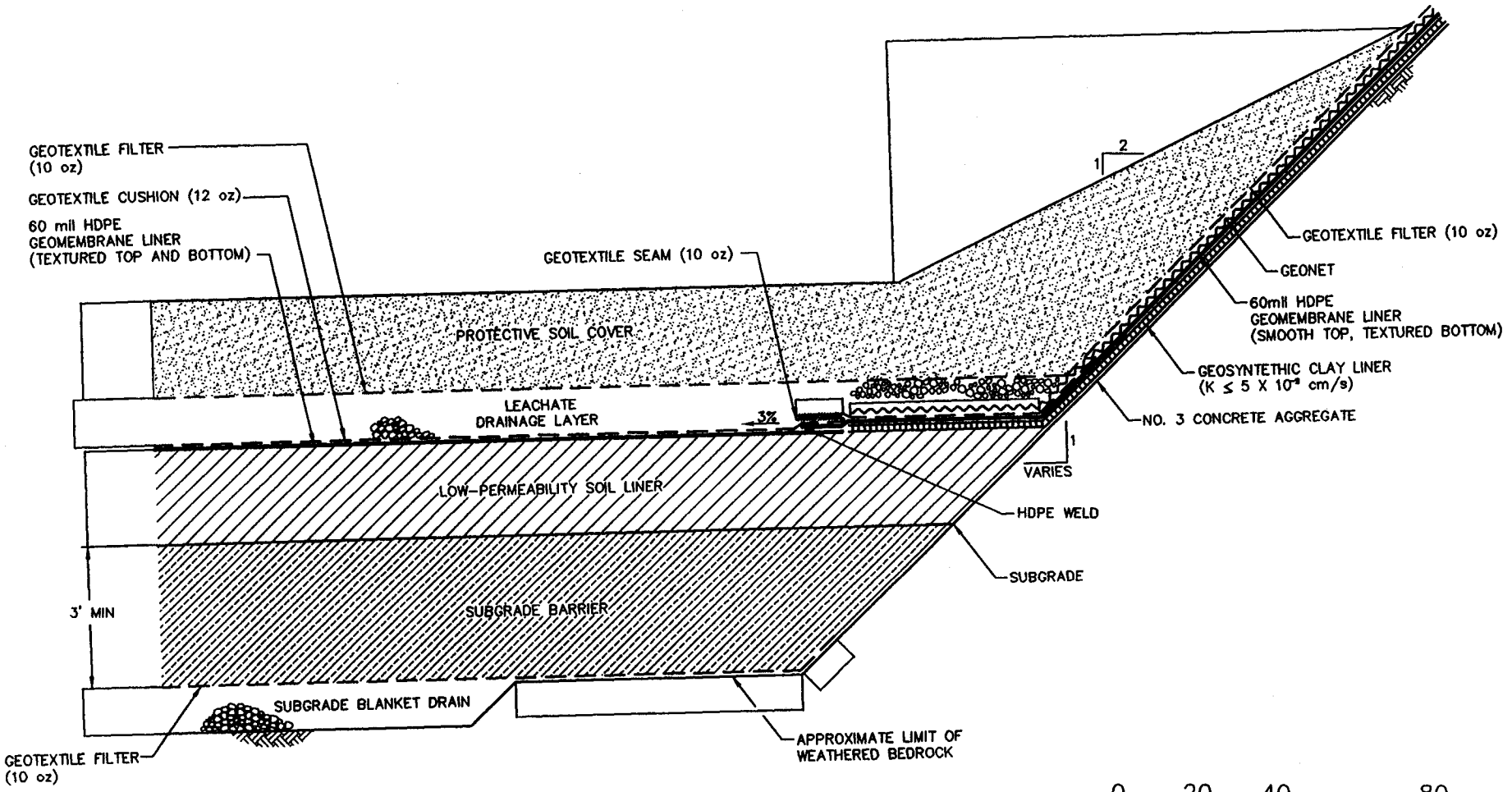


GeoSyntec Consultants

TECTONIC SETTING OF THE PROJECT SITE
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	3
PROJECT NO.	CE4085-25
DATE:	11 NOV 1996

DWG: 4085F722 199611111334 KDB

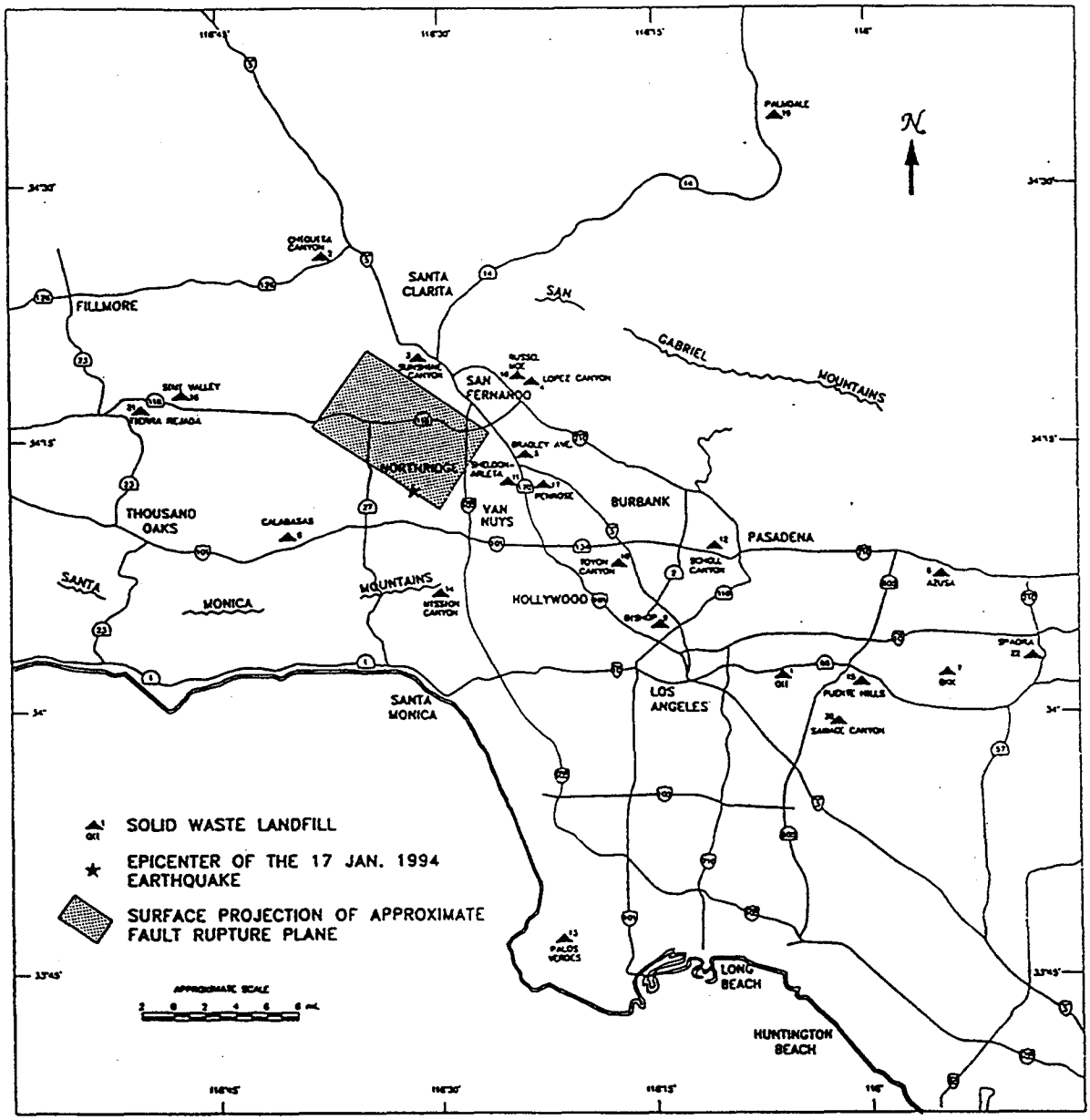


GeoSyntec Consultants

BASE LINER SYSTEM TO SIDESLOPE
LINER SYSTEM TRANSITION
SUNSHINE CANYON LANDFILL, CITY EXTENSION
SYLMAR, CALIFORNIA

FIGURE NO.	4
PROJECT NO.	CE4085-25
DATE:	11 NOV 1996

DWG: 408 1 199611111445 SOS



[Matasović at al., 1995]

GeoSyntec Consultants

MAJOR SOLID WASTE LANDFILLS IN THE GREATER LOS ANGELES AREA
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	5
PROJECT NO.	CE4085-25
DATE:	NOV-04-96

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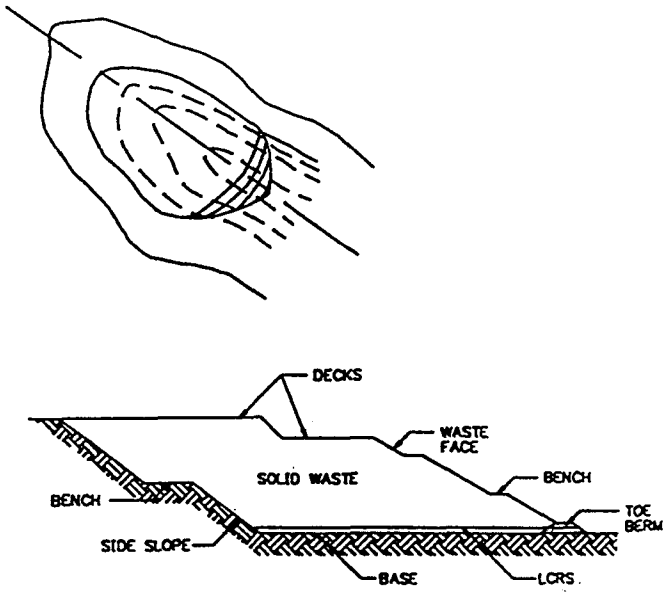
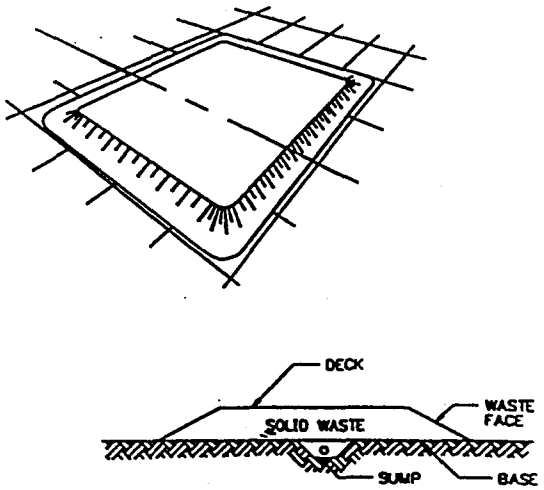
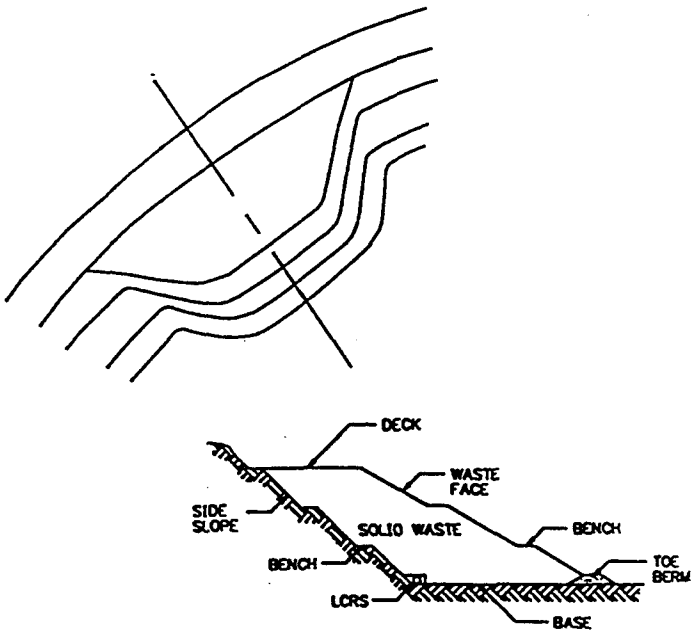


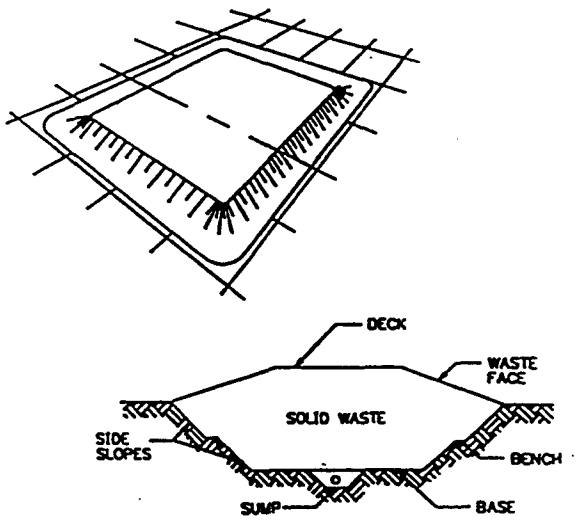
(a) CANYON FILL



(c) AREA FILL



(b) SIDE-HILL FILL



(d) SAND AND GRAVEL PIT FILL

[Matasović at al., 1995]

GeoSyntec Consultants

GENERIC LANDFILL TYPES SUNSHINE CANYON LANDFILL SYLMAR, CALIFORNIA	FIGURE NO. 6 PROJECT NO. CE4085-25 DATE: NOV-04-96

DWG: 4085F717 199611110914 SOS

Appendix C17
AMENDED MITIGATION MONITORING AND REPORTING SUMMARY

AMENDED SUNSHINE CANYON LANDFILL EXTENSION
MITIGATION MONITORING AND REPORTING SUMMARY
Project No. 86-312-(5)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY				
∘ Survey monuments will be installed around the perimeter of the approved fill area, as depicted on Exhibit "A" and "A" (Alternate), at points where they will not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments will be submitted to and approved by the Department of Public Works.	Inspection and approval by Dept. of Public Works after installation. An approved "as installed" plan shall be provided to the Local Enforcement Agency (LEA). Landfill elevations shall be surveyed by a licensed surveyor or registered civil engineer, and submitted to the Dept. of Public Works for approval not less than 60 nor more than 90 days before the due date for the Biennial Report to the Regional Planning Commission.	- Dept. of Public Works - LEA	Before commencing devleopment of the landfill and periodically throughout fill operations.	C#10(b) MP-Part I(A) MP-Part X(B)(2)
∘ Final designs for major engineered structures will be based on the results of the detailed stability analyses of potential seismic events.	Approval of grading and drainage plans.	- Regional Water Quality Control Board (RWQCB) - Dept. of Public Works	Prior to commencing construction of structures.	C#28 MP-Part I(C)
∘ Final maximum refuse slope gradient at the site will be no steeper than 3 horizontal to 1 vertical for the landfill extension.	Review and approval of periodic inspection reports of fill operations.	- Dept. of Public Works - LEA	Throughout fill operations.	C#16 MP-Part I(C) MP-Part X(B)(3)

The *Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Program* was prepared in compliance with the California Environmental Quality Act (CEQA), CEQA Statutes, § 21081.6. Pursuant to this section, "The public agency [County] shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation." This *Summary* is a part of the County's approved *Mitigation Monitoring and Reporting Program.*

NOTE: All mitigation measures will have oversight by the Compliance Committee prior to the opening of the landfill, and by the Community Advisory Committee and the County Regional Planning Commission through biennial reporting, provided for in the Sunshine Canyon Landfill Extension, Conditional Use Permit and Oak Tree Permit 86-312-(5), Mitigation Monitoring Programs. Requirements which are primarily the prerogative of Responsible Agencies are subject to refinement by each Responsible Agency during its discretionary permit process.

MP: Conditional Use Permit and Oak Tree Permit, Monitoring Program.
C: Conditional Use Permit and Oak Tree Permit, Condition of Project Approval.

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
◦ Areas outside of and above the cut and fill as shown on Exhibit "A" or Exhibit "A" (Alternative) will not be graded or similarly disturbed to create landfill areas. The Director of Public Works may approve additional grading, based upon engineering studies provided by the permittee and independently evaluated by the Director. Additional grading would be necessary for slope stability or related drainage purposes.	Approval of grading and drainage plans.	- Dept. of Public Works - County Forester - LEA	Prior to commencement of the required activity.	C#23 C#28 MP-Part I(B) MP-Part VII(A) MP-Part X(B)(2)
◦ No approval would be granted which will result in expanding the area or height of fill or in lowering or significantly modifying any outer perimeter ownership ridgelines.	Approval of grading and drainage plans.	- Dept. of Public Works - County Forester - LEA	Prior to commencement of the required activity.	C#23 C#28 MP-Part I(B) MP-Part VII(A) MP-Part X(B)(2)
◦ When excavating for the landfill operation, once the toe of a landslide is encountered, all material constituting that landslide will be eventually removed. Excess slide material not used for immediate cover material will be stockpiled on-site for future use. The landslide area will be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area will be used between the active cells receiving waste and areas under excavation to remove overburden soils, landslide debris and weathered bedrock. A geotechnical engineer will delineate the limits of the landslide during excavation. Landslide removal will not be commenced during the rainy season or when the ground is saturated, unless removed under the direction and specifications of a certified engineering geologist.	Retention of certified engineering geologist and registered civil engineer by permittee for regular inspections and oversight.	- LEA - Project certified engineering geologist - Project registered civil engineer - Dept. of Public Works - County Forester	Throughout fill operations.	Report of Waste Discharge C#18(a) C#18(d) C#23 C#41 MP-Part I(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
◦ Grading allows for ancillary facilities outside of the landfill footprint.	Approval of grading and drainage plans.	- Dept. of Public Works - County Forester - LEA	Prior to commencement of the required activity.	C#10(l)
◦ Areas of excavation and areas of loose soil (i.e., around haul roads, etc.) will be stabilized before the onset of the rainy season.	Retention of certified engineering geologist and registered civil engineer by permittee for regular inspections and oversight.	- LEA - Dept. of Public Works	Throughout fill operations.	C#10(b) C#18(b) C#23
◦ Revegetation and erosion control of all exposed slopes will be an ongoing process. The erosion controls to be implemented at the site will include soil stabilization measures and revegetation in accordance with the approved Revegetation Program. The installation of interceptor ditches shall be designed for the diversion of storm runoff to sedimentation basins. Sediment traps will be used at points of runoff concentration along the perimeter of exposed slopes surfaces.	Approval of drainage plan. Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for ongoing supervision of revegetation programs. Review and monitoring of planting programs by County Forester.	- Dept. of Public Works - Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester - RWQCB	Approval prior to commencement of the required activity. Revegetation throughout fill operations and on an ongoing basis.	C#16 C#17 C#23 C#28 MP-Part I(C) MP-Part VI(A-D) MP-Part X(B)(8)
◦ To prevent soil erosion on the face of the landfill, interim vegetation measures will be taken after placement of the temporary soil layer even though the area may be disturbed by future filling operations. Vegetative cover will be placed as in the approved Revegetation Program.	Retention of a consulting horti-culturalist/Registered Professional Forester and an independent qualified biologist by the permittee for ongoing supervision of revegetation programs. Review and monitoring of planting programs by County Forester.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualifiedbiologist - County Forester - RWQCB	Throughout fill operations and on an ongoing basis.	C#17 MP-Part VI(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GEOLOGY (con't)				
◦ The permittee's On-site Solid Waste Recovery and Recycling Program includes the removal of green waste and yard waste materials from the incoming waste stream at the landfill and the processing of these materials for various uses at the landfill. If sufficient quantities are available, the use of shredded green and yard waste materials may be used as a supplement to daily, intermediate and final cover, to the extent deemed technically feasible and acceptable by regulatory agencies.	Approval of shredded green and yard waste materials as a supplemental cover material.	- California Integrated Waste Management Board (CIWMB) - LEA	Prior to use in fill operations and on an on-going basis.	County Source Reduction and Recycling Element (SRRE) C#10(j) C#10(m) MP-Part II(A) MP-Part X(B)(5)
◦ An operations checklist will be used by a certified engineering geologist, registered civil engineer or licensed surveyor for surveys following all earthquake events of 5.0 magnitude or greater wherein significant shaking or rolling movement was experienced at the landfill. All environmental protection and control systems for the landfill will use the best available control technology (BACT) and will be designed to withstand a maximum probable earthquake in accordance with Title 23, Chapter 15, § 2547 of the California Code of Regulations (CCR). A comparison of operating parameters and site conditions before and after major earthquake events (5.0 magnitude or greater) will be made to verify that the designed systems are operational.	Retention of a certified engineering geologist, registered civil engineer or licensed surveyor (for survey only) by the permittee and submittal of survey results to Dept. of Public Works.	- Dept. of Public Works - Project certified engineering geologist, registered civil engineer or licensed surveyor (for survey only)	After earthquake events of 5.0 magnitude or greater.	CCR, Title 23, Chapter 15, § 2547 MP-Part I(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
SURFACE WATER				
◦ To insure that leachate within the landfill is minimized, surface water runoff will be intercepted and diverted around the landfill. The method of diversion that will be implemented includes the use of lined interceptor ditches placed along the edges of the fill area. This system of ditches will flow into the monitored sedimentation basin.	Approval of drainage plan and Waste Discharge Requirements. On-site inspections by the appropriate regulatory agencies.	- Dept. of Public Works - RWQCB	Prior to commencement of landfill development and on an ongoing basis through landfill closure.	RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ The surface water runoff collected in interceptor ditches will be returned to the natural stream channel below the operational portion of the site after passing through the monitored sedimentation basin to reduce final sediment content.	Approval of drainage plan and Waste Discharge Requirements. On-site inspections by the appropriate regulatory agencies.	- Dept. of Public Works - RWQCB	Prior to commencement of landfill development and on an ongoing basis through landfill closure.	RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ As development of the site proceeds, surface drainage control facilities will be maintained so that surface water runoff is diverted from the working faces and isolated from contact with the waste. On-site drainage control channels will be designed per CCR, Title 23, Chapter 15, § 2546, which mandates the requirements for a capital storm event (100-year, 24-hour precipitation).	Approval of drainage plan. Retention of registered civil engineer by permittee for inspections and supervision.	- Dept. of Public Works - Project registered civil engineer - RWQCB	Plan approval prior to commencement of landfill development. Surface drainage controls will be phased over the life of the project.	CCR, Title 23, Chapter 15, § 2546, RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ All perimeter ditches will be lined.	Approval of drainage plan.	- RWQCB - Dept. of Public Works	Prior to commencement of the required activity.	CCR, Title 23, Chapter 15, § 2546 RWQCB Regulations C#28 C#29 MP-Part I(C)
◦ The County-only landfill will have a sedimentation basin within the County portion of Sunshine Canyon designed to accommodate a capital storm event.	Approval of drainage plan.	- RWQCB - Dept. of Public Works	Prior to commencement of the required activity.	CCR, Title 23, Chapter 15, § 2546 RWQCB Regulations C#28 C#29 MP-Part I(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
SURFACE WATER (con't)				
◦ Placement of a series of underdrains in areas where seeps and springs have been identified will collect and convey any water from these sources.	Retention of certified engineering geologist by permittee for inspections and oversight.	- RWQCB - Project certified engineering geologist	Prior to commencing landfill operations. Throughout fill operations.	C#29 MP-Part I(C)
◦ The final cover will be compacted and graded with a minimum three percent (3%) gradient to preclude percolation of rainwater and to direct surface water runoff away from the refuse into drains that ultimately discharge into the monitored sedimentation basin.	Approval of Closure and Postclosure Maintenance Plans. Review of periodic inspection reports of fill operations.	- RWQCB - LEA	Prior to placement of the final cover.	CCR, Title 23, Chapter 15, § 2581 RWQCB Regulations C#10(j) C#16 C#29
◦ The Department of Public Works will review the drainage control system design for conformance with County Flood Control Standards.	Approval of drainage plan.	- RWQCB - Dept. of Public Works	Prior to commencement of the required activity.	C#28
◦ Surface water runoff will be handled with a drainage system, including ditches, berms, energy dissipators, and other stormwater management measures, all structures will be designed for capital storm capacity.	Approval of the drainage plan.	- Dept. of Public Works - RWQCB	Prior to commencement of the required activity.	RWQCB Regulations County Ordinance C#28 MP-Part I(C)
◦ The drainage control system will be designed to collect surface water runoff and suspended solids. Water leaving the sedimentation basin will be monitored for suspended solid contents. County Department of Public Works storm/surface water standards will be met.	Approval of drainage plan.	- RWQCB - Dept. of Public Works	Prior to commencement of the required activity.	RWQCB Regulations C#28 C#29
◦ Surface water quality will be monitored by collecting samples taken from the monitored sedimentation basin on a regular basis for analysis to ensure that water quality protection standards are not exceeded as determined for the site by both the RWQCB and the County Department of Public Works.	Review and approval of periodic inspection reports, and field inspections by RWQCB personnel. Monitoring in accordance with Waste Discharge Requirements.	- Dept. of Public Works - RWQCB - LEA	Monitoring will occurduring landfilling and during the closure and postclosure monitoring period at the landfill.	RWQCB Regulations C#27 C#29 C#30 MP-Part X(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER				
◦ The landfill will be operated as a Class III nonhazardous landfill. This landfill will not accept for disposal hazardous wastes, radioactive materials, infectious or liquid wastes.	Issuance of Solid Waste Facilities Permit.	- CIWMB - LEA	Prior to commencement of the required activity.	C#10(a) C#26 MP-Part III(A)(B)
◦ For the composite liner system, the upper component will consist of a minimum 30-mil flexible membrane liner (FML), and the lower component will consist of at least a 2-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. The FML component will be installed in direct and uniform contact with the compacted soil component. The liner system will be comprised of a minimum 1-foot thick subgrade gravel drainage blanket with discharge to a sedimentation basin; a compacted 3-foot soil layer over the drain blanket; and a minimum 1-foot thick leachate drainage blanket and collection system. There will also be a protective toe berm at the landfill terminus.	Review and approval of project's design and Report of Waste Discharge and issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2452, Report of Waste Discharge RWQCB Regulations C#29 C#30 C#37(b)
◦ Underlying the toe berm, would be a triple-row subsurface barrier or grout curtain. A series of groundwater monitoring wells will be installed both upgradient and downgradient to monitor the effectiveness of the toe berm/grout curtain as part of the overall groundwater monitoring network for sampling and testing. These project design features are described in detail in the Report of Waste Discharge and in the permittee's RWQCB Waste Discharge Requirements (Order No. 91-091).	Review and approval of project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2545, Report of Waste Discharge RWQCB Regulations C#29 C#30

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ The flexible membrane liner (FML) will be placed along the graded flowline of the canyon bottom. Design details of each site specific liner system that will be constructed are described in detail in the permittee's technical supplements to the Report of Waste Discharge. The liner system will be constructed and field tested in accordance with strict Quality Assurance/Quality Control (QA/QC) procedures and criteria submitted to and approved by the RWQCB prior to construction.	Review and approval of project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of the required activity.	U.S. EPA, 40 CFR, Part 258, Subpart D (Design Criteria), § 258.40(b) CCR, Title 23, Chapter 15, § 2542, Report of Waste Discharge RWQCB Regulations C#29
◦ Areas of natural groundwater seepage will be intercepted by the installation of a subgrade gravel drainage blanket.	Review and approval of the Report of Waste Discharge	- RWQCB	Prior to commencement of the required activity.	RWQCB Regulations C#28 C#29 C#30
◦ The placement of a soil liner upon side slopes will be accomplished by compacting acceptable material upon a series of benches excavated into the side slope. The soil liner on the side slope area will be placed at a greater thickness than required (overfilled) and then cut back to yield the minimum required 2-foot thickness. The compacted soil liner surface will be covered with a protective soil cover to prevent drying.	Review and approval of the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of initial fill operations and on an ongoing basis.	Report of Waste Discharge, RWQCB Regulations C#29 C#30
◦ An independent inspector shall be on-site during the preparation of soil liner for verification that required conditions of installation are met, to the satisfaction of the LEA and the RWQCB.	Retention of a certified engineering geologist by permittee for inspections.	- Project certified engineering geologist - RWQCB	During the installation of the soil liner.	RWQCB Regulations C#29

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Prior to the ultimate development of the landfill back into the City portion of the canyon from the County-only operation, the existing City landfill will have a final cover at its interface with the new landfill which will include a one foot minimum compacted soil liner of $1x10^{-6}$ cm/sec permeability. This soil liner will prevent conductivity between the existing City landfill (closed on September 21, 1991) and the proposed ultimate extension development.	Approval of the Closure and Postclosure Maintenance Plan by the CIWMB for existing City Landfill. Review by the City Department of Environmental Affairs (LEA) and the RWQCB.	- RWQCB - LEA	Prior to the placement of final cover on City Landfill.	RWQCB Regulations C#29 City Facility Permit
◦ An internal leachate collection and removal system will be installed at the base of the landfill. This system will collect any generated leachate for disposal consistent with RWQCB requirements. The collection system will consist of a filter rock blanket embedded with a system of collection pipes that collect and transport the liquid to a holding tank. The filter rock blanket will be comprised of clean, angular, well-graded, crushed rock. The blanket will be placed over the sealed liner of the landfill and extend up the sides of the canyon. The collection pipe will be sized and spaced so as to reduce the hydraulic head in the leachate collection system as specified in Waste Discharge Requirements. Leachate will be recovered and treated for reuse as a supplement to landscape irrigation and dust control. The treated leachate will be sampled on a regular basis to affirm suitability for re-use on-site.	Review and approval of the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of fill operations.	RWQCB Regulations C#29 C#37(b)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Final design and operating conditions for the leachate removal and treatment system will be as specified by the RWQCB in the Waste Discharge Requirements. The leachate collection and removal system (LCRS) will be designed and installed in accordance with CCR, Title 23, Chapter 15, § 2543(b) which requires that the LCRS be "designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the waste management unit."	Review and approval of the project's design, the Report of Waste Discharge and the issuance of Waste Discharge Requirements.	- RWQCB	Prior to commencement of the required activity.	Report of Waste Discharge, CCR, Title 23, Chapter 15, § 2543 C#29 C#37(b)
◦ The existing deep bedrock groundwater monitoring wells located within the City portion of Sunshine Canyon will continue to be monitored during the development of the landfill within the County portion of Sunshine Canyon.	Monitoring and inspections in accordance with Waste Discharge Requirements	- Project certified engineering geologist - RWQCB - LEA	Throughout fill operations and during the closure and postclosure maintenance period.	RWQCB Regulations C#30 City Facility Permit
◦ The Closure and Postclosure Maintenance Plans will be required as part of the operating permit for the landfill. Closure regulations are defined in the CCR, Title 14, Chapter 5, Article 3.4. Landfilling operations will cease once final approved elevations are reached.	Approval of the Closure and Postclosure Maintenance Plans.	- CIWMB - RWQCB - LEA	Prior to placement of final cover at final approved elevations.	CCR, Title 14, Chapter 5, Article 3.4 RWQCB Regulations C#8 C#16 MP-Part III(B) MP-Part IV
◦ The operation and final closure of the landfill will be monitored by the LEA, as well as by the RWQCB.	Inspections and review of monitoring reports.	- LEA - RWQCB	Throughout fill operations and during final closure activities.	RWQCB Regulations C#8 C#16 MP-Part III(B) MP-Part IV
◦ As the landfill is constructed, all alluvium will be removed to solid bedrock, thereby removing any connection with groundwater-bearing alluvium down-gradient within Sunshine Canyon.	Retention of certified engineering geologist by permittee for supervision and on-site inspections by the RWQCB.	- RWQCB - Project certified engineering geologist - Dept. of Public Works	Throughout fill operations.	County Ordinance C#29

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
GROUNDWATER (con't)				
◦ Application of daily, intermediate, and final cover in accordance with applicable regulatory requirements will restrict leachate formation by inhibiting the infiltration of water into the landfill.	Review and approval of periodic inspection reports during fill operations.	- LEA - RWQCB	Throughout fill operations.	RWQCB Regulations C#8 C#10(j) C#17 MP-Part III(B)
◦ Irrigation will be limited to insure a balance between irrigation and evapotranspiration. Where feasible, plant species (drought tolerant) with low water requirements will be used for revegetation.	Retention of consulting horticulturalist/Registered forester and an independent qualified biologist for ongoing supervision of revegetation programs.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - LEA	Throughout fill operations.	C#16 C#17 C#37(d) MP-Part III(B) MP-Part VI(A)
◦ Dust control water will be applied to wet only the upper soil surface. Evaporation is the natural means whereby this water is dissipated.	Field inspections by permittee and RWQCB.	- Project facility manager - RWQCB	Throughout fill operations and on an ongoing basis.	C#18(c)(d)(j) C#37(c)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA				
◦ The permittee will dedicate to the County or to a public agency designated by the County the westerly portion of the permittee's ownership, consisting of approximately 426 acres primarily within an area referred to as East Canyon and the use of approximately 76 acres located along the northerly and westerly perimeters of the landfill site. This property will be used for open space, wildlife preservation and recreational use. The instrument of dedication or agreement will provide that no uses inconsistent with the landfill will be allowed and will further provide for the right of permittee and/or its contractors to enter onto the property to engage in oak tree, wetlands and other mitigation projects, the right to maintain water tanks, fire access roads and other safety facilities as required to operate the landfill.	Dedication to County or other public agency designated by the County.	- Dept. of Parks and Recreation - Project facility manager	Prior to commencement of development activities on the landfill site.	C#15
◦ The permittee in cooperation with the County Department of Parks and Recreation will identify, where feasible, relocate and dedicate the necessary rights-of-way for public use for horseback riding and hiking trails within areas of East Canyon, Bee Canyon, O'Melveny Trail and/or Weldon Canyon Trail.	Dedication to County or other designated public agency.	- Dept. of Parks and Recreation - Project facility manager	Prior to commencement of development activities on the landfill site.	C#15
◦ The permittee will retain an individual who is well-qualified by education and training in the biological sciences, including local animal and plant communities, and whose duties will include participation in the review of any installation of equipment or other activity in East Canyon and any resource assessment prepared in connection with such activity.	Retention of independent qualified biologist by the permittee.	- Dept. of Regional Planning	Prior to commencement of development activities on the landfill site.	C#15 MP-Part VI(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
o Within thirty (30) days of project grant effectuation, and before commencement of disposal operations at the landfill, the permittee will commence acquisition negotiations (for public open space) with the owners of Parcels 335 and 337 located within Upper Bee Canyon, and with the owner of that portion of Parcel 336 located easterly of the East Canyon Motorway. In the event that the permittee is unable to obtain Parcels 335, 337 and that portion of Parcel 336 previously referenced, an off-site acquisition agreement will be entered into between the permittee and the County. Terms of said agreement will stipulate that all property acquisition costs and expenses incurred by the County will be reimbursed by the permittee.	Dedication to County or other public agency designated by the County. Off-site property acquisition agreement will be in conformity with the terms and conditions of the County's standard off-site acquisition agreement utilized by the Dept. of Public Works.	- Dept. of Regional Planning	Within thirty (30) days from effectuation of project grant or before commencement of disposal operation negotiations for parcels will take place. Within three (3) months after acquisition, parcels will be dedicated to the County or other public agency designated by the County.	C#15
o The permittee will finance studies pertaining to the remaining Significant Ecological Areas (SEA's). As permits are granted for other projects removing portions of the remaining SEA's, such permits will be required to share in the financing of additional studies, on a pro rata basis determined by the amount of acreage removed from SEA's and the permittee will be reimbursed accordingly.	Permittee will deposit with the Director of Planning the following: - A sum of $432,000.00 prior to the commencement of construction of the landfill, and - Annually (on January 10th of each year) for the life of the project's grant submit the sum of $81,000.00 to update County SEA studies.	- Dept. of Regional Planning	Prior to commencement of the required activity and annually for the duration of the grant.	C#48

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Subject to approval by the City of Los Angeles and except as may otherwise be provided by the City, the approximate 100-acre buffer (open space area) zone located southeast of the existing City landfill in the City of Los Angeles, will be maintained by the operator as a nature preserve and will be enhanced with vegetation to promote wildlife.	Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation programs.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - City of Los Angeles	Throughout fill operations and on an ongoing basis.	C#44 MP-Part VI(A)(B)
◦ The 100-acre buffer zone will not be developed with the exception of development necessary to continue the existing use for gas, oil and lease operations. This area will continue to serve as a buffer between the landfill operation and other properties.	Retention of a consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation programs.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - City of Los Angeles	Throughout fill operations and on an ongoing basis.	C#44 MP-Part VI(A)(B)
◦ The external abutting slopes and peaks of the ridgelines surrounding the Sunshine Canyon Landfill shall remain undisturbed as shown on Exhibit "A" or "A" (Alternative). The upper portions (50 vertical feet below ridgelines) of the closest adjacent abutting external perimeter ownership ridgeline will also be left undisturbed. The upper perimeter ridges of the landfill will be planted with native trees in order to minimize visibility of the landfill.	Installation of survey monuments for verification of landfill elevations and conductance of survey for inclusion in Biennial Monitoring Reports to Regional Planning Commission.	- Dept. of Public Works - Dept. of Regional Planning - County Forester - LEA	Throughout fill operations and on an ongoing basis.	C#10(b) C#23 C#24 C#41 MP-Part I(A)(B) MP-Part III(B) MP-Part X(B)(2)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ After development of the initial fill area, clearing of existing on-site vegetation for operations will be done only when necessary to provide for new cut and fill areas of the project site. Only small areas will be cleared at any one time. Wholesale or large scale clearing of vegetation in Sunshine Canyon will not occur. Additionally, the soils, slash and debris which might provide suitable habitat for harboring pests will be removed. Registered forestry experts under contract by the permittee will monitor the condition of the trees in the Sunshine Canyon for pest infestation.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for supervision. Inspections by County Forester.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester	Throughout fill operations and on an ongoing basis.	C#23 C#40 C#42 MP-Part VI(A) MP-Part VII(A)
◦ The Oak Tree Mitigation Plans, Exhibit "C" and "D" are intended to meet or exceed the minimum replanting requirements of the Los Angeles County Oak Tree Ordinance No. 88-0157 and includes measures for replacement oak tree planting within Sunshine Canyon, East Canyon, and other off-site areas acceptable to the County Forester. This plan also provides for a 5-year Monitoring and Management Program to guarantee survival of replacement trees for a minimum of 5 years after the trees are established at 1-inch in diameter and 1-foot above the natural grade.	Issuance of the Oak Tree Permit. Monitoring and inspections by County Forester pursuant to formal "Agreement" with permittee. Agreement will include provisions for: - Permanent photo points established to document oak tree growth and establishment; - Accounting for each tree removed; - Comprehensive annual inventory; and - Monthly inspections by County Forester.	- County Forester - Project Registered Forester - Dept. of Regional Planning - LEA	Throughout fill operations and on an ongoing basis.	County Oak Tree Ordinance No. 88-0157 (County Planning and Zoning Code, Title 22, Part 16, Chapter 22.56) C#39 C#40 C#44 C#45 MP-Part VI (A)(B)(C) MP-Part VII (A)(B)(C) MP-Part X(B)(9)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
	Additional provisions will specify corrective procedures for the permittee, suspension circumstances, dispute resolution and financial security for implementation guarantee. Retention of a Registered Professional Forester by permittee for implementation of the replanting programs.			
◦ The permittee will provide a minimum 2:1 replacement for oaks and a 5:1 replacement for Bigcone Douglas-fir. Replacement oak and fir trees will be counted when the tree reaches 1-inch diameter at 1-foot above the natural grade. Other tree species will also be planted. The permittee will maintain and monitor the oak trees for a minimum 5-year period after reaching count-size status to provide a minimum two-hundred 200% replacement. Oak Tree Mitigation Plans are provided in Exhibits "C" and "D".	Issuance of the Oak Tree Permit. Monitoring and inspections pursuant to formal Agreement.	- County Forester - Project Registered Forester - Dept. of Regional Planning	Throughout fill operations and on an ongoing basis.	County Oak Tree Ordinance No. 88-0157 (County Planning and Zoning Code, Title 22, Part 16, Chapter 22.56) C#39 C#43 C#44 C#46 MP-Part VI(A)(B)(D) MP-Part VII(A)(B)(C) MP-Part X(B)(9)
◦ All oak trees will be counted when removed to verify that adequate mitigation has been provided in accordance with the Oak Tree Mitigation Plan.	Monitoring by County Forester. Submittal of biennial report by permittee.	- County Forester - Project Registered Forester	Throughout fill operations and on an ongoing basis.	C#39 MP-Part VI(A)(B) MP-Part VII(A)(B)(C) MP-Part X(B)(9)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ The permittee will guarantee the survival of Bigcone Douglas-fir for a 5-year period after trees are established at 1-inch in diameter at 1-foot above the natural grade. Tree seedlings would be grown on-site, in the permittee's greenhouse. The higher stands of existing fir trees located on the uppermost ridge slopes will not be disturbed by the landfill development.	Monitoring and inspections pursuant to formal Agreement.	- County Forester - Project Registered Forester	Throughout fill operations and on an ongoing basis.	C#24 C#45 C#46 MP-Part VI(A)(B)(C) MP-Part VII(A)(B)(C)
◦ Concurrent with, and following landfilling operations, all grasses, trees and shrubs will be planted on the landfill face in phases as indicated in the Revegetation Plan.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of revegetation programs in accordance with the Revegetation Plan and Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester - LEA - CIWMB	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part IV MP-Part VI(A)(B)(C) MP-Part X(B)(8)
◦ Areas of the site will be revegetated as required by the Conditional Use Permit, Conditions of Project Approval and the requirements of the CIWMB (Revegetation Plan and Closure and Postclosure Maintenance Plans). Suitable vegetation will be planted as part of the Revegetation Plan to provide habitat for wildlife and enhance existing open space areas.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of revegetation programs in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester - LEA - CIWMB	Throughout fill operations and on anongoing basis.	C#16 C#17 C#44 MP-Part IV MP-Part VI(A)(B)(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ The landfill will be planted with a mosaic of trees, shrubs and grasslands to provide a variety of suitable habitats for wildlife. As operating lifts are completed, the finished slope will be covered with 15 feet (i.e., horizontal width) of amended soil and recycled green waste placed on the front surfaces of slopes that have received the impermeable seal as shown on Exhibit "B." Soil amendments will be included to balance any unsuitable characteristics such as acidity (Ph). Fertilizers will be added at the time of soil placement and will continue as part of the permittee's ongoing maintenance program. This soil cover will provide rooting material for the final vegetation. Revegetation will take place concurrently with landfilling operations as development of the landfill progresses up the canyon. Relatively small (2 to 3 acres) active filling areas and other operations areas (maximum 5 acres each for liner preparation, cut-for-cover areas, etc.) of the landfill will not be revegetated. The remainder of the inactive disturbed areas on-site will be planted with either temporary or permanent vegetation.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of revegetation measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans. Approval and monitoring by County Forester and LEA.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester - LEA - CIWMB	Throughout fill operations.	C#10(j) C#16 C#17 C#18(b) MP-Part II(A)(2) MP-Part VI(A)(B)(C) MP-Part X(B)(8)
◦ Recycled green waste will be used (i.e., as permitted) to amend cover soils to provide an enhanced revegetation growing medium.	Approval of green waste material as soil amendment.	- County Forester	Throughout fill operations.	C#10(j) C#17 MP-Part II(A)(2)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Revegetation of slopes and fill areas with appropriate native flora will be accomplished to support local fauna.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout filloperations and on anongoing basis.	C#16 C#17 C#44 MP-Part VI(A) MP-Part X(B)(8)
◦ As part of the Revegetation Plan, the reestablishment of vegetation will focus on utilizing native species from local seed sources. Non-native species may be used only where quick cover or a nurse crop is needed and if approved by the consulting biologist and would be removed later if appropriate.	Revegetation planting in accordance with Revegetation Plan and the Closure and Postclosure Maintenance Plans. Monitoring by County Forester.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#44 MP-Part VI(A)
◦ The Revegatation Plan will, in so far as possible, obtain replacement cover material from within Sunshine Canyon to retain soil composition compatible with native flora and leave the surrounding topography undisturbed.	Revegetation measures in accordance with Revegetation Plan and the Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on anongoing basis.	C#16 MP-Part VI(A)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ Areas inactive for 180 days or longer will be planted with interim vegetation. Records will be kept to track fill areas of the site which are transferred to an inactive status so that appropriate dust control and revegetation measures can be implemented.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee to review fill records and implement revegetation measures. Monitoring by the LEA and the County Forester.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester - LEA	Throughout fill operations and on an ongoing basis.	C#16 C#17 MP-Part VI(A)(B)(D) MP-Part X(B)(8)
◦ The permittee will provide replacement riparian habitat on a 2:1 ratio as part of the overall Riparian and Wetland Mitigation Plan. Mitigation for the disturbance to 5.46 acres of riparian habitat from the landfill will be provided by expanding and enhancing existing riparian habitat and creating approximately 11.0 acres of new riparian habitat through a program of tree planting, streambank stabilization, streambed enlargement or streamzone rehabilitation in existing degraded drainage channels. As a component of the Riparian and Wetland Mitigation Plan, new streamzone/wetland areas will meet U.S. Army Corps of Engineers criteria, and will also be created within the riparian systems so that there will be no net loss in wetland values or area as a result of the landfill project. Approximately 4.2 acres of stream-zone/wetlands will be created to compensate for losses due to development within the landfill project site area. Final site selection and detailed engineering plans and working drawings of the Riparian and Wetland Mitigation Plan will be coordinated fully with the applicable regulatory agencies so that the final acceptable plan will be developed based on the concepts described in the permittee's Riparian and Wetland Mitigation Plan.	Issuance of Section 1603 Permit by Dept. of Fish and Game. Issuance of Nationwide Permit (No.26) by U.S. Army Corps of Engineers. Implementation of mitigation programs in accordance with approved plans.	- CA Dept. of Fish and Game - U.S. Army Corps of Engineers	Prior to commencement of landfill development. Implementation throughout fill operations.	CA Fish and Game Code (1980), § 1603 Clean Water Act, 33 CFR, 320-330, §404 C#38 MP-Part X(B)(11)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
BIOTA (con't)				
◦ The Riparian and Wetland Mitigation Plan represents mitigation for the permittee's 70 million ton landfill proposal and the on-site acreage of disturbance to riparian and wetland habitats would be reduced with the development of the 16.9 million ton landfill.	Issuance of a § 1603 Permit by Dept. of Fish and Game. Issuance of Nationwide Permit (No. 26) by U.S. Army Corps of Engineers. Implementation of mitigation programs in accordance with an approved Riparian and Wetland Mitigation Plan.	- CA Dept. of Fish and Game - U.S. Army Corps of Engineers - RWQCB	Prior to commencement of landfill development. Implementation throughout fill operations.	CA Fish and Game Code (1980), § 1603 Clean Water Act, 33, CFR, 320-330, § 40 C#38 MP-Part X(B)(11)
◦ Periodic monitoring of the site for vector activity will be performed by the permittee. Corrective measures will be taken should a problem be detected. Rodent-related problems will be controlled in accordance with regulations established by the County Department of Health Services and the California State Department of Health. Flies will be controlled by a trap-and-destroy program and by the use of daily cover. The use of sprays will be avoided to the fullest extent possible. Gull activity can be effectively eliminated by stringing wire or monofilament fishing line above the landfill working areas at intervals of one hundred to one hundred and fifty feet.	Review and approval of periodic monitoring reports and field inspections.	- County Dept. of Health Services	Throughout fill operations.	C#8 C#10(p) C#26 C#42 MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ARCHAEOLOGICAL, HISTORICAL AND PALEONTOLOGICAL RESOURCES				
◦ Prior to the commencement of initial earth excavation, specific sections of the landfill project area will be resurveyed as a precautionary measure to minimize potential loss of undiscov-ered archaeological or paleontological resources. Specific sections of the project area to be resurveyed will be determined by the intended cut and fill areas proposed for landfill development. As new areas for excavation are identified by the permittee, an evaluation of the need for resur-veying of those areas will be made based on prior survey results and consultation with the appropriate technical specialists. Factors to be considered for delineation of areas to be resurveyed will be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include: proximity to water; the type of local vegetation (e.g., food source, shelter, and fuel); and the topography (e.g., slope and aspect).	Retention of a qualified archaeologist and a paleontologist by the permittee for implementation of surveying measures. Written reports to be submitted with each Biennial Monitoring Report to the Regional Planning Commission.	- Dept. of Regional Planning - Project archaeologist and paleontologist	Prior to commencement of landfill development and throughout fill operations.	C#25 MP-Part V (A-E) MP-Part X (B)(10)
◦ An archaeologist and paleontologist will be on-site during major infrastructure work which requires significant excavation.	Retention of a qualified archaeologist and a paleontologist by permittee for surveying.	- Project archaeologist and paleontologist	Throughout fill operations.	C#25 MP-Part V(B)
◦ Periodic monitoring by a paleontologist will occur during grading activities in the Miocene-early Pliocene Towsley Formation.	Retention of a qualified paleontologist by permittee for surveying.	- Project paleontologist	Throughout fill operations.	C#25 MP-Part V(C)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ARCHAEOLOGICAL, HISTORICAL AND PALEONTOLOGICAL RESOURCES (con't)				
◦ The permittee will instruct landfill equipment operators to look out for archaeological and paleontological resources and upon discovery of such findings immediately report the location of the finding site to their supervisor. If any evidence of aboriginal habitation or fossils are discovered during earthmoving activities, landfill operations will cease in that particular location until a qualified archaeologist or paleontologist has made a determination as to the significance of the site or findings. Any significant archaeological or paleontological resources will be recovered to the extent practicable prior to resuming activities in that area of the landfill.	Retention of a qualified archaeologist and a paleontologist by permittee for supervision.	- Project archaeologist and paleontologist	Throughout fill operations.	C#25

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY				
◦ The permittee will control fugitive dust and minimize off-site migration of wind-blown dust from the landfill site in accordance with the SCAQMD Rule 402 and Rule 403 and the conditions of project grant. Measures to be employed for dust control include: (1) containing operations to small 2 to 3-acre active fill areas; (2) containing other operational areas for liner preparation, cut for cover, etc., to a maximum 5-acre area each; (3) paving access roads and regularly cleaning pavement surfaces; (4) daily landfill surface watering; (5) using soil sealant where appropriate; and (6) covering slopes with a hydro-mulch blanket. A soil stabilization product will be used to control blowing fugitive dust and silt, to retard soil erosion and to enhance revegetation. Soil sealant will be applied when necessary to selected working areas of the landfill. The sealant will also be used as a binder or tackifier to hold seed, mulch and fertilizers in place until grasses become established and stabilize upon the landfill surface. Landfill equipment and operators will be available (if necessary) on non-operating days for soil treatment and dust control.	Monitoring and inspections by the SCAQMD and the LEA.	- SCAQMD - LEA	Throughout fill operations and on an ongoing basis.	SCAQMD Rule 402 and Rule 403 C#8 C#18(a-m) C#37(c) MP-Part X (B)(6)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
◦ Dust control will also be accomplished through the temporary revegetation of the landfill surface. A temporary vegetation cover will be established on all slopes that are to remain inactive for a period longer than 180 days. Specifications of temporary revegetation measures are provided in the Revegetation Plan and the Closure and Postclosure Maintenance Plans and the Conditional Use Permit, Conditions of Project Approval.	Monitoring and inspections by the SCAQMD and the LEA. Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for implementation of measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	- SCAQMD - LEA - Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#17 MP-Part X(B)(6)
◦ Access roadways will be paved up to the active fill area to minimize fugitive dust emissions. Paved roadways will extend up Sunshine Canyon to new active fill areas as development of the landfill progresses.	Review and approval of periodic inspection reports of fill operations.	- LEA	Throughout fill operations.	C#18(h)(i) MP-Part X(B)(6)
◦ Material cut from one portion of the site will be used as cover material in an adjacent area, to the extent technically feasible; thereby reducing the travel distance cover material is transported.	Periodic inspection reports of fill operations.	- Project facility manager	Throughout fill operations.	C#18(d) MP-Part X(B)(6)
◦ Subject to approval by the CIWMB, a 20-foot maximum cell height (which includes 9-inch daily cover) will be utilized. To allow for efficient filling operations, this cell height will minimize the disturbance to the landfill site because a longer period of operation on each cell will provide for an effective control of any fugitive dust emissions.	Issuance of the Solid Waste Facilities Permit by the CIWMB.	- CIWMB	Permit issuance prior to commencement of fill operations.	C#8 C#10(j) C#18(b) MP-Part II(A)
◦ The landfill will be operated in accordance with SCAQMD Rule 1150.1 and other SCAQMD regulations and with applicable Department of Public Works requirements.	Issuance of the SCAQMD Permit to Construct and Operate. Monitoring and inspections by the SCAQMD.	- SCAQMD	Throughout fill operations.	SCAQMD Rule 1150.1 C#8 C#34 C#36 MP-Part X(B)(6)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
◦ Landfill gases will be controlled and extracted in compliance with SCAQMD Rule 1150.1. The gas collection and extraction system will utilizes a best available control technology (BACT) collection system, which consists of a series of horizontal and vertical wells installed in phases as each portion of the landfill is developed. Regular landfill surface monitoring will determine which specific areas will require additional vertical collection wells.	Issuance of the SCAQMD Permit to Construct and Operate. Inspections by the SCAQMD and the Dept. of Public Works. Monitoring programs and reports in accordance with SCAQMD permit regulations.	- SCAQMD - Dept. of PublicWorks	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Rule 1150.1 SCAQMD Permit to Construct and Operate C#8 C#34
◦ The landfill gas flaring (incineration) system will be comprised of flares located around the perimeter of the landfill. Landfill development will initially require two flare stations which should accommodate gas generation volumes for a 10 to 15-year period, before any additional stations are required. The gas flares will be designed to contain the flame within the flare stack; thus, eliminating flame visibility and further eliminating the products of combustion into the atmosphere. Flame arrestors for the gas input to the flare will also be provided to the satisfaction of the County Forester and the Fire Warden. The permittee will recover and sell gas, as a renewable energy resource and as it becomes technically and economically feasible, in order to reduce total air quality emissions from landfilling operations.	Approval of gas collection system plan and issuance of the SCAQMD Permit to Construct and Operate.	- SCAQMD	Permit issuance prior to commencement of landfill development.	SCAQMD Permit to Construct and Operate C#8 C#10(l) C#14 C#34 C#35 C#36

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
AIR QUALITY (con't)				
◦ The site design of the landfill includes queuing lanes at the check-in stations for early morning truck arrivals (prior to the opening of the landfill). Drivers will be given notices and signs will be posted at the landfill entrance which will indicate a 5 minute maximum idling allowance. Such a policy will remain in effect throughout the landfill's operating hours. Further, an efficient, computerized, express checking-in system will be considered for the landfill to minimize on-site truck idling at the check-in station. This system will be utilized for major account haulers (i.e., approximately fifteen (15%) to twenty (20%) of landfill users and up to forty (40%) of the total daily intake). This express system will achieve minimal waiting at the check-in stations and reduced on-site queuing time for trucks to check-in.	Review and approval of periodic inspection reports of fill operations.	- LEA	Throughout fill operations and on an ongoing basis.	C#10(n) C#36 MP-Part II(B)
◦ Landfill operation employees will be scheduled to work during designated work shifts to avoid for the most part the peak hour traffic periods. The first work shift will generally begin at 6:00 a.m. and finish at 3:00 p.m. and the second shift will generally begin at 10:00 a.m. and finish between 6:00 p.m. or 7:00 p.m.	Continuation of existing work schedules for landfill extension.	- Project facility manager	Throughout fill operations.	C#8 C#10(n) C#22 C#36
ODOR/LANDFILL GAS				
◦ Landfill gases will be prevented from escaping to the atmosphere through control measures which also will effectively control odor. These control measures include (1) small 2 to 3-acre active fill areas; (2) covering the working face on a daily basis; (3) filling surface cracks in the cover material with clean dirt; and (4) extracting landfill gases through the use of the landfill gas extraction system.	Approval of gas collection system plan and issuance of Permit to Construct and Operate. Review and approval of periodic inspection reports of fill operations.	- SCAQMD - LEA	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Permit C#8 C#34 C#36 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ODOR/LANDFILL GAS (con't)				
◦ The gas collection system will be installed in phases, as each portion of the landfill is filled. The gas collection system will contain a network of gas extraction wells, collection piping and flaring facilities. Because landfill gas generation begins at lower levels of volume and increases with time, the gas will be initially flared until sufficient quantities are available for possible use as a renewable energy resource.	Approval of gas collection system plan and issuance of Permit to Construct and Operate.	- SCAQMD	Permit issuance prior to commencement of landfill development.	SCAQMD Permit C#8 C#10(l) C#34 MP-Part X(B)(7)
◦ The following odor/landfill gas monitoring program will be implemented for the landfill. The monitoring program complies with the requirements of the SCAQMD Rule 1150.1 and those of the County Department of Public Works. This program will include: (1) Probe installation. One probe will be installed per 500 to 1,000 feet of landfill perimeter or as otherwise determined by the SCAQMD. Probes will be installed in the locations of greatest concern. All probes will be monitored to ensure that landfill gas is not migrating off-site through the subsurface soils; (2) Integrated landfill surface sampling. The landfill surface will be periodically monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed the SCAQMD's standard of 50 ppm;	Issuance of Permit to Construct and Operate. Monitoring programs conducted by permittee (monthly monitoring reports) and SCAQMD in accordance with permit requirements.	- SCAQMD	Permit issuance prior to commencement of landfill development. Monitoring throughout fill operations.	SCAQMD Permit to Construct & Operate SCAQMD Rule 1150.1 C#8 C#10(l) C#18(m) C#34 C#36 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
ODOR/LANDFILL GAS (con't)				
(3) Ambient air samples at the landfill perimeter. Periodic, 24-hour integrated gas samples and required meteorological data will be taken to assess any impact the landfill is having on air quality at the landfill perimeter; and (4) Instantaneous landfill surface monitoring. Spot checks on the landfill surface will be provided to determine that the maximum concentration of total organic compounds measured as methane at any one point on the landfill's surface does not exceed the SCAQMD's standard of 500 ppm.				
◦ The permittee will recover and sell as much gas as is technically and economically feasible to reduce total air quality emissions from the landfill operations. It is expected that the technical and economic feasibility of commercial recovery and sale of landfill gas as a renewable energy resource will occur at levels below 40 MMCFD. The gas collection system will be installed in increments to allow for maximum gas recovery.	Inclusion of reports of fill operations in Biennial Monitoring Reports to Regional Planning Commission.	Project facility manager	Throughout fill operations.	C#10(l) C#14 C#36 MP-Part IV MP-Part X(A)(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION				
◦ The permittee will install or fund traffic improvements at the landfill entrance and to local feeder highways deemed "warranted" by the City of Los Angeles. Warranted, means justified on the basis of established standards of the City and by accepted traffic engineering practices. As determined by the City, traffic improvements may include: (1) The widening and/or restriping and installation of traffic signals at the landfill entrance located on San Fernando Road, and (2) The restriping of turning lanes at the intersection of San Fernando Road and Balboa Boulevard.	Review and approval of intersection improvement plans.	- LADOT	Prior to landfill operations reaching a total waste intake level of 9,000 tons per day. Application to all waste received including recyclable material.	C#13(a)(b)
◦ A radar measurement program will be conducted prior to landfill operation to determine the advisability of posting advance warning signs on San Fernando Road (i.e., W-51, "SLOW TRUCKS," or the non-standard "TRUCK CROSSING") in advance of the landfill entrance.	Retention of traffic engineer by permittee to conduct program, submit results for review.	- Project traffic engineer - LADOT	Prior to commencement of fill operations	C#13
◦ A speed zoning survey will be conducted (if necessary) prior to landfill operation to determine the need to post reduced speed signs at San Fernando Road in advance of the landfill entrance.	Review of survey results for determination.	- LADOT	Prior to commencement of fill operations.	C#13
◦ Weigh scales will be installed at the landfill.	Implementation in accordance with an agreement with County.	- Dept. of Public Works - LEA	Prior to commencement of fill operations.	MP-Part II(A)(1),(B) MP-Part III(B)
◦ The permittee will charge differential tipping fees if necessary to discourage trucking of partially filled loads of refuse to the landfill.	Biennial Monitoring Report to the Regional Planning Commission.	- Project facility manager	Throughout fill operations.	C#12 C#14 MP-Part X(B)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION (con't)				
◦ The landfill entrance gate will be opened at least 1-hour prior to the opening of the landfill scales to provide adequate queuing space for incoming waste hauling trucks. This will avert parking of waste trucks on San Fernando Road. Refuse authorized by the SWFP (net tonnage 36,000 tons per week, 6,000 tons per day average based upon 6 working days per week) may be accepted at the landfill scales between the operating hours of 6:00 a.m. through 6:00 p.m., Monday through Saturday.	Review of periodic inspection reports of fill operations.	- LEA - Dept. of Regional Planning	Throughout fill operations and on an ongoing basis.	C#10(e)(f)(n)
◦ By January 1, 1994, the permittee will complete a comprehensive study of the feasibility of nighttime landfill operations. If nighttime operations are found to be feasible, the permittee will return to the County with an application to permit such operations. Nighttime operations would include the receipt at the landfill up to 2,000 gross tons of material from solid waste transfer stations and material recovery facilities. Subject to future conditions imposed by the Board, the waste trucks must arrive at the landfill between the hours of 3:00 a.m. to 6:00 a.m. and the waste delivered to the landfill will not be delivered by more than 100 transfer trucks.	Comprehensive study on the feasibility of nighttime landfilling operation to be prepared by the permittee and submitted to the Department of Regional Planning.	- Dept. of Regional Planning	By January 1, 1994.	C#10(i)
◦ The permittee will post signage at the landfill entrance, provide handouts and maintain regular monitoring to discourage the parking of commercial trucks along San Fernando Road. If necessary, regulatory agencies will be notified by the permittee of parking enforcement problems.	Review of periodic inspection reports of fill operations.	- LEA	Throughout fill operations and on an ongoing basis.	C#21 MP-Part II(B) MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
TRAFFIC/CIRCULATION (con't)				
◦ All traffic mitigation measures will be funded by the permittee upon approval by appropriate authorities and will be constructed by such authorities or the permittee.	Compliance with permit requirements for roadway mitigation.	- LADOT	As required for implementation.	C#13
NOISE				
◦ Landfill access for the disposal of refuse will be limited to the operating hours of 6:00 a.m. to 6:00 p.m., Monday through Saturday.	Field inspections by the LEA.	- LEA	Throughout fill operations and on an ongoing basis.	C#10(n)
◦ Small commercial and private users who will use the landfill will be encouraged by the permittee to use alternate routes other than Balboa Boulevard, because of this roadway's close proximity to residential areas.	Provide information to small commercial and private users.	- Project facility manager	Throughout fill operations and on an ongoing basis.	C#33
◦ All landfill equipment will be equipped with low-noise mufflers and will be properly maintained.	Field inspections by the LEA and provide periodic maintenance of landfill equipment.	- LEA	Throughout fill operations and on an ongoing basis.	County Noise Ordinance, Title 12, State and federal requirements C#33 C#10(n) MP-Part III(B) MP-Part X(B)(7)
◦ The permittee will also investigate options for other frequency backup alarms systems which meet State and federal (OSHA) standards.	Field inspections by the LEA and provide periodic maintenance of landfill equipment.	- LEA	Throughout fill operations and on an ongoing basis.	State and federal requirements C#10(l) C#33 MP-Part III(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL				
◦ The maximum permitted elevations for the landfill will not be exceeded at any time during landfill development. Elevations will be verified periodically through survey control points.	Installation of survey monuments for verification of landfill elevations and the conductance of a survey for inclusion in Biennial Monitoring Reports to the Regional Planning Commission.	- Dept. of Public Works	Prior to commencement of the required activity. Surveys throughout fill operations.	C#10(b) C#23 MP-Part I(A)(B) MP-Part X(A),(B)(2)
◦ The final fill elevations for the landfill will be maintained below the closest adjacent abutting external ownership perimeter ridgeline, as shown on Exhibit "A" or "A" (Alternative) and the County's approved construction plans.	Installation of survey monuments for verification of landfill elevations.	- Dept. of Public Works	Prior to commencing landfilling operations.	C#23 C#41 MP-Part X(A),(B)(2)
◦ The highest point of the landfill flares will be located below the adjacent ridges and the flame will be totally contained within the flare stack.	Issuance of SCAQMD Permit to Construct and Operate.	- SCAQMD	Permit issuance prior to commencement of fill operations.	SCAQMD Permit to Construct and Operate C#8 C#10(l) C#35 MP-Part X(B)(7)
◦ The excavation of cover material will be confined to several areas at the landfill site. These areas may or may not be landfilled dependent upon location.	Review of periodic inspection reports of fill operations.	- LEA	Throughout fill operations.	C#18(a)(b) MP-Part I(C)
◦ As part of revegetation efforts for the landfill extension, the upper ridges of Sunshine Canyon will be planted with native tree and vegetation species (oaks and ground cover) to supplement the existing vegetation on the ridges and to reestablish bare areas.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for supervision and oversight. Monitoring by the County Forester.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester	Throughout fill operations and on an ongoing basis.	C#16 C#17 C#37(c) C#44 MP-Part VI(A)(B) MP-Part VII(A)(C) MP-Part X(B)(8)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
◦ Trees will be planted around the outer enclosing ridges of the landfill perimeter.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by permittee for implementation of planting programs.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - County Forester	Throughout fill operations and on an ongoing basis.	C#24 C#44 MP- Part VI(A)
◦ The landfill revegetation measures identified in the Conditional Use Permit and the Closure and Postclosure Maintenance Plans will be implemented.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for supervision.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations.	C#16 MP-Part VI(A)
◦ The final cover of the landfill will be landscaped with a ground cover mix and plant species that are compatible with the immediate area and will be maintained in a natural setting until the time that it is converted to its final use.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist by the permittee for supervision. Approval of Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist - LEA	Throughout fill operations.	C#16 C#17 C#37(C) MP-Part X(A)(B)(8)
◦ The 100-acre buffer zone on the southern boundary of the landfill will be maintained and enhanced.	Monitoring by consulting horticulturalist/Registered Professional Forester and an independent qualified biologist.	- City of Los Angeles - Project facility manager	Throughout fill operations and on an ongoing basis.	C#44 C#46 MP-Part VI MP-Part VII
◦ All lighting shall be shielded and directed onto the site. No floodlighting shall be located that can be seen directly by adjacent residents, motorists on adjacent public streets or highways, or pilots within the "airport approach zone." This condition shall not preclude the installation of low-level security lighting.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
◦ The permittee's on-site Litter Control Program will include, unless otherwise provided for by the LEA, the following: (1) Landfill personnel assigned to patrol the access road to the landfill scale area from the time the landfill opens until the time it closes in the evening; (2) Improperly covered or contained loads which may result in a significant release of litter will be immediately detained and the condition corrected, if practicable, before the load proceeds to the working face. If correction cannot be made, the load will be conducted under escort to the working face; (3) All debris found along the landfill entrance area and access road to the working face will be immediately removed; (4) Operating areas will be located in shielded portions of the landfill during windy periods; and (5) The permittee will install litter fences at the operating areas, as deemed necessary by the LEA.	Monitoring and field inspections by the LEA. Inspection report results included in Biennial Monitoring Reports to Regional Planning Commission.	- LEA - Project facility manager - Dept. of Public Works	Throughout fill operations and on an ongoing basis.	C#19 C#20 C#22 MP-Part X(A)(B)(6)(7)
◦ To the satisfaction of the Director of Public Works and the LEA, the permittee will maintain programs aimed at controlling the discharge on the landfill and recovery of litter from uncovered or improperly covered or contained loads traveling to the landfill, including:	Monitoring and field inspections by the LEA. Inspection report results included in Biennial Monitoring Reports to Regional Planning Commission.	- LEA - Project facility manager - Dept. of Public Works	Throughout fill operations and on an ongoing basis.	C#19 C#20 C#22 MP-Part X (A)(B)(6)(7)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
VISUAL (con't)				
(1) An effective tarping program, which at the discretion of the Director of Public Works and the LEA will provide for mandatory sale of tarps to violators and/or exclusion from the landfill of repeated violators.				
WATER CONSERVATION				
◦ As allowed by the regulatory agencies, the permittee will collect and treat any leachate on-site for reuse in landfill operations to reduce the demand for potable water.	Review and approval by responsible agencies.	- LEA - RWQCB	Throughout fill operations.	C#37(b)
◦ A dust suppression additive will be used to reduce the amount of water used for fugitive dust control.	Monitoring by Project facility manager.	- Project facility manager	Throughout fill operations.	C#37(c)
◦ Native and drought tolerant plant species will be used to revegetate the landfill site.	Retention of consulting horticulturalist/Registered Professional Forester and an independent qualified biologist to implement planting measures in accordance with the Revegetation Plan and the Closure and Postclosure Maintenance Plans.	- Project consulting horticulturalist/ Registered Professional Forester and an independent qualified biologist	Throughout fill operations and on an ongoing basis.	C#37(d)
FIRE SERVICE				
◦ The permittee will maintain brush clearance measures consistent with permit requirements of the County of Los Angeles municipal code.	Review and approval of development plans by Dept. of Forester and Fire Warden. Periodic inspections.	- Dept. of Forester and Fire Warden	Inspections throughout fill operations and on an ongoing basis.	C#18(l) C#31

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
FIRE SERVICE (con't)				
◦ The permittee will maintain and expand existing on-site fire response capabilities through use of heavy operating equipment and readily available fire extinguishing equipment. A 200-foot long, 1-1/2 inch diameter fire hose will be available on water trucks for fire fighting at the working area. In addition, earth moving equipment will be available for controlling fires by smothering fires with dirt. Access roads will be constructed and maintained around the working area of the landfill to provide emergency access for firefighting equipment.	Review and approval of development plans by Dept. of Forester and Fire Warden. Periodic inspections.	- Dept. of Forester and Fire Warden	Inspections throughout fill operations.	C#18(g)(l) C#31
◦ The landfill will comply with all applicable County codes and ordinances which delineated the requirements for fire access, water mains, fire flows and fire hydrants, specifically defined by the County Fire Department. New construction of water tanks, water mains and fire hydrants will be completed to meet the fire flow requirements of the Fire Department.	Review and approval of development plans.	- Dept. of Forester and Fire Warden	Prior to commencement of fill operations.	C#18(l) C#31 MP-Part X(A)
◦ All fuel storage tanks used on-site will be installed under permit with the County of Los Angeles Fire Marshal, and storage and containment facilities will be installed in accordance with Fire Department, RWQCB and other applicable regulations. Labeling and reporting of motor fuel storage will comply with provisions of Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986.	Issuance of fuel storage permit.	- County Fire Marshal - RWQCB	Prior to installation of storage tanks.	Proposition 65 C#32

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS				
◦ The landfill will be operated as a Class III nonhazardous landfill. The following types of waste will be considered unacceptable for disposal at the landfill: incinerator ash; sludge; radioactive waste material; hazardous waste; and infectious medical waste. The permittee will implement a comprehensive Waste Load Checking Program.	Maintenance of at least one LEA inspector at the landfill for inspection and enforcement activity.	- LEA	Throughout fill operations.	C#10(a) C#26 MP-Part III(A)(B)
◦ The Waste Load Checking Program to be implemented by the permittee will include: (1) Direct visual inspection; (2) Remote television monitors to inspect incoming roll-off type loads and open top vehicles; (3) Radiation detector devices; and (4) Sensors capable of detecting volatile organic compounds to prohibit the illegal dumping or disposal of liquids and hazardous wastes at the landfill. Additionally, the permittee will continue to conduct employee training programs on hazardous waste detection.	Implementation by permittee of comprehensive Waste Load Checking Program accepted by the LEA. Maintenance of at least one LEA inspector at the landfill for inspection and enforcement activity.	- LEA	Before opening the landfill and throughout fill operations.	C#10(a) C#26 MP-Part III(A)(B)
◦ Waste haulers disposing of drums at the landfill, shall have drums triple-rinsed with tops and bottoms removed.	Maintenance of at least one (1) LEA inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activities other than hazardous waste exclusion.	- LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS (con't)				
◦ A full-time LEA inspector will be assigned to inspect materials as they are disposed of at the working landfill face.	Maintenance of at least one (1) LEA inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activities other than hazardous waste exclusion.	- LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ Hazardous Materials Programs will be presented to landfill personnel during their pre-employment and during each employee's quarterly review period to address hazardous waste identification. Additionally a slide presentation entitled "Hazardous Waste Identification and Response," along with written handouts and informal discussions will be given to each new employee at the landfill.	Implementation by permittee of comprehensive Hazardous Materials Program accepted by the LEA.	- LEA - Project facility manager	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ Procedures for the disposal of hazardous waste at permitted disposal sites will be provided to waste haulers. Signage will be posted at convenient locations on-site to notify hazardous waste haulers that hazardous waste cannot be disposed of at the landfill and to inform them of the rules and regulations governing the disposal of hazardous waste at permitted sites.	Field inspections by the LEA.	- LEA	Throughout fill operations and on an ongoing basis.	C#26 MP-Part III(A)(B)
◦ The permittee will post a sign at the entry gate located on San Fernando Road which indicates the following: (1) The telephone number that individuals may call on a 24-hour basis to register complaints regarding landfill operations;	Field inspections by LEA.	- Project facility manager	Throughout fill operations and on an ongoing basis.	C#21

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
HAZARDOUS MATERIALS (con't) (2) The telephone number of the LEA and the hours when that number is attended; and (3) The telephone number of the enforcement offices of the SCAQMD and the hours when that number is attended.				
◦ A full-time LEA inspector will be employed on-site to provide inspection of waste materials as they are disposed of at the landfill. The permittee will compensate the LEA for any personnel, equipment and facility costs incurred in administering the SWFP for the landfill.	Maintenance of at least one (1) inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activity other than hazardous waste exclusion.	- LEA	Throughout fill operations.	MP-Part III (B)(C)
◦ If contract inspectors are used by the County, these individuals will be deemed by the LEA to be qualified by training and experience to carry out the assigned duties and will not have a conflict of interest with the permittee.	Maintenance of at least one (1) inspector, either a qualified employee of the LEA or a person employed under contract to the LEA for inspection and enforcement activity other than hazardous waste exclusion.	- LEA	Throughout fill operations.	MP-Part III(B)
◦ The permittee will fund not more than six hazardous waste roundups for the area surrounding the landfill, provided that the Board of Supervisors authorizes such roundups. At least fifty (50%) of the funding of each roundup will be provided by the County and/or other public agencies.	Review and approval of hazardous waste roundups by the Board of Supervisors and the County Sanitation Districts.	- County Sanitation Districts - LEA - Project facility manager	Throughout fill operations.	C#49

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
RECYCLING MEASURES				
◦ In accordance with the permittee's Conditional Use Permit and prior to the opening of the landfill, the permittee will enter into an agreement with the County which provides for the implementation of on-site waste diversion and recycling measures and participation in programs implemented in association with adopted County/City SRRE's prepared pursuant to Assembly Bill 939.	Formal agreement entered into by the County and permittee.	- LEA - Dept. of Regional Planning - County Counsel	Before the opening the landfill.	C#10(K) MP-Part II(A)(3) MP-Part X(B)(5)
◦ The permittee will not knowingly dispose of waste into the landfill which is required to be diverted or recycled. The permittee will maintain on-site waste diversion and recycling facilities consistent in scale and purpose with the provisions of the City and County Source Reduction and Recycling Elements, the County Integrated Waste Management Plan adopted pursuant to Division 30 of the Public Resources Code.	Implementation of recycling measures in accordance with City/County Source Reduction and Recycling Elements (SRRE): - Controlling and accounting for recyclable waste at the landfill consistent with City and County Waste; - Maximum utilization of landfill capacity; and - Waste diversion and recycling programs consistent with City and County waste management plans.	- LEA	Throughout fill operations.	PRC,Division 30 C#10(k)(m) MP-Part II(A)(3) MP-Part X(B)(4)(5)
EMPLOYEE SAFETY AND SITE SECURITY				
◦ The landfill operator shall implement an IIP program in compliance with CCR, Title 8, § 3203, designed to protect employees from work-related hazards associated with operation of the landfill site. Unsafe or unhealthful work conditions, practices, or procedures shall be immediately corrected by the landfill operator.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
EMPLOYEE SAFETY AND SITE SECURITY (Cont.)				
◦ Each supervisor or manager shall conduct regular periodic inspections to identify less-than-adequate or unsafe working conditions, improper or unsafe work practices, or procedures in their work areas. The maintenance supervisor shall be notified of needed repairs or corrective measures using a "safety inspection report" form. Additional inspections shall be accomplished whenever new processes, procedures, substances, or equipment are introduced into the workplace or when a supervisor becomes aware of a new, potential, or previously unrecognized hazard.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ Appropriate inspection checklists shall be developed, used, and maintained to accurately reflect various exposures in different work areas. Daily observation of the workplace environment by employees, supervisors, managers, and the safety director shall occur. Discrepancies shall be reported. Records of inspections, deficiencies, and corrective measures shall be maintained in the safety/maintenance offices.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
EMPLOYEE SAFETY AND SITE SECURITY (Cont.)				
◦ If a problem or discrepancy is identified, an inspection report shall be prepared. The report shall identify the priority assigned to each discrepancy, as follows: Priority One, resolve the problem immediately; Priority Two, resolve the problem by the end of the working day; Priority Three, resolve the problem within 48 to 72 hours; and Priority Four, resolve the problem within 1 week as soon as the part(s) and/or materials are available. Unsafe work practices shall be interrupted immediately by the observing supervisor. Appropriate training shall be implemented. If the unsafe practice continues, progressive discipline shall be employed.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ Communication of safety and health methods to employees shall include verbal communication with employees at quarterly safety meetings; small group meetings conducted by first-line supervisors with their respective employee groups that shall be weekly "tailgate," "toolbox," or operations and safety meetings; written safety and health issues posted on employee bulletin boards; safety posters; suggestion boxes for employees to anonymously utilize; and action by management to evaluate and implement the pertinent employee safety suggestions.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ Accident/injury reports, inspections, and findings, including corrections and training records, shall be kept for 3 years. The OSHA Log 200 shall be retained by the landfill operator for a period of 5 years. Medical records for those employees involved in handling of hazardous wastes shall be maintained for a period of 30 years after employment termination.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
EMPLOYEE SAFETY AND SITE SECURITY (Cont.)				
◦ First-aid kits shall be located in dispatch, maintenance, scale houses, and corporate administrative offices, in addition to all supervisor vehicles. These kits shall contain "Band-Aids," bandages, sprays, miscellaneous ointments, and minor treatment supplies. These supplies are intended for treatment of small or nonserious cuts, burns, scrapes, etc. Injuries requiring medical attention shall be treated at the Holy Cross Medical Center. This hospital shall also provide ambulance service.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ The landfill operator shall implement an emergency action plan in compliance with CCR, Title 8, § 3220. This plan shall designate emergency escape routes and procedures, rescue and medical duties, methods for reporting fires and other emergencies; and names of persons and departments to contact during an emergency.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ The landfill operator shall implement a fire prevention plan in compliance with CCR, Title 8, § 3221. Components of this written fire prevention plan shall include potential fire hazards and their proper handling and storage procedures; potential ignition sources (i.e., welding or smoking), their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
EMPLOYEE SAFETY AND SITE SECURITY (Cont.)				
◦ In compliance with CCR, Title 8, § 3314, lockout/ blockout procedures shall be implemented at the proposed project. Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged: if necessary, the moveable parts shall be mechanically blocked or locked out to prevent inadvertent movement during cleaning, servicing, or adjusting operations. If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the designated station manager or supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools or other methods to protect employees from injury. Prime movers, equipment, or power-driven machines equipped with lockable controls or readily adaptable to lockable controls shall be locked out or positively sealed in the "off" position during repair work and setting-up operations. The operator shall provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means to safely conduct repairs.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ Personal protective equipment shall be provided to all operations employees and will include hard hats, heavy gloves, ear plugs, dust masks, safety boots, goggles, and safety vests.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ The landfill operator shall comply with all applicable safety ordinances contained in the County Code.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
EMPLOYEE SAFETY AND SITE SECURITY (Cont.)				
◦ The landfill operator shall maintain perimeter fencing in and around the site in accordance with CCR, Title 14, § 17658 to discourage illegal entry to the landfill. Where existing topography conditions create an effective barrier, no perimeter fencing shall be installed. Entrance and access gates shall remain locked when the landfill facility is not in operation. All existing perimeter fencing shall be inspected on a routine basis by the landfill operator, and necessary repairs shall be made to ensure a continued deterrent for unauthorized entry to the project site. Additionally, the landfill operator shall maintain posted "no trespassing" signage at the exterior perimeter fencing nearest the project site entrance.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ All landfill equipment shall be properly maintained and operated to minimize the health and safety impacts on landfill personnel and the public. Standby equipment shall be made available during periods of vehicle maintenance or breakdown.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
RISK OF EXPLOSION				
◦ Onsite structures shall be continuously monitored for the presence of unsafe levels of methane gas.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ If necessary, the landfill operator shall install electrical (e.g., battery backup) combustible gas detectors in habitable structures. Employees shall be trained in all applicable safety requirements to prevent any upset conditions from occurring.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
RISK OF EXPLOSION (Cont.)				
◦ Risks associated with the gas collection and flaring system shall be mitigated through use of flexible piping, flame arrectors, sensors, and automatic shutoff controls. Numerous safety shutdown devices have been designed and installed into the flare station, including a telephone auto-dialer, to provide emergency notification. All gas extraction equipment, including gas condensate and propane tanks, shall be adequately secured to prevent damage during a seismic event. Inspections of the gas collection and flaring system shall be performed after ground shaking from an earthquake, and necessary action shall be taken to correct any potential problems.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded, subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction all excavation activities shall cease. The area will be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

FEIR MITIGATION MEASURE	MONITORING ACTION	RESPONSIBILITY	TIMING	REFERENCE
RISK OF EXPLOSION (Cont.)				
◦ A portable explosive gas detection device shall be utilized to determine whether the obstruction is a wellhead that may be leaking natural gas. If this is the case, all personnel shall be evacuated within a 500-foot radius and a representative from the California Department of Oil and Gas shall be notified. Excavation activities shall cease until further instruction from Department of Oil and Gas is received. If gas is not detected, a backhoe or similar type of equipment shall be brought in to further expose the obstruction. If necessary, proper abandonment procedures will be utilized following Department of Oil and Gas protocol.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	
◦ A portable explosive gas detection device shall be utilized in trenches and excavations to determine the presence of methane gases. If unsafe concentrations of gas exist, all employees would be immediately removed from the area of unsafe gas concentration. The safety monitor would be responsible for ensuring that appropriate worker safety equipment, as well as worker education and instruction is correctly implemented, to prevent the potential for methane gas explosions.	Monitoring and field inspections by the LEA.	- Project facility manager - LEA	Throughout fill operations.	

Appendix C18
SUNSHINE CANYON SURFACE WATER AND GROUNDWATER MONITORING DATA

STREAM STATION AND SPRINGS

1995 DATA
INORGANIC PARAMETERS AND VOC

1995 GROUNDWATER QUALITY DATA - INORGANIC PARAMETERS
STREAM STATION S-A
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[2]	4th Quarter[2]	REPORTABLE LIMIT
pH (laboratory)	pH	7.9	7.9	NA[3]	NA	
Conductivity	umhos/cm	3,070	3,330	NA	NA	1
Cation/Anion Ratio		40/41.5	51.2/42.2	NA	NA	
Total Dissolved Solids	mg/L	3,020	3,260	NA	NA	10
Alkalinity, as $CaCO_3$						
Total	mg/L	280	420	NA	NA	10
Bicarbonate	mg/L	280	400	NA	NA	10
Carbonate	mg/L	0	20	NA	NA	10
Hydroxide	mg/L	0	0	NA	NA	10
Chloride	mg/L	35	45	NA	NA	1
Sulfate	mg/L	1,720	1,630	NA	NA	1
Fluoride	mg/L	1.4	1	NA	NA	0.1
Nitrate, as N	mg/L	0.45	0.199	NA	NA	0.03
Total Organic Carbon	mg/L	17	18	NA	NA	1
Chemical Oxygen Demand	mg/L	37	52.8	NA	NA	10
Cyanide	mg/L	NA	NA	NA	NA	-
Hardness, total as $CaCO_3$	mg/L	960	1,900	NA	NA	5
Arsenic	mg/L	NA	NA	NA	NA	-
Barium	mg/L	NA	NA	NA	NA	-
Boron	mg/L	0.74	0.66	NA	NA	0.5
Cadmium	mg/L	NA	NA	NA	NA	-
Calcium	mg/L	356	435	NA	NA	0.5
Chromium	mg/L	NA	NA	NA	NA	-
Copper	mg/L	NA	NA	NA	NA	-
Iron	mg/L	2.03	2.59	NA	NA	0.1
Lead	mg/L	NA	NA	NA	NA	-
Magnesium	mg/L	177	237	NA	NA	0.5
Manganese	mg/L	2.5	4.65	NA	NA	0.02
Mercury	mg/L	NA	NA	NA	NA	-
Nickel	mg/L	NA	NA	NA	NA	-
Potassium	mg/L	11.8	15	NA	NA	1
Selenium	mg/L	NA	NA	NA	NA	-
Silver	mg/L	NA	NA	NA	NA	-
Sodium	mg/L	169	213	NA	NA	1
Total Organic Halogens	mg/L	0.02	0.07	NA	NA	0.01

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Insufficient surface water - samples were not collected from location S-A.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-A
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[3]	REPORTABLE LIMIT
Dilution Factor		1	1	NA	NA	
Bromodichloromethane	ug/L	ND[4]	ND	NA	NA	0.5
Bromoform; Tribromomethane	ug/L	ND	ND	NA	NA	1
Methyl bromide; Bromomethane	ug/L	ND	ND	NA	NA	1
Carbon tetrachloride	ug/L	ND	ND	NA	NA	0.5
Chlorobenzene	ug/L	ND	ND	NA	NA	0.5
Chloroethane; Ethyl chloride	ug/L	ND	ND	NA	NA	1
2-Chloroethylvinyl ether	ug/L	ND	ND	NA	NA	1
Chloroform; Trichloromethane	ug/L	ND	ND	NA	NA	0.5
Chloromethane; Methyl chloride	ug/L	ND	ND	NA	NA	1
Dibromochloromethane; Chlorodibromomethane	ug/L	1	ND	NA	NA	0.5
1,2-Dichlorobenzene; o-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
1,3-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
1,4-Dichlorobenzene; p-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
Dichlorodiflouromethane	ug/L	ND	ND	NA	NA	1
1,1-Dichloroethane; Ethylene chloride	ug/L	ND	ND	NA	NA	0.5
1,2-Dichloroethane; Ethylene dichloride	ug/L	ND	ND	NA	NA	0.5
1,1-Dichloroethene; Vinylidene chloride	ug/L	ND	ND	NA	NA	0.5
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ug/L	ND	ND	NA	NA	0.5
1,2-Dichloropropane	ug/L	ND	ND	NA	NA	0.5
cis-1,3-Dichloropropene	ug/L	ND	ND	NA	NA	0.5
trans-1,3-Dichloropropene	ug/L	ND	ND	NA	NA	0.5
Methylene chloride; Dichloromethane	ug/L	ND	1	NA	NA	1
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	NA	NA	0.5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ug/L	ND	ND	NA	NA	0.5
1,1,1-Trichloroethane; Methylchloroform	ug/L	ND	ND	NA	NA	0.5
1,1,2-Trichloroethane	ug/L	ND	ND	NA	NA	0.5

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-A during the third and fourth quarters since the stream was dry.

4) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-A
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[3]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Trichloroethylene; Trichloroethene	ug/L	ND[4]	ND	NA	NA	0.5
Trichlorofluoromethane; CFC-11	ug/L	ND	ND	NA	NA	1
Vinyl chloride	ug/L	ND	ND	NA	NA	1
Benzene	ug/L	ND	ND	NA	NA	0.5
Ethylbenzene	ug/L	ND	ND	NA	NA	0.5
Toluene	ug/L	ND	ND	NA	NA	0.5
Xylenes	ug/L	ND	ND	NA	NA	1.5
Surrogate Spike		–				
2-Chlorotoluene	% Rec	94	125			

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-A during the third and fourth quarters since the stream was dry.

4) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - INORGANIC PARAMETERS
STREAM STATION S-C
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
pH (laboratory)	pH	7.8	7.6	NA[5]	7.3	
Conductivity	umhos/cm	3,030	3,010	NA	3,840	1
Cation/Anion Ratio		38.6/40.5	44.9/37.9	NA	62.2/52.8	
Total Dissolved Solids	mg/L	2,910	2,910	NA	3,950	10
Alkalinity, as $CaCO_3$						
Total	mg/L	280	355	NA	920	10
Bicarbonate	mg/L	280	355	NA	920	10
Carbonate	mg/L	0	0	NA	0	10
Hydroxide	mg/L	0	0	NA	0	10
Chloride	mg/L	22.5	20	NA	85	1
Sulfate	mg/L	1,690	1,510	NA	1,690	1
Fluoride	mg/L	1.4	2	NA	1.5	0.1
Sulfide	mg/L	NA	NA	NA	ND(6)	0.1
Nitrate, as N	mg/L	0.51	0.135	NA	0.04	0.03
Total Organic Carbon	mg/L	15	13	NA	24	1
Chemical Oxygen Demand	mg/L	36	40.6	NA	64.3	10
Cyanide	mg/L	NA	NA	NA	ND	0.02
Hardness, total as $CaCO_3$	mg/L	1,740	1,900	NA	2,240	5
Arsenic	mg/L	NA	NA	NA	0.006	0.003
Barium	mg/L	NA	NA	NA	0	0.02
Boron	mg/L	0.63	0.6	NA	0.81	0.5
Cadmium	mg/L	NA	NA	NA	0.01	0.01
Calcium	mg/L	344	385	NA	505	0.5
Chromium	mg/L	NA	NA	NA	0.05	0.02
Copper	mg/L	NA	NA	NA	0.03	0.02
Iron	mg/L	1.1	1.56	NA	8.11	0.1
Lead	mg/L	NA	NA	NA	ND	0.1
Magnesium	mg/L	169	208	NA	267	0.5
Manganese	mg/L	1.66	2.71	NA	4.82	0.02
Mercury	mg/L	NA	NA	NA	ND	0.0005
Nickel	mg/L	NA	NA	NA	0.09	0.05
Potassium	mg/L	10.4	12	NA	23.8	1
Selenium	mg/L	NA	NA	NA	ND	0.01
Silver	mg/L	NA	NA	NA	0.03	0.02
Sodium	mg/L	167	185	NA	323	1
Zinc	mg/L	NA	NA	NA	0.03	0.02
Total Organic Halogens	mg/L	0.02	0.06	NA	ND[6]	0.01

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Stream Station S-C during the third quarter since the stream was dry.

4) Samples collected from 6 November to 10 November 1995.

5) NA= Insufficient surface water - samples were not collected from location S-C during the 3rd quarter of 1995.

6) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-C
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Bromodichloromethane	ug/L	ND[5]	ND	NA	ND	0.5
Bromoform; Tribromomethane	ug/L	ND	ND	NA	ND	1
Methyl bromide; Bromomethane	ug/L	ND	ND	NA	ND	1
Carbon tetrachloride	ug/L	ND	ND	NA	ND	0.5
Chlorobenzene	ug/L	ND	ND	NA	ND	0.5
Chloroethane; Ethyl chloride	ug/L	ND	ND	NA	ND	1
2-Chloroethylvinyl ether	ug/L	ND	ND	NA	ND	1
Chloroform; Trichloromethane	ug/L	ND	ND	NA	ND	0.5
Chloromethane; Methyl chloride	ug/L	ND	ND	NA	ND	1
Dibromochloromethane; Chlorodibromomethane	ug/L	ND	ND	NA	ND	0.5
1,2-Dichlorobenzene; o-Dichlorobenzene	ug/L	ND	ND	NA	ND	0.5
1,3-Dichlorobenzene	ug/L	ND	ND	NA	ND	0.5
1,4-Dichlorobenzene; p-Dichlorobenzene	ug/L	ND	ND	NA	ND	0.5
Dichlorodiflouromethane	ug/L	ND	ND	NA	ND	1
1,1-Dichloroethane; Ethylene chloride	ug/L	ND	ND	NA	ND	0.5
1,2-Dichloroethane; Ethylene dichloride	ug/L	ND	ND	NA	ND	0.5
1,1-Dichloroethene; Vinylidene chloride	ug/L	ND	ND	NA	ND	0.5
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ug/L	ND	ND	NA	ND	0.5
1,2-Dichloropropane	ug/L	ND	ND	NA	ND	0.5
cis-1,3-Dichloropropene	ug/L	ND	ND	NA	ND	0.5
trans-1,3-Dichloropropene	ug/L	ND	ND	NA	ND	0.5
Methylene chloride; Dichloromethane	ug/L	ND	ND	NA	ND	1
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	NA	ND	0.5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ug/L	ND	ND	NA	ND	0.5
1,1,1-Trichloroethane; Methylchloroform	ug/L	ND	ND	NA	ND	0.5
	ug/L	ND	ND	NA	ND	0.5

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-C during the third quarter since the stream was dry.

4) Samples collected from 6 November to 10 November 1995.

5) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-C
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Trichloroethylene; Trichloroethene	ug/L	ND[5]	ND	NA	ND	.0.5
Trichlorofluoromethane; CFC-11	ug/L	ND	ND	NA	ND	1
Vinyl chloride	ug/L	ND	ND	NA	ND	1
Benzene	ug/L	ND	ND	NA	ND	0.5
Ethylbenzene	ug/L	ND	ND	NA	ND	0.5
Toluene	ug/L	ND	ND	NA	ND	0.5
Xylenes	ug/L	ND	ND	NA	ND	1.5
Surrogate Spike		-				
2-Chlorotoluene	% Rec	80	123		82	

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-C during the third quarter since the stream was dry.

4) Samples collected from 6 November to 10 November 1995.

5) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-D
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[3]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Bromodichloromethane	ug/L	ND[4]	ND	NA	NA	0.5
Bromoform; Tribromomethane	ug/L	ND	ND	NA	NA	1
Methyl bromide; Bromomethane	ug/L	ND	ND	NA	NA	1
Carbon tetrachloride	ug/L	ND	ND	NA	NA	0.5
Chlorobenzene	ug/L	ND	ND	NA	NA	0.5
Chloroethane; Ethyl chloride	ug/L	ND	ND	NA	NA	1
2-Chloroethylvinyl ether	ug/L	ND	ND	NA	NA	1
Chloroform; Trichloromethane	ug/L	ND	ND	NA	NA	0.5
Chloromethane; Methyl chloride	ug/L	ND	ND	NA	NA	1
Dibromochloromethane; Chlorodibromomethane	ug/L	ND	ND	NA	NA	0.5
1,2-Dichlorobenzene; o-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
1,3-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
1,4-Dichlorobenzene; p-Dichlorobenzene	ug/L	ND	ND	NA	NA	0.5
Dichlorodiflouromethane	ug/L	ND	ND	NA	NA	1
1,1-Dichloroethane; Ethylene chloride	ug/L	ND	ND	NA	NA	0.5
1,2-Dichloroethane; Ethylene dichloride	ug/L	ND	ND	NA	NA	0.5
1,1-Dichloroethene; Vinylidene chloride	ug/L	ND	ND	NA	NA	0.5
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ug/L	ND	ND	NA	NA	0.5
1,2-Dichloropropane	ug/L	ND	ND	NA	NA	0.5
cis-1,3-Dichloropropene	ug/L	ND	ND	NA	NA	0.5
trans-1,3-Dichloropropene	ug/L	ND	ND	NA	NA	0.5
Methylene chloride; Dichloromethane	ug/L	ND	ND	NA	NA	1
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	NA	NA	0.5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ug/L	ND	ND	NA	NA	0.5
1,1,1-Trichloroethane; Methylchloroform	ug/L	ND	ND	NA	NA	0.5
1,1,2-Trichloroethane	ug/L	ND	ND	NA	NA	0.5

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-D during the third and fourth quarters since the stream was dry.

4) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
STREAM STATION S-D
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[3]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Trichloroethylene; Trichloroethene	ug/L	ND[4]	ND	ND	NA	.0.5
Trichlorofluoromethane; CFC-11	ug/L	ND	ND	NA	NA	1
Vinyl chloride	ug/L	ND	ND	NA	NA	1
Benzene	ug/L	ND	ND	NA	NA	0.5
Ethylbenzene	ug/L	ND	ND	NA	NA	0.5
Toluene	ug/L	ND	ND	NA	NA	0.5
Xylenes	ug/L	ND	ND	NA	NA	1.5
Surrogate Spike		–				
2-Chlorotoluene	% Rec	93	117			

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Surface water samples were not collected from Station S-D during the third and fourth quarters since the stream was dry.

4) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - INORGANIC PARAMETERS
SPRING S-3
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
pH (laboratory)	pH	8.2	8.2	7.9	7.9	
Conductivity	umhos/cm	2,560	2,430	3,050	2,730	1
Cation/Anion Ratio		28.1/33.1	32.6/30.5	36.4/385	45.2/36.4	
Total Dissolved Solids	mg/L	2,740	2,140	2,810	2,810	10
Alkalinity, as $CaCO_3$						
Total	mg/L	330	285	340	460	10
Bicarbonate	mg/L	280	265	320	460	10
Carbonate	mg/L	50	20	20	0	10
Hydroxide	mg/L	0	0	0	0	10
Chloride	mg/L	17	14	21	22	1
Sulfate	mg/L	1,300	1,220	1,550	1,350	1
Fluoride	mg/L	1.6	1	1.6	1.8	.4/.1/.1/.1[5]
Sulfide	mg/L	NA[6]	NA	NA	ND[7]	0.1
Nitrate, as N	mg/L	0.4	0.17	0.06	0.3	.1/.03/.03/.03
Total Organic Carbon	mg/L	9.7	8	14	8	.5/1/1/1
Chemical Oxygen Demand	mg/L	18	83.7	35.7	21.5	10
Cyanide	mg/L	NA	NA	NA	ND	0.02
Hardness, total as $CaCO_3$	mg/L	1,380	1,400	1,900	1,620	5
Arsenic	mg/L	NA	NA	NA	0.005	0.003
Barium	mg/L	NA	NA	NA	0.030	0.02
Boron	mg/L	0.31	0.39	0.41	ND[7]	0.5/.5/.01/.5
Cadmium	mg/L	NA	NA	NA	ND	0.01
Calcium	mg/L	242	280	340	358	0.5/.5/.1/.5
Chromium	mg/L	NA	NA	NA	0.02	0.02
Copper	mg/L	NA	NA	NA	ND	0.02
Iron	mg/L	1.18	2.11	0.17	1.57	.1/.1/.01/.1
Lead	mg/L	NA	NA	NA	ND	0.1
Magnesium	mg/L	124	150	190	209	.5/.5/.05/.5
Manganese	mg/L	1.15	1.2	0.12	1.77	.02/.02/.005/.02
Mercury	mg/L	NA	NA	NA	ND	0.0005
Nickel	mg/L	NA	NA	NA	ND	0.05
Potassium	mg/L	8.34	11.7	15	10.6	1/1/.1/.1
Selenium	mg/L	NA	NA	NA	ND	0.01
Silver	mg/L	NA	NA	NA	ND	0.02
Sodium	mg/L	128	134	170	221	1
Zinc	mg/L	NA	NA	NA	ND	0.02
Total Organic Halogens	mg/L	ND	0.16	0.01	0.01	0.01

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Samples collected from 7 August to 11 August 1995.

4) Samples collected from 6 November to 10 November 1995.

5) NA=Analyses not conducted during this quarter.

6) The reportable limits for each quarter are presented separated by slash marks.

7) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
SPRING S-3
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Bromodichloromethane	ug/L	ND[5]	ND	ND	ND	0.5
Bromoform; Tribromomethane	ug/L	ND	ND	ND	ND	1
Methyl bromide; Bromomethane	ug/L	ND	ND	ND	ND	1
Carbon tetrachloride	ug/L	ND	ND	ND	ND	0.5
Chlorobenzene	ug/L	ND	ND	ND	ND	0.5
Chloroethane; Ethyl chloride	ug/L	ND	ND	ND	ND	1
2-Chloroethylvinyl ether	ug/L	ND	ND	ND	ND	1
Chloroform; Trichloromethane	ug/L	ND	ND	ND	ND	0.5
Chloromethane; Methyl chloride	ug/L	ND	ND	ND	ND	1
Dibromochloromethane; Chlorodibromomethane	ug/L	ND	ND	ND	ND	0.5
1,2-Dichlorobenzene; o-Dichlorobenzene	ug/L	ND	ND	ND	ND	0.5
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	0.5
1,4-Dichlorobenzene; p-Dichlorobenzene	ug/L	ND	ND	ND	ND	0.5
Dichlorodiflouromethane	ug/L	ND	ND	ND	ND	1
1,1-Dichloroethane; Ethylene chloride	ug/L	ND	ND	ND	ND	0.5
1,2-Dichloroethane; Ethylene dichloride	ug/L	ND	ND	ND	ND	0.5
1,1-Dichloroethene; Vinylidene chloride	ug/L	ND	ND	ND	ND	0.5
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	0.5
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	0.5
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	0.5
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	0.5
Methylene chloride; Dichloromethane	ug/L	1.9	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	0.5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ug/L	ND	ND	ND	ND	0.5
1,1,1-Trichloroethane; Methylchloroform	ug/L	ND	ND	ND	ND	0.5
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	0.5

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Samples collected from 7 August to 11 August 1995.

4) Samples collected from 6 November to 10 November 1995.

5) ND=Compound not detected in concentration above Reportable Limit.

1995 GROUNDWATER QUALITY DATA - VOLATILE ORGANIC COMPOUNDS
SPRING S-3
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(ANNUAL REPORT 1995)

COMMON NAME	UNITS	1st Quarter[1]	2nd Quarter[2]	3rd Quarter[3]	4th Quarter[4]	REPORTABLE LIMIT
Dilution Factor		1	1	1	1	
Trichloroethylene; Trichloroethene	ug/L	ND[5]	ND	ND	ND	0.5
Trichlorofluoromethane; CFC-11	ug/L	ND	ND	ND	ND	1
Vinyl chloride	ug/L	ND	ND	ND	ND	1
Benzene	ug/L	ND	ND	ND	ND	0.5
Ethylbenzene	ug/L	ND	ND	ND	ND	0.5
Toluene	ug/L	ND	ND	ND	ND	0.5
Xylenes	ug/L	ND	ND	ND	ND	1.5
Surrogate Spike		-				
2-Chlorotoluene	% Rec	90	102	115	104	

1) Samples collected from 16 February to 16 March 1995.

2) Samples collected from 8 May to 15 May 1995.

3) Samples collected from 7 August to 11 August 1995.

4) Samples collected from 6 November to 10 November 1995.

5) ND=Compound not detected in concentration above Reportable Limit.

STREAM STATION AND SPRINGS

FIRST QUARTER 1996

GROUNDWATER QUALITY DATA
LEACHATE RECOVERY WELLS, SPRING, SURFACE STREAMS, AND LYSIMETERS [1,2]
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(FIRST QUARTER 1996)[3]

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-3	S-A	S-C	S-D	REPORTABLE LIMIT
INORGANIC PARAMETERS									
pH (laboratory)	pH	6.9	7.4	NA[4]	NA	7.7	7.8	6.2	
Conductivity	umhos/cm	6,060	8,260	NA	NA	3,420	3,310	2,580	1
Cation/Anion Ratio	mg/L	59.3/59	85.5/85.6	NA	NA	56.3/48.4	48.6/53.9	34.7/33	
Total Dissolved Solids	mg/L	3,360	5,740	NA	NA	3,350	3,102	2,400	10
Alkalinity, as $CaCO_3$									
Total	mg/L	2,160	2,900	NA	NA	320	610	4	10
Bicarbonate	mg/L	2,160	2,900	NA	NA	320	610	4	10
Carbonate	mg/L	0	0	NA	NA	0	0	0	10
Hydroxide	mg/L	0	0	NA	NA	0	0	0	10
Chloride	mg/L	800	1,350	NA	NA	40	19	12	1
Sulfate	mg/L	51.4	ND[5]	NA	NA	2,010	2,080	1,560	1
Fluoride	mg/L	0.66	0.95	NA	NA	1.3	1	1.6	0.1

NOTES:

(1) Surface Stream S-3 was not accessible during the first quarter of 1996.

(2) Lysimeters LY-1, LY-3, LY-4, and LY-5 were dry and not sampled. Lysimeter LY-2 was damaged and not sampled.

(3) Samples Collected from 26 February to 7 March 1996.

(4) NA = Insufficient groundwater was recovered to perform this analysis.

(5) ND = Compound not detected in concentration above Reportable Limit.

GROUNDWATER QUALITY DATA
LEACHATE RECOVERY WELLS, SPRING, SURFACE STREAMS, AND LYSIMETERS [1,2]
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(FIRST QUARTER 1996)[3]

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-3	S-A	S-C	S-D	REPORTABLE LIMIT
INORGANIC PARAMETERS (cont'd)									
Nitrate, as N	mg/L	ND[5]	ND	NA[4]	NA	0.77	0.96	1.26	0.03
Total Organic Carbon	mg/L	230	650	NA	NA	16	14	6	1
Chemical Oxygen Demand	mg/L	752	2,150	NA	NA	196	90.3	ND	10
Hardness, total as $CaCO_3$	mg/L	1,380	900	NA	NA	2,130	1,900	1,600	5
Boron	mg/L	2.31	8.3	NA	NA	0.71	0.67	ND	0.01
Calcium	mg/L	238	156	NA	NA	476	419	259	0.1
Iron	mg/L	4.9	3.39	NA	NA	312	128	4.49	0.01
Magnesium	mg/L	227	126	NA	NA	264	216	213	0.05
Manganese	mg/L	0.88	0.36	NA	NA	5.57	2.55	4.35	0.005
Potassium	mg/L	182	333	NA	NA	47.9	27.5	6.35	0.05
Sodium	mg/L	547	1,350	NA	NA	214	204	87.8	0.1
Total Organic Halogens	mg/L	0.73	0.52	NA	NA	ND	ND	0.01	0.01

NOTES:

(1) Surface Stream S-3 was not accessible during the first quarter of 1996.

(2) Lysimeters LY-1, LY-3, LY-4, and LY-5 were dry and not sampled. Lysimeter LY-2 was damaged and not sampled.

(3) Samples Collected from 26 February to 7 March 1996.

(4) NA = Insufficient groundwater was recovered to perform this analysis.

(5) ND = Compound not detected in concentration above Reportable Limit.

GROUNDWATER QUALITY DATA
LEACHATE RECOVERY WELLS, SPRING, SURFACE STREAMS, AND LYSIMETERS [1,2]
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(FIRST QUARTER 1996)[3]

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-3	S-A	S-C	S-D	REPORTABLE LIMIT
VOLATILE ORGANIC COMPOUNDS									
Dilution Factor		1	5	5	1	1	1	1	
Bromodichloromethane	ug/L	ND[5]	ND	ND	NA[4]	ND	ND	ND	0.5 (2)[6]
Bromoform; Tribromomethane	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
Methyl bromide; Bromomethane	ug/L	NA	ND	ND	NA	ND	ND	ND	1 (5)
Carbon tetrachloride	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
Chlorobenzene	ug/L	16	ND	4.5	NA	ND	ND	ND	0.5 (2)
Chloroethane; Ethyl chloride	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
2-Chloroethylvinyl ether	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
Chloroform; Trichloromethane	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
Methyl chloride; Chloromethane	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
Dibromochloromethane; Chlorodibromomethane	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
o-Dichlorobenzene; 1,2-Dichlorobenzene	ug/L	6	5.9	4.6	NA	ND	ND	ND	0.5 (2)

NOTES:

(1) Surface Stream S-3 was not accessible during the first quarter of 1996.

(2) Lysimeters LY-1, LY-3, LY-4, and LY-5 were dry and not sampled. Lysimeter LY-2 was damaged and not sampled.

(3) Samples Collected from 26 February to 7 March 1996.

(4) NA = Insufficient groundwater was recovered to perform this analysis.

(5) ND = Compound not detected in concentration above Reportable Limit.

(6) The reportable limits for LR-3 and LR-4 are indicated in parantheses.

GROUNDWATER QUALITY DATA
LEACHATE RECOVERY WELLS, SPRING, SURFACE STREAMS, AND LYSIMETERS [1,2]
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(FIRST QUARTER 1996)[3]

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-3	S-A	S-C	S-D	REPORTABLE LIMIT
VOLATILE ORGANIC COMPOUNDS (cont'd)									
Dilution Factor		1	1	5	1	1	1	1	
1,3-Dichlorobenzene	ug/L	ND[5]	5.9	ND	NA[4]	ND	ND	ND	0.5 (2)[6]
p-Dichlorobenzene; 1,4-Dichlorobenzene	ug/L	12	5.3	12	NA	ND	ND	ND	0.5 (2)
Dichlorodiflouromethane	ug/L	ND	17	ND	NA	ND	ND	ND	1 (5)
1,1-Dichloroethane; Ethylene chloride	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
1,2-Dichloroethane; Ethylene dichloride	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
1,2-Dichloropropane	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
Methylene chloride; Dichloromethane	ug/L	ND	13	43	NA	ND	ND	ND	1 (5)
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)

NOTES:

(1) Surface Stream S-3 was not accessible during the first quarter of 1996.

(2) Lysimeters LY-1, LY-3, LY-4, and LY-5 were dry and not sampled. Lysimeter LY-2 was damaged and not sampled.

(3) Samples Collected from 26 February to 7 March 1996.

(4) NA = Insufficient groundwater was recovered to perform this analysis.

(5) ND = Compound not detected in concentration above Reportable Limit.

(6) The reportable limits for LR-3 and LR-4 are indicated in parantheses.

GROUNDWATER QUALITY DATA
LEACHATE RECOVERY WELLS, SPRING, SURFACE STREAMS, AND LYSIMETERS [1,2]
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(FIRST QUARTER 1996)[3]

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-3	S-A	S-C	S-D	REPORTABLE LIMIT
VOLATILE ORGANIC COMPOUNDS (cont'd)									
Dilution Factor		1	1	5	1	1	1	1	
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ug/L	ND[5]	ND	ND	NA[4]	ND	ND	ND	0.5 (2)[6]
1,1,1-Trichloroethane; Methylchloroform	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
1,1,2-Trichloroethane	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
Trichloroethylene; Trichloroethene	ug/L	ND	ND	ND	NA	ND	ND	ND	0.5 (2)
Trichlorofluoromethane; CFC-11	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
Vinyl chloride	ug/L	ND	ND	ND	NA	ND	ND	ND	1 (5)
Benzene	ug/L	3.7	2.7	3.5	NA	ND	ND	ND	0.5 (2)
Ethylbenzene	ug/L	30	8.8	27	NA	ND	ND	ND	0.5 (2)
Toluene	ug/L	0.5	ND	6	NA	ND	ND	ND	0.5 (2)
Xylenes	ug/L	2.2	5.3	22	NA	ND	ND	ND	1.5 (8)
SURROGATE SPIKE									
2-Chlorotoluene	% Rec.	101	83	91		99	109	80	

STREAM STATION AND SPRINGS

SECOND QUARTER 1996

GROUNDWATER QUALITY DATA
LEACHATE MONITORING WELLS AND SURFACE WATER STATIONS
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(SECOND QUARTER, 1996)

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-A	REPORTABLE LIMIT
INORGANIC PARAMETERS						
pH (laboratory)	pH	6.9	7.3	NA[1]	7.6	1
Conductivity	umhos/cm	4830	6040	NA	3200	1
Cation/Anion Ratio	mg/L	55.1/68.6	77.7/85.8	NA	55/58.6	
Total Dissolved Solids	mg/L	3470	6070	NA	4130	10
Alkalinity, as CaCO3						
Total	mg/L	2300	2700	NA	590	10
Bicarbonate	mg/L	2300	2700	NA	590	10
Carbonate	mg/L	0	0	NA	0	10
Hydroxide	mg/L	0	0	NA	0	10
Chloride	mg/L	1050	1450	NA	145	1
Sulfate	mg/L	61.7	30	NA	2150	5
Fluoride	mg/L	0.6	0.94	NA	1.6	0.1
Nitrate, as N	mg/L	ND[2]	ND	NA	0.35	0.03
Total Organic Carbon	mg/L	170	660	NA	35	1
Chemical Oxygen Demand	mg/L	900	2080	NA	102	10
Hardness, total as CaCO3	mg/L	1400	780	NA	2120	5
Boron	mg/L	2.14	7.54	NA	0.78	0.5
Calcium	mg/L	218	131	NA	434	0.5
Iron	mg/L	2.54	4.63	NA	23	0.1
Magnesium	mg/L	217	112	NA	255	0.5
Manganese	mg/L	0.89	0.32	NA	5.53	0.02
Potassium	mg/L	170	309	NA	21.6	1
Sodium	mg/L	500	1240	NA	264	1
Total Organic Halogens	mg/L	0.33	0.23	NA	0.06	0.01

GROUNDWATER QUALITY DATA
LEACHATE MONITORING WELLS AND SURFACE WATER STATIONS
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(SECOND QUARTER, 1996)

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-A	REPORTABLE LIMIT
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor	1	1	1	1	1	1
Bromodichloromethane	mg/L	ND	ND	ND	ND	0.5
Bromoform	mg/L	ND	ND	ND	ND	1
Methyl bromide	mg/L	ND	ND	ND	ND	1
Carbon tetrachloride	mg/L	ND	ND	ND	ND	0.5
Chlorobenzene	mg/L	4.3	2.2	4.4	ND	0.5
Chloroethane	mg/L	ND	ND	ND	ND	1
2-Chloroethylvinyl ether	mg/L	ND	ND	ND	ND	1
Chloroform; Trichloromethane	mg/L	ND	ND	ND	ND	0.5
Chloromethane	mg/L	ND	ND	ND	ND	1
Dibromochloromethane	mg/L	ND	ND	ND	ND	0.5
1,2-Dichlorobenzene	mg/L	7.3	3.9	7.7	ND	0.5
1,3-Dichlorobenzene	mg/L	ND	ND	ND	ND	0.5
1,4-Dichlorobenzene	mg/L	13	14	14.4	ND	0.5
Dichlorodiflouromethane	mg/L	ND	ND	ND	ND	1
1,1-Dichloroethane	mg/L	0.6	ND	0.6	ND	0.5
1,2-Dichloroethane	mg/L	1.6	ND	1.7	ND	0.5
1,1-Dichloroethene	mg/L	ND	ND	ND	ND	0.5
trans-1,2-Dichloroethene	mg/L	ND	ND	ND	ND	0.5

GROUNDWATER QUALITY DATA
LEACHATE MONITORING WELLS AND SURFACE WATER STATIONS
SUNSHINE CANYON LANDFILL
SYLMAR, CALIFORNIA
(SECOND QUARTER, 1996)

COMMON NAME	UNITS	LR-2	LR-3	LR-4	S-A	REPORTABLE LIMIT
VOLATILE ORGANIC COMPOUNDS (continued)						
Dilution Factor	1	1	1	1	1	1
1,2-Dichloropropane	mg/L	0.8	ND	0.9	ND	0.5
cis-1,3-Dichloropropene	mg/L	ND	ND	ND	ND	0.5
trans-1,3-Dichloropropene	mg/L	ND	ND	ND	ND	0.5
Methylene Chloride	mg/L	ND	ND	ND	ND	1
1,1,2,2-Tetrachloroethane	mg/L	ND	ND	ND	ND	0.5
Tetrachloroethene	mg/L	ND	ND	ND	ND	0.5
1,1,1-Trichloroethane	mg/L	ND	ND	ND	ND	0.5
1,1,2-Trichloroethane	mg/L	ND	ND	ND	ND	0.5
Trichloroethene	mg/L	ND	ND	ND	ND	0.5
Trichlorofluoromethane	mg/L	ND	ND	ND	ND	1
Vinyl chloride	mg/L	4.4	ND	4.4	ND	1
Benzene	mg/L	3.4	2.3	3.1	ND	0.5
Ethylbenzene	mg/L	26	3	26	ND	0.5
Toluene	mg/L	6.8	0.6	6.8	ND	0.5
Xylenes	mg/L	22	5	22	ND	1.5
SURROGATE SPIKE						
2-Chlorotoluene	% Rec	94	92	95	98	

NOTES:

(1) This compound was not tested for.

(2) ND = The concentration of this compound was below reportable limits

SUBDRAINS

APPENDIX II BASELINE SAMPLING
AUGUST 1996

NATIONAL ENVIRONMENTAL TESTING, INC.

Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6591
Fax: (818) 567-6477

DOHS Certificate Number: 1192
LACSD Lab I.D. Number: 10158

08/22/1996

Les Sakoda
Browning-Ferris Industries
c/o Geosyntec
14747 San Fernando Road
Sylmar, CA 91342

Client Ref: Sunshine Canyon Landfill
Date Received: 08/02/1996

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Rick Schrynemeeckers
Division Manager

KB:rm
Attachments:
Analytical Reports
Chain of Custody Document

Client Net Acct No: 5052
NET Job No: 96.01336

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain A
Lab No. : 96379
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	6.5	pH units	1.0
Conductivity	120.1	1830	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2,530	mg/L	10
Cation/Anion Ratio		34.2/37.8		
Alkalinity (as CaCO3)				
Total	310.1	375	mg/L	10
Bicarbonate	310.1	345	mg/L	10
Carbonate	310.1	30	mg/L	10
Hydroxide	310.1	0	mg/L	10
Chloride	325.3	25	mg/L	1.0
Sulfate	375.4	1480	mg/L	5.0
Fluoride	340.2	1.2	mg/L	0.10
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	1.17	mg/L	0.03
Total organic halogens (TOX)	9020	ND	mg/L	0.01
Total Organic Carbon	415.1	4	mg/L	1.0
Chemical Oxygen Demand	410.4	43.2	mg/L	10
Cyanide (Total)	335.2	ND	mg/L	0.05
Hardness (Total, as CaCO3)	130.2	1140	mg/L	5.0
ICP METALS		--		
Antimony (ICP)	6010	ND	mg/L	0.20
Antimony (ICP, Dissolved)	6010	ND	mg/L	0.20
Arsenic (Hydride)	7061/7062	ND	mg/L	0.003
Arsenic (Hydride,Dissolved)	7061/7062	ND	mg/L	0.003
Barium (ICP)	6010	0.04	mg/L	0.02
Barium (ICP, Dissolved)	6010	0.05	mg/L	0.02
Beryllium (ICP)	6010	ND	mg/L	0.02
Beryllium (ICP, Dissolved)	6010	ND	mg/L	0.02
Boron (ICP)	6010	ND	mg/L	0.50
Cadmium (ICP)	6010	ND	mg/L	0.01
Cadmium (ICP, Dissolved)	6010	ND	mg/L	0.01
Calcium (ICP)	6010	243	mg/L	0.50
Chromium (ICP)	6010	ND	mg/L	0.02
Chromium (ICP, Dissolved)	6010	0.03	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.05
Cobalt (ICP, Dissolved)	6010	ND	mg/L	0.05
Copper (ICP)	6010	ND	mg/L	0.02
Copper (ICP, Dissolved)	6010	0.03	mg/L	0.02
Iron (ICP)	6010	0.14	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Lead (ICP, Dissolved)	6010	ND	mg/L	0.10
Magnesium (ICP)	6010	151	mg/L	0.50
Manganese (ICP)	6010	0.85	mg/L	0.02
Mercury (CVAA)	7470	ND	mg/L	0.0002
Mercury (CVAA,Dissolved)	7470	ND	mg/L	0.0002
Nickel (ICP)	6010	0.06	mg/L	0.05
Nickel (ICP, Dissolved)	6010	0.07	mg/L	0.05
Potassium (ICP)	6010	9.04	mg/L	1.00

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain A
Lab No. : 96379
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Selenium (Hydride)	270.3	ND	mg/L	0.01
Selenium (Hydride, Dissolved)	270.3	ND	mg/L	0.01
Silver (ICP)	6010	ND	mg/L	0.02
Silver (ICP, Dissolved)	6010	ND	mg/L	0.02
Sodium (ICP)	6010	212	mg/L	1.00
Thallium (ICP)	6010	ND	mg/L	0.25
Thallium (ICP, Dissolved)	6010	ND	mg/L	0.25
Tin (ICP)	6010	ND	mg/L	0.20
Tin (ICP, Dissolved)	6010	ND	mg/L	0.20
Vanadium (ICP)	6010	ND	mg/L	0.05
Vanadium (ICP, Dissolved)	6010	ND	mg/L	0.05
Zinc (ICP)	6010	ND	mg/L	0.02
Zinc (ICP, Dissolved)	6010	0.04	mg/L	0.02
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		08-08-96		
DATE ANALYZED		08-14-96		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.020
alpha-BHC	8080	ND	ug/L	0.010
beta-BHC	8080	ND	ug/L	0.010
delta-BHC	8080	ND	ug/L	0.010
gamma-BHC (Lindane)	8080	ND	ug/L	0.010
Chlordane	8080	ND	ug/L	0.20
4,4'-DDD	8080	ND	ug/L	0.050
4,4'-DDE	8080	ND	ug/L	0.050
4,4'-DDT	8080	ND	ug/L	0.050
Diallate	8080	ND	ug/L	0.10
Dieldrin	8080	ND	ug/L	0.050
Endosulfan I	8080	ND	ug/L	0.050
Endosulfan II	8080	ND	ug/L	0.050
Endosulfan sulfate	8080	ND	ug/L	0.050
Endrin	8080	ND	ug/L	0.050
Endrin aldehyde	8080	ND	ug/L	0.050
Heptachlor	8080	ND	ug/L	0.050
Heptachlor epoxide	8080	ND	ug/L	0.050
Isodrin	8080	ND	ug/L	0.050
Methoxychlor	8080	ND	ug/L	0.10
Kepone	8080	ND	ug/L	0.10
Toxaphene	8080	ND	ug/L	1.0
Pronamid	8080	ND	ug/L	0.050
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	0.50
Aroclor 1221	8080	ND	ug/L	1.0
Aroclor 1232	8080	ND	ug/L	0.50
Aroclor 1242	8080	ND	ug/L	0.50
Aroclor 1248	8080	ND	ug/L	0.50
Aroclor 1254	8080	ND	ug/L	0.50
Aroclor 1260	8080	ND	ug/L	0.50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain A Date Reported: 08/22/1996
Lab No. : 96379 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Surrogate Spike	8080	--		
Tetrachlorometaxylene	8080	47	% Rec.	
Decachlorobiphenyl	8080	84	% Rec.	
METHOD 8140 (GC,Liquid)				
DATE EXTRACTED		08-08-96		
DATE ANALYZED		08-15-96		
Reporting Limit Multiplier		1		
Disulfoton	8140	ND	ug/L	0.40
Famphur	8140	ND	ug/L	0.40
Parathion	8140	ND	ug/L	0.40
Methyl Parathion	8140	ND	ug/L	0.40
Phorate	8140	ND	ug/L	0.40
Thionazin	8140	ND	ug/L	0.40
SURROGATE RESULTS	8140	--		
Triphenylphosphate (Surr.)	8140	116	% Rec.	
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		08-09-96		
DATE ANALYZED		08-13-96		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	0.20
2,4,5-T	8150	ND	ug/L	0.10
2,4,5-TP	8150	ND	ug/L	0.10
Dinoseb	8150	ND	ug/L	0.50
SURROGATE RESULTS	8150	--		
2,4-DCPAA (Surr.)	8150	93	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain A Date Reported: 08/22/1996
Lab No. : 96379 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain A Date Reported: 08/22/1996
Lab No. : 96379 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS		--		
4-Bromofluorobenzene (SURR)	SW8260	97	% Rec.	
Toluene-d8 (SURR)	SW8260	107	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	110	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain A
Lab No. : 96379
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270 (GCMS Subtitle D)				
SUBTITLE D	8270	--		
DILUTION FACTOR	8270	1	ug/L	
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Acetophenone	8270	ND	ug/L	10
2-Acetylaminofluorene	8270	ND	ug/L	10
4-Aminobiphenyl	8270	ND	ug/L	10
Anthracene	8270	ND	ug/L	10
Benz(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzyl alcohol	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Cholroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	10
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
Butyl benzyl phthalate	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	10
Chlorobenzilate	8270	ND	ug/L	10
p-Chloro-m-cresol	8270	ND	ug/L	10
2-Chloronaphthalene	8270	ND	ug/L	10
2-Chlorophenol	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
m-Cresol	8270	NA	ug/L	10
o-Cresol	8270	ND	ug/L	10
Cresol (m- and p- isomers)	8270	ND	ug/L	10
p-Cresol	8270	NA	ug/L	10
Dibenz(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
2,4-Dichlorophenol	8270	ND	ug/L	10
2,6-Dichlorophenol	8270	ND	ug/L	10
Diethylphthalate	8270	ND	ug/L	10
p-Dimethylaminoazobenzene	8270	ND	ug/L	10
7,12-Dimethylbenz(a)anthracene	8270	ND	ug/L	10
3,3'-Dimethylbenzidine	8270	ND	ug/L	20
2,4-Dimethylphenol	8270	ND	ug/L	10
Dimethyl phthalate	8270	ND	ug/L	10
di-n-Butylphthalate	8270	ND	ug/L	10
1,3-Dinitrobenzene	8270	ND	ug/L	10
4,6-Dinitro-o-cresol	8270	ND	ug/L	20

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain A
Lab No. : 96379
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,4-Dinitrophenol	8270	ND	ug/L	20
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	10
Diphenylamine	8270	ND	ug/L	10
Ethyl methanesulfonate	8270	ND	ug/L	10
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	10
Hexachloroethane	8270	ND	ug/L	10
Hexachloropropene	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
Isosafrole	8270	ND	ug/L	10
Methapyrilene	8270	ND	ug/L	10
3-Methylcholanthrene	8270	ND	ug/L	10
Methyl methanesulfonate	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
1,4-Naphthoquinone	8270	ND	ug/L	10
1-Naphthylamine	8270	ND	ug/L	10
2-Naphthylamine	8270	ND	ug/L	10
o-Nitroaniline	8270	ND	ug/L	50
m-Nitroaniline	8270	ND	ug/L	50
p-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
o-Nitrophenol	8270	ND	ug/L	10
p-Nitrophenol	8270	ND	ug/L	50
N-Nitrosodi-n-butylamine	8270	ND	ug/L	10
N-Nitrosodiethylamine	8270	ND	ug/L	10
N-Nitrosodimethylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
N-Nitrosodipropylamine	8270	ND	ug/L	10
N-Nitrosomethylethalamine	8270	ND	ug/L	10
N-Nitrosopiperidine	8270	ND	ug/L	10
N-Nitrosopyrrolidine	8270	ND	ug/L	10
5-Nitro-o-toluidine	8270	ND	ug/L	10
Pentachlorobenzene	8270	ND	ug/L	10
Pentachloronitrobenzene	8270	ND	ug/L	10
Pentachlorophenol	8270	ND	ug/L	10
Phenacetin	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Phenol	8270	ND	ug/L	10
p-Phenylenediamine	8270	ND	ug/L	20
Pyrene	8270	ND	ug/L	10
Safrole	8270	ND	ug/L	10
1,2,4,5-Tetrachlorobenzene	8270	ND	ug/L	10

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain A
Lab No. : 96379
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,3,4,6-Tetrachlorophenol	8270	ND	ug/L	10
o-Toluidine	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
o,o,oTriethylphosphorothionate	8270	ND	ug/L	10
sym-Trinitrobenzene	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5 (SURR)	8270	83	% Rec.	
2-Fluorobiphenyl (SURR)	8270	91	% Rec.	
p-Terphenyl-d14 (SURR)	8270	92	% Rec.	
Phenol-d5 (SURR)	8270	53	% Rec.	
2-Fluorophenol (SURR)	8270	60	% Rec.	
2,4,6-Tribromophenol (SURR)	8270	98	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain B
Lab No. : 96380
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	7.9	pH units	1.0
Conductivity	120.1	1820	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2,440	mg/L	10
Cation/Anion Ratio		37.1/37.8		
Alkalinity (as CaCO3)				
Total	310.1	270	mg/L	10
Bicarbonate	310.1	250	mg/L	10
Carbonate	310.1	20	mg/L	10
Hydroxide	310.1	0	mg/L	10
Chloride	325.3	25	mg/L	1.0
Sulfate	375.4	1560	mg/L	5.0
Fluoride	340.2	1.6	mg/L	0.10
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	1.92	mg/L	0.03
Total organic halogens (TOX)	9020	ND	mg/L	0.01
Total Organic Carbon	415.1	5	mg/L	1.0
Chemical Oxygen Demand	410.4	ND	mg/L	10
Cyanide (Total)	335.2	ND	mg/L	0.05
Hardness (Total, as CaCO3)	130.2	1600	mg/L	5.0
ICP METALS		--	mg/L	
Antimony (ICP)	6010	ND	mg/L	0.20
Antimony (ICP, Dissolved)	6010	ND	mg/L	0.20
Arsenic (Hydride)	7061/7062	ND	mg/L	0.003
Arsenic (Hydride,Dissolved)	7061/7062	ND	mg/L	0.003
Barium (ICP)	6010	ND	mg/L	0.02
Barium (ICP, Dissolved)	6010	ND	mg/L	0.02
Beryllium (ICP)	6010	ND	mg/L	0.02
Beryllium (ICP, Dissolved)	6010	ND	mg/L	0.02
Boron (ICP)	6010	ND	mg/L	0.50
Cadmium (ICP)	6010	ND	mg/L	0.01
Cadmium (ICP, Dissolved)	6010	ND	mg/L	0.01
Calcium (ICP)	6010	329	mg/L	0.50
Chromium (ICP)	6010	ND	mg/L	0.02
Chromium (ICP, Dissolved)	6010	ND	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.05
Cobalt (ICP, Dissolved)	6010	ND	mg/L	0.05
Copper (ICP)	6010	ND	mg/L	0.02
Copper (ICP, Dissolved)	6010	ND	mg/L	0.02
Iron (ICP)	6010	0.11	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Lead (ICP, Dissolved)	6010	ND	mg/L	0.10
Magnesium (ICP)	6010	209	mg/L	0.50
Manganese (ICP)	6010	0.03	mg/L	0.02
Mercury (CVAA)	7470	ND	mg/L	0.0002
Mercury (CVAA,Dissolved)	7470	ND	mg/L	0.0002
Nickel (ICP)	6010	ND	mg/L	0.05
Nickel (ICP, Dissolved)	6010	ND	mg/L	0.05
Potassium (ICP)	6010	7.37	mg/L	1.00

ND: Not Detected at the Reporting Limit (RL).

MS/MSD outside control limits, associated LCS was within control limits.

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain B Date Reported: 08/22/1996
Lab No. : 96380 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Selenium (Hydride)	270.3	ND	mg/L	0.01
Selenium (Hydride, Dissolved)	270.3	ND	mg/L	0.01
Silver (ICP)	6010	ND	mg/L	0.02
Silver (ICP, Dissolved)	6010	ND	mg/L	0.02
Sodium (ICP)	6010	69.2	mg/L	1.00
Thallium (ICP)	6010	ND	mg/L	0.25
Thallium (ICP, Dissolved)	6010	ND	mg/L	0.25
Tin (ICP)	6010	ND	mg/L	0.20
Tin (ICP, Dissolved)	6010	ND	mg/L	0.20
Vanadium (ICP)	6010	ND	mg/L	0.05
Vanadium (ICP, Dissolved)	6010	ND	mg/L	0.05
Zinc (ICP)	6010	ND	mg/L	0.02
Zinc (ICP, Dissolved)	6010	ND	mg/L	0.02
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		08-08-96		
DATE ANALYZED		08-14-96		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.020
alpha-BHC	8080	ND	ug/L	0.010
beta-BHC	8080	ND	ug/L	0.010
delta-BHC	8080	ND	ug/L	0.010
gamma-BHC (Lindane)	8080	ND	ug/L	0.010
Chlordane	8080	ND	ug/L	0.20
4,4'-DDD	8080	ND	ug/L	0.050
4,4'-DDE	8080	ND	ug/L	0.050
4,4'-DDT	8080	ND	ug/L	0.050
Diallate	8080	ND	ug/L	0.10
Dieldrin	8080	ND	ug/L	0.050
Endosulfan I	8080	ND	ug/L	0.050
Endosulfan II	8080	ND	ug/L	0.050
Endosulfan sulfate	8080	ND	ug/L	0.050
Endrin	8080	ND	ug/L	0.050
Endrin aldehyde	8080	ND	ug/L	0.050
Heptachlor	8080	ND	ug/L	0.050
Heptachlor epoxide	8080	ND	ug/L	0.050
Isodrin	8080	ND	ug/L	0.050
Methoxychlor	8080	ND	ug/L	0.10
Kepone	8080	ND	ug/L	0.10
Toxaphene	8080	ND	ug/L	1.0
Pronamid	8080	ND	ug/L	0.050
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	0.50
Aroclor 1221	8080	ND	ug/L	1.0
Aroclor 1232	8080	ND	ug/L	0.50
Aroclor 1242	8080	ND	ug/L	0.50
Aroclor 1248	8080	ND	ug/L	0.50
Aroclor 1254	8080	ND	ug/L	0.50
Aroclor 1260	8080	ND	ug/L	0.50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain B
Lab No. : 96380
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Surrogate Spike	8080	--		
Tetrachlorometaxylene	8080	47	% Rec.	
Decachlorobiphenyl	8080	93	% Rec.	
METHOD 8140 (GC,Liquid)				
DATE EXTRACTED		08-08-96		
DATE ANALYZED		08-15-96		
Reporting Limit Multiplier		1		
Disulfoton	8140	ND	ug/L	0.40
Famphur	8140	ND	ug/L	0.40
Parathion	8140	ND	ug/L	0.40
Methyl Parathion	8140	ND	ug/L	0.40
Phorate	8140	ND	ug/L	0.40
Thionazin	8140	ND	ug/L	0.40
SURROGATE RESULTS	8140	--		
Triphenylphosphate (Surr.)	8140	115	% Rec.	
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		08-09-96		
DATE ANALYZED		08-13-96		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	0.20
2,4,5-T	8150	ND	ug/L	0.10
2,4,5-TP	8150	ND	ug/L	0.10
Dinoseb	8150	ND	ug/L	0.50
SURROGATE RESULTS	8150	--		
2,4-DCPAA (Surr.)	8150	91	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain B
Lab No. : 96380
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain B Date Reported: 08/22/1996
Lab No. : 96380 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS		--		
4-Bromofluorobenzene (SURR)	SW8260	97	% Rec.	
Toluene-d8 (SURR)	SW8260	105	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	110	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

NET Job No.: 96.01336 Date Taken: 08/02/1996
Sample ID : Subdrain B Date Reported: 08/22/1996
Lab No. : 96380 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270 (GCMS Subtitle D)				
SUBTITLE D	8270	--		
DILUTION FACTOR	8270	1	ug/L	
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Acetophenone	8270	ND	ug/L	10
2-Acetylaminofluorene	8270	ND	ug/L	10
4-Aminobiphenyl	8270	ND	ug/L	10
Anthracene	8270	ND	ug/L	10
Benz(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzyl alcohol	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Cholroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	10
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
Butyl benzyl phthalate	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	10
Chlorobenzilate	8270	ND	ug/L	10
p-Chloro-m-cresol	8270	ND	ug/L	10
2-Chloronaphthalene	8270	ND	ug/L	10
2-Chlorophenol	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
m-Cresol	8270	NA	ug/L	10
o-Cresol	8270	ND	ug/L	10
Cresol (m- and p- isomers)	8270	ND	ug/L	10
p-Cresol	8270	NA	ug/L	10
Dibenz(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
2,4-Dichlorophenol	8270	ND	ug/L	10
2,6-Dichlorophenol	8270	ND	ug/L	10
Diethylphthalate	8270	ND	ug/L	10
p-Dimethylaminoazobenzene	8270	ND	ug/L	10
7,12-Dimethylbenz(a)anthracene	8270	ND	ug/L	10
3,3'-Dimethylbenzidine	8270	ND	ug/L	20
2,4-Dimethylphenol	8270	ND	ug/L	10
Dimethyl phthalate	8270	ND	ug/L	10
di-n-Butylphthalate	8270	ND	ug/L	10
1,3-Dinitrobenzene	8270	ND	ug/L	10
4,6-Dinitro-o-cresol	8270	ND	ug/L	20

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain B
Lab No. : 96380
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,4-Dinitrophenol	8270	ND	ug/L	20
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	10
Diphenylamine	8270	ND	ug/L	10
Ethyl methanesulfonate	8270	ND	ug/L	10
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	10
Hexachloroethane	8270	ND	ug/L	10
Hexachloropropene	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
Isosafrole	8270	ND	ug/L	10
Methapyrilene	8270	ND	ug/L	10
3-Methylcholanthrene	8270	ND	ug/L	10
Methyl methanesulfonate	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
1,4-Naphthoquinone	8270	ND	ug/L	10
1-Naphthylamine	8270	ND	ug/L	10
2-Naphthylamine	8270	ND	ug/L	10
o-Nitroaniline	8270	ND	ug/L	50
m-Nitroaniline	8270	ND	ug/L	50
p-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
o-Nitrophenol	8270	ND	ug/L	10
p-Nitrophenol	8270	ND	ug/L	50
N-Nitrosodi-n-butylamine	8270	ND	ug/L	10
N-Nitrosodiethylamine	8270	ND	ug/L	10
N-Nitrosodimethylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
N-Nitrosodipropylamine	8270	ND	ug/L	10
N-Nitrosomethylethalamine	8270	ND	ug/L	10
N-Nitrosopiperidine	8270	ND	ug/L	10
N-Nitrosopyrrolidine	8270	ND	ug/L	10
5-Nitro-o-toluidine	8270	ND	ug/L	10
Pentachlorobenzene	8270	ND	ug/L	10
Pentachloronitrobenzene	8270	ND	ug/L	10
Pentachlorophenol	8270	ND	ug/L	10
Phenacetin	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Phenol	8270	ND	ug/L	10
p-Phenylenediamine	8270	ND	ug/L	20
Pyrene	8270	ND	ug/L	10
Safrole	8270	ND	ug/L	10
1,2,4,5-Tetrachlorobenzene	8270	ND	ug/L	10

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill

Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Subdrain B
Lab No. : 96380
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,3,4,6-Tetrachlorophenol	8270	ND	ug/L	10
o-Toluidine	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
o,o,oTriethylphosphorothionate	8270	ND	ug/L	10
sym-Trinitrobenzene	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5 (SURR)	8270	82	% Rec.	
2-Fluorobiphenyl (SURR)	8270	96	% Rec.	
p-Terphenyl-d14 (SURR)	8270	93	% Rec.	
Phenol-d5 (SURR)	8270	52	% Rec.	
2-Fluorophenol (SURR)	8270	60	% Rec.	
2,4,6-Tribromophenol (SURR)	8270	110	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Trip Blank
Lab No. : 96381
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill
Date Taken: 08/02/1996
NET Job No.: 96.01336
Date Reported: 08/22/1996
Sample ID : Trip Blank
Lab No. : 96381
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS		--		
4-Bromofluorobenzene (SURR)	SW8260	96	% Rec.	
Toluene-d8 (SURR)	SW8260	108	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	110	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

SUBDRAINS

THIRD QUARTER 1996

TABLE 3-1
SURFACE WATER QUALITY DATA
THIRD QUARTER 1996
SUNSHINE CANYON LANDFILL COUNTY EXTENSION
LOS ANGELES COUNTY, CALIFORNIA

PARAMETER	UNITS	SUBDRAIN A	SUBDRAIN B	SUBDRAIN C
INORGANIC PARAMETERS				
pH	std. units	6.53	7.9	6.37
Total Dissolved Solids	mg/L	2530	2330	2790
Chloride	mg/L	19.6	15.6	25.9
Sulfate	mg/L	1290	1230	1490
(Nitrate+Nitrite)-N	mg/L	0.541	0.264	0.606
VOLATILE ORGANIC COMPOUNDS				
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5
Bromoform	µg/L	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	<0.5	<0.5	<0.5
Chloroethane	µg/L	<0.5	<0.5	<0.5
Chloroform; Trichloromethane	µg/L	<0.5	<0.5	<0.5
Chloromethane	µg/L	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5
Methylene Chloride[1]	µg/L	0.3	0.32	0.3
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<0.5	<0.5	<0.5
Trichloroethene	µg/L	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	<0.5	<0.5	<0.5
Vinyl chloride	µg/L	<0.5	<0.5	<0.5
Benzene	µg/L	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	<0.5	<0.5	<0.5
Toluene	µg/L	<0.5	<0.5	<0.5
Xylenes	µg/L	<1	<1	<1
Bromomethane	µg/L	<2	<2	<2
cis-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5
1,2-Dibromoethane	µg/L	<0.5	<0.5	<0.5
Styrene	µg/L	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	<0.5	<0.5	<0.5
1,2-Dibromo-3-Chloropropane	µg/L	<2	<2	<2
Acetone	µg/L	<10	<10	<10
Acrylonitrile	µg/L	<20	<20	<20
2-Butanone	µg/L	<10	<10	<10
Carbon Disulfide	µg/L	<10	<10	<10
2-Hexanone	µg/L	<10	<10	<10
Iodomethane	µg/L	<10	<10	<10
4-Methyl-2-Pentanone	µg/L	<10	<10	<10
trans-1,4-Dichloro-2-Butene	µg/L	<20	<20	<20
Vinyl Acetate	µg/L	<20	<20	<20

[1]Suspected laboratory contaminant.

CM -11
(Artesian Well)

BASELINE APPENDIX II SAMPLING

(THIRD QUARTER 1995 THROUGH
SECOND QUARTER 1996)

NATIONAL ENVIRONMENTAL TESTING, INC.

Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6591
Fax: (818) 567-6477

DOHS Certificate Number: 1192
LACSD Lab I.D. Number: 10158

09/28/1995

Les Sakoda
Browning-Ferris Industries
14747 San Fernando Road
Sylmar, CA 91342

Client Ref: Sunshine Canyon Quarterly
Date Received: 08/08/1995

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Rick Schrypemeeckers
Division Manager

KB:rm
Attachments:
Analytical Reports
Chain of Custody Document

Client Net Acct No: 5050
NET Job No: 95.01095

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Quarterly
Date Taken: 08/08/1995
NET Job No.: 95.01095
Date Reported: 08/28/1995
Sample ID : CM-11
Lab No. : 81968
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	6.8	pH units	
Conductivity	120.1	2,770	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2,490	mg/L	10
Cation/Anion Ratio		26.0/35.1		
Alkalinity (as CaC03)				
Total	310.1	410	mg/L	10
Bicarbonate	310.1	410	mg/L	10
Carbonate	310.1	0	mg/L	10
Hydroxide	310.1	0	mg/L	10
Chloride	325.3	14	mg/L	1.0
Sulfate	375.4	1,340	mg/L	1.0
Fluoride	340.2	1.1	mg/L	0.1
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	0.05	mg/L	0.03
Cyanide (Total)	335.2	ND	mg/L	0.02
MBAS, as LAS	425.1	ND	mg/L	0.1
Hardness (Total, as CaCO3)	130.2	1,600	mg/L	5.0
Antimony (ICP)	200.7	ND	mg/L	0.005
Antimony (ICP, Dissolved)	200.7	ND	mg/L	0.005
Arsenic (ICP)	6010	ND	mg/L	0.005
Arsenic (ICP, Dissolved)	200.7	ND	mg/L	0.005
Barium (ICP)	200.7	ND	mg/L	0.005
Barium (ICP, Dissolved)	200.7	0.081	mg/L	0.005
Beryllium (ICP)	200.7	ND	mg/L	0.002
Beryllium (ICP, Dissolved)	200.7	ND	mg/L	0.005
Boron (ICP)	6010	0.310	mg/L	0.01
Cadmium (ICP)	200.7	ND	mg/L	0.002
Cadmium (ICP, Dissolved)	200.7	ND	mg/L	0.002
Calcium (ICP)	6010	250	mg/L	0.05
Chromium (ICP)	200.7	ND	mg/L	0.005
Chromium (ICP, Dissolved)	200.7	ND	mg/L	0.005
Cobalt (ICP)	200.7	ND	mg/L	0.005
Cobalt (ICP, Dissolved)	200.7	ND	mg/L	0.005
Copper (ICP)	200.7	ND	mg/L	0.005
Copper (ICP, Dissolved)	200.7	ND	mg/L	0.005
Iron (ICP)	6010	4.0	mg/L	0.01
Lead (ICP)	200.7	ND	mg/L	0.005
Lead (ICP, Dissolved)	200.7	ND	mg/L	0.005
Magnesium (ICP)	6010	130	mg/L	0.05
Manganese (ICP)	6010	0.390	mg/L	0.005
Nickel (ICP)	200.7	ND	mg/L	0.005
Nickel (ICP, Dissolved)	200.7	ND	mg/L	0.005
Potassium (ICP)	6010	7.6	mg/L	0.05
Selenium (ICP)	6010	ND	mg/L	0.005
Selenium (ICP, Dissolved)	6010	ND	mg/L	0.005
Silver (ICP)	200.7	ND	mg/L	0.005
Silver (ICP, Dissolved)	200.7	ND	mg/L	0.005
Sodium (ICP)	6010	130	mg/L	0.10

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Quarterly
Date Taken: 08/08/1995
NET Job No.: 95.01095
Date Reported: 08/28/1995
Sample ID : CM-11
Lab No. : 81968
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Thallium (ICP)	200.7	ND	mg/L	0.01
Thallium (ICP, Dissolved)	200.7	ND	mg/L	0.01
Vanadium (ICP)	200.7	ND	mg/L	0.005
Vanadium (ICP, Dissolved)	200.7	ND	mg/L	0.005
Zinc (ICP)	200.7	.007	mg/L	0.005
Zinc (ICP, Dissolved)	200.7	0.023	mg/L	0.005

Client Name: Browning-Ferris Industries
Client Acct: 5050
NET Job No: 95.01095

Date: 08/23/1995

Ref: 95.01095

SAMPLE DESCRIPTION: CM-11
Date Taken: 08/08/1995
Time Taken:
NET Sample No: 81968

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 8080 (GC,Liquid)						08/12/1995		
Subtitle D	--						08/16/1995	421
DILUTION FACTOR*	1						08/16/1995	421
Aldrin	ND		0.02	ug/L	8080		08/16/1995	421
alpha-BHC	ND		0.005	ug/L	8080		08/16/1995	421
beta-BHC	ND		0.005	ug/L	8080		08/16/1995	421
delta-BHC	ND		0.005	ug/L	8080		08/16/1995	421
gamma-BHC (Lindane)	ND		0.02	ug/L	8080		08/16/1995	421
Chlordane	ND		0.4	ug/L	8080		08/16/1995	421
4,4'-DDD	ND		0.05	ug/L	8080		08/16/1995	421
4,4'-DDE	ND		0.05	ug/L	8080		08/16/1995	421
4,4'-DDT	ND		0.05	ug/L	8080		08/16/1995	421
Dieldrin	ND		0.05	ug/L	8080		08/16/1995	421
Endosulfan I	ND		0.05	ug/L	8080		08/16/1995	421
Endosulfan II	ND		0.05	ug/L	8080		08/16/1995	421
Endosulfan sulfate	ND		0.05	ug/L	8080		08/16/1995	421
Endrin	ND		0.05	ug/L	8080		08/16/1995	421
Endrin aldehyde	ND		0.05	ug/L	8080		08/16/1995	421
Heptachlor	ND		0.05	ug/L	8080		08/16/1995	421
Heptachlor epoxide	ND		0.05	ug/L	8080		08/16/1995	421
Methoxychlor	ND		0.08	ug/L	8080		08/16/1995	421
Toxaphene	ND		1.0	ug/L	8080		08/16/1995	421
POLYCHLORINATED BIPHENYLS	--						08/16/1995	421
Aroclor 1016	ND		0.5	ug/L	8080		08/16/1995	421
Aroclor 1221	ND		1	ug/L	8080		08/16/1995	421
Aroclor 1232	ND		0.5	ug/L	8080		08/16/1995	421
Aroclor 1242	ND		0.6	ug/L	8080		08/16/1995	421
Aroclor 1248	ND		0.5	ug/L	8080		08/16/1995	421
Aroclor 1254	ND		0.5	ug/L	8080		08/16/1995	421
Aroclor 1260	ND		0.5	ug/L	8080		08/16/1995	421
ADDITIONAL COMPOUNDS	--						08/16/1995	421
Diallate	ND		0.1	ug/L	8080		08/16/1995	421
Isodrin	ND		0.05	ug/L			08/16/1995	421
Kepone	ND		0.1	ug/L	8080		08/16/1995	421
Pronamide	ND		0.05	ug/L	8080		08/16/1995	421
SURROGATE RESULTS	--						08/16/1995	421
Tetrachlorometaxylene (SURR)	47			% Rec.			08/16/1995	421
Decachlorobiphenyl (SURR)	81			% Rec.			08/16/1995	421

Client Name: Browning-Ferris Industries
Client Acct: 5050
NET Job No: 95.01095

Date: 08/23/1995

Ref: 95.01095

SAMPLE DESCRIPTION: CM-11
Date Taken: 08/08/1995
Time Taken:
NET Sample No: 81968

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 8150 (GC,Liquid)						08/14/1995	—	
DILUTION FACTOR*	1						08/15/1995	137
2,4-D	ND		1	ug/L	8150		08/15/1995	137
2,4-DB	ND		1	ug/L	8150		08/15/1995	137
2,4,5-T	ND		0.1	ug/L	8150		08/15/1995	137
2,4,5-TP	ND		0.1	ug/L	8150		08/15/1995	137
Dalapon	ND		2	ug/L	8150		08/15/1995	137
Dicamba	ND		0.1	ug/L	8150		08/15/1995	137
Dichloroprop	ND		1	ug/L	8150		08/15/1995	137
Dinoseb	ND		0.1	ug/L	8150		08/15/1995	137
MCPA	ND		100	ug/L	8150		08/15/1995	137
MCPP	ND		100	ug/L	8150		08/15/1995	137
SURROGATE RESULTS	--						08/15/1995	137
2,4-DCPAA (SURR)	27			% Rec.			08/15/1995	137

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Quarterly
Date Taken: 08/08/1995
NET Job No.: 95.01095
Date Reported: 08/28/1995
Sample ID : CM-11
Lab No. : 81968
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260(GCMS,Liquid)				
DATE ANALYZED		08-11-95		
Dilution Factor	8260	1		
Benzene	8260	ND	ug/L	1
Bromobenzene	8260	ND	ug/L	1
Bromochloromethane	8260	ND	ug/L	1
Bromodichloromethane	8260	ND	ug/L	1
Bromoform	8260	ND	ug/L	1
Bromomethane	8260	ND	ug/L	1
n-Butylbenzene	8260	ND	ug/L	1
sec-Butylbenzene	8260	ND	ug/L	1
tert-Butylbenzene	8260	ND	ug/L	1
Carbon Tetrachloride	8260	ND	ug/L	1
Chlorobenzene	8260	ND	ug/L	1
Chloroethane	8260	ND	ug/L	1
Chloroform	8260	ND	ug/L	1
1-Chlorohexane	8260	ND	ug/L	1
Chloromethane	8260	ND	ug/L	1
2-Chlorotoluene	8260	ND	ug/L	1
4-Chlorotoluene	8260	ND	ug/L	1
1,2-Dibromo-3-chloropropan	8260	ND	ug/L	1
1,2-Dibromoethane	8260	ND	ug/L	1
Dibromochloromethane	8260	ND	ug/L	1
Dibromomethane	8260	ND	ug/L	1
1,2-Dichlorobenzene	8260	ND	ug/L	1
1,3-Dichlorobenzene	8260	ND	ug/L	1
1,4-Dichlorobenzene	8260	ND	ug/L	1
Dichlorodifluoromethane	8260	ND	ug/L	1
1,1-Dichloroethane	8260	ND	ug/L	1
1,2-Dichloroethane	8260	ND	ug/L	1
1,1-Dichloroethene	8260	ND	ug/L	1
cis-1,2-Dichloroethene	8260	ND	ug/L	1
trans-1,2-Dichloroethene	8260	ND	ug/L	1
1,2-Dichloropropane	8260	ND	ug/L	1
1,3-Dichloropropane	8260	ND	ug/L	1
2,2-Dichloropropane	8260	ND	ug/L	1
1,1-Dichloropropene	8260	ND	ug/L	1
Ethyl benzene	8260	ND	ug/L	1
Hexachlorobutadiene	8260	ND	ug/L	1
Isopropylbenzene	8260	ND	ug/L	1
p-Isopropyltoluene	8260	ND	ug/L	1
Methylene chloride	8260	ND	ug/L	1
Naphthalene	8260	ND	ug/L	1
n-Propylbenzene	8260	ND	ug/L	1
Styrene	8260	ND	ug/L	1
1,1,1,2-Tetrachloroethane	8260	ND	ug/L	1
1,1,2,2-Tetrachloroethane	8260	ND	ug/L	1
Tetrachloroethene	8260	ND	ug/L	1
1,2,3-Trichlorobenzene	8260	ND	ug/L	1

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Quarterly
Date Taken: 08/08/1995
NET Job No.: 95.01095
Date Reported: 08/28/1995
Sample ID : CM-11
Lab No. : 81968
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
1,2,4-Trichlorobenzene	8260	ND	ug/L	1
1,1,1-Trichloroethane	8260	ND	ug/L	1
1,1,2-Trichloroethane	8260	ND	ug/L	1
Trichloroethene	8260	ND	ug/L	1
Trichlorofluoromethane	8260	ND	ug/L	1
1,2,3-Trichloropropane	8260	ND	ug/L	1
1,2,4-Trimethylbenzene	8260	ND	ug/L	1
1,3,5-Trimethylbenzene	8260	ND	ug/L	1
Toluene	8260	ND	ug/L	1
Vinyl chloride	8260	ND	ug/L	1
Total xylenes	8260	ND	ug/L	1
SURROGATE RESULTS	8260	--		
Spk Conc Bromofluorobenzene	8260	25	ug/L	
4-Bromofluorobenzene	8260	87	% Rec.	
Spk Conc Dibromofluoromethane	8260	25	ug/L	
Dibromofluoromethane	8260	91	% Rec.	
Spk Conc Toluene-d8	8260	25	ug/L	
Toluene-d8	8260	96	%	

ND: Not Detected at the Reporting Limit (RL), if a dilution factor is reported the R.L. must be multiplied by the dilution factor to obtain actual R.L.

Client Name: Browning-Ferris Industries
Client Acct: 5050
NET Job No: 95.01095

Date: 08/23/1995

Ref: 95.01095

SAMPLE DESCRIPTION: CM-11
Date Taken: 08/08/1995
Time Taken:
NET Sample No: 81968

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Analyzed	Run Batch No.
METHOD 8270 (GCMS Subtitle D)							
SUBTITLE D	--				8270	08/14/1995	14
DILUTION FACTOR	1			ug/L	8270	08/14/1995	14
Acenaphthene	ND		10	ug/L	8270	08/14/1995	14
Acenaphthylene	ND		10	ug/L	8270	08/14/1995	14
Acetophenone	ND		10	ug/L	8270	08/14/1995	14
2-Acetylaminofluorene	ND		10	ug/L	8270	08/14/1995	14
4-Aminobiphenyl	ND		10	ug/L	8270	08/14/1995	14
Anthracene	ND		10	ug/L	8270	08/14/1995	14
Benz(a)anthracene	ND		10	ug/L	8270	08/14/1995	14
Benzo(b)fluoranthene	ND		10	ug/L	8270	08/14/1995	14
Benzo(k)fluoranthene	ND		10	ug/L	8270	08/14/1995	14
Benzo(a)pyrene	ND		10	ug/L	8270	08/14/1995	14
Benzo(g,h,i)perylene	ND		10	ug/L	8270	08/14/1995	14
Benzyl alcohol	ND		10	ug/L	8270	08/14/1995	14
bis(2-Chloroethoxy)methane	ND		10	ug/L	8270	08/14/1995	14
bis(2-Cholroethyl)ether	ND		10	ug/L	8270	08/14/1995	14
bis(2-Chloroisopropyl)ether	ND		10	ug/L	8270	08/14/1995	14
bis(2-Ethylhexyl)phthalate	ND		10	ug/L	8270	08/14/1995	14
4-Bromophenyl phenyl ether	ND		10	ug/L	8270	08/14/1995	14
Butyl benzyl phthalate	ND		10	ug/L	8270	08/14/1995	14
4-Chloroaniline	ND		10	ug/L	8270	08/14/1995	14
Chlorobenzilate	ND		10	ug/L	8270	08/14/1995	14
p-Chloro-m-cresol	ND		10	ug/L	8270	08/14/1995	14
2-Chloronaphthalene	ND		10	ug/L	8270	08/14/1995	14
2-Chlorophenol	ND		10	ug/L	8270	08/14/1995	14
4-Chlorophenyl phenyl ether	ND		10	ug/L	8270	08/14/1995	14
Chrysene	ND		10	ug/L	8270	08/14/1995	14
o-Cresol	ND		10	ug/L	8270	08/14/1995	14
Cresol (m- and p- isomers)	ND		10	ug/L	8270	08/14/1995	14
Dibenz(a,h)anthracene	ND		10	ug/L	8270	08/14/1995	14
Dibenzofuran	ND		10	ug/L	8270	08/14/1995	14
1,2-Dichlorobenzene	ND		10	ug/L	8270	08/14/1995	14
1,3-Dichlorobenzene	ND		10	ug/L	8270	08/14/1995	14
1,4-Dichlorobenzene	ND		10	ug/L	8270	08/14/1995	14
3,3'-Dichlorobenzidine	ND		20	ug/L	8270	08/14/1995	14
2,4-Dichlorophenol	ND		10	ug/L	8270	08/14/1995	14
2,6-Dichlorophenol	ND		10	ug/L	8270	08/14/1995	14
Diethylphthalate	ND		10	ug/L	8270	08/14/1995	14
p-Dimethylaminoazobenzene	ND		10	ug/L	8270	08/14/1995	14
7,12-Dimethylbenz(a)anthracene	ND		10	ug/L	8270	08/14/1995	14
3,3'-Dimethylbenzidine	ND		20	ug/L	8270	08/14/1995	14
2,4-Dimethylphenol	ND		10	ug/L	8270	08/14/1995	14
Dimethyl phthalate	ND		10	ug/L	8270	08/14/1995	14
di-n-Butylphthalate	ND		10	ug/L	8270	08/14/1995	14
1,3-Dinitrobenzene	ND		10	ug/L	8270	08/14/1995	14

Client Name: Browning-Ferris Industries
Client Acct: 5050
NET Job No: 95.01095

Date: 08/23/1995

Ref: 95.01095

SAMPLE DESCRIPTION: CM-11
Date Taken: 08/08/1995
Time Taken:
NET Sample No: 81968

Parameter	Results	Flags	Reporting Limit	Units	Method	Run Date Analyzed	Batch No.
4,6-Dinitro-o-cresol	ND		20	ug/L	8270	08/14/1995	14
2,4-Dinitrophenol	ND		20	ug/L	8270	08/14/1995	14
2,4-Dinitrotoluene	ND		10	ug/L	8270	08/14/1995	14
2,6-Dinitrotoluene	ND		10	ug/L	8270	08/14/1995	14
Di-n-octyl phthalate	ND		10	ug/L	8270	08/14/1995	14
Diphenylamine	ND		10	ug/L	8270	08/14/1995	14
Ethyl methanesulfonate	ND		10	ug/L	8270	08/14/1995	14
Fluoranthene	ND		10	ug/L	8270	08/14/1995	14
Fluorene	ND		10	ug/L	8270	08/14/1995	14
Hexachlorobenzene	ND		10	ug/L	8270	08/14/1995	14
Hexachlorobutadiene	ND		10	ug/L	8270	08/14/1995	14
Hexachlorocyclopentadiene	ND		10	ug/L	8270	08/14/1995	14
Hexachloroethane	ND		10	ug/L	8270	08/14/1995	14
Hexachloropropene	ND		10	ug/L	8270	08/14/1995	14
Indeno(1,2,3-cd)pyrene	ND		10	ug/L	8270	08/14/1995	14
Isophorone	ND		10	ug/L	8270	08/14/1995	14
Isosafrole	ND		10	ug/L	8270	08/14/1995	14
Methapyrilene	ND		10	ug/L	8270	08/14/1995	14
3-Methylcholanthrene	ND		10	ug/L	8270	08/14/1995	14
Methyl methanesulfonate	ND		10	ug/L	8270	08/14/1995	14
2-Methylnaphthalene	ND		10	ug/L	8270	08/14/1995	14
Naphthalene	ND		10	ug/L	8270	08/14/1995	14
1,4-Naphthoquinone	ND		10	ug/L	8270	08/14/1995	14
1-Naphthylamine	ND		10	ug/L	8270	08/14/1995	14
2-Naphthylamine	ND		10	ug/L	8270	08/14/1995	14
o-Nitroaniline	ND		50	ug/L	8270	08/14/1995	14
m-Nitroaniline	ND		50	ug/L	8270	08/14/1995	14
p-Nitroaniline	ND		50	ug/L	8270	08/14/1995	14
Nitrobenzene	ND		10	ug/L	8270	08/14/1995	14
o-Nitrophenol	ND		10	ug/L	8270	08/14/1995	14
p-Nitrophenol	ND		50	ug/L	8270	08/14/1995	14
N-Nitrosodi-n-butylamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosodiethylamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosodimethylamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosodiphenylamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosodipropylamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosomethylethalamine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosopiperidine	ND		10	ug/L	8270	08/14/1995	14
N-Nitrosopyrrolidine	ND		10	ug/L	8270	08/14/1995	14
5-Nitro-o-toluidine	ND		10	ug/L	8270	08/14/1995	14
Pentachlorobenzene	ND		10	ug/L	8270	08/14/1995	14
Pentachloronitrobenzene	ND		10	ug/L	8270	08/14/1995	14
Pentachlorophenol	ND		10	ug/L	8270	08/14/1995	14
Phenacetin	ND		10	ug/L	8270	08/14/1995	14
Phenanthrene	ND		10	ug/L	8270	08/14/1995	14
Phenol	ND		10	ug/L	8270	08/14/1995	14

Client Name: Browning-Ferris Industries
Client Acct: 5050
NET Job No: 95.01095

Date: 08/23/1995

Ref: 95.01095

SAMPLE DESCRIPTION: CM-11
Date Taken: 08/08/1995
Time Taken:
NET Sample No: 81968

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Analyzed	Run Batch No.
p-Phenylenediamine	ND		20	ug/L	8270	08/14/1995	14
Pyrene	ND		10	ug/L	8270	08/14/1995	14
Safrole	ND		10	ug/L	8270	08/14/1995	14
1,2,4,5-Tetrachlorobenzene	ND		10	ug/L	8270	08/14/1995	14
2,3,4,6-Tetrachlorophenol	ND		10	ug/L	8270	08/14/1995	14
o-Toluidine	ND		10	ug/L	8270	08/14/1995	14
1,2,4-Trichlorobenzene	ND		10	ug/L	8270	08/14/1995	14
2,4,5-Trichlorophenol	ND		10	ug/L	8270	08/14/1995	14
2,4,6-Trichlorophenol	ND		10	ug/L	8270	08/14/1995	14
o,o,oTriethylphosphorothionate	ND		10	ug/L	8270	08/14/1995	14
sym-Trinitrobenzene	ND		10	ug/L	8270	08/14/1995	14
SURROGATE RESULTS	--					08/14/1995	14
Nitrobenzene-d5 (SURR)	84			% Rec.	8270	08/14/1995	14
2-Fluorobiphenyl (SURR)	81			% Rec.	8270	08/14/1995	14
p-Terphenyl-d14 (SURR)	65			% Rec.	8270	08/14/1995	14
Phenol-d5 (SURR)	28			% Rec.	8270	08/14/1995	14
2-Fluorophenol (SURR)	36			% Rec.	8270	08/14/1995	14
2,4,6-Tribromophenol (SURR)	55			% Rec.	8270	08/14/1995	14

NATIONAL ENVIRONMENTAL TESTING, INC.

Burbank Division
700 South Flower Street
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DOHS Certificate Number: 1192
LACSD Lab I.D. Number: 10158

12/19/1995

Les Sakoda
Browning-Ferris Industries
14747 San Fernando Road
Sylmar, CA 91342

Client Ref: Sunshine Canyon Annual / Sub-Title D
Date Received: 11/07/1995

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Enclosed on Attachment I is a list of compounds which were analyzed using EPA method 8270. These compounds were evaluated using Tentatively Identified Compund search routines and compared to spectra derived from the NBS library. None of these compounds were detected in the samples documented in this report.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the laboratory director.

Rick Schrynemeeckers
Division Manager

KB:rm
Attachments:
Analytical Reports
Chain of Custody Document

Client Net Acct No: 5050
NET Job No: 95.01855b

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	6.8	pH units	
Conductivity	120.1	2,580	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2,440	mg/L	10
Cation/Anion Ratio		37.1/33.3		
Alkalinity (as CaC03)				
Total	310.1	440	mg/L	10
Bicarbonate	310.1	440	mg/L	10
Carbonate	310.1	0	mg/L	10
Hydroxide	310.1	0	mg/L	10
Chloride	325.3	15.0	mg/L	1.0
Sulfate	375.4	1,230	mg/L	1.0
Fluoride	340.2	1.3	mg/L	0.1
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	0.04	mg/L	0.03
Total organic halogens (TOX)	9020	ND	mg/L	0.01
Total Organic Carbon	415.1	3	mg/L	1.0
Chemical Oxygen Demand	410.4	ND	mg/L	10
Cyanide (Total)	335.2	ND	mg/L	0.02
Hardness (Total, as CaCO3)	130.2	1,480	mg/L	5.0
ICP METALS		--		
Antimony (ICP)	6010	ND	mg/L	0.005
Arsenic (Hydride)	7061/7062	ND	mg/L	0.003
Barium (ICP)	6010	0.03	mg/L	0.02
Beryllium (ICP)	200.7	ND	mg/L	0.002
Boron (ICP)	6010	ND	mg/L	0.50
Cadmium (ICP)	6010	ND	mg/L	0.01
Calcium (ICP)	6010	308	mg/L	0.50
Chromium (ICP)	6010	0.03	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.005
Copper (ICP)	6010	ND	mg/L	0.02
Iron (ICP)	6010	3.79	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Magnesium (ICP)	6010	172	mg/L	0.50
Manganese (ICP)	6010	0.87	mg/L	0.02
Mercury (CVAA)	7470	ND	mg/L	0.0005
Nickel (ICP)	6010	0.06	mg/L	0.05
Potassium (ICP)	6010	8.97	mg/L	1.00
Selenium (Hydride)	7741	ND	mg/L	0.01
Silver (ICP)	6010	ND	mg/L	0.02
Sodium (ICP)	6010	164	mg/L	1.00
Thallium (ICP)	200.7	ND	mg/L	0.01
Tin (ICP)	200.7	ND	mg/L	0.01
Vanadium (ICP)	200.7	0.006	mg/L	0.005
Zinc (ICP)	6010	0.03	mg/L	0.02

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Sulfide	376.2	ND	mg/L	0.1
Cyanide (Total)	335.2	ND	mg/L	0.02
ICP METALS		--		
Antimony (ICP)	6010	ND	mg/L	0.005
Antimony (ICP, Dissolved)	6010	ND	mg/L	0.005
Arsenic (ICP, Dissolved)	200.7	0.004	mg/L	0.003
Arsenic (Hydride)	7061/7062	ND	mg/L	0.003
Barium (ICP, Dissolved)	200.7	ND	mg/L	0.02
Barium (ICP)	6010	0.03	mg/L	0.02
Beryllium (ICP)	200.7	ND	mg/L	0.002
Beryllium (ICP, Dissolved)	200.7	ND	mg/L	0.005
Cadmium (ICP, Dissolved)	200.7	ND	mg/L	0.01
Cadmium (ICP)	6010	ND	mg/L	0.01
Chromium (ICP, Dissolved)	200.7	0.03	mg/L	0.02
Chromium (ICP)	6010	0.03	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.005
Cobalt (ICP, Dissolved)	6010	ND	mg/L	0.005
Copper (ICP, Dissolved)	200.7	ND	mg/L	0.02
Copper (ICP)	6010	ND	mg/L	0.02
Lead (ICP, Dissolved)	200.7	ND	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Mercury (CVAA)	7470	ND	mg/L	0.0005
Mercury (CVAA,Dissolved)	7470	ND	mg/L	0.0005
Nickel (ICP, Dissolved)	200.7	0.06	mg/L	0.05
Nickel (ICP)	6010	0.06	mg/L	0.05
Selenium (ICP, Dissolved)	6010	ND	mg/L	0.5
Selenium (Hydride)	7741	ND	mg/L	0.01
Silver (ICP, Dissolved)	200.7	ND	mg/L	0.02
Silver (ICP)	6010	ND	mg/L	0.02
Thallium (ICP)	200.7	ND	mg/L	0.01
Thallium (ICP, Dissolved)	200.7	ND	mg/L	0.01
Tin (ICP)	200.7	ND	mg/L	0.01
Tin (ICP, Dissolved)	200.7	ND	mg/L	0.01
Vanadium (ICP)	200.7	0.006	mg/L	0.005
Vanadium (ICP, Dissolved)	200.7	ND	mg/L	0.005
Zinc (ICP, Dissolved)	200.7	ND	mg/L	0.02
Zinc (ICP)	6010	0.03	mg/L	0.02

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		11-14-95		
DATE ANALYZED		11-19-95		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.02
alpha-BHC	8080	ND	ug/L	0.005
beta-BHC	8080	ND	ug/L	0.005
delta-BHC	8080	ND	ug/L	0.007
gamma-BHC (Lindane)	8080	ND	ug/L	0.02
Chlordane	8080	ND	ug/L	0.4
4,4'-DDD	8080	ND	ug/L	0.05
4,4'-DDE	8080	ND	ug/L	0.05
4,4'-DDT	8080	ND	ug/L	0.05
Dieldrin	8080	ND	ug/L	0.05
Endosulfan I	8080	ND	ug/L	0.05
Endosulfan II	8080	ND	ug/L	0.05
Endosulfan sulfate	8080	ND	ug/L	0.05
Endrin	8080	ND	ug/L	0.05
Endrin aldehyde	8080	ND	ug/L	0.05
Heptachlor	8080	ND	ug/L	0.05
Heptachlor epoxide	8080	ND	ug/L	0.05
Methoxychlor	8080	ND	ug/L	0.08
Toxaphene	8080	ND	ug/L	1.0
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	2.0
Aroclor 1221	8080	ND	ug/L	8.0
Aroclor 1232	8080	ND	ug/L	3.0
Aroclor 1242	8080	ND	ug/L	2.0
Aroclor 1248	8080	ND	ug/L	2.0
Aroclor 1254	8080	ND	ug/L	0.5
Aroclor 1260	8080	ND	ug/L	0.5
Surrogate Spike	8080	--		
2-chloronaphthalene	8080	122	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8140 (GC,Liquid)				
DATE EXTRACTED		11/09/199		
DATE ANALYZED		11/16/199		
Reporting Limit Multiplier		1		
Azinphos methyl	8140	ND	mg/L	0.01
Chlorpyrifos	8140	ND	mg/L	0.01
Coumaphos	8140	ND	mg/L	0.01
Diazinon	8140	ND	mg/L	0.01
Dichlorvos	8140	ND	mg/L	0.01
Disulfoton	8140	ND	mg/L	0.01
Fensulfothion	8140	ND	mg/L	0.01
Ethoprop	8140	ND	mg/L	0.01
Merphos	8140	ND	mg/L	0.01
Mevinphos	8140	ND	mg/L	0.01
Naled	8140	ND	mg/L	0.04
Methyl Parathion	8140	ND	mg/L	0.01
Trichloronate	8140	ND	mg/L	0.01
Phorate	8140	ND	mg/L	0.01
Ronnel	8140	ND	mg/L	0.01
Tetrachlorovinphos	8140	ND	mg/L	
Tokuthion	8140	ND	mg/L	0.01
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		11/10/199		
DATE ANALYZED		11/16/199		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	2
2,4,5-T	8150	ND	ug/L	2
2,4,5-TP	8150	ND	ug/L	2

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270(GCMS,Liquid)				
DATE EXTRACTED		11-09-95		
DATE ANALYZED		11-11-95		
Dilution Factor		1		
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Aldrin	8270	ND	ug/L	50
Aniline	8270	ND	ug/L	50
Anthracene	8270	ND	ug/L	10
Azobenzene	8270	ND	ug/L	10
Benzidine	8270	ND	ug/L	50
Benzo(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzoic acid	8270	ND	ug/L	50
Benzyl alcohol	8270	ND	ug/L	10
Butyl benzyl phthalate	8270	ND	ug/L	50
alpha-BHC	8270	ND	ug/L	50
beta-BHC	8270	ND	ug/L	50
delta-BHC	8270	ND	ug/L	50
gamma-BHC	8270	ND	ug/L	50
bis(2-Chloroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	50
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	20
2-Chloronaphthalene	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
4,4'-DDD	8270	ND	ug/L	50
4,4'-DDE	8270	ND	ug/L	50
4,4'-DDT	8270	ND	ug/L	50
Dibenzo(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
Di-n-butylphthalate	8270	ND	ug/L	50
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
Dieldrin	8270	ND	ug/L	50
Diethylphthalate	8270	ND	ug/L	50
Dimethyl phthalate	8270	ND	ug/L	50
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	50
Endrin	8270	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Annual
Date Taken: 11/07/1995
NET Job No.: 95.01855
Date Reported: 12/19/1995
Sample ID : CM-11
Lab No. : 86965
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Endosulfan I	8270	ND	ug/L	50
Endosulfan II	8270	ND	ug/L	50
Endosulfan sulfate	8270	ND	ug/L	50
Endrin aldehyde	8270	ND	ug/L	50
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Heptachlor	8270	ND	ug/L	50
Heptachlor epoxide	8270	ND	ug/L	50
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	25
Hexachloroethane	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
2-Nitroaniline	8270	ND	ug/L	50
3-Nitroaniline	8270	ND	ug/L	50
4-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
N-Nitroso-Di-N-propylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Pyrene	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
ACID EXTRACTABLES		--		
4-Chloro-3-methylphenol	8270	ND	ug/L	20
2-Chlorophenol	8270	ND	ug/L	10
2,4-Dichlorophenol	8270	ND	ug/L	10
2,4-Dimethylphenol	8270	ND	ug/L	10
2,4-Dinitrophenol	8270	ND	ug/L	50
4,6-Dinitro-2-methylphenol	8270	ND	ug/L	50
2-Nitrophenol	8270	ND	ug/L	10
4-Nitrophenol	8270	ND	ug/L	50
Pentachlorophenol	8270	ND	ug/L	50
Phenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
2-Methylphenol	8270	ND	ug/L	10
4-Methylphenol	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5	8270	95	% Rec.	
2-Fluorobiphenyl	8270	58	% Rec.	
p-Terphenyl-d14	8270	118	% Rec.	
Phenol-d5	8270	60	% Rec.	
2-Fluorophenol	8270	81	% Rec.	
2,4,6-Tribromophenol	8270	82	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

NATIONAL ENVIRONMENTAL TESTING, INC.

Burbank Division
700 South Flower Street
Burbank, CA 91502
Tel: (213) 849-6591
Fax: (818) 567-6477

DOHS Certificate Number: 1192
LACSD Lab I.D. Number: 10158

03/29/1996

Les Sakoda
Browning-Ferris Industries
c/o Geosyntec
14747 San Fernando Road
Sylmar, CA 91342

Client Ref: Sunshine Canyon Landfill - App II + Gen
Date Received: 03/08/1996

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Rick Schrynemeeckers
Division Manager

KB:rm
Attachments:
Analytical Reports
Chain of Custody Document

Client Net Acct No: 5052
NET Job No: 96.00419

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419 Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	6.7	pH units	
Conductivity	120.1	2,760	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2,610	mg/L	10
Cation/Anion Ratio		33.9/35.5		
Alkalinity (as CaC03)				
Total	310.1	420	mg/L	10
Bicarbonate	310.1	420	mg/L	10
Carbonate	310.1	0	mg/L	10
Hydroxide	310.1	0	mg/L	10
Carbon Dioxide (CO2)	310.1	--	mg/L	10
Chloride	325.3	16.0	mg/L	1.0
Sulfate	375.4	1,350	mg/L	1.0
Fluoride	340.2	1.4	mg/L	0.1
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	ND	mg/L	0.03
Total organic halogens (TOX)	9020	ND	mg/L	0.01
Total Organic Carbon	415.1	4	mg/L	1.0
Chemical Oxygen Demand	410.4	15.1	mg/L	10
Cyanide (Total)	335.2	ND	mg/L	0.01
Hardness (Total, as CaCO3)	130.2	1,660	mg/L	5.0
ICP METALS		--	mg/L	
Antimony (ICP)	6010	ND	mg/L	0.20
Antimony (ICP, Dissolved)	6010	ND	mg/L	0.20
Arsenic (Hydride)	7061/7062	ND	mg/L	0.003
Arsenic (Hydride,Dissolved)	7061/7062	ND	mg/L	0.003
Barium (ICP)	6010	ND	mg/L	0.02
Barium (ICP, Dissolved)	6010	ND	mg/L	0.02
Beryllium (ICP)	6010	ND	mg/L	0.02
Beryllium (ICP, Dissolved)	6010	ND	mg/L	0.02
Boron (ICP)	6010	ND	mg/L	0.50
Cadmium (ICP)	6010	ND	mg/L	0.01
Cadmium (ICP, Dissolved)	6010	ND	mg/L	0.01
Calcium (ICP)	6010	302	mg/L	0.50
Chromium (ICP)	6010	0.06	mg/L	0.02
Chromium (ICP, Dissolved)	6010	0.06	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.05
Cobalt (ICP, Dissolved)	6010	ND	mg/L	0.05
Copper (ICP)	6010	0.03	mg/L	0.02
Copper (ICP, Dissolved)	6010	0.03	mg/L	0.02
Iron (ICP)	6010	5.54	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Lead (ICP, Dissolved)	6010	ND	mg/L	0.10
Magnesium (ICP)	6010	155	mg/L	0.50
Manganese (ICP)	6010	0.58	mg/L	0.02
Mercury (CVAA)	7470	ND	mg/L	0.0005
Mercury (CVAA,Dissolved)	7470	ND	mg/L	0.0005
Nickel (ICP)	6010	0.07	mg/L	0.05
Nickel (ICP, Dissolved)	6010	0.07	mg/L	0.05

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
NET Job No.: 96.00419 Date Taken: 03/08/1996
Sample ID : CM-11 Date Reported: 03/29/1996
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Potassium (ICP)	6010	7.46	mg/L	1.00
Selenium (Hydride)	270.3	ND	mg/L	0.01
Selenium (Hydride, Dissolved)	270.3	ND	mg/L	0.01
Silver (ICP)	6010	0.03	mg/L	0.02
Silver (ICP, Dissolved)	6010	0.03	mg/L	0.02
Sodium (ICP)	6010	130	mg/L	1.00
Thallium (ICP)	6010	ND	mg/L	0.25
Thallium (ICP, Dissolved)	6010	ND	mg/L	0.25
Tin (ICP)	6010	ND	mg/L	0.20
Tin (ICP, Dissolved)	6010	ND	mg/L	0.20
Vanadium (ICP)	6010	0.05 J	mg/L	0.05
Vanadium (ICP, Dissolved)	6010	0.06	mg/L	0.05
Zinc (ICP)	6010	ND	mg/L	0.02
Zinc (ICP, Dissolved)	6010	ND	mg/L	0.02
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		03-13-96		
DATE ANALYZED		03-21-96		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.02
alpha-BHC	8080	ND	ug/L	0.005
beta-BHC	8080	ND	ug/L	0.005
delta-BHC	8080	ND	ug/L	0.007
gamma-BHC (Lindane)	8080	ND	ug/L	0.02
Chlordane	8080	ND	ug/L	0.4
4,4'-DDD	8080	ND	ug/L	0.05
4,4'-DDE	8080	ND	ug/L	0.05
4,4'-DDT	8080	ND	ug/L	0.05
Diallate	8080	ND	ug/L	0.1
Dieldrin	8080	ND	ug/L	0.05
Endosulfan I	8080	ND	ug/L	0.05
Endosulfan II	8080	ND	ug/L	0.05
Endosulfan sulfate	8080	ND	ug/L	0.05
Endrin	8080	ND	ug/L	0.05
Endrin aldehyde	8080	ND	ug/L	0.05
Heptachlor	8080	ND	ug/L	0.05
Heptachlor epoxide	8080	ND	ug/L	0.05
Isodrin	8080	ND	ug/L	0.05
Methoxychlor	8080	ND	ug/L	0.08
Kepone	8080	ND	ug/L	0.1
Toxaphene	8080	ND	ug/L	1.0
Pronamid	8080	ND	ug/L	0.10
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	2.0
Aroclor 1221	8080	ND	ug/L	8.0
Aroclor 1232	8080	ND	ug/L	3.0
Aroclor 1242	8080	ND	ug/L	2.0
Aroclor 1248	8080	ND	ug/L	2.0
Aroclor 1254	8080	ND	ug/L	0.5

ND: Not Detected at the Reporting Limit (RL).

J: Estimated value, below Reporting Limit/Practical Quantitation Limit

NATIONAL ENVIRONMENTAL TESTING, INC.

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Burbank, CA 91502
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DOHS Certificate Number: 1192
LACSD Lab I.D. Number: 10158

06/18/1996

Les Sakoda
Browning-Ferris Industries
c/o Geosyntec
14747 San Fernando Road
Sylmar, CA 91342

Client Ref: Sunshine Canyon Landfill Ap.II & Gen Min
Date Received: 06/03/1996

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Rick Schrynemeeckers
Division Manager

KB:rm
Attachments:
Analytical Reports
Chain of Custody Document

Client Net Acct No: 5052
NET Job No: 96.01027

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027
Date Reported: 06/18/1996
Sample ID : CM-11
Lab No : 94537
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
pH	150.1	6.9	pH units	1.0
Conductivity	120.1	2,260	umhos/cm	1.0
Tot. Dissolved Solids (TFR)	160.1	2430	mg/L	10
Cation/Anion Ratio		35.8/37.7		
Alkalinity (as CaCO3)				
Total	310.1	400	mg/L	10
Bicarbonate	310.1	400	mg/L	10
Carbonate	310.1	0	mg/L	10
Hydroxide	310.1	0	mg/L	10
Chloride	325.3	15.0	mg/L	1.0
Sulfate	375.4	1,470	mg/L	5.0
Fluoride	340.2	1.3	mg/L	0.10
Sulfide	376.2	ND	mg/L	0.1
Nitrate, as N	353.1	ND	mg/L	0.03
Total organic halogens (TOX)	9020	ND	mg/L	0.01
Total Organic Carbon	415.1	3	mg/L	1.0
Chemical Oxygen Demand	410.4	11.3	mg/L	10
Cyanide (Total)	335.2	ND	mg/L	0.01
Hardness (Total, as CaCO3)	130.2	1,420	mg/L	5.0
ICP METALS		--		
Antimony (ICP)	6010	ND	mg/L	0.20
Antimony (ICP, Dissolved)	6010	ND	mg/L	0.20
Arsenic (Hydride)	7061/7062	ND	mg/L	0.005
Arsenic (Hydride,Dissolved)	7061/7062	ND	mg/L	0.005
Barium (ICP)	6010	ND	mg/L	0.02
Barium (ICP, Dissolved)	6010	ND	mg/L	0.02
Beryllium (ICP)	6010	ND	mg/L	0.02
Beryllium (ICP, Dissolved)	6010	ND	mg/L	0.02
Boron (ICP)	6010	ND	mg/L	0.50
Cadmium (ICP)	6010	ND	mg/L	0.01
Cadmium (ICP, Dissolved)	6010	ND	mg/L	0.01
Calcium (ICP)	6010	296	mg/L	0.50
Chromium (ICP)	6010	ND	mg/L	0.02
Chromium (ICP, Dissolved)	6010	ND	mg/L	0.02
Cobalt (ICP)	6010	ND	mg/L	0.05
Cobalt (ICP, Dissolved)	6010	ND	mg/L	0.05
Copper (ICP)	6010	ND	mg/L	0.02
Copper (ICP, Dissolved)	6010	ND	mg/L	0.02
Iron (ICP)	6010	6.72	mg/L	0.10
Lead (ICP)	6010	ND	mg/L	0.10
Lead (ICP, Dissolved)	6010	ND	mg/L	0.10
Magnesium (ICP)	6010	168	mg/L	0.50
Manganese (ICP)	6010	0.62	mg/L	0.02
Mercury (CVAA)	7470	ND	mg/L	0.0005
Mercury (CVAA,Dissolved)	7470	ND	mg/L	0.0005
Nickel (ICP)	6010	ND	mg/L	0.05
Nickel (ICP, Dissolved)	6010	ND	mg/L	0.05
Potassium (ICP)	6010	9.94	mg/L	1.00

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen-Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L.
Selenium (Hydride)	270.3	ND	mg/L	0.005
Selenium (Hydride, Dissolved)	270.3	0.005	mg/L	0.005
Silver (ICP)	6010	ND	mg/L	0.02
Silver (ICP, Dissolved)	6010	ND	mg/L	0.02
Sodium (ICP)	6010	154	mg/L	1.00
Thallium (ICP)	6010	ND	mg/L	0.25
Thallium (ICP, Dissolved)	6010	ND	mg/L	0.25
Tin (ICP)	6010	ND	mg/L	0.20
Tin (ICP, Dissolved)	6010	ND	mg/L	0.20
Vanadium (ICP)	6010	ND	mg/L	0.05
Vanadium (ICP, Dissolved)	6010	ND	mg/L	0.05
Zinc (ICP)	6010	ND	mg/L	0.02
Zinc (ICP, Dissolved)	6010	ND	mg/L	0.02
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		06-06-96		
DATE ANALYZED		06-12-96		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.02
alpha-BHC	8080	ND	ug/L	0.005
beta-BHC	8080	ND	ug/L	0.005
delta-BHC	8080	ND	ug/L	0.007
gamma-BHC (Lindane)	8080	ND	ug/L	0.02
Chlordane	8080	ND	ug/L	0.4
4,4'-DDD	8080	ND	ug/L	0.05
4,4'-DDE	8080	ND	ug/L	0.05
4,4'-DDT	8080	ND	ug/L	0.05
Diallate	8080	ND	ug/L	0.1
Dieldrin	8080	ND	ug/L	0.05
Endosulfan I	8080	ND	ug/L	0.05
Endosulfan II	8080	ND	ug/L	0.05
Endosulfan sulfate	8080	ND	ug/L	0.05
Endrin	8080	ND	ug/L	0.05
Endrin aldehyde	8080	ND	ug/L	0.05
Heptachlor	8080	ND	ug/L	0.05
Heptachlor epoxide	8080	ND	ug/L	0.05
Isodrin	8080	ND	ug/L	0.05
Methoxychlor	8080	ND	ug/L	0.08
Kepone	8080	ND	ug/L	0.1
Toxaphene	8080	ND	ug/L	1.0
Pronamid	8080	ND	ug/L	0.05
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	2.0
Aroclor 1221	8080	ND	ug/L	8.0
Aroclor 1232	8080	ND	ug/L	3.0
Aroclor 1242	8080	ND	ug/L	2.0
Aroclor 1248	8080	ND	ug/L	2.0
Aroclor 1254	8080	ND	ug/L	0.5
Aroclor 1260	8080	ND	ug/L	0.5

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96.01027 Date Taken: 06/03/1996
Sample ID : CM-11 Date Reported: 06/18/1996
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Surrogate Spike	8080	--		
Di-n-butylchlorindate	8080	88	% Rec.	
METHOD 8141 (GC,Liquid)				
DATE EXTRACTED		06-11-96		
DATE ANALYZED		06-15-96		
Reporting Limit Multiplier		1		
Disulfoton	8141	ND	ug/L	0.40
Famphur	8141	ND	ug/L	0.40
Parathion	8141	ND	ug/L	0.40
Methyl Parathion	8141	ND	ug/L	0.40
Phorate	8141	ND	ug/L	0.40
Thionazin	8141	ND	ug/L	0.40
SURROGATE RESULTS	8141	--		
Triphenylphosphate (Surr.)	8141	87	% Rec.	
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		06-11-96		
DATE ANALYZED		06-12-96		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	0.2
2,4,5-T	8150	ND	ug/L	0.12
2,4,5-TP	8150	ND	ug/L	0.12
Dinoseb	8150	ND	ug/L	0.59
SURROGATE RESULTS	8150	--		
2,4-DCPAA (Surr.)	8150	89	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96.01027 Date Taken: 06/03/1996
Sample ID : CM-11 Date Reported: 06/18/1996
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96-01027 Date Taken: 06/03/1996
Sample ID: CM-11 Date Reported: 06/18/1996
Lab No.: 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L.
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS				
4-Bromofluorobenzene (SURR)	SW8260	97	% Rec.	
Toluene-d8 (SURR)	SW8260	101	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	99	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96.01027 Date Taken: 06/03/1996
Sample ID : CM-11 Date Reported: 06/18/1996
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270 (GCMS Subtitle D)				
SUBTITLE D	8270	--		
DILUTION FACTOR	8270	1	ug/L	
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Acetophenone	8270	ND	ug/L	10
2-Acetylaminofluorene	8270	ND	ug/L	10
4-Aminobiphenyl	8270	ND	ug/L	10
Anthracene	8270	ND	ug/L	10
Benz(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzyl alcohol	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Cholroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	10
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
Butyl benzyl phthalate	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	10
Chlorobenzilate	8270	ND	ug/L	10
p-Chloro-m-cresol	8270	ND	ug/L	10
2-Chloronaphthalene	8270	ND	ug/L	10
2-Chlorophenol	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
m-Cresol	8270	ND	ug/L	10
o-Cresol	8270	ND	ug/L	10
Cresol (m- and p- isomers)	8270	ND	ug/L	10
p-Cresol	8270	ND	ug/L	10
Dibenz(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
2,4-Dichlorophenol	8270	ND	ug/L	10
2,6-Dichlorophenol	8270	ND	ug/L	10
Diethylphthalate	8270	ND	ug/L	10
p-Dimethylaminoazobenzene	8270	ND	ug/L	10
7,12-Dimethylbenz(a)anthracene	8270	ND	ug/L	10
3,3'-Dimethylbenzidine	8270	ND	ug/L	20
2,4-Dimethylphenol	8270	ND	ug/L	10
Dimethyl phthalate	8270	ND	ug/L	10
di-n-Butylphthalate	8270	ND	ug/L	10
1,3-Dinitrobenzene	8270	ND	ug/L	10
4,6-Dinitro-o-cresol	8270	ND	ug/L	20

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96.01027 Date Taken: 06/03/1996
Sample ID : CM-11 Date Reported: 06/18/1996
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,4-Dinitrophenol	8270	ND	ug/L	20
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	10
Diphenylamine	8270	ND	ug/L	10
Ethyl methanesulfonate	8270	ND	ug/L	10
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	10
Hexachloroethane	8270	ND	ug/L	10
Hexachloropropene	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
Isosafrole	8270	ND	ug/L	10
Methapyrilene	8270	ND	ug/L	10
3-Methylcholanthrene	8270	ND	ug/L	10
Methyl methanesulfonate	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
1,4-Naphthoquinone	8270	ND	ug/L	10
1-Naphthylamine	8270	ND	ug/L	10
2-Naphthylamine	8270	ND	ug/L	10
o-Nitroaniline	8270	ND	ug/L	50
m-Nitroaniline	8270	ND	ug/L	50
p-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
o-Nitrophenol	8270	ND	ug/L	10
p-Nitrophenol	8270	ND	ug/L	50
N-Nitrosodi-n-butylamine	8270	ND	ug/L	10
N-Nitrosodiethylamine	8270	ND	ug/L	10
N-Nitrosodimethylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
N-Nitrosodipropylamine	8270	ND	ug/L	10
N-Nitrosomethylethalamine	8270	ND	ug/L	10
N-Nitrosopiperidine	8270	ND	ug/L	10
N-Nitrosopyrrolidine	8270	ND	ug/L	10
5-Nitro-o-toluidine	8270	ND	ug/L	10
Pentachlorobenzene	8270	ND	ug/L	10
Pentachloronitrobenzene	8270	ND	ug/L	10
Pentachlorophenol	8270	ND	ug/L	10
Phenacetin	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Phenol	8270	ND	ug/L	10
p-Phenylenediamine	8270	ND	ug/L	20
Pyrene	8270	ND	ug/L	10
Safrole	8270	ND	ug/L	10
1,2,4,5-Tetrachlorobenzene	8270	ND	ug/L	10

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,3,4,6-Tetrachlorophenol	8270	ND	ug/L	10
o-Toluidine	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
o,o,oTriethylphosphorothionate	8270	ND	ug/L	10
sym-Trinitrobenzene	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5 (SURR)	8270	74	% Rec.	
2-Fluorobiphenyl (SURR)	8270	63	% Rec.	
p-Terphenyl-d14 (SURR)	8270	87	% Rec.	
Phenol-d5 (SURR)	8270	39	% Rec.	
2-Fluorophenol (SURR)	8270	46	% Rec.	
2,4,6-Tribromophenol (SURR)	8270	60	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

CM -11
(Artesian Well)

THIRD QUARTER 1996

TABLE 2-4
GROUNDWATER QUALITY DATA
THIRD QUARTER 1996
SUNSHINE CANYON LANDFILL COUNTY EXTENSION
LOS ANGELES COUNTY, CALIFORNIA

		MONITORING WELL DESIGNATION						
PARAMETER	UNITS	CM-09R	CM-09RD[1]	CM-11	CM-12	CM-13	CM-14	MW-11
INORGANIC PARAMETERS								
pH	std. units	6.59	6.63	6.57	6.6	5.04	6.57	8.67
Total Dissolved Solids	mg/L	4350	4380	2390	2400	3770	1170	1660
Chloride	mg/L	22.4	22.4	18	16.8	23.4	8.42	56.3
Sulfate	mg/L	2140	2080	1220	1420	2140	496	49.1
(Nitrate-Nitrite)-N	mg/L	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
VOLATILE ORGANIC COMPOUNDS								
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform; Trichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene Chloride[2]	µg/L	0.3	0.42	0.31	0.3	0.29	0.3	0.27
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes	µg/L	<1	<1	<1	<1	<1	<0.5	<0.5
Bromomethane	µg/L	<1	<1	<2	<2	<2	<1	<1
cis-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
1,2,3-Trichloropropane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-Chloropropane	µg/L	<1	<1	<2	<2	<2	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<20	<20	<20	<20	<20	<20	<20
2-Butanone	µg/L	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	µg/L	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
Iodomethane	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-Pentanone	µg/L	<10	<10	<10	<10	<10	<10	<10
trans-1,4-Dichloro-2-Butene	µg/L	<20	<20	<20	<20	<20	<20	<20
Vinyl Acetate	µg/L	<20	<20	<20	<20	<20	<20	<20

[1]CM-09RD is a duplicate sample collected from Monitoring Well CM-9R.
[2]Suspected laboratory contaminant.

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419 Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Aroclor 1260	8080	ND	ug/L	0.5
Surrogate Spike	8080	--		
2-chloronaphthalene	8080	109	% Rec.	
METHOD 8140 (GC,Liquid)				
DATE EXTRACTED		03-14-96		
DATE ANALYZED		03-17-96		
Reporting Limit Multiplier		1		
Disulfoton	8140	ND	ug/L	0.4
Famphur	8140	ND	ug/L	70
Parathion	8140	ND	ug/L	0.4
Methyl Parathion	8140	ND	ug/L	0.4
Phorate	8140	ND	ug/L	0.4
Thionazin	8140	ND	ug/L	0.4
SURROGATE RESULTS	8140	--		
Triphenylphosphate (Surr.)	8140	100	% Rec.	
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		03-14-96		
DATE ANALYZED		03-16-96		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	1
2,4,5-T	8150	ND	ug/L	0.1
2,4,5-TP	8150	ND	ug/L	0.1
Dinoseb	8150	ND	ug/L	0.1
SURROGATE RESULTS	8150	--		
2,4-DCPAA (Surr.)	8150	94	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419 Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen

NET Job No.: 96.00419 Date Taken: 03/08/1996
Sample ID : CM-11 Date Reported: 03/29/1996
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS		--		
4-Bromofluorobenzene (SURR)	SW8260	99	% Rec.	
Toluene-d8 (SURR)	SW8260	100	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	100	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419
Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270 (GCMS Subtitle D)				
SUBTITLE D	8270	--		
DILUTION FACTOR	8270	1	ug/L	
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Acetophenone	8270	ND	ug/L	10
2-Acetylaminofluorene	8270	ND	ug/L	10
4-Aminobiphenyl	8270	ND	ug/L	10
Anthracene	8270	ND	ug/L	10
Benz(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzyl alcohol	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Cholroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	10
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
Butylbenzyl phthalate	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	10
Chlorobenzilate	8270	ND	ug/L	10
p-Chloro-m-cresol	8270	ND	ug/L	10
2-Chloronaphthalene	8270	ND	ug/L	10
2-Chlorophenol	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
m-Cresol	8270	ND	ug/L	10
o-Cresol	8270	ND	ug/L	10
Cresol (m- and p- isomers)	8270	ND	ug/L	10
p-Cresol	8270	ND	ug/L	10
Dibenz(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
2,4-Dichlorophenol	8270	ND	ug/L	10
2,6-Dichlorophenol	8270	ND	ug/L	10
Diethylphthalate	8270	ND	ug/L	10
p-Dimethylaminoazobenzene	8270	ND	ug/L	10
7,12-Dimethylbenz(a)anthracene	8270	ND	ug/L	10
3,3'-Dimethylbenzidine	8270	ND	ug/L	20
2,4-Dimethylphenol	8270	ND	ug/L	10
Dimethyl phthalate	8270	ND	ug/L	10
di-n-Butylphthalate	8270	ND	ug/L	10
1,3-Dinitrobenzene	8270	ND	ug/L	10
4,6-Dinitro-o-cresol	8270	ND	ug/L	20

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419 Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,4-Dinitrophenol	8270	ND	ug/L	20
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	10
Diphenylamine	8270	ND	ug/L	10
Ethyl methanesulfonate	8270	ND	ug/L	10
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	10
Hexachloroethane	8270	ND	ug/L	10
Hexachloropropene	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
Isosafrole	8270	ND	ug/L	10
Methapyrilene	8270	ND	ug/L	10
3-Methylcholanthrene	8270	ND	ug/L	10
Methyl methanesulfonate	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
1,4-Naphthoquinone	8270	ND	ug/L	10
1-Naphthylamine	8270	ND	ug/L	10
2-Naphthylamine	8270	ND	ug/L	10
o-Nitroaniline	8270	ND	ug/L	50
m-Nitroaniline	8270	ND	ug/L	50
p-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
o-Nitrophenol	8270	ND	ug/L	10
p-Nitrophenol	8270	ND	ug/L	50
N-Nitrosodi-n-butylamine	8270	ND	ug/L	10
N-Nitrosodiethylamine	8270	ND	ug/L	10
N-Nitrosodimethylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
N-Nitrosodipropylamine	8270	ND	ug/L	10
N-Nitrosomethylethalamine	8270	ND	ug/L	10
N-Nitrosopiperidine	8270	ND	ug/L	10
N-Nitrosopyrrolidine	8270	ND	ug/L	10
5-Nitro-o-toluidine	8270	ND	ug/L	10
Pentachlorobenzene	8270	ND	ug/L	10
Pentachloronitrobenzene	8270	ND	ug/L	10
Pentachlorophenol	8270	ND	ug/L	10
Phenacetin	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Phenol	8270	ND	ug/L	10
p-Phenylenediamine	8270	ND	ug/L	20
Pyrene	8270	ND	ug/L	10
Safrole	8270	ND	ug/L	10
1,2,4,5-Tetrachlorobenzene	8270	ND	ug/L	10

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill - App II + Gen
Date Taken: 03/08/1996
NET Job No.: 96.00419 Date Reported: 03/29/1996
Sample ID : CM-11
Lab No. : 91250 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,3,4,6-Tetrachlorophenol	8270	ND	ug/L	10
o-Toluidine	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
o,o,oTriethylphosphorothionate	8270	ND	ug/L	10
sym-Trinitrobenzene	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5 (SURR)	8270	62	% Rec.	
2-Fluorobiphenyl (SURR)	8270	100	% Rec.	
p-Terphenyl-d14 (SURR)	8270	112	% Rec.	
Phenol-d5 (SURR)	8270	38	% Rec.	
2-Fluorophenol (SURR)	8270	75	% Rec.	
2,4,6-Tribromophenol (SURR)	8270	113	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Selenium (Hydride)	270.3	ND	mg/L	0.005
Selenium (Hydride, Dissolved)	270.3	0.005	mg/L	0.005
Silver (ICP)	6010	ND	mg/L	0.02
Silver (ICP, Dissolved)	6010	ND	mg/L	0.02
Sodium (ICP)	6010	154	mg/L	1.00
Thallium (ICP)	6010	ND	mg/L	0.25
Thallium (ICP, Dissolved)	6010	ND	mg/L	0.25
Tin (ICP)	6010	ND	mg/L	0.20
Tin (ICP, Dissolved)	6010	ND	mg/L	0.20
Vanadium (ICP)	6010	ND	mg/L	0.05
Vanadium (ICP, Dissolved)	6010	ND	mg/L	0.05
Zinc (ICP)	6010	ND	mg/L	0.02
Zinc (ICP, Dissolved)	6010	ND	mg/L	0.02
METHOD 8080 (GC,Liquid)				
DATE EXTRACTED		06-06-96		
DATE ANALYZED		06-12-96		
Dilution Factor		1		
Aldrin	8080	ND	ug/L	0.02
alpha-BHC	8080	ND	ug/L	0.005
beta-BHC	8080	ND	ug/L	0.005
delta-BHC	8080	ND	ug/L	0.007
gamma-BHC (Lindane)	8080	ND	ug/L	0.02
Chlordane	8080	ND	ug/L	0.4
4,4'-DDD	8080	ND	ug/L	0.05
4,4'-DDE	8080	ND	ug/L	0.05
4,4'-DDT	8080	ND	ug/L	0.05
Diallate	8080	ND	ug/L	0.1
Dieldrin	8080	ND	ug/L	0.05
Endosulfan I	8080	ND	ug/L	0.05
Endosulfan II	8080	ND	ug/L	0.05
Endosulfan sulfate	8080	ND	ug/L	0.05
Endrin	8080	ND	ug/L	0.05
Endrin aldehyde	8080	ND	ug/L	0.05
Heptachlor	8080	ND	ug/L	0.05
Heptachlor epoxide	8080	ND	ug/L	0.05
Isodrin	8080	ND	ug/L	0.05
Methoxychlor	8080	ND	ug/L	0.08
Kepone	8080	ND	ug/L	0.1
Toxaphene	8080	ND	ug/L	1.0
Pronamid	8080	ND	ug/L	0.05
POLYCHLORINATED BIPHENYLS		--		
Aroclor 1016	8080	ND	ug/L	2.0
Aroclor 1221	8080	ND	ug/L	8.0
Aroclor 1232	8080	ND	ug/L	3.0
Aroclor 1242	8080	ND	ug/L	2.0
Aroclor 1248	8080	ND	ug/L	2.0
Aroclor 1254	8080	ND	ug/L	0.5
Aroclor 1260	8080	ND	ug/L	0.5

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027
Date Reported: 06/18/1996
Sample ID: CM-11
Lab No.: 94537
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Surrogate Spike	8080	--		
Di-n-butylchlorindate	8080	88	% Rec.	
METHOD 8141 (GC,Liquid)				
DATE EXTRACTED		06-11-96		
DATE ANALYZED		06-15-96		
Reporting Limit Multiplier		1		
Disulfoton	8141	ND	ug/L	0.40
Famphur	8141	ND	ug/L	0.40
Parathion	8141	ND	ug/L	0.40
Methyl Parathion	8141	ND	ug/L	0.40
Phorate	8141	ND	ug/L	0.40
Thionazin	8141	ND	ug/L	0.40
SURROGATE RESULTS	8141	--		
Triphenylphosphate (Surr.)	8141	87	% Rec.	
MODIFIED 8150 (GC,Liquid)				
DATE EXTRACTED		06-11-96		
DATE ANALYZED		06-12-96		
Reporting Limit Multiplier		1		
2,4-D	8150	ND	ug/L	0.2
2,4,5-T	8150	ND	ug/L	0.12
2,4,5-TP	8150	ND	ug/L	0.12
Dinoseb	8150	ND	ug/L	0.59
SURROGATE RESULTS	8150	--		
2,4-DCPAA (Surr.)	8150	89	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027
Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537
Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8260 (GCMS Subtitle D)				
DILUTION FACTOR	SW8260	1		
Acetone	SW8260	ND	ug/L	8
Acetonitrile	SW8260	ND	ug/L	400
Acrolein	SW8260	ND	ug/L	200
Acrylonitrile	SW8260	ND	ug/L	200
Allyl chloride	SW8260	ND	ug/L	50
Benzene	SW8260	ND	ug/L	5
Bromochloromethane	SW8260	ND	ug/L	5
Bromodichloromethane	SW8260	ND	ug/L	5
Bromoform	SW8260	ND	ug/L	5
Carbon disulfide	SW8260	ND	ug/L	5
Carbon tetrachloride	SW8260	ND	ug/L	5
Chlorobenzene	SW8260	ND	ug/L	5
Chloroethane	SW8260	ND	ug/L	5
Chloroform	SW8260	ND	ug/L	5
Chloropropene	SW8260	ND	ug/L	50
Dibromochloromethane	SW8260	ND	ug/L	5
1,2-Dibromo-3-chloropropane	SW8260	ND	ug/L	10
1,2-Dibromoethane	SW8260	ND	ug/L	5
1,2-Dichlorobenzene	SW8260	ND	ug/L	5
1,3-Dichlorobenzene	SW8260	ND	ug/L	5
1,4-Dichlorobenzene	SW8260	ND	ug/L	5
t-1,4-Dichloro-2-butene	SW8260	ND	ug/L	50
Dichlorodifluoromethane	SW8260	ND	ug/L	5
1,1-Dichloroethane	SW8260	ND	ug/L	5
1,2-Dichloroethane	SW8260	ND	ug/L	5
1,1-Dichloroethene	SW8260	ND	ug/L	5
cis-1,2-Dichloroethene	SW8260	ND	ug/L	5
trans-1,2-Dichloroethene	SW8260	ND	ug/L	5
1,2-Dichloropropane	SW8260	ND	ug/L	5
1,3-Dichloropropane	SW8260	ND	ug/L	5
2,2-Dichloropropane	SW8260	ND	ug/L	5
1,1-Dichloropropene	SW8260	ND	ug/L	5
cis-1,3-Dichloropropene	SW8260	ND	ug/L	5
trans-1,3-Dichloropropene	SW8260	ND	ug/L	5
Ethylbenzene	SW8260	ND	ug/L	5
Ethyl methacrylate	SW8260	ND	ug/L	50
Hexachlorobutadiene	SW8260	ND	ug/L	5
2-Hexanone	SW8260	ND	ug/L	50
Isobutyl alcohol	SW8260	ND	ug/L	500
Isodrin (TIC)	SW8260	ND	ug/L	5
Methacrylonitrile	SW8260	ND	ug/L	100
Methyl bromide	SW8260	ND	ug/L	5
Methyl chloride	SW8260	ND	ug/L	5
Methyl ethyl ketone	SW8260	ND	ug/L	50
Methyl Iodide	SW8260	ND	ug/L	100
Methyl methacrylate	SW8260	ND	ug/L	50
4-Methyl-2-petanone	SW8260	ND	ug/L	50

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
NET Job No.: 96.01027 Date Taken: 06/03/1996
Sample ID: CM-11 Date Reported: 06/18/1996
Lab No.: 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
Methylene bromide	SW8260	ND	ug/L	5
Methylene chloride	SW8260	ND	ug/L	5
Naphthalene	SW8260	ND	ug/L	10
Propionitrile	SW8260	ND	ug/L	300
Styrene	SW8260	ND	ug/L	5
1,1,1,2-Tetrachloroethane	SW8260	ND	ug/L	5
1,1,2,2-Tetrachloroethane	SW8260	ND	ug/L	5
Tetrachloroethene	SW8260	ND	ug/L	5
Toluene	SW8260	ND	ug/L	5
1,2,4-Trichlorobenzene	SW8260	ND	ug/L	5
1,1,1-Trichloroethane	SW8260	ND	ug/L	5
1,1,2-Trichloroethane	SW8260	ND	ug/L	5
Trichloroethene	SW8260	ND	ug/L	5
Trichlorofluoromethane	SW8260	ND	ug/L	5
1,2,3-Trichloropropane	SW8260	ND	ug/L	5
Vinyl acetate	SW8260	ND	ug/L	10
Vinyl chloride	SW8260	ND	ug/L	5
Xylene (total)	SW8260	ND	ug/L	15
SURROGATE RESULTS		--		
4-Bromofluorobenzene (SURR)	SW8260	97	% Rec.	
Toluene-d8 (SURR)	SW8260	101	% Rec.	
1,2-Dichloroethane-d4 (SURR)	SW8260	99	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
METHOD 8270 (GCMS Subtitle D)				
SUBTITLE D	8270	--		
DILUTION FACTOR	8270	1	ug/L	
Acenaphthene	8270	ND	ug/L	10
Acenaphthylene	8270	ND	ug/L	10
Acetophenone	8270	ND	ug/L	10
2-Acetylaminofluorene	8270	ND	ug/L	10
4-Aminobiphenyl	8270	ND	ug/L	10
Anthracene	8270	ND	ug/L	10
Benz(a)anthracene	8270	ND	ug/L	10
Benzo(b)fluoranthene	8270	ND	ug/L	10
Benzo(k)fluoranthene	8270	ND	ug/L	10
Benzo(a)pyrene	8270	ND	ug/L	10
Benzo(g,h,i)perylene	8270	ND	ug/L	10
Benzyl alcohol	8270	ND	ug/L	10
bis(2-Chloroethoxy)methane	8270	ND	ug/L	10
bis(2-Cholroethyl)ether	8270	ND	ug/L	10
bis(2-Chloroisopropyl)ether	8270	ND	ug/L	10
bis(2-Ethylhexyl)phthalate	8270	ND	ug/L	10
4-Bromophenyl phenyl ether	8270	ND	ug/L	10
Butyl benzyl phthalate	8270	ND	ug/L	10
4-Chloroaniline	8270	ND	ug/L	10
Chlorobenzilate	8270	ND	ug/L	10
p-Chloro-m-cresol	8270	ND	ug/L	10
2-Chloronaphthalene	8270	ND	ug/L	10
2-Chlorophenol	8270	ND	ug/L	10
4-Chlorophenyl phenyl ether	8270	ND	ug/L	10
Chrysene	8270	ND	ug/L	10
m-Cresol	8270	ND	ug/L	10
o-Cresol	8270	ND	ug/L	10
Cresol (m- and p- isomers)	8270	ND	ug/L	10
p-Cresol	8270	ND	ug/L	10
Dibenz(a,h)anthracene	8270	ND	ug/L	10
Dibenzofuran	8270	ND	ug/L	10
1,2-Dichlorobenzene	8270	ND	ug/L	10
1,3-Dichlorobenzene	8270	ND	ug/L	10
1,4-Dichlorobenzene	8270	ND	ug/L	10
3,3'-Dichlorobenzidine	8270	ND	ug/L	20
2,4-Dichlorophenol	8270	ND	ug/L	10
2,6-Dichlorophenol	8270	ND	ug/L	10
Diethylphthalate	8270	ND	ug/L	10
p-Dimethylaminoazobenzene	8270	ND	ug/L	10
7,12-Dimethylbenz(a)anthracene	8270	ND	ug/L	10
3,3'-Dimethylbenzidine	8270	ND	ug/L	20
2,4-Dimethylphenol	8270	ND	ug/L	10
Dimethyl phthalate	8270	ND	ug/L	10
di-n-Butylphthalate	8270	ND	ug/L	10
1,3-Dinitrobenzene	8270	ND	ug/L	10
4,6-Dinitro-o-cresol	8270	ND	ug/L	20

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,4-Dinitrophenol	8270	ND	ug/L	20
2,4-Dinitrotoluene	8270	ND	ug/L	10
2,6-Dinitrotoluene	8270	ND	ug/L	10
Di-n-octyl phthalate	8270	ND	ug/L	10
Diphenylamine	8270	ND	ug/L	10
Ethyl methanesulfonate	8270	ND	ug/L	10
Fluoranthene	8270	ND	ug/L	10
Fluorene	8270	ND	ug/L	10
Hexachlorobenzene	8270	ND	ug/L	10
Hexachlorobutadiene	8270	ND	ug/L	10
Hexachlorocyclopentadiene	8270	ND	ug/L	10
Hexachloroethane	8270	ND	ug/L	10
Hexachloropropene	8270	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	8270	ND	ug/L	10
Isophorone	8270	ND	ug/L	10
Isosafrole	8270	ND	ug/L	10
Methapyrilene	8270	ND	ug/L	10
3-Methylcholanthrene	8270	ND	ug/L	10
Methyl methanesulfonate	8270	ND	ug/L	10
2-Methylnaphthalene	8270	ND	ug/L	10
Naphthalene	8270	ND	ug/L	10
1,4-Naphthoquinone	8270	ND	ug/L	10
1-Naphthylamine	8270	ND	ug/L	10
2-Naphthylamine	8270	ND	ug/L	10
o-Nitroaniline	8270	ND	ug/L	50
m-Nitroaniline	8270	ND	ug/L	50
p-Nitroaniline	8270	ND	ug/L	50
Nitrobenzene	8270	ND	ug/L	10
o-Nitrophenol	8270	ND	ug/L	10
p-Nitrophenol	8270	ND	ug/L	50
N-Nitrosodi-n-butylamine	8270	ND	ug/L	10
N-Nitrosodiethylamine	8270	ND	ug/L	10
N-Nitrosodimethylamine	8270	ND	ug/L	10
N-Nitrosodiphenylamine	8270	ND	ug/L	10
N-Nitrosodipropylamine	8270	ND	ug/L	10
N-Nitrosomethylethalamine	8270	ND	ug/L	10
N-Nitrosopiperidine	8270	ND	ug/L	10
N-Nitrosopyrrolidine	8270	ND	ug/L	10
5-Nitro-o-toluidine	8270	ND	ug/L	10
Pentachlorobenzene	8270	ND	ug/L	10
Pentachloronitrobenzene	8270	ND	ug/L	10
Pentachlorophenol	8270	ND	ug/L	10
Phenacetin	8270	ND	ug/L	10
Phenanthrene	8270	ND	ug/L	10
Phenol	8270	ND	ug/L	10
p-Phenylenediamine	8270	ND	ug/L	20
Pyrene	8270	ND	ug/L	10
Safrole	8270	ND	ug/L	10
1,2,4,5-Tetrachlorobenzene	8270	ND	ug/L	10

ND: Not Detected at the Reporting Limit (RL).

Client Name: Browning-Ferris Industries
Client Ref.: Sunshine Canyon Landfill Ap.II & Gen Min
Date Taken: 06/03/1996
NET Job No.: 96.01027 Date Reported: 06/18/1996
Sample ID : CM-11
Lab No. : 94537 Sample Matrix: GROUND WATER

ANALYTES/METHOD	METHOD	RESULTS/FLAGS	UNITS	R.L
2,3,4,6-Tetrachlorophenol	8270	ND	ug/L	10
o-Toluidine	8270	ND	ug/L	10
1,2,4-Trichlorobenzene	8270	ND	ug/L	10
2,4,5-Trichlorophenol	8270	ND	ug/L	10
2,4,6-Trichlorophenol	8270	ND	ug/L	10
o,o,oTriethylphosphorothionate	8270	ND	ug/L	10
sym-Trinitrobenzene	8270	ND	ug/L	10
SURROGATE RESULTS		--		
Nitrobenzene-d5 (SURR)	8270	74	% Rec.	
2-Fluorobiphenyl (SURR)	8270	63	% Rec.	
p-Terphenyl-d14 (SURR)	8270	87	% Rec.	
Phenol-d5 (SURR)	8270	39	% Rec.	
2-Fluorophenol (SURR)	8270	46	% Rec.	
2,4,6-Tribromophenol (SURR)	8270	60	% Rec.	

ND: Not Detected at the Reporting Limit (RL).

CM -11
(Artesian Well)

THIRD QUARTER 1996

TABLE 2-4
GROUNDWATER QUALITY DATA
THIRD QUARTER 1996
SUNSHINE CANYON LANDFILL COUNTY EXTENSION
LOS ANGELES COUNTY, CALIFORNIA

		MONITORING WELL DESIGNATION						
PARAMETER	UNITS	CM-09R	CM-09RD[1]	CM-11	CM-12	CM-13	CM-14	MW-11
INORGANIC PARAMETERS								
pH	std. units	6.59	6.63	6.57	6.6	5.04	6.57	8.67
Total Dissolved Solids	mg/L	4350	4380	2390	2400	3770	1170	1660
Chloride	mg/L	22.4	22.4	18	16.8	23.4	8.42	56.3
Sulfate	mg/L	2140	2080	1220	1420	2140	496	49.1
(Nitrate-Nitrite)-N	mg/L	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
VOLATILE ORGANIC COMPOUNDS								
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform; Trichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methylene Chloride[2]	µg/L	0.3	0.42	0.31	0.3	0.29	0.3	0.27
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes	µg/L	<1	<1	<1	<1	<1	<0.5	<0.5
Bromomethane	µg/L	<1	<1	<2	<2	<2	<1	<1
cis-1,2-Dichloroethene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
1,2,3-Trichloropropane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-Chloropropane	µg/L	<1	<1	<2	<2	<2	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	µg/L	<20	<20	<20	<20	<20	<20	<20
2-Butanone	µg/L	<10	<10	<10	<10	<10	<10	<10
Carbon Disulfide	µg/L	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
Iodomethane	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-Pentanone	µg/L	<10	<10	<10	<10	<10	<10	<10
trans-1,4-Dichloro-2-Butene	µg/L	<20	<20	<20	<20	<20	<20	<20
Vinyl Acetate	µg/L	<20	<20	<20	<20	<20	<20	<20

[1]CM-09RD is a duplicate sample collected from Monitoring Well CM-9R.
[2]Suspected laboratory contaminant.

Appendix C19
DWP AND MWD WATER QUALITY BACKGROUND DATA

Table C19-1
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Percent of Total Supply (%)			38%		13%		38%		11%	
Primary Standards - Health-related Standards										
Inorganic Constituents (mg/L)										
Aluminum (Al)	1	0.10	ND-0.11	ND	ND-0.23	0.16	ND-0.14	ND	ND[a]	ND[a]
Arsenic (As)	0.05	0.010	0.014-0.015	0.010	ND	ND	ND	ND	ND	ND
Barium (Ba)	1	0.10	ND	ND	0.15-0.16	0.16	ND	ND	ND-0.26	0.20
Cadmium (Cd)	0.01	0.002	ND-0.002	ND	ND	ND	ND	ND	ND	ND
Chromium (Cr)	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride (F)	1.6-2.4	0.10	0.47-0.66	0.60	0.14-0.29	0.20	ND-0.49	0.11	0.19-0.21	0.20
Lead (Pb)	0.05	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (Hg)	0.002	0.0001	ND	ND	ND	ND	ND	ND	ND-0.0002	0.0001
Nitrate (as N)	10	1.0	ND	ND	ND	ND	ND	ND	ND-4.2	3.8
Nitrate (as NO3-)	45	4.4	ND	ND	ND	ND	ND	ND	ND-19.2	16.8
Selenium (Se)	0.01	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Silver (Ag)	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Clarity (NTU)										
Turbidity	0.5	0.1	ND	ND	ND-0.1	0.1	ND-0.1	0.1	0.1-0.5	0.2

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Organic Chemicals (µg/L) Chlorinated Hydrocarbons										
Endrin	0.2	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Lindane	4	0.04	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	10	10	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorophenoxys (µg/L)										
2,4,5-TP (Silvex)	10	1	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	100	10	ND	ND	ND	ND	ND	ND	ND	ND
Synthetic - Volatile Organics (mg/L)										
1.1,1-Trichloroethane (TCA)	200	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1.1,2,2-Tetrachloroethane	1	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1.1,2-Trichloroethane	32	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1.1-Dichloroethane (1,1-DCA)	5	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1.1-Dichloroethene (1,1-DCE)	6	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	0.5	0.50	ND	ND	ND	ND	ND	ND	ND	ND
CIS-1,2-Dichloroethene	6	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	10	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1.3-Dichloropropene (CIS, Trans)	0.5	0.50	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
1.4-Dichlorobenzene (Para)	5	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.5	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Carbofuran	18	0.60	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Primary Standards - Health-related Standards (µg/L unless otherwise specified)										
Synthetics - Volatile Organics (µg/L)										
Chlordane	0.1	0.1	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
DI (2-Ethylhexyl) Phthalate	4	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	680	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Glyphosate	700	25	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	0.01	0.01	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Heptachlor Epoxide	0.01	0.01	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Monochloro Benzene	30	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	5	0.50	ND	ND	ND	ND	ND	ND	ND-1.10	ND
Trichloroethene (TCE)	5	0.50	ND	ND	ND	ND	ND	ND	ND-3.70	ND
Trichlorofluoromethane (Freon 11)	150	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	1200	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (Chloroethene)	0.5	0.50	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Xylene (Single or Sum of Isomers)	1750	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Synthetic - Pesticides (µg/L4										
Atrazine	3	1	ND	ND	ND	ND	ND	ND	ND	ND
Bentazon	18	2	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	0.02	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	0.2	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Molinate	20	2	ND	ND	ND	ND	ND	ND	ND	ND
Simazine	10	1	ND	ND	ND	ND	ND	ND	ND	ND
Thiobencarb	70	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Microbiological - Coliform Bacteria										
Percent of Samples Having More than 4 Colonies (%)	5	0	Distribution System		Average: 0.4		RANGE: 0-0.9			
Average No. Of Colonies (CFU/100ml)	1	0	Distribution System		Average: 0.3		RANGE: 0-0.9			
Radioactivity (pCi/L)										
Alpha Activity, Gross	15	1.0	1.5-4.5	2.8	ND-2.9	2.2	ND-1.0	ND	ND-4.9	2.7
Beta Activity, Gross	50	1.0	6.0-19.0	11.7	ND-8.2	3.2	ND-4.8	3.1	4.9-12.0	8.4
Strontium 90 (Sr)	8	2	ND	MD	ND	ND	ND	ND	ND	ND
Tritium (H3O)	20000	1000	ND	ND	ND	ND	ND	ND	ND	ND
Radium 226 & 228, Total	5	1	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Uranium	20	2	[1]	[1]	2-5	3	ND-4	2	[1]	[1]
Disinfection by-products (µg/L)										
Total Trihalomethanes (Average THHMS)	100	0.5	Distribution System Average: 55.7				Range: 12-138 [b]			
Secondary Standards - Aesthetic Standards (mg/L unless Specified) Not Health-related										
Inorganic/physical										
Chloride (CL-)	500	1	19-110	64	81-121	93	63-115	108	14-26	23
Color, apparent (Units)	15	2	ND-40	3	ND-4	3	2-4	3	ND-5	2
Conductivity (umho/cm)	1600	20	240-645	421	812-1004	907	527-661	633	537-898	683
Copper (Cu)	1	0.05	ND	ND	ND-0.06	ND	ND	ND	ND	ND
Foaming agents (MBAS)	0.5	0.05	ND-0.05	0.05	ND	ND	ND	ND	ND	ND
Iron (Fe)	0.3	0.01	ND-0.09	0.02	ND	ND	ND	ND	ND-0.09	0.02
Manganese (Mn)	0.05	0.03	ND	ND	ND	ND	ND	ND	ND	ND
Odor, threshold (TON)	3	1	ND-1	ND	ND-1	ND	ND	ND	ND	ND
Sulfate (as SO4-)	500	1	18-34	26	142-256	195	43-60	50	44-135	101
Total Dissolved Solids (TDS)	1000	10	173-256	215	479-626	548	301-363	346	351-483	442
Zinc (Zn)	5	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Organics										
Thiobencarb (µg/L)	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Additional Constituents Analyzed (µg/L unless specified) - No Standards Exist										
Inorganic/Physical										
Alkalinity, total (as CaCO3)	NS		82-130	106	102-128	115	82-118	85	170-233	209
Ammonia (as NITROGEN)	NS	0.01	0.02-0.04	0.03	0.23-0.32	0.29	0.26-0.32	0.30	ND	ND
Boron (B)	NS		0.51-0.76	0.60	ND-0.33	0.22	0.20-0.25	0.26	0.30	0.30
Bromide (Br-)	NS	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Calcium (Ca)	NS		17.6-27.2	22.0	47.0-75.0	60.0	23.0-30.0	24.0	72.6-86.1	80.5
Carbon, Total Organic (TOC)	NS		0.70-1.00	0.90	2.46-2.74	2.61	2.13-2.68	2.39	0.10-1.30	0.44
Hardness, Total (as CaCO3)	NS		64-224	109	210-307	255	117-140	126	114-328	230
Iodine (I-)	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium (Mg)	NS		5.1-9.8	7.5	22.0-29.0	25.5	12.0-17.0	16.0	16.0-21.7	18.5
Nitrite (as Nitrogen)	NS	0.001	ND-0.002	0.001	ND-0.005	0.002	0.002	0.002	ND-0.002	0.001
Oxygen, Dissolved (02)	NS		NA	NA	NA	NA	3.0-11.3	8.1	8.8-9.7	9.3
pH (units)	6.5-8.5		7.7-9.1	8.4	7.8-8.3	8.0	8.3-8.4	8.4	7.3-8.4	7.6
Phosphate (as PO4-)	NS	0.02	ND-0.04	0.02	ND-0.04	ND	0.03-0.08	0.06	ND-0.90	0.20
Potassium (K)	NS		4.2-5.8	5.2	3.8-4.6	4.2	3.5-5.3	3.7	4.1	4.1
Saturation Index (LSI units)	NS		-0.6	-0.6	0.1-0.7	0.3	0.1-0.3	0.2	0.4	0.4
Silica (SiO2)	NS		23.0-30.0	25.7	8.1-13.3	11.3	14.8-21.9	15.8	9.0-19.0	14.7

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Sodium (Na)	NS		28.2-44.8	36.5	79.0-96.0	87.0	58.0-77.0	74.0	29.8-37.5	34.7
Temperature range	NS		7.0-23.0	17.0	10.0-24.0	17.0	12.0-22.0	18.0	10.0-28.0	18.3
Additional Constituents Analyzed (µg/L unless specified) - No Standards Exists										
Synthetics - Pesticides										
2,4,5-T	NS	1	NA	NA	ND	ND	ND	ND	NA	NA
Hexachlorobenzene	NS	0.05	NA	NA	ND	ND	ND	ND	NA	NA
P,P'-DDD (4,4'-DDD)	NS	0.02	NA	NA	ND	ND	ND	ND	NA	NA
P,P-DDE(4,4'-DDE)	NS	0.01	NA	NA	ND	ND	ND	ND	NA	NA
P,P'-DDT (4,4'-DDT)	NS	0.02	NA	NA	ND	ND	ND	ND	NA	NA
Pentachloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	NS	5	NA	NA	ND	ND	ND	ND	NA	NA
a-Benzene Hexachloride	NS	0.01	NA	NA	ND	ND	ND	ND	NA	NA
b-Benzene Hexachloride	NS	0.05	NA	NA	ND	ND	ND	ND	NA	NA
d-Benzene Hexachloride	NS	0.05	NA	NA	ND	ND	ND	ND	NA	NA
Synthetics - Volatile Organics										
1.1-Dichloropropene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene (Ortho)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
1,2-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene (Meta)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trichlorobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl Ether	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlortoluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
BIS(2-Chloroethyl) Ether	NS	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methyl)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Parameters/Constituents	MCL	DLR	LA Aqueduct Filtration Plant		MWD Weymouth Treatment Plant		MWD Jensen Treatment Plant		River Supply Conduit	
			Range	Average	Range	Average	Range	Average	Range	Average
Dibromomethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene Chloride)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Methlisobutylketone	NS	5	ND	ND	ND	ND	ND	ND	ND	ND
Methylethylketone (MEK)	NS	5	ND	ND	ND	ND	ND	ND	ND	ND
Additional Constituents Analyzed (µg/L unless specified) - No Standards Exists										
Synthetic - Volatiles										
N-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
N-Propylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	NS	0.5	NA	NA	ND	ND	ND	ND	ND	ND
P-Isopropyltoluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
SEC-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Tert-butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Source: City of Los Angeles, Department of Water and Power, Water Quality Division
(1) = Exempted from monitoring, not vulnerable for this constituent
[a] = Data collected after June 30, 1991
[b] = THM MCL based on average of four quarters of sampling

Definitions:

Clarity/turbidity:	Nephelometric Turbidity Units are a measure of how clear the water is. Turbidity is very fine silts and clays suspended in water.
Coliform Bacteria:	Microscopic organisms in water that are used as indicators of possible contamination.
Detection Level:	Science has allowed us to measure chemicals in water in units as small as parts per billion or one microgram of a substance per liter of water. One part per billion is like a drop of water added to a swimming pool of water.
DLR-Detection Limit for Reporting Purposes:	The minimum detection level for tests as required by the State Department of Health Services. We can actually measure some constituents at much lower levels.
LSI Units:	Langelier Saturation Index, a measurement of the corrosive nature of water. Corrosive water causes pipes to rust.
MCL-Maximum Contaminant Level:	The highest allowable level set by the federal and state health agencies for contaminants that may occur in water.
mg/L:	Milligrams per liter or parts per million.
NA:	Not analyzed. Constituent may be exempted from monitoring or was regulated after the last monitoring period.
ND:	Not detected. Samples were analyzed and nothing was found.
NS:	No standard exists
Primary Standards:	Health-related standards established by federal and state agencies.

Table C19-1 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JULY 1, 1990 TO JUNE 30, 1991

Secondary Standards:	Standards for constituents which affect taste, odor, and appearance. They are not a health concern.
TDS-Total Dissolved Solids:	An overall indicator of the amount of minerals in water.
Threshold Odor Number:	A measure of the intensity of an odor in water.
Trihalomethanes:	Water agencies treat water with disinfectants to keep it free of bacteria and water-borne diseases. The most commonly used disinfectant is chlorine. When chlorine mixes with certain naturally occurring organic substances in water, trihalomethanes are formed. Animal studies have shown that some trihalomethanes, in very high doses over an extended period of time, are suspected of causing cancer. The standard is based on a continuous averaging of four quarters of sampling.
µg/L:	Micrograms per Liter or parts per billion.
umho/cm^2:	Micromhos per square centimeter is a measure of the electrical conductance of water which depends on its mineral content.

Table C19-2
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Primary Standards - Health-related Standards					
Inorganic Constituents (mg/L unless otherwise specified)					
Aluminum (Al)	1	0.1	ND-0.1	ND-0.3	ND-0.3
Arsenic (As)	0.05	0.01	ND	ND	ND
Barium (Ba)	1	0.1	ND	ND-0.2	ND-0.2
Cadmium (Cd)	0.005	0.002	ND-0.002	ND-0.002	ND
Chromium (Cr)	0.05	0.01	ND-0.01	ND-0.01	ND
Copper (Cu)	TT	0.01	ND-0.02	ND-0.06	ND-0.02
Fluoride (F)	1.6	0.1	0.2-0.6	0.2-0.6	0.2-0.3
Lead (Pb)	TT	0.005	ND	ND-0.011	ND
Mercury (Hg) (as µg/L)	2	0.1	ND-0.1	ND-0.7	ND
Nitrate (as N)	10	1	ND	ND-5	ND
Nitrate (as NO3-)	45	4.4	ND	ND-22	ND
Nitrite (as N)	1	0.001	ND-0.005	ND-0.006	0.001-0.006
Selenium (Se)	0.01	0.003	ND	ND	ND
Silver (Ag)	0.05	0.01	ND	ND	ND
Clarity (NTU)					
Turbidity	0.5[1]	0.1	ND-0.1	ND-0.6	ND-0.1
Organic Chemicals (µg/L) Chlorinated Hydrocarbons					
Endrin	0.2	0.01	ND	ND	ND
Lindane	4	0.2	ND	ND	ND
Methoxychlor	100	10	ND	ND	ND
Toxaphene	5	0.5	ND	ND	ND
Chlorophenoxys					
2,3,5-TP (Silvex)	10	1	ND	ND	ND

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
2,4-D	100	10	ND	ND	ND
Synthetics - Volatile Organics					
1,1,1-Trichloroethane (TCA)	200	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	1	0.5	ND	ND	ND
1,1,2-Trichloroethane	32	0.5	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	5	0.5	ND	ND	ND
1,1-Dichloroethene (1,1-DCE)	6	0.5	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	0.5	0.5	ND	ND	ND
CIS-1,2-Dichloroethene	6	0.5	ND	ND	ND
Trans-1,2-Dichloroethene	10	0.5	ND	ND	ND
1,2-Dichloropropane	5	0.5	ND	ND	ND
1,3-Dichloropropene (CIS, Trans)	0.5	0.5	ND	ND	ND
1,4-Dichlorobenzene (Para)	5	0.5	ND	ND	ND
Benzene	1	0.5	ND	ND	ND
Carbon Tetrachloride	0.5	0.5	ND	ND	ND
Carbofuran	18	0.6	ND	ND	ND
Chlordane	0.1	0.1	ND	ND	ND
Chlorobenzene	30	0.5	ND	ND	ND
Chloroethene (Vinyl Chloride)	0.5	0.5	ND	ND	ND
Synthetics - Volatile Organics (µg/L)					
DI(2-Ethylhexyl) Pthalate	4	3	ND	ND	ND
Ethylbenzene	680	5	ND	ND	ND
Glyphosate	700	25	ND	ND	ND
Heptachlor	0.01	0.01	ND	ND	ND
Heptachlor Epoxide	0.01	0.01	ND	ND	ND
Tetrachloroethene (PCE)	5	0.5	ND	ND-0.6	ND
Trichloroethene (TCE)	5	0.5	ND	ND-2	ND

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Trichlorofluoromethane	150	0.5	ND	ND	ND
Trichlorotrifluoroethane	1200	0.5	ND	ND	ND
Xylene (Single or Sum of Isomers)	1750	0.5	ND	ND	ND
Synthetics - Pesticides (µG/L)					
Atrazine	3	1	ND	ND	ND
Bentazon	18	2	ND	ND	ND
Dibromochloropropane (DBCP)	0.2	0.01	ND	ND	ND
Ethylene Dibromide (EDB)	0.02	0.02	ND	ND	ND
Molinate	20	2	ND	ND	ND
Simazine	10	0.1	ND	ND	ND
Thiobencarb	70	0.5	ND	ND	ND
Microbiological - Coliform Bacteria					
Percent of Positive Samples	5	0	Distribution System Average: 0.5%		Range: 0-1.6%
Radioactivity (pCi/L)					
Alpha Activity, Gross	15	1	ND-1	ND-5	ND-3
Beta Activity, Gross	50	1	ND-19	ND-19	ND-6
Radium 226 & 228, Total	5	1	ND	ND	ND
Strontium 90 (Sr)	8	2	ND	ND	ND
Tritium (H30)	20,000	1,000	ND	ND	ND
Uranium	20	2	ND-4	ND-5	ND-5
Disinfection by-Products (µg/L)					
Total Trihalomethanes (TTHMs)	100	0.5	Distribution System Average: 58 Range: 6-122		

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Secondary Standards - Aesthetic Standards (mg/L unless specified) Not Health-related					
Inorganic/Physical					
Aluminum (Al)	0.05-0.2	0.1	ND-0.1	ND-0.3	ND-0.3
Chloride (CL-)	500[2]	1	53-117	25-117	86-117
Color, Apparent (Units)	15	2	2-4	1-10	1-4
Conductivity (umho/cm)	1600[2]	20	446-765	446-1093	719-1093
Copper (Cu)	1.0	0.01	ND-0.02	ND-0.06	ND-0.02
Foaming Agencies (MBAS)	0.5	0.05	ND-0.10	ND-0.10	ND
Iron (Fe)	0.3	0.01	ND-0.01	ND-0.14	ND
Manganese (Mn)	0.05	0.03	ND	ND	ND
Odor, Threshold (TON)	3	1	ND-1	ND-1	ND-1
pH (units)	6.5-8.5	NONE	7.3-8.2	7.2-8.2	7.8-8.2
Sulfate (as SO4-)	500[2]	1	43-107	43-285	78-285
Total Dissolved Solids (TDS)	1000[2]	10	264-430	264-682	391-682
Zinc (Zn)	5	0.01	ND-0.02	ND-0.02	ND
Organic (µG/L)					
Thiobencarb	1	0.5	ND	ND	ND
Additional Constituents Analyzed (mg/L unless specified) - No Standard Exists					
Inorganic/Physical (mg/L unless specified)					
Alkalinity, Total (as CaCO3)	NS		85-125	85-200	105-122
Ammonia (as Nitrogen)	NS	0.03	ND-0.13	ND-0.13	0.09-0.13
Boron (B)	NS	0.06	0.35-0.65	0.22-0.65	0.22-0.42
Bromide (Br-)	NS	0.10	0.10-0.14	ND-0.14	0.10-0.14
Calcium (Ca)	NS		23-40	23-80	30-77
Carbon, Total Organic (TOC)	NS		2-3.4	0.2-3.5	2.6-3.5
Hardness, Total (as CaCO3)	NS		99-178	99-322	147-322
Iodine (I-)	NS	0.01	.02-.03	0.01-0.03	.01-.02

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Magnesium (Mg)	NS		9.9-19.0	9.9-31.5	17.0-31.5
Oxygen Demand, Biological (BOD)	NS	0.1	0.3-0.8	0.1-1.9	0.1-0.7
Oxygen Demand, Chemical (COD)	NS	0.1	3-13.1	ND-13.1	ND-13.1
Oxygen, Dissolved (DO)	NS		8.8-19.8	8.5-19.8	8.8-10.0
Phosphate (as PO4-)	NS		0.02-0.53	0.02-0.53	0.03-0.05
Potassium (K)	NS		3.4-3.8	3.4-4.5	3.4-4.5
Saturation Index (LSI units)	NS		-0.80 to -0.37	-0.09 to -0.07	NA
Silica (SIO2)	NS		13.7-24.0	10.3-26.8	10.3-14.7
Sodium (Na)	NS		50-85	30-104	77-104
Temperature range (Celsius)	NS		13-20	12-25	12-25
Additional Constituents Analyzed (mg/L unless specified) - No Standard Exists					
Organic Chemicals (µG/L)					
1,1-Dichloropropene	NS	0.5	ND	ND	ND
1,1,1,2-Tetrachloroethane	NS	0.5	ND	ND	ND
1,2-Dichlorobenzene (Ortho)	NS	0.5	ND	ND	ND
1,2,3-Trichlorobenzene	NS	0.5	ND	ND	ND
1,2,3-Trichloropropane	NS	0.5	ND	ND	ND
1,2,3-Trimethylbenzene	NS	0.5	ND	ND	NA
1,2,4-Trichlorobenzene	NS	0.5	ND	ND	ND
1,2,4-Trimethylbenzene	NS	0.5	ND	ND	ND
1,3-Dichlorobenzene (Meta)	NS	0.5	ND	ND	ND
1,3-Dichloropropane	NS	0.5	ND	ND	ND
1,3,5-Trichlorobenzene	NS	0.5	ND	ND	NA
1,3,5-Trimethylbenzene	NS	0.5	ND	ND	ND
2-Chloroethylvinyl Ether	NS	1	ND	ND	NA

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
2-Chlorotoluene	NS	0.5	ND	ND	ND
2,2-Dichloropropane	NS	0.5	ND	ND	ND
2,4,5-T	NS	1	ND	ND	NA
4-Chlorotoluene	NS	0.5	ND	ND	NA
Aldrin	NS	0.01	ND	ND	ND
a-Benzene Hexachloride (a-BHC)	NS	0.01	ND	ND	NA
b-Benzene Hexachloride (b-BHC)	NS	0.05	ND	ND	NA
d-Benzene Hexachloride (d-BHC)	NS	0.05	ND	ND	NA
BIS (2-Chloroethyl) Ether	NS	5	ND	ND	NA
Bromobenzene	NS	0.5	ND	ND	ND
Bromochloromethane	NS	.5	ND	ND	ND
Bromomethane (Methyl Bromide)	NS	0.5	ND	ND	ND
Chloroethane	NS	0.5	ND	ND	ND
Chloromethane (Methyl Chloride)	NS	0.5	ND	ND	ND
Dibromomethane	NS	0.5	ND	ND	ND
Dichlorodifluoromethane	NS	0.5	ND	ND	ND
Dichloromethane (Methylene Chloride)	NS	0.5	ND	ND	ND
Dieldrin	NS	0.5	ND	ND	ND
Endosulfan I	NS	0.01	ND	ND	ND
Endosulfan II	NS	0.01	ND	ND	ND
Endosulfan Sulfate	NS	0.05	ND	ND	ND
Endrin Aldehyde	NS	0.05	ND	ND	ND
Hexachlorobenzene	NS	0.05	ND	ND	ND
Hexachlorobutadiene	NS	0.5	ND	ND	ND
Isopropylbenzene	NS	0.5	ND	ND	ND
Methylethylketone (MEK)	NS	5	ND	ND	NA
Methylisobutylketone (MIBK)	NS	5	ND	ND	NA

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
N-Butylbenzene	NS	0.5	ND	ND	ND
N-Propylbenzene	NS	0.5	ND	ND	ND
Napthalene	NS	0.5	ND	ND	ND
P,P'-DDD (4,4'-DDD)	NS	0.02	ND	ND	NA
P,P'-DDE (4,4'-DDE)	NS	0.01	ND	ND	NA
P,P'-DDT (4,4'-DDT)	NS	0.02	ND	ND	NA
P-Isopropyltoluene	NS	0.5	ND	ND	ND
Additional Constituents Analyzed (mg/L unless specified) - No Standard Exists					
Organic Chemicals (µG/L)					
PCB-1016	NS	0.2	NA	NA	NA
PCB-1221	NS	0.2	NA	NA	NA
PCB-1232	NS	0.2	NA	NA	NA
PCB-1242	NS	0.2	NA	NA	NA
PCB-1248	NS	0.2	NA	NA	NA
PCB-1254	NS	0.2	NA	NA	NA
PCB-1260	NS	0.2	NA	NA	NA
Pentachloroethane	NS	0.5	ND	ND	NA
Pyrene	NS	5	NA	NA	NA
Sec-Butylbenzene	NS	0.5	ND	ND	ND
Styrene	NS	0.5	ND	ND	ND
Tert-Butylbenzene	NS	0.5	ND	ND	ND
Toluene	NS	0.5	ND	ND	ND

Source: City of Los Angeles Department of Water and Power, Water Quality Division

1. 0.5 NTU is the turbidity MCL for surface water sources. The turbidity MCL for groundwater sources is 5 NTU. Central and Eastern LA receive a mixture of surface water and groundwater.

Table C19-2 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSIS OF TREATED WATER FOR JANUARY 1, 1992 TO DECEMBER 31, 1992

2. These Secondary MCLS are listed as having a recommended value and an upper limit:

	Recommended	**Upper**
Chloride (mg/L)	250	500
Conductance (umho/cm)	900	1600
Sulfate (mg/L)	250	500
TDS (mg/L)	500	1000

Secondary MCLS are based solely on aesthetics.

Table C19-3
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Primary Standards - Health-related Standards					
Inorganic Constituents (mg/L)					
Aluminum (Al)	1	0.1	ND-0.1	ND-0.3	ND-0.3
Arsenic (As)	0.05	0.005	ND-0.032	ND-0.024	ND
Barium (Ba)	1	0.1	ND	ND-0.12	ND-0.12
Cadmium (Cd)	0.005	0.002	ND	ND	ND
Chromium (Cr)	0.05	0.01	ND	ND	ND
Copper (Cu)	TT	0.01	ND-0.02	ND-0.04	ND-0.02
Fluoride (F)	1.6	0.1	0.2-0.8	0.2-0.9	0.2-0.4
Lead (Pb)	TT	0.005	ND	ND	ND
Mercury	0.002	0.001	ND	ND	ND
Nitrate (as N)	10	0.4	ND-7.4	ND-2.8	ND-0.6
Nitrate (as N)	1	0.4	ND	ND	ND
Total Nitrite + Nitrate	10	0.4	ND-7.4	ND-2.8	ND-0.6
Selenium (Se)	0.05	0.005	ND	ND	ND
Clarity (NTU)					
Turbidity	0.5[2]	0.1	ND	ND-0.5	ND
Microbiological-Coliform bacteria					
Percent of Positive Samples	5	0	Distribution System Average: 1.3%		Range: 0-4.2%
Disinfection By-products (µg/L)					
Total Tri-halomethanes (TTHMs)	100	0.5	Distribution System Average: 72.8		Range: 50-177
Organic Chemicals (mg/L) Chlorinated Hydrocarbons					
Endrin	2	0.1	ND	ND	ND
Lindane	0.2	0.2	ND	ND	ND
Methoxychlor	40	10	ND	ND	ND
Toxaphene	3	1	ND	ND	ND

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Chlorophenoxys					
2,3,5-TP (Silvex)	50	1	ND	ND	ND
2,4-D	70	10	ND	ND	ND
Synthetics - Volatile Organics					
1,1,1-Trichloroethane (TCA)	200	1	ND	ND	ND
1,1,2,2-Tetrachloroethane	1	0.5	ND	ND	ND
1,1,2-Trichloroethane	5	1	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	5	0.5	ND	ND	ND
1,1-Dichloroethene (1,1-DCE)	6	0.5	ND	ND	ND
1,2-Dichlorobenzene (ORTHO)	600	0.5	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	0.5	0.5	ND	ND	ND
CIS-1,2-Dichloroethene	6	0.5	ND	ND	ND
TRANS-1,2-Dichloroethene	10	0.5	ND	ND	ND
1,2-Dichloropropane	5	0.5	ND	ND	ND
1,3-Dichloropropene (CIS, Trans)	0.5	0.5	ND	ND	ND
1,4-Dichlorobenzene (Para)	5	0.5	ND	ND	ND
Primary Standards - Health-related Standards					
Benzene	1	0.5	ND	ND	ND
Carbon Tetrachloride	0.5	0.5	ND	ND	ND
DI (2-Ethylhexyl) Phthalate	4	3	ND	ND	ND
Chloroethene (Vinyl Chloride)	0.5	0.5	ND	ND	ND
Ethylbenzene	700	5	ND	ND	ND
Monochlorobenzene	70	1	ND	ND	ND
Styrene	100	0.5	ND	ND	ND
Tetrachloroethene (PCE)	5	0.5	ND-1.3	ND	ND

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Toluene	150	10	ND	ND	ND
Trichloroethene (TCE)	5	0.5	ND-4.0	ND-1.2	ND
Trichlorofluoromethane	150	5	ND	ND	ND
Trichlorotrifluoroethane	1200	10	ND	ND	ND
Xylene (Single or Sum of Isomers)	1750	10	ND	ND	N
Synthetics - Pesticides					
Alachlor	2	1	ND	ND	ND
Atrazine	3	1	ND	ND	ND
Bentazon	18	2	ND	ND	ND
Ethylene dibromide (EDB)	0.05	0.02	ND	ND	ND
Carbofuran	18	5	ND	ND	ND
Chlorodane	0.1	0.1	ND	ND	ND
Dibromochloropropane (DBCP)	0.2	0.01	ND	ND	ND
Glyphosate	700	25	ND	ND	ND
Heptachlor	0.01	0.01	ND	ND	ND
Heptachlor Epoxide	0.01	0.01	ND	ND	ND
Molinate	20	2	ND	ND	ND
Polychlorinated Biphenyls	0.5	0.5	ND	ND	ND
Simazine	4	1	ND	ND	ND
Thiobencarb	70	1	ND	ND	ND
Radioactivity (pCi/l)					
Alpha Activity, Gross	15	1	ND-4.5	ND-4.9	ND-2.9
Beta Activity, Gross	50	1	ND-19	ND-19	ND-6
Strontium 90 (Sr)	8	2	ND	ND	ND
Tritium (H30)	20,000	1,000	ND	ND	ND
Radium 226 & 228, Total	5	1	ND	ND	ND

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Uranium	20	2	ND-4	ND-5	ND-5
Secondary Standards - Aesthetic Standards (mg/L unless specified) Not Health-Related					
Inorganic/Physical					
Aluminum (Al)	0.05-0.2	0.1	ND-0.1	ND-0.3	ND-0.3
Chloride (CL-)	500[1]	1	20-104	20-104	72-104
Color, Apparent (Units)	15	2	ND-5	ND-6	ND-3
Conductivity (umho/cm)	1600[1]	20	530-765	465-1065	686-1065
Copper (Cu)	1.0	0.01	ND-0.02	ND-0.04	ND-0.02
Foaming Agents (MBAS)	0.5	0.05	ND	ND	ND
Secondary Standards - Aesthetic Standards (mg/L unless specified) Not Health-related					
Inorganic/Physical					
Iron (Fe)	0.3	0.01	ND-0.05	ND-0.05	ND
Manganese (Mn)	0.05	0.03	ND	ND	ND
Odor, Threshold (Ton)	3	1	ND-1	ND-1	ND-1
pH (units)	6.5-8.5	None	7.0-8.3	7.0-8.3	8.0-8.3
Silver (Ag)	0.05	0.01	ND	ND	ND
Sulfate (as SO4-)	500[1]	0.5	21-161	21-273	97-273
Total Dissolved Solids (TDS)	1000[1]	10	333-482	266-664	397-664
Zinc (Zn)	5	0.05	ND-0.06	ND-0.06	ND
Organics					
Thiobencarb (µg/L)	1	0.5	ND	ND	ND
Additional Constituents Analyzed (mg/L unless specified) - No Standards Exist					
Inorganic/Physical					
Alkalinity, Total (as CaCO3)	NS		95-140	95-140	100-125
Ammonia (as Nitrogen)	NS	0.03	ND-0.08	ND-1.80	ND-1.80

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Boron (B)	NS		0.23-0.86	0.20-0.86	0.20-0.40
Bromide (Br-)	NS	0.3	ND	ND	ND
Calcium (Ca)	NS		16.8-50.0	16.8-75.0	36.0-75.0
Carbon, Total Organic (TOC)	NS		2.2-3.3	1.5-3.3	2.5-3.3
Hardness, Total (as CaCO3)	NS		53-284	53-313	168-313
Iodine (I-)	NS	0.01	0.01-0.03	0.01-0.03	ND-0.02
Magnesium (Mg)	NS		9.0-21.0	8.5-30.5	18.0-30.5
Oxygen Demand, Biological (BOD)	NS	0.1	0.2-0.6	0.2-1.2	0.2-0.8
Oxygen, Dissolved (O2)	NS		9-15	8-15	8-12
Phosphate (as PO4-)	NS	0.01	0.01-0.09	ND-0.10	ND-0.10
Potassium	NS		3.1-4.1	3.1-5.3	3.1-5.3
Saturation Index (LSI units)	NS		-1.07 to 0.11	-1.07 to 0.18	-0.41 to 0.18
Silica (SiO2)	NS		13.3-24.9	8.5-24.9	8.5-16.9
Sodium (Na)	NS		33-86	33-104	65-104
Temperature Range (Celsius)	NS		13-22	13-28	15-22
Organic Chemicals (µg/L)					
1,1,1,2-Tetrachloroethane	NS	0.5	ND	ND	ND
1,1-Dichloropropene	NS	0.5	ND	ND	ND
1,2,3-Trichlorobenzene	NS	0.5	ND	ND	ND
1,2,3-Trichloropropane	NS	0.5	ND	ND	ND
1,2,3-Trimethylbenzene	NS	0.5	ND	ND	ND
1,2,4-Trichlorobenzene	NS	0.5	ND	ND	ND
1,2,4-Trimethylbenzene	NS	0.5	ND	ND	ND
1,3-Dichlorobenzene (META)	NS	0.5	ND	ND	ND
1,3-Dichloropropane	NS	0.5	ND	ND	ND
1,3,5-Trichlorobenzene	NS	0.5	ND	ND	ND

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
1,3,5-Trimethylbenzene	NS	0.5	ND	ND	ND
2-Chloroehtylvinyl Ether	NS	1	ND	ND	ND
2-Chlorotoluene	NS	0.5	ND	ND	ND
2,2-Dichloropropane	NS	0.5	ND	ND	ND
2,4,5-T	NS	1	ND	ND	ND
4-Chlorotoluene	NS	0.5	ND	ND	ND
Aldrin	NS	0.01	ND	ND	ND
a-Benzene Hexachloride (a-BHC)	NS	0.01	ND	ND	ND
b-Benzene Hexachloride (b-BHC)	NS	0.05	ND	ND	ND
d-Benzene Hexachloride (d-BHC)	NS	0.05	ND	ND	ND
BIS (2-Chloroethyl) Ether	NS	5	ND	ND	ND
Bromobenzene	NS	0.5	ND	ND	ND
Bromochloromethane	NS	0.5	ND	ND	ND
Bromomethane (Methyl Bromide)	NS	0.5	ND	ND	ND
N-Butylbenzene	NS	0.5	ND	ND	ND
Sec-Butylbenzene	NS	0.5	ND	ND	ND
Tert-Butylbenzene	NS	0.5	ND	ND	ND
Chloroethane	NS	0.5	ND	ND	ND
Chloromethane (Methyl Chloride)	NS	0.5	ND	ND	ND
P,P^1-DDD (4,4^1-DDD)	NS	0.02	ND	ND	ND
P,P^1-DDE (4,4^1-DDE)	NS	0.01	ND	ND	ND
P,P^1-DDT (4,4^1-DDT)	NS	0.02	ND	ND	ND
Dibromomethane	NS	0.5	ND	ND	ND
Dichlorodifluoromethane	NS	0.5	ND	ND	ND
Dichloromethane	NS	3	ND	ND	ND

Table C19-3 (Cont.)
CITY OF LOS ANGELES - DEPARTMENT OF WATER AND POWER
ANALYSES OF TREATED WATER FOR JANUARY 1, 1993 TO DECEMBER 31, 1993

Parameters/Constituents	MCL	DLR	San Fernando Valley And West Los Angeles Range	Central and Eastern Los Angeles Range	Harbor Range
Dieldrin	NS	0.5	ND	ND	ND
Endosulfan I	NS	0.01	ND	ND	ND
Endosulfan II	NS	0.01	ND	ND	ND
Endosulfan Sulfate	NS	0.05	ND	ND	ND
Endrin Aldehyde	NS	0.05	ND	ND	ND
Hexachlorobenzene	NS	0.05	ND	ND	ND
Hexachlorobutadiene	NS	0.5	ND	ND	ND
Isopropylbenzene	NS	0.5	ND	ND	ND
P-Isopropyltoluene	NS	0.5	ND	ND	ND
Methylisobutylketone (MIBK)	NS	5	ND	ND	ND
Methylethylketone (MEK)	NS	5	ND	ND	ND
Napthalene	NS	0.5	ND	ND	ND
Pentachloroethane	NS	0.5	ND	ND	ND
Pentachlorophenol	NS	0.5	ND	ND	ND
N-Propylbenzene	NS	0.05	ND	ND	ND
Pyrene	NS	5	ND	ND	ND

Source: City of Los Angeles, Department of Water and Power, Water Quality Division

Notes:

1. These Secondary MCLs are listed as having a recommended value and an upper limit:

	Recommended	Upper
Chloride (mg/L)	250	500
Conductance (umho/cm)	900	1600
Sulfate (mg/L)	250	500
TDS (mg/L)	500	1000

Secondary MCLs are based solely on aesthetics

2. 0.5 NTU is the turbidity MCL for surface water.
The turbidity MCL for groundwater is 5 NTU.
Central and Eastern LA receive a mixture of surface water and groundwater.

Table C19-4
ANALYSES OF TREATED WATER FOR FISCAL YEAR JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Primary Standards - Health-Related Standards										
Organic Chemicals (μg/L unless specified) ***Volatile Organics***										
Benzene	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cabron Tetrachloride	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethene (Vinyl Chloride)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene (Ortho)	600	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene (Para)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (1,1-DCE)	6	0.5	ND	ND	ND	ND	ND	ND	ND	ND
CIS-1,2-Dichloroethene	6	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	10	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	3	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene (CIS, Trans)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Monochlorobenzene	70	1	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	7	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane (1,1,1-TCA)	200	1	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	5	1	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	5	0.5	ND	ND	1.2-2.4	.9	ND	ND	ND	ND
Trichlorofluoromethane	150	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifuoroethane	1200	10	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	150	10	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Single or Sum of Isomers)	1750	10	ND	ND	ND	ND	ND	ND	ND	ND
Synthetics - Pesticides										
Alachlor	2	1	ND	ND	ND	ND	ND	ND	ND	ND
Atrazine	3	1	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Bentazon	18	2	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a) Pyrene	0.2	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Carbofuran	18	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.1	0.1	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	70	10	ND	ND	ND	ND	ND	ND	ND	ND
Dalapon	200	10	ND	ND	ND	ND	ND	ND	ND	ND
DI (2-Ethylhexyl) Adipate	400	5	ND	ND	ND	ND	ND	ND	ND	ND
DI (2-Ethylhexyl) Phthalate	4	3	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	0.2	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Dinoseb	7	2	ND	ND	ND	ND	ND	ND	ND	ND
Diquat	20	4	ND	ND	ND	ND	ND	ND	ND	ND
Endothall	100	45	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	0.05	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Glyphosate	700	25	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Hexachlorobenzene	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50	1	ND	ND	ND	ND	ND	ND	ND	ND
Lindane	0.2	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	10	ND	ND	ND	ND	ND	ND	ND	ND
Molinate	20	2	ND	ND	ND	ND	ND	ND	ND	ND
Oxamyl	200	20	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Picloram	500	1	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Simazine	4	1	ND	ND	ND	ND	ND	ND	ND	ND
2,3,7,8- TCDD (Dioxin) (ng/L)	0.03	0.005	NA	NA	NA	NA	NA	NA	NA	NA
Thiobencarb	70	1	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	3	1	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5,-TP (Silvex)	50	1	ND	ND	ND	ND	ND	ND	ND	ND
Inorganic constituents (mg/L unless specified)										
Aluminum	1	0.05	ND	ND	ND	ND	ND-0.10	0.07	0.14-0.49	0.23
Arsenic	0.05	0.005	0.005-0.017	0.009	ND-0.007	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Asbestos (million fibers/L)	7	0.1	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.006	ND	ND	ND	ND	ND	ND	ND	ND
Barium	1	0.1	ND-0.1	ND	ND-0.1	ND	ND	ND	0.1	0.1
Beryllium	0.004	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.005	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Copper	TT	0.01	ND-0.02	0.01	0.02-0.04	0.03	ND-0.01	ND	ND-0.02	ND
Cyanide	0.2	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	1.6	0.1	0.3-0.7	0.4	0.2-0.4	0.3	0.2-0.3	0.2	0.1-0.3	0.2
Lead	TT	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.002	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	0.1	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as N)	10	0.4	ND-0.6	0.4	ND-4.3	2.3	0.4-0.7	0.5	ND-0.4	ND
Nitrite (as N)	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate + Nitrite (as N)	10	0.4	ND-0.6	0.4	ND-4.3	2.3	0.4-0.7	0.5	ND-0.4	ND
Selenium	0.05	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	0.002	0.001	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Clarity (NTU)										
Turbidity	0.5*	0.1	ND-0.1	ND	ND-0.6	0.2	ND-0.1	ND	ND	ND
Microbiological - Coliform Bacteria										
Percent of Positive Samples	5	0	Distribution System Average: 0.9%							
Disinfection by-products (µg/L)										
Total Trihalomethanes (TTHMs)	100	0.5	Distribution System Average: 71.8							
Radioactivity (pCi/L)										
Alpha Activity, Gross	15	1	1.5-4.5	2.8	ND-2.9	2.2	ND-1.0	ND	ND-2.9	2.2
Beta Activity, Gross	50	1	6.0-19.0	11.7	ND-8.2	3.2	ND-4.8	3.1	ND-6.2	3.2
Radium 226 & 228, Total	5	1	ND	ND	ND	ND	ND	ND	ND	ND
Strontium 90	8	2	ND	ND	ND	ND	ND	ND	ND	ND
Tritium	20,000	1000	ND	ND	ND	ND	ND	ND	ND	ND
Uranium	20	2	NA	NA	NA	NA	NA	NA	NA	NA

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Secondary Standards - Health Related Standards										
Inorganic/Physical (mg/L unless specified)										
Aluminum	0.05-0.2	0.05	ND	ND	ND	ND	ND-0.10	0.07	0.14-0.49	0.23
Chloride	500**	1	24-65	49	23-70	42	62-77	69	87-103	95
Color, Apparent (Units)	15	2	1	1	1-3	2	1-4	3	1-3	2
Conductivity (umho/cm)	1600**	20	310-610	493	517-710	612	590-654	616	919-1115	1025
Copper	1.0	0.01	ND-0.02	0.01	0.02-0.04	0.03	ND-0.01	ND	ND-0.02	ND
Fluoride	2	0.1	0.3-0.7	0.4	0.2-0.4	0.3	0.2-0.3	0.2	0.1-0.3	0.2
Foaming Agents (MBAS)	0.5	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Iron	0.3	0.01	0.02	0.02	ND-0.12	0.04	ND	ND	ND	ND
Manganese	0.05	0.03	ND	ND	ND	ND	ND	ND	ND	ND
Odor, Threshold (ton)	3	1	ND-1	1	ND-1	ND	ND	ND	1-2	1
pH (units)	8.5**	None	7.3-8.8	7.8	7.1-8.0	7.5	8.1-8.3	8.2	8.0-8.1	8.1
Silver	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate (as S04-)	500**	0.5	34-79	66	70-116	86	89-115	96	206-298	260
Total Dissolved Solids (TDS)	1000**	10	233-339	304	315-464	372	342-397	358	554-707	643

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Zinc	5	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Organics (µg/L)										
Thiobencarb	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Additional Constituents Analyzed - No Standards Exist										
1,1,1,2-Tetrachloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene (Meta)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-T	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
3-Hydroxycarbofuran	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
a-Benzene Hexachloride (a-BHC)	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Aldicarb	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfone	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfoxide	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
b-Benzene Hexachloride (b-BHC)	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Bromacil	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methyl Bromide)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Butachlor	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
Carbaryl	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorothalonil	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
d-Benzene Hexachloride	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Diazinon	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Dicamba	NS	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dimethoate	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Diuron	NS	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Aldehyde	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Methomyl	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Metolachlor	NS	0.4	ND	ND	ND	ND	ND	ND	ND	ND
N-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
N-Propylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
P,P'-DDD (4,4'-DDD)	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
P,P'-DDE(4,4'-DDE)	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
P,P'-DDT (4,4'-DDT)	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND
P-Isopropyltoluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Prometryn	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Propachlor	NS	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	NS	5	ND	ND	ND	ND	ND	ND	ND	ND
SEC-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Tert-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Inorganic/Physical (mg/L unless specified)										
Alkalinity, Total (as CaCO3)	NS		95-128	108	80-208	148	93-99	96	106-126	116
Ammonia (as Nitrogen)	NS	0.03	ND	ND	ND	ND	0.06-0.65	0.25	0.05-0.24	012
Boron (B)	NS		0.38-0.55	0.44	0.23-0.48	0.34	0.32-0.40	0.36	0.17-0.37	0.26
Bromide (Br-)	NS	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Calcium (Ca)	NS		27.5-34.8	31.9	33.0-85.4	55.8	34.0-40.0	36.0	60.0-80.0	70.0
Carbon, Total Organic (TOC)	NS		1.8-2.7	2.3	0.4-2.4	1.5	2.5-2.9	2.7	2.1-2.9	2.6
Hardness, Total (as CaCO3)	NS		102-149	134	130-296	208	151-170	158	251-329	292
Iodine (I-)	NS	0.01	0.02	0.02	0.01-0.02	0.02	0.02	0.02	ND-0.01	ND

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR JANUARY 1, 1994 TO DECEMBER 31, 1994

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Magnesium (Mg)	NS		7.0-15.3	11.8	11.7-17.4	15.4	16.0-18.5	16.5	24.5-31.5	28.0
Oxygen, Dissolved (O2)	NS		13.0-18.0	14.9	8.8-11.6	9.9	10.4	10.4	11.0	11.0
Phosphate (as PO4-)	NS		0.02-0.06	0.04	0.02-0.09	0.05	0.02-0.06	0.05	0.01-0.02	0.02
Saturation Index (LSI units)	NS		0.70 to-0.18	-0.46	-0.49 to 0.22	-0.12	-0.17 to 0.45	0.13	0.28-0.65	0.42
Silica (SiO2)	NS		14.0-21.6	17.2	16.5-24.2	19.8	13.0-17.3	15.4	7.3-11.1	9.8
Sodium (Na)	NS		39-59	48	29-59	43	56-63	60	90-114	102
Temperature Range (Celsius)	NS		12-17	15	14-20	18	12-19	15	12-25	19

Source: City of Los Angeles Department of Water and Power, Water Quality Division

Notes:

MCL	=	Maximum Contaminant Level	NS	=	No Standard Exists
DLR	=	Detection Limit for Reporting purposes	mg/L	=	milligrams per liter
NTU	=	Nephelometric Turbidity Units	μg/L	=	micrograms per liter
CFU	=	Colony Forming Units	ng/L	=	nanograms per liter
TON	=	Threshold Odor Number	pCi/L	=	picoCuries/per liter
LSI	=	Langelier Saturation Index	umho/cm	=	micromhos per centimeter
ND	=	Not Detected at DLR	TT	=	Treatment Technique

Table C19-4 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1994 TO DECEMBER 31, 1994

NA = Not analyzed. Uranium is not required unless gross alpha is greater than 5 pCi/L. Endothall and Dioxin analyses are only required once every three years. Asbestos monitoring is required once every nine years. Data will be available in the 1997 Report.

(1) 0.5 NTU is the turbididy MCL for surface water. The turbidity MCL for groundwater is 5 NTU.

(2) These secondary MCLs are listed as having a recommended value of an upper limit:

	Recommended	Upper
Chloride (mg/L)	250	500
Conductance (umho/cm)	900	1600
Sulfate (mg/L)	250	500
TDS (mg/L)	500	1000
pH (units)	6.5	8.5

Table C19-5
ANALYSES OF TREATED WATER FOR FISCAL YEAR JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Primary Standards - Health-Related Standards										
Organic Chemicals (μg/L unless specified) *Volatile Organics*										
Benzene	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Cabron Tetrachloride	0.5	0.5	ND-0.7	ND	ND	ND	ND	ND	ND	ND
Chloroethene (Vinyl chloride)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene (Ortho)	600	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene (Para)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (1,1-DCE)	6	0.5	ND	ND	ND	ND	ND	ND	ND	ND
CIS-1,2-Dichloroethene	6	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	10	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	5	3	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene (CIS, Trans)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Monochlorobenzene	70	1	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	70	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane (1,1,1- TCA)	200	1	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane (1,1,2- TCA)	5	1	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	5	0.5	ND	ND	ND-1.0	ND	ND	ND	ND	ND
Trichlorofluoromethane	150	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorotrifuoroethane	1200	10	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	150	10	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (Single or Sum of Isomers)	1750	10	ND	ND	ND	ND	ND	ND	ND	ND
Synthetics - Pesticides										
Alachlor	2	1	ND	ND	ND	ND	ND	ND	ND	ND
Atrazine	3	1	ND	ND	ND	ND	ND	ND	ND	ND
Bentazon	18	2	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a) Pyrene	0.2	0.1	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Carbofuran	18	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.1	0.1	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	70	10	ND	ND	ND	ND	ND	ND	ND	ND
Dalapon	200	10	ND	ND	ND	ND	ND	ND	ND	ND
DI (2-Ethylhexyl) Adipate	400	5	ND	ND	ND	ND	ND	ND	ND	ND
DI (2-Ethylhexyl) Phthalate	4	3	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	0.2	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Dinoseb	7	2	ND	ND	ND	ND	ND	ND	ND	ND
Diquat	20	4	ND	ND	ND	ND	ND	ND	ND	ND
Endothall	100	45	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide (EDB)	0.05	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Glyphosate	700	25	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	50	1	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Lindane	0.2	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	10	ND	ND	ND	ND	ND	ND	ND	ND
Molinate	20	2	ND	ND	ND	ND	ND	ND	ND	ND
Oxamyl	200	20	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	1	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Picloram	500	1	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Simazine	4	1	ND	ND	ND	ND	ND	ND	ND	ND
2,3,7,8- TCDD (Dioxin) (ng/L)	0.03	0.005	NA	NA	NA	NA	NA	NA	NA	NA
Thiobencarb	70	1	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	3	1	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5,-TP (Silvex)	50	1	ND	ND	ND	ND	ND	ND	ND	ND
Inorganic constituents (mg/L unless specified)										
Aluminum	1	0.05	ND	ND	ND	ND	ND-0.11	0.06	0.05-0.24	0.16
Arsenic	0.05	0.005	0.005-0.026	0.014	ND-0.032	0.010	ND	ND	ND	ND
Asbestos (million fibers/liter)	7	0.1	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.006	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Barium	1	0.1	ND	ND	ND-0.2	ND	ND	ND	0.1-0.2	0.1
Beryllium	0.004	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.005	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Copper	TT	0.01	0.01-0.03	0.02	0.03-0.07	0.04	ND-0.01	ND	ND	ND
Cyanide	0.2	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	1.6	0.1	0.3-0.9	0.6	0.3-0.8	0.5	0.2-0.8	0.3	0.2-0.3	0.2
Lead	TT	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.002	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	0.1	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as N)	10	0.4	ND	ND	ND-4.2	2.0	ND-0.6	0.5	ND	ND
Nitrite (as N)	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate + Nitrite (as N)	10	0.4	ND	ND	ND-4.2	2.0	ND-0.6	0.5	ND	ND
Selenium	0.05	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	0.002	0.001	ND	ND	ND	ND	ND	ND	ND	ND
Clarity (NTU)										
Turbidity	0.5*	0.1	ND-0.3	0.1	0.1-0.3	0.2	ND-0.1	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Microbiological - Coliform Bacteria										
Percent of Positive Samples	5	0	Distribution System Range: 0-1.8% Average: 0.5%							
Disinfection By-Products (µg/L)										
Total Trihalomethanes (TTHMs)	100	0.5	Distribution System Average: 56.5							
Radioactivity (pCi/L)										
Alpha Activity, Gross	15	1	1.5-4.5	2.8	ND-2.9	2.2	ND-4.9	3.0	ND-10.0	6.6
Beta Activity, Gross	50	1	6.0-19.0	11.7	ND-8.2	3.2	ND-10.2	5.7	1.4-10.3	6.8
Radium 226 & 228, Total	5	1	ND	ND	ND	ND	ND-2.9	1.0	ND-2.7	1.0
Strontium 90	8	2	ND	ND	ND	ND	ND-2	ND	ND	ND
Tritium	20,000	1000	ND	ND	ND	ND	ND-1,052	ND	ND-4,478	1,262
Uranium	20	2	NA	NA	NA	NA	NA-4.5	2.3	3.4-5.7	4.9
Secondary Standards - Health Related Standards										
Inorganic/Physical (mg/L unless specified)										
Aluminum	0.05-0.2	0.05	ND	ND	ND	ND	ND-0.11	0.06	0.05-0.24	0.16
Chloride	500**	1	11-32	22	28-35	31	24-72	56	78-101	92

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Color, Apparent (Units)	15	2	2	2	1-3	2	ND-4	3	ND-3	2
Conductivity (umho/cm)	1600**	20	170-400	323	390-760	575	404-643	605	913-1129	1001
Copper	1.0	0.01	0.01-0.03	0.02	0.03-0.07	0.04	ND-0.01	ND	ND	ND
Fluoride	2	0.1	0.3-0.9	0.6	0.3-0.8	0.5	0.2-0.8	0.3	0.2-0.3	0.2
Foaming Agents (MBAS)	0.5	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Iron	0.3	0.01	0.03-0.05	0.04	ND-0.12	0.05	ND	ND	ND	ND
Manganese	0.05	0.03	ND	ND	ND	ND	ND	ND	ND	ND
Odor, Threshold (ton)	3	1	ND	ND	ND-1	ND	NA [fp]	NA [fp]	NA [fp]	NA [fp]
pH (units)	8.5**	None	7.3-7.7	7.5	7.2-7.7	7.5	8.2-8.3	8.2	8.0-8.1	8.0
Silver	0.05	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Sulfate (as S04-)	500**	0.5	13-40	27	35-205	95	37-122	103	216-288	250
Total Dissolved Solids (TDS)	1000**	10	110-254	196	225-537	376	252-385	358	550-692	618
Zinc	5	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Organics (µg/L)										
Thiobencarb	1	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Additional Constituents Analyzed - No Standards Exist										
1,1,1,2-Tetrachloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene (Meta)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-T	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
3-Hydroxycarbofuran	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
a-Benzene Hexachloride (d-BHC)	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfone	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldicarb Sulfoxide	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
b-Benzene Hexachloride (b-BHC)	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Bromacil	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methyl Bromide)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Butachlor	NS	1	ND	ND	ND	ND	ND	ND	ND	ND
Carbaryl	NS	0.6	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorothalonil	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
d-Benzene Hexachloride (d-BHC)	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Diazinon	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dicamba	NS	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Dimethoate	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Diuron	NS	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	NS	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Methomyl	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Metolachlor	NS	0.4	ND	ND	ND	ND	ND	ND	ND	ND
N-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
N-Propylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
P,P'-DDD (4,4'-DDD)	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND
P,P'-DDE (4,4'-DDE)	NS	0.01	ND	ND	ND	ND	ND	ND	ND	ND
P,P'-DDT (4,4'-DDT)	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND
P-Isopropyltoluene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Prometryn	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Propachlor	NS	0.3	ND	ND	ND	ND	ND	ND	ND	ND

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
SEC-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Tert-Butylbenzene	NS	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Inorganic/Physical (mg/L unless specified)										
Alkalinity, Total (as CaCO3)	NS		63-106	106	100-200	163	93-125	105	102-121	111
Ammonia (as Nitrogen)	NS	0.03	ND-0.06	ND	ND-0.03	ND	0.18 [la]	0.18 [la]	0.26 [la]	0.26 [la]
Boron (B)	NS		0.16-1.0	0.55	0.28-0.93	0.51	0.15-0.31	0.24	0.14-0.17	0.15
Bromide (Br-)	NS	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Calcium (Ca)	NS		14.3-25.8	21.4	27.0-92.0	58.0	24.0-44.0	39.0	59.0-77.0	68.0
Carbon, Total Organic (TOC)	NS		1.5-2.9	2.2	0.5-2.3	1.2	2.1-3.6	2.9	2.3-2.8	2.5
Hardness, Total (as CaCO3)	NS		58-92	74	89-336	202	85-184	165	252-316	283
Iodide (I-)	NS	0.01	ND-0.02	0.01	0.02-0.03	0.02	0.02 [la]	0.02 [la]	0.01 [la]	0.01 [la]
Magnesium (Mg)	NS		2.4-5.8	4.8	6.3-21.6	13.2	6.0-18.0	16.0	25.0-31.0	28.5
Phosphate (as PO4-)	NS		0.01-0.05	0.03	0.01-0.09	0.05	0.06 [la]	0.06 [la]	0.03 [la]	0.03 [la]
Saturation Index (LSI units)	NS		-1.64 to -0.27	-0.80	-0.54 to -0.05	-0.29	-0.25 [la]	-0.25 [la]	-0.28 [la]	-0.28 [la]
Silica (SiO2)	NS		13.0-22.0	19.3	21.0-23.0	22.0	14.5-28.5	17.0	7.9-12.1	9.5
Sodium (Na)	NS		15-59	37	37-57	46	47-62	57	85-109	98

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

Parameters/Constituents	MCL	DLR	Los Angeles Aqueduct Filtration Plant		River Supply Conduit		MWD Jensen Treatment Plant		MWD Weymouth Treatment Plant	
			Range	Average	Range	Average	Range	Average	Range	Average
Temperature Range (Celsius)	NS		12-25	17	18-21	19	10-14	13	13-24	19

Source: City of Los Angeles Department of Water and Power, Water Quality Division

Notes:

MCL = Maximum Contaminant Level
DLR = Detection Limit for Reporting purposes, set by DHS, DWP's detection limit can be much lower.
NTU = Nephelometric Turbidity Units
CFU = Colony Forming Units
TON = Threshold Odor Number
LSI = Langelier Saturation Index
ND = Not Detected at DLR
NS = No Standard Exists
mg/L = milligrams per liter (equivalent to ppm)
µg/L = micrograms per liter (equivalent to ppb)
ng/L = nanograms per liter
pCi/L = picoCuries per liter
umhos/cm = micromhos per centimeter squared
TT = Treatment Technique (LADWP is required to install corrosion control regardless of the lead and copper levels in the source water.)

NA = Not analyzed. Uranium is not required unless gross alpha is greater than 5 pCi/L. Endothall and Dioxin analyses are only required once every three years. Asbestos monitoring is required once every nine years. Data will be available in the 1997 Report.

Table C19-5 (Cont.)
ANALYSES OF TREATED WATER FOR FISCAL YEAR
JANUARY 1, 1995 TO DECEMBER 31, 1995

1. 0.5 NTU is the turbididy MCL for surface water. The turbidity MCL for groundwater is 5 NTU.
2. These secondary MCLs are listed as having a recommended value of an upper limit:

	Recommended	Upper
Chloride (mg/L)	250	500
Conductance (umho/cm)	900	1600
Sulfate (mg/L)	250	500
TDS (mg/L)	500	1000
pH (units)	6.5	8.5

[la] = Values are from LADWP-MWD connection sample points and not the MWD filter plant effluent sample location.
[fp] = MWD does not test its water for odor, it has a Flavor Profile Team which samples the water for taste and odor.