

# CITY of BREa



**DRAFT**  
**FINAL EIR No. 06-01**  
**(SCH # 2005121093)**

## *La Floresta Development Proposal*

**Lead Agency**

City of Brea  
Development Services Department  
1 Civic Center Circle  
Brea, CA 92821-5732  
(714) 990-7674

**Consultant Assistance**

CONEXUS  
413 Gloucester Drive  
Costa Mesa, CA 92627  
(949) 722-6564

August 4, 2008



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Appendix B –	Methodology and Assumptions for Preparation of View Simulations
Appendix C –	Revised ICU Worksheets
Appendix D –	City of Brea, Traffic Impact Fee Schedule
Appendix E –	La Floresta and Birch Hills Golf Course Projects, Water Supply Assessment, July 27, 2007
Appendix F –	Traffic Circulation Related Correspondence <ul style="list-style-type: none"><li>- Letter from Caltrans dated May 12, 2008 pertaining to requirements for the La Floresta Village project.</li><li>- Letter from Austin Faust Associates dated May 19, 2008 pertaining to modifications in response to Caltrans and consistency with the findings of the EIR Traffic Analysis</li></ul>
Appendix G –	Mitigation Monitoring Program Reporting and Implementation Forms



# 1. Introduction

## 1.1 Project Overview

This Environmental Impact Report (EIR) has been prepared pursuant to requirements of the California Environmental Quality Act (CEQA) and the CEQA Guidelines to evaluate the environmental consequences of the development project proposed by La Floresta LLC, as summarized in the following paragraphs and described in detail in the Draft EIR.

La Floresta LLC has submitted applications to the City of Brea to permit development on two non-contiguous sites. Those sites are referred to in this document as the La Floresta Village Site, which is 119.0 acres in size, and the Birch Hills Site, which is 91.3 acres in size. The La Floresta Village Site is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the north and east. The La Floresta Village Site is the former location of the UNOCAL Hartley Research Center. The Birch Hills Site is located on the south side of Birch Street at the intersection of Kraemer Boulevard. It is currently occupied by the Birch Hills Golf Course, which contains 18 holes on rolling topography and is operated by Birch/Kraemer LLC, which is leased to Imperial Golf Course.

With a minor increase in the unit count in Planning Area 9, the proposed development on the La Floresta Village Site totals 1,110 residential units, including portions devoted to senior housing and live/work housing over commercial use, 156,800 square feet of mixed-use commercial, and 53.27 acres devoted to an active adult recreation center for project residents. (Section 2.0 beginning on page 5 describes the modification to PA-9 and potential changes in environmental impacts.)

The Birch Hills Site is proposed for 75.60 acres of open space, a community facility with a clubhouse located in the open space portion of the site, and 247 high-density residential dwellings, including a portion devoted exclusively to “workforce” housing. The proposed project also includes construction of regional recreational trails on both sites. Section 4.0 – Project Description contained in the Draft EIR, provides an expanded discussion of the proposed project characteristics, statistical information, and graphic illustrations of all aspects of the development proposals.

Discretionary entitlement actions requested by the project proponent include the following:

- General Plan Amendment: A General Plan Amendment is necessary to amend the current designation on the Birch Hills Site from the Birch Hills Specific Plan to the appropriate land use designations.
- Specific Plan Amendment: A Specific Plan Amendment is necessary to amend the Birch Hills Specific Plan to remove the Birch Hills Site from the document.

- Approval of Development Agreement: A Development Agreement is proposed to implement transfer of the Birch Hills Golf Course to the City and to implement design guidelines and development standards on both sites.
- Approval of Zone Changes: New High Density Residential (R3) and Public Facility (PF) zoning designations for the Birch Hills Site are necessary to reflect the appropriate zoning for the proposed Birch Hills project.
- Tentative Tract Maps #16933 and #16934: Tentative Tract Maps are proposed to be approved concurrent with the Development Agreement and Zone Change actions for both sites.
- Precise Development Plans: Precise Development Plans will require additional subsequent discretionary actions by the City Development Services Department or the Planning Commission for each of the 12 Planning Areas in the La Floresta Development I Proposal. (Planning Areas 1 through 11 are located in the La Floresta Village Development, and Planning Area 12 is located in the Birch Hills Development.)
- Conditional Use Permit: A Conditional Use Permit is required for the Assisted Living Facility proposed for Planning Area 9 on the La Floresta Village Site.

The Draft Environmental Impact Report (DEIR 06-01 or DEIR) was made available for public review and comment pursuant to California Environmental Quality Act (CEQA) Guidelines (§15087(c)). The public review period lasted from December 8, 2006 through January 22, 2007. Copies of the DEIR were made available for public review at the City of Brea Development Services Department offices and public libraries in the City of Brea. A Notice of Availability (NOA) of the DEIR was published in the *Brea Star Progress* on November 16 and December 14, 2006. A Notice of Completion (NOC) was filed at the County Clerk's office on December 6, 2006, and copies of the NOC and the DEIR were distributed to public agency personnel and other interested parties as shown in the list contained in Section 2.1 of this Final EIR. Additionally, the DEIR was distributed to responsible and interested state agencies through the State Clearinghouse as listed below. Also in accordance with CEQA Guidelines, the Lead Agency has distributed Responses to Comments to all commenters.

During the review period, comments were received on the DEIR from responsible and affected agencies, as well as the general public. In accordance with CEQA Guidelines, §15087(a), the Lead Agency has evaluated comments on environmental issues received from persons who reviewed the DEIR and has prepared a written response. A total of 33 comment letters were received. These comment letters and the City's responses are presented in Section 3.3 (beginning on page 10) of this Draft Final EIR. This document also contains errata corrections to the DEIR and a draft Mitigation Monitoring and Reporting Program.

A Final EIR will be published upon EIR certification. Documents identified below will comprise the Final Certified EIR.

1. La Floresta Development Proposal Draft Environmental Impact Report (SCH # 2005121093), December 4, 2006.

2. Volume I – Appendices A through E, and G through J, to the Draft EIR, December 4, 2006;
3. Volume II - Appendix F to the Draft EIR, December 4, 2006;
4. La Floresta Development Proposal Draft Final Environmental Impact Report, including:
  - Responses To Comments, September 2007;
  - Errata Corrections to the Draft EIR, September 2007; and
  - Draft Mitigation Monitoring and Reporting Program for the La Floresta Development Proposal, August 4, 2008.

## 1.2 Environmental Significance

The Draft EIR determined that the following impact areas would have unavoidable and significant effects with full implementation of the La Floresta Development Proposal:

- Project-specific construction-related and long-term air pollutant emissions from mobile sources as well as cumulatively significant air quality impacts from the same activities.

Changes proposed in Planning Area 9 of the La Floresta Village development do not alter these conclusions, as described in Section 2.2 (page 5).

## 1.3 Findings

CEQA requires that the Lead Agency adopt specific findings prior to approving a project for which an EIR was prepared that identified potentially significant impacts on the environment. The Lead Agency must identify significant impacts, present facts supporting the conclusions reached in the analysis, make one or more of three specific findings for each impact, and explain the reasoning behind the agency's findings. These findings are presented under separate cover in the "Findings and Statement of Facts in Support of Findings."

If a project has unavoidable adverse impacts, the Lead Agency must set forth its specific reasoning by which the project's benefits justify its approval despite the adverse impacts. These findings are presented under separate cover in a "Statement of Overriding Considerations."

If the City of Brea chooses to approve the project, it must first certify the EIR. Certification consists of the City's determination that the EIR has been completed in compliance with CEQA and that the City's decision makers have reviewed and considered the information within the EIR prior to approving the project, and that it reflects the City's independent judgment and analysis. The EIR is certified by resolution.



## 2. Modifications to the Proposed Project

### 2.1 Proposed Changes in Planning Area 9, La Floresta Village

Since the release of the Draft EIR on December 4, 2006, the applicant has adjusted the unit mix of Planning Area 9 (PA-9) on the La Floresta Village site (which is devoted to senior living units), and increased the number of units by 22, to a total of 222 units. This adjustment stems from the applicant's interest in providing additional assisted senior living units in this planning area. Initially, the applicant proposed 200 units for this Planning Area, offering both independent and assisted-living units. Critically, the land use remains the same; only the number of senior living units has been increased by 22 units. The additional residential senior units are a result of market demand for this type of housing.

This adjustment increasing the build-out for this site is considered minor and is in conformance with the project objectives of the La Floresta Development Proposal. The plan continues to propose a variety of housing types from single-family residential, townhomes, live/work units, active adult condos and single-family homes, and senior living units, with the latter providing both independent and assisted-living configurations. With this adjustment in PA-9, the overall development capacity for the La Floresta Village Site cannot exceed 1,110 residential units.

### 2.2 Summary of Impacts as a Result of Project Modifications

The addition of 22 assisted living units to PA-9 of the La Floresta Village Site would not materially alter the physical design of the project as it is presented in updated exhibits in this Draft Final EIR. See Exhibits RTC 2.0, 3.0, 3.1, and 3.2 contained in Section 5.1 (beginning on page 259) of this Final EIR.

No changes are anticipated in any location-specific environmental impacts described in the DEIR. Aspects such as building height and setbacks would not change. These characteristics are most pertinent to visual and aesthetics impacts on adjacent neighborhoods. No change in aesthetics impacts identified in the DEIR is anticipated.

Other location-specific impacts addressed in the EIR, such as cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality, would similarly not be altered by an increase of 22 units in PA-9.

The proposed change would require slightly more on-site parking and would result in minor changes in peak hour traffic volumes, but total trip generation would be almost identical to the current project design. Table 1 presents revised land use and trip generation for La Floresta Village, including the proposed increase in units on PA-9. As shown, Average Daily Traffic would increase by 5 vehicles, with an estimated increase of 8 in the AM peak hour and a decrease of 26 in the PM peak hour.

Planning Area 9 was analyzed in the DEIR as high-density residential land use. The fact that the area is designed only for senior units (with fewer drivers) would actually

generate lesser impacts than identified in the DEIR. This was done to determine a worst-case situation and a conservative trip generation. With the proposed change/increase of 22 units, the impacts of this adjustment would be negligible and no changes in any conclusions in traffic analysis presented in the EIR are required. In order to maintain consistency, however, a revised trip generation table for the entire La Floresta Development Proposal is presented in the Errata, Section 5.1 (page 259) of this Draft Final EIR.

Because the numerical change in trip generation is so minor, no changes in other traffic-related impacts such as air quality or noise are anticipated as a result of the proposed change in PA-9 build-out. Similarly, no changed in other numerically driven impacts such as demand for services and water supplies are anticipated.

**Table 1**  
**La Floresta – Revised Land Use and Trip Generation Summary**

Land Use Type	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
3. Low/Medium Density Residential	703 DU	106	354	460	379	218	597	5,927
5. High Density Residential	35 DU	4	14	18	14	8	22	235
16. Mixed Use Residential	150 DU	15	62	77	60	33	93	1,008
17. Mixed Use Commercial	156.80 TSF	174	45	219	220	298	518	5,137
30. Public Facility – Adult Rec. Center	5.30 AC	0	0	0	0	0	0	0
32. Retirement Community	222 DU	27	13	40	31	33	64	624
Total		326	488	814	704	590	1,294	12,931
<b>La Floresta EIR</b>		<b>281</b>	<b>541</b>	<b>822</b>	<b>721</b>	<b>547</b>	<b>1,268</b>	<b>12,936</b>
<b>Difference from EIR</b>		<b>-45</b>	<b>53</b>	<b>8</b>	<b>17</b>	<b>-43</b>	<b>-26</b>	<b>5</b>

Source: Austin-Foust, July 2008

## 3. Responses to Comments

### 3.1 CEQA Guidelines Regarding Comments and Responses

CEQA §15204 a) outlines parameters for commenting on environmental documents and states that the focus of review and comment of draft EIRs should be “on the sufficiency of the document in identifying and analyzing possible impacts on the environment and ways in which significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.

CEQA §15204(c) further states, “reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to §15064, an effect shall not be considered significant in the absence of substantial evidence.” Section 15204(d) also states, “each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency’s statutory responsibility.” Section 15204(e) states, “this section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section.”

## 3.2 DEIR Distribution List

Mr. David Doyle  
Assistant City Manager  
City of Diamond Bar  
21660 E. Copley Dr. Suite 190  
Diamond Bar, CA 91765

Mr. Joel Rosen, Chief Planner  
City of Fullerton  
Development Services  
303 W. Commonwealth Ave.  
Fullerton, CA 92832

Mr. Ray Pascua, Director  
City of Placentia  
Development Services  
401 E. Chapman Ave.  
Placentia, CA 92870

Mr. Kurt Christiansen  
Community Development Dir.  
City of Yorba Linda  
4845 Casa Loma Ave.  
Yorba Linda, CA 92885-87114

Ms. Lisa Heep  
Comm Dev Director  
City of La Habra  
201 E. La Habra Blvd.  
La Habra, CA 90631

Mr. Jeff Adams, City Planner  
City of Chino Hills  
2001 Grand Ave.  
Chino Hills, CA 91709-4869

Dr. Skip Roland  
Assistant Superintendent  
Brea Olinda School District  
1 Civic Center Circle  
Brea, CA 92821

Mr. Daryl Koutnik,  
Impact Analysis  
Los Angeles County Dept. of  
Regional Planning  
320 West Temple St., Room 1348  
Los Angeles, CA 90012

Ms. Joyce Crosswaite,  
Executive Officer  
LAFCO- Orange County  
12 Civic Center Plaza, Rm 235  
Santa Ana, CA 92701

Mr. Thomas R. Laurin, Director  
San Bernardino Dept. of  
Community Development and  
Housing  
290 North "D" St., Sixth Floor  
San Bernardino, CA 92415-0040

Environmental Manager  
Orange County Environmental  
Projects & Planning Services  
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Santa Ana, CA 92701-4048

Wildlife Corridor Conservation  
Agency  
407 W. Imperial Highway,  
Ste. H-PMB 230  
Brea, CA 92821

U.S. Army Corps of Engineers  
Ruth Villalobos, Chief  
P. O. Box 532711  
Los Angeles, CA 90017

County of Orange  
Public Facilities & Resources  
300 N. Flower Street  
Santa Ana, CA 92702

Orange Co. Sanitation District  
P.O. Box 8127  
Fountain Valley, CA 92728-8127

Office of Planning & Research  
California State Clearinghouse  
1400 10th St.  
Sacramento, CA 95814

Santa Ana Regional Water  
Quality Control Board  
3737 Main St., Suite 500  
Riverside, CA 92501-4130

Orange County Health Services  
Environmental Health  
1241 E. Dyer Road, Suite 120  
Santa Ana, CA 92702

Gabrielino-Tongva Tribal Council  
501 Santa Monica Blvd., Ste. 500  
Santa Monica, CA 90401-2415

California Cultural Resource  
Preservation Alliance (CCRPA)  
P.O. Box 54132  
Irvine, CA 92619-4132

California Dept. of Fish & Game  
San Diego Field Office  
4949 Viewridge Ave.  
San Diego, CA 92123

Dept. of Parks & Recreation  
Chino Hills Section  
1879 Jackson St.  
Riverside, CA 92504

Dept. of Parks & Recreation  
17801 Lake Perris Dr.  
Perris, CA 92571

Dept of Transportation (Caltrans)  
337 Michelson Drive, Suite 380  
Irvine, CA 92612

U.S. Department of the Interior  
Fish & Wildlife Service –  
Ecological Services  
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Carlsbad, CA 92009-4213

Mr Michael Bailey  
Placentia–Yorba Linda School  
District  
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Placentia, CA. 92870

Samuel H. Dunlap, Director  
Professional Native American  
Cultural Resource Monitors  
P. O. Box 1391  
Temecula, CA 92593

State agencies receiving the DEIR through State Clearinghouse distribution include:

- Resources Agency
- Department of Housing & Community Development
- Department of Parks and Recreation
- California Highway Patrol
- Department of Toxic Substances Control
- Caltrans, District 12
- Department of Fish and Game, Region 5
- Department of Water Resources
- Department of Health Services
- Native American Heritage Commission
- Office of Historic Preservation
- Regional Water Quality Control Board, Region 5

### 3.3 Comments Received and Responses to Comments

This section includes all written responses received on the DEIR and the City of Brea's responses to each comment. Comment letters and specific comments are given letters and numbers for reference purposes. Where sections of the DEIR are excerpted in this document, the sections are shown indented. Changes to the DEIR text are shown in **bold underline** for additions and ~~strikeout~~ for deletions. The following is a list of agencies and persons that submitted comments on the DEIR during the public review period:

Letter Reference	Commenting Person/Agency	Date of Comment Letter	Page
<b>Local, Regional, and State Agencies</b>			
Letter 1	California State Clearinghouse	January 22, 2007	12
Letter 2	State of California, Department of Transportation, District 12	January 22, 2007 (received 1/22/07)	14
Attachment to Letter 2	State of California, Department of Transportation, District 12	January 12, 2006 (received 1/22/07)	21
Letter 3	California Regional Water Quality Control Board – Santa Ana Region	January 4, 2007 (received 1/8/07)	28
Letter 4	Native American Heritage Commission	December 21, 2006 (received 1/2/07)	34
Letter 5	County of Orange, Resources & Development Management Department	January 29, 2007 (received 1/30/07)	38
Letter 6	Brea - Olinda Unified School District	January 22, 2007 (received 1/22/07)	50
Letter 7	Placentia – Yorba Linda Unified School District	January 22, 2007 (received 1/22/07)	52
Letter 8	California Cultural Resource Preservation Alliance	December 20, 2006 (Received 1/2/07)	54
Letter 9	City of Yorba Linda, by Best, Best & Krieger: Attorneys-at-Law	January 22, 2007 (received 1/22/07)	56
Letter 10	City of Placentia, Development Services	January 22, 2007 (received 1/22/07)	68
Letter 11	City of La Habra	January 26, 2007 (received 1/29/07)	70
<b>Associations, Special Interest Groups, and Companies</b>			
Letter 12	Aera Energy LLC	January 22, 2007 (received 1/22/07)	72
Attachment to Letter 12	LSA Associates for Aera Energy LLC	January 19, 2007 (received 1/22/07)	76
Letter 13	Toll Brothers	January 22, 2007 (received 1/22/07)	80
Letter 14	Chevron Land & Development	January 22, 2007 (received 1/22/07)	84

<b>Letter Reference</b>	<b>Commenting Person/Agency</b>	<b>Date of Comment Letter</b>	<b>Page</b>
Letter 15	The Vesuvius Neighborhood Alliance	January 7, 2007 (received 1/9/07)	98
<b>3. Area Residents</b>			
Letter 16	Sam Rush	No date on letter (received 12/22/06)	126
Letter 17	Nestor & Kathleen Reyes	12/28/06 (received 12/28/06)	128
Letter 18	Eric & Kim Golden	No date on letter (received 1/10/07)	132
Letter 19	Steve Kerpan	1/18/07 (received 1/18/07)	136
Letter 20	Gary, Martha, Mary Jane, Laura and Mark Piroutek	1/18/07 (received 1/18/07)	138
Letter 21	Chad & JoAnne Aldridge	1/18/07 (received 1/18/07)	140
Letter 22	Steve Kerpan	1/19/07 (received 1/19/07)	142
Letter 23	Michael Cervin	1/19/07 (received 1/19/07)	144
Letter 24	Marjorie Eason	1/17/07 (received 1/22/07)	146
Letter 25	Georgia Smith	1/21/07 (received 1/21/07)	148
Letter 26	Sara & Donald Schmunk	1/21/07 (received 1/22/07)	150
Letter 27	Eric & Kim Golden	1/22/07 (received 1/22/07)	152
Letter 28	Eduardo Semblantes	1/22/07 (received 1/22/07)	154
Letter 29	Michael Cervin	1/22/07 (received 1/22/07)	156
Letter 30	Michael and Maryanne Martinez	11/22/07 (received 1/22/07)	158
<b>4. Comments received after Close of DEIR Public Review Period</b>			
Letter 31	City of Yorba Linda, by Best, Best & Krieger: Attorneys-at-Law	May 23, 2007 (received May 24, 2007)	162
Letter 32	State of California, Department of Transportation	July 13, 2007	192
Letter 33	California Regional Water Quality Control Board, Santa Ana Region	July 26, 2007	198

Letter 1 California State Clearinghouse

**Notice of Completion & Environmental Document Transmittal** Appendix C

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613  
 Fax/Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

**SCH # 2005121093**

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**Project Title:** La Floresta Development Proposal

**Lead Agency:** CITY OF BREAA **Contact Person:** Adrienne Gladson, AICP

**Mailing Address:** 1 Civic Center Circle **Phone:** 714/990-7674

**City:** Brea, CA 92821 **Zip:** \_\_\_\_\_ **County:** Orange

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**Project Location:**

**County:** Orange **City/Nearest Community:** Brea, CA

**Cross Streets:** Site 1 (La Floresta Village): Valencia Ave & Imperial Highway **Site 2 (Birch Hills):** Birch Street & Kraemer Blvd. **Zip Code:** \_\_\_\_\_

**Assessor's Parcel No.:** various **Section:** \_\_\_\_\_ **Twp.:** \_\_\_\_\_ **Range:** \_\_\_\_\_ **Base:** \_\_\_\_\_

**Within 2 Miles:** **State Hwy #:** 90, 57 **Waterways:** \_\_\_\_\_

**Airports:** \_\_\_\_\_ **Railways:** \_\_\_\_\_ **Schools:** \_\_\_\_\_

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**Document Type:**

CEQA:  NOP  Draft EIR  NOI  Joint Document  
 Early Cons  Supplement/Subsequent EIR  EA  Final Document  
 Neg Dec (Prior SCH No.)  Draft EIS  Other  
 Min Neg Dec  Other  FONSI

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DEC 08 2006

STATE CLEARINGHOUSE

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**Local Action Type:**

General Plan Update  Specific Plan  Rezone  Annexation  
 General Plan Amendment  Master Plan  Prezone  Redevelopment  
 General Plan Element  Planned Unit Development  Use Permit  Coastal Permit  
 Community Plan  Site Plan  Land Division (Subdivision, etc.)  Other

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**Development Type:**

Residential: Units Total 1,335 Acres \_\_\_\_\_  Water Facilities: Type \_\_\_\_\_ MGD  
 Office: Sq. Ft. 45,000 Acres \_\_\_\_\_ Employees \_\_\_\_\_  Transportation: Type \_\_\_\_\_  
 Commercial: Sq. Ft. 111,300 Acres \_\_\_\_\_ Employees \_\_\_\_\_  Mining: Mineral \_\_\_\_\_  
 Industrial: Sq. Ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  Power: Type \_\_\_\_\_ MW  
 Educational  Recreational  Wastewater Treatment: Type \_\_\_\_\_ MGD  
 Recreational Reconfiguration of Birch Hills Golf Course  Hazardous Waste: Type \_\_\_\_\_  
**Total Acres (approx.)** Site 1: 119 acres, Site 2: 61.3 acres  Other: \_\_\_\_\_

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**Project Issues Discussed in Document:**

<input checked="" type="checkbox"/> Aesthetic/Visual	<input type="checkbox"/> Fiscal	<input type="checkbox"/> Recreation/Parks	<input type="checkbox"/> Vegetation
<input checked="" type="checkbox"/> Agricultural Land	<input checked="" type="checkbox"/> Flood Plain/Flooding	<input checked="" type="checkbox"/> Schools/Universities	<input checked="" type="checkbox"/> Water Quality
<input checked="" type="checkbox"/> Air Quality	<input type="checkbox"/> Forest Land/Fire Hazard	<input type="checkbox"/> Septic Systems	<input checked="" type="checkbox"/> Water Supply/Groundwater
<input checked="" type="checkbox"/> Archeological/Historical	<input type="checkbox"/> Geologic/Seismic	<input checked="" type="checkbox"/> Sewer Capacity	<input type="checkbox"/> Wetland/Riparian
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Minerals	<input checked="" type="checkbox"/> Soil Erosion/Compaction/Grading	<input type="checkbox"/> Wildlife
<input type="checkbox"/> Coastal Zone	<input checked="" type="checkbox"/> Noise	<input checked="" type="checkbox"/> Solid Waste	<input checked="" type="checkbox"/> Growth Inducing
<input checked="" type="checkbox"/> Drainage/Absorption	<input checked="" type="checkbox"/> Population/Housing Balance	<input checked="" type="checkbox"/> Toxic/Hazardous	<input checked="" type="checkbox"/> Land Use
<input type="checkbox"/> Economic/Job	<input checked="" type="checkbox"/> Public Services/Facilities	<input checked="" type="checkbox"/> Traffic/Circulation	<input checked="" type="checkbox"/> Cumulative Effects
			<input type="checkbox"/> Other

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**Present Land Use/Zoning/General Plan Designation:**  
 Site 1: Mixed Use/Mixed Use II; Site 2: Specific Plan/Birch Hills Specific Plan

**Project Description:** (please use a separate page if necessary)

Proposed development of two non-contiguous sites in the City of Brea, Ca. for a total of 1,335 dwelling units at densities ranging from 5.0 du/ac. to 28.5 du/ac, with commercial, office and recreational uses. Residential mix includes attached and detached dwellings, including portions devoted to senior housing and "workforce" housing as well as live/work housing over commercial/office uses.

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**State Clearinghouse Contact:** (916) 445-0613 *AKB*

**State Review Began:** 12-8-2006

**SCH COMPLIANCE:** 1-22-2007

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**Please note State Clearinghouse Number (SCH#) on all Comments**

**SCH#:** 2005121093

Please forward late comments directly to the Lead Agency

AQMD/APCD 33

(Resources: 12, 9)

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**Project Sent to the following State Agencies**

<input checked="" type="checkbox"/> Resources <input type="checkbox"/> Boating & Waterways <input type="checkbox"/> Coastal Comm <input type="checkbox"/> Colorado Rvr Bd <input type="checkbox"/> Conservation <input checked="" type="checkbox"/> Fish & Game # 5 <input type="checkbox"/> Delta Protection Comm <input type="checkbox"/> Forestry & Fire Prot <input checked="" type="checkbox"/> Historic Preservation <input checked="" type="checkbox"/> Parks & Rec <input type="checkbox"/> Reclamation Board <input type="checkbox"/> Bay Cons & Dev Comm <input checked="" type="checkbox"/> DWR <input type="checkbox"/> OES (Emergency Svcs) <input type="checkbox"/> Bus Transp Hous <input type="checkbox"/> Aeronautics <input checked="" type="checkbox"/> CHP <input checked="" type="checkbox"/> Caltrans # 12 <input type="checkbox"/> Trans Planning <input checked="" type="checkbox"/> Housing & Com Dev <input type="checkbox"/> Food & Agriculture <input checked="" type="checkbox"/> Health Services	State/Consumer Svcs General Services Cal EPA ARB - Airport Projects ARB - Transportation Projects ARB - Major Industrial Projects Integrated Waste Mgmt Bd SWRCB: Clean Wtr Prog SWRCB: Wtr Quality SWRCB: Wtr Rights <input checked="" type="checkbox"/> Reg. WQCB # 8 <input checked="" type="checkbox"/> Toxic Sub Ctrl-CTC Yth/Adlt Corrections Corrections Independent Comm Energy Commission <input checked="" type="checkbox"/> NAHC Public Utilities Comm State Lands Comm Tahoe Rgl Plan Agency Conservancy
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**Response to Letter 1**  
**California State Clearinghouse**  
**January 22, 2007**

Letter 1 documents distribution of the DEIR to state agencies determined pertinent by the State Clearinghouse, but does not raise any CEQA issues. No further response is necessary.

Letter 2 State of California, Department of Transportation dated January 22, 2007

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION

District 12  
3337 Michelson Drive, Suite 380  
Irvine, CA 92612-8894  
Tel: (949) 724-2267  
Fax: (949) 724-2592



Flex your power!  
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FAX & MAIL

January 22, 2007

Adrienne Gladson  
City of Brea  
1 Civic Center Circle  
Brea, California 92821

RECEIVED  
JAN 22 2007  
PLANNING DIVISION

File: IGR/CEQA  
SCH#: 2005121093  
Log #: 1668-A  
SR-90, SR-142, SR-57

Subject: La Floresta Development Proposal

Dear Ms. Gladson,

Thank you for the opportunity to review and comment on the **Draft Environmental Impact Report (DEIR) for the La Floresta Development Proposal**. The project under consideration involves the development of two-non-contiguous sites in the City of Brea for a total of 1335 dwelling units at densities ranging from 5.0 du/ac. to 28.5 du/ac., with commercial, office, and recreational uses. Residential mix includes attached and detached dwellings, including portions devoted to senior housing and "workforce" housing as well as live/work housing over commercial/office uses. The first site, which is referred to as La Floresta Village Site, is bounded by Imperial Highway (SR-90) on the south, Valencia Avenue (SR-142) on the west, and Rose Drive on the north and east. The second site, which is referred to as Birch Hills Site, is located on Birch Street southwest of its intersection with Kraemer Boulevard. The nearest State routes to the project sites are SR-90, SR-142, and SR-57.

Caltrans District 12 is a responsible agency on this project and we have the following comments:

1. The issues of greatest concern to Caltrans are those that may impact traffic circulation and increase demand on State Transportation Facilities. For all new developing areas, major new developments, redevelopment areas that may require new or improved access, new signals or any improvements to State Transportation Facilities will require close coordination with Caltrans. This requirement should be included in the Final EIR. 2-1
2. As noted in comment #1 in the attached Caltrans letter dated January 12, 2006, traffic impacts should be evaluated based on Caltrans Traffic Impact Study (TIS) Guidelines. Traffic Operations requests all applicants to use the Highway Capacity Manual (HCM) method outlined in the latest version when analyzing traffic impacts on State Transportation Facilities. The use of HCM is preferred by Caltrans because it is an operational analysis as opposed to the Intersection Capacity Utilization (ICU) method, which is a planning analysis. More specifically, the following intersections and highway segments should be evaluated using the HCM method instead of the ICU method: 2-2

- SR-57 SB Ramps and Lambert Road

"Caltrans improves mobility act"

Post-It® Fax Note	7671	Date	1-22-07	# of pages	2
To	Adrienne Gladson	From	M. Moran		
Co/Biz	City of Brea	Co.	Caltrans-D		
Phone	714-990-1674	Phone	724-2267		
Fax #	714-990-2257	Fax #			

**Responses to Letter 2**  
**State of California, Department of Transportation, District 12**  
**Ryan Chamberlain, Branch Chief, Local Development/Intergovernmental Review**  
**January 22, 2007**

**Response to Comment #2-1**

The applicant is currently coordinating the proposed signalization of the project access points with Caltrans. The purpose is to gain agreement on the connections to Imperial Highway as required for new connections to a State Highway facility.

**Response to Comment #2-2**

The traffic impact analysis contained in the Draft EIR follows guidelines used by the City of Brea and by the County Congestion Management Program (CMP). Intersections under Caltrans jurisdiction have also been analyzed using the Highway Capacity Manual (HCM) methodology, and the results are attached in the table below for long-range cumulative with-project conditions. The results produce levels of service that are higher (i.e., better) than those based on the ICUs given in the traffic report. This is because the 2025 signal timings and overall intersection operation is not known, and idealized parameters have been used in the calculations. Reference to SIMTRAFFIC simulation results shows that queuing between intersections and high V/C ratios for individual movements result in levels of service more similar to those indicated by the ICUs.

With respect to the requested traffic “macro-simulation” modeling, it should be noted that the traffic modeling used in the traffic study is macro-simulation (i.e., traffic modeling). It is possible that the comment is intended to mean “micro-simulation” modeling, which is a traffic operations tool for evaluating intersection performance. This is being carried out by the applicant as part of the work with Caltrans to evaluate the proposed access signalization and obtain Caltrans approval for the access roadway connections to a State Highway.

**2025 With Project Levels of Service at Freeway Intersections  
 La Floresta Development Proposal**

Intersection	AM Peak Hour			
	ICU <sup>1</sup>	LOS	Delay <sup>2</sup>	LOS
8. SR-57 SB Ramps & Lambert	1.02	F	41.8	D
9. SR-57 NB Ramps & Lambert	.92	E	21.0	C
26. SR-57 SB Ramps & Imperial	.83	D	25.3	C
27. SR-57 NB Ramps & Imperial	.88	D	22.7	C
Intersection	PM Peak Hour			
	ICU	LOS	Delay	LOS
8. SR-57 SB Ramps & Lambert	.71	C	16.7	B
9. SR-57 NB Ramps & Lambert	.94	E	44.7	D
26. SR-57 SB Ramps & Imperial	.82	D	26.5	C
27. SR-57 NB Ramps & Imperial	.90	D	19.8	B
<sup>1</sup> Intersection capacity utilization as presented in the traffic study				
<sup>2</sup> Average vehicle delay using Highway Capacity Manual methodology				

- SR-57 NB Ramps and Lambert Road
- SR-57 SB Ramps and Imperial Highway (SR-90)
- SR-57 NB Ramps and Imperial Highway (SR-90)
- Imperial Highway (SR-90) between Valley View and SR-57
- Valencia Avenue and Carbon Canyon Road (SR-142) between Bastanchury Road and Orange County line

2-2  
cont'd

The analysis should include existing conditions, as well as interim and long-range future conditions with and without project for both AM and PM peak hours. Further, the analysis shall further include a Traffic Macro-Simulation Modeling to address the cumulative impacts that may occur anywhere in the Study network, as queucs and delays could add up when demand exceeds capacity particularly during AM and Peak Hours.

3. The analysis/study should address in detail the intersection and traffic signal needs in relation to such development consisting of a commercial use at the corner of Valencia and Imperial Highway, as the signalized intersections spacing is also a function of speed and signal cycle timing.

2-3

4. Other alternatives should be considered and discussed in lieu of signalized intersections such as right-in and right-out conditions with dedicated lanes on both facilities for so closely spaced access points (only about 600 feet from Imperial Hwy and Valencia intersection) in connection with "A" Street.

2-4

5. The EIR needs to identify SR-90, SR-142, and SR-57 as state routes, which are operated and maintained by Caltrans. Furthermore, the document needs to state that, any work performed in Caltrans right-of-way will require an encroachment permit.

2-5

6. Caltrans uses FHWA guidelines on Invasive Species by Executive Order 13112 recommend using statewide (California Exotic Pest Plant Council (CalEPPC)) and regional information for locally recognized invasive species. Please comply with the provision set forth in E.O. 13112.

2-6

7. The La Floresta Development will result in extensive construction activities adjacent to and within Caltrans right of way, which may pose water quality issues affecting Caltrans right of way along SR-142 and SR-90. The construction of the La Floresta Development itself as well as the final design could pose water quality issues originating within, or adversely affecting the Caltrans right of way. Please submit a finished full set of construction plans at the encroachment permit application phase, so that the NPDES unit can review storm drain modifications/improvements, maintenance agreements for those storm drain modifications/improvements, construction and post construction BMP's safeguarding the Caltrans right of way, or any other factor potentially affecting water quality within the Caltrans right of way.

2-7

8. No additional surface run-off is allowed to drain to Caltrans right of Way, and post project discharge quantity and pattern must be less than or equal to pre project condition.

2-8

9. Please submit final Hydrology/Hydraulic report and plans to Caltrans for review and comments. Please also include a conclusion section in the Hydrology Studies (Appendix F) to analyze the results of the hydrology calculations, compare the existing and proposed condition results, identify the impacts, and verify the effectiveness of the proposed mitigation measures.

2-9

*"Caltrans improves mobility across California"*

**Response to Comment # 2-3**

As noted under Response to Comment 1 above, work is currently underway to evaluate the signal needs with respect to project access. This includes special micro-simulation analyses to show the effect of the proposed intersection spacing.

**Response to Comment # 2-4**

See Responses to Comments 2-1 and 2-3 above.

**Response to Comment # 2-5**

The comment is noted. SR-90, SR-142, and SR-57 are State Routes, operated and maintained by Caltrans. Section 4.2.3 lists Project Approvals and notes that approvals such as encroachment permits from Caltrans District 12 will be needed for improvements on Imperial Highway and Valencia Avenue.

**Response to Comment # 2-6**

The comment is noted. The project applicant must comply with all pertinent Caltrans regulations and requirements, including FWHA Guidelines on Invasive Species. Median landscaping is proposed within Caltrans rights-of-way. No CEQA issue with respect to the adequacy of the Draft EIR is raised. No further response is necessary.

**Response to Comment # 2-7**

The comment is noted. The DEIR addresses water quality issues in Section 5.7 - Hydrology and Water Quality, including NPDES requirements. The City is aware that the project applicant must comply with all pertinent NPDES procedures and other requirements that may be imposed by Caltrans in the encroachment permit application phase. No CEQA issue with respect to the adequacy of the Draft EIR is raised. No further response is necessary.

**Response to Comment #2-8**

Exhibit 1 and Exhibit 3 of the project Hydrology Studies, as contained in Appendix F of the DEIR, show that the pre-project runoff onto Caltrans right-of-way is actually higher than the proposed runoff from the site given the large pre-existing turf areas surrounding the previous development.

**Response to Comment # 2-9**

Since no additional runoff will be discharged onto Caltrans right-of-way as discussed in Response to Comment #2-8 above, Final Hydrology/Hydraulic Reports will be submitted to Caltrans by project applicant as required at the encroachment permit application phase, which will include a conclusion section. No further response is necessary.

- 10. More specific information should be included in the EIR regarding the location of the proposed soundwalls and drainage improvements impacting Caltrans right-of-way. ] 2-10
- 11. The applicant will be responsible for abatement of any freeway traffic noise related to the project. ] 2-11
- 12. Please be prepared to discuss comments in Caltrans letter dated January 12, 2006 and this letter in our upcoming meeting that will be scheduled later this week. ] 2-12

Please continue to keep us informed of this project and any future developments, which could potentially impact the State Transportation Facilities. If you have any questions or need to contact us, please do not hesitate to call Maryam Molavi at (949) 724-2267.

Sincerely,



Ryan Chamberlain, Branch Chief  
Local Development/Intergovernmental Review

C: Terry Roberts, Office of Planning and Research

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### **Response to Comment # 2-10**

Various utility connections and drainage improvements may encroach upon Caltrans' rights-of-way along Imperial Highway and Valencia Avenue adjacent to the proposed La Floresta Village development. As described in Section 5.9 of the Draft EIR (pages 5.9-20 through 5.9-26), sound walls of varying heights will be required along Imperial Highway, Valencia Avenue, and Rose Drive on the La Floresta Village site and along Kraemer Boulevard on the Birch Hills site (see Mitigation Measure N-2, page 5.9-21). Sound walls are anticipated to be located on private property setback 30 feet from public rights-of-way, however. A Conceptual Wall and Fence Plan indicating the schematic location of required walls is provided in Exhibit 4.2-9 of the DEIR.

Detailed engineering plans for all infrastructure improvements will be prepared after EIR certification and any project approvals. The City and the project applicant are aware of the need for Encroachment Permits from Caltrans for improvements that impact Caltrans rights-of-way. The proposed development will be constructing on-site storm drain systems, which will discharge into Carbon Canyon Channel, as shown in Exhibit 3 of the Hydrology Studies, contained in Appendix F of the DEIR. There are no proposed drainage improvements impacting the Caltrans right-of-way.

### **Response to Comment # 2-11**

The Draft EIR analyzed anticipated traffic-related noise impacts in Section 5.9. Road segments in proximity to the intersections with State Route (SR) 57 at Lambert Road and Imperial Highway have been examined, and no significant impacts were identified along these arterials at the SR-57 Freeway. Noise impacts to the freeway itself were not analyzed in the Draft EIR. The La Floresta Village site is approximately 1½ miles from the closest access to SR-57, and the Birch Hills site is over 3 miles from SR-57. Because no significant noise impacts were found along arterials that would provide freeway access to project residents, it logically follows that the much greater existing baseline noise conditions on the freeway itself would act to further diminish any possible project-related noise impact. As such, no significant noise impacts to freeways would result from the proposed project.

### **Response to Comment #2-12**

The comment is noted. Responses to the Caltrans letter referred to (dated January 12, 2006) are contained in the following Response to the Attachments 1 and 2 to Letter 2.

Attachment #1 to Letter 2 State of California, Department of Transportation

STATE OF CALIFORNIA — BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION

District 12  
3337 Michelson Drive, Suite 380  
Irvine, CA 92612-8894



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Mail and Fax

January 12, 2006

Ms. Adrienne Gladson  
City of Brea  
1 Civic Center Circle  
Brea, CA 92821

File: IGR/CEQA  
SCH#: 2005121093  
Log #: 1668  
SR: 90, 142 & 57

Subject: Notice of Preparation for the La Floresta Development Proposal Draft Environmental Impact Report (DEIR)

Dear Ms. Gladson:

Thank you for the opportunity to review and comment on the **Notice of Preparation for the La Floresta Development Proposal DEIR**. The proposed project includes two non-contiguous sites totaling approximately 210 acres located in the central portion of the City of Brea. The La Floresta Village site (119 acres) consists of residential, commercial, office and hotel uses. The Birch Hills Golf Course site (91.3 acres) consists of residential development, with a reconfigured 18-hole golf course, a community center and clubhouse.

Caltrans District 12 is a reviewing agency on this project, and has the following comments:

1. The Draft Environmental Impact Report (DEIR) needs to include a traffic analysis to examine how the project will impact SR-142, SR-90 and SR-57. Please develop a mitigation impact program for mitigation measures that reflect the rough proportionality or the equitable responsibility for traffic impacts caused by the project. Also, identify the responsible parties, funding and monitoring of the mitigation measures. For any mitigation measures that require work within State Right of Way, an Encroachment Permit will be required. All work will be subject to Caltrans Standards and Specifications. The DEIR should address cumulative traffic impacts. The impacts on the State transportation system should be evaluated based on Caltrans Traffic Impact Study (TIS) Guidelines which is available at: <http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>
2. Due to the proximity to SR-90, SR-142 and SR-57, the Environmental Document should identify the locations of these routes along with any and all potential permanent and temporary impacts, including but not limited to, visual (lighting, signage, etc), noise, grading and storm water runoff.
3. Any project work (e.g. street widening, emergency access improvements, sewer connections, sound walls, stormdrain construction, street connections, lighting and signage, etc.) proposed

2A1-1

2A1-2

2A1-3

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**Responses to Attachment #1 to Letter 2**  
**State of California Department of Transportation, District 12**  
**Robert Joseph, Chief of Intergovernmental Review/Community Planning Branch**  
**January 12, 2006**

Note: This letter was sent in response to the Notice of Preparation in January 2006. As such, the EIR itself is the response to such comments per CEQA Guidelines and procedures. Nonetheless, as a courtesy, specific responses are also presented below.

**Response to Comment #2A1-1**

These comments have been addressed, either in the traffic study contained in the Draft EIR or in the preceding Responses to Comments to Letter 2, Comment 2-2.

**Response to Comment #2A1-2**

These comments have been addressed, either in the traffic study contained in the Draft EIR or in the preceding Responses to Comments to Letter 2, Comment 2-5.

**Response to Comment #2A1-3**

Comments are noted. Similar comments are contained in the main Caltrans DEIR comment letter above. See preceding Responses to Comments 2-6 through 2-10 of that letter. No further response is necessary.

<p>in the vicinity of the Caltrans Right-of-Way, would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans requirements, additional documentation would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near Caltrans Right-of-Way. (See Attachment: <b>Environmental Review Requirements for Encroachment Permit</b>)</p>	<p>2A1-3 cont'd</p>
<p>4. Work conducted within Caltrans Right of Way must have the appropriate plant and wildlife surveys completed by a qualified biologist. During the permit process, and if not addressed in the EIR, request that the applicant submit a copy of the biological study, survey, or technical report by a qualified biologist that provides details on the existing vegetation and wildlife at the project site. Official lists and databases should also be consulted for sensitive species such as the California Natural Diversity Database and lists provided by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Any impacts that affect waterways and drainages and/or open space during construction, or that occur indirectly as a result of the project must be coordinated with the appropriate resource agencies.</p>	<p>2A1-4</p>
<p>5. Additionally, Federal and State laws protect migratory birds, their occupied nests, and their eggs from destruction. The applicable Federal Law is the Migratory Bird Treaty Act (15USC 703-711), 50 CFR Part 21, and 50 CFR Part 10. Protection under California Law is found in Fish and Game Code Sections 3503, 3513, and 3800. A visual inspection should be conducted by the Contractor's biologist prior to removal of partially constructed or unoccupied nests to ensure eggs or nestlings are not present. Nest removal activities shall not deposit in, permit to pass into, or place nest materials where they can pass into the waters of this state. Caltrans uses FHWA guidelines on Invasive Species by Executive Order 13112 recommend using statewide (California Exotic Pest Plant Council (CalEPPC)) and regional information for locally recognized invasive species. Please comply with the provision set forth in E.O 13112.</p>	<p>2A1-5</p>
<p>6. All work within the State Right of Way must conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control, including production of a Water Pollution Control Program (WPCP) or Storm Water Pollution Prevention Plan (SWPPP) as required. Any runoff draining into Caltrans Right of Way from construction operations, or from the resulting project, must fully conform to the current discharge requirements of the Regional Water Quality Control Board to avoid impacting water quality. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Caltrans roadways or facilities. Please note that all projects involving soil disturbance activities should pay extra attention to storm water pollution control during the "Rainy Season" (October 1<sup>st</sup> – April 30<sup>th</sup>) and follow the Water Pollution Control BMPs to minimize impact to the receiving waters.</p>	<p>2A1-6</p>
<p>7. If cultural remains are discovered during excavation, all earth moving activity within and around the site area must be diverted until a Caltrans Archaeologist can assess the find.</p>	<p>2A1-7</p>
<p>8. On page 37 of the NOP, it talks about transplanting existing mature trees into the proposed development. The EIR should indicate the type/species of the select healthy mature trees and where they are located? Will they be kept on site or moved to another location?</p>	<p>2A1-8</p>
<p style="text-align: center;"><i>"Caltrans improves mobility across California"</i></p>	

**Response to Comment #2A1-4**

Comments are noted. No biological assessments were prepared as part of the DEIR. The Notice of Preparation/Initial Study determined that no biological assessments were needed for the EIR because the sites involved in the proposed project are either developed or have been substantially disturbed by prior grading and other activities. Both the Notice of Preparation and the Draft EIR have also been provided to the California Department of Fish & Game and the U.S. Fish & Wildlife Service, neither of which has submitted comments in response.

**Response to Comment #2A1-5**

See Response to Comment # 2A1-4 above and Response to Letter 2, Comment 2-6.

**Response to Comment #2A1-6**

Comments are noted. Similar comments are contained in the main Caltrans DEIR comment letter above. See preceding Responses to Comments 2-7 through 2-9 of that letter. Please also see responses to Letter 3 from the Santa Ana Regional Water Quality Control Board. No further response is necessary.

**Response to Comment #2A1-7**

Mitigation Measures CR-4 through CR-11 in the Draft DEIR address the handling of potential archaeological, paleontological resources, and human remains that may be discovered during construction activities.

**Response to Comment #2A1-8**

The Draft EIR addresses planned tree relocations on both sites in Section 5.1 – Aesthetics. The precise relocation of existing mature trees discussed in the EIR is not known at this point; however, no relocation of trees to off-site areas is planned.

9. On page 39 of the NOP under the Agricultural Resource section there, seems to be a conflict with the answer to (a) regarding unique farmland, and the answer to (c) conversion of farmland. The answer to (a) says according to maps, the La Floresta Village site is designated as unique farmland. The answer to (c) says no conversion of farmland or of an agricultural resource is anticipated. Please clarify the discrepancy and address in the EIR.

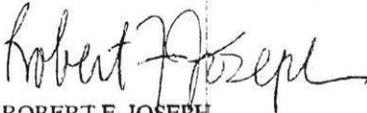
2A1-9

10. On page 9 of the NOP it discusses community trails and bike paths for the two developments. Will current bike pathways and trails be altered? In addition, please include feasibility study of class II bike lane on SR-90 and SR-142. The Department focuses on bicycle use are both transportation and recreation.

2A1-10

Please continue to keep us informed of this project and other future developments, which could potentially impact the transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Lan Zhou at (949) 756-7827.

Sincerely,



ROBERT F. JOSEPH  
Chief of IGR/Community Planning Branch  
District 12

Attachment

c: Terry Roberts, Office of Planning and Research  
Terri Pencovic, Caltrans HQ IGR/Community Planning  
Gale McIntyre, Deputy District Director for Planning and Local Assistance  
Leslie Manderscheid, Environmental Planning  
Isaac Alonso Rice, Traffic Operations

*"Caltrans improves mobility across California"*

**Response to Comment #2A1-9**

The topic of Agricultural Resources is fully addressed in Section 5.2 of the DEIR. To summarize, §66570 of the California *Government Code* states that the purpose of the Farmland Mapping and Monitoring Program of the California Resources Agency is limited to that of providing an inventory of land in agricultural use but carries no policy implications or planning requirements of local jurisdictions. As noted in the Initial Study and the DEIR, the portion of the La Floresta Village site that has been used for agricultural purposes is viewed in the Brea General Plan as an interim use and constitutes a small remnant parcel planned for urban uses. The 21-acre parcel has been leased out by the property owner periodically and used by lessees for various seasonal row crops. Although the City of Brea didn't request its removal from the state mapping program in the last revision cycle to clarify the intent for land use on the property, this administrative action will be undertaken prior to the next mapping update.

**Response to Comment #2A1-10**

Alterations anticipated in community trails and bike paths are described in Section 4.0 of the DEIR. Trails or paths outside the City of Brea are not within the City's jurisdiction or the City's responsibility.

**Attachment #2 to Letter 2, State of California, Department of Transportation**

**ENVIRONMENTAL REVIEW REQUIREMENTS FOR ENCROACHMENT PERMITS:**

Any Party, outside of Caltrans, that does work on a State Highway or Interstate Highway in California needs to apply for an encroachment permit. To acquire an encroachment permit, environmental concerns must be addressed. Environmental review of encroachment permit applications may take 3 weeks if the application is complete or longer if the application is incomplete. For soil disturbing activities (e.g. geotechnical borings, grading, usage of unpaved roads from which dirt and other materials may be tracked onto the State/interstate highways, etc.), compliance with Water Quality and Cultural Resources Provisions are emphasized. Surveys may/ may not be soil-disturbing activities, depending on the site and survey method.

**A complete application for environmental review includes the following:**

1. If an environmental document (CE, EIR/EIS, ND, etc.) has been completed for the project, copy of the final, approved document must be submitted with the application.
2. **Water Quality Provision:** All work within the State Right of Way must conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control including production of a Water Pollution Control Program or Storm Water Pollution Prevention Plan as required. The applicant must provide encroachments with a copy of the Storm Water Pollution Prevention Plan (SWPPP) including Best Management Practices (BMPs) to be implemented for construction activities impacting Caltrans Right of Way, prepared for this as required by the NPDES Statewide Storm Water Permit for General Construction Activities. If no SWPPP has been prepared for this project, then the applicant must follow the requirements described in the attached Water Pollution Control Provisions (please see attachment).
3. **Cultural Resources Provisions:** If not included in the environmental document, before permit approval and project construction, the encroachment permit applicant must complete a Cultural Resource Assessment pursuant to Caltrans Environmental Handbook, Volume 2, Appendix B-1, and Exhibit 1, as amended. The Cultural Resources Assessment ascertains the presence or absence of cultural resources within a one-mile radius of the project area and evaluates the impact to any historical/cultural resource. Cultural Resources include "those resources significant in American history, architecture, archaeology, and culture, including Native American Resources" (Caltrans Environmental Handbook, Volume 2, Chapter 1, as amended). The Cultural Resource Assessment must include:
  - a) a clear project description and map indicating project work, staging areas, site access, etc.;
  - b) a Record Search conducted at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. For information call (714) 278-5395;
  - c) proof of Native American consultation. Consultation involves contacting the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File, and following the recommendations provided by the NAHC. For information call (916) 653-4082;
  - d) documentation of any historic properties-(e.g. prehistoric and historic sites, buildings, structures, objects, or districts listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places) within a one mile radius of the project area;
  - e) and a survey by qualified archaeologist for all areas that have not been previously researched.

*The SCCIC and NAHC have an approximate turn around time of 2 weeks.*

4. **Biological Resources Provisions:** Work conducted within Caltrans Right of Way should have the appropriate plant and wildlife surveys completed by a qualified biologist. If the information is not included in the environmental document, Environmental Planning requests that the applicant submit a copy of the biological study, survey, or technical report by a qualified biologist that provides details on the existing vegetation and wildlife at the project site and any vegetation that is to be removed during project activities. Official lists and databases should also be consulted for sensitive species such as the California Natural Diversity Database and lists provided by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Any impacts that affect waterways and drainages and/or open space during construction, or that occur indirectly as a result of the project must be coordinated with the appropriate resource agencies. As guidance, we ask that the applicant include:
  - a) clear description of project activities and the project site
  - b) completed environmental significance checklist (not just yes and no answers, but a description should be given as to the reason for the response).
  - c) staging/storage areas noted on project plans.
  - d) proposed time of year for work and duration of activities (with information available),
  - e) any proposed mitigation (if applicable to the project),
  - f) and a record of any prior resource agency correspondence (if applicable to the project).

**Responses to Attachment #2 to Letter 2**  
**State of California Department of Transportation, District 12**  
**Robert Joseph, Chief of Intergovernmental Review/Community Planning Branch**  
**January 12, 2006**

Note: This attachment is a description of standard Environmental Review Requirements for Encroachment Permits.

**Response to Attachment #2 of Letter 2:**

The city and the applicant are aware of Caltrans' requirements for any necessary Encroachment Permits, as has been noted in several preceding responses to Caltrans. The applicant must comply with all pertinent Caltrans requirements and procedures. The DEIR addresses hydrology and water quality issues (Section 5.7 of the DEIR) and cultural resources (Section 5.4 of the DEIR). Biological resources were addressed in the Initial Study and determined to be less than significant issues and, therefore, were not further addressed in the DEIR.

Letter 3 California Regional Water Quality Control Board



California Regional Water Quality Control Board  
Santa Ana Region



Linda S. Adams  
Secretary for  
Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348  
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Arnold Schwarzenegger  
Governor

January 4, 2007



Adrienne J. Gladson  
City of Brea  
Development Services Department  
1 Civic Center Circle  
Brea, CA 92821

**DRAFT ENVIRONMENTAL IMPACT REPORT NO. 06-01, LA FLORESTA  
DEVELOPMENT PROPOSAL (STATE CLEARINGHOUSE NO. 2005121093)**

Dear Ms. Gladson:

Thank you for providing Regional Board staff the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the La Floresta Development Proposal. The project consists of the development of two non-contiguous properties; the 119-acre La Floresta Village site and the 91.3-acre Birch Hills Site. Both properties are currently developed with the La Floresta Village site occupied by the former UNOCAL Hartley Research Center and the Birch Hills site occupied by the Imperial Golf Course. The La Floresta Development Proposal is to construct 1,088 residential units; 156,800 square feet of mixed-use commercial; and 53.27 acres of active adult recreational use on the La Floresta Village site. At the Birch Hills site, 75.60 acres is proposed for open space and a community facility, with clubhouse; 247 high-density residential dwellings are also proposed there.

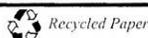
Regional Board staff does not believe that mitigation for water quality impacts has been adequately identified in the DEIR. Pollutants in storm water runoff are required to be removed to the maximum extent practicable (MEP) using best conventional technologies and best available technologies. One of the primary advantages in installing structural storm water treatment controls on new development and significant redevelopment projects is that their early consideration allows for a broader spectrum of technologies to be incorporated into the site design and allows for the project to meet the MEP standard.

3-1

This advantage has the potential to be substantially diminished if consideration of the structural storm water treatment controls is deferred during the development approval process. When a city defers consideration of structural storm water treatment controls, there is the potential that the site design may preclude what would have otherwise been better treatment technologies. Consequently, by deferring consideration of structural storm water treatment controls, the MEP standard may be manipulated. Violations of water quality standards may still occur although the MEP standard may have been technically met.

3-2

*California Environmental Protection Agency*



**Responses to Letter 3****California Regional Water Quality Control Board, Santa Ana Region****Adam Fischer, Environmental Scientist****January 4, 2007****Response to Comment #3-1**

The comment is noted. The DEIR addresses water quality issues in Section 5.7 – Hydrology and Water Quality. In addition, a Water Quality Management Plan (WQMP) prepared for the La Floresta project includes discussion of proposed structural storm water treatment controls. The most significant structural storm water treatment controls on the La Floresta Village site will be extended detention basins and Filterra Bioretention devices to treat first flush flows prior to discharge into the Carbon Canyon Channel. These are described and illustrated in the Conceptual Water Quality Management Plan for La Floresta, dated November 9, 2007 and contained in Appendix A to this Responses to Comments document. Additional site-specific best management practices (BMPs) will be specified in the Storm Water Pollution Plan (SWPPP) and the final Water Quality Management Plan for the La Floresta Development Proposal, which will follow any project approvals by the City of Brea in accordance with typical project review procedures.

The most significant structural storm water treatment control at the Birch Hills site will be a large detention basin to treat first flush flows and control the storm water flows into the Loftus Channel.

Updated Tentative Tract Maps for La Floresta Village, which replace Exhibits 4.2-15a and 4.2-15b contained in the DEIR, are contained in Section 3.2 of this Responses to Comments document as RTC 4.1 and 4.2. As noted, the Conceptual Water Quality Management Plan for La Floresta also provides more detailed illustration of proposed drainage improvements on that site.

**Response to Comment #3-2**

See Response to Comment #3-1 above. The structural storm water treatment controls have been identified for the project.

City of Brea

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The DEIR indicates that a conceptual Water Quality Management Plan (WQMP) has been prepared. Regional Board staff has not found the conceptual WQMP in the circulated DEIR. Instead, the DEIR makes references to preparation of WQMPs and Storm Water Pollution Prevention Plans. These references constitute deferment of mitigation and do not satisfy the requirements of CEQA. Without the conceptual WQMP, or some other means of identifying the type, location, and maintenance responsibility for structural storm water treatment facilities, Regional Board staff does not believe that the DEIR provides adequate information to allow the City to conclude that water quality impacts from pollutants in storm water runoff have been mitigated below a level of significance.

3-3

In order to address this, Regional Board staff requests that the DEIR identify the type, location, and maintenance responsibility for structural storm water treatment controls. Regional Board staff recommends that the City consider forming a Community Facilities District that is capable of maintaining these facilities as opposed to assigning these responsibilities to homeowner's associations or individual residential property owners. When identifying the type of facilities, the DEIR should use terminology found in published and generally accepted engineering design manuals. Generic terms, such as "water quality basin", should not be used. Due to the scale of the project, the City should consider requiring the preparation of a master WQMP, adopted as part of the DEIR, with site-specific WQMPs developed accordingly for subsequent projects.

3-4

Regional Board staff does not believe that the DEIR provides a complete description of the indirect and cumulative impacts of the project on the Loftus Diversion Channel with respect to hydraulic conditions of concern (HCOCs). HCOCs exist independent of particular development projects and occur where a receiving drainage has not been improved or maintained to convey increased flows from development. Part of the goals of addressing HCOCs is not that those drainages be improved, but to avoid or minimize the need for improvements that would impair the drainages' beneficial uses.

3-5

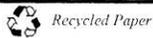
Regional Board staff understanding from the DEIR is that the Loftus Diversion Channel has an HCOc in that it is not improved to convey flows from the runoff from the design storm event. The La Floresta Development Proposal addresses this concern by reducing the volume of its runoff to the Channel. However, this does not appear to preclude the need for channel improvements because the Channel cannot convey flows even in the absence of the project. In order to minimize flooding impacts on the proposed project, building floor elevations will be designed above flood waters but the Channel would not be improved. Nevertheless, channel improvements are anticipated, but are not described in the DEIR.

3-6

The omission of the anticipated channel improvements to the Loftus Diversion Channel is inadequate. Although the La Floresta Development Proposal proposes to mitigate its contribution of flow into the Loftus Diversion Channel, the project may affect the configuration of the channel improvements as indirect or cumulative impacts. The flood control easement for the Channel is 110 to 160-foot wide. The DEIR does not describe what channel configuration could be constructed within this easement to carry flows from the design storm event. By placing structures right up to the edge of the easement, channel

3-7

*California Environmental Protection Agency*



**Response to Comment #3-3**

Volume II of DEIR Appendices, which was provided to the State Clearinghouse, contains all technical Water Quality and Hydrology Studies, as listed below. The City of Brea confirmed receipt of technical DEIR appendices with the State Clearinghouse and distribution to the RWQCB.

Since distribution of the Draft EIR, the applicant's engineers have had a number of meetings with Santa Ana Region RWQCB staff (specifically on August 9 and September 20, 2007). As a result, some refinements and revisions have been made to the draft WQMP. An updated Conceptual Water Quality Management Plan for La Floresta (TTM 16934) was submitted to the Santa Ana RWQCB on November 29, 2007 and is contained in Appendix A to this Responses to Comments document. The RWQCB has reviewed this document and communicated preliminary acceptance of the revised WQMP. Preparation of a Final WQMP and a Storm Water Pollution Plan (SWPPP) for the La Floresta Development Proposal will follow any project approvals by the City of Brea, in accordance with typical project review procedures.

Studies contained in the DEIR include:

La Floresta Village Site:

1. Hunsaker & Associates, Inc.  
"Hydrology Analysis for TT 16934, Hartley Center,"  
November 2005
2. Hunsaker & Associates, Inc.  
"Conceptual Water Quality Management Plan (WQMP), La Floresta,"  
September 2005

Birch Hills Site:

1. Hunsaker & Associates, Inc.  
"Hydrology Analysis for TT 16933 Birch Hills Golf Course,"  
November 2005
2. Hunsaker & Associates, Inc.  
"Conceptual Water Quality Management Plan (WQMP),  
Birch Hills Golf Course Reconstruction,"  
September 2005
3. Hunsaker & Associates, Inc.  
"Preliminary Investigation of the Loftus Diversion Channel  
(Orange County Facility No. A06),"  
July 2006
4. Hunsaker & Associates, Inc.  
"Preliminary Hydraulic Analysis for Loftus Diversion Channel  
(Orange County Facility No. A06),"  
November 10, 2006

City of Brea

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January 4, 2007

configurations that preserve the beneficial uses of the Channel (e.g. groundwater recharge, non-contact water recreation, and wildlife habitat) may be precluded by the La Floresta Development Proposal.

3-7  
cont'd

Regional Board staff requests that the DEIR describe general channel configurations that may result from the design limitations imposed by the La Floresta Development Proposal (e.g. fully concrete-lined, plate armor banks with soft vegetated bottom, etc.). In the event that the project necessitates a channel design that impacts the beneficial uses of the Loftus Diversion Channel, Regional Board staff requests that the Birch Hills site design incorporate the Loftus Diversion Channel as part of the development and impact the Channel if feasible.

3-8

This impact should include channel improvements that are compatible with the City's policies of providing comfortable and attractive facilities that promote active lifestyles, define urban spaces, pedestrian and transit access etc. as well as the Regional Board's mission of restoring and preserving beneficial uses, particularly non-water contact recreation. For example, a fully concrete-lined channel configuration is aesthetically displeasing, often invites graffiti, and may eventually blight the community. In addition, this configuration eliminates groundwater recharge, severely limits wildlife habitat, degrades its recreational value, and may impact the quality of downstream receiving waters. Alternately, a channel configuration that utilizes a soft armoring approach may both enhance the value of the drainage to the community and preserve or minimize impacts to beneficial uses of the drainage and downstream receiving waters.

3-9

Regional Board staff would appreciate the opportunity to work with the City, Orange County Flood Control District (District), and the project proponent to develop an acceptable channel design configuration that preserves or minimizes impacts to beneficial uses, is protective of water quality, and meets the City's policies and the District's design standards.

3-10

If you have any questions, please contact me via electronic message at [afischer@waterboards.ca.gov](mailto:afischer@waterboards.ca.gov) or by telephone at (951) 320-6363.

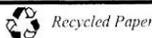
Sincerely,



Adam Fischer  
Environmental Scientist  
Clean Water Act Section 401 Coordinator

cc: State Clearinghouse – Scott Morgan  
State Water Resources Control Board, DWQ-Water Quality Certification Unit –  
Nancy Dagle

*California Environmental Protection Agency*



**Response to Comment #3-4**

See Response to Comment #3-1. The structural storm water treatment controls have been identified for the project. The maintenance of structural storm water treatment controls is the responsibility of the property owner(s), which is usually accomplished through the homeowners association and is a requirement listed in the Covenants, Conditions, and Restrictions (CC&Rs) that runs with the land. The City is studying the possible formation of a Community Facilities District for both sites.

**Response to Comment #3-5**

According to the Preliminary Investigation for the Loftus Diversion Channel report prepared by Hunsaker & Associates and included in Appendix F of the DEIR, the proposed Birch Hills project will not contribute additional flows into the Loftus channel, which will preserve the channel in its existing condition, thereby not impairing the drainages' beneficial uses.

**Response to Comment #3-6**

Channel improvements to increase capacity of the existing Loftus channel are not anticipated, since the development does not contribute additional flows into the channel; therefore, the building floor elevations are already designed above 100-year high confidence floodwater elevations.

**Response to Comment #3-7**

According to the Preliminary Investigation for the Loftus Diversion Channel report prepared by Hunsaker & Associates and included in Appendix F of the DEIR, the existing channel easement is of adequate width for the design and construction of ultimate channel improvements while still maintaining maintenance access roads on both sides of the channel.

**Response to Comment #8**

See Response to Comments #3-6 and #3-7 above.

**Response to Comment #9**

See Response to Comment #3-6 above. In order to improve the beneficial uses of the location, however, the existing maintenance road located along the top of the southerly side of the channel will be improved to accommodate a pedestrian/bike trail.

**Response to Comment #10**

Comment noted. The City anticipates additional coordination with the Orange County Flood Control District and the project proponent with respect to Loftus Channel improvements and will copy the RWCQB on communications as appropriate. No CEQA issue with respect to the adequacy of the Draft EIR is raised. No further response is necessary.

**Letter 4 Native American Heritage Commission**

STATE OF CALIFORNIA

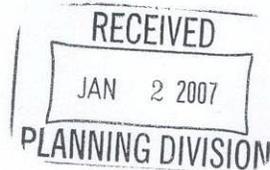
Arnold Schwarzenegger, Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 364  
 SACRAMENTO, CA 95814  
 (916) 653-6251  
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 Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
 e-mail: [ds\\_nahc@pacbell.net](mailto:ds_nahc@pacbell.net)



December 21, 2006



Ms. Adrienne Gladson, AICP  
**CITY OF BREAA**  
 1 Civic Center Circle  
 Brea, CA 92821-7674

Re: SCH#2005121093; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for La Floresta Development Proposal; City of Brea; Orange County, California

Dear Ms. Gladson:

Thank you for the opportunity to comment on the above-referenced document. The Native American Heritage Commission is the state's Trustee Agency for Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

- √ Contact the appropriate California Historic Resources Information Center (CHRIS). The record search will determine:
  - If a part or the entire APE has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded in or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- √ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological information center.
- √ Contact the Native American Heritage Commission (NAHC) for:
  - \* A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity who may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section.
  - The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact, particularly the contacts of the on the list.
- √ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) § 15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- √ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

4-1

**Responses to Letter 4**  
**Native American Heritage Commission**  
**Dave Singleton, Program Analyst**  
**January 2, 2007**

**Response to Comment #4-1**

The NAHC letter outlines "actions recommended to adequately assess project-related impacts on historical resources." The actions listed iterate pertinent portion of CEQA Guidelines and are generic in nature. Comments are not specifically directed at the Draft EIR or its contents. Section 5.4 of the Draft EIR addresses Cultural Resources, including potential impacts to archaeological and paleontological resources and human remains. The cultural resources consultant contacted the NAHC during assessment of historic resources located on the Birch Hills site. No historic resources exist on the La Floresta Village site. Appropriate mitigation measures are incorporated in the DEIR. In addition, direct notification was given by the cultural resources consultant to known Native American representatives in the area provided by the NAHC in a subsequent letter dated 2/1/2006, as required. These tribal representatives are listed in Appendix D of the Draft EIR in studies addressing the Birch Hills site. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

\* CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

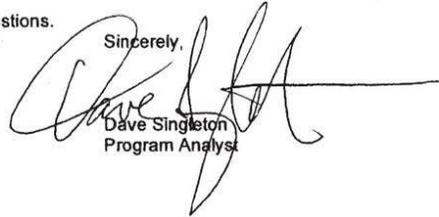
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√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the CEQA Guidelines mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in § 15370 of the CEQA Guidelines, when significant cultural resources are discovered during the course of project planning.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton  
Program Analyst

Cc: State Clearinghouse

Attachment: List of Native American Contacts

**Native American Contacts  
Orange County  
December 21, 2006**

<p><b>Ti'At Society</b> Cindi Alvitre 6602 Zelzah Avenue Reseda, CA 91335 pimugirl@aol.com (714) 504-2468 Cell</p>	<p><b>Gabrielino</b></p>	<p><b>Juaneno Band of Mission Indians Acjachemen Nation</b> David Belardes, Chairperson 31742 Via Belardes San Juan Capistrano, CA 92675  (949) 493-0959  (949) 493-1601 Fax</p>
<p><b>Juaneno Band of Mission Indians</b> Sonia Johnston, Chairperson P.O. Box 25628 Santa Ana, CA 92799 ajuaneno@verizon. (949) 462-0710 (714) 323-8312 (Cell) (949) 462-9451 Fax</p>	<p><b>Juaneno</b></p>	<p><b>Gabrieleno/Tongva Tribal Council</b> Anthony Morales, Chairperson PO Box 693 San Gabriel, CA 91778  (626) 286-1632 (626) 286-1758 - Home (626) 286-1262 Fax</p>
<p><b>Juaneno Band of Mission Indians</b> Anita Espinoza 1740 Concerto Drive Anaheim, CA 92807  (714) 779-8832</p>	<p><b>Juaneno</b></p>	<p><b>Gabrielino/Tongva Council / Gabrielino Tongva Nation</b> Sam Dunlap, Tribal Secretary 761 Terminal Street; Bldg 1, 2nd Floor Los Angeles, CA 90021  (909) 262-9351-Cell (213) 489-5001-Office  (213) 489-5002 Fax</p>

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Sec. 7050.5 of the Health & Safety Code, Sec. 5097.94 of the Public Resources Code and Sec. 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2005121093; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for La Floresta Development Proposal; City of Brea; Orange County, California.

Letter 5 County of Orange, Resources & Development Management Department

02/13/07 08:33 FAX  
01/30/2007 08:59

714-667-8344

COMM. & ADJ. PLNG.

PAGE 01/05



**COUNTY OF ORANGE**

**RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT**

*Bryan Spangle, Director*  
300 N. Flower Street  
Santa Ana, CA  
P.O. Box 4048  
Santa Ana, CA 92702-4048  
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Fax: (714) 834-5188

NCL 06-047

January 29, 2007

Adrienne Gladson, Associate Planner  
City of Brea Planning Division  
1 Civic Center Circle  
Brea, CA 92821-5732



SUBJECT: DEIR for the La Floresta Development Proposal (TTM's 16933 and 16934)

Dear Ms. Gladson:

The above referenced item is a Draft Environmental Impact Report (DEIR) for the City of Brea. The proposed project involves the mixed use development of two separate properties with Site 1 (119 acres) at the northeast corner of Imperial Highway and Valencia Avenue and Site 2 (91.4 acres) being located at the southwest corner of Kramer Boulevard and Birch Street.

The County of Orange has reviewed the DEIR and offers the following comments:

**BIKEWAYS AND TRAILS**

We appreciate the City's efforts to include a network of bikeways and trails within the project site. The following information further clarifies the regional and local trail and bikeway system, and should be addressed in the EIR.

Site 1 (northeast corner of Imperial and Valencia):

1. Site 1 is located in the vicinity of a regional off-road bikeway, two regional trails, and two local off-road bikeways. ] 5-1
2. Regional Bikeway Planning: The Orange County Transportation Authority's "Strategic Plan" for regional bikeways identifies a Class I (paved off-road) bikeway traversing the project site. The proposed bikeway begins at the westerly city limits of La Habra and continues eastward (mostly along a former railroad right-of-way) to Carbon Canyon Regional Park. Class I bikeways are used by bicyclists and pedestrians for recreation and for off-road commuting. ] 5-2

**Responses to Letter 5**  
**County of Orange, Resources & Development Management Department**  
**Ronald Tippers, Chief-Current and Environmental Planning**  
**January 29, 2007**

**Response to Comment #5-1**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-2**

Comment noted. Bikeways are planned within the proposed La Floresta Village project as illustrated on Exhibit 4.2-8, with appropriate connections to the regional trail system. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

02/13/07 09:33 FAX  
01/30/2007 08:59

714-657-8344

COMM. & ADU. PLNG.

PAGE 02/05

- 3. **Regional Bikeway Implementation:** The City of Brea is currently working with County's Harbors, Beaches and Parks to explore several alternative routes for the Class I bikeway between Kraemer and Valencia. Depending on where the preferred alternative approaches Valencia, the subject project should provide for a crossing for the bikeway at Valencia, and the continuation of the bikeway eastward across the site to a point where it can continue into Carbon Canyon Regional Park. 5-3
  
- 4. **Regional Trails Planning:** The County's "Master Plan of Regional Riding and Hiking Trails" identifies two regional riding and hiking (unpaved) trails in the vicinity of Site 1. The Fullerton Trail is proposed along the northeastern edge of the project, and the El Cajon Trail is proposed along the Carbon Creek channel. (The two trails are proposed to connect to each other on the east side of the project site.) The Fullerton Trail will connect the project to Clark, Craig, and Carbon Canyon Regional Parks. The El Cajon Trail will connect the project to the Santa Ana River Trail. Both trails are also depicted on the City's "Riding and Hiking Trails Master Plan". Regional riding and hiking trails are used by equestrians, pedestrians, and mountain bicyclists for recreation and exercise. Completion of the two regional trails will ultimately enable La Floresta residents to travel from a point near their homes to at least three regional parks and the beach, completely off-road. 5-4
  
- 5. **Regional Trails Implementation:** As with the regional bikeway, the County is working with City staff to determine a feasible route for the two regional riding and hiking trails. Currently the Fullerton Trail is proposed to follow the south side of Birch Street and connect to the project site at the intersection of Birch, Rose, and Valencia. Horse-height buttons will need to be installed at this intersection. The trail should then continue along the south and west sides of Rose Drive, to connection with the El Cajon Trail at the Carbon Creek channel. (Currently the El Cajon Trail is planned to extend northward along the channel between Bastanchury Road and the Carbon Canyon Dam, and continue into the regional park.) The subject project should construct the Fullerton Trail between Valencia and the Carbon Creek channel. 5-5
  
- 6. **Local Bikeway Planning:** The City of Brea's "Bikeway Master Plan" identifies two proposed, local, Class I bikeways along 1) Imperial Highway (between Saturn Street and Rose Drive), and 2) Valencia Avenue (between Imperial Highway and the Tonner Canyon area). The City's plan also depicts the regional Class I bikeway identified in Orange County Transportation Authority's (OCTA) master plan. 5-6
  
- 7. **Local Bikeway Implementation:** Both local bikeways are addressed in the DEIR. 5-7
  
- Site 2 (southwest corner of Kraemer and Birch):**
  
- 8. **Site 2 is located in the vicinity of two proposed regional routes:** the Class I bikeway described above and the Fullerton Trail. 5-8
  
- 9. **Regional Bikeway Planning:** The OCTA master plan depicts the Class I bikeway along the former railroad right-of-way traversing Site 2. 5-9

**Response to Comment #5-3**

Comment noted. Bikeway connections to community and regional systems are proposed at the La Floresta Village site (allowing for continuation of bikeways into Carbon Canyon Park) and on the Birch Hills site, as illustrated on Exhibits 4.2-8 and 4.2-22 of the DEIR. All planned trails and bikeways meet applicable City of Brea standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-4**

Comment noted. Dual-purpose trail systems incorporating appropriate connections to regional trails systems are planned on the La Floresta Village and Birch Hills sites, as illustrated in Exhibits 4.2-11a and 4.2-25 of the DEIR, respectively. All planned trails and bikeways meet applicable City of Brea standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-5**

Comment noted. See Response 5-4 above. Regional trails connections are proposed at both the La Floresta Village and Birch Hills sites, as illustrated on Exhibits 4.2-7 and 8 and 4.2-22 of the DEIR. On the La Floresta Village site, connections with the regional trail system are planned at Valencia Avenue/Birch Street/Rose Drive, at Rose Drive/Vesuvius Drive and on Imperial Highway adjacent to the planned senior facility. The latter trail will run along the existing sidewalk on Vesuvius Drive to the La Floresta property line located just north of Mauna Loa Street, where it will then proceed through the La Floresta project site within the planned linear park. Exhibit RTC 1.0, contained in Section 5.2 – Revisions to Exhibits in the EIR, provides a more detailed illustration of this trail than was available at the time the Draft EIR was released. As shown, the linear park will incorporate a 5-foot-wide meandering concrete trail and a 5-foot-wide meandering decomposed granite trail that can be used by pedestrians, bike riders, or equestrians. On the Birch Hills site, the regional trail will run along the Loftus flood control channel and connect with the regional system on the south side of Birch Street and is also a multi-use trail. All planned trails and bikeways meet applicable City of Brea standards and are compatible with County standards for regional trails as well. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. However, description of proposed trails will be refined, as presented below, in order to clarify the nature of trails planned within the La Floresta Development Proposal. No further response is necessary.

Section 4.2.2 - Description of the Project, La Floresta Village, page 4-39, is hereby amended to read as outlined below, and as contained in Section 5.1, Revisions to the Text of the EIR (beginning on page 259) in this document.

Linear Parks

Linear parks 50 feet in width are proposed along the La Floresta Village site boundaries abutting the existing residential neighborhood located to the east of the La Floresta Village site, as illustrated in Exhibit 4.2-11a – La Floresta Village: Conceptual Open Space Plan. Exhibit RTC-1, contained in Section 5.2 – Revisions to Exhibits in the EIR, augments existing exhibits and provides a more detailed illustration of the linear park and trails planned on the La Floresta Village site than was available at the time the Draft EIR was released. As shown, the linear park will incorporate a 5-foot-wide meandering concrete trail and a 5-foot-wide meandering decomposed granite trail that can be used by pedestrians, bike riders, or equestrians. As noted previously, block walls would remain in these areas.

**Response to Comment #5-6**

Comment noted. Bikeway and trail connections have been provided in project plans as has been noted in preceding responses. All planned trails and bikeways meet applicable City of Brea standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-7**

Comment noted. See Response to Comment #5-3 through Comment #5-6 above. All bikeway and trails issues have been addressed in project design and described in the DEIR as noted in preceding responses. All planned trails and bikeways meet applicable City of Brea standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment # 5-8**

Comment noted. See Response to Comment #5-3 above. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment # 5-9**

Comment noted. See Response to Comment #5-3 above. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

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COMM. & ADJ. PLNG.

PAGE 03/05

- 10. Regional Bikeway Implementation: The regional bikeway is addressed in the DEIR. However, in Exhibit 4.2-22, please change "10' Dual Purpose Trail" to "Regional Class I Bikeway". 5-10
- 11. Regional Trail Planning: The County's master plan of trails depicts the Fullerton Trail along the Loftus Channel and the southeastern portion of the railroad right-of-way (parallel to the Class I bikeway). 5-11
- 12. Regional Trail Implementation: The subject project should construct its portion of the Fullerton Trail along the Loftus Channel and the railroad right-of-way. Also, measures may need to be taken to protect trail and bikeway users from errant golf balls. 5-12

Standards and Guidelines:

- 13. The County has standards and guidelines for regional bikeway and regional trail design. These include such topics as: 5-13
  - Easements.
  - Bikeway/trail width and clearance.
  - Walls and fencing.
  - Irrigation and drainage.
  - Trees and landscaping.
  - Setbacks from walls, utilities, and monument signs.
  - Trail and bikeway surface composition.
  - Intersections (including curb cuts, bollards, horse-height buttons, crosswalks).
  - Signage (at intersections and along the trail and bikeway).
  - Meandering the trail and bikeway.
  - Amenities (including bike racks, benches, drinking fountains, kiosks, etc.).
  - Connection between regional routes and pathways within the development (as noted in the subject DEIR).
- 14. For example, of high importance is the width for regional trails and bikeways. The trail should be at least 10 feet wide with 3 feet of clearance on each side, for a total of 16 feet. The Class I bikeway should have a paved surface at least 10 feet wide, with 2 feet of clearance on each side, for a total of 14 feet. No utilities or other obstructions should be allowed within the trail/bikeway tread or clearance areas. 5-14
- 15. We request that the County's Harbors, Beaches and Parks department be given the opportunity to review design plans for the regional trails and bikeway at the earliest stage of production, in order to ensure the continuity of the County's regional trail and bikeway system, and to ensure that design standards and guidelines are met. The contact is Mr. Jeff Dickman, Chief, of the County's Trail Planning, at (714) 834-5372. 5-15
- 16. It is becoming increasingly important to encourage alternative modes of transportation, especially in a mixed-use environment. Providing comprehensive bicycle and pedestrian circulation is a mitigation measure to help reduce air pollution, traffic congestion, parking 5-16

**Response to Comment #5-10**

Comment noted. The designation of bikeways on DEIR exhibits reflects the nomenclature of City of Brea plans and will provide appropriate connections to county bikeways. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment # 5-11**

Comment noted. The Birch Hills project incorporates a dual-purpose trail along the Loftus Channel as illustrated in Exhibits 4.2-21, 4.2-22 and 4.2-25 of the DEIR. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-12**

Comment noted. Trails are planned along the Loftus Channel and the former railroad alignment as illustrated in Exhibit 4.2-22 of the Draft EIR. The City of Brea has also discussed measures to protect trail users from errant golf balls. Conditions of Approval that may be imposed on the Birch Hills project include screen netting and/or fencing, where appropriate. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-13**

Comment noted. All planned trails and bikeways meet applicable City of Brea standards. Connections to any regional trails systems also meet applicable county standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment # 5-14**

Comment noted. Regional trails and bikeways will comply with County development standards. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment # 5-15**

All proposed trail configurations and alignments are conceptually depicted in the Draft EIR in Section 4.0. The proposed trails in the La Floresta Development Proposal have taken County trail systems connections into consideration. Neither project site is, however, within the jurisdiction of the County of Orange. Specific input from the County Trails Planning section regarding the proposed project should be directed to the City of Brea Community Services Department.

No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

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congestion, and noise. Class I bikeways in particular, because they are off-road and suitable for bicyclists and pedestrians with a wide range of ages and abilities, serve to encourage bicycling and walking.

5-16  
cont'd

17. Riding and hiking trails also have an important role in health and recreation. Because they are unpaved (surfaced with decomposed granite), riding and hiking trails provide users with a slower, soft-surface trail experience, away from faster bikeway users. Including both Class I bikeways and unpaved trails will provide project residents with a wide variety of routes for recreation, commuting, and exercise.

5-17

**ENVIRONMENTAL HEALTH**

18. The following comments are being submitted, and are limited to the issues relevant to the interests and mandated responsibilities of the Hazardous Materials Surveillance Section and the Local Oversight Program of the Health Care Agency, Environmental Health Division.

5-18

19. During the review of the proposed project, it is possible that Underground Storage Tanks (UST's) could be located and contaminated soil/groundwater encountered. The project applicant should develop a plan to immediately notify the County's Health Care Agency/Environmental Health Division at (714) 433-6000 if any UST(s) or associated contamination is encountered during implementation of this project.

5-19

20. If UST's are to be removed, it is highly recommended that a staff member from the County's Environmental Health Division/Site Mitigation be present for the removal of the UST's and for soil sampling.

5-20

21. If a Site Mitigation staff person is not present, it is highly recommended that the UST removal contractor contact Luis Lodrigueza, Hazardous Waste Specialist, at (714) 433-6253 for site clean up guidelines. All pertaining requirements in the California Underground Storage Tank Regulation are expected to be followed.

5-21

22. For information pertaining to the regulation of Aboveground Storage Tanks (AST's) please contact the Santa Ana Regional Water Quality Control Board at (951) 782-3292. The Regional Board or the Brea Fire Department can advise on the removal procedures for AST's.

5-22

**FLOOD**

**Birch Hills Site (TT No. 16933):**

23. The County's Public Works/Flood Control staff has previously met with City staff and the project owner/developer/consultants in regards to Loftus Diversion Channel, Orange County Flood Control District (OCFCD) regional drainage Facility No. A06, since it traverses the site. In this process, OCFCD conducted a cursory review of the report entitled 'Preliminary Investigation of the Loftus Diversion Channel--dated July 2006'

5-23

**Response to Comment #5-16**

Comment noted. As has been discussed throughout the preceding comments, the La Floresta Development Proposal incorporates a comprehensive system of bikeways, trails and pedestrian circulation, which is depicted in the DEIR. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-17**

Comment noted. See Response to Comment #5-16. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-18**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-19**

Section 5.6 of the Draft EIR provides an extensive review and analysis of Hazards and Hazardous Materials issues pertinent to the project sites, including possible underground storage tanks. Applicable City policies as well as state and federal regulations are outlined in this section along with responsible agencies, including the Orange County Health Care Agency.

**Response to Comment #5-20**

Studies of underground storage tanks identified on project sites are summarized in Section 5.6 of the Draft EIR. Mitigation Measure HAZ-1 requires coordination with the Orange County Health Care Agency in the remediation of any underground storage tanks. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-21**

See Response to Comment #5-20 above. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-22**

Comment noted. Mitigation Measure HAZ-2 in Section 5.6 of the Draft EIR addresses remediation of above ground storage tanks. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #5-23**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

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which is now included within the DEIR as Appendix F, Hydrology Studies, in order to understand the scope of the proposal.

5-23  
cont'd

24. OCFCD declined to conduct a detailed review of the report since it did not propose the design and construction of flood control improvements to OCFCD's standards. We have recommended and continue to recommend that the City consider conditioning the developer to construct ultimate flood control improvements however, this is a decision for the City to make since such development approvals and conditions, and ensuring that project impacts are appropriately mitigated are the responsibility of the City.

5-24

25. The City of Brea should be responsible for all proposed drainage aspects of the project, including the assessment of mitigation requirements and compliance with National Flood Insurance Program (NFIP) requirements.

5-25

26. A County Property Permit will be required for any work or construction within OCFCD right-of-way. The permit submittal should include sufficient engineering based analyses to demonstrate that OCFCD's existing facilities and activities will not be adversely impacted by the permitted use, such as new storm drain connections, walls, and trails.

5-26

Thank you for the opportunity to respond to the DEIR. If you have any questions, please contact Charlotte Harryman at (714) 834-2522.

Sincerely,



Ronald L. Tippetts, Chief  
Current and Environmental Planning

**Response to Comment #5-24**

According to the Preliminary Investigation for the Loftus Diversion Channel report prepared by Hunsaker & Associates and included in Appendix F of the DEIR, the applicant's hydrology/hydraulic calculations have been reviewed by a third party independent engineering firm retained by the City of Brea, which affirmed the applicant's conclusion that the proposed project will not contribute additional flows into the Loftus Channel. Therefore, the City will not condition the applicant to perform channel improvements to improve capacity. However, as part of the conditions of development, the City will require the applicant to repair erosion damage on the existing side slopes within the Loftus Channel.

**Response to Comment #5-25**

Comment noted. The City of Brea, as the approving agency, has reviewed the proposed drainage concepts and mitigation measures and finds them acceptable. Although the City of Brea is responsible for approval of the drainage proposal, the responsibility for an existing deficient flood control channel lies with the Flood Control District. Ultimately, the applicant has the long-term responsibility for assurance that its project drainage will not adversely affect the Loftus Channel and will protect the health and safety of the future residents of the Birch Hills development.

**Response to Comment #5-26**

Comment noted. The applicant will acquire all necessary permits from the OCFCD to construct improvements within the OCFCD right-of-way. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Letter 6 Brea Olinda Unified School District**



*Business Services*  
1 Civic Center Circle, Level II  
P.O. Box 300  
Brea, California 92822-0300  
714-990-7827  
FAX: 714-990-7811



# Memorandum

**TO:** Adrienne Gladson, City of Brea Development Services  
**FROM:** A. J. "Skip" Roland, Assistant Superintendent – Business Services  
**DATE:** Monday, January 22, 2007  
**SUBJECT:** La Floresta Draft EIR – Comments from Brea Olinda Unified School District

I have reviewed the draft EIR for the La Floresta development and provide the following comments from the Brea Olinda Unified School District:

1. There are portions of the La Floresta projected development that are clearly within the boundaries of the Brea Olinda Unified School District (BOUSD). The development within the current Birch Hills Golf Course is fully within the BOUSD boundaries. The development of the former Unocal Hartley Center is split between BOUSD and the Placentia-Yorba Linda Unified School District (PYLUSD). The current existing district boundaries would split this community, and potentially even individual parcels, between the two districts. It is the preference of the Brea Olinda Unified School District that the entire La Floresta development be assigned within the BOUSD boundaries. BOUSD and the City of Brea have a relatively unique and supportive relationship where the District and City boundaries are much more closely aligned than almost any other community in Orange County. In the past, BOUSD has relinquished housing tracts to PYLUSD to maintain neighborhood identity. It would be appropriate to apply the same arguments to this development and to gain support from PYLUSD to reciprocate in the reassignment of this projected development to BOUSD. Without PYLUSD's support for this realignment of district boundaries, the best remaining alternative would be to adjust district boundaries to allow for planning areas to be within one district and not split. No official proposals to address these issues and the interests of BOUSD have been presented by the developer. As a result, no final resolution to modifying the existing district boundaries has been reached with the developer of this project.
2. While BOUSD collects statutory Level I Developer Fees on all new individual housing projects and small developments, it has negotiated enhanced Impact Mitigation Fees with the two other large projects under various stages of approval within the District boundaries. The District has shared the text of the other Impact Mitigation Agreements with the developer, and has expressed an interest in reaching a similar agreement on this development. The District needs the funds from this and the other developments to begin construction on the new elementary school and other enhancements at Brea Junior High and Brea Olinda High School that will serve this community. While official approval and execution of an Impact Mitigation Agreement has not been finalized, initial drafts of an Impact Mitigation Agreement on the La Floresta project allow the District to support this project while final negotiations resolve any minor issues still remaining.

6-1

6-2

**Responses to Letter 6****Brea Olinda Unified School District****A.J. Roland, Assistant Superintendent – Business Services****January 22, 2007****Response to Comment #6-1**

Comment noted. The current split of the La Floresta Village site between two school districts and potential adjustment of school district boundaries is acknowledged in the DEIR as an issue between the affected districts. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #6-2**

Comment noted. Mitigation Measure PS-3 in Section 5.11 of the Draft EIR addresses payment of school impact fees. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

Letter 7 Placentia-Yorba Linda Unified School District

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PYLUSD

PAGE 02/02

# Placentia-Yorba Linda Unified School District

1301 E. Orangethorpe Avenue, Placentia, California 92870  
Telephone (714) 996-2550 Fax (714) 524-3034

Dennis M. Smith, Ed.D.  
Superintendent

Board of Education  
Carol Downey  
Karl Freeman  
Judy Miner  
Craig Olson, D.D.S.  
Jan Wagner

January 22, 2007

**VIA FAX TO: (714) 990-2258**  
HARD COPY TO FOLLOW IN MAIL

Adrienne Gladson, Associate Planner  
City of Brea – Planning Division  
1 Civic Center Circle  
Brea, CA 92821-5732

Re: Draft Environmental Report No. EIR-06-01 for  
Tentative Tract Maps Nos. 16933 and 16934

Dear Staff,

Thank you for the opportunity to comment on the above cited EIR.

Reference is made to Section 5.11, Public Services and Utilities, and more specifically page 5.11-4 where you cite the schools of attendance and make reference to the capacity of those schools.

The schools of attendance are correct at the present time but it should be noted that with the impending construction of our fourth high school, scheduled to open in the fall of 2008, district-wide attendance areas will come under review in the near future and some changes may occur

Capacity is clearly not an issue at Rose Drive Elementary School as noted and the capacity at Yorba Linda Middle School is viewed as manageable throughout the foreseeable future, particularly in light of a shrinking enrollment at the elementary level that feeds this and other middle schools in our district. It is also important to note that one of the key purposes of the new high school is to relieve overcrowding at our three existing high school campuses. It is anticipated that either El Dorado or any of the other three high school campuses would have more than sufficient space to handle the influx of new students generated from the La Floresta project now and into the future.

Thank you once again for the opportunity to comment on this project and I look forward to working with both city and school district staff on the development of this project.

Respectfully yours,



Mike Bailey, Director  
Facilities & Planning Department

C: Dennis Smith, Superintendent  
Sheri Roussin, Asst. Planner PYLUSD  
Jeanette C. Justice

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7-2

Serving students in the communities of Placentia, Yorba Linda, Anaheim, Brea and Fullerton



**Responses to Letter 7**

**Placentia-Yorba Linda Unified School District**

**Mike Bailey, Director- Facilities & Planning Department**

**January 22, 2007**

**Response to Comment #7-1**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #7-2**

Comments are noted. The DEIR acknowledges the District's anticipation that there will be sufficient capacity to accommodate project-related student generation within current PYLUSD boundaries. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

Letter 8 California Cultural Resources Preservation Alliance



California Cultural Resource Preservation Alliance, Inc.

P.O. Box 54132
Irvine, CA 92619-4132

An alliance of American Indian and scientific communities working for
the preservation of archaeological sites and other cultural resources.

December 20, 2006

Ms. Adrienne Gladson, Associate Planner
City of Brea - Planning Division
1 Civic Center Circle
Brea, CA 92821-5732



Thank you for the opportunity to review the La Floresta Development Proposal EIR No. 06-01, Brea CA. We agree with the determination that both project areas have the potential to contain buried archaeological resources. We have four concerns. The first is whether a Section 404 permit might be required because of the proximity of the La Floresta project area to Carbon Canyon Creek and the Lotus Channel that drains the Birch Hills site. This would place the consideration and treatment of cultural and historic properties under the requirements of Section 106 of the National Historic Preservation Act and implementing regulations, 36 CFR 800.

8-1

Second, deferring the identification of potentially significant buried archaeological resources until ground-disturbing construction activities have exposed them precludes any opportunities for avoidance and preservation and leaves salvage archaeology as the only mitigation option. In addition, construction stoppages are expensive. This possibility can be avoided and opportunities for avoidance and preservation retained by the implementation of a testing program under the supervision of a geomorphologist who could identify soils with archaeological potential and clear areas with soils too young or too old.

8-2

Third, we question the application of §21083.2 of CEQA that requires the archaeologist to determine whether the discovered materials are unique archaeological resources. The criteria for this determination are very subjective and most agencies use the criteria for listing in the California Register of Historical Resources to determine the significance of archaeological resources as they are more vetted and real.

8-3

Fourth, although there is mention of consultation with the Native American Heritage Commission to request a sacred lands file search and letters were sent to a distribution list of tribes, there is no mention of the steps that were taken to comply with Senate Bill 18. Senate Bill 18 established responsibilities for local governments to contact, provide notice to, refer plans to, and consult with tribes. It applies to any amendment or adoption of a general plan or specific plan, regardless of the type or nature of the amendment. There are specific guidelines regarding the information that should be contained in notices sent from a local government to the tribes and specific deadlines for the tribes to respond.

8-4

We hope that our input has been helpful and that our concerns will be taken into consideration.

Sincerely,

Handwritten signature of Patricia Martz

Patricia Martz, Ph.D., President

**Responses to Letter 8**  
**California Cultural Resources Preservation Alliance**  
**Patricia Martz, Ph.D., President**  
**January 2, 2007**

**Response to Comment #8-1**

The need for a Section 404 Permit has not been identified for either project site. The DEIR was distributed to the State Office of Historic Preservation through the State Clearinghouse, and to the Army Corps of Engineers. No comments were received from either agency. If the need for a Section 404 Permit is identified in subsequent phases of project review and implementation, the applicant will be responsible for obtaining such permit approvals.

**Response to Comment #8-2**

Mitigation measures required in Section 5.4 of the DEIR reflect CEQA requirements and commonly accepted professional practices in the preservation of archaeological resources. Further, field investigations were conducted in 2004 and 2006 on both project sites. No significant archaeological resources were identified on either site. Remnant railroad tracks located on the Birch Hills site were identified as a historical resource and will be preserved in accordance with Mitigation Measure CR-1 as outlined in Section 5, Errata (beginning on page 259) of this document. No historical resources were identified on the La Floresta Village site. Renumbered Mitigation Measures CR-2 through CR-9 address potential discovery of archaeological and paleontological resources during project construction on both project sites. No additional mitigation measures are considered necessary because the already incorporated mitigation measures reduce impacts to less than significant levels.

**Response to Comment #8-3**

See Response to Comment #8-2 above. Reference to §21083.2 of CEQA is hereby deleted from Mitigation Measure CR-2 (formerly CR-4) in the DEIR and replaced with "criteria for listing in the California Register of Historical Resources." This change is noted in Section 5 – Errata, which are part of the Final EIR.

**Response to Comment #8-4**

See Letter 4, Response to Comment #4-1. As described, the City of Brea as well as technical consultants preparing cultural resource studies have followed procedures required by Senate Bill 18 in consulting with the Native American Heritage Commission (NAHC) as well as representatives of area tribes. Correspondence with NAHC and tribal representatives is contained in Appendix D of the DEIR.

**Letter 9 Best, Best & Krieger for the City of Yorba Linda**

**BEST BEST & KRIEGER**

**ATTORNEYS AT LAW**

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**Jeffrey V. Dunn**  
(949) 263-2616  
Jeffrey.Dunn@bbklaw.com

January 22, 2007

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VIA COURIER AND ELECTRONIC MAIL

Adrienne Gladson  
City Planner  
City of Brea  
Civil Center Circle, Third Floor  
Brea, California 92821

Re: La Floresta Draft Environmental Impact Report (Draft EIR)

Dear Ms. Gladson:

On behalf of the City of Yorba Linda (Yorba Linda), we submit the following comments on the La Floresta Draft EIR:

**1. Failure to Analyze Traffic Impacts on Yorba Linda.** The Project, as proposed, would be situated immediately adjacent to Yorba Linda. As a result, the Project cannot help but impose upon the already-strained transportation infrastructure in Yorba Linda. Yet the Draft EIR fails to analyze and mitigate the many impacts of the proposed Project within Yorba Linda. The traffic analysis stops, inexplicably, just at the border of Yorba Linda. As a result, impacts on Yorba Linda's intersections are ignored or not adequately considered.

9-1

This is illustrated by the fact that, although 31 percent of the La Floresta Village traffic and 6 percent of Birch Hills Project traffic is projected to enter/leave Yorba Linda via Imperial and Rose Drive, only the Rose Drive/Bastanchury intersection is evaluated. The City of Yorba Linda would expect the traffic analysis to proceed on these two streets until the 3-5 percent level is reached, as was done to the west of the study area, with particular emphasis given to the following intersections:

- ✦ Imperial/Prospect
- ✦ Imperial/Bastanchury
- ✦ Imperial/Yorba Linda Blvd.
- ✦ Rose/Yorba Linda Blvd.
- ✦ Bastanchury/Lakeview
- ✦ Bastanchury/Fairmont

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**Response to Letter 9****Best, Best & Krieger on Behalf of the City of Yorba Linda****Jeffrey Dunn, BB&K LLP****January 22, 2007****Response to Comment #9-1****Study Area Definition:**

The study area includes parts of the Cities of Brea and Placentia. In an initial evaluation of the study area, consideration was also given to the westernmost part of Yorba Linda (this primarily involved Imperial Highway). Extending the study area to the east was not pursued for two reasons.

1. The proposed project does not generate additional traffic compared to that of the General Plan land uses. Since General Plan buildout is consistent with information used by the Orange County Transportation Authority (OCTA) in developing the Smart Street improvements for Imperial Highway, those improvements are based on long-range forecasts that include traffic generated by the proposed project.
2. The long-range Tri-City Traffic Model (TCTM) traffic forecasts showed no significant impacts on Imperial Highway.

The following table, entitled Land Use and Trip Generation Summary, shows a comparison of the General Plan land use and trip generation with that of the proposed project. As can be seen here, the peak hour and ADT trips are lower for the proposed project compared to the General Plan. One individual directional volume, the AM peak hour outbound is higher because of the directionality change caused by the project. However, the trip generation does not account for 200 units of the high-density housing being "Age Qualified" on the La Floresta Village site. With substantially lower trip rates from that land use, this volume will also be lower. (The AM peak hour trip rate for age-qualified housing is one-third that of regular housing according to the Institute of Transportation Engineers Trip Generation Manual.)

Long-range traffic analysis information indicates that the improvements along Imperial Highway are adequate to serve long-term traffic volumes, including those from the proposed project. Intersection capacity utilization (ICU) analysis presented in the following table, entitled Imperial Highway 2025 ICU Summary, summarizes with and without project ICU values from the 2025 version of the TCTM, and is based on the long-range intersection improvements for Imperial Highway. As can be seen, there are no project impacts or cumulative impacts for this section of Imperial Highway. (ICU worksheets are contained in Appendix C to this Responses to Comments document.)

**BEST BEST & KRIEGER**  
ATTORNEYS AT LAW

Adrienne Gladson  
January 22, 2007  
Page 2

- ✦ Bastanchury/Village Center
- ✦ Yorba Linda Blvd./Fairmont
- ✦ Yorba Linda Blvd./ Village Center
- ✦ Yorba Linda Blvd./La Palma (City of Anaheim)

The Draft EIR improperly assumes in Table 5.12-5 (Page 5.12-25), without explanation or substantiation, that the Rose Drive/Imperial Highway intersection would improve between the current and interim years. When is the improvement to be constructed by the City of Placentia, what will the improvement work entail, and how would this improvement mitigate traffic impacts in the area?

9-1  
cont'd

Yorba Linda is concerned with the timing of the Kraemer/Bastanchury intersection improvements under the “with Project” scenario and the inability to mitigate this intersection above LOS E. If the Kraemer/Bastanchury (and Kraemer/Imperial) improvements are not completed in a timely manner, there will be a diversion of Project traffic to Rose Drive.

**2. Unexplained, Unsubstantiated, and Flawed Traffic Analysis.** The traffic analysis in the Draft EIR not only fails to consider potential impacts in Yorba Linda, but also fails to properly analyze impacts in those areas that it does study. Below are critical questions and concerns related to the flawed underpinnings of the Draft EIR’s traffic analysis:

- ✦ The trip generation analysis fails to consider the difference per land use type between the Tri-City Traffic Model (TCTM) trip generation rates and the ITE or SANDAG rates, which are traditionally used for traffic impact analysis in Orange County and California. In addition, the Draft EIR fails to explain how or by whom the TCTM rates were validated. When the weekday trip generation rate of “Medium Density Residential” and ITE’s “Single-Family Detached Housing” are compared, the TCTM generates 1.4 less trips than the ITE per dwelling unit. The Draft EIR analysis needs to be corrected to reflect this. Similarly, the modeling for all other land uses also needs to be compared to the ITE or SANDAG rates, with any differences explained and verified.
- ✦ The basis for the Project distribution assumptions are not properly explained, and in any event fail to consider the Project access points.
- ✦ The assumptions used to determine the ambient growth rate are flawed and not explained or substantiated. The 2012 and 2025 ADT projections fail to include projected ADT on Bastanchury; the projection for the area east of Rose is unrealistically inflated (and is far greater than the pre-existing projection for this area established in the certified Yorba Linda High School EIR; and there is no Project traffic assigned to this segment. In addition, the assumptions appear to under estimate the future ADT on Imperial Highway and Rose Drive.

9-2a

9-2b

**3. Inadequate Analysis of Air Quality and Noise Impacts.** By understating, ignoring, and failing to propose feasible mitigation measures for the potential adverse traffic impacts of the Project in Yorba Linda and elsewhere, the Draft EIR also understates, ignores, and

9-3

ORANGE\JDUNN\3.3050.1

**Land Use and Trip Generation Comparison  
General Plan vs. Proposed Project**

Land Use	Amount	Unit	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
<b>Proposed Project (La Floresta Village Plus Birch Hills Golf Course)</b>									
Medium Density Residential	398	DU	52	199	251	211	111	322	3,224
High Density Residential	787	DU	63	338	401	331	157	488	5,218
Natural Open Space	75.60	AC	0	0	0	0	0	0	0
Mixed Use Residential	150	DU	12	65	77	63	30	93	995
Mixed Use Commercial	156.80	TSF	174	45	219	220	298	518	5,137
Golf Course	18	HOLE	6	2	8	4	7	11	184
Community Center	20	TSF	20	13	33	10	23	33	458
Subtotal			327	662	989	839	626	1,465	15,216
<b>General Plan (La Floresta Site and Birch Hills Site)</b>									
Parks/Open Space	9.46	AC	2	0	2	0	0	0	15
Mixed Use Residential	646	DU	52	277	329	271	129	400	4,283
Mixed Use Commercial	515.40	TSF	572	149	721	722	979	1,701	16,885
Subtotal			666	545	1,211	1,131	1,185	2,316	23,221
<b>Difference</b>									
Total			-339	117	-222	-292	-559	-851	-8,005

Source: Austin-Foust Associates, September 2007

<b>Imperial Highway 2025 ICU Summary La Floresta Development Proposal</b>				
Location	No-Project		With Project	
	AM	PM	AM	PM
Rose & Yorba Linda	.79	.79	.80	.80
Imperial Hwy & Yorba Linda	.59	.90	.59	.90
Imperial Hwy & Bastanchury	.79	.89	.79	.89
Valley View & Imperial Hwy	.78	.86	.78	.87

Source: Austin-Foust Associates, September 2007

With respect to the site and traffic improvements, it should be noted that the City of Brea maintains a Citywide Nexus Fee Program to carry out traffic improvements. The program ensures that timely improvements are made to intersections throughout the City so as to maintain adequate levels of service over time. Smart Street improvements for the intersection of Rose Drive/Imperial Highway are programmed to be undertaken in early 2008, and are scheduled to be constructed within 90 days of initiation. It is unlikely that trips will be diverted to Rose Drive in the interim. These improvements are funded by OCTA Measure M, and will result in an improved level of service from the existing conditions to the interim year.

According to the Orange County Transportation Authority (OCTA), "The Smart Street concept seeks to improve roadway traffic capacity and smooth traffic flow through measures such as traffic signal synchronization, bus turnouts, intersection

improvements, and addition of travel lanes by removing on-street parking and consolidating driveways.

The network is comprised of 21 streets covering approximately 22 miles of arterial roadway. Beach Boulevard was the first Smart Street project to be implemented. OCTA took the lead on this project, which opened to public acclaim in 1996. Three additional Smart Streets are in various stages of implementation by partner Cities. These include Imperial Highway, Katella Avenue, and Moulton Parkway (also known as Edinger Avenue, Irvine Center Drive, and Street of the Golden Lantern.) For a full listing of all Smart Streets within Orange County, please refer to the OCTA website at <http://www.octa.net>.

### **Response to Comment #9-2a**

#### **Trip Generation Rates: ITE Trip Rates versus Traffic Modeling Trip Rates**

Comparisons between trip generation rates in the TCTM and those published in the Institute of Transportation Engineers (ITE) Trip Generation Manual show similarities, but the rates are not identical. This is intentional and appropriate, and relates to the overall methodology involved in transportation models such as Orange County Transportation Analysis Model (OCTAM) and TCTM. These models are designed to forecast traffic volumes on the regional and local arterial highway network, whereas the ITE Trip Generation Manual measures driveway counts and those rates are appropriate for traffic studies associated with driveway counts. The ITE rates are not applicable, however, in traffic models that estimate trips on the arterial roadway system in a regional context. As discussed in the OCTAM documentation, the rates used in the TCTM are nationally accepted rates for state-of-the-practice traffic modeling just as the ITE rates are nationally accepted rates for driveway count types of analyses.

The difference in ITE trip rates versus traffic model trip rates is primarily due to "linked trips" and to a lesser extent, short local trips. The first involves a short trip that is part of a longer trip. Examples include school pick-ups or drop-offs on the way to or from work or a stop at a convenience store or other business establishment on the way to or from some other trip. A linked trip comprises two or more actual trips but only one traffic model trip. The amount of traffic on the roadway is the same in both cases, but the ITE trip generation is double that of the traffic model trip generation. Short local trips include some school trips (those that are short in length), and other localized trips such as to/from after school activities (at a local sports park for example). They place minimal traffic on the major arterial system or freeways and are largely "intra-zonal" as far as the traffic model is concerned (i.e., not part of the arterial roadway system assignment process since the trips stay within the traffic analysis zone).

Transportation practitioners familiar with traffic modeling fully understand these modeling applications, and understand the relationship between driveway count data such as in ITE, and the traffic modeling process. Traffic modeling in southern California has a technical modeling task force sponsored by the Southern California Association of Governments (SCAG). This task force evaluates such

issues, including comparisons between the databases used in the traffic model and those published by ITE. As such, the trip rates contained in these models (including TCTM) are considered appropriate for these types of applications, and are used on a consistent basis throughout southern California.

### **Response to Comment 9-2b**

#### **Future Traffic Patterns/Trip Redistribution:**

An important consideration in the traffic forecasting for a project such as La Floresta is what is sometimes referred to as the “redistribution effect.” This occurs when a project with a mix of uses is analyzed in a long-range context with a comparison made between “with project” and “without project” conditions. While traffic studies for small projects simply estimate the trip generation from that project and add the project trips to the adjacent or surrounding street system, a modeling approach is used for a larger project. In this case, the traffic model depicts two different scenarios for a future point in time, one with the proposed project and one without the proposed project. The scenario with the proposed project depicts how the project will interact with the surrounding area when it is fully built out. The scenario with no land use on the project site assumes that the surrounding land uses remain the same and depicts the corresponding travel patterns made by those land uses, absent the project. In this no-project case, trips will still be generated by those surrounding land uses but they will have different geographic and directionality patterns. These two different sets of traffic patterns are estimated by the traffic model and give the resulting “with” and “without project” volumes on the surrounding roadway system.

The net effect of this trip redistribution is for the “with and without project” trip difference to be less than if project trips were simply added to a roadway link. The effect becomes more pronounced at greater distances from the project. This is because at greater distances from the project the surrounding non-project trip generation is a greater component of the trips than is this non-project trip generation with or without the project.

The trip patterns derived in the Tri-City Traffic Model (TCTM) are based on empirical data collected during the development of the parent model, which is OCTAM 3.1. The with and without project trip redistribution is an important consideration in impact analyses such as this, since the proposed La Floresta Development Proposal will interact with the surrounding area in a manner that can only be predicted by this type of traffic modeling process.

The project trip distribution is taken from the TCTM, and does reflect the project access points. The TCTM uses 2025 as a forecast year, and bases the forecasts on local and regional demographic growth assumptions for that year. Hence, it does not use “ambient growth” rates as the basis for the forecasts. Since there is no project access on Rose Drive, no project trips are assigned to that facility. With respect to forecasts on other facilities, the TCTM through its OCTA certification process reflects local and regional growth in the modeled area.

**BEST BEST & KRIEGER**  
ATTORNEYS AT LAW

Adrienne Gladson  
January 22, 2007  
Page 3

fails to mitigate corresponding air pollution and noise impacts to the citizens of Yorba Linda and elsewhere.

9-3  
cont'd

**4. Failure to Evaluate Urban Decay Impacts.** Notwithstanding the enormity of the proposed Project, which includes among other features over 156,000 square feet of mixed-use commercial development, the Draft EIR fails to consider, analyze, and propose mitigation for the urban decay impacts of the Project in Yorba Linda and elsewhere.

9-4

**5. Failure to Consider a Reasonable Range of Alternatives.** The Draft EIR fails to consider feasible alternatives, including any offsite alternatives, with significantly less impacts than the proposed Project.

9-5

**6. Inadequate Water Quality and Solid Waste Analysis.** The analysis in the Draft EIR of water quality and water supply is inadequate in that it fails to provide sufficient support for conclusory assumptions and fails to account for the potential impact of existing soil contamination at the site on groundwater resources. The Draft EIR also does not adequately address environmental hazard issues posed by the anticipated widespread presence of contamination in the soils, nor does it sufficiently describe the impact of such pre-existing contamination on the hazardous and solid waste volumes to be generated during excavation and grading.

9-6

As a general matter, the City of Yorba Linda supports the City of Brea's goal of well-planned development in the La Floresta Village and Birch Hills sites. However, the City of Yorba Linda has the responsibility to ensure that the environmental document for the proposed project properly examines and mitigates the potential significant adverse impacts – including those on the citizens of neighboring Yorba Linda. The City of Yorba Linda has legitimate concerns regarding the completeness and adequacy of the draft EIR as presented. Overall, the Draft EIR fails to include critical information for the analysis of traffic and other impacts, understates the impacts that are analyzed, fails to consider feasible, enforceable mitigation measures to address those impacts, and fails to consider a reasonable range of alternatives. For these reasons, the City of Yorba Linda, at this time, finds the draft EIR prepared for the La Floresta Development Project to be incomplete and inadequate.

9-7

This concludes the City's comments pertaining to the draft EIR for the La Floresta Development Project. Thank for your opportunity to discuss this draft EIR. The City of Yorba Linda requests that we be provided regular updates as to the status of the project, and to please notify us as to all actions to be taken in regards to this project. The contact person for this project shall be:

9-8

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**Response to Comment #9-3**

Refer to Responses to Comment #9-1 and Comment #9-2 above. Analysis of traffic impacts contained in the Draft EIR is considered adequate. Consequently, air quality and noise analyses, which are based primarily upon traffic generation, are not considered inadequate.

**Response to Comment #9-4**

No evidence to support the claim that the project will result in urban decay in Yorba Linda or other areas is provided by the commenter. The La Floresta Village Development is designed as a mixed-use community to provide services supportive of future residents within the development itself, as described in Section 4.0 of the Draft EIR. Specifically, the La Floresta Village site is proposed for approximately 156,000 square feet of commercial and office uses as shown on Exhibit 4.2-3 of the Draft EIR. These uses are anticipated to include neighborhood-serving establishments such as banks, a grocery store, a drug store, restaurants, and specialty retail establishments. While future residents may seek other services outside the immediate community, this would tend to support rather than diminish the economic viability of surrounding communities offering desirable services. No big box retail is proposed on either project site. "Urban decay" in surrounding communities is not considered an issue with respect to the proposed project.

La Floresta Village households are anticipated to have average incomes exceeding \$80,000 annually, and there would be 1,088 new households created in this location. The proposed lease rate of commercial space needs to be \$3.00 per square foot to be viable, and is anticipated to be \$3.25 per square foot or greater. Thus, the housing and commercial space created in the La Floresta Development Proposal is expected to actually enhance the urban environment and make it more viable rather than cause any adverse impact. It is also reasonable to assume that new residents will increase the demand for commercial uses beyond the array of commercial services to be provided within the La Floresta Village project.

**Response to Comment #9-5**

The Draft EIR has considered all alternatives found reasonable and feasible by the lead agency. Several alternatives were considered by the City and dismissed from discussion in the EIR for reasons described below. These included:

**University satellite complex** – The City's General Plan provides a goal for the La Floresta Village site including a provision for . . . "educational and public uses. . .", which this alternative would serve to achieve. This alternative differed substantially from the applicant's goals and objectives for the site, however, and was dismissed without further consideration.

**Office campus with regional commercial uses** – This potential alternative was discussed and found to be inconsistent with the description of the Mixed Use II land use designation within Brea's General Plan, and was dismissed without further consideration.

**Sports Park/Agricultural facilities** – This potential alternative was discussed with a focus to achieve General Plan goals and polices to provide for such facilities. These land use options were found to be economically impractical and inconsistent with the applicant's goals for the land, however, and were dismissed from further consideration.

As noted in the Introduction to Section 7.0 of the Draft EIR, an EIR is not required to consider alternative locations unless significant impacts associated with the proposed project could be mitigated by that means. The EIR has identified project-specific and cumulative air quality impacts (both from short-term construction and long-term operational emissions) as the only project impacts that are significant and unavoidable. After consideration of all factors, the City of Brea has determined that these air quality impacts would not be avoided or substantially lessened by transferring development to another site, and therefore, consideration of locating the entire project on an alternative site is not considered in the EIR. In addition, the project applicant does not own or control other parcels appropriate to accommodate the proposed project within the City of Brea. It is also worth noting that the proposed project is substantially less intense than could be allowed under the existing General Plan land use designations.

#### **Response to Comment #9-6**

This comment raises several issues, including water supply analysis, groundwater quality impacts alleged to be associated with existing soil contamination, and "hazardous and solid waste volumes generated during excavation and grading." Each of these topics is addressed separately in the following responses:

- Water Supply: Appendix I, Volume II of the Draft EIR, contains a technical water supply analysis performed for the City of Brea in compliance with all requirements of the California Water Code, §10910 and §15083.5 of CEQA Guidelines. Section 5.11 of the Draft EIR refers to this technical study in summarizing findings. Water supply available to the City of Brea from all appropriate agencies and purveyors is described in the water supply assessment. The commenter is referred to the technical water supply study for any desired additional detail.
- Reference documents utilized in the preparation of the La Floresta Village and Birch Hills Water Supply Assessment included:
  - City of Brea, Urban Water Management Plan, December 2005;
  - City of Brea, Water Master Plan Update, December 2002;
  - Municipal Water District of Orange County, Regional Urban Water Management Plan, November 2005;
  - Metropolitan Water District of Southern California, Regional Urban Water Management Plan, November 2005; and

- California Domestic Water Company, Urban Water Management Plan, December 2005.
- Groundwater Quality/Soil Contamination: There is no “widespread soil contamination” on either project site. As outlined in Section 5.6 of the Draft EIR, the La Floresta Village does contain 12 scattered sites identified “areas of potential environmental concern,” illustrated on Exhibit 5.6-1 of the Draft EIR. These will all be appropriately remediated in accordance with mitigation measures contained in the Draft EIR prior to grading or other construction activities associated with project development, as required by state and federal regulations. The presence of these features is not, in any case, an impact of the proposed project. In fact, the proposed project is the impetus for remediation of these sites, and thus would act to diminish any possible impacts to groundwater quality. A remedial grading permit has been issued by the City of Brea to accomplish removal of all contaminated soils. Responsible City and County agencies are monitoring all such activities.
- Hazardous Solid Waste Impacts: As noted in the response above, any contaminated soils or other hazardous materials would be removed prior to project construction. Removal, transport, and disposal of any materials considered to be “hazardous” must comply with all state and federal regulations. Oversight of these activities will involve all relevant county and state regulatory agencies.

**Response to Comment #9-7**

Comments are noted. See preceding Responses to Comment #9-1 through Comment #9-6.

**Response to Comment #9-8**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

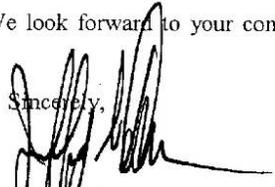
**BEST BEST & KRIEGER**  
ATTORNEYS AT LAW

Adrienne Gladson  
January 22, 2007  
Page 4

Jeffrey V. Dunn  
Beth S. Dorris  
5 Park Plaza, Suite 1500  
Irvine, CA 92614  
Telephone: (949) 263-2600  
Fax: (949) 260-0972

Thank you for your cooperation. We look forward to your continued correspondence in regards to this matter.

Sincerely,



Jeffrey V. Dunn  
of BEST BEST & KRIEGER LLP

ORANGEUDUNN\33050.1

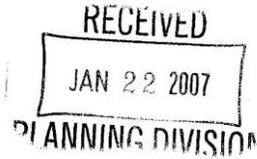
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**Letter 10 City of Placentia**

Page 1 of 1

**Gladson, Adrienne**

**From:** Pascua, Ray [rpascua@placentia.org]  
**Sent:** Monday, January 22, 2007 4:16 PM  
**To:** Gladson, Adrienne



Hi Adrienne,

Here are comments from our Department of Public Works:

Table 5.12-6 – At intersections 42 through 44, what does the (a) and (b) following the intersection name means? ] 10-1

Page 5.12-39, Section 5.12.5 – In paragraph 4, identify the name of the referenced intersection. ] 10-2

If you have any questions, please do not hesitate to contact me. I'll be glad to assist.

Thanks,

Ray

**Raynald F. Pascua**  
Director, Development Services  
(714) 993-8124 (phone)  
(714) 961-0283 (fax)  
rpascua@placentia.org

1/22/2007

**Responses to Letter 10**  
**City of Placentia**  
**Raynald F. Pascua, Director of Development Services**  
**January 22, 2007**

**Response to Comment #10-1**

Table 5.12-6 – The descriptions for the parenthesized ‘a’ and ‘b’ were inadvertently left in the lower part of the table rather than being changed to prefixes 1 and 2. The (a) and (b) have the same explanations as given at the bottom of the table for prefixes 1 and 2, respectively. This item will be addressed in the Errata to the DEIR.

**Response to Comment #10-2**

Page 5.12-39 – The name of the referenced intersection is: Kraemer & Bastanchury.

Letter 11 City of La Habra

02/13/07 09:32 FAX

@ 005



# City of La Habra

"A Caring Community"

ADMINISTRATION BUILDING

201 E. La Habra Boulevard  
P.O. Box 337  
La Habra, CA 90633-0337  
Office: (562) 905-9700  
Fax: (562) 905-9719



January 26, 2007

Mr. Adrienne Gladson  
Associate Planner  
City of Brea-Planning Division  
1 Civic Center Circle  
Brea, California 92821

Re: Notice of Availability of Draft Environmental Impact Report #06-01  
Tentative Tract Maps Nos. 16933 and 16934/La Floresta Development

Dear Ms. Gladson,

Thank you for the opportunity to review the Notice of Availability and Draft Environmental Impact Report #06-01 prepared for "Tentative Tract Maps No. 16933 and 16934" as part of the La Floresta Development project. As an adjacent community that could be impacted by the development, the City of La Habra has determined that due to the project's location, no impacts to La Habra are anticipated.

11-1

If you should have any questions, please feel free to contact me at (562) 905-9724.

Sincerely,

Carlos Jaramillo  
Deputy Director of Community Development

cc: Don Hannah, Assistant City Manager  
Michael Haack, Director of Community Development  
Jennifer Cervantcz, Assistant to the City Manager

Printed on Recycled Paper.

**Responses to Letter 11**

**City of La Habra**

**Carlos Jaramillo, Director of Community Development**

**January 26, 2007**

**Response to Comment #11-1**

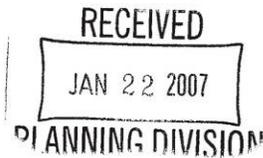
Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Letter 12 Aera Energy LLC**



January 22, 2007

City of Brea Development Services Dept.  
Attn: Adrienne Gladson - Associate Planner  
1 Civic Center Circle  
Brea, CA 92821-5732



COMMENTS TO DRAFT EIR  
LA FLORESTA DEVELOPMENT PROPOSAL  
DEIR 06-01 DATED DECEMBER 4, 2006  
BREA, CALIFORNIA

Dear Ms. Gladson

As the owner of more than 250 Acres in near proximity to the La Floresta project, Aera appreciates the opportunity to comment on the La Floresta Draft EIR. Our review of the Draft EIR has identified two areas of primary concern in hydrology and traffic.

**Hydrology and Drainage.**

Development of the La Floresta site should not result in a change to pre-project stormwater drainage flows from Aera's upstream property. Exhibit 5.7-1 clearly depicts the pre-project topographic condition of the La Floresta site and our land. Several large, topographically-depressed areas on the La Floresta site have historically received and retained stormwater flows during winter rain events. We have noticed that significant grading has taken place in advance of project approvals, and substantial drainage infrastructure has/is being installed on the La Floresta site. We are concerned about the alterations to historic drainage patterns and the apparent removal of historic stormwater retention capacity on the La Floresta site. Aera fully expects the La Floresta project to ensure that that there will be no adverse changes to drainage conditions on our upstream land resulting from the large scale conversion of vacant land to largely improved, impervious surfaces. It is important to realize that much of our adjacent land continues to support active oil producing operations. Access to our wells, pipelines, facilities and roads should not be affected by development of the La Floresta project due to flooding or otherwise. In addition, the City of Brea General Plan envisions future residential development on our land. Adequate measures and assurances should be put in place to ensure our land is fully protected with respect to current and expected future uses.

12-1

Aera Energy LLC • 3030 Saturn Street, Suite 101 • Brea, CA 92821 • (714) 577-9154

**Responses to Letter 12**  
**Aera Energy, LLC**  
**Jeffrey R. Maisch, Project Manager**  
**January 22, 2007**

**Response to Comment # 12-1**

The comment is not directed at the adequacy of the DEIR. The following response is, however, offered to clarify requirements for drainage improvements within the proposed project:

Development of the La Floresta site would not alter storm water flows generated from upstream off-site areas such as property owned by Aera Energy. It is not, however, the legal responsibility of any property located downstream of any site to control or mitigate flows generated from upstream off-site areas. Any flows entering the La Floresta Village site will be conveyed through the site to downstream drainage systems as is legally required of new development. The observation by the commentator that some flows from Aera Energy properties may have been absorbed or retained on the planned La Floresta Village site in the past does not alter the responsibility of Aera Energy to control and/or mitigate those flows. No flooding of any areas on-site or off-site is anticipated as a result of the proposed La Floresta Village development.

COMMENTS TO DRAFT EIR  
LA FLORESTA DEVELOPMENT PROPOSAL  
PAGE 2

**Traffic and Circulation.**

Our comments related to the La Floresta traffic study can be found in the attached memorandum which was compiled at our request by LSA and Associates.

} 12-2

Very truly yours,  
AERA ENERGY LLC



Jeffrey R. Maisch  
Project Manager

**Response to Comment #12-2**

Responses to traffic and circulation from LSA Associates on the behalf of Aera Energy LLC comments are contained in the following attachment to Letter 12.

Attachment A to Letter 12 (LSA Associates, Inc.)



LSA ASSOCIATES, INC.  
20 EXECUTIVE PARK, SUITE 200  
IRVINE, CALIFORNIA 92614

949.553.0666 TEL.  
949.553.8076 FAX

BERKELEY  
CARLSBAD  
COLMA

FORT COLLINS  
PALM SPRINGS  
POINT RICHMOND

RIVERSIDE  
ROCKLIN  
SAN LUIS OBISPO

MEMORANDUM

DATE: January 19, 2007  
TO: Jeff Maisch, Aera Energy  
FROM: <sup>KW</sup> Ken Wilhelm  
SUBJECT: La Floresta Traffic Study—Peer Review



At your request, I have reviewed the traffic study prepared by Austin-Foust Associates, Inc. (AFA) (November 2006) for the proposed La Floresta project in the City of Brea. The project proposes to build 1,088 residential dwelling units and 156,800 square feet of office and retail use.

The following summarizes my comments on AFA's traffic study.

- 1. The trip distribution percentages for the La Floresta Village site, listed on page 11 of the AFA traffic study, only add up to 91 percent. The analysis may have omitted nine percent of the project traffic throughout the study area. It would be helpful to illustrate the centroid connectors onto Valencia, Imperial, and Rose within the project Traffic Analysis Zone (TAZ) to better understand the project trip distribution assumed in the traffic model. 12A-1
- 2. The traffic study states that the study area includes those locations that could potentially be impacted by project traffic. Based on the project trip distribution figures in the traffic study (Figures 2 and 3), approximately 26 percent of the full project would travel on Imperial Highway east of Rose Drive. This represents approximately 185 a.m. and 303 p.m. peak-hour trips. Further explanation should be provided as to why intersections within the City of Yorba Linda along this corridor were not analyzed. 12A-2
- 3. Existing traffic counts were conducted more than one year ago (October/November 2005). In addition, the traffic count used for the intersection of Rose/Imperial (a Congestion Management Plan [CMP] intersection) was dated July 2005. Because this data may be outdated, it may not represent true existing (2006) conditions. The existing data is also used to develop the interim 2012 condition. 12A-3
- 4. Table 7 in the traffic study presents the existing and future lane assumptions for intersections within Brea. Aera and LSA Associates worked cooperatively with the City of Brea staff in May 2005 to identify committed improvements in a 2010 and 2025 condition for purposes of the Aera Master Planned Community (AMPC) traffic analysis. The geometrics in the AFA traffic study are not consistent with the committed geometrics assumed in the AMPC traffic study at the following locations. The specific turn lanes included in the AMPC traffic study that are not included in the La Floresta traffic study are provided in parenthesis. 12A-4
  - Kraemer/Lambert (3 NBT, 2 SBL, 3 EBT, 2 EBR, 3 WBL, and 1 WBR)
  - Valencia/Lambert (3 SBT, 2 EBL, and 1 EBR)
  - Associated (S)/Birch (2NBT, 1 SBR, 1 EBR, and 2 WBL)

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**Responses to Attachment A to Letter 12****LSA Associates, Inc.****Ken Wilhelm****January 19, 2007****Response to Comment #12A-1**

The trip distribution percentages for the La Floresta Village site do add up to 91% as noted in the comment. The traffic modeling shows that 9% of the project trip generation remains on-site. This is related to the mix of uses and specifically the retail component of the proposed project. The internal/external relationship is derived by the traffic model as part of the trip distribution process.

**Response to Comment #12A-2**

See Letter 9, Response to Comment #9-1, which discusses the project related trips on Imperial Highway east of Rose.

**Response to Comment #12A-3**

It is recognized that some of the traffic counts are from 2005. As part of the traffic study work effort, an evaluation was made as to the extent of growth that may have occurred between 2005 and 2006. In none of the instances was it considered that there was substantial growth; hence, the 2005 counts were considered adequate to represent existing conditions at these locations and to use for interpolating to 2012 for the interim conditions.

**Response to Comment #12A-4**

The City is not aware of any traffic study that has been formally submitted for the Aera Master Planned Community (AMPC). At such a time that the study is submitted, the City will evaluate the proposed intersection improvements in relation to the Citywide Nexus Fee Program.

LSA ASSOCIATES, INC.

- SR-57 NB Ramps/Imperial Highway (1 WBR)
  - Associated/Imperial (2 SBL)
  - Kraemer/Imperial (1 SBR)
  - Valencia/Imperial (3 SBT)
- 12A-4  
cont'd
5. The traffic analysis should state whether the land uses, access locations, and mitigation measures for the approved Tonner Hills Planned Community have been incorporated into the baseline traffic model assumptions for the La Floresta project. 12A-5
  6. Traffic generated from the AMPC project and its proposed access locations should also be incorporated into the 2025 long-range analysis for the La Floresta project. 12A-6
  7. Table 8 in the traffic study identifies an improvement in level of service (LOS E to LOS C in the p.m. peak hour) on Rose/Imperial between existing and 2012 conditions. One reason for this improvement is the addition of a third eastbound through lane. However, this improvement is not identified as a committed improvement in Table 7 of the traffic study. 12A-7
  8. Table 9 (ICU and LOS Summary – 2025) in the traffic study does not identify significant project impacts that occur when the project is added to the No Project condition. A project impact is significant if the Intersection Capacity Utilization (ICU) is increased by 0.01 with addition of project traffic to an already deficient location. The following locations should be highlighted in the table as a significant project impact, and feasible mitigation measures should be identified: 12A-8
    - SR-57 SB Ramps/Lambert
    - Kraemer/Birch
    - Associated/Imperial
  9. The feasibility of acquiring the additional right-of-way for the two intersections listed on page 33 of the traffic study should be stated (i.e., does the additional right-of-way require building takes?). 12A-9
  10. The on-site analysis for the La Floresta Village proposes three new traffic signals adjacent to the project site (one on Valencia, just north of Imperial, and two on Imperial, just east of Valencia). Although a peak-hour traffic signal warrant suggests signalization of these new intersections, further analysis should be conducted related to the distance between the proposed signals and the existing signals. An analysis of the signal progression along a Caltrans facility (Imperial Highway) is recommended. Coordination with Caltrans for two new traffic signals on Imperial Highway should be documented in the traffic study. 12A-10

**Response to Comment #12A-5**

As part of the Tri-Cities Transportation Model (TCTM), the Tonner Hills Planned Community is included in the 2025 traffic forecasts.

**Response to Comment #12A-6**

As this time there is no available information submitted to the City of Brea with respect to the AMPC Project. At the time such submittal is made the Citywide Traffic Model will be updated to include that project.

**Response to Comment #12A-7**

Comment noted. Corrections to committed improvements will be addressed in the Errata to the DEIR.

**Response to Comment #12A-8**

As can be seen in the Performance Criteria section of the traffic report (contained in Appendix J to the Draft EIR), an impact is considered significant when an ICU is increased by more than .01 with the addition of project traffic to a deficient location. The La Floresta Traffic Study identifies such locations accordingly. The intersections cited in the comment increase by only .01 and the impacts are consequently not considered significant.

**Response to Comment #12A-9**

These types of issues are addressed in the City of Brea Nexus Fee Program, which identifies needed improvements and makes cost estimates, including the need for additional right-of-way. The two intersections cited have cumulative impacts and are thereby locations specifically considered in the Nexus Program rather than being a mitigation requirement of the project. As improvements are implemented in the Nexus Program, issues such as right-of-way are addressed as part of the project engineering studies.

All future intersections with deficiencies are included in the City of Brea's Nexus program, which is regularly updated. Appendix D to this Responses to Comments document provides a copy of the City of Brea's current traffic impact fee schedule. The "City of Brea Transportation Improvement Programs, Nexus Procedures Description" is also referenced as a source in the project traffic study, contained in Appendix J of the Draft EIR.

All specific references listed in the project traffic study are also hereby added to the list of references contained in Section 10.12 – Bibliography, of the Draft EIR. This clarification is also contained in Section 5.1 – Revisions to the Text of the EIR (beginning on page 259).

**Response to Comment #12A-10**

See Letter 2, Responses to Comment #2-1 and Comment #2-3.

**Letter 13 Toll Brothers**

**Toll Brothers**  
America's Luxury Home Builder™

January 22, 2007

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JAN 22 2007  
PLANNING DIVISION

**Via Electronic Mail**  
(LaFloresta@cityofbrea.net)

Ms. Adrienne Gladson, Associate Planner  
City of Brea  
Development Services Department  
1 Civic Center Circle  
Brea, CA 92821-5732

Re: Comments on La Floresta Development Draft EIR dated  
December 4, 2006

Dear Ms. Gladson:

Thank you for the opportunity to comment on the Draft Environmental Impact Report ("DEIR") for the above-referenced project. Toll Brothers ("Toll") is both the general partner of the master developer of the Vista Del Verde Master Planned Community located in Yorba Linda as well as a homebuilder within the Vista Del Verde project. The Vista Del Verde project is a residential project approved for up to 2,100 residential units and surrounds the Black Gold Golf Club in Yorba Linda. We have reviewed the DEIR, and have the following comments:

A. Section 5.12 Traffic and Circulation

1. Existing Traffic Assumptions: Section 5.12 of the DEIR indicates that the traffic analysis for La Floresta uses the Tri-City Traffic Model (TCTM) as the traffic forecast database. It is not immediately evident that the La Floresta analysis or the TCTM accounts for the full build-out of the Vista Del Verde project. Please confirm, or update, as appropriate, the traffic analysis to account for the full build-out of the Vista Del Verde project. The original EIR for Vista Del Verde contemplated 2,300 residential units, although the current estimate is approximately 1,800 residential units. In addition, we understand that Toll's partner at Vista Del Verde Aera Energy is submitting separate comments to the DEIR including detailed technical commentary on the traffic study from LSA consultants. These additional comments may require further modification to the traffic analysis in the DEIR.

13-1

2. Traffic Improvements: There are several intersections in the La Floresta traffic analysis that are or will be impacted by a completed Vista Del Verde project. In

13-2

New York Stock Exchange • Symbol TOL  
Toll Brothers • Legal Department  
725 Town and Country Rd., Suite 500, Orange, CA 92868  
Telephone: (714) 347-1300 • FAX: (714) 895-9083

**Responses to Letter 13****Toll Brothers****Mark E. Foster, Regional General Counsel****January 22, 2007****Response to Comment #13-1**

The Tri-Cities Transportation Model (TCTM) accounts for full build out of the Vista del Verde project by its utilization of the OCP-2000 demographic forecasts for the County of Orange. These forecasts show growth in that area of sufficient magnitude to include the Vista Verde project.

**Response to Comment #13-2**

The traffic improvements contained in the approved EIR for the Vista del Verde were assumed as committed improvements in the La Floresta traffic analysis. When land uses are assumed in the cumulative time frame, the associated improvements are also included in the analysis for that time frame. This provides consistency between the land uses assumed for that area as noted in Response to Comment #13-1 above and the mitigation measure requirements for those land uses.

Ms. Adrienne Gladson, Associate Planner  
January 22, 2007  
Page 2

particular, several intersections referenced in the DEIR as "impacted" by the La Floresta project were similarly reviewed in the EIR prepared for the Vista Del Verde project. These intersections include (a) Valencia and Birch/Rose (Brea), (b) Kraemer Avenue and Imperial Highway (Brea), and (c) Rose Avenue and Imperial Highway (Placentia). Again, we request confirmation that the proposed mitigation measures for the affected intersections (and any additional intersections that may be impacted once the study accounts for the full build-out of Vista Del Verde) adequately account for the existing and future traffic generated by the Vista Del Verde project. Similarly, to the extent that policy considerations prevent the improvement of specific roads or intersections beyond their current capacity, we request that the EIR so indicate. For example, as is the case with Vista Del Verde, we understand that La Floresta will be precluded from widening Imperial Highway beyond three lanes in each direction (i.e., beyond its current configuration).

13-2  
cont'd

3. Fair Share Contribution: Vista Del Verde has previously either posted security or made contributions toward the improvement of specific intersections in the project study area. Because La Floresta will significantly impact several of these intersections, Vista Del Verde requests that any contributions made by La Floresta as mitigation measures offset or reduce the outstanding security obligations of Vista Del Verde (i.e., the mitigation measures for each project are based upon a fair share formula and adjusted, as necessary).

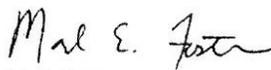
13-3

B. General Comments: Vista Del Verde also requests an opportunity to meet with the City of Brea and/or Brea's EIR consultant in order to review the potential regional impacts that La Floresta may have on the Tri-City region.

13-4

Please feel free to contact the undersigned for any clarifications regarding the foregoing.

Very truly yours,



Mark E. Foster  
Regional General Counsel

MEF/pm

**Response to Comment #13-3**

Issues such as fair share contributions from outside entities in the City of Brea and by the City of Brea for outside entities are addressed in the Citywide Nexus Fee Program. The City's fees reflect funds received from other entities and payments made to other entities.

**Response to Comment #13-4**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Letter 14 Chevron Land & Development**



**James A. Martinez**  
Project Manager

**Chevron Land & Development**  
145 S. State College Blvd.  
P.O. Box 2292  
Brea, CA 92822-2292  
Tel 714.671.3534  
Fax 714.671.3446  
jamartin@chevron.com

January 22, 2007

Ms. Adrienne Gladson, AICP, Senior Planner  
City of Brea  
1 Civic Center Circle  
Brea, CA 92821

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JAN 22 2007  
PLANNING DIVISION

Dear Ms. Gladson:

Attached for your consideration are comments to the Draft EIR. Also, included are recommendations that are more global in nature for your consideration. Please call me at (714) 671-3534, if you have any questions or would like to discuss this matter further.

14-1

Sincerely,

James A. Martinez

Attachments

**Responses to Letter 14**  
**Chevron Land & Development**  
**James A. Martinez**  
**January 22, 2007**

**Response to Comment #14-1**

Comments from Chevron Land & Development are contained in an attachment to Letter 14 and are addressed in the following letter. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised in the cover letter. No further response is necessary.

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## Attachment A to Letter 14

## La Floresta Draft EIR Comments

Page Number (P)	Comments	
P. 1, Notice of Availability, 2 <sup>nd</sup> paragraph, 7 <sup>th</sup> line	"...maximum of 1,088 residential units and <del>180,000</del> <b>156,800</b> square feet of commercial uses are proposed by..."	14A-1
P. 1-1, 1.1 Introduction, 2 <sup>nd</sup> paragraph, 3 <sup>rd</sup> and 4 <sup>th</sup> lines	"...on the Notice of Preparation (NOP) circulated by the City of Brea <del>in on</del> December <u>19</u> , 2005."	14A-2
P. 1-1, 1.2 Project Description, 2 <sup>nd</sup> paragraph, 3 <sup>rd</sup> line	"...156,800 square feet of mixed-use commercial; and <del>53-27</del> <b>5.3</b> acres devoted to an active..."	14A-3
P. 1-3, 1.3.2 Objectives of the City of Brea	First sentence is too long. May want to use bulleted list.	
P. 1-17 through 1-20, 1-22 through 1-24, & 1-27, Table 1-1 Summary of Impact and Mitigation Measures – La Floresta Development Proposal	Missing line at the bottom of table.	14A-4
P. 1-40, 1-8 Areas of Controversy, 4 <sup>th</sup> line	Add a specific date of the scoping meeting	14A-5
P. 2-10, Appendices, Last paragraph	"The following appendices are contained in this EIR:" List of appendices is missing.	14A-6
P. 2-11, 2.6 Intended Uses of this EIR	<ul style="list-style-type: none"> <li>▪ Description of Final Tract Maps, Grading permits, and Building permits are missing.</li> <li>▪ "Additional approvals <u>that</u> may be required by other agencies for Project implementation include, but may not be limited to:"</li> </ul>	14A-7
P. 2-12, 3 <sup>rd</sup> bulleted item	Delete underline "oil well abandonment."	14A-8
P. 2-12, last two bulleted items	Capitalize " <u>A</u> pproval of utility connections..."	14A-9
P. 2-14, 2.10 Important Terms, Items 1, 5, & 6	For consistency, capitalize " <u>T</u> he development...; <u>T</u> he reconfiguration...; and <u>T</u> he development..."	14A-10
P. 3-17, 3.5.1 La Floresta Village Site, 1 <sup>st</sup> paragraph, 13 <sup>th</sup> line	"...and demolition activities were completely <u>d</u> in April 2006."	14A-11
P. 3-17, 3.5.1 La Floresta Village Site, 2 <sup>nd</sup> paragraph, 6 <sup>th</sup> line	"...public review period, ending <u>on</u> January 19, 2006. The City <u>of</u> Brea held a public scoping..."	14A-12
P. 3-18, 5 <sup>th</sup> line	"...review period ending <u>on</u> January 19, 2006."	14A-13
P. 4-2, Objectives of the City of Brea	First sentence is too long. May want to use bulleted list.	14A-14
P. 4-3, 4.2.2 Description of the Project, La Floresta Village Site, 2 <sup>nd</sup> and 3 <sup>rd</sup> line	"...developed in a range of residential product types varying from 5.0 to <del>8.5 net dwelling units per acre</del> to 28.5 <b>net gross</b> dwelling units per acre..."	14A-15
P. 4-3, 4.2.2 Description of the Project, La Floresta Village Site, 7 <sup>th</sup> and 8 <sup>th</sup> line	"...located at the corner of Valencia Avenue and Imperial Highway is devoted <del>to</del> primarily to <b>mixed use residential and</b> non-residential uses. One hundred fifty residential <b>units</b> are..."	14A-16
P. 4-3, Table 4.2-1	Change Net Density to Gross Density. Density for Village Core	14A-17

Page Number (P)	Comments	
	Residential should read 9.4. Acreage for PA 11 should be 5.3 to total to 119.0 acres.	14A-17 cont'd
P. 4-4	Where references are made to PA 11 and/or the 3.27-acre active adult recreation center, please clarify that the planning area is 5.3 acres in size, but the area designated for the recreation center is 3.27 acres.	14A-18
P. 4-39, Circulation, 2 <sup>nd</sup> line	"...and local streets ranging from <del>52</del> <u>39</u> feet to 72 feet in right-of-way width..."	14A-19
P. 4-39, Trails, 5 <sup>th</sup> line	"...as well as additional pedestrian and Class III bicycle <del>trails</del> <u>routes</u> ..."	14A-20
P. 4-40, 2 <sup>nd</sup> paragraph, 1 <sup>st</sup> and 4 <sup>th</sup> lines	When discussing acreage for the recreational facilities, either specify acreage is net when using the smaller numbers (4.13 and 9.8) or use 5 and 13 acres when not specifying that they are net.	14A-21
P. 4-40, Utilities and Services, 3 <sup>rd</sup> paragraph	Tentative Tract Map (TTM) – Once the acronym is introduced, continue using it.	14A-22
P. 4-49, La Floresta Village Typical Street Cross-Sections	Page for Sections M & N is missing.	14A-23
P. 4-75, Table 4.2-2	Change Net Density to Gross Density. Density for PA 12a should be 24.5.	14A-24
P. 4-75, Landscaping, Walls and Fences, 2 <sup>nd</sup> sentence	"Typical landscape conditions planned along Kraemer Boulevard and Birch Street <u>are</u> shown in Exhibit 4.2-24."	14A-25
P. 4-76, Utilities and Services, 3 <sup>rd</sup> paragraph	Tentative Tract Map (TTM) – Once the acronym is introduced, continue using it.	14A-26
P. 4-111, 4.2.3 Project Approvals	<ul style="list-style-type: none"> <li>▪ Description of Final Tract Maps, Grading permits, and Building permits are missing.</li> <li>▪ "Additional approvals <b>that</b> may be required by other agencies for Project implementation include, but may not be limited to:"</li> </ul>	14A-27
P. 4-112, 4 <sup>th</sup> bulleted item	Underline "California Division of Oil, Gas and Geothermal Resources (DOGGR); La Floresta Village site"	14A-28
P. 5.1-31, 2 <sup>nd</sup> paragraph, 1 <sup>st</sup> sentence	Delete "...changes are not considered adverse relative to the existing conditions on the site <b>presently</b> "	14A-29
P. 5.1-31, Viewpoints One through Four, Line 3	Delete "5.1-53e" at the end of sentence.	14A-30
P. 5.1-50, 1 <sup>st</sup> paragraph, 2 <sup>nd</sup> line	"...Birch Hills site would remain similar to the existing character, <del>and</del> <u>The</u> La Floresta Village..."	14A-31
P. 5.1-50 & 5.1-51, Degradation of the Existing Visual Character or Quality of the Site and Its Surroundings & Creation of a New Source of Light and Glare	Combine the impacts under "Both Sites" subheading. They are all same info for both sites except very minor difference.	14A-32
P. 5.2-1, Regulatory Setting, last line	Add parenthesis at the end of (page 5.11-5).	14A-33
P. 5.3-15, Construction Air Quality Impacts, Both Sites	<ul style="list-style-type: none"> <li>▪ Best Available Control Measures (BACM) – Once the acronym is introduced, continue using it.</li> </ul>	14A-34

Page Number (P)	Comments	
	<ul style="list-style-type: none"> <li>3<sup>rd</sup> paragraph, last sentence: PM10 → PM<sub>10</sub>.</li> <li>5<sup>th</sup> paragraph, 1<sup>st</sup> sentence: "...on- and off-site heavy equipment."</li> </ul>	14A-34 cont'd
P. 5.3-19, Fill Hauling Impact, Both Sites, 3 <sup>rd</sup> line	Delete period (.) after "...Kraemer Boulevard: to the Birch Hills site)."	14A-35
P. 5.3-21, Regional Mobile Source Operational Impacts after Project Completion, Both Sites, 1 <sup>st</sup> sentence	Delete extra period (.) at the end of the sentence.	14A-36
P. 5.3-22, 1 <sup>st</sup> paragraph under Table 5.3-8, 3 <sup>rd</sup> line	"This represents approximately 87% of the total forecasted housing growth for Brea..."	14A-37
P. 5.3-25, 5.3.5 Cumulative Impacts, Both Sites, 2 <sup>nd</sup> paragraph, 1 <sup>st</sup> line	PM10 → PM <sub>10</sub>	14A-38
P. 5.4-6, Birch Hills Site, 1 <sup>st</sup> paragraph, last line	"...additional research was conducted in September, 2006."	14A-39
P. 5.4-6, Birch Hills Site, Mitigation Measures, CR-1 Design Plans	Mitigation Measure CR-1 seems to be more restrictive than the recommendations provided by the Cultural Resources Consultant in the letter dated October 18, 2006 located in Appendix D.	14A-40
P. 5.4-9, Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	Change instances of "will" to "shall".	14A-41
P. 5.4-10, CR-11 Final Monitoring and Mitigation Report	"The Certified Paleontologist <del>will</del> <b>shall</b> prepare a final monitoring and mitigation report to be filled with the client, the lead agency, and the repository."	14A-42
P. 5.5-12, 5.5.4 Project Impact and Mitigation Measures, Consistency with Applicable Regulations and Plan, City of Brea General Plan: Public Safety Element, Mitigation Measure	<ul style="list-style-type: none"> <li>Bold and underline <b>GEO-1 Geotechnical Investigation</b> heading to be consistent with other mitigation measures.</li> <li>Make sure the bulleted items are aligned.</li> </ul>	14A-43
P. 5.5-13 & 5.5-14	Uniform Building Code (UBC) – Once the acronym is introduced, continue using it.	14A-44
P. 5.5-15, La Floresta Village Site, Liquefaction, 3 <sup>rd</sup> bullet	"A relatively shallow groundwater table..."	14A-45
P. 5.5-16	Uniform Building Code (UBC) – Once the acronym is introduced, continue using it.	14A-46
P. 5.5-16, Birch Hills Site, Liquefaction, 3 <sup>rd</sup> bullet	"A relatively shallow groundwater table..."	14A-47
P. 5.5-17, 1 <sup>st</sup> paragraph	<ul style="list-style-type: none"> <li>"Adverse effects from expansive soils can be readily mitigated through the use of well-reinforced foundations..."</li> </ul>	14A-48

Page Number (P)	Comments	
	<ul style="list-style-type: none"> <li>Uniform Building Code (UBC) – Once the acronym is introduced, continue using it.</li> </ul>	14A-48 cont'd
P. 5.6-3, Table 5.6-1, Waste water sump mitigation.	Mitigation Measure HAZ-4 Wastewater Sump Area should be used instead of HAZ-1 Underground Storage Tanks.	14A-49
P. 5.6-5, Methane and Hydrogen Sulfide, last line	Add period (.) at the end of the sentence, “The laboratory results indicated that methane was detected at some of the sample locations.”	14A-50
P. 5.6-18 & 19, items d, e, and f	Underline each item to be consistent with the rest of the items.	14A-51
P. 5.6-21, Hydrogen Sulfide	Add (H <sub>2</sub> S) first time hydrogen sulfide is mentioned.	14A-52
P. 5.6-25 & 26, Table 5.6-1 Hazardous Materials Remediation Summary – La Floresta Village/Hartley Research Center, items d, e, and f	Underline each item to be consistent with the rest of the items.	14A-53
P. 5.7-2, Surface Water Quality, 1 <sup>st</sup> sentence	“The La Floresta Village site is within the jurisdiction of the Santa Ana Regional Water Quality Control Board...”	14A-54
P. 5.7-27, Mitigation Measures, HYD-6 Hydrology Study and Drainage Improvements, Item c	“Prior to any final map approval for the Birch Hills development, the applicant/owner shall consult with the Orange County Flood Control District (OCFCD) to identify <del>the</del> requirements for <del>any facility or property improvements planned for construction</del> <b>the provision of project related facilities</b> within the OCFCD channel easement.”	14A-55
P. 5.7-27, Mitigation Measures, HYD-7 Runoff Management Plan	Realign items a. and b. to be consistent with the document.	14A-56
P. 5.8-7, 5.8.4 Project Impacts and Mitigation Measures, Consistency with Applicable Plans and Regulations, City of Brea General Plan: Community Development Element –Land Use, La Floresta Village Site, 2 <sup>nd</sup> paragraph, 6 <sup>th</sup> line	“... <del>close</del> proximity to future residents, and ...”	14A-57
P. 5.8-7, 5.8.4 Project Impacts and Mitigation Measures, Consistency with Applicable Plans and Regulations, City of Brea General Plan: Community Development Element –Land Use, La Floresta Village Site, 3 <sup>rd</sup> paragraph	<ul style="list-style-type: none"> <li>“The proposed residential densities range from 5.0 to <del>48.5</del> <b>28.5</b> dwelling units per acre...”</li> <li>The proposed FAR is technically 0.55 if you take the acreage of PA 5 and the proposed square footage and calculate it out.</li> </ul>	14A-58
P. 5.8-7, 5.8.4 Project Impacts and Mitigation Measures, Consistency with Applicable Plans and Regulations, City of Brea General Plan: Community Development Element –Land Use, Birch Hills Site, 1 <sup>st</sup> paragraph	“The Birch Hills site is designated <del>as</del> “Birch Hills Specific Plan.””	14A-59
P. 5.9-11, 5.9.4 Project Impacts and Mitigation Measures, Consistency with Applicable Regulations and Plans.	“Because of <del>close</del> proximity, construction noise impacts would most likely affect the...”	14A-60

Page Number (P)	Comments	
Construction Noise Impacts, Both Sites, 3 <sup>rd</sup> paragraph, 1 <sup>st</sup> sentence		14A-60 cont'd
P. 5.9-28, Construction Noise Impacts, Both Sites, 2 <sup>nd</sup> line	"...only occur when other construction sites are in <del>close</del> proximity to the Project sites."	14A-61
P. 5.11-8, Wastewater Treatment, item 3	"Facilities affecting the greatest number of customers or which would cause the most damage in the event of failure are given higher priority rankings <del>than</del> those that do not."	14A-62
P. 5.11-35, 1 <sup>st</sup> sentence	"This <u>Section</u> of the EIR has analyzed the potential public service and utility impacts associated with the La Floresta Development Proposal,..."	14A-63
P. 5.12-20, Table 5.12-4.	The Project Trip Generation Summary in the this table overstates the Project trip generation by as much as 30% (189 trips) in the AM peak hour and 21% (222 trips) in the PM peak hour compared to the Project trip generation forecast utilizing specific ITE trip rates based on the actual development component. For instance, the traffic impact analysis assumed medium-density residential and high-density residential trip generation rates for the adult and assisted living land uses as well as live-work housing, which typically generates significantly less peak hour traffic than typical apartment and condominium uses. As a result, some of the impacted intersections identified in the traffic impact analysis may not be significantly impacted and therefore not require mitigation measures. It is recommended that the Project trip generation calculation be revised to apply the appropriate ITE trip categories and that the intersection capacity analyses be revised accordingly.	14A-64
P. 7-2, last sentence	"Section <del>7-17</del> <u>7.5</u> identifies the environmentally superior alternative."	14A-65
P. 7-7, 7.3.1 Aesthetics, 1 <sup>st</sup> paragraph, 3 <sup>rd</sup> sentence	"Due <u>to</u> the increased commercial intensity,..."	14A-66
P. 7-8, 7.3.5 Geology and Soils, 2 <sup>nd</sup> sentence	"Therefore, <del>H</del> impacts due to geology and grading would be considered similar to the proposed Project."	14A-67
P. 7-9, 7.3.7 Hydrology and Water Quality, 5 <sup>th</sup> line	"...greater than the proposed <del>p</del> Project due to the increased development area and greater..."	14A-68
P. 7-14, 7.4.5 Cultural Resources, 2 <sup>nd</sup> sentence	"Therefore, <del>H</del> impacts due to grading and site preparation would be similar to the proposed Project."	14A-69
P. 7-16, 7.4.13 Traffic and Circulation	Delete extra space between two paragraphs.	14A-70
Section 7 Project Alternatives	Also add a discussion of whether the alternatives meet or don't meet the objectives of the Project, the client and the City (pg. 1-2 & 1-3 or 4-2 & 4-3).	14A-71

There are a couple of additional specific recommendations relative to CEQA content of the EIR, as follows:

1. Section 15122 of the State CEQA Guidelines states that an EIR shall contain at least a Table of Contents or an index to assist readers in finding the analysis of different subjects and issues. We could find no such table or index in either the review copy we received or the EIR document posted on the City’s website.

14A-72

2. One of the essential elements of the cumulative analysis is apparently missing from the document. Section 15130 of the State CEQA Guidelines states in part that the necessary elements of a cumulative analysis include either:  
 - a list of past, present, and probably future projects producing related or cumulative impacts ..., or,  
 - a summary of projections contained in an adopted general plan or related planning document ....

14A-73

We could not find such a list or projections in any of the sections pertaining to cumulative impacts. Since the issue of cumulative impacts is frequently the subject of CEQA challenges, we prefer to include such lists and projections as a regular course of action. On the other hand, we did notice that the cumulative discussion for each environmental issue did state the basis upon which the impacts were being assessed, and usually stated whether an impact was cumulative considerable. This is an appropriate CEQA approach; however, we believe it would have been better from an adequacy standpoint to have included a list of projects or projections consistent with CEQA guidelines.

3. On page 5.8-7 relative to land use consistency of the La Floresta Village Site, the Level of Significance, Mitigation Measures, and Level of Significance After Mitigation entries seem to conflict. The Potentially Significant impact is reduced to Less Than Significant, yet no mitigation measures are proposed. The text does not explain the rationale. The text reads as if the project is consistent with land use policy for which a Level of Significance determination of either no, or less than significant impact may be appropriate. Some clarification is warranted.

14A-74

**Responses to Attachment A to Letter 14**  
**Chevron Land & Development**  
**James A. Martinez**  
**January 22, 2007.**

**Response to Comments #14A-1 through 14A-39**

Comments listed are minor grammatical and formatting comments. None would alter any conclusions presented in the Draft EIR. No CEQA issues with respect to the adequacy of the Draft EIR analysis itself are raised. Corrections noted will be addressed in the Errata to the Draft EIR. No further response is necessary.

**Response to Comment #14A-40**

The comment notes that there is a discrepancy between language in Mitigation Measure CR-1 in the Draft EIR and the recommendation of the technical consultant contained in Appendix D to the Draft EIR. The City of Brea has re-examined text and issues involved and concurs that language in the SWCA assessment of the remnant railroad tracks located on the Birch Hills site is appropriate mitigation. Mitigation Measure CR-1 contained in the Draft EIR is hereby changed to reflect the recommendation of the archaeological/historical consultant as contained in Appendix D of the Draft EIR as indicated below and as contained in Section 5.1, Revisions to the Text of the EIR (beginning on page 259) in this document.

Section 5.4 – Cultural Resources, page 5.4-6, Mitigation Measures CR-1 through CR-3 are replaced by the following measure, and subsequent Mitigation Measures in Section 5.4 are re-numbered accordingly:

Level of Significance: Potentially Significant

Mitigation Measures:

CR-1 Pacific Electric Railway Tracks, Birch Hills Site

Subsequent Precise Development Plans to be reviewed and approved by the Development Services Department of the City of Brea for the implementation of the proposed Birch Hills project shall 1) acknowledge the existing railroad bed alignment to the fullest extent possible 2) retain the embedded rails in the golf cart road and as many other historic-age features as possible (palm trees, drainage pipes, roadbed profile), and 3) interpret the Pacific Electric railroad at appropriate public viewing areas at the property with durable plaques and/or kiosks preferably along the proposed public recreational trail adjacent to the railroad alignment.

**Level of Significance after Mitigation:** Less than Significant

**Response to Comment #14A-41 through #14A-48**

Comments listed are minor grammatical and formatting comments. None would alter any conclusions presented in the Draft EIR. No CEQA issues with respect to the

adequacy of the Draft EIR analysis itself are raised. Corrections noted will be addressed in the Errata to the Draft EIR. No further response is necessary.

#### **Response to Comment #14A-49**

Comment noted. Mitigation Measure HAZ-4 in Table 5.6-1 (page 5.6-23) of the Draft EIR is hereby replaced with the correct Mitigation Measure HAS-4, as follows:

##### **HAZ-4 Wastewater Sump Area**

*Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former wastewater sump, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.*

#### **Response to Comments #14A-50 through #14A-63**

Comments listed are minor grammatical and formatting comments. None would alter any conclusions presented in the Draft EIR. No CEQA issues with respect to the adequacy of the Draft EIR analysis itself are raised. Corrections noted will be addressed in the Errata to the Draft EIR. No further response is necessary.

#### **Response to Comment #14A-64**

The project trip generation rates utilized were intentionally somewhat conservative to avoid the issues that accompany restrictions on certain types of uses such as age qualified housing and live-work housing. The use of these rates was approved by the City of Brea traffic engineer prior to initiation of analysis, and reflects the City's standard procedure for assessing traffic impacts of new development.

#### **Response to Comment #14A-65 through 14A-70**

Comments listed are minor grammatical and formatting comments. None would alter any conclusions presented in the Draft EIR. No CEQA issues with respect to the adequacy of the Draft EIR analysis itself are raised. Corrections noted will be addressed in the Errata to the Draft EIR. No further response is necessary.

#### **Response to Comment #14A-71**

The stated objectives of the project applicant, as listed in Section 4.2.1 of the Draft EIR, are broad "vision" type statements and urban design oriented. There are no specific alternative design concepts associated with Project Alternatives presented in Section 7.0 of the DEIR, as is typical in EIR analysis. Consequently, a detailed discussion of the applicant's project objectives relative to Project Alternatives is not possible. It would appear, however, that Project Alternatives, with the exception of the No Project/No Development Alternative, could also achieve the majority, if not all, of the project applicant's objectives with appropriate planning and design measures.

Achievement of most, if not all, of the City of Brea's objectives is assumed under Alternative B: No Project/Development According to the Existing General Plan. Under Alternative C: Reduced Development, as stated in Section 7.4.9 of the DEIR, affordable housing goals would not be achieved. In addition, Alternative C would not implement the City's mixed-use land use designation and objectives for the La Floresta Village site. This is also stated in Section 7.4.9.

In summary, the differences between Project Alternatives that assume development of the project sites are relatively limited, although the achievement of the City's affordable housing and mixed-use design objectives are considered important.

There are a couple of additional specific recommendations relative to CEQA content of the EIR, as follows:

- 1. Section 15122 of the State CEQA Guidelines states that an EIR shall contain at least a Table of Contents or an index to assist readers in finding the analysis of different subjects and issues. We could find no such table or index in either the review copy we received or the EIR document posted on the City's website.

14A-72

- 2. One of the essential elements of the cumulative analysis is apparently missing from the document. Section 15130 of the State CEQA Guidelines states in part that the necessary elements of a cumulative analysis include either:
  - a list of past, present, and probably future projects producing related or cumulative impacts ..., or,
  - a summary of projections contained in an adopted general plan or related planning document ....

14A-73

We could not find such a list or projections in any of the sections pertaining to cumulative impacts. Since the issue of cumulative impacts is frequently the subject of CEQA challenges, we prefer to include such lists and projections as a regular course of action. On the other hand, we did notice that the cumulative discussion for each environmental issue did state the basis upon which the impacts were being assessed, and usually stated whether an impact was cumulative considerable. This is an appropriate CEQA approach; however, we believe it would have been better from an adequacy standpoint to have included a list of projects or projections consistent with CEQA guidelines.

- 3. On page 5.8-7 relative to land use consistency of the La Floresta Village Site, the Level of Significance, Mitigation Measures, and Level of Significance After Mitigation entries seem to conflict. The Potentially Significant impact is reduced to Less Than Significant, yet no mitigation measures are proposed. The text does not explain the rationale. The text reads as if the project is consistent with land use policy for which a Level of Significance determination of either no, or less than significant impact may be appropriate. Some clarification is warranted.

14A-74

**Response to Comment #14A-72**

The DEIR contains a complete Table of Contents and Appendices, a List of Exhibits, and a List of Tables, as is customary and required by CEQA.

**Response to Comment #14A-73**

As the commentor notes, the context within which cumulative impacts have been examined is identified in each DEIR section. General Plan build-out is the context for all quantitatively driven analysis, such as traffic, air quality, and noise impacts as has been appropriately noted in those sections. Section 2.7 of the Draft EIR (Incorporation by Reference) lists all elements of the General Plan and the General Plan EIR, both adopted in 2003. The Errata to the DEIR incorporates growth projections upon which the General Plan is based for purposes of general reference to supplement discussion of cumulative impacts in specific impact sections. The "list based approach" to cumulative impact analysis was not considered suitable for a project the size of the La Floresta Development Proposal, where anticipated full build-out could be more than 10 years into the future depending on market conditions and other factors.

**Response to Comment #14A-74**

The comment notes a discrepancy in the analysis of consistency of the La Floresta Village site and the City of Brea General Plan, Community Development Element Land Use component. The level of significance should read "Less than Significant" as noted by the commentor. (Note that Table 1-1 in Section 1.0 of the DEIR Executive Summary, correctly identifies the level of impact as "Less than Significant.")

Page 5.8-7 of the Draft EIR, Section 5.8.4- Project Impacts and Mitigation Measures, Consistency with Applicable Plans and Regulations, City of Brea General Plan: Community Development Element-Land Use, is hereby changed to read as follows with respect to the conclusions of analysis regarding the La Floresta Village Site:

**Level of Significance:** ~~Potentially Significant.~~ Less than Significant.

**Mitigation Measures:** None are required.

Level of Significance after Mitigation: Less than Significant.

This correction will be incorporated in the Errata to the DEIR.

Letter 15 Vesuvius Neighborhood Alliance



La Floresta Draft EIR Comments



January 7, 2007

Adrienne Gladson, Associate Planner
City of Brea
Development Services Department
1 Civic Center Circle
Brea, CA 92821-5732

Re: Draft EIR No. 0601 Tract Map 16934, Site 1

Recently a large percentage of the residents living in the area east of the proposed project have come together to establish the Vesuvius Neighborhood Alliance (VNA) for the purposes of reviewing the draft EIR No. 0601 in order to determine the potential impact on our lives and area. Prior to this time and the issuance of the draft EIR, any questions we may have had have not been recognized or adequately addressed in any of the neighborhood meetings attended.

Our purpose here is to make the Brea Planning Commission and City Council aware of our concerns and proposed mitigation proposals. There are several aspects of the development that we currently do not support.

We have had meetings within our neighborhood with many of the homeowners and have gathered signatures of support from the residents of the Vesuvius tract. The following is a list of concerns and our proposed mitigation measures:

Draft EIR

1. Aesthetics - Damage to a Scenic Resource (Section 5.1)

Chevron/Unocal has, for several years, told the homeowners in the Vesuvius neighborhood that the existing Chevron/Unocal trees along the "Vesuvius residential neighborhood" block wall would remain as a buffer between the two developments. That commitment was reiterated in the La Floresta Project Overview dated October 10, 2006. Now, in a significant turnaround, the EIR shows in Exhibit 5.1-2b that 62 of those trees will be removed.

15-1

Exhibit 5.1-2c is very difficult to read, but it appears to show that the doomed trees are all parallel to the Vesuvius neighborhood block wall south of the Vesuvius and Tolbert intersection and adjacent to the proposed three-story senior housing. The loss of 62 mature trees is a significant scenic impact to the surrounding area and especially to the neighbors across the block wall. The EIR says, "No significant aesthetic impacts related to the removal of existing trees are anticipated. No mitigation measures are necessary."

Proposed Mitigation

It is the position of the Vesuvius Neighborhood Alliance that this topic has been insufficiently analyzed for impact on the surrounding area and we request that it be analyzed again.

2. Degradation of the Existing Visual Character or Quality of the Site and Its Surroundings (Section 5.1)

Exhibit 5.1-5f (the unnumbered page before page 5.1-44) is the only view in the EIR taken from inside the Vesuvius neighborhood. That one view from the end of the Mujica Place cul-de-sac is insufficient to depict the aesthetic impact of the La Floresta Village project on the majority of the Vesuvius neighborhood. Further, the simulation in Exhibit 5.1-5f and the words in the Viewpoint Five description say that the La Floresta Village buildings will not be visible at all from within the Vesuvius neighborhood. We believe that to be incorrect.

15-2

Other exhibits in the EIR show that Viewpoint Five would be east of La Floresta Village Planning Area 9 where three story buildings are proposed. Therefore, the Viewpoint Five description and the simulation in Exhibit 5.1-5f appear to be grossly misleading

**Responses to Letter 15**  
**Vesuvius Neighborhood Alliance**  
**January 7, 2007**

In addition to the preceding comment letter, The Vesuvius Neighborhood Alliance has submitted 12 pages of a petition, which follows the Responses to Comments below.

**Response to Comment #15-1**

The comment pertains to removal of trees along the perimeter of the La Floresta Village site adjacent to the Vesuvius neighborhood. As noted in the DEIR in Section 5.1, page 5.1-29, there are no requirements in the City of Brea Municipal Code related to tree preservation. Although Item I-(b) of the Aesthetics Section in the CEQA Checklist asks "Would the project substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway," these criteria do not apply to the La Floresta Village site because no roadways adjacent to the site are designated scenic highways, and no other resources on the site rise to a level that would be considered unique or distinctive in character, meaning generally that they do not occur or very rarely occur within in the local region.

The General Plan is another criteria that is used to determine what may be considered a significant "scenic resource." If a feature or structure is not designated in the General Plan to be preserved, it is not the standard of practice to consider it significant under CEQA. In addition, as the CEQA Checklist states, in order to be considered a significant impact, damage must also be considered "substantial."

The applicant has proposed the retention and replacement of trees where feasible within the linear park adjacent to the Vesuvius neighborhood. The Draft EIR notes that 62 trees are proposed to be removed along this project edge. The tree assessment illustrated in Exhibit 5.1-2b (and in larger scale in Appendix B) of the DEIR also indicates that 161 existing trees are proposed to be retained along this edge. Trees that are proposed to be removed are also generally in deteriorated condition and/or of advanced age, as indicated in the tree assessment. In addition, other enhancements are proposed within the fifty foot setback planned along the site perimeter adjacent to the Vesuvius neighborhood, as conceptually illustrated in Exhibit RTC 1.0 (contained in Section 5, Errata (beginning on page 259) which replaces Exhibit 4.2-11b, La Floresta Village: Typical Linear Park Conditions contained in the DEIR. Exhibit RTC 1.0 provides plan views of typical planting plans along a linear park and connections to off-site and inbound trail systems. As shown, accent trees to be planted are proposed to be minimum 24" box trees. Although detailed final landscape plans are not currently available, screening along this perimeter as dense as has existed in the past will be required as a Condition of Approval. All landscaping and irrigation will also be required to comply with City Ordinance 932 - Water Conserving Landscape.

Homes within the Vesuvius neighborhood that abut the linear park perimeter are not oriented toward the La Floresta Village site. Any view of the La Floresta Village

site and existing trees is from rear yards which are obstructed at ground level by an existing block wall, approximately 6 feet in height.

The developer of the senior living facility has, in addition, made a number of design modifications to the proposed structures in an effort to respond to neighborhood concerns since the release of the Draft EIR. These include: 1) reconfiguration of the building footprints, 2) stepping back the façade of the second story of the structure located adjacent to the linear park, and 3) adding mature trees and landscaping on-site. The senior living facility will be set back approximately 75 to 82 feet from the site boundary along the Vesuvius neighborhood edge and will incorporate landscape planting as well. Exhibit RTC 2.0 – Conceptual Site Plan-Sunrise Senior Living Facility, contained in the Errata to the DEIR, illustrates the revised site plan. Setbacks between structures of the senior living facility and residences in the Vesuvius neighborhood vary from 81 feet at the closest to 113 feet, as shown on Exhibit RTC 3.1 and RTC 3.2 contained in the Errata to the DEIR, which shows two cross-sections and a proposed architectural elevation of the easterly façade facing the Vesuvius neighborhood.

In conclusion, removal of existing deteriorated trees is not considered a significant aesthetic/visual impact. The setbacks between structures of the senior living facility along the boundary with the Vesuvius neighborhood are substantial and greater than is typical in most contemporary development and exceed applicable City requirements in the Municipal Code, §20.258. These setbacks in conjunction with other improvements planned in the linear park and design modifications made in the proposed senior living facility would act to sufficiently screen the proposed project and minimize any adverse aesthetic impact that might be perceived from rear yard areas located in the Vesuvius neighborhood. No significant aesthetics/visual impacts to the Vesuvius neighborhood are anticipated due to the removal of existing trees, as presented in the Draft EIR.

### **Response to Comment #15-2**

The comment concerns view simulations contained in the DEIR. Viewpoint Five was simulated from a public location approximately at the centerline of Mujica Place within the Vesuvius neighborhood. The simulation in the Draft EIR incorrectly assumed a one-story structure for the senior living facility. Consequently, revised simulations based on a three-story building have been prepared. Exhibit RTC 7.0 supersedes and replaces Exhibit 5.1-5f contained in the Draft EIR. In addition, two additional view simulations have been prepared from Tolbert Avenue. Exhibit RTC 6.0 provides a key to the location of view simulations, and the new simulations are presented in RTC Exhibits 7.0 through 9.0. All new exhibits are contained in the Errata to the DEIR. The methodology and assumptions utilized in preparing view simulations is contained in Appendix B to this Responses to Comment document.

As noted in preceding Response #15-1, various design modifications have been made to the proposed senior living facility to soften its visual appearance from adjacent areas. Only residents located along the westerly edge of the Vesuvius neighborhood would have any view of the La Floresta Village development. As

noted in Response #15-1, any views from these locations would be from rear yards, with ground level views obstructed by an existing block wall. Visual screening offered by planned landscaping, as well as the physical separation of structures between the closest buildings planned in the project and private residences in the Vesuvius neighborhood, would also further minimize any aesthetics/visual impacts that may be perceived by residents. As noted in Response to Comment #15-1, no designated scenic resources exist on the La Floresta Village. Similarly, the La Floresta Village site does not contain any protected views designated by any policy plan or ordinance of the City of Brea, nor are there any in the Vesuvius neighborhood. No significant aesthetics/visual impacts to the Vesuvius neighborhood are anticipated, as presented in the Draft EIR, and in new and revised view simulations presented in this Responses to Comments document.

In order to assure that any visual impacts to the Vesuvius neighborhood are minimized, the following Mitigation Measure is hereby added to the Draft EIR:

AES-3 Implementation of the Linear Park

The proposed linear park on the La Floresta Village site, running along the easterly property line, shall be fully implemented, concurrently with the construction of any planned adjacent development within the Project, consistent with final Landscape Plans.

This new mitigation measure will be incorporated in Section 5.1, Revisions to the Text of the EIR.

**3. Proposed Mitigation**

It is the position of the Vesuvius Neighborhood Alliance that the degradation of the existing visual character of the surroundings of the La Floresta Village site has been insufficiently analyzed. We request further analysis. The corner of Tolbert and Mauna Loa and/or the corner of Tolbert and Vesuvius, facing both southwest and northeast, are suggestions for additional view point(s).

15-2  
cont'd

**4. Creation of a New Source of Light and Glare (Section 5.1)**

The EIR finds potentially significant light and glare issues from construction lighting over a period of 60 months. One of the mitigation measures specifies perimeter screening throughout the construction period. The prescribed mitigation will create a very serious traffic safety hazard for the Vesuvius neighborhood in one area. The only exit from the Vesuvius neighborhood is Vesuvius Drive at Rose Drive. On 9/9/2006, a perimeter screening was installed north of Vesuvius Drive and west of Rose Drive. That screening completely blocked visibility of southbound traffic on the Rose Drive curve to drivers on Vesuvius attempting to exit the neighborhood. Complaints led to the removal of much of the screening the next day.

15-3

**Proposed Mitigation**

The EIR needs to recognize the traffic safety issue at the intersection of Vesuvius and Rose and specify an alternative mitigation measure for that location. The impact of the specified mitigation has not been thoroughly analyzed and we request that it be analyzed again.

**5. Linear Park - Buffer from Homes and Trees (Section 4.2.2) (Section 5.1)**

The planned linear park between the project and the existing homes in the Vesuvius community is proposed at 50 feet. The noise, light, vehicle and foot traffic behind these houses at this distance will have a significant negative impact on the quality of life. This 50 feet buffer will also necessitate removal of over 62 trees, some well over 40 feet tall with spreads of 20 feet or greater.

15-4

**Proposed Mitigation**

Increase the proposed linear park to 75 feet. This will reduce the effects on the existing residents as well as negate the need to remove over 62 trees.

**6. Senior Living Facility - Planning Area 9 (Section 5.3) (Section 5.9)**

This facility is proposed to be in the southeastern most portion of the development. This is a significant structure (exhibit 4.2-4i), potentially 3 stories, which will be significantly close to existing homes in the Vesuvius community. Since this facility will encompass commercial aspects of senior care 24 /7, including food, laundry, and emergency services, the levels of activity surrounding the structure will be significant. Commercial deliveries and trash removal will require trucks to service the facility that will have detrimental effects on existing residents. It also requires the removal of 21 more large trees some over 40 feet tall, from exhibit 5.1-2c area A green. This removal of trees will change the skyline westerly view, east of Rose Drive. The need for backup generators for this type of facility will also have significant noise and emission effects on the existing homes.

15-5

**Proposed Mitigation**

Move the senior living facility to another portion of the development, away from existing homes and / or reduce its height, increase its setback and keep the 21 trees. A suggestion would be PA1; this would move its commercial aspects away from existing homes as well as give it a commercial entrance directly from Valencia Avenue, an existing commercial street.

**7. Fill Hauling Impacts (Section 5.3)**

The volume of fill material described in the EIR raised a concern not only about the air quality impacts, but also about the final height of buildings in the La Floresta Village development. EIR page 3-7 says, "The southern portion of the La Floresta site has been previously developed as noted, and has relatively flat topography." The Vesuvius neighborhood also is built on relatively flat topography with elevations similar to the southern portion of the La Floresta site. Will fill material be used to change the La Floresta site's flat topography and create elevated building pads? Doing that would have a scenic impact on the surrounding area, particularly to the adjacent Vesuvius neighborhood.

15-6

**Proposed Mitigation**

**Response to Comment #15-3**

The comment indicates concern about a possible traffic hazard resulting on Rose Drive west of Vesuvius Drive from proposed Mitigation Measure AES-2, requiring temporary perimeter screening during project construction. The mitigation measure does not specify a precise location for such screening. Mitigation Measure AES-2 is hereby modified to read as follows:

**AES-2 Construction Screening**

Temporary construction screening shall be utilized throughout the construction process in all areas where a solid visual barrier does not exist between adjacent uses or roadways on both the La Floresta Village and Birch Hill sites. **Barriers shall be installed in such a manner as to not adversely affect traffic safety in any adjacent area.**

This addition to Mitigation Measure AES-2 is incorporated in the Errata to the DEIR.

Implementation of all mitigation measures must be monitored throughout the project build-out. A separate document called a Mitigation Monitoring Program is required for this purpose, and will be part of the Final EIR to be certified by the City prior to any project approval. If difficulties such as a traffic hazard from construction screening arise, they can be adjusted through this process.

**Response to Comment #15-4**

Please see preceding Responses to Comment #15-1 and Comment #15-2. The actual setback between structures will vary from approximately 81 to 113 feet. This includes setbacks on the senior living facility site, the "linear park" setback, and the typical rear yard setback on single-family lots in neighborhoods like the Vesuvius neighborhood. In addition to the physical separation, planned landscaping and trees, as well as the existing block wall, will absorb noise that may be generated on the senior living facility site. The Municipal Code of the City of Brea requires light to be confined within the La Floresta Village site. Because the area adjacent to the Vesuvius neighborhood has been vacant for some time, and was developed in landscape and parking area in the past with the former Hartley Center, some residents may notice a change; nonetheless, significant impacts to the most proximate residences in the Vesuvius neighborhood from traffic, noise, and light generation are not anticipated because impacts would not exceed established threshold levels and thus would not represent a significant impact as defined under CEQA. Mitigation Measures AES-1 and AES-2 sufficiently address potential light and glare impacts that could occur during project construction. In order to address potential spillage, Mitigation Measure AES-1 is hereby amended to read as follows:

**AES-1 Construction Lighting**

Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area. **Spillage shall be controlled to the maximum**

**extent feasible and shall not exceed 0.5 foot candles at any property line, consistent with the level of lighting determined necessary for safety and security purposes on the project sites.**

This addition to Mitigation Measure AES-2 is incorporated in Section 5 – Errata (beginning on page 259).

#### **Response to Comment #15-5**

According to Sunrise Senior Housing, who would operate the facility, activities that will take place at the senior living facility include food deliveries three times a week between the hours of 9:00 a.m. and 3:00 p.m. Delivery vehicles would take access off Imperial Highway. Trash pick up for the facility is to be located off B Street and would occur twice weekly. All laundry would be done in-house, so no traffic would be generated by this activity. Calls for emergency services are anticipated to average approximately 4 to 5 per week, which is typical of other similar facilities operated by Sunrise Senior Housing. The location of back-up generators has not yet been determined; however, such mechanical equipment will be screened for aesthetics reasons as well as noise abatement.

As has been described in preceding Responses to Comments #15-1, #15-2, and #15-4, views will be altered by proposed development. New development will, however, be set back a substantial distance from the Vesuvius neighborhood and will preserve a substantial number of existing trees and provide additional new landscape screening. View alteration is not considered a significant impact.

Please see Response to Comment #15-9 with regard to operation of back-up generators and potential noise impacts. A new Mitigation Measure will be incorporated in the Final EIR to require acoustic screening of such equipment.

#### **Response to Comment #15-6**

The Tentative Tract Map for the La Floresta Village site indicates that pad elevations planned along site perimeter adjacent to the Vesuvius neighborhood will vary less than one foot in elevation (either lower or higher) compared to elevations existing within the Vesuvius neighborhood. No aesthetics or other impacts are anticipated as a result of planned pad elevations.

Air quality impacts of fill hauling are addressed within analysis of construction-related air quality impacts. Because the South Coast Air Quality Management District (SCAQMD) considers any increase in emissions of particulate matter to be significant within the South Coast Air Basin, construction-related air quality impacts have been identified as significant and unavoidable after application of all required mitigation procedures, as outlined in Section 5.3 of the DEIR.

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<p>If the project intends to use fill material to create elevated building pads, the impact of that action in the EIR 5.1 Aesthetics section should be analyzed.</p>	<p>15-6 cont'd</p>
<p><b>8. Construction Noise Impacts (Section 5.9)</b> Based on our experience with the recent Hartley Center Demolition project, the Vesuvius Neighborhood Alliance is skeptical of the EIR finding that the construction noise impacts will be less than significant after mitigation.</p>	<p>15-7</p>
<p><b>Proposed Mitigation</b> We request more stringent monitoring of the La Floresta Project for compliance with City codes on noise and vehicle movement.</p>	
<p><b>9. Exterior Noise Mitigation (Section 5.9)</b> The sound attenuation wall described in mitigation measure N-2 along Rose Drive needs to be far enough from the roadway to avoid creating a safety hazard for traffic attempting to exit the Vesuvius neighborhood. See earlier comments on construction perimeter screens at that location. Some EIR pages describe a 30' setback between the roadway and the wall.</p>	<p>15-8</p>
<p><b>Proposed Mitigation</b> Whether or not a setback is sufficient to avoid the safety hazard needs to be evaluated and accounted for in the EIR.</p>	
<p><b>10. On-Site Noise Generation Impacts (Section 5.9)</b> The Vesuvius Neighborhood Alliance disagrees with the statement, "The geographic context for on-site noise generation is limited to the Project sites themselves." It is our understanding that senior living facilities must have backup generators in case of power failure. A senior living facility is proposed in PA 9 adjacent to the Vesuvius neighborhood homes on Tolbert between Vesuvius Drive and the south end of Tolbert. We suspect the required generators will have potential impact on air quality, odors, and noise for the Vesuvius neighborhood.</p>	<p>15-9</p>
<p><b>Proposed Mitigation</b> We contend that the EIR inadequately analyzes these issues and that further analysis should occur and be included in the EIR 5.3 Air Quality and EIR 5.9 Noise sections.</p>	
<p><b>11. Noise (Section 5.9)</b> The DEIR includes a noise study, which measured noise levels from one monitoring location, at the corner of Rose and Vesuvius Drives. This one measurement location will not adequately measure the long-term impact of noise on this community.</p>	<p>15-10</p>
<p><b>Proposed Mitigation</b> Include more monitoring locations within the Vesuvius community when completing the next phase of measurements.</p>	
<p><b>12. Project Housing Density (Section 5.10) (Section 7)</b> When compared to the density of the surrounding areas, this is a significant departure from the surrounding community. At an average of over 9.1 dwelling units per acre, the project will have a density of 1.8 times the existing average of less than 5.0 in the Vesuvius community. By adding 1,088 housing units and 3,022 more persons to the city, the La Floresta development will account for 88% of the total projected population growth and 65% of the housing increase. We believe this will have a significant negative impact to the community.</p>	<p>15-11</p>
<p><b>Proposed Mitigation</b> Limit the number of residential units to levels similar to existing densities. A proposal with a similar density levels to Alternative C (Reduced Development) would be more acceptable to the surrounding community.</p>	
<p><b>13. Cumulative Traffic Circulation Impact and Emissions (Section 5.12)</b> The intersections addressed in the EIR section 5.12 are already over burdened with truck and vehicle use especially during the peak traffic hours. Enclosed are pictures of existing traffic problems. If this development pro-</p>	<p>15-12</p>

**Response to Comment #15-7**

As noted in preceding Response to Comment #15-3, a Mitigation Monitoring Program is a required component of a Final EIR. The demolition of the Hartley Center did not require an Environmental Impact Report, and thus a Mitigation Monitoring Program was not involved, although City personnel conducted various inspection(s) and compliance activities on demolition activities as well. Demolition activities are also typically noisier than most types of construction because it requires greater use of heavy equipment. (Please see Exhibit 5.9-3 in the DEIR for illustration of noise levels generated by different types of construction equipment.)

**Response to Comment #15-8**

The conceptual location of planned perimeter walls and fencing along Rose Drive are illustrated in Exhibit 4.2-9, and section views of setback areas along Rose Drive are shown in Exhibit 4.2-10b. As shown, the planned setback is 30 feet from the curb line to proposed walls. No traffic hazards are anticipated with the planned setback.

**Response to Comment # 15-9**

The operation of back-up generators on the senior living facility site would occur very infrequently, only during power outages and during routine testing, which can be anticipated once monthly for a period lasting approximately 15 minutes. According to more detailed plans prepared by the project architect (Steinberg Architects - 8/6/07) for the senior living facility that have been developed since circulation of the Draft EIR, emergency generators are proposed to be located within the subterranean parking garage. As an additional note, noise standards are normally not enforced during true emergency situations such as a complete loss of power. With the proposed location of emergency generators in the parking garage, no significant noise impacts are anticipated to occur in residential areas located near the facility.

All mechanical equipment must meet pollutant emission standards and controls administered by the South Coast Air Quality Management District. Any odor that may be generated by operation of emergency generators would be minimal and transient. Such odors would not be anticipated to generate any nuisance in nearby residential areas. No significant noise or air quality impacts from emergency generators located on the site of the senior living facility are anticipated.

**Response to Comment #15-10**

Because noise may change from day to day, and certainly from one location to another, the purpose of noise measurements is primarily to provide a basis to calibrate the computer model ultimately used to project noise levels at various locations and at various times with various development scenarios. The single "snapshot" measurement is therefore more a tool applied in the process of noise

prediction to tailor computerized modeling to local conditions rather than as a definitive characterization of the total traffic noise environment.

A noise monitor was placed at the intersection of Rose Drive/Vesuvius Drive for the noise analysis. Table 5.9-5 in the Draft EIR indicates that noise levels along Rose Drive between Birch Street and Imperial Highway adjacent to the perimeter of the Vesuvius neighborhood are estimated to increase by 1.3 to 1.5 dB from existing conditions to the year 2025 with the full La Floresta Development Proposal (Birch Hills + La Floresta Village) as a result of project generated traffic. Residences located in the interior of the neighborhood further from Rose Drive would experience even less of a noise change. A change in noise levels of less than 3dB is imperceptible to the human ear. No significant noise impacts to the Vesuvius neighborhood are anticipated from the La Floresta Development Proposal.

### **Response to Comment #15-11**

In accordance with state planning law, the General Plan is the policy document that establishes the acceptable intensity of development on the La Floresta Village site, as well as any other vacant land in the City of Brea. The General Plan EIR, prepared in conjunction with the 2003 update of the General Plan, concluded that the designated Mixed Use II (MU-II) development intensity was appropriate for the La Floresta Village site. The proposed La Floresta development plan does not exceed the allowed density of the existing MU-II land use and zoning designations on the site, as explained in Sections 4.2.2 and 4.2.3 of the Draft EIR. The MU-II designation could actually allow a greater intensity of development, as is illustrated by the discussion of Project Alternative "B" – No Project Alternative/ Development According to the Existing General Plan, Section 7.3 of the Draft EIR. Project Alternative "C" – Reduced Development, as described in Section 7.2 of the Draft EIR, would eliminate development in Planning Area 5 but would not alter the density of residential development planned on other portions of the La Floresta Village site.

The Draft EIR has addressed all potential environmental impacts of the La Floresta Development Proposal in accordance with the California Environmental Quality Act, and concluded that no significant unavoidable impacts would occur after recommended mitigation measures, with the exception of air quality impacts as described in Section 6.4 of the Draft EIR. A reduction in development intensity is considered a last resort measure and is not considered to be justified by the limited significant unavoidable impacts identified in the Draft EIR as remaining after mitigation of the La Floresta Development Proposal.

### **Response to Comment #15-12**

The Vesuvius neighborhood currently accesses Rose Drive via a signalized intersection, thereby providing safe entry and exit at this location. The project does not have any access points on Rose Drive, and hence any increase in traffic is due to ambient growth rather than project traffic. That ambient growth is estimated to be relatively low for the following reasons:

1. There is only limited growth in the parts of the City that contribute to this traffic (for example, Carbon Canyon Road traffic is constrained by the capacity of that facility).
2. Improvements to the Valencia/Imperial intersection (scheduled for this summer) will assist in minimizing any diversion to Rose Drive.
3. Signalization of the project access points will include synchronization to minimize delays that could result in diversion to Rose Drive.
4. Rose Drive will be widened to four lanes in the future in conformance with the County's Master Plan of Arterial Highways. This will reduce the congestion that is currently observed on Rose Drive. If Rose Drive were not widened, a General Plan Amendment is required and must be approved and adopted by the County of Orange.

posal were approved, there would be an increase of 1,088 dwellings in the city of Brea, which would increase the housing occupancy 10% from the Profile of General Demographics Characteristics 2000. It is reasonable to project an increase of + 2,670 vehicles in and around the La Floresta project. Vehicle trips per day will increase by nearly 13,000.

In Table 5.12-5, the projection in 2012 with the project, the ICU and LOS is actually better than it exists right now. The Valencia/Rose Birch intersection ICU (intersection capacity utilization) is 0.7 at AM peak hours. However, the table shows that the ICU during AM peak hours with the project actually improves to .57. With a population increase of 3,022, this does not seem to be reasonable.

15-12  
cont'd

We disagree with the EIR section 5.12 statements that the traffic generation is "potentially" significant and can be mitigated by the proposal listed in the EIR. The long-term implications to the surrounding areas in the form of excessive traffic and vehicle emissions are significantly negative and will be detrimental to existing residents.

**Proposed Mitigation**

Limit the number of residential units to levels similar to existing densities. A proposal with a similar density levels to Alternative C (Reduced Development) would be more acceptable to the surrounding community.

**La Floresta Overall Plan**

**14. Walking Trail Security (Section 4.2.2) (Section 5.11)**

Due to the introduction of the public onto the proposed walking trails behind the houses within the Vesuvius neighborhood, there is a potential for increased crime and / or nuisances. Additionally the current layout of the walking trail appears to run directly from Imperial Highway north along the Vesuvius neighborhood boundary behind the senior living facility. This will invite the public directly from Imperial Highway north on the new trails behind the existing houses.

15-13

**Proposed Mitigation**

Ensure trail design provides for adequate lighting and police protection. Redesign the trails so they come north off Imperial Highway to the west of the senior facility before turning east to the linear park area.

**15. Existing Block Walls (Section 4.2.2)**

The existing block walls between the Vesuvius community and the new development are over 40 years old. In many places, they also serve as retaining walls. There are portions that are in disrepair, hazardous and unsightly. There are portions behind the homes on Mauna Loa that are less than 4.5 feet and will not adequately shield the existing community from on coming traffic in the proposed tract. There are also questions whether the wall is actually on the Chevron property or the homeowners' property.

15-14

**Proposed Mitigation**

Include a plan to address the repair or replacement of these walls with the Vesuvius community. Address the question on which property the walls actually exist.

**Construction**

**16. Monitoring (Section 2.9) (Section 5.3) (Section 5.9)**

We are requesting more stringent monitoring of the site for compliance with City codes. Specifically noise related issues including equipment and vehicle movement outside the code limits of 7:00 a.m. and 7:00 p.m.

15-15

**17. Vermin**

Due to the grading and construction activity on the La Floresta site, rodents are now becoming a problem in the Vesuvius tract. We are requesting that the La Floresta LLC assist the existing homeowners with this problem.

15-16

**Response to Comment #15-13**

The City of Brea Police Department has been involved in the review and provided input to the evolution of project plans. They have also been involved in the preparation of the Draft EIR. Adequate lighting for public safety purposes is required for all land uses by the City of Brea Municipal Code. Detailed plans for all trails specifications will also receive further review from all pertinent City agencies prior to development to ensure compliance with City standards. The trail planned along the linear park is designated Regional Trail link in the City of Brea General Plan, as shown on Exhibit 5.11-2 of the Draft EIR, and as such, is a facility planned for general public use. No unique or unusual security concerns are anticipated along any trails.

**Response to Comment #15-14**

Comment noted. The condition of the existing block wall is not an impact of "the project" and therefore is not within the scope of this EIR. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Response to Comment #15-15**

As has been noted in preceding responses, implementation of all mitigation measures must be monitored throughout the project build-out. A separate document called a Mitigation Monitoring Program is required for this purpose, and will be part of the Final EIR to be certified by the City prior to any project approval. If difficulties such as excessive noise during hours not in compliance with the City Noise Ordinance create a nuisance, they can be addressed through this process.

**Response to Comment #15-16**

Comment noted. The demolition and grading was approved by the City of Brea under a ministerial process and is not part of "the project" within the scope of this EIR. The increase in rodents in the Vesuvius neighborhood due to activities currently occurring on the La Floresta Village site would not be considered an impact of the proposal that is the subject of the Draft EIR. The issue should be addressed through the monitoring of current grading and demolition activities and associated City permits. No CEQA issue with respect to the adequacy of the Draft EIR is raised.



Rose Drive Northbound and Southbound

TOLBERT

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

I am in support of the Vesuvius Neighborhood Alliance comments regarding the Draft Environmental Impact Report No. EIR 06-01 concerning the La Floresta Development. These comments are in the attached letter dated January 7, 2007.

Printed Name	Address	Signature
LAURIE LATHAM	BREA, CA 92823 343 Tolbert St	L. Latham
Victor A. Latham	343 Tolbert Street Brea, CA 92823	Victor A. Latham
KATHRYN SKINNER	345 TOLBERT ST. BREA, CA 92823	Kathryn Skinner
Joe Skinner	345 Tolbert Brea, CA 92823	J.S.K.
LARA BERKELEY	393 Tolbert ST Brea, CA 92823	Lara Berkeley
Kathleen Reyes	355 Tolbert ST. Brea	Kathleen Reyes
Nestor Reyes	355 Tolbert ST Brea	Nestor Reyes
MICHAEL CERVIN	433 TOLBERT ST BREA	Michael Cervin
CHRIS SCHAWER	445 TOLBERT ST BREA	Chris Schawer
ED STYMEIST	417 TOLBERT ST	Ed Stymeist
GARY BASTIERI	399 Tolbert. St.	Gary Bastieri

97 Adults  
11 signed 104  
707 156  
1-10

page Hours  
5 signed 70  
707 76

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

*Ally*

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Printed Name	Address	Signature
Eric & Kim Golder	395 Tolbert St Brea	<i>Eric Golder</i>
Michael/Maryanne <sup>Martinez</sup>	397 Tolbert st Brea	<i>MAM</i>
Grace/Grace Aguirre	401 Tolbert St Brea	<i>Grace</i>
Gus and Jamar	403 Tolbert St	<i>Gus and Jamar</i>
DIANE Kotula	411 TOLBERT St	<i>Diane Kotula</i>
William Weingart	396 Tolbert St	<i>William Weingart</i>
Bill Weingart	396 Tolbert St	<i>Bill Weingart</i>
Lynn Voigt	394 Tolbert St	<i>Lynn Voigt</i>
Maryanne McMillan	397 Tolbert St., Brea	<i>Maryanne McMill</i>
Jo <sup>BASTIERI</sup>	399 TOLBERT BREA	<i>Jo A. Bastieri</i>

TOLBERT

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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Printed Name	Address	Signature
Greg Hamson	403 Tolbert St. Brea, CA 92823	<i>[Handwritten Signature]</i>
KADE KUDRON	425 Tolbert St BREA, CA 92823	<i>[Handwritten Signature]</i>
GABBY KUDRON	425 Tolbert St BREA, CA 92823	<i>[Handwritten Signature]</i>

**The Vesuvius  
Neighborhood Alliance**

MUSICA



**La Floresta Draft EIR  
Comments**

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Printed Name	Address	Signature
Amanda Wolf	3702 Mujica Pl. Brea 92823	<i>A. Wolf</i>
B. Wolf	same as above	<i>Brian Wolf</i>
Jim Lawson	3712 Mujica Pl. Brea 92823	<i>Jim Lawson</i>
Michele Lawson	3712 Mujica Place Brea, CA 92823	<i>M Lawson</i>
Frank Alvarez	3711 MUSICA place Brea, CA 92823	<i>Frank Alvarez</i>
Maria "GINA" LASCANO	3711 MUSICA place Brea, CA 92823	<i>Maria Lusciano</i>
Mary B. Sawyer	3733 Mujica Pl <sup>Brea</sup> CA 92823	<i>Mary B. Sawyer</i>
Mare + Elizabeth Payne	3701 Mujica Place Brea, CA 92823	<i>E. Payne</i>
Jaci - Baecher	3721 MUSICA PLACE BREA, CA	<i>Jaci Baecher</i>
Dorothy Baecher	3721 mujica PL Brea Ca.	<i>Dorothy Baecher</i>

MAUNA LOA



La Floresta Draft EIR  
Comments

I am in support of the Vesuvius Neighborhood Alliance comments regarding the Draft Environmental Impact Report No. EIR 06-01 concerning the La Floresta Development. These comments are in the attached letter dated January 6, 2007.

Printed Name	Address	Signature
EARLE MORIARTY	3720 MAUNA LOA ST.	<i>Earle Moriarty</i>
DEE MORIARTY	3720 MAUNA LOA ST.	<i>D. J. Moriarty</i>
<i>Braig Hedman</i>	3730 MAUNA LOA ST.	<i>Braig Hedman</i>
DAVID VARON	3740 MAUNA LOA ST.	<i>David Varon</i>
STEPHANIE VARON	3740 MAUNA LOA ST.	<i>Stephanie Varon</i>
Mr & Mrs C. Duke	3760 MAUNA LOA ST.	<i>M. Duke</i>
TAMARA ROE	3755 MAUNA LOA ST.	<i>Tamara Roe</i>
PAUL ROE	3755 MAUNA LOA ST.	<i>Paul Roe</i>
STEVE GIORDANO	3745 MAUNA LOA ST.	<i>Steve Giordano</i>
Yvette Giordano	3745 MAUNA LOA ST.	<i>Yvette Giordano</i>
DAVID MERRITT	3725 MAUNA LOA ST.	<i>David Merritt</i>

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**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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Printed Name	Address	Signature
Kamy Merritt	3725 Mauna Loa St. Brea CA 92823	<i>K Merritt</i>
Patty Lang	3715 Mauna Loa St. Brea, CA 92831	<i>Patty Lang</i>
Jeanne Hawking	3705 MAUNA LOA <sup>Brea</sup> CA.	<i>Jeanne Hawking</i>
Robert Hawking	3705 MAUNA LOA <sup>Brea</sup> CA.	<i>Robert Hawking</i>
Lorraine Roberts	3700 Mauna Loa St	<i>Lorraine Roberts</i>
Debra Tetreault	3760 Mauna Loa ST.	<i>Debra Tetreault</i>

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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willfam5@yahoo.com

Printed Name	Address	Signature
Robert Williamson	3803 Spurr Circle Brea, CA 92823	<i>Robert Williamson</i>
GRAE WILLIAMSON	3803 Spurr Circle Brea, Ca 92823	<i>Grae Williamson</i>
Scott DeLong	2801 Spurr Cir Brea CA 92823	<i>Scott DeLong</i>

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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ETNA CIRCLE Page 1 of 1

	Printed Name	Address	Signature
1	Gregg M. Con	385 Etna Circle	<i>Gregg M. Con</i>
2	Becky M. Con	Brea CA 92823	<i>Becky M. Con</i>
3	Pat Penksaw	395 Etna Circle Brea, CA 92823	<i>Pat Penksaw</i>
4	FREDERICK A. ROBERTS	397 ETNA CIRCLE BREA, CA. 92823	<i>Frederick A. Roberts</i>
5	ELIZABETH A. ROBERTS	397 ETNA CIRCLE BREA, CA. 92823	<i>Elizabeth A. Roberts</i>
6	JAMES M <sup>106</sup> CORMICK	397 Etna Circle	<i>James McCormick</i>
7	TERRI M <sup>106</sup> CORMICK	392 ETNA CIRCLE	<i>Terri McCormick</i>
8	Donald Penksaw	395 Etna Circle	<i>Donald Penksaw</i>
9	Sandra Hale	391 Etna Circle	<i>Sandra Hale</i>
10	Bernard Hale	391 Etna Circle	<i>Bernard P. Hale</i>

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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Vesuvius Dr Page 1 of 4

Printed Name	Address	Signature
MARGIE EASON	370 VESUVIUS DR Brea Ca	Margie Eason
Patricia A Moore	372 Vesuvius Dr Brea Calif.	Patricia A Moore
FRANK MOORE	372 VESUVIUS DR	Frank Moore
DAVE BESSERMIN	362 Vesuvius Dr.	Dave Bessermin
Ken Merrell	368 VESUVIUS DR	Ken Merrell
Illa Bessermin	362 Vesuvius Dr.	Illa Bessermin
REBECCA HELLER	374 Vesuvius Dr.	Rebecca Heller
Carl J. Heller	374 Vesuvius Dr.	Carl J. Heller
LYLA B. MERRELL	368 Vesuvius Dr.	Lyla B. Merrell
Rocio Marquez	364 VESUVIUS DR	Rocio Marquez
Christina Holton	360 Vesuvius Dr Brea	Christina Holton

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**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

I am in support of the Vesuvius Neighborhood Alliance comments regarding the Draft Environmental Impact Report No. EIR 06-01 concerning the La Floresta Development. These comments are in the attached letter dated January 6, 2007.

Vesuvius Dr. Page 2 of 4

Printed Name	Address	Signature
Denise Phillips	358 Vesuvius, Brea	Denise Phillips
Virginia Manderscheid	356 Vesuvius Brea	Virginia Manderscheid
Harold Zukoski	352 Vesuvius Brea	Harold Zukoski
CAROL ZUKOSKI	352 Vesuvius, Brea	Carol Zukoski
WILLIAM TAYLOR	348 VESUVIUS DR Brea	William Taylor
Bernice Taylor	348 Vesuvius Dr. Brea	Bernice Taylor
DON HILL	353 Vesuvius Dr Brea	Don Hill
LINDA GAGNON	355 VESUVIUS BREA	Linda M. Gagnon
PAUL T. MORAN	361 VESUVIUS DR BREA	Paul T. Moran
WILLIAM WICKER	366 VESUVIUS DR BREA	William Wicker
Kelli Ramary	367 VESUVIUS DR Brea	Kelli A. Ramary

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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Vesuvius Dr. Page 3 of 4

Printed Name	Address	Signature
Michael Sharpley	546 Vesuvius Dr	<i>[Signature]</i>
Victoria Sharpley	346 Vesuvius Dr.	<i>[Signature]</i>
Brenda Hill	353 Vesuvius Dr	<i>[Signature]</i>
MATTHEW HOLTON	360 Vesuvius Dr.	<i>[Signature]</i>
Jesse Marquez	364 Vesuvius Dr	<i>[Signature]</i>
Joyce LARSON	375 Vesuvius Dr.	<i>[Signature]</i>
JEFF PHILLIPS	308 Vesuvius	<i>[Signature]</i>
Laura Witte	365 Vesuvius	<i>[Signature]</i>
PATTY WITTE	365 Vesuvius	<i>[Signature]</i>
Linda Wicker	366 Vesuvius	<i>[Signature]</i>
Jerry Witte	365 Vesuvius	<i>[Signature]</i>

**The Vesuvius  
Neighborhood Alliance**



**La Floresta Draft EIR  
Comments**

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Vesuvius Dr. Page 4 of 4

Printed Name	Address	Signature
LARRY B. GAGNON	355 VESUVIUS BREA, CA. 92321	<i>Larry B. Gagnon</i>
DIANE THEISEN	354 VESUVIUS DR BREA CA 92823	<i>Diane Theisen</i>
GARY RUMARY	367 VESUVIUS DR BREA CA 92823	<i>Gary Rumary</i>

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**Letter 16 Mr. Sam Rush**

**Ref. LaFloresta Development Proposal**

**Att: Adrienne Gladson  
City Of Brea-Planning Division**



**From: Sam Rush  
3345 E.Elm St.  
Brea,CA 92823**

I am hoping someone interested in the traffic congestion in Brea is looking closely to the traffic flow from the proposed Imperial and Valencia development. On the proposal I have viewed it shows TWO additional traffic lights on Imperial Between Rose and Valencia and TWO additional traffic lights on Valencia between Imperial and Birch. During the morning and evening and sometimes even during the lunch periods grid lock exists. Since you have allowed the entrance and exit system from Starbucks we now have accidents and many near misses every day. I know for a fact many people are no longer shopping in Brea because of the traffic. With the proposed exits from the LaFloresta not using any part of Rose Dr. all the additional traffic will be impacting both Imperial Blvd and mixing with the now congested Valencia Ave. I hope you are consulting with the Brea Police Department along with the Brea Fire Department. Their travel time trying to now get through the grid lock condition without adding the new proposed development causing them some times to even go through Placentia to get to accidents and fire calls.

16-1

I along with many other Brea voters know we cannot stop the trash haulers or the additional housing and business from happening due to the increase income to the Brea coffers but surely we should be able for the planners to try and reduce the need for more traffic blockers. We want people to be able to shop in Brea. The last time I counted there were 35 traffic lights from Yorba Linda Blvd to Brea Blvd. this is exactly 5 miles. Along with the lights most have left turn features which keeps backing up traffic instead of flowing it and allowing it to go to and from are city.

16-2

Thank you for your time and considerations.

Sam Rush

Phone: 714/528 5783  
E Mail: sprush@sbcglobal.net

**Responses to Letter 16****Mr. Sam Rush****3345 E. Elm Street, Brea, California****December 22, 2006****Response to Comment #16-1**

The Draft EIR has examined traffic impacts (Section 5.12) and public service impacts (Section 5.11), including response times for police and fire protection as required by the California Environmental Quality Act. This analysis concluded that the proposed project would have less than significant traffic and services impacts after mitigation measures contained in the Draft EIR.

**Response to Comment #16-2**

Comments are noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

Letter 17 Nestor & Kathleen Reyes

December 28, 2006

City of Brea Planning Commission  
1 Civic Center Circle  
Brea, CA 92821



RE: La Floresta Project @ Imperial & Valencia

To Whom It May Concern:

I am writing to address the issues of the La Floresta Project, as we are residents directly behind the property. Over the years, Union Oil (now Chevron), has always been very accommodating to our residential needs when it came to tree trimming, weed control, noise issues and the like. With this ongoing project, we have – overall – found the same type of “good neighbor” policy. Our tract, and several others, has been given the opportunity to make suggestions and requests for changes to the project. We all appreciate this effort.

17-1

However, there are still a number of issues which need to be addressed, particularly with regards to the environmental study. The primary issue, is of course, the increase in traffic, which will impact all of us within a mile or more. I do realize there is no plan to have an entry into the new project off of Rose Drive – that is wonderful! But just the number of vehicles that will be attributed to those new units – cars, trucks, delivery trucks, emergency vehicles (assisted living area) – will change our quality of life, due to traffic and air pollution. I have lived here for over 30 years, and would like to stay a few more. Some of us have owned these homes since they were built in the mid-60’s. A good number are new residents; but we all have one thing in common: We live here because of the rural atmosphere and the peace and quiet. When we leave our jobs, and drive into this tract, it feels like a “different” world. Our neighborhood is close-knit, and a huge amount of recent conversation has been about the loss of our “special neighborhood” environment! Please keep in mind that the “Vesuvius Tract” will not be the only one impacted. Those homes across Imperial Hwy (south), the new homes at Valencia & Lambert, and Eagle Hills will all have to deal with the traffic and pollution problems. These additional homes will also overload the existing shopping centers and grocery store at Rose & Imperial. (And soon we have the Sports Center traffic as well.)

17-2

The second issue I wish to address is the safety and security of our homes due to the “open” pathway directly behind our block wall. Is it possible to raise the level of the wall that will separate the two tracts? Will there be dense landscaping? Are these walls strong enough? (I don’t think most are reinforced with steel.) And it appears that the walkway will end directly at Rose and also at Imperial, to help incorporate the existing trail system to Carbon Canyon. Maybe there is a way it could be made a bit less obvious, so we won’t have to worry about “undesirables” and/or school track teams, horses, motorcycles, etc. wandering through there at any given time. Perhaps the walkway can be curved and landscaped to make it less obvious. We have been so accustomed to having a guard shack directly behind us to call if there was a security problem – obviously that will be gone.

17-3

Lastly, there may also be an issue of light pollution. Be it street lights, business lights, or security lighting near and around the businesses and assisted living building, we sure do not want it to be shining into our homes and back yards. Hopefully, this has already been considered in the planning process.

17-4

**Responses to Letter 17**  
**Nestor and Kathleen Reyes**  
**355 Tolbert Street, Brea, California**  
**December 28, 2006**

**Response to Comment #17-1**

Comments are noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised.

**Response to Comment #17-2**

Comments are noted. Air quality issues are addressed in Section 5.3, and traffic issues are addressed in Section 5.12 of the Draft EIR. Analysis concluded that traffic impacts would be less than significant after mitigation measures outlined in the DEIR. Construction-related and long-term air quality impacts from mobile sources, as well as cumulative air quality impacts from the same activities, were concluded to be significant and unavoidable after all feasible mitigation measures, as outlined in the DEIR.

**Response to Comment #17-3**

See Letter 15, Response to Comment #15-13.

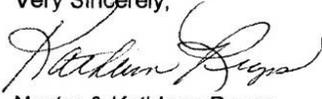
**Response to Comment #17-4**

See Letter 15, Response to Comment #15-4.

In conclusion, I wish to let you know that our neighborhood generally is supportive of the La Floresta project. You can understand that, although we would prefer our area to stay status quo, we do know we cannot stop progress. All we request is that some consideration be given for our current standard of life in this area, and that the City of Brea and Chevron be willing to make a few concessions.

17-5

Very Sincerely,



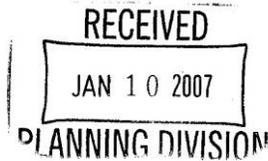
Nestor & Kathleen Reyes  
355 Tolbert Street  
Brea 92823  
(714) 993-0839

**Response to Comment #17-5**

Comments are noted. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Letter 18 Eric and Kim Golden**

**Eric and Kim Golden  
395 Tolbert St.  
Brea, CA 92823  
714-792-3843  
egolden@californiaforklift.com**



My name is Eric Golden. My family I have lived at 395 Tolbert St, Brea, adjacent to the La Floresta property, since 1998 and have always considered the Hartley Center as a great neighbor.

My issues with the Draft EIR are as follows:

5.1-31 Aesthetics.

Viewpoints 1,2,3,4, &, 6 all show various views of the La Floresta Site with existing and proposed views with simulated buildings. Viewpoint #5, exhibit #5.1-5f, which is the only view from the Vesuvius neighborhood shows a proposed view of "line of buildings behind foreground homes", which is line halfway up an existing house that would simulate a one story house at best

18-1

The quote "As shown, intervening structures & trees block all views of the village site from this location" is inaccurate as there are no simulated structures or three story senior facility in the background.

The quote " Some residences located immediately on the neighborhood edge may have partial views from upper story rear windows" is inaccurate and incomplete as there is no simulation

There needs to be further study on the aesthetic impact on our neighborhood. The three story senior facility needs to be simulated to scale with the 62 doomed trees removed. There needs to be numerous other viewpoints in our neighborhood, in addition to views from the southern end of Tolbert residences

5.11-22 Fire Protection

Quote " The project is expected to generate an increase in calls, especially Emergency Medical Service. These impacts would be significant & a provision of an additional engine company would be required on the East side of the city. The city currently has no plans or budget for an additional engine company"

18-2

The proposed mitigation of the applicant to make this a less than significant issue is to pay fees to offset its fair share of the cost of additional fire department equipment and personnel.

**Responses to Letter 18**  
**Eric and Kim Golden**  
**395 Tolbert Street, Brea, California**  
**January 10, 2007**

**Response to Comment #18-1**

See Letter 15, Responses to Comment #15-1 and Comment #15-2.

**Response to Comment #18-2**

Collection of fair share fees, as required in Mitigation Measure PS-1 in the Draft EIR, is the common process in many jurisdictions to address many types of infrastructure issues. Fees are collected from any new development impacting public services and facilities. A Development Agreement, which is a legally binding document, is part of this project and will outline all fees required from any present or future project developers. Acquisition of new equipment, such as fire trucks, occurs through the normal city budgetary process but may also be funded through development fees.

Existing Fire Station #3, located at 400 N. Kraemer Boulevard, can house any new equipment that may be required. In order to address longer term needs, the City adopted a Fire Protection NEXUS Fee Program in 2006, which assumed development of the La Floresta Village site. It would be speculative, however, to predict where and whether a new fire station may be needed in closer proximity to the proposed project. This determination is made by the Fire Department based on their expert knowledge and analysis of needs. Adequate fire protection facilities and equipment are assured to be in place through these established programs and procedures as all new development occurs over time.

With no City budget or plan in place for the additional engine company, it is logical that the planned mitigation is inadequate

18-2  
cont'd

Exhibit 5.12-6, 2012 projected average daily traffic volumes with full project completion

Shows that for Rose drive between Wabash and Valencia, a two lane road, there will be no change in traffic volumes of 19,000 vehicle trips per day from Exhibit 5.12-5 2012 ADT volumes with no project

18-3

Many people who drive in this area already use Rose-Birch as an alternate to Imperial. With two extra signaled intersections going up on Imperial, the amount of traffic using Rose as an East –West corridor to bypass Imperial will increase substantially.

It does not appear in the Draft EIR that traffic volumes on Rose drive with project completion have accurately taken into account the additional 13,000 vehicle trips per day generated by this project or the amount of increased traffic attempting to avoid Imperial

This needs to be analyzed further

Thank You

**Response to Comment #18-3**

See Letter 15, Response to Comment #15-12.

**Letter 19 Steve Kerpan**

**Gladson, Adrienne**

---

**From:** sjlkerpan@adelphia.net  
**Sent:** Thursday, January 18, 2007 8:05 AM  
**To:** Gladson, Adrienne  
**Cc:** jradcliffe@ocregister.com  
**Subject:** To much traffic on Valencia Ave.

Have Brea council members seen the volume of truck traffic currently on Valencia Ave. coming from Imperial Blvd? Add this to the 13000 daily drivers proposed for the new La Foresta development, plus additional cars from the new sports park and middle school and you will have continuously high conjestion. Our Eagle Hills neighborhood will be adversely affected with this new growth and are anxiously waiting for a traffic plan the will ease this potential neighborhood problem. Steve Kerpan, Brea

19-1

**Responses to Letter 19**  
**Steve Kerpan**  
**176 Sunflower Street, Brea, California**  
**January 18, 2007**

**Response to Comment #19-1**

Comments are noted. Section 5.12 of the Draft EIR analyzes traffic issues, including cumulative traffic, and concludes that impacts will be less than significant with mitigation measures contained in the EIR.

**Letter 20 Pirouteks**

Page 1 of 1

**Gladson, Adrienne**

**From:** Piroutek@aol.com  
**Sent:** Thursday, January 18, 2007 8:55 AM  
**To:** Gladson, Adrienne  
**Subject:** RE: La Floresta Development

RE: La Floresta Development

This letter is to state our opposition to the increase in traffic which is clearly not mitigated in the EIR.  
We are Brea residents and **5 registered voters:**

- Dr. Gary M. Piroutek**
- Mrs. Martha J. Piroutek**
- Dr. Mary Jane Piroutek**
- Ms. Laura A. Piroutek**
- Mr. Mark A. Piroutek**

20-1

1/18/2007

**Responses to Letter 20**  
**Piroutek Family**  
**January 18, 2007**

**Response to Comment #20-1**

No specific comments with respect to the traffic analysis are raised. The traffic analysis contained in the Draft EIR follows commonly accepted traffic analysis methodology and has been prepared by a registered traffic engineer. It has also been reviewed by the City of Brea traffic engineer for adequacy, and addresses all issues required by the California Environmental Quality Act. No further response is possible.

**Letter 21 Chad and JoAnne Aldridge**

Page 1 of 1

**Gladson, Adrienne**

---

**From:** Chad & JoAnne Aldridge [chadandjo@sbcglobal.net]  
**Sent:** Thursday, January 18, 2007 4:48 PM  
**To:** Gladson, Adrienne  
**Subject:** No More traffic in Brea

The traffic on the 57 freeway is already bad enough. We do not need anymore houses in Brea.

] 21-1

Chad & JoAnne Aldridge

1/18/2007

**Response to Letter 21**  
**Chad and JoAnne Aldridge**  
**January 18, 2007**

**Response to Comment #21-1**

Comments are noted. See Letter 20, Response to Comment 20-1. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised. No further response is necessary.

**Letter 22 Steve Kerpan**

**Gladson, Adrienne**

**From:** sjkerpan@adelphia.net  
**Sent:** Thursday, January 18, 2007 5:52 PM  
**To:** Gladson, Adrienne  
**Cc:** eaglehills@roadrunner.com

Thank you for directng me to the LaForest DEIR on the city web page and clarifying for me status of the 5.12 traffic and circulation section of the study. My comments regarding the study are as follows: A. I saw nothing addressing the affects traffic volume will have on Birch Street proper in relation to not only the LaForesta Birch/Valencia development, but how The Sports Park and Middle School traffic will impact the Eagle Hills neighborhood. B. It looks to us that a traffic light would be warranted at Flowerhill and Birch street intersections. C. It was visited many times at past meetings the need for a cut- thru street from Birch to Lambert (in front of the new middle school). This would take pressure off high drop-off traffic times, which would spill over to nearby residential homes. Our neighborhood is still very concerned with the oncoming traffic rush generated by these needed developments. Steve Kerpan, 176 Sunflower St Brea, 714-223-2089

22-1

**Responses to Letter 22**  
**Steve Kerpan**  
**176 Sunflower Street, Brea, California**  
**January 18, 2007**

**Response to Comment #22-1**

Analysis of traffic impacts in the Year 2025, as presented in the traffic analysis for the Draft EIR, assumes build-out according to the land use assumptions and patterns contained in the City of Brea General Plan. In this manner, all development projects that are consistent with the General Plan are reflected in the analysis of future traffic conditions. The traffic study addresses the proposed golf course and residential development, and traffic from the school and sports park are part of the background conditions. Project-related trip distribution patterns as illustrated in Exhibit 5.12-1 of the DEIR indicate that the majority of La Floresta traffic would travel south and east from the site. No significant project-related traffic impacts were identified on Birch Street or Lambert Road.

**Letter 23 Michael Cervin**

Page 1 of 1

**Gladson, Adrienne**

**From:** mcervinjr [mcervinjr@adelphia.net]  
**Sent:** Friday, January 19, 2007 12:12 PM  
**To:** Gladson, Adrienne  
**Cc:** Labio, Maribeth  
**Subject:** La Floresta-EIR

In the EIR exhibit 5.1-2b Tree Survey, List of a Specias,Tree Schedule-Trees to be Removed, tree #335, Quercus Agrifoia (coast line oak/ california live oak) is a Native Tree and subject to mitigation. } 23-1

Did not see a biological study in this EIR. It also did not address birds and/or wild life in this buffer zone for endangered specie.What else has been missed? } 23-2

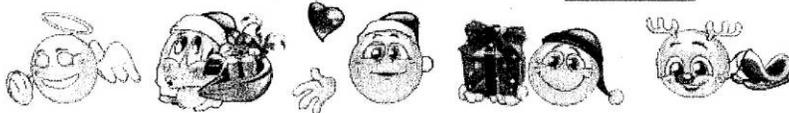
Proposed Mitigation

Section 5.1 of EIR is flawed, misleading and grossly incomplete and did not address impact or mitigation on the specified trees to be removed, birds, and/or wild life, for endangered species, a biological study is requested, as part of this EIR and analyzed again on its findings. } 23-3

Thank You,

Michael Cervin  
433 Tolbert  
Brea, California  
92823  
714-5281141

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1/22/2007

**Responses to Letter 23**  
**Michael Cervin**  
**433 Tolbert Street, Brea, California**  
**January 19, 2007**

**Response to Comment #23-1**

As noted in the DEIR in Section 5.1, page 5.1-29, and in Response to Comment #1, Letter 15, there are no requirements in the City of Brea Municipal Code related to tree preservation. Trees proposed to be removed are generally in deteriorated condition and/or of advanced age, as identified in the tree assessment contained in the Draft EIR.

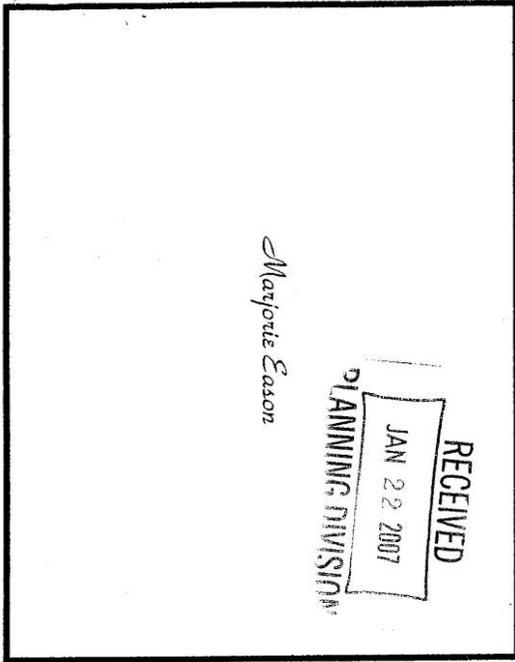
**Response to Comment #23-2**

The Initial Study, contained in Appendix B to the Draft EIR, determined that impacts to biological resources would be less than significant, thus this topic was not addressed in the EIR in accordance with CEQA procedures. The Initial Study states, "The majority of both project sites is developed, or has been highly disturbed. Portions of the La Floresta Village site have been recently graded in preparation for development. The General Plan EIR does not identify any sensitive natural resource or habitat areas on either project site. Proposed development would not conflict with any plans, policies, or regulations protecting sensitive species, riparian habitat or sensitive natural communities." Both the Notice of Preparation and the Draft EIR have also been provided to the California Department of Fish & Game and the U.S. Fish & Wildlife Service, neither of which have submitted comments in response.

**Response to Comment #23-3**

See Response to Comment #23-1 and Comment #23-2 above.

Letter 24 Marjorie Eason



2) a left turn from Rose Dr to Vermin Drive. I have avoided being hit at that intersection by waiting to see all traffic stop before leaving Vermin Dr. I now go south on Rose Dr to make a safer right turn onto Vermin Dr. An increase in traffic will surely result in crashes, or fatal accidents on Rose Dr. Please re-consider your plan for 1,300 new dwellings on Valencia. Some of us who have supported Brea all these years should be considered. Thank you, Marjorie Eason



Jan 14 2007

Brea Planning Commission  
 I was unable to attend the January 9th meeting regarding the Valencia associated with the Floriston Project on Valencia in east Brea. I have lived on Vermin Drive since 1965. I have worked at the Judicial Center since 1965. I am very concerned over the traffic situation which exists on Rose Dr. It is very dangerous to leave Vermin Dr each morning and return each evening. I have almost had a head-on collision, or I have wanted to make

**Responses to Letter 24**

**Marjorie Eason**

**January 17, 2007**

**Response to Comment #24-1**

Comments are noted. Concerns are expressed with respect to traffic impacts to Rose Drive. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised, however. No further response is necessary.

**Letter 25 Georgia Smith**

**Gladson, Adrienne**

**From:** Georgia Smith [eaglehills@roadrunner.com]  
**Sent:** Sunday, January 21, 2007 3:54 PM  
**To:** Gladson, Adrienne  
**Cc:** sjkerpan@adelphia.net  
**Subject:** LaForesta development

(1) Eaglehills residents are greatly concerned about the affects traffic volume will have on Birch Street proper in relation to:

- A. LaForesta Birch/Valencia development but how
- B. The Sports Park and Middle School traffic and parking will impact the Eagle Hills neighborhood.

25-1

(2) Consideration should be made for implementing a regulated traffic signal at the Flowerhill/Birch street intersections - near the "Eagle" greenbelt area located just east of these roadway junctures

(3) It's been discussed many times at past meetings, the need for a cut- thru street from Birch North to Lambert (in front of the new middle school). This would take pressure off high drop-off traffic times, which would most assuredly spill over into nearby residential homes.

(3) We already experience a great increase in volume from inexperienced drivers using Eaglehills as a quick "drive through route" - both from Birch to Lambert and Lambert to Birch - when road or traffic conditions on these major streets create backups - The drivers use Eaglehills as an alternate route -

\*When the drivers realize the greenbelt running through our Eaglehills' tract creates many cul-de-sacs streets - they become extremely frustrated, make quick turnarounds, and speed back to the major exit streets of Starflower or Flowerhill - they then speed through the tract south to Birch or north to Lambert - This has not been adequately addressed in the past and neighbors are concerned it won't be addressed in the future - local authorities don't support speed bumps, crosswalk signage, and/or speed indicator mechanisms -

25-2

- A. Our neighborhood supports a large and wide age range of school children with bus transportation systems of pickup & drop offs throughout the day
- B. Exercise enthusiasts from Eaglehills as well as surrounding neighborhoods such as Country Hills and the business community utilize our greenbelt walking areas throughout the day and evening hours - many don't realize that they've entered the major roadways of Starflower & Flowerhill until they're actually in the streets - \*apparently there's some legalistic issues with stripping cross walks -

Our neighborhood is very concerned with the current traffic speed and commercial traffic on Birch - the present speed limit of 50 MPH needs to be reviewed; not to mention what an increase the LaForesta Birch/Valencia development will produce in volume and intensity combined with the Sports Park & Middle School traffic/parking considerations

25-3

1/22/2007

**Responses to Letter 25**  
**Georgia Smith**  
**January 21, 2007**

**Response to Comment #25-1**

A proposed development is only responsible for addressing impacts that are generated by the development itself, and cannot be held responsible for mitigating conditions existing before the development occurs and that derive from other sources. However, if a proposed development acts to worsen an existing condition to a degree that exceeds established thresholds, it is considered a "significant" impact under the California Environmental Quality Act (CEQA), and mitigation addressing the incremental impact caused by the development is required. None of the measures presented in the comment are considered necessary as a result of the La Floresta Development Proposal based on traffic analysis conducted for the Draft EIR and presented in Section 5.12 and Appendix J.

**Response to Comment #25-2**

Traffic problems described in Comment #25-2 are not caused by the La Floresta Development Proposal. See also Response to Comment #25-1 above.

**Response to Comment #25-3**

See Response to Comment #25-1 and Comment #25-2 above.

**Letter 26 Sara and Donald Schmunk**

Environmental Impact Study  
Adrienne Gladson, Associate Planner  
City of Brea - Planning Division  
1 Civic Center Circle  
Brea, California 92821-5732

January 21, 2007



La Floresta Development Proposal  
Environmental Impact Report (EIR 6-01)  
Brea, California

I am strongly in favor of the La Floresta Development Proposal only after the Severe health Hazard is mitigated. I feel the La Floresta Development will be a great advantage and showcase for our city. The Draft Environmental Impact Report (EIR 06-01) however identifies a significant air quality environmental effect that I feel can be avoided and mitigated. The report concludes that the Project specific construction related and long term emissions from mobile sources as well as cumulatively impacts from the same activities, all resulting from project development as having unavoidable and significant effects.

The City of Brea Planning Commission would, therefore, need to adopt a Statement of Overriding Considerations to approve the project.

26-1

***I strongly oppose the adoption of the Statement of Overriding Considerations*** when mitigation of the only Severe Impact, Air Quality, is possible.

The only Severe Impact in the Environmental Impact Report for the La Floresta Development Proposal was Air Pollution. This Severe Environmental Impact must be mitigated. This Hazardous pollution effects the health and has been shown to have long lasting serious health consequences that are not reversible. It is not acceptable to allow a Severe Health impact due to financial/schedule concerns or other considerations when it can be mitigated.

The air Pollution can be mitigated so that it is no longer severe and a Health Hazard to near by residences and children south across Imperial Hwy., Golden School and sport areas at Golden and Valencia, all within one mile of the development site. There are many techniques, all which require a wind pollution contour map, for the few rare times the wind is toward the south residences. A few workable examples of mitigation are summarized below.

- 1, Move the pollution generation to the far opposite side, north east, when the rare prevailing wind increases the pollution to severe.
- 2, Work at night or early morning when the wind is calmer and the residence are inside. The noise impact is not a permanent health hazard like the pollution.
- 3, Stop the pollution generation when the level cannot be reduced to below Severe.
- 4, Inform all residences by mail in advance, showing the worst case pollution wind time contour when the impact may be severe, so that children and all those that may be affected can be properly informed and take preventative measures.
- 5, The air pollutants can be further lowered by reducing the construction fleet size, using low polluting diesel fuels and exhaust scrubbers.
- 6, The toxic dust can be partially mitigated by increased watering when appropriate.

This is not a theoretical concern as my wife has chronic asthma and she has difficulty breathing. She suffers from the effects of air pollution, more so from the blowing Santa Anna winds. She is also especially affected by auto and diesel exhaust gases.

In summary, ***I strongly oppose a Statement of Overriding Considerations*** necessary to approve the current La Floresta Development Proposal and recommend the City of Brea Planning Commission work with the developer to mitigate the severe health hazard.

Sara & Donald Schmunk  
3245 Greenleaf Dr., Brea, California, 92823

**Responses to Letter 26**  
**Sara and Donald Schmunk**  
**3245 Greenleaf Drive, Brea, California**  
**January 21, 2007**

**Response to Comment #26-1**

The commenters express broad concern with the air quality impacts which have been identified as significant and unavoidable after mitigation. As listed in Section 6.4 of the Draft EIR, these include "project-specific construction related and long-term air pollutant emissions from mobile sources as well as cumulatively significant air quality impacts from the same activities."

The commenters suggest a variety of measures that they believe would act to further mitigate these impacts. Most of the measures suggested are already incorporated in Mitigation Measure AQ-1 contained in Section 5.3 of the Draft EIR, which lists control measures required by the South Coast Air Quality Management District (SCAQMD), which has regulatory responsibility for formulating and implementing such emissions control measures in order to meet state and federal emissions standards on a regional basis. Other suggestions such as allowing construction during nighttime and early morning hours would violate other City ordinances and cause other adverse impacts. Similarly, advance notice of severe wind conditions is technologically impossible, and SCAQMD regulations already include routine dust control measures and cessation of activities such as grading and earth-moving during critical or severe air quality conditions (as defined by the SCAQMD). All feasible measures to control and limit construction-related pollutant emissions will be taken and are mandatory under SCAQMD regulations. Control of emissions from other mobile sources is dependent on such things as improvements in technology beyond the control or jurisdiction of the City of Brea.

**Letter 27 Eric and Kim Golden**

**Eric and Kim Golden**  
01/22/07  
395 Tolbert St.  
Brea, CA 92823  
714-792-3843  
egolden@californiaforklift.com

RECEIVED  
JAN 22 2007  
PLANNING DIVISION

This is an addendum to initial DEIR comments previously submitted

Does the DEIR traffic study for the La Floresta & Birch Hills projects take into account the additional traffic generated by the Pepper Tree Hills & Sports Park projects?

27-1

Thank You

**Responses to Letter 27**  
**Eric and Kim Golden**  
**395 Tolbert Street, Brea, California**  
**January 22, 2007**

**Response to Comment #27-1**

See Letter 22, Response to Comment #22-1.

**Letter 28 Eduardo Semblantes**

DATE: JANUARY 22, 2007  
 TO: ADRIENNE GLADSON, ASSOCIATE PLANNER  
 FROM: EDUARDO SEMBLANTES  
 SUBJECT: DRAFT EIR 06-01



Based on the information provided in the EIR, it is not evident that the increase in population will not have a significant impact on surrounding neighborhoods in terms of vehicular traffic, circulation patterns, safety, and noise levels. The proposed street plan will encourage vehicular traffic through local roads having a major increase in the average daily traffic, noise levels, and potential for accidents in our neighborhoods.

28-1

The proposed project is a higher density project that will bring large numbers of children into the surrounding elementary, junior and senior high schools. The impact from this project on the School District has not been analyzed. As such, I am requesting that the impact of this project on the School District, as well as surrounding neighborhoods be analyzed in terms of overcrowding, average daily traffic counts, circulation, safety, and noise from an increased student population at Country Hills Elementary School, Brea Junior High School, and Brea Olinda High School, specifically. Since the elementary and high school would be accessed from Birch Hills residents from Birch along Associated to the north of Lambert, this area in particular should be reanalyzed by the placing a Noise Monitor on Associated Rd. just north of Country Hills Elementary School to ensure accurate data is captured, circulation, and safety concerns are identified. Noise levels should be reanalyzed by putting a Noise Monitor on Associated Rd. just to the north of Country Hills Elementary School to ensure accurate data is captured. There is a right turn only restriction for vehicles exiting school property. As such, data will be captures for all vehicles vehicles.

28-2

Various means of mitigating existing, additional or increased negative impacts could include the following:

- Reducing the density of the project
- Installing crosswalks and/or traffic lights along impacted arterial ways
- Reconfiguring streets
- Installing cross walks and/or traffic lights along Associated
- Increasing the height of the existing sound wall along Associated

Another concern with the Birch Hills development is the proximity to Kraemer Blvd. and the level of safety for the children of the multi-family housing complex. Kraemer Blvd. is a highly traveled arterial which would be accessible by children via the three exterior connection entryways behind the multifamily housing complex. This concern could be mitigated by relocating the multifamily complex to the western most portion of the town home development and relocating the western portion of town homes along Kraemer Boulevard.

28-3

Thank you for addressing my concerns. Please mail all responses to:  
 Eduardo Semblantes  
 407 W. Imperial Hwy., Ste. H-118  
 Brea, CA 92821

**Responses to Letter 28****Eduardo Semblantes****407 W. Imperial Highway, Suite H-118, Brea, California****January 22, 2007****Response to Comment #28-1**

Comments are noted. General concerns are expressed with respect to various impacts, but no specific issues are articulated on DEIR adequacy. The DEIR has analyzed traffic, circulation and noise issues and concluded that all project impacts would be less than significant after mitigation measures outlined in Sections 5.12 and 5.9, respectively. No CEQA issue with respect to the adequacy of the Draft EIR itself is raised, however. No further response is necessary.

**Response to Comment # 28-2**

Impacts to school districts and specific schools that would serve the La Floresta Development Proposal are examined in Section 5.11 of the Draft EIR. It should be noted that Country Hills Elementary School has not been identified by the Brea-Olinda School District as serving future students from the Birch Hills project. School districts serving the project have indicated sufficient capacity exists or will be created to accommodate the La Floresta Development Proposal. See Comment Letters #6 and #7 from the Brea-Olinda Unified School District and the Placentia Yorba Linda School District, respectively. No significant impacts to schools were identified after required mitigation.

Noise and traffic analysis contained in the DEIR are based upon standard trip generation rates established by the Institute of Traffic Engineers (ITE) for various land use types and thus inherently incorporate resident trips that may occur for a wide variety of purposes. These rates are extrapolated from recording and observation of trip generation from many projects of a similar nature. Trip distribution patterns for the Birch Hills project are illustrated in Exhibit 5.12-2 in the DEIR. These are established by the traffic engineer and take into account local trip attractors as well as regional circulation patterns and the existing circulation network. As noted above, Section 5.12 of the DEIR examines traffic issues and has not identified any significant impacts that cannot be mitigated to a less than significant level by measures incorporated in the DEIR. The same is true of noise impacts, which are addressed in Section 5.9 of the DEIR.

**Response to Comment #28-3**

Residential use planned on the Birch Hills site adjacent to Kraemer Boulevard is no different than existing residential neighborhoods that occur along this street. A signalized vehicular and pedestrian access point (with a crosswalk) is planned at the project entry on Kraemer Boulevard for the safety of vehicles and pedestrians. Dedicated trails cross the interior of the property along Loftus Channel and sidewalks will run along Birch Street and Kraemer Boulevard, as illustrated in Exhibit 4.2-21 in the DEIR. The sidewalk along Kraemer Blvd. is to be located within a 25-foot landscaped setback area, as shown on Exhibit 4.2-24 of the DEIR. No significant issues related to child safety from access are anticipated. Relocating or re-arranging residential areas within the site would not alter the fact that residents of all ages would have to access surrounding streets.

Letter 29 Michael Cervin

Page 1 of 1

**From:** mcervinjr [mcervinjr@adelphia.net]  
**Sent:** Monday, January 22, 2007 12:33 PM  
**To:** Gladson, Adrienne  
**Cc:** Labio, Maribeth  
**Subject:** La Floresta-Draft EIR  
 Adrienne Gladson, Associate Planner  
 City of Brea  
 Development Services Department  
 1 Civic Center Circle  
 Brea, CA 92821-5732

Re: Draft EIR No. 0601 Tract Map 16934, Site 1

Exhibit 4.2-2 of the draft EIR is incomplete and not correct. The plans for PA-9 Senior Living have not been submitted to the city by Sunrise and are still conceptual. When submitted could have effects substantially more severe than shown in Table 7.5-1 and Table 7.3-1 of the draft EIR. Table 4.2-1 dwelling unit we were told could rise to 250du and the proposed net density over 28.5 this could have significant effect on traffic Table 7.3-1 AM and PM peak hour totals, Table 7.5-1 noise, air quality already at high levels for this project that need mitigation. The draft EIR is fundamentally inadequate, incomplete and meaningless a public review and comment can not be done on PA-9 Sunrise Senior Living at this time it is concept, and no plans have been submitted.

29-1

**Proposed Mitigation**

Require a completely new EIR for the Senior Living Facility. The draft EIR not to be finalized until it can reflect revised cumulative environmental impact of PA-9, recirculation of revised draft EIR, so as not to deprives the public opportunity to comment upon the effects.

Michael Cervin  
 433 Tolbert  
 Brea, California  
 92823  
 714-5281141

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file:///C:/Documents and Settings/Marie/Local Settings/Temporary Internet Files/OLK36/La Flores... 2/13/2007

**Response to Letter 29****Michael Cervin****407 W. Imperial Highway, Suite H-118, Brea, California****January 22, 2007****Response to Comment #29-1**

All elevations and plans presented in the Draft EIR are of a conceptual nature. Since release of the Draft EIR, some refinements in the design of the proposed senior living facility have occurred, primarily in response to public input. These are described in Response to Comment #15-1, Letter 15, and Illustrated in Exhibits RTC 2.0, RTC 3.1, and RTC 3.2 located in the Errata to the Draft EIR. Minor changes may occur in plans as project review progresses, but sufficient detail exists to adequately assess and mitigate project impacts. Detailed architectural and engineering plans are not prepared until after a project is approved, and may vary to some degree from original concepts. If changes were so substantial that the level of any impact identified in an EIR for any component of the La Floresta Development Proposal would change from less than significant to significant, revisions to the EIR and recirculation of the revised Draft EIR for public comment would be required under the California Environmental Quality Act (CEQA). There have been no changes in any aspect of the project that have altered impact conclusions presented in the Draft EIR.

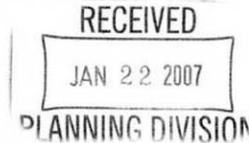
Letter 30 Michael and Maryanne Martinez

January 22, 2007

Adrienne Gladson, Associate Planner  
City of Brea  
Development Services Department  
1 Civic Center Circle  
Brea, CA 92821-5732

Re: Draft EIR No. 0601 Tract Map 16934, Site 1

Draft EIR



**1. Construction Noise Impacts (Section 5.9)**

Based on our experience with the recent Hartley Center Demolition project, the Vesuvius Neighborhood Alliance is skeptical of the EIR finding that the construction noise impacts will be less than significant after mitigation. Due to the prolonged construction that will be extremely close to existing homes, the noise will have a significant impact to residents.

30-1

**Proposed Mitigation**

Due to the close proximity to existing homes, set noise limits at a rate lower than existing City codes. Monitor the La Floresta Project for compliance.

**2. Hydrology and Water Quality (Section 5.7)**

During heavy rains, the homes at the east end of Mauna Loa Street have been subject to flooding from the rear of their homes in the past. Due to the topography of the land behind these homes, flooding may be a hazard in the future.

30-2

**Proposed Mitigation**

Study the topography and drainage behind these homes. Mitigate any potential future flooding by altering drainage patterns where appropriate.

**3. Tree Survey (Exhibit 5.1-2b)**

A biological study is not included in the EIR. It does address birds and/or wild life in the buffer zone for endangered species. For example, exhibit 5.1-2b shows a list of trees in the buffer zone to be removed, tree number 335, Quercus Agrifolia (Coast Live Oak / California Live Oak) is a native tree and subject to mitigation. Additionally, trees that are to be removed and / or remain have not been marked.

30-3

**Proposed Mitigation**

Section 5.1 of the EIR is flawed, misleading and grossly incomplete and did not address the impact or mitigation on the specified trees to be removed, birds, and/or wild life, for endangered species. A biological study is requested as part of this EIR and should be analyzed again on its findings. Upon completion of decisions on what trees are to be removed and / or remain, the trees in question should be prominently marked whether they are to be removed or remain.

**4. Senior Living Facility - Planning Area 9 (Section 5.3) (Section 5.9)**

Due to the incomplete Senior Living facility plans as of this date, this draft EIR does not adequately cover the impact of this facility on the surrounding community. The developer will be making some modifications to its plans as a result of the feedback and comments from the community in early January. Some of the comments focused on the setbacks, height of the building, landscaping as well as the location of the service drive.

30-4

**Proposed Mitigation**

Require a completely new EIR for the Senior Living Facility to ensure all environmental issues are adequately addressed.

**Responses to Letter 30**  
**Michael and Maryanne Martinez**  
**397 Tolbert Street, Brea, California**  
**January 22, 2007**

**Response to Comment #30-1**

See Letter 15, Response to Comment #15-7.

**Response to Comment #30-2**

Area hydrology and drainage patterns are addressed in Section 5.7 of the Draft EIR. All drainage generated by the proposed development is required by law to be either retained on the site or directed to a drainage system capable of accepting any additional flows that may be generated. No uncontrolled surface flow from proposed development to off-site areas is permitted. Proposed drainage improvements as well as pad elevations are depicted on the Tentative Tract Map for the La Floresta Village Site, Exhibit 4.2-15a and b in the Draft EIR. No flooding hazards are anticipated as a result of the proposed La Floresta Village project.

**Response to Comment #30-3**

See Letter 23, Response to Comment #23-1 and Comment #23-2.

**Response to Comment #4**

See Letter 29, Response to Comment #29-1.

**La Floresta Overall Plan**

**5. Existing Block Walls (Section 4.2.2)**

The existing block walls between the Vesuvius community and the new development are over 40 years old. In many places, they also serve as retaining walls. There are portions that are in disrepair, hazardous and unsightly. There are portions behind the homes on Mauna Loa that are less than 4.5 feet and will not adequately shield the existing community from on coming traffic headlights in the proposed tract. There are also questions whether the wall is actually on the Chevron property or the homeowners' property.

30-5

**Proposed Mitigation**

Include a plan to address the repair or replacement of these walls with the Vesuvius community. Include a plan to shield homes from oncoming traffic if the walls do remain at their present height. Address the question on which property the walls actually exist.

**Michael & Maryanne Martinez**  
397 Tolbert St.  
Brea, CA 92823

**Response to Comment #30-5**

See Letter 15, Response to Comment #15-14.

Letter 31 Best, Best & Krieger LLP

**BEST BEST & KRIEGER LLP**  
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<p><small>RIVERSIDE</small>  <small>(909) 686-1450</small>  <hr style="width: 50px; margin: 5px auto;"/> <small>INDIAN WELLS</small>  <small>(760) 568-2611</small></p>	<p><small>LAWYERS</small>  <small>5 PARK PLAZA, SUITE 1500</small>  <small>IRVINE, CALIFORNIA 92614</small>  <small>(949) 263-2600</small>  <small>(949) 260-0972 FAX</small>  <small>BBKLAW.COM</small></p>	<p><small>ONTARIO</small>  <small>(909) 989-8584</small>  <hr style="width: 50px; margin: 5px auto;"/> <small>SAN DIEGO</small>  <small>(619) 525-1300</small>  <hr style="width: 50px; margin: 5px auto;"/> <small>SACRAMENTO</small>  <small>(916) 325-4000</small></p>
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May 23, 2007

James L. Markman  
City Attorney  
City of Brea  
Civil Center Circle, 3<sup>rd</sup> Floor  
Brea, CA 92821

Dear Mr. Markman:

On behalf of the City of Yorba Linda (“Yorba Linda”), below are comments on the draft environmental impact report (“Draft EIR”) on the proposed La Floresta project (the “Project”). These comments supplement those previously provided by Yorba Linda in our letter dated January 22, 2007. 31-1

The Water Supply Assessment for the proposed Project (“WSA”) relies on contingent future increases in water supply from two sources: the Metropolitan Water District (“MWD”) and San Gabriel Groundwater Basin, via Brea’s stock in the California Domestic Water Company (“CDWD”). In both instances, the projected increases are speculative and fail to meet the standards set forth in the recent decision *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (S. Ct. Case No. S132972, February 1, 2007) (“*Vineyard*”). 31-2

The WSA’s projections for increased water supply from MWD come from the MWD’s 2005 Regional Urban Water Management Plan (“RUWMP”). MWD’s 2005 RUWMP assumes increased deliveries in the future from the State Water Project (“SWP”) based on implementation of the Bay-Delta program. The Bay-Delta program, however, is in complete disarray, and its programmatic EIR/EIS was recently disapproved by the Court of Appeals. Thus, it is entirely speculative whether the increased SWP deliveries will be available. Moreover, as explained in the recent *Vineyard* decision, a water supply assessment cannot rely on future water supplies where the environmental impacts of procuring that water have not been assessed under CEQA. The WSA fails to disclose or address these problems with the SWP water projections in MWD’s 2005 RUWMP. It also fails to propose alternative supplies to help meet demands should SWP projected deliveries fail to materialize, though this is also required under the recent *Vineyard* decision. 31-3

The water supply projections from the 2005 RUWMP not only improperly relies on the speculative Bay-Delta program but also on a number of other contingent future projects that have not yet gone through environmental review under CEQA. These contingent future projects include major infrastructure changes such as canal lining, aquifer storage, water wheeling, and 31-4

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**Responses to Letter 31****Best, Best & Krieger LLP on behalf of the City of Yorba Linda****Sonia R. Carvalho and Jamie L. Raymond****Best Best & Krieger, LLP****5 Park Plaza, Suite 1500, Irvine, CA 92614****May 23, 2007****Response to Comment 31-1**

Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR is raised. No further response is necessary.

**Response to Comments 31-2 through 31-5**

The Water Supply Assessment (WSA) for the La Floresta Development Proposal has been clarified to respond to issues raised in the City of Yorba Linda's comments contained in Letter #31. A clarification to the WSA, prepared by DBE Psomas, is attached to this Responses to Comments document as Appendix E. The following responses are excerpted from that document.

- MWD Reliability

It should be noted that water supply projections from MWD's 2005 RUWMP are based upon contingent future projects for which environmental impacts have yet to be assessed. This is no different than has been the case for the 79-year history of MWD. Throughout that time, MWD has met the water supply needs of its member agencies. There is no evidence to suggest that it will not be capable of meeting these needs into the future.

- CDWC Reliability

CDWC has a 33-year history of providing water to its stockholders, and at no time have any of its members been shorted on their water supply. In fact, the Upper San Gabriel Basin Watermaster annual reports indicate that no water producer bound by the Judgment ever has been denied the right to overproduce from the Basin for lack of available supplemental water or for any other reason. That Judgment has been in operation for over 30 years. In summary, the stock acquisition will more than cover the project's demand from water rights owned by CDWC under the controlling Judgment with no resulting reliance on CDWC's ability to produce water in excess of those rights. However, the City of Brea is not dependent upon CDWC, as the City has the capacity and facilities in place to take 100% of its supply from MWD should it decide to do so now or in the future.

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May 23, 2007  
Page 2

reservoir building. The WSA fails to mention either the contingent nature of these proposed improvements or the fact that their environmental impacts have not been assessed yet. The WSA also fails to assess potential alternatives should the improvements not be made, though this discussion is required, as explained in the recent *Vineyard* decision.

31-4  
cont'd

The WSA also improperly relies on projected increases in supply from the San Gabriel Groundwater Basin. One problem with this analysis is that Brea is *already* using more than its stock ownership interest would allow. Brea, through its stock ownership of CDWC, is entitled to 1,855 acre-feet per year (“afy”) in Basin water. In 2000, actual Basin water usage by Brea was 5240 acre feet (“af”), while in 2005 it was 4960 af. The WSA projects Brea’s groundwater usage to be 6500 afy from 2010 to 2025. All of this is in excess of its entitlement via CDWD.

31-5

The WSA states that Brea has been able to exceed its stock ownership allotment by leasing CDWD stock from other CDWD stockowners. The WSA does not state who these stockowners are, what the terms of the leases are, or otherwise provide support for the assumption that these other CDWD stockowners will not need their full water entitlements through the end of 2025 (since growth will presumably continue in the entire region, not just in Brea) and that they will continue to make water rights available to Brea.

31-6

CDWD has a total of 12,069.68 afy in pumping rights in the Basin, which has been adjudicated. The CDWD augments this with 642.20 afy in pumping rights that are leased from Cadway, Inc. However, the WSA does not indicate the term of lease or how long the leased pumping rights will be available to the CDWD.

31-7

Under the San Gabriel Basin adjudication, CDWD and Brea may overpump from the Basin past that year’s safe yield based upon the purchase of replenishment water for recharge back into the Basin. This is often done in wet years and, in the San Gabriel Basin, by using SWP water. However, as indicated above, SWP imports, even “wet year” surplus water, may not materialize due to problems with the Bay Delta program. Additionally, many jurisdictions are relying upon the idea of conjunctive use (overproduction in dry years with recharge during wet years) to support pumping practices that will allow a conclusion that there will be enough water. However, even in wet years the amount of water available for recharge will be finite, and given that overpumping in normal and dry years will increase, it is not clear that all water table deficits in Southern California basins will be capable of being 100% replenished in wet years. The WSA should address these problems. As indicated in *Vineyard*, conjunctive use cannot simply be mentioned as a magic bullet solving water supply problems, but must be affirmatively substantiated as effective.

31-8

It should also be noted that the multiple-dry year analysis in the WSA shows that the first dry year has 6% more demand than normal years, but after that increases in demand are only 2% per year. However, the text of the WSA states that demand increases should stay at 6% per year (i.e., the 2<sup>nd</sup> year should be 6% higher than the first year, and the third year should be 6% higher than the 2<sup>nd</sup> year). Thus, the multiple-dry year analysis underestimates demand in the latter two years of a three-year drought.

31-9

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- Alternative Supplies

Southern California has been faced with the need to import water to meet its existing and future water needs for 60 years or more. Local and regional water agencies are continuously developing new supplies and improving those already in use. Alternate water supplies that may be available to the City of Brea in the future have not been fully developed at this time. Alternatives that currently appear to be promising include, among others, future availability of recycled water from a regional plant in the north Orange County area, desalination and wheeling of seawater from a coastal location, and purchase and wheeling of agricultural water along the SWP route.

The history of Southern California suggests that the region is highly likely to solve its water supply issues and provide its residents with supplies that meet health and life style demands. The City of Brea believes that MWD and CDWC will continue to provide uninterrupted supplies to meet its water needs. If evidence presents itself to the contrary, the City will look to alternatives that bear promise at that time.

### **Response to Comment 31-6 through 31-8**

The City of Brea has, through ownership of 1,295 shares of CDWC stock, an average year entitlement of 1855 afy from the CDWC system with no reliance of the right of CDWC to overproduce from the adjudicated Basin and, thus, no reliance on the availability of supplemental imported water. The development agreement for the project will provide the City with ownership of an additional 825 shares of CDWC stock or 1181 afy for a total of 3036 afy.

Table 7, 8 and 9 from the March 14, 2006 WSA contained in Appendix I to the Draft EIR, have been expanded into Tables 7a, 7b, 8a, 8b, 9a and 9b presented below. In Table 9 the demand increase has been revised to agree with the text, which states that a 6% increase has been applied to water demand in each successive year. The tables with the "a" suffix present the same supply scenario as those in the WSA, which represent the probable supply to be taken by Brea from MWD and CDWC.

The tables with the "b" suffix present an alternative supply scenario if the City limits its supply taken from CDWC to the City's average year entitlement of 3,036 afy. It should be noted that the City of Brea has the ability to meet 100% of its existing and ultimate demands solely from its capacity from MWD.

**Table 7a - Normal Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	12,500	13,255	14,858	16,030	17,840	19,624
Supply						
MWD	7,500	6,755	8,358	9,530	11,340	13,124
CDWC	5,000	6,500	6,500	6,500	6,500	6,500
Total	12,500	13,255	14,858	16,030	17,840	19,624

**Table 7b - Normal Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	12,500	13,255	14,858	16,030	17,840	19,624
Supply						
MWD	9,464	10,219	11,822	12,994	14,804	16,588
CDWC	3,036	3,036	3,036	3,036	3,036	3,036
Total	12,500	13,255	14,858	16,030	17,840	19,624

**Table 8a - Single Dry Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	13,250	14,050	15,749	16,992	18,910	20,801
Supply						
MWD	8,250	7,550	9,249	10,492	12,410	14,301
CDWC	5,000	6,500	6,500	6,500	6,500	6,500
Total	13,250	14,050	15,749	16,992	18,910	20,801

**Table 8b - Single Dry Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	13,250	14,050	15,749	16,992	18,910	20,801
Supply						
MWD	10,214	11,014	12,713	13,956	15,874	17,765
CDWC	3,036	3,036	3,036	3,036	3,036	3,036
Total	13,250	14,050	15,749	16,992	18,910	20,801

**Table 9a - Multiple Dry Year Supply Assessment**

2010 Assessment			
Description	2010	2011	2012
Total Demand	14,050	14,893	15,787
Supply			
MWD	7,550	8,393	9,287
CDWC	6,500	6,500	6,500
Total Supply	14,050	14,893	15,787
2015 Assessment			
Description	2015	2016	2017
Total Demand	15,749	16,694	17,696
Supply			
MWD	9,249	10,194	11,196
CDWC	6,500	6,500	6,500
Total Supply	15,749	16,694	17,696
2020 Assessment			
Description	2020	2021	2022
Total Demand	16,992	18,011	19,092
Supply			
MWD	10,492	11,511	12,592
CDWC	6,500	6,500	6,500
Total Supply	16,992	18,011	19,092
2025 Assessment			
Description	2025	2026	2027
Total Demand	18,910	20,045	21,248
Supply			
MWD	12,410	13,545	14,748
CDWC	6,500	6,500	6,500
Total Supply	18,910	20,045	21,248

**Table 9b - Multiple Dry Year Supply Assessment**

2010 Assessment			
Description	2010	2011	2012
Total Demand	14,050	14,893	15,787
Supply			
MWD	11,014	11,857	12,751
CDWC	3,036	3,036	3,036
Total Supply	14,050	14,893	15,787
2015 Assessment			
Description	2015	2016	2017
Total Demand	15,749	16,694	17,696
Supply			
MWD	12,713	13,658	14,660
CDWC	3,036	3,036	3,036
Total Supply	15,749	16,694	17,696
2020 Assessment			
Description	2020	2021	2022
Total Demand	16,992	18,011	19,092
Supply			
MWD	13,956	14,975	16,056
CDWC	3,036	3,036	3,036
Total Supply	16,992	18,011	19,092
2025 Assessment			
Description	2025	2026	2027
Total Demand	18,910	20,045	21,248
Supply			
MWD	15,874	17,009	18,212
CDWC	3,036	3,036	3,036
Total Supply	18,910	20,045	21,248

**Response to Comment 31-9**

The City of Brea has provided water service to the Birch Hills Golf Course for 35 years. The 2002 Water Master Plan Update (WMPU), Table 4-4 (Large Single-Location Water Users) identifies the existing average water demand for the golf course to be 203.4 acre-feet per year (afy). The proposed project overlays this golf course; therefore, the existing golf course demand offsets the estimated project demands by a like amount when considering additional water supply for the project. This reduces the project additional water demand from 1,224 afy to 1,022 afy. Table 2 of the WSA has been revised accordingly, as presented below.

It should be noted that the City received a letter dated February 26, 2007 from Hunsaker & Associates, which estimated the project's increase in water demand at less than half of the conservative amount used in the WSA. A copy of that letter is included in Appendix E to this Responses to Comments document.

The business points of the development agreement between the project developer and the City had not been established when the WSA was published in March

2006. As part of the agreement, the developer will transfer 350 shares of CDWC stock through dedication, will sell the City 100 more shares of stock to cover golf course demand, and will agree to sell to the City one half of its remaining stock in the amount of 375 shares. Accordingly, the agreement will result in the transfer to the City of a total of 825 shares of CDWC stock, which provides the City an increased supply of water and will more than offset the project's total additional water demand. The WSA states that each share is equal to 1.4325 afy and, therefore, 825 shares equals 1,181 afy. This additional supply provides more than a direct offset to the project's additional water demand, reducing it to 0 with a cushion of 159 afy. This calculation is based on a conservative estimate of the amount of water represented by 1 share of CDWC stock. That amount fluctuates in accordance with the Operating Safe Yield established annually by the Upper San Gabriel Basin Watermaster. Most recently, the amount so established resulted in rights to produce water amounting to 1.9 afy per share, thus increasing the amount in excess of the project's additional demand which will result from the City's imminent acquisition of CDWC shares from the developer.

**Revised Table 2 – Additional Water Demand Summary**

Planning Area	Land Use	Area (acres)	Dwelling Units (du)	Water Use Factor	Units	Water Demand	
						(gpd)	(afy)
<b>La Florista Village</b>							
1	Residential-High Density	6.8	99	600	gpd/unit	59,400	67
2	Residential-Medium Density	13	65	800	gpd/unit	52,000	58
3	Residential-Medium Density	12.1	107	800	gpd/unit	85,600	96
4a	Residential-High Density	4.3	56	600	gpd/unit	33,600	38
4b	Residential-High Density	2.7	35	600	gpd/unit	21,000	24
5	Village Core <sup>(1)</sup>						
	Residential-High Density	10.6	192	600	gpd/unit	115,200	129
	Commercial	7		3,000	gpd/acre	21,000	24
6	Residential-Medium Density	4.6	23	800	gpd/unit	18,400	21
7	Residential-High Density	10	150	600	gpd/unit	90,000	101
8	Residential-Medium Density	16.2	98	800	gpd/unit	78,400	88
9	Residential-Very High Density	7	200	600	gpd/unit	120,000	134
10	Residential-Medium Density	21	105	800	gpd/unit	84,000	94
11	Public Facility	5.3		2,300	gpd/acre	12,190	14
subtotal =						790,790	888
<b>Birch Hills Golf Course</b>							
12a	Residential-Very High Density	4.7	115	600	gpd/unit	69,000	77
12b	Residential-High Density	11	132	600	gpd/unit	79,200	89
13	Open Space-Golf Course	75.6		2,000	gpd/acre	151,200	169
	Community Center	0.5		3,000	gpd/acre	1,500	2
	Club House (existing)	0.1		3,000	gpd/acre	300	0
subtotal =						301,200	337
<sup>(2)</sup> Existing Birch Hills Golf Course water demand =						-181,537	-203
subtotal =						119,663	134
Total		210.3	1377			910,453	1,022
<b>Offset - 825 Shares of CDWC Stock</b>						-1,054,600	-1181
<b>TOTAL WATER DEMAND SUBJECT TO WSA REVIEW</b>						<b>0</b>	<b>0</b>

<sup>(1)</sup> Floor Area Ratio 1.1 total land area is 16 acres

<sup>(2)</sup> Water Master Plan Update, 2002: Table 4-4

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May 23, 2007  
Page 3

Beyond the above-described concerns about the WSA, the Draft EIR contains some glaring omissions and deficiencies, as follows:

- With respect to air quality, the Draft EIR should have included an analysis applying the localized significance thresholds from the South Coast Air Quality Management District. The failure to conduct this analysis may mask a potential significant impact and is particularly problematic given the proposed Project’s proximity to residential uses, the large amount of construction activity required, and the inclusion within the Project of over one thousand new dwelling units. 31-10
- Regarding Traffic and Circulation, the Draft EIR exhibits various inaccuracies and deficiencies including the following:
  - The forecasted net trips and traffic impacts for the Project found in Table 5.12-4 on page 5.12-20 of the Draft EIR are flawed because the calculation is based on peak hour and daily trip values associated with the prior light industrial land use on the site, and under CEQA, the evaluation of a proposed project should be made based on the status of the site at the time of the issuance of the Notice of Preparation (“NOP”) for the Draft EIR. Here, the NOP was issued on December 19, 2005 while the Draft EIR indicates that a demolition permit for existing uses on the site was issued in March 2005, with work completed in April 2006. Though the extent of the demolition completed at the time of the NOP is not stated in the Draft EIR, based on the time frame, it is unlikely that any of the prior land use could have been reoccupied on the date of the issuance of the NOP. As such, the peak hour and daily trips associated with the prior land use cannot be employed to establish the “net” trips associated with the proposed Project. Thus, to properly evaluate the proposed Project, no trip generation credits should be given for the prior use of the site. 31-11
  - An improper baseline was used to evaluate the traffic conditions at Rose Drive and Imperial Highway in Table 5.12-2 on page 5.12-4, as this evaluation was based on conditions recorded in July 2005, five months before the NOP was issued, and a time period that is distinct from that used in the Draft EIR to evaluate traffic conditions at other intersections. Regarding this critical Project intersection at Rose Drive and Imperial Highway, the Draft EIR also incorrectly assumes roadway improvements will be constructed at the location, which is under the City of Placentia’s jurisdiction. Because the City of Brea has no jurisdiction at that location, it cannot assure that the City of Placentia will construct the additional lanes described in the Draft EIR before Year 2012, and thus, the Draft EIR must reevaluate future operating conditions at this intersection in peak traffic hours without these additional lanes. 31-12
  - The Draft EIR also makes flawed trip distribution assumptions, by only analyzing the access driveways associated with the prior land use and failing to discuss the additional access driveways proposed for the Project. Moreover, the percentages shown for the trip distribution in the immediate vicinity of the Project do not add up to 100%, which results in an erroneous evaluation of the traffic impacts at Rose Drive and Imperial Highway. 31-13
  - There are discrepancies between the land use quantities (e.g., residential dwelling unit counts) shown in the Project Characteristics section (“Section 4”) and the Traffic and Circulation section (“Section 5”) of the Draft EIR. The supporting technical traffic 31-14

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**Response to Comment 31-10**

Rough grading of the majority of the La Floresta Village site, which would be the major generator of construction-related air quality impacts, was completed during the demolition of structures and other improvements that previously occupied the site. These activities were addressed by the City of Brea in a separate review and permitting process completed prior to the initiation of the EIR process. The EIR, however, incorporates analysis of grading activities using the Air Resources Board URBEMIS2002 computer model, which assumes simultaneous heavy construction on 42.5 acres at some point during the build-out lifetime of the project. Consequently, the construction-related air quality impacts identified in the DEIR are considered to be a conservative estimate of actual impacts.

The air quality analysis contained in Section 5.3 of the DEIR complies with methodology established by the South Coast Air Quality Management District (SCAQMD) in the most recent edition of its "The CEQA Air Quality Handbook," including all pertinent significance thresholds. The DEIR has concluded that construction-related air quality impacts will be significant and has recommended all feasible control measures as required by SCAQMD Rule 403. Further, as a responsible agency, the SCAQMD received and reviewed a copy of the DEIR during the public review period. No comments from the SCAQMD were received in return. The project applicant will be required to comply with all construction related control measures, which will be contained in the project Mitigation Monitoring Program.

**Response to Comment 31-11**

The comment is incorrect in asserting that trip credits were given for the then existing uses on the La Floresta Village site. While the referenced Table on page 2-2 of the Draft EIR summarizes the uses on the site at that time (for informational purposes), the traffic analysis does not take such credit. The Tri-City Traffic Model (TCTM) used for producing traffic forecasts utilizes the full trip generation for the La Floresta Village project site. This is in accordance with standard traffic modeling procedures whereby each traffic zone has a buildout level of land use allocated to it. Hence, the full buildout cumulative analysis assumes the full trip generation from the proposed uses on the project site. As such in this context, the question of existing uses on the site is irrelevant, and the traffic forecasts in the traffic study correctly provide long-range forecasts for full buildout of the La Floresta Village project and the surrounding area as discussed in the methodology assumptions contained in Section 5.12 and Appendix J of the Draft EIR. Therefore, the correct project baseline was utilized in the Draft EIR analysis.

**Response to Comment 31-12**

The existing conditions presented in the traffic report (Appendix J of the DEIR) contain count data primarily from Fall 2005 and a single count taken in July 2005 for the intersection of Rose Drive at Imperial Highway. Further, there is no evidence to suggest that conditions substantially changed between July 2005 and when the Initial Study for the project was released in December 2005. The July count was

balanced to match the upstream/downstream flows so that the data was consistent with the Fall 2005 counts for this area. Furthermore, the roadway improvements assumed at this intersection represent Smart Street improvements, consisting of construction of additional lanes, that are estimated to be completed by early 2008 (source: Warren Siecke, Traffic Engineer for City of Placentia).

### **Response to Comment 31-13**

The trip distribution for the La Floresta Village development project assumed the proposed driveway access points on Valencia Avenue and Imperial Highway. The actual directional distribution was derived from the TCTM as discussed in the traffic report. The long-range forecasts identify the distribution of project trips on the surrounding street system, and any reference to existing access driveways is irrelevant with respect to those forecasts. No project access is assumed on Rose Drive, and the trip distribution estimates any project trips that would use Rose Drive, recognizing that such trips are from project driveways on either Valencia Avenue or Imperial Highway. The trip distribution has nine percent of the total trip distribution as internally captured trips due to the mix of commercial and residential land uses within the traffic analysis zones (this percentage is derived by the traffic model).

### **Response to Comment 31-14**

Table 4.2-1 contained in Section 4.2-2 of the Draft EIR indicates that the total number of dwelling units planned on the La Floresta Village site is 1,088 dwelling units, as does Table 5.12-4, contained in Section 5.12 - Traffic and Circulation. The density mix illustrated is, however, different as the commenter has noted. Discrepancies are noted in the table below. The project, as is typical of all development projects, evolved over time and in response to public input. The residential development mix was adjusted on the La Floresta Village site toward more lower density housing as shown. According to the project traffic engineer, the changes in density classifications could result in a slight increase to the project trip generation. However, the trip generation estimated in the Draft EIR does not take into account the lower trip generation associated with the planned senior living facility on the La Floresta Village site. Given that the proposed La Floresta Village project contains 200 units in this facility, the overall change in the project trip generation would be minimal. (The AM peak hour trip rate for age-qualified housing is one-third that of regular housing according to the Institute of Transportation Engineers Trip Generation Manual, as noted in Response to Comment #9-1.)

<b>Comparison of Residential Dwelling Unit Mix La Floresta Village</b>			
	<b>Table 4.2-1</b>	<b>Table 5.12-4</b>	<b>Difference</b>
Low Density	291 DU	-0-	+291 DU
Medium Density	447 DU	398 DU	-49 DU
High Density	200 DU	540 DU	-340 DU
Mixed Use Residential	150 DU	150 DU	-0-
<b>Total</b>	<b>1,088 DU</b>	<b>1,088 DU</b>	<b>n.a.</b>
<b>Birch Hills</b>			
	<b>Table 4.2-1</b>	<b>Table 5.12-4</b>	
Medium Density	132 DU	-0-	+132
High Density	115 DU	247 DU	-132
<b>Total</b>	<b>247 DU</b>	<b>247 DU</b>	

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analysis for the Draft EIR (“Traffic Study”) employs the land use quantities represented in Section 5 of the Draft EIR, creating a mismatch with the values shown in Section 4 and resulting in a Traffic Study that does not accurately evaluate the Project.

31-14  
cont'd

- The Draft EIR (and its supporting Traffic Study) significantly underestimates peak hour and daily trips that will be generated by the Project due to several errors in its calculation scheme, including the use of land use quantities that do not match the information provided in Section 4 of the Draft EIR (as previously mentioned), the use of a single blended trip rate for retail and office land uses in forecasting peak hour and daily trips, and the omission of trip rates for low density residential land use. As retail, office, and low density residential uses have very different trip characteristics, separate generation rates should have been employed to make an accurate traffic forecast. When distinct trip rates for these three uses (as provided by the Institute of Transportation Engineers) are employed, the projected traffic from the corrected trip generation forecasts will undoubtedly create additional traffic impacts at the intersections in the Project, and may even result in additional impacts to other elements addressed by the Draft EIR, such as air quality.

31-15

- Based on the projected peak hour trips generated by the Project, and in accordance with the recommended practice for study area limits for transportation impact analyses propounded by the Institute of Transportation Engineers (“ITE”), the traffic analysis study area used for the Project in the Draft EIR should be expanded. The ITE recommends that, where a development would generate more than 500 peak hour trips, all signalized intersections within 2 miles and all major unsignalized intersections within 1 mile of the Project property line should be evaluated. Even with the faulty methodology used to forecast peak hour trips, the Draft EIR indicates that the La Floresta site alone would generate 552 AM peak hour trips and 980 PM peak hour trips. Though the Draft EIR does evaluate a number of major signalized intersections in the cities of Brea and Placentia between 1 and 2 miles from the Project, the Draft EIR only evaluates one intersection ¼ of a mile from the Project site to the east and south in the City of Yorba Linda. This is inconsistent with the ITE recommended practice, and leads to inaccuracies in the analysis found in the supporting Traffic Study. That is, though the Draft EIR only evaluates one intersection in Yorba Linda, the Traffic Study distributed 31 percent of the trips associated with the Project to roadways in Yorba Linda, including 20 percent to Imperial Highway and 11 percent to Rose Drive. Thus, for consistency with the extent of the area studied in the cities of Brea and Placentia, for consistency with the manner in which the Traffic Study assigned project trips, and to meet the standard for recommended transportation impact analyses suggested by the ITE, the traffic analysis study area must be expanded into Yorba Linda. In particular, the following signalized intersections in Yorba Linda should be evaluated: Imperial Highway and Prospect Avenue; Imperial Highway and Bastanchury Road; Imperial Highway and Valley View Avenue; Yorba Linda Boulevard and Rose Drive; and Imperial Highway and Yorba Linda Boulevard.

31-16

- The Draft EIR must require the implementation of all feasible mitigation measures and include a mitigation monitoring program to ensure the effectiveness of its

31-17

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### Response to Comment 31-15

A detailed discussion of trip generation rates used in the traffic analysis can be found in Response to Comment 9-2, in response to the first letter from the City of Yorba Linda. This response gives a clear description of how traffic model rates pertain to trips on the roadway system whereas ITE rates are driveway counts. Three simple but obvious examples are as follows:

Linked Trip	Traffic Model Trip Ends	ITE Trip Ends
Neighborhood carpool pick-up	1	3
Neighborhood school pupil pick-up	1	3
Grocery/Convenience store pick-up	1	3

Hence, as far as trips on the roadway system are concerned, the ITE rates would over-estimate the traffic by a factor of three. The model validation process carried out in the preparation of the TCTM addresses "linked trips" and other related issues, and ensures that the traffic model provides a realistic forecast of trips on the roadway network. It is the City's opinion that the TCTM model is more representative of local real world conditions than relying on standard ITE generation rates.

### Response to Comment 31-16

A detailed discussion of this is given in Response to Comment 9-1 in response to the first letter from the City of Yorba Linda.

### Response to Comment 31-17

The Final EIR will incorporate a Mitigation Monitoring Program as required by CEQA. Section 15126.4 of the CEQA Guidelines directs that environmental impact analysis identify all feasible mitigation measures that could minimize significant adverse impacts. EIRs must also indicate the level of significance of impacts both before and after required mitigation measures. Section 5.12 – Traffic and Circulation, and all other impact sections, state these conclusions. All Year 2012 traffic mitigation measures are shown in Table 5.12-10 in the Draft EIR. Table 5.12-11 in the Draft EIR lists deficient intersections and shows the Level of Service (LOS) with and without the proposed improvements in Year 2012 and 2025, and indicates that the proposed improvements will result in acceptable levels of service at each improvement location, with the exception of Placentia Ave/Bastanchury Road and Kraemer Blvd/Bastanchury Road. Year 2012 mitigation at Kraemer Blvd/Bastanchury is logically assumed to be implemented (constructed) before ultimate build-out in Year 2025. As stated in the DEIR, mitigation at this intersection and at Placentia Ave/Bastanchury Rd. does not allow the intersections to reach an acceptable level of service, but it does mitigate the Project impact and the project's portion of the cumulative impact.

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proposed mitigation for the significant impacts from the Project. The mitigation monitoring program should clearly identify financing, scheduling, implementation responsibilities, and the lead agency monitoring the Project. Furthermore, mitigation of Year 2012 and cumulative project traffic impacts can only be achieved through the actual construction of the recommended mitigation measures; thus, until the improvements are actually in place, the Draft EIR must characterize the traffic impacts of the Project as *significant and unmitigated*.

31-17  
cont'd

- Under Hazards, the Draft EIR did not address the thresholds dealing with the routine transport, use or disposal of hazardous materials, being included on a list of hazardous materials sites pursuant to Government Code section 65962.5, interfering with an adopted emergency response plan, or wildland fire hazards. The EIR states that the NOP determined that these impacts were less than significant or “no impact.” However, these impacts should have been discussed in the Draft EIR. The risk of wildland fires is illustrative of this problem, in that the Project site appears to be at the edge of open space areas.
- Under Noise, the Draft EIR should have evaluated groundborne vibration impacts, especially given the breadth of grading and excavation during construction needed for the proposed Project.
- With regard to alternatives, only one build alternative was assessed (a reduced density alternative). The Draft EIR should have considered an alternative use alternative for the two sites, as well as an offsite alternative.

31-18

31-19

31-20

Thank you for consideration of our comments and your cooperation. As indicated in our prior comment letter, we request regular updates as to the status of the proposed Project and notice as to all actions to be taken in regards to the proposed Project, to the following address:

31-21

Sonia R. Carvalho  
Jamie L. Raymond  
5 Park Plaza, Suite 1500  
Irvine, CA 92614  
Telephone: (949) 263-2600  
Fax: (949) 260-0972.

ORANGEJRAYMOND\35738.3

**Response to Comment 31-18**

The topics listed by the commenter, including the routine transport, use or disposal of hazardous substances, listing of either of the Project sites on government list of hazardous materials sites pursuant to *Government Code* §65962.5, interference with an adopted emergency response plan, and wildland fire hazards, were scoped out of the EIR in the Notice of Preparation/Initial Study process. (See Appendix B to the Draft EIR.) With the exception of wildland fires, the commenter offers no explanation or supporting rationale as to why these impacts should have been addressed in the DEIR. The City of Yorba Linda was included in the distribution of the NOP and Initial Study and did not submit any comments in response.

With respect to wildland fire hazard potential, the commenter notes that the La Floresta Village site “appears to be on the edge of open space.” The “open space” most proximate to the site has historically been occupied by agricultural row crops directly east of Rose Drive and beyond that is occupied by Carbon Canyon Regional Park, a county facility, that contains both scrub and riparian habitat areas. Although these areas have been indicated as high fire hazard areas in the General Plan Public Safety Element, there are no special requirements for development of land adjacent to such areas. The Brea Fire Department has been involved in all stages of project review as well as internal review of the Draft EIR prior to public release. All suitable fire protection measures have been taken by the City of Brea with respect to the proposed Project.

**Response to Comment 31-19**

Groundborne vibration is primarily generated by heavy construction that involves activities such as pile driving or land uses such as railroads and airports. As has been stated in response to prior comments, only finish grading which will occur in phases remains to be done on the La Floresta Village site. In addition, excavations will be limited primarily to parking garages located in Planning Areas 5 and 9, and are not anticipated to involve more than one subterranean level. No high-rise construction that would require pile driving is proposed within the La Floresta Village project. Groundborne vibration was scoped out of the EIR in the Notice of Preparation/Initial Study process for these reasons. The City of Yorba Linda was included in the distribution of the NOP and Initial Study and did not submit any comments in response.

**Response to Comment 31-20**

Please refer to Response to Comment 9-6, in response to the first letter submitted by the City of Yorba Linda.

**Response to Comment 31-21**

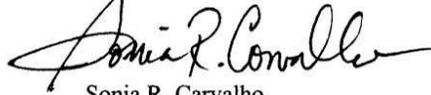
Comment noted. No CEQA issue with respect to the adequacy of the Draft EIR is raised. No further response is necessary.

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May 23, 2007  
Page 6

We look forward to your continued correspondence in regards to this matter.

Sincerely,



Sonia R. Carvalho  
of BEST BEST & KRIEGER LLP  
City Attorney  
City of Yorba Linda

cc: Tamara S. Letourneau, City Manager  
Kurt Christiansen, Community Development Director  
Adrienne Gladson, Brea City Planner  
David Crabtree, Brea City Planner

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**Attachment A to Letter 31 - Best, Best & Krieger LLP on behalf of the City of Yorba Linda**

February 8, 2007

Mr. Tony L. Wang, PE  
Traffic Engineering Manager  
City of Yorba Linda  
4845 Casa Loma Avenue  
Yorba Linda, California 92885-8714

**SUBJECT: Draft Environmental Impact Report (Draft EIR) for the Proposed La Floresta Development Proposal in the City of Brea – Review Comments**

Dear Mr. Wang:

As you authorized on January 22, 2007, portions of the December 4, 2006 Draft Environmental Impact Report (Draft EIR) prepared by Conexus for the proposed La Floresta Development Proposal in the City of Brea have been reviewed. The November 1, 2006 Traffic Study prepared by Austin-Foust Associates, the supporting technical traffic analysis for the Draft EIR, has also been reviewed.

In addition to supporting the issues and concerns expressed in your January 4, 2007 memorandum, this letter summarizes various other errors and deficiencies identified during review of these documents for the proposed project as follows:

- 1) Faulty Trip Generation Credits for La Floresta Site – Page 2-2 of the Draft EIR indicates the Notice of Preparation (NOP) for the Draft EIR was issued on December 19, 2005. Page 3-17 of the Draft EIR indicates the City of Brea had approved a demolition permit for the existing uses on the La Floresta site in March 2005 and that demolition was completed in April 2006. Table 5.12-1 on Page 5.12-3 of the Draft EIR identifies 294,000 square feet of light industrial space on the La Floresta site and indicates this use generated 270 AM peak hour, 288 PM peak hour, and 2,049 daily trips. These peak hour and daily trips associated with the prior light industrial land use on the site were then deducted in Table 5.12-4 on Page 5.12-20 of the Draft EIR to forecast trips and to evaluate traffic impacts for the proposed project.

It is my understanding that the California Environmental Quality Act (CEQA) requires evaluation of the proposed project at the time of the NOP. Here, the prior use was being demolished under a permit issued nine months prior to the NOP and the demolition was completed four months after the NOP. While the extent of the demolition at the time of the NOP is not stated in the Draft EIR, about 75 percent of the time had elapsed between the issuance of the demolition permit and the completion of this effort. Based upon that timing, it is very unlikely that any of the prior land use could have been reoccupied on December 19, 2005. As a result, all peak hour and daily trips associated with the prior land use cannot be deducted to establish and evaluate “net” trips

31A-1

**Responses to Attachment A to Letter 31**  
**Tom Brohard and Associates, to Mr. Tony L. Wang,**  
**Traffic Engineering Manager,**  
**City of Yorba Linda,**  
**February 8, 2007**

*(Note: this letter is not signed.)*

**Response to Comment 31A-1**

Please see Response to Comment 31-11.

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**La Floresta Development Proposal Draft EIR Traffic Comments**  
**February 8, 2007**

associated with the proposed project. To properly evaluate the proposed project, no trip generation credits can be given for the prior use on the site.

31A-1  
cont'd

2) Improper Baseline Counts for Rose Drive and Imperial Highway – Table 5.12-2 on Page 5.12-4 of the Draft EIR identifies the existing operating conditions in the Traffic Study area. This table shows traffic counts at Rose Drive and Imperial Highway were made in July and all other intersections were counted in either October or November 2005. Summer counts at Rose Drive and Imperial Highway introduce seasonal variations and fluctuations compared to the traffic counted at all other intersections during October and November. Traffic volumes recorded at Rose Drive and Imperial Highway in the summer, five months before the NOP was issued, cannot be relied upon as a proper baseline for the evaluation of conditions at this important CMP intersection.

31A-2

3) Flawed Trip Distribution Assumptions – Exhibit 3.4-1 on Page 3-10 of the Draft EIR shows the former land uses on the La Floresta site, and Exhibit 3.4-2 on Page 3-12 of the Draft EIR identifies the access driveways associated with the prior land use. In contrast, Exhibit 4.2-1 on Page 4-6 of the Draft EIR provides a concept drawing for development of the La Floresta site. This exhibit identifies four driveway access points on Imperial Highway east of Valencia Avenue and three driveway access points on Valencia Avenue north of Imperial Highway. However, Figure 14 on Page 44 of the Traffic Study identifies the proposed lane configurations and traffic control at only the two access driveways to Imperial Highway associated with the former land use.

31A-3

The Traffic Study has omitted two of the proposed access driveways shown in the Draft EIR conceptual plan on the north side of Imperial Highway east of Valencia Avenue. This error understates trip distribution on Imperial Highway to and from the most intense land uses proposed on the La Floresta site in Planning Areas 5, 7 and 9. (Table 4.2-1 on Page 4-3 of the Draft EIR indicates Planning Area 5 has 150 residential units and 156,800 square feet of retail/commercial use, Planning Area 7 has 150 medium density residential units, and Planning Area 9 has 200 high density residential units.) Finally, the percentages shown for the trip distribution in the immediate area of the La Floresta site in Exhibit 5.12-1 on Page 5.12-8 of the Draft EIR add to only 92 percent rather than 100 percent. These flaws result in an erroneous evaluation of traffic impacts at Rose Drive and Imperial Highway and provide an inappropriate basis to evaluate project impacts in the City of Yorba Linda.

4) Land Use Quantity Discrepancies – Table 4.2-1 on Page 4-3 in the Project Characteristics Section of the Draft EIR identifies the land uses and quantities for the twelve Planning Areas on the La Floresta site. Table 4.2-2 on Page 4-75 in the Project Characteristics Section of the Draft EIR identifies the land uses and quantities for the three Planning Areas on the Birch Hills site. Table 5.12-4 on Page 5.12-20 in the Traffic and Circulation Section of the Draft EIR

31A-4

**Response to Comment 31A-2**

Please see Response to Comment 31-12.

**Response to Comment 31A-3**

Please see Response to Comment 31-13.

**Response to Comment 31A-4**

Please see Response to Comment 31-14.

**Mr. Tony L. Wang**  
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**February 8, 2007**

summarizes the land uses and the quantities on each site to forecast peak hour and daily trips associated with the proposed project. In comparing these tables, the following discrepancies in land use quantities were identified:

Land Use Discrepancies

La Floresta Site

<u>Land Use Type</u>	<u>Project Characteristics Section 4</u>	<u>Traffic/Circulation Section 5.12</u>
Low Density Residential	291 Dwelling Units	0 Dwelling Units
Med. Density Residential	447 Dwelling Units	398 Dwelling Units
High Density Residential	200 Dwelling Units	540 Dwelling Units

Birch Hills Site

<u>Land Use Type</u>	<u>Project Characteristics Section 4</u>	<u>Traffic/Circulation Section 5.12</u>
Med. Density Residential	132 Dwelling Units	0 Dwelling Units
High Density Residential	115 Dwelling Units	247 Dwelling Units
Community Center	20,000 to 25,000 Sq. Ft.	20,000 Sq. Ft.

While the Traffic Study used the land use quantities in Section 5.12 of the Draft EIR, these do not match those in Section 4 of the Draft EIR. By using erroneous land use quantities, the Traffic Study has not correctly evaluated or analyzed the proposed project.

- 5) Inappropriate Trip Generation Rates – Table 5.12-4 inappropriately uses one blended trip generation rate for the Village Core Area of the La Floresta site. Note 1 to this table indicates this area includes 111,300 square feet of retail use and 45,500 square feet of office use. As retail and office uses have very different trip characteristics, separate generation rates for these two different land uses must be utilized to properly forecast peak hour and daily trips. The trip rates for these two uses should also be calculated from the equations developed from the ITE database to account for higher trip rates per thousand square feet associated with smaller than average land use quantities. Further, Table 5.12-4 omits trip rates for low density residential. The trip rates below were calculated from the ITE database and have been used in the following section to correct the peak hour and daily trips for the proposed project:

<u>Land Use Type</u>	<u>ITE Code</u>	<u>AM Peak</u>	<u>PM Peak</u>	<u>Daily</u>
Low Density Residential	210	0.75	1.01	9.57
Retail (Shopping Center)	820	1.03	6.04	65.42
Office (General Office)	710	2.20	2.85	15.99

31A-4

31A-5

**Response to Comment 31A-5**

Please see Response to Comment 31-15.

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6) Corrected Trip Generation Forecast – As noted above, the land use quantities utilized to forecast trips in Section 5.12, Traffic and Circulation, do not match the information in Section 4, Project Characteristics. A single blended trip rate for retail and office land uses does not correctly forecast trips from these distinctly different traffic generators. As a result of these and other errors, the Draft EIR and the Traffic Study have significantly underestimated peak hour and daily trips that will be generated by the proposed project as follows:

31A-6

Corrected Trip Generation Forecasts  
And Resulting Underestimated Trips

		<u>La Floresta Site</u>		
		<u>Trips</u>		
<u>Land Use Type</u>	<u>Quantity</u>	<u>AM</u>	<u>PM</u>	<u>Daily</u>
Low Density Residential	291 DU	218	294	2,785
Med. Density Residential	447 DU	282	362	3,621
High Density Residential	200 DU	102	124	1,326
Mixed Use Residential	150 DU	77	93	995
Retail (Shopping Center)	111.3 KSF	167	672	7,280
Office (General Office)	45.5 KSF	100	130	728
<b>Subtotal</b>		<b>946</b>	<b>1,675</b>	<b>16,735</b>
Less Credit for Existing Demolished Use		0	0	0
<b>Less Traffic Study Forecast</b>		<b>552</b>	<b>980</b>	<b>10,887</b>
<b>La Floresta Site Underestimated Trips</b>		<b>394</b>	<b>695</b>	<b>5,848</b>

		<u>Birch Hills Site</u>		
		<u>Trips</u>		
<u>Land Use Type</u>	<u>Quantity</u>	<u>AM</u>	<u>PM</u>	<u>Daily</u>
Med. Density Residential	132 DU	83	107	1,069
High Density Residential	115 DU	59	71	762
Community Center	25 KSF	41	41	572
<b>Subtotal</b>		<b>183</b>	<b>219</b>	<b>2,403</b>
<b>Less Traffic Study Forecast</b>		<b>159</b>	<b>186</b>	<b>2,096</b>
<b>Birch Hills Site Underestimated Trips</b>		<b>24</b>	<b>33</b>	<b>307</b>

		<u>Total Project (Both Sites)</u>		
		<u>Trips</u>		
<u>Component</u>		<u>AM</u>	<u>PM</u>	<u>Daily</u>
La Floresta Project Site		394	695	5,848
Birch Hills Project Site		24	33	307
<b>Total Project Underestimated Trips</b>		<b>418</b>	<b>728</b>	<b>6,155</b>

As shown above, the Draft EIR and the Traffic Study have significantly underestimated peak hour and daily trips that will be generated by the proposed project. When the trip generation forecasts are corrected, project

**Response to Comment 31A-6**

As noted in the Response to Comment #9-1, in response to the first letter submitted by the City of Yorba Linda, the trip generation rates are derived for modeling purposes and applied to the City of Brea. No credit was taken for existing demolished uses because the traffic model used the full project land uses in estimating long-range traffic forecasts. Hence, the information presented in this comment is irrelevant and incorrect with respect to suggesting the different trip generation should be used in the long-range traffic forecasts for the La Floresta project. See also Response to Comment #31-14 above.

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**February 8, 2007**

traffic will undoubtedly create a number of additional significant traffic impacts at intersections in the area. Further, the additional daily trips forecast for the project may result in additional significant impacts in other areas addressed by the Draft EIR such as air quality. Each of the resulting significant impacts must be disclosed, evaluated, analyzed and mitigated in the Draft EIR.

31A-6  
 cont'd

- 7) Inappropriate Study Area Limits – In 2006, the Institute of Transportation Engineers published Transportation Impact Analyses for Site Development, An ITE Proposed Recommended Practice. Table 2-3 on Page 10, Suggested Study Area Limits for Transportation Impact Analyses, indicates the study area should include “All signalized intersections and freeway ramps within 2 miles of a property line, and all major unsignalized access (streets and driveways) within 1 mile of a property line of the site” for a development that would generate more than 500 peak hour trips. Even with the faulty methodology used to forecast peak hour trips, the Draft EIR indicates the La Floresta site alone would generate 552 AM peak hour trips and 980 PM peak hour trips. Even these forecasts which exceed the ITE threshold of 500 trips in both peak hours require expansion of the study area as identified above.

31A-7

The study area used for the proposed project in the Draft EIR includes traffic analyses at the SR-57 Freeway ramps and Imperial Highway 2 miles west of the La Floresta site. A number of other major signalized intersections in the Cities of Brea and Placentia between 1 and 2 miles from the proposed project were also evaluated. However, to the east and south in the City of Yorba Linda, the Draft EIR chose to evaluate only one intersection, Bastanchury Road and Rose Drive located within ¼ mile of the La Floresta site. At the same time, the Traffic Study distributed 31 percent of the trips associated with the La Floresta site to roadways in the City of Yorba Linda including 20 percent to Imperial Highway and 11 percent to Rose Drive. In addition, six percent of the trips associated with the Birch Hills site were assigned to Imperial Highway in the City of Yorba Linda.

Merely for consistency with the area already studied in the Cities of Brea and Placentia, the traffic analyses study area must be expanded into the City of Yorba Linda. According to ITE, all signalized intersections within 2 miles and all major unsignalized intersections within 1 mile of the project property line should be evaluated. Within the City of Yorba Linda, signalized intersections to be evaluated include Imperial Highway and Prospect Avenue, Imperial Highway and Bastanchury Road, Imperial Highway and Valley View Avenue, and Yorba Linda Boulevard and Rose Drive. With the high percentage of project trips assigned to Imperial Highway, the Traffic Study must also evaluate the intersection of Imperial Highway and Yorba Linda Boulevard.

- 8) Incorrect Assumptions for Imperial Highway/Rose Drive – The Draft EIR incorrectly assumes roadway improvements will be constructed at Imperial

31A-8

**Response to Comment 31A-7**

See Response to Comment #9-1, in response to the first letter submitted by the City of Yorba Linda.

**Response to Comment 31A-8**

As discussed earlier in Response #9-2, in response to the first letter submitted by the City of Yorba Linda, the improvements are the result of the Smart Street improvements for Imperial Highway, and are expected to be completed by mid-2008. The City of Brea is the lead agency for the construction contract.

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Highway and Rose Drive in the City of Placentia. These improvements include a second westbound left turn lane as well as a separate westbound right turn lane. The City of Brea has no jurisdiction at this intersection and can not assure that the City of Placentia will construct the additional lanes before Year 2012. The Draft EIR must reevaluate future operating conditions at this intersection in both peak traffic hours without these additional lanes.

31A-8  
cont'd

9) Mitigation Monitoring Plan Is Required – Mitigation of Year 2012 and cumulative project traffic impacts can only be achieved through actual construction of the recommended mitigation measures including those required in other jurisdictions. Payment of fees to various agencies or payment of the project's fair share of the improvements does not guarantee that these mitigation measures will be built. Until the improvements are actually in place, the Draft EIR must characterize the traffic impacts of the proposed project as **significant and unmitigated**. However, before it reaches this conclusion, the Draft EIR must implement all feasible mitigation. To ensure the effectiveness of its proposed mitigation for significant impacts, the Draft EIR must include a mitigation monitoring program that clearly identifies financing, scheduling, implementation responsibilities, and lead agency monitoring for the proposed project.

31A-9

In sum, there are many transportation and circulation issues associated with the December 2006 Draft EIR prepared for the City of Brea for the La Floresta Development Proposal. The various issues outlined in this letter must be studied and evaluated, and the Draft EIR and the supporting traffic study must be revised as part of the environmental process. If you have questions regarding these comments, please call me at your convenience.

Respectfully submitted,

**Tom Brohard and Associates**

Tom Brohard, PE  
Principal

**Response to Comment 31A-9**

See Response to Comment #31-17.

Letter 32 Department of Transportation

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION

District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894
Tel: (949) 724-2267
Fax: (949) 724-2592

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Rec'd by fax July 13, 2007

July 13, 2007

Adrienne Gladson
City of Brea
1 Civic Center Circle
Brea, California 92821

File: IGR/CEQA
SCH#: 2005121093
Log #: 1668-B
SR-90, SR-142, SR-57

Subject: La Floresta Development Proposal - Traffic Signal Progression & Queuing Analysis for Imperial Highway (SR-90) & Valencia Avenue (SR-142)

Dear Ms. Gladson,

Thank you for the opportunity to review and comment on the Traffic Signal Progression & Queuing Analysis for Imperial Highway (SR-90) & Valencia Avenue (SR-142). The project under consideration involves the development of two-non-contiguous sites in the City of Brea for a total of 1335 dwelling unites at densities ranging from 5.0 du/ac. to 28.5 du/ac., with commercial, office, and recreational uses. Residential mix includes attached and detached dwellings, including portions devoted to senior housing and "workforce" housing as well as live/work housing over commercial/office uses. The first site, which is referred to as La Floresta Village Site, is bounded by Imperial Highway (SR-90) on the south, Valencia Avenue (SR-142) on the west, and Rose Drive on the north and east. The second site, which is referred to as Birch Hills Site, is located on Birch Street southwest of its intersection with Kraemer Boulevard. The nearest State routes to the project sites are SR-90, SR-142, and SR-57.

32-1

Caltrans District 12 is a responsible agency on this project and we have the following comments that were also discussed in our meeting of June 28, 2007 with the City and its consultants:

1. Caltrans Traffic Operations does not concur with the findings of the traffic analysis performed for this project. We also do not concur with the use of signalized intersections at any of the new proposed intersections on SR-90 and SR-142.

32-2

2. Per section 405.5 (2) of the HDM "Median openings at close intervals on other types of highways create interference with fast through traffic. Median openings should be spaced at intervals no closer than 1600" feet. This development is proposing new intersections at "A" Street and "F" Street that are 530' and 550' apart on Valencia (SR-142) and 555' and 890' apart on Imperial. Further, the distance between "R" street and Rose Drive is 716' per the City's proposal. Such deviation will require seeking design exception that will not be supported by Traffic Operations.

32-3

"Caltrans improves mobility across California"

**Responses to Letter 32**  
**State of California**  
**Department of Transportation, District 12**  
**July 13, 2007**

**Response to Comment 32-1**

Comments are noted. No CEQA issues are raised. No further response is necessary.

**Response to Comment 32-2**

The comment notes that Caltrans Traffic Operations "does not concur with the findings of the traffic analysis performed for this project" and also that the agency does not "concur with the use of signalized intersections at any of the proposed intersections on SR-90 (Imperial Highway) and SR-142 (Valencia Avenue)."

Since the receipt of this July 13, 2007 letter from Caltrans, a series of meetings between Caltrans staff, the project proponent, their traffic engineers, and representatives of the City of Brea have occurred to discuss issues raised and seek solutions. On May 12, 2008, a letter was issued by the Branch Chief of Caltrans District 12, Mr. Ryan Chamberlain, outlining improvements that have been agreed to in order to implement the La Floresta Village Project. The May 12, 2008 letter is incorporated in Appendix F of this Responses to Comments document. The following elements have been agreed to:

1. The development will have full signals at the following intersections:
  - Imperial Highway / "F" Street
  - Imperial Highway/ "A" Street
  - Valencia Avenue/ "F" Street, and
  - Valencia Avenue/ "R" Street
2. The intersection of "A" Street and Valencia Avenue will have right turn in and right turn out access. There will be access from SB (southbound) Valencia to "A" Street by means of a left turn in with raised median that goes through the intersection to prohibit left turn movements out of the project from "A" Street.
3. The Developer will add a right turn lane just before "A" Street on westbound Imperial.
4. There will be no need for an acceleration lane on EB (eastbound) Imperial at "A" Street due to this intersection being signalized.
5. New hardware will be installed for the signal at Imperial/Valencia.
6. The Developer will provide dual left turn lanes from eastbound Imperial to "A" Street.

3. Due to intersections close proximity, the progression on the corridor would be adversely impacted as shown in the time space diagrams on Pages A-65 through A-68 (Bandwidths of 0 Sec). 32-4

4. Based on SIM Traffic Arterial Level of Service Reports that were generated from the consultant's Synchro model files for AM 2025, the following are the results summary: 32-5

- a) NB Valencia traffic delay if no project is 96.7 sec/ veh while with project becomes 125.7 sec/ veh.
- b) SB Valencia traffic delay if no project is 109.5 sec while with project is 164.4-sec/ veh.
- c) EB Imperial traffic delay if no project is 57.4 sec while with project is 70.6 sec/ veh.
- d) WB Imperial traffic delay if no project is 123.9 sec while with project is 137.2-sec/ veh.
- e) These are significant impacts on the Arterial delays from this project

5. Based on SIM Traffic Arterial Level of Service Reports that were generated from the consultant's Synchro model files for PM 2025, the following are the results summary: 32-6

- a) NB Valencia traffic delay if no project is 123.7-sec/ veh while with project becomes 121.3-sec/ veh.
- b) SB Valencia traffic delay if no project is 85.8 sec while with project is 101.1-sec/ veh.
- c) EB Imperial traffic delay if no project is 104.0 sec while with project is 172.0-sec/ veh.
- d) WB Imperial traffic delay if no project is 285.0 sec while with project is 343.6-sec/ veh.
- e) These are significant impacts on the Arterial delays from this project

6.) Caltrans first commented on Traffic study/Appendix "J" dated November 2006 and requested the use of HCM methodology in our comment letter dated January 22, 2007. We indicated that the LOS analysis of intersections within State R/W needs to be conducted using HCM method as well as providing Macro-simulation Analysis. We did receive your Macro-Simulation Analysis but did not receive an updated TIS/Appendix "J" with the LOS based on HCM. 32-7

7.) Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3" of the April 2006 Guide for Preparing TIS) on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measure of Effectiveness (MOE) should be maintained. This project using 2025 volumes at Rose & Valencia is Operating with the project at LOS "D" & "F" during AM & PM respectively. On Imperial & Valencia the TIS shows "D" & "C" during AM & PM respectively. While at Imperial & Rose LOS "E" & "F" during AM & PM respectively. These are all beyond the limits indicated in the Guide for Preparing TIS. The new intersections as proposed have an impact not only on major intersection at Rose & Valencia; Valencia & Imperial; Rose & Imperial, but also impact the overall flow on SR-142 and SR-90 corridors. You may look into different alternatives like Right in and Right out or combining accesses and linking it to nearby streets. 32-8

*"Caltrans improves mobility across California"*

The implementation of these changes has been reviewed by the EIR traffic consultant (Austin-Foust Associates) to determine if any of the preceding modifications would in any way substantially affect the conclusions of the EIR traffic analysis. A letter from Austin-Foust is also contained in Appendix F of this Responses to Comments document, concluding that changes outlined “would not affect the conclusions of the EIR Traffic Study”. In addition, the changes outlined have been reviewed by the City of Brea’s traffic engineer and found acceptable.

With the implementation of these modifications and improvements, it is understood that all concerns raised by Caltrans in the July 13, 2007 comment letter have been resolved.

**Response to Comment 32-3**

See Response to Comment #32-2.

**Response to Comment 32-4**

See Response to Comment #32-2.

**Response to Comment 32-5**

See Response to Comment #32-2.

**Response to Comment 32-6**

See Response to Comment #32-2.

**Response to Comment 32-7**

See Response to Comment #32-2 and Comment #2-2.

**Response to Comment 32-8**

See Response to Comment #32-2.

- 8. Depending on the outcome of the location of the new intersections, mitigation for potential impacts to State facilities should be addressed in the DEIR. (Please see Caltrans comment letter dated 1/12/06 comment # 1). 32-9
- 9. Please be prepared to discuss comments in Caltrans letters dated 1/12,06, 1/22/07 and this letter in our upcoming meeting. 32-10
- Please continue to keep us informed of this project and any future developments, which could potentially impact the State Transportation Facilities. If you have any questions or need to contact us, please do not hesitate to call Maryam Molavi at (949) 724-2267. 32-11

Sincerely,



Ryan Chamberlain, Branch Chief  
Local Development/Intergovernmental Review

C: Terry Roberts, Office of Planning and Research

*"Caltrans improves mobility across California"*

**Response to Comment 32-9**

See Response to Comment 32-2.

**Response to Comment 32-10**

See Response to Comment 32-2.

**Response to Comment 32-11**

Coordination with Caltrans is ongoing.

Letter 33 California Regional Water Quality Control Board



California Regional Water Quality Control Board  
Santa Ana Region



Linda S. Adams  
Secretary for  
Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348  
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Arnold Schwarzenegger  
Governor

July 26, 2007

Adrienne J. Gladson  
City of Brea  
Development Services Department  
1 Civic Center Circle  
Brea, CA 92821

**Certified Mail**  
**Return Receipt Requested**



**SUPPLEMENTAL COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT  
NO. 06-01 FOR THE LA FLORESTA DEVELOPMENT PROPOSAL (STATE  
CLEARINGHOUSE NO. 2005121093)**

Dear Ms. Gladson:

On January 4, 2007, Regional Board staff provided comments to you regarding the subject development project. On July 19, 2007, we received an application for Clean Water Act Section 401 Water Quality Standards Certification (Certification) for the La Floresta, Tentative Tract Map No. 16934 (TTM 16934) portion of the proposal. Included in the application are a draft EIR, hydrology report, storm drain improvement plans, portions of the project Storm Water Pollution Prevention Plan (SWPPP), and a conceptual Water Quality Management Plan (WQMP)<sup>1</sup>. After reviewing the application submittals, Regional Board staff is providing the following comments on the draft EIR.

33-1

The provided draft EIR defers mitigating pollutants in discharges of storm water runoff to the later preparation of a WQMP. The Orange County WQMP requires that projects "either incorporate and implement Treatment Control BMPs [best management practices], by including a selection of such BMPs into the project design; or participate in or contribute to an acceptable regional or watershed based program" and that "the combination of Source Control, Site Design, and Treatment Control BMPs or regional or watershed-based programs must adequately address all identified pollutants and hydrologic conditions of concern" (p. 7.II-2 and -3).

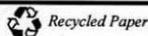
33-2

The provided WQMP alleges that storm water discharges will be treated in a retention basin and using hydrodynamic separators. Close review of the storm drain plans and hydrology report indicates that these statements are inaccurate:

33-3

<sup>1</sup> Regional Board staff does not purport that the draft EIR included in the application is a version which is sanctioned by the City of Brea. It has not been compared to the version reviewed as part of our January 4, 2007 comment letter. It is our experience that uncontrolled administrative draft versions are occasionally distributed to Responsible Agencies as part of applications and we cannot be certain that we are provided the Lead Agency's 'official' complete draft environmental document.

*California Environmental Protection Agency*



**Responses to Letter 33**  
**California Regional Water Quality Control Board**  
**Santa Ana Region**  
**July 26, 2007**

**Response to Comment 33-1**

Comments noted. No CEQA issues are raised. The Regional Water Quality Control Board has also submitted prior comments, contained in Letter 3, dated January 4, 2007.

**Response to Comment 33-2**

Refer to Response to Comment #3-3. Conceptual Water Quality Management Plans have been prepared for both sites involved in the La Floresta Development Proposal and are contained in Volume II, Appendix F to the DEIR, which was provided to the RWQCB during the 45-day public review period. The project will incorporate and implement treatment control BMPs (best management practices) to the maximum extent practicable (MEP), or will contribute to an acceptable regional or watershed based program.

After subsequent meetings on August 9 and September 20, 2007 with Mr. Adam Fischer of the RWQCB, the Conceptual WQMP has been updated to include additional discussion on the proposed BMPs for the project. See Appendix A of this Responses to Comments document.

**Response to Comment 33-3**

Retention basins will not to be incorporated as a BMP. Storm water discharges from all of the planning areas are to be treated with structural treatment control BMPs to the maximum extent practicable (MEP), as described below.

Nuisance flow and "first-flush" discharges from the residential portions of the project will be treated in extended detention basins and Filterra Bioretention devices. Nuisance and "first-flush" discharges from the commercial and assisted living areas will be treated in Filterra Bioretention devices. The basins and devices will be maintained by their respective homeowner or property owner associations. Additional site-specific best managements practices (BMP's) will be specified in the project's Storm Water Pollution Prevention Plan (SWPPP) and final Water Quality Management Plan (WQMP).

City of Brea

- 2 -

July 26, 2007

- 1. The diversion structure to the retention basin is not designed to divert the 'first-flush' of pollutants into the basin;
- 2. No appropriate sizing calculations have been completed for the purpose of treating pollutants;
- 3. Only Planning Areas (PAs) 1 and 2 are tributary to the basin; and
- 4. PA 10 and portions of PAs 5, 7, and 9 do not have their storm water discharges treated with structural treatment control BMPs.

33-3  
cont'd

Based on these observations, Regional Board staff does not believe that discharges are being treated using structural treatment control BMPs as alleged. Regional Board staff also does not believe that the provided conceptual WQMP addresses pollutants of concern or provides adequate structural treatment control BMPs in accordance with the Orange County WQMP. Implementation of the Orange County WQMP is a requirement of Regional Board Order No. R8-2002-0010, NPDES No. CAS618030 (Order No. R8-2002-0010) – commonly known as the Orange County Urban Storm Water Runoff Permit. As presented, the conceptual WQMP does not adequately mitigate water quality impacts or comply with Order No. R8-2002-0010.

33-4

In the January 4, 2007 comment letter, Regional Board staff requested that the City identify the type, location, and maintenance responsibility for structural treatment control BMPs rather than defer to the later development of WQMPs. Regional Board staff again requests that the City of Brea not certify the final EIR until acceptable BMPs are identified which would mitigate water quality impacts below a level of significance. Regional Board staff expects that some modification of the project may be necessary to incorporate adequate structural treatment control BMPs.

33-5

If you have any questions, please contact me via electronic message at [afischer@waterboards.ca.gov](mailto:afischer@waterboards.ca.gov) or by telephone at (951) 320-6363.

Sincerely,

Adam Fischer  
 Environmental Scientist  
 Clean Water Act Section 401 Coordinator

Enclosure: Regional Board staff comment letter dated January 4, 2007

cc (via e-mail w/ enclosure):

State Clearinghouse – Scott Morgan  
 State Water Resources Control Board, DWQ-Water Quality Certification Unit – John Reynolds and Bill Orme

**California Environmental Protection Agency**



**Response to Comment 33-4**

See Response to Comment #33-3.

**Response to Comment 33-5**

See Response to Comment #33-3.



## 4. Mitigation Monitoring and Reporting Program

### 4.1 Legislative Mandate

The California Environmental Quality Act requires public agencies to adopt mitigation monitoring or reporting programs for all projects for which an environmental impact report or a mitigated negative declaration has been prepared. This is intended to ensure the implementation of all mitigation measures adopted through the CEQA process. The program defined in this document is intended to satisfy the spirit and letter of this law.

The following is the excerpted text of the legislation related to mitigation monitoring or reporting:

PRC §21081.6 FINDINGS OR NEGATIVE DECLARATIONS; REPORTING OR MONITORING PROJECT CHANGES; EFFECT ON ENVIRONMENT; CONDITIONS

- (a) When making the findings required by paragraph (1) of Section 21081, or when adopting a mitigated negative declaration pursuant to paragraph (2) of Section 21081, the following requirement shall apply:
  - [1] The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted 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. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.
  - {2} The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.
- (b) A public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.
- (c) Prior to the close of the public review period for a draft environmental impact report or mitigated negative declaration, a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall

either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit the authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

## **4.2 Program Management**

The Mitigation Monitoring and Reporting Program (MMRP) for the La Floresta Development Proposal will be in place through all phases of the project, including design, construction, and operation. Enforcement of the MMRP will be the responsibility of a Project Manager from the City of Brea, under the direction of the City of Brea's Director of Development Services.

### **Roles and Responsibilities**

The designated Project Manager (PM) for the Lead Agency will be assigned to supervise the design, construction, and operation of the project and is responsible for overall management of the MMRP. The PM is thoroughly familiar with the project and qualified to determine if an adopted measure is being properly implemented or may draw upon other experts as needed. The PM oversees the MMRP and reviews the Reporting and Implementation (R & I) forms to ensure they are filled out correctly and proper action is being taken on each measure. The PM and/or an assignee will also be responsible for the filling and updating of the R & I forms during all phases of the project. The PM will determine the need for a measure to be modified and ensure the use of a mitigation specialist if technical expertise beyond the PM's is required. If it is found that an adopted mitigation measure is not being properly implemented, the PM will require corrective actions to ensure adequate implementation. The responsibilities of the PM include the following:

1. An MMRP reporting form will be prepared for each potential significant impact and its corresponding mitigation identified in the list of mitigation measures attached hereto.
2. Appropriate specialists will be retained, as needed, to monitor specific mitigation activities and provide appropriate written approvals to the PM.

3. The PM and/or an assignee will approve, by signature and date, the completion of each action item identified on the MMRP reporting form.
4. All MMRP reporting forms for an impact issue requiring no further monitoring will be signed off as completed by the PM and/or an assignee at the bottom of the MMRP reporting form.
5. Unanticipated circumstances may arise requiring the refinement or addition of mitigation measures. The PM is responsible for approving any such refinements or additions. An MMRP reporting form will be completed by the PM and/or an assignee. The completed form will be provided to the appropriate design, construction, or operational personnel.
6. The PM has the authority to stop the work of construction contractors if any aspect of the MMRP is not in compliance.

### **4.3 Mitigation Monitoring Program Definitions**

The MMRP consists of key program elements. The definitions of these elements are summarized below.

- **Mitigation Monitoring and Reporting Program Files**

Files are established to document and retain records of the MMRP. The file organization is established by the PM according to mitigation measures and project phases.
- **Reporting and Implementation Forms**

R & I forms are designed to record the monitoring activity in a consistent manner with appropriate approvals. The R & I form is placed in the MMRP files. A copy of a sample form is included in Appendix G.
- **Environmental Compliance Verification**

At the completion of construction activities of the project, a verification of environmental compliance is executed by the PM. The verification concludes the construction monitoring process for each segment of the construction process.

### **4.4 Mitigation Monitoring and Reporting**

The policies and procedures for the Mitigation Monitoring and Reporting Program (MMRP) described are intended to provide focused, yet flexible, guidelines for monitoring the implementation of the mitigation measures adopted by the City of Brea. Two mitigation monitoring matrices have been prepared for the La Floresta Development Proposal, one for the Birch Hills Site and one for the La Floresta Village Site. Each lists mitigation measures applicable and adopted for the respective projects that make up the La Floresta Development Proposal. Measures are numbered as they appear in the EIR. As shown, some measures are unique to one site or the other.

The matrices correlate each measure, by its assigned number, to the specific phase of the project to which the measure applies. The matrices also provide the Project Manager (PM) a verification of compliance for each mitigation measure during each applicable phase of the project. The project phases include design/plan check (D/PC) and construction (C). A Reporting and Implementation (R & I) form (see Appendix G) is prepared for each potential significant impact and its corresponding mitigation measure. After each measure is verified for compliance during each phase, no further action is required for the specific phase. The PM shall initial and date the measure on the corresponding Mitigation Monitoring Matrix. These tables will be used to maintain records of compliance with the adopted EIR mitigation measures for each site, in conjunction with a third table that outlines specific traffic mitigations that are applicable to both projects involved in the La Floresta Development Proposal.

### **Design Phase/Plan Check**

The design/plan check phase includes preparation of engineering design, architectural design, and construction drawings by project design engineers and architects. During the design/plan check phase activities (e.g., final site engineering, street improvement design), the measure(s) applicable to each design/plan check phase activity is identified by the PM and reviewed with the design engineer, architect, or other responsible parties. The PM reviews design and construction drawings and specifications to ensure that all applicable adopted mitigation measures have been incorporated into the project design. Review of specifications is particularly important to clarify contractor responsibilities during construction. Comments on design documents are provided by the PM to design engineers and architects. Upon completion, the activity is reviewed by the PM to determine if the applicable mitigation(s) has been implemented. In the event the PM determines that there is noncompliance with any of the mitigation measures to be implemented during the design/plan check phase, corrective actions are required, and a follow-up review is conducted after the design documents are modified in response to the PM's comments. The R & I forms are completed after each activity.

### **Construction Phase**

Construction activities are monitored as often as conditions dictate, to ensure that required mitigation measures are implemented. Construction mitigation activities are monitored by the PM, or an assignee.

The PM and construction contractors will meet periodically to identify mitigation measures that would be applicable to scheduled construction activities, and to review previous monitoring activities. The PM coordinates with affected local agencies to ensure applicable mitigation measures are implemented.

### **Refinement or Addition of Mitigation Measures**

During each phase, unanticipated circumstances may arise requiring the refinement or addition of mitigation measures. The PM is responsible for recommending changes to the mitigation measures, if needed. If mitigation

measures are refined, the PM and/or assignee will complete an R & I form documenting the change and will notify the construction contractor about the refined requirements.

#### **4.5 Mitigation Monitoring Matrices**

Table 2 - Birch Hills Mitigation Monitoring Program

Table 3 - La Floresta Village Mitigation Monitoring Program

Table 4 – Traffic Mitigation Year 2025



**Table 2 – Birch Hills Mitigation Monitoring Program, La Floresta Development Proposal**

<b>Birch Hills Mitigation Monitoring Program La Floresta Development Proposal</b>						
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)	
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements
				Sign-Off Date		Sign-Off Date
<b>Aesthetics</b>						
AES-2	Construction-related Aesthetics Impacts	C			Building Dept Official	<p><b>AES-2 Construction Lighting</b> Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area. Spillage shall be controlled to the maximum extent feasible and shall not exceed 0.5 foot candles at any property line, consistent with the level of lighting determined necessary for safety and security purposes on the project sites.</p>
AES-3	Construction-related Aesthetics Impacts	C			Building Dept Official	<p><b>AES-3 Construction Screening</b> Temporary perimeter screening shall be utilized throughout the construction period in all areas where a solid visual barrier does not exist between adjacent uses or roadways on the Birch Hills site. Barriers shall be installed in such a manner as to not adversely affect traffic safety in any adjacent area.</p>
<b>Air Quality</b>						
AQ-1	Construction-related Air Quality Impacts	C			Development Services Official / Building Dept Official	<p><b>AQ-1 Construction Air Pollution Control</b> a. Prior to the issuance of any grading permits, the Applicant shall prepare and submit for the approval of the Director of Development Services (or his designee) a Fugitive Dust Emission Control Plan in compliance with</p>

4. Mitigation Monitoring and Reporting Program

**Birch Hills Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
						<p>SCAQMD Rule 403. The Plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line of the proposed facility. Provisions of the plan shall include the stipulation that all areas of active grading shall be watered at least twice daily. The plan shall also stipulate that disturbed areas at the construction site shall be treated with dust suppressants when activities have ceased for 30 days as well as control techniques listed below as determined appropriate.</p> <p>The Building Official shall ensure that the applicant adheres to the following requirements during construction activities, which shall also be placed as conditions on any grading or building permit.</p> <p>(1) Application of chemical stabilizers to unpaved roads and vehicle parking areas;</p> <p>(2) Application of sufficient water prior to initiating any earth movement;</p> <p>(3) Sweeping and/or cleaning streets where vehicles exit construction sites;</p> <p>(4) Installation of wheel washers where vehicles exit disturbed surface areas onto paved roads;</p>	

4. Mitigation Monitoring and Reporting Program

**Birch Hills Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		Sign-Off Date
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	
						<p>(5) Paving of construction access roads;</p> <p>(6) Paving of all roads on a construction site once final elevations have been reached or at the earliest feasible time;</p> <p>(7) All stockpiles for material export shall be watered twice daily. Stockpiles that may be used for long-term on-site soil storage shall be planted and watered twice daily until such plants take root. Any other measures as approved by the Planning Department.</p> <p>b. All heavy equipment shall be maintained in a proper state of tune as per the manufacturer's specifications.</p> <p>c. Heavy equipment shall not be allowed to remain idling for more than five minutes duration.</p> <p>d. Trucks equipment shall not be allowed to remain idling for more than two minutes duration.</p> <p>e. Electric power shall be used to the exclusion of gasoline or diesel generators whenever feasible.</p> <p>f. The Applicant shall specify that the contractor use only paints and coatings low in Reactive Organic Gas (ROG) content in order to minimize such emissions and vapors.</p> <p>g. All paints and coatings shall be applied either using high volume, low pressure (HVLP) spray equipment or by hand</p>	

4. Mitigation Monitoring and Reporting Program

**Birch Hills Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	
AQ -2	Regional Mobile Source Emissions after Project Completion	D/PC	Development Services Official	<p><b>AQ-2 Trip Reduction Measures</b> The applicant shall incorporate the following trip reduction measures into the final design of the non-residential portions of the Project to reduce vehicular traffic, energy consumption, and air emissions.</p> <ul style="list-style-type: none"> <li>▪ Preferential carpool and vanpool parking</li> <li>▪ Bicycle storage facilities</li> <li>▪ Electric vehicle charging stations</li> </ul>		<p>application in order to minimize dispersion of vapors and spray materials shall be remediated in accordance with the recommendations included in Section 5.6 of the La Floresta Development Proposal EIR. If locations where spillage of fluids from prior activities or hazardous materials are discovered during construction activities, these construction activities shall be curtailed until the area is evaluated and remediated as determined appropriate by all regulatory agencies. Removal of petroleum contamination will also alleviate the generation of hydrogen sulfide and its attendant odor. These activities would fall under the direction of both local and State agencies that would "sign off" on the remediation effort upon completion</p>	

**Birch Hills Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
AQ-3	Regional Mobile Source Emissions after Project Completion	D/PC	Development Services Official	<b>AQ-3 Transit Coordination</b> The applicant shall coordinate with the Orange County Transportation Authority and the City Engineering Department to provide bus turnouts and shelters where appropriate.				
<b>Cultural Resources</b>								
CR-1	<ol style="list-style-type: none"> <li>Consistency with applicable plans and regulations:                             <ul style="list-style-type: none"> <li>City of Brea General Plan:                                     <ul style="list-style-type: none"> <li>Community Resources Element, Historical Resources</li> </ul> </li> </ul> </li> <li>Substantial adverse change in the significance of a Historical Resource</li> <li>Impacts to remaining remnants of the former Pacific Electric Railway</li> </ol>	D/PC	Development Services Official	<b>CR-1 Pacific Electric Railway Tracks, Birch Hills Site</b> Subsequent Precise Development Plans to be reviewed and approved by the Development Services Department of the City of Brea for the implementation of the proposed Birch Hills project shall 1) acknowledge the existing railroad bed alignment to the fullest extent possible 2) retain the embedded rails in the golf cart road and as many other historic-age features as possible (palm trees, drainage pipes, roadbed profile), and 3) interpret the Pacific Electric railroad at appropriate public viewing areas at the property with durable plaques and/or kiosks preferably along the proposed public recreational trail adjacent to the railroad alignment.				
CR-2	<ol style="list-style-type: none"> <li>Substantial Adverse Change in the Significance of an Archaeological Resource</li> <li>Disturb Any Human Remains, Including Those Interred Outside Formal Cemeteries</li> </ol>	C			Building Dept Official	<b>CR-2 Archaeological Monitor</b> An Orange County certified archaeologist monitor shall be present during all ground-disturbing construction activities occurring in native sediments/ soils. In the event that cultural resources are exposed during		

4. Mitigation Monitoring and Reporting Program

**Birch Hills Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)			
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
CR-3	<ol style="list-style-type: none"> <li>Substantial Adverse Change in the Significance of an Archaeological Resource</li> <li>Disturb Any Human Remains, Including Those Interred Outside Formal Cemeteries</li> </ol>	C					<p>construction, the monitor shall be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archeologist determines that they are unique archeological resources as defined by criteria for listing in the California Register of Historical Resources, then the archeologist shall conduct additional excavations to avoid impacts to these resources by the development. If they are not "unique," then no further mitigation would be required.</p> <p><b>CR-3 Disposition of Any Human Remains</b> If previous human remains are uncovered during site preparation, grading, or excavation, the archeologist monitor shall have the authority to temporarily halt or divert grading in the immediate area of the discovery, and shall notify the County Coroner within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner shall notify the Native American Heritage Commission. The project applicant shall comply with the procedures set forth in §5097.98 of the California Public Resources Code and shall consult with the most likely descendant designated by the Native American Heritage Commission to obtain recommendations on the treatment and disposition with appropriate dignity of the human remains and associated grave</p>	

4. Mitigation Monitoring and Reporting Program

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
CR-4	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	goods. <b>CR-4 Paleontological Monitor</b> All construction-related ground disturbance related to the Birch Hills development project that could potentially impact the paleontologically sensitive Quaternary Older Alluvium shall be monitored by a qualified paleontological monitor on a full-time basis. Ground disturbances in Holocene-age alluvium shall be monitored on a part-time basis to ensure that underlying paleontologically sensitive sediments are not impacted.	
CR-5	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-5 Paleontological Mitigation Plan</b> An Orange County Certified Paleontologist shall be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed development project. Paleontological monitoring shall include inspection of exposed rock units during active excavations. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data.	
CR-6	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-6 Progress Reports</b> The Certified Paleontologist shall prepare monthly progress reports to be filed with the client, the lead agency, and the applicant.	

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
CR-7	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-7 Recordation of Fossil Localities</b> At each fossil locality, pertinent geologic data shall be recorded on field data forms, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis.	
CR-8	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-8 Recovery of Fossils</b> Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and repositied in a designated paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum.	
CR-9	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-9 Final Monitoring and Mitigation Report</b> The Certified Paleontologist shall prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.	
<b>Geology and Soils</b>								
GEO-1	<ol style="list-style-type: none"> <li>Consistency with applicable plans and regulations: <ul style="list-style-type: none"> <li>City of Brea General Plan- Public Safety Element</li> </ul> </li> <li>Impacts related to seismic activity, slope stability, soils and groundwater conditions: <ul style="list-style-type: none"> <li>Ground rupture</li> <li>Groundshaking</li> <li>Landsliding</li> </ul> </li> </ol>	D/PC	City Engineer/ Development Services Official	<b>GEO-1 Geotechnical Investigation</b> Prior to approval of a final subdivision map or issuance of a grading permit the applicant shall submit a site-specific geotechnical investigation report prepared by a licensed engineering geologist in conformance with the City Grading and Excavation Code and meeting the approval of the City Engineer. All recommendations of the report shall be based on surface				

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La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	
	<ul style="list-style-type: none"> <li>▪ Slope stability</li> <li>▪ Settlement</li> <li>▪ Groundwater</li> <li>▪ Liquefaction</li> <li>▪ Soil expansion and foundations</li> </ul>			<p>Mitigation Requirements</p> <ul style="list-style-type: none"> <li>▪ and subsurface mapping, laboratory testing, and analysis, and shall be incorporated into the final grading plans. The report shall address the following issues:                             <ul style="list-style-type: none"> <li>▪ Site clearing and preparation</li> <li>▪ Identification of faults and traces</li> <li>▪ Full characterization of on-site soils</li> <li>▪ Mitigation options for removal of in-ground improvement (or structure design mitigation) of uncompacted fill, compressible soils, expansive soils, corrosive soils, and liquefiable soils</li> <li>▪ Foundation design</li> <li>▪ Slope stability</li> <li>▪ Subdrains</li> </ul> </li> </ul>			
<b>Hazards and Hazardous Materials</b>							
HAZ-10	<p>Impacts related to previous industrial use:</p> <ul style="list-style-type: none"> <li>▪ Soil and groundwater nitrate</li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<p><b>HAZ-10 Groundwater Remediation.</b></p> <p>a. Groundwater Monitoring Reports. All groundwater monitoring reports for the Birch Hills property shall be submitted to the City Fire Marshal at the same time they are submitted to the RWQCB.</p> <p>b. Groundwater Remediation. Prior to issuance of a building permit, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal demonstrating that neither groundwater contamina-</p>			

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
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HAZ-11	Impacts related to previous industrial use: <ul style="list-style-type: none"> <li>▪ Union Pacific Railroad right-of-way</li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	tion nor remediation activities present any significant health risk to construction workers or project occupants.				
<b>Hydrology and Water Quality</b>								
HYD-1	1. Consistency with Applicable Regulations and Plans: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Community Resources Element</li> <li>▪ Clean Water Act/NPDES</li> </ul> 2. Alteration of Drainage Patterns in a Manner that Would Result in Substantial Erosion or Siltation On-Site or Off-Site                     3. Violation of Water Quality Standards	D/PC	City Engineer	<b>HYD-1 NPDES Compliance</b> Prior to issuance of a grading permit for each site, the project proponent shall apply for coverage for discharge under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a Storm water Pollution Prevention Plan (SWPPP) and implementing Best Management Practices (BMPs) to address construction site pollutants. Separate coverage shall be obtained for each site. The Storm Water Pollution Prevention Plan (SWPPP) shall: <ol style="list-style-type: none"> <li>1) require implementation of BMPs so as to prevent a net increase in sediment load in storm water</li> </ol>				

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
				<p>discharges relative to preconstruction levels;</p> <p>2) prohibit discharges of storm water or non-storm water at levels that would cause or contribute to an exceedance of any applicable water quality standard contained in the regional basin plan;</p> <p>3) discuss in detail the BMPs for the project related to control of sediment and erosion, non-sediment pollutants, and potential pollutants in non-storm water discharges;</p> <p>4) describe post-construction BMPs for the project;</p> <p>5) explain the monitoring and maintenance program for the project BMPs;</p> <p>6) require reporting of violations to the RWQCB;</p> <p>7) list the parties responsible for SWPPP implementation and BMP maintenance both during and after construction. Upon acceptance of the NOI by the State Board, the project proponent shall implement the SWPPP and will modify the SWPPP as directed by the Storm Water Permit.</p>				
HYD-2	1. Consistency with Applicable Regulations and Plans:	D/PC	City Engineer	<b>HYD-2 Water Quality Management Plan</b>				

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date
	<ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Community Resources Element</li> <li>▪ Clean Water Act/NPDES</li> </ul> <p>2. Alteration of Drainage Patterns in a Manner that Would Result in Substantial Erosion or Siltation On-Site or Off-Site</p> <p>3. Violation of Water Quality Standards</p>			<p>Prior to issuance of building permits for each site, the project proponent shall prepare a Water Quality Management Plan (WQMP) meeting the approval of the City Engineer. The WQMP shall:</p> <ol style="list-style-type: none"> <li>1) describe the routine and special post-construction BMPs to be used at the proposed development site (including both structural and non-structural measures);</li> <li>2) describe responsibility of the initial implementation and long-term maintenance of the BMPs;</li> <li>3) provide narrative with the graphic materials as necessary to specify the locations of the structural BMPs;</li> <li>4) describe effective means to ensure that the WQMP is carried out by all future successors or assigns to the property.</li> </ol>				
HYD-6	<ol style="list-style-type: none"> <li>1. Consistency with applicable plans and regulations:                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element.</li> <li>▪ FEMA – National Flood Insurance Program</li> </ul> </li> <li>2. Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-site or Off-site.</li> </ol>	D/PC	City Engineer/ OCFCD Official	<p><b>HYD-6 Hydrology Study and Drainage Improvements</b></p> <ol style="list-style-type: none"> <li>a. Prior to any grading permit issuance or final map approval in the Birch Hills development, whichever occurs first, the final hydrology and hydraulic study and the final hydraulic analysis of the Loftus Diversion Channel shall be submitted to the City and County of Orange for review and</li> </ol>				

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)	
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements
				<p>comment, and the detailed drainage studies shall confirm that the project runoff is adequately accommodated. Drainage systems shall be engineered and designed so that post-development site runoff is conveyed to pre-development surface water conveyance features. Design and engineering must ensure that post-development peak flows from the site will not exceed peak flow currently exiting the site, or otherwise negatively impact the Loftus Channel. The studies shall demonstrate that the project shall be protected from the Q100 High Confidence Storm Event.</p> <p>b. Project plans shall incorporate detention basin(s) and storm drain facilities sufficient to maintain project flows to the channel at or below existing conditions to the satisfaction of the City Engineer, prior to issuance of grading permits for the Birch Hills development.</p> <p>c. Prior to any final map approval for the Birch Hills development, the applicant/owner shall consult with the Orange County Flood Control District (OCFCD) to identify the requirements for the provision of</p>		

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			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
HYD-7	1. Consistency with applicable plans and regulations: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element.</li> <li>▪ FEMA – National Flood Insurance Program</li> </ul> 2. Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-site or Off-site.	D/PC	City Engineer	project-related facilities within the OCFCD channel easement to ensure that such improvements shall be constructed to the satisfaction of the OCFCD and the City Engineer.  d. Prior to issuance of any occupancy permit, all drainage improvements required to serve the completed structures shall be installed in a manner meeting the approval of the City Engineer.				
				<b>HYD-7 Runoff Management Plan</b> a. Prior to approval of any final subdivision map in the Birch Hills development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation measures.  b. Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to				

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			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
HYD-8	<ol style="list-style-type: none"> <li>Consistency with applicable plans and regulations:                             <ul style="list-style-type: none"> <li>City of Brea General Plan: Public Safety Element.</li> <li>FEMA – National Flood Insurance Program</li> </ul> </li> <li>Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-site or Off-site.</li> </ol>	D/PC	City Engineer	mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.  <b>HYD-8 - Drainage System Maintenance</b> The City shall maintain the underground storm drain and detention basin within the golf course. The Developer shall be responsible for maintaining all other on-site drainage infrastructure.				
<b>Noise</b>								
N-1	Construction Noise Impacts	C				Building Dept Official	<b>N-1 Construction Noise Mitigation</b> In addition to compliance with the limits on construction hours set forth in the Municipal Code, the applicant shall adhere to the following requirements, which shall also be placed as conditions on any grading or building permit: <ol style="list-style-type: none"> <li>All construction staging areas shall be located as far as feasible from existing residences or other noise-sensitive uses.</li> <li>All construction equipment shall be fitted with properly operating mufflers.</li> </ol>	
N-2	Long-Term Vehicular Noise Impacts on the Project Site: Exterior Noise Levels	D/PC	Building Dept Official	<b>N-2 Exterior Noise Mitigation</b> Prior to approval of any final map for property adjacent to a perimeter arterial roadway (except maps for				

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
N-3	Long-Term Vehicular Noise Impacts on the Project Site: Interior Noise Levels	D/PC	Building Dept Official	<p>financing purposes only) the applicant shall submit an acoustical analysis demonstrating that noise levels in all outdoor living areas will conform to the City standard of 65 dBA CNEL. If sound attenuation walls are required to satisfy this requirement, the location and design of the walls shall be shown on the map and a note shall be placed on the map stating that an interior acoustical analysis will be required prior to issuance of a building permit for dwellings adjacent to perimeter walls. The analysis shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official.</p> <p><b>N-3 Interior Noise Mitigation</b>                      a. Prior to issuance of a building permit for any residential structure adjacent to a perimeter roadway, the applicant shall submit an acoustical analysis demonstrating that interior noise levels will conform to the standard of 45 dBA CNEL. The analysis shall describe the structural measures necessary to meet the standard and shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official. All required structural noise reduction measures shall be incorporated</p>				

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
N-4	On-Site Noise Generation Impacts	D/PC	Building Dept Official/ Development Services Official	<p>into building plans and permits in a manner meeting the approval of the Building Official.</p> <p>b. If determined necessary by the Building Official, prior to issuance of a certificate of occupancy for any structure for which an acoustical analysis was required, field testing shall be conducted by a qualified acoustical consultant to confirm that the required level of noise attenuation has been achieved. If the testing finds that noise levels exceed allowable standards, additional mitigation shall be required prior to issuance of the occupancy certificate, in a manner meeting the approval of the Building Official.</p>				
				<p><b>N-4 On-Site Noise Mitigation</b></p> <p>a. Prior to approval of any final tract map, conditional use permit or site plan in Birch Hills that includes non-residential use, the City shall retain an acoustical consultant at the applicant's expense to review the proposed final map or site plan and identify any potential noise conflicts, and provide recommendations for mitigating those conflicts. The analysis and recommendations shall be reviewed and approved by the Building Official and the</p>				

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			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements
				<p>City Planner, and shall be adopted as conditions of approval. A note shall be placed on the final map or site plan listing all noise mitigation conditions that will be required, as determined by the Building Official and City Planner.</p> <p>b. Prior to issuance of any building permit for a non-residential structure in Birch Hills that is adjacent to an existing or planned residential use, the Building Official and the City Planner shall ensure that all feasible noise mitigation measures that were adopted as conditions of approval on the tentative map or site plan have been incorporated into the building plans.</p>			
<b>Public Services and Utilities</b>							
PS-1	<p>1. Consistency with Applicable Plans and Regulations:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> <p>2. Fire Protection</p>	C				<p><b>PS-1 Fire Protection</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Fire Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.</p>	
PS-2	<p>1. Consistency with Applicable Plans and Regulations:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> </ul>	C				<p><b>PS-2 Police Protection</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to</p>	

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
PS-3	<ul style="list-style-type: none"> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> <li>▪ Police Protection</li> </ul>				Official	offset its fair-share of the cost of additional Police Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.		
PS-3	<ol style="list-style-type: none"> <li>1. Consistency with Applicable Plans and Regulations:                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> </li> <li>2. School Services</li> </ol>	C			Development Services Official/School District Official (BOUSD)	<b>PS-3 School Fees</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Brea Olinda Unified School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Development Proposal located within BOUSD boundaries.		
PS-5	<ol style="list-style-type: none"> <li>1. Consistency with Applicable Plans and Regulations:                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> </li> <li>2. Library Services</li> </ol>	C			Development Services Official/Library Official (City of Brea)	<b>PS-5 Library Fees</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay library impact fees to offset its fair-share of the City's cost of providing additional resources to Project residents.		
PS-7	<ol style="list-style-type: none"> <li>1. Consistency With Applicable Plans And Regulations                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan- Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> </li> </ol>	C			Public Works Official/OC San Dist Official	<b>PS-7 Sewer Facilities</b> a. Prior to approval of the first final subdivision map for Birch Hills (except maps for financing purposes only, the applicant shall submit a sewer system improvement phasing plan for the Birch Hills development project meeting the approval of the City		

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EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		Sign-Off Date
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	
	2. Wastewater Treatment					Engineer and the Orange County Sanitation District. b. Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the City Engineer and the Orange County Sanitation District.	
PS-8	1. Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> 2. Water Supply	C			Public Works Official	<b>PS-8 Water Facilities</b> a. Prior to approval of the first final subdivision map for either the La Floresta Village or Birch Hills site (except maps for financing purposes only) the applicant shall submit a water system improvement phasing plan for the development involved meeting the approval of the City Engineer. b. Prior to issuance of a certificate of occupancy, water system improvements shall be installed in a manner meeting the approval of the City Engineer.	
<b>Traffic and Circulation</b>							
TR-1	Traffic Generation Interim Year 2012 <ul style="list-style-type: none"> <li>▪ Kraemer Blvd/Bastanchury Road (Placentia) in the PM Peak Hour.</li> </ul>	C			City Engineer	<b>TR-1 Payment of Fair Share of Costs for Improvements in Other Jurisdictions</b> The La Floresta Village Development will be responsible for the payment to the City of Placentia of a fair share of costs of improvements to add a second eastbound left turn lane and a second northbound left turn lane at the intersection of Placentia Ave./Bastanchury Rd.	

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			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	
TR-2	<p>Traffic Generation Year 2025</p> <ul style="list-style-type: none"> <li>▪ Associated Road &amp; Lambert Road (Brea)- AM Peak Hour</li> <li>▪ Valencia Avenue &amp; Birch St/Rose Ave (Brea) – PM Peak Hour</li> <li>▪ Kraemer Avenue &amp; Imperial Hwy (Brea) – PM Peak Hour</li> <li>▪ Placentia Ave &amp; Bastanchury Road (Placentia) – PM Peak Hour</li> <li>▪ Kraemer Avenue &amp; Bastanchury Road (Placentia) – PM Peak Hour</li> </ul>	C			City Engineer	<p><b>TR-2 Payment of City of Brea NEXUS Fees and Fair Share of Costs for Improvements in Other Jurisdictions</b> For Intersections in the City of Brea, the La Floresta Development Proposal will be responsible for the payment of NEXUS fees to address a fair share of costs for improvements to impacted intersections listed. For intersections in the City of Placentia, the La Floresta Development Proposal will be responsible for the payment to the City of Placentia of a fair share of costs for improvements to impacted intersections listed. Please see Table 3.0 - Traffic Mitigation Improvements for specific street improvements determined necessary.</p>	



**Table 3 – La Floresta Village Mitigation Monitoring Program**

<b>La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal</b>						
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	
<b>Aesthetics</b>						
AES-1	Construction-related Aesthetics Impacts	C				<p><b>AES-1 Implementation of the Linear Park</b> The proposed linear park on the La Floresta Village site, running along the easterly property line, shall be fully implemented, consistent with final Landscape Plans, concurrently with the construction of any planned adjacent development within the Project.</p>
AES-2	Construction-related Aesthetics Impacts	C				<p><b>AES-2 Construction Lighting</b> Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area. Spillage shall be controlled to the maximum extent feasible and shall not exceed 0.5 foot candles at any property line, consistent with the level of lighting determined necessary for safety and security purposes on the project sites.</p>
AES-3	Construction-related Aesthetics Impacts	C				<p><b>AES-3 Construction Screening</b> Temporary perimeter screening shall be utilized throughout the construction period in all areas where a solid visual barrier does not exist between adjacent uses or roadways on the La Floresta Village site. Barriers shall be installed in such a manner as to not adversely affect traffic safety in any adjacent area.</p>

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La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal						
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)	
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements
Sign-Off Date	Sign-Off Date	Sign-Off Date	Sign-Off Date	Sign-Off Date	Sign-Off Date	Sign-Off Date
<b>Air Quality</b>						
AQ-1	Construction – related Air Quality Impacts	C				<p><b>AQ-1 Construction Air Pollution Control</b></p> <p>a. Prior to the issuance of any grading permits, the Applicant shall prepare and submit for the approval of the Director of Development Services (or his designee) a Fugitive Dust Emission Control Plan in compliance with SCAQMD Rule 403. The Plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line of the proposed facility. Provisions of the plan shall include the stipulation that all areas of active grading shall be watered at least twice daily. The plan shall also stipulate that disturbed areas at the construction site shall be treated with dust suppressants when activities have ceased for 30 days as well as control techniques listed below as determined appropriate.</p> <p>The Building Official shall ensure that the applicant adheres to the following requirements during construction activities, which shall also be placed as conditions on any grading or building permit.</p> <p>(1) Application of chemical stabilizers to unpaved roads and vehicle parking areas;</p>

4. Mitigation Monitoring and Reporting Program

<b>La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal</b>						
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Mitigation Requirements
						(2) Application of sufficient water prior to initiating any earth movement; (3) Sweeping and/or cleaning streets where vehicles exit construction sites; (4) Installation of wheel washers where vehicles exit disturbed surface areas onto paved roads; (5) Paving of construction access roads; (6) Paving of all roads on a construction site once final elevations have been reached or at the earliest feasible time; (7) All stockpiles for material export shall be watered twice daily. Stockpiles that may be used for long-term on-site soil storage shall be planted and watered twice daily until such plants take root. (8) Any other measures as approved by the Planning Department. b. All heavy equipment shall be maintained in a proper state of tune as per the manufacturer's specifications. c. Heavy equipment shall not be allowed to remain idling for more than five minutes duration. d. Trucks equipment shall not be allowed to remain idling for more than two minutes duration. e. Electric power shall be used to the exclusion of gasoline or diesel generators whenever feasible.

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			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements
							<p>f. The Applicant shall specify that the contractor use only paints and coatings low in Reactive Organic Gas (ROG) content in order to minimize such emissions and vapors.</p> <p>g. All paints and coatings shall be applied either using high volume, low pressure (HVLP) spray equipment or by hand application in order to minimize dispersion of vapors and spray</p> <p>h. All known and observed hazardous materials shall be remediated in accordance with the recommendations included in Section 5.6 of the La Floresta Development Proposal EIR. If locations where spillage of fluids from prior activities or hazardous materials are discovered during construction activities, these construction activities shall be curtailed until the area is evaluated and remediated as determined appropriate by all regulatory agencies. Removal of petroleum contamination will also alleviate the generation of hydrogen sulfide and its attendant odor. These activities would fall under the direction of both local and State agencies that would "sign off" on the remediation effort upon completion.</p>

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AQ-2	Regional Mobile Source Emissions after Project Completion	D/PC	Public Works Dept Official/ Development Services Official	<b>AQ-2 Trip Reduction Measures</b> The applicant shall incorporate the following trip reduction measures into the final design of the non-residential portions of the Project to reduce vehicular traffic, energy consumption, and air emissions. <ul style="list-style-type: none"> <li>▪ Preferential carpool and vanpool parking</li> <li>▪ Bicycle storage facilities</li> <li>▪ Electric vehicle charging stations</li> </ul>				
AQ-3	Regional Mobile Source Emissions after Project Completion	D/PC	Public Works Dept Official/ Development Services Official	<b>AQ-3 Transit Coordination</b> The applicant shall coordinate with the Orange County Transportation Authority and the City Engineering Department to provide bus turnouts and shelters where appropriate.				
<b>Cultural Resources</b>								
CR-2	Substantial Adverse Change in the Significance of an Archaeological Resource	C				Building Dept Official	<b>CR-2 Archaeological Monitor</b> An Orange County certified archaeologist monitor shall be present during all ground-disturbing construction activities occurring in native sediments/ soils. In the event that cultural resources are exposed during construction, the monitor shall be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archaeologist determines that they are unique archeological resources as defined by criteria for listing in the California Register of Historical Resources, then the archaeologist shall conduct additional	

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CR-3	<ol style="list-style-type: none"> <li>Substantial Adverse Change in the Significance of an Archaeological Resource</li> <li>Disturb any Human Remains, including those Interred Outside Formal Cemeteries</li> </ol>	C					excavations to avoid impacts to these resources by the development. If they are not "unique," then no further mitigation would be required.	
CR-4	<ol style="list-style-type: none"> <li>Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature</li> <li>Disturb any Human Remains, including those Interred Outside Formal Cemeteries</li> </ol>	C				Building Dept Official	<p><b>CR-3 Disposition of Any Human Remains</b></p> <p>If previous human remains are uncovered during site preparation, grading, or excavation, the archeologist monitor shall have the authority to temporarily halt or divert grading in the immediate area of the discovery, and shall notify the County Coroner within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner shall notify the Native American Heritage Commission. The project applicant shall comply with the procedures set forth in §5097.98 of the California Public Resources Code and shall consult with the most likely descendant designated by the Native American Heritage Commission to obtain recommendations on the treatment and disposition with appropriate dignity of the human remains and associated grave goods.</p> <p><b>CR-4 Paleontological Monitor</b></p> <p>All construction-related ground disturbance related to the Hartley Center—La Floresta Village development project that could potentially impact the paleontologically sensitive Quaternary Older Alluvium shall be monitored by a qualified paleontological monitor on a full-time basis. Ground</p>	Building Dept Official

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CR-5	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C					disturbances in Holocene-age alluvium shall be monitored on a part-time basis to ensure that underlying paleontologically sensitive sediments are not impacted.	
						Building Dept Official	<b>CR-5 Paleontological Mitigation Plan</b> An Orange County Certified Paleontologist shall be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed La Floresta Village development project. Paleontological monitoring shall include inspection of exposed rock units during active excavations. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data.	
CR-6	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-6 Progress Reports</b> The Certified Paleontologist shall prepare monthly progress reports to be filed with the client, the lead agency, and the applicant.	
CR-7	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-7 Recordation of Fossil Localities</b> At each fossil locality, pertinent geologic data shall be recorded on field data forms, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis.	
CR-8	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C				Building Dept Official	<b>CR-8 Recovery of Fossils</b> Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and repositied in a designated	

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CR-9	Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	C					paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum.	
<b>Geology and Soils</b>								
GEO-1	<p>1. Consistency with applicable plans and regulations:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan- Public Safety Element</li> </ul> <p>2. Impacts related to seismic activity, slope stability, soils and groundwater conditions:</p> <ul style="list-style-type: none"> <li>▪ Ground rupture</li> <li>▪ Groundshaking</li> <li>▪ Landsliding</li> <li>▪ Slope stability</li> <li>▪ Settlement</li> <li>▪ Groundwater</li> <li>▪ Liquefaction</li> <li>▪ Soil expansion and foundations</li> </ul>	D/PC	City Engineer/ Development Services Official	<p><b>GEO-1 Geotechnical Investigation</b> Prior to approval of a final subdivision map or issuance of a grading permit the applicant shall submit a site-specific geotechnical investigation report prepared by a licensed engineering geologist in conformance with the City Grading and Excavation Code and meeting the approval of the City Engineer. All recommendations of the report shall be based on surface and subsurface mapping, laboratory testing, and analysis, and shall be incorporated into the final grading plans. The report shall address the following issues:</p> <ul style="list-style-type: none"> <li>▪ Site clearing and preparation</li> <li>▪ Identification of faults and traces</li> <li>▪ Full characterization of on-site soils</li> <li>▪ Mitigation options for removal of in-ground improvement (or structure design mitigation) of uncompacted</li> </ul>				
							<b>CR-9 Final Monitoring and Mitigation Report</b> The Certified Paleontologist shall prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.	

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<b>Hazards and Hazardous Materials</b>								
HAZ-1	<ol style="list-style-type: none"> <li>Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>City of Brea General Plan: Public Safety Element</li> </ul> </li> <li>Impacts Related to Previous Oil Production and Industrial Use                             <ul style="list-style-type: none"> <li>Hazardous Materials within One-Quarter Mile of a School</li> <li>Underground Storage Tanks (USTs)</li> </ul> </li> </ol>	D/PC	Building Dept Official/ Fire Dept Official	<b>HAZ-1 Underground Storage Tanks</b> Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA.				
HAZ-2	<ol style="list-style-type: none"> <li>Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>City of Brea General Plan: Public Safety Element</li> </ul> </li> <li>Impacts Related to Previous Oil Production and Industrial Use                             <ul style="list-style-type: none"> <li>Hazardous Materials within One-Quarter Mile of a School</li> <li>Above-Ground Storage Tanks (ASTs)</li> </ul> </li> </ol>	D/PC	Building Dept Official/ Fire Dept Official	<b>HAZ-2 Above-Ground Storage Tanks</b> Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by ASTs, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA.				
HAZ-3	<ol style="list-style-type: none"> <li>Consistency with Applicable Regulations and Plans:</li> </ol>	D/PC	Building Dept Official/ Fire Dept Official	<b>HAZ-3 Drum Storage Areas</b> Prior to final certification of grading or				

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	<ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> <li>2. Impacts Related to Previous Oil Production and Industrial Use                             <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Drum Storage Areas</li> </ul> </li> </ul>		Fire Dept Official	issuance of any building permit (whichever occurs first) for areas affected by former drum storage areas, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA.				
HAZ-4	<ul style="list-style-type: none"> <li>1. Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> </ul> </li> <li>2. Impacts Related to Previous Oil Production and Industrial Use                             <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Wastewater Sump</li> </ul> </li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<b>HAZ-4 Wastewater Sump Area</b> Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former wastewater sump, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA and the RWQCB.				
HAZ-5	<ul style="list-style-type: none"> <li>1. Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> <li>▪ California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR)</li> </ul> </li> <li>2. Impacts Related to Previous Oil Production and Industrial Use                             <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile</li> </ul> </li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<b>HAZ-5 Oil Wells and Methane Gas</b> a. <u>Oil Well Abandonment</u> . Prior to final certification of grading or issuance of any building permit, the applicant shall submit evidence acceptable to the Brea Fire Chief demonstrating that the locations of all known wells on site have been reviewed by the California Division of Oil, Gas and Geothermal Resources (DOGGR) and that all well abandonment requirements, including gas leakage testing, have been completed according to				

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	<ul style="list-style-type: none"> <li>of a School</li> <li>Oil Wells and Methane Gas</li> </ul>			<p>DOGGR specifications. All abandoned wells shall be vented according to Brea Fire Department guidelines.</p> <p>b. Soil Gas Survey. Prior to final certification of grading or issuance of any building permit, a soil gas survey shall be conducted in accordance with the Brea Fire Department guidelines to determine whether or not there is methane and/or other combustible soil gases at concentrations of concern at the site. The survey shall evaluate the areas around the old, abandoned wells as well as any and all locations identified by the City's combustible soil gas consultant.</p> <p>Samples shall also be collected at depth below final design grades as determined by a registered professional engineer with experience in the field of combustible soil gas control and mitigation systems. Said survey is subject to third party review by the City's combustible soil gas consultant. A work plan and appropriate mitigation measures will be required if methane gas at concentrations over 5,000 parts per million is detected at the site, in accordance with the guidelines</p>			

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				<p>Established by the City of Brea Fire Department, as appropriate.</p> <p>c. <u>Soil Gas Mitigation</u>. Prior to issuance of a grading permit, site development plans must comply with the Brea Fire Department's requirements for the investigation, mitigation, and remediation of combustible soil gases. These requirements are outlined in the City of Brea Fire Department "Combustible Soil Gas Mitigation System Installation and Inspection Requirements." In addition, if hydrocarbon concentrations in excess of 20,000 parts per million are left in place below 10 feet below grade surface, the City Fire Department will require documentation that shows that the contamination will not create a methane gas problem.</p> <p>Mitigation measures regarding combustible soil gases shall be provided in accordance with City of Brea Fire Department's requirements. They may include but may not be limited to: sub-slab passive venting systems, sub-slab membranes, bottoms mitigation measures and venting of abandoned wells. This program shall be submitted to the Director or designee, Development</p>			

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				<p>Services Department within 60 days of completion of grading for review/approval.</p> <p>d. <u>Grading Protocol</u>. Prior to issuance of a grading permit, the applicant shall submit a description of the oil well protocols to be followed during grading operations. The protocols shall describe the methods for searching for unknown oil wells and the procedures to be followed in the event that a well is discovered, in compliance with Fire Department and DOGGR regulations. The Grading Protocol shall be subject to review and approval by the Fire Marshal and the Building Official.</p> <p>e. <u>Grading Monitor</u>. Prior to issuance of a grading permit, the applicant shall retain a grading monitor to observe all grading operations to ensure that the approved Grading Protocol is implemented. The monitor shall be selected by the City Fire Marshal and shall have the authority to halt grading operations and immediately notify the Fire Marshal if an oil well is discovered.</p> <p>f. <u>Residential Structure Setbacks</u>. Prior to issuance of any building permit for residential structures, the applicant shall provide</p>			

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HAZ-6	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> </ul> <p>2. Impacts Related to Previous Oil Production and Industrial Use</p> <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Nursery Area</li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<p>evidence acceptable to the Building Official that a setback of at least 10 feet from an abandoned well or 100 feet from an operating well shall be maintained.</p> <p><b>HAZ-6 Nursery Area Arsenic</b> Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former nursery area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA and the RWQCB.</p>				
HAZ-7	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> </ul> <p>2. Impacts Related to Previous Oil Production and Industrial Use</p> <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Electrical Transformer Area</li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<p><b>HAZ-7 Electrical Transformer Area</b> Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former electrical transformer area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA.</p>				
HAZ-8	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> </ul> <p>2. Impacts Related to Previous</p>	D/PC	Building Dept Official/ Fire Dept Official	<p><b>HAZ-8 Asbestos Pipe</b> Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to</p>				

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HAZ-9	<p>Oil Production and Industrial Use</p> <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Asbestos</li> </ul> <p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Public Safety Element</li> </ul> <p>2. Impacts Related to Previous Oil Production and Industrial Use</p> <ul style="list-style-type: none"> <li>▪ Hazardous Materials within One-Quarter Mile of a School</li> <li>▪ Hydrogen Sulfide</li> </ul>	D/PC	Building Dept Official/ Fire Dept Official	<p><b>HAZ-9 Hydrogen Sulfide</b></p> <p>Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshal that site remediation for H2S has been completed and approved by OCHCA.</p>				
<b>Hydrology and Water Quality</b>								
HYD-1	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Community Resources Element</li> <li>▪ Clean Water Act/NPDES</li> </ul> <p>2. Alteration of Drainage Patterns in a Manner that Would Result in Substantial Erosion or Siltation On-Site or Off-Site</p> <p>3. Violation of Water Quality Standards</p>	D/PC	City Engineer	<p><b>HYD-1 NPDES Compliance</b></p> <p>Prior to issuance of a grading permit for each site, the project proponent shall apply for coverage for discharge under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a Storm water Pollution Prevention Plan (SWPPP) and implementing Best Management Practices (BMPs) to address construction site pollutants. Separate coverage shall be obtained for each site. The Storm Water Pollution Prevention Plan (SWPPP) shall:</p> <p>1) require implementation of BMPs so</p>				

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				<p>as to prevent a net increase in sediment load in storm water discharges relative to preconstruction levels;</p> <p>2) prohibit discharges of storm water or non-storm water at levels that would cause or contribute to an exceedance of any applicable water quality standard contained in the regional basin plan;</p> <p>3) discuss in detail the BMPs for the project related to control of sediment and erosion, non-sediment pollutants, and potential pollutants in non-storm water discharges;</p> <p>4) describe post-construction BMPs for the project;</p> <p>5) explain the monitoring and maintenance program for the project BMPs;</p> <p>6) require reporting of violations to the RWQCB;</p> <p>7) list the parties responsible for SWPPP implementation and BMP maintenance both during and after construction. Upon acceptance of the NOI by the State Board, the project proponent shall implement the SWPPP and will modify the SWPPP as directed by the Storm Water Permit.</p>			

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HYD-2	<ol style="list-style-type: none"> <li>Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>City of Brea General Plan: Community Resources Element</li> <li>Clean Water Act/NPDES</li> </ul> </li> <li>Alteration of Drainage Patterns in a Manner that Would Result in Substantial Erosion or Siltation On-Site or Off-Site</li> <li>Violation of Water Quality Standards</li> </ol>	D/PC	City Engineer	<b>HYD-2 Water Quality Management Plan</b> Prior to issuance of building permits for each site, the project proponent shall prepare a Water Quality Management Plan (WQMP) meeting the approval of the City Engineer. The WQMP shall: <ol style="list-style-type: none"> <li>describe the routine and special post-construction BMPs to be used at the proposed development site (including both structural and non-structural measures);</li> <li>describe responsibility of the initial implementation and long-term maintenance of the BMPs;</li> <li>provide narrative with the graphic materials as necessary to specify the locations of the structural BMPs;</li> <li>describe effective means to ensure that the WQMP is carried out by all future successors or assigns to the property.</li> </ol>				
HYD-3	<ol style="list-style-type: none"> <li>Consistency with Applicable Regulations and Plans:                             <ul style="list-style-type: none"> <li>City of Brea General Plan: Safety Element</li> <li>FEMA – National Flood Insurance Program</li> </ul> </li> <li>Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding</li> </ol>	D/PC	City Engineer	<b>HYD-3 Hydrology Study and Drainage Improvements</b> <ol style="list-style-type: none"> <li>Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit a detailed hydrology study for review and approval by the City Engineer. The study shall demonstrate that the</li> </ol>				

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	On-Site or Off-Site			backbone mainline drainage system shall be designed to convey the 100-year design flow. The on-site non-mainline drainage system shall be designed to pick up and convey the 25-year storm flow.  b. Prior to issuance of any occupancy permit, all drainage improvements shall be completed in a manner meeting the approval of the City Engineer.				
HYD-4	1. Consistency with Applicable Regulations and Plans: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Safety Element</li> <li>▪ FEMA – National Flood Insurance Program</li> </ul> 2. Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-Site or Off-Site	D/PC	City Engineer	<b>HYD-4 Runoff Management Plan</b> a. Prior to approval of any final subdivision map for the La Floresta Village development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation measures.  b. Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to				

**La Floresta Village Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date
HYD-5	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Safety Element</li> <li>▪ FEMA – National Flood Insurance Program</li> </ul> <p>2. Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-Site or Off-Site</p>	D/PC	City Engineer	<p>mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.</p> <p><b>HYD-5 Drainage System Maintenance</b> The City shall maintain the underground mainline storm drain. Prior to recordation of any subdivision map for the La Floresta Village development the applicant shall, in a manner meeting the approval of the City Engineer, form a Community Service Area covering the same area as the Master Homeowners Association for the purpose of maintaining the detention basins and non-mainline storm drain facilities.</p>				
HYD-9	<p>1. Consistency with Applicable Regulations and Plans:</p> <ul style="list-style-type: none"> <li>▪ City of Brea General Plan: Safety Element</li> <li>▪ Dam Inundation Act</li> </ul> <p>2. Significant Risk Due to Failure of a Levee or Dam</p> <ul style="list-style-type: none"> <li>▪ La Floresta Village Site – Carbon Canyon Dam Inundation, Potential Flooding</li> </ul>		City Engineer/ Fire Dept Official	<p><b>HYD-9 Potential Dam Failure Emergency Response Plan.</b> Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit an Emergency Response Plan meeting the approval of the Brea Fire Department. The Plan shall provide emergency response protocols and shall also demonstrate compliance with the dam failure inundation buyer notification provisions of state law.</p>				

4. Mitigation Monitoring and Reporting Program

La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal						
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)	
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements
			Sign-Off Date	Sign-Off Date		
<b>Noise</b>						
N-1	Construction Noise Impacts	C			Building Dept Official	<b>N-1 Construction Noise Mitigation.</b> In addition to compliance with the limits on construction hours set forth in the Municipal Code, the applicant shall adhere to the following requirements, which shall also be placed as conditions on any grading or building permit. a. All construction staging areas shall be located as far as feasible from existing residences or other noise-sensitive uses. b. All construction equipment shall be fitted with properly operating mufflers.
N-2	Long-Term Vehicular Noise Impacts on the Project Site: Exterior Noise Levels	D/PC		<b>N-2 Exterior Noise Mitigation</b> Prior to approval of any final map for property adjacent to a perimeter arterial roadway (except maps for financing purposes only) the applicant shall submit an acoustical analysis demonstrating that noise levels in all outdoor living areas will conform to the City standard of 65 dBA CNEL. If sound attenuation walls are required to satisfy this requirement, the location and design of the walls shall be shown on the map and a note shall be placed on the map stating that an interior acoustical analysis will be required prior to issuance of a building permit for dwellings adjacent to perimeter walls. The analysis shall be prepared by a qualified noise consultant in a manner	Building Dept Official	

4. Mitigation Monitoring and Reporting Program

La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal							
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)	
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements
N-3	Long-Term Vehicular Noise Impacts on the Project Site: Interior Noise Levels	D/PC	Building Dept Official	<p>meeting the approval of the Building Official.</p> <p><b>N-3 Interior Noise Mitigation</b></p> <p>a. Prior to issuance of a building permit for any residential structure adjacent to a perimeter roadway, the applicant shall submit an acoustical analysis demonstrating that interior noise levels will conform to the standard of 45 dBA CNEL. The analysis shall describe the structural measures necessary to meet the standard and shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official. All required structural noise reduction measures shall be incorporated into building plans and permits in a manner meeting the approval of the Building Official.</p> <p>b. If determined necessary by the Building Official, prior to issuance of a certificate of occupancy for any structure for which an acoustical analysis was required, field testing shall be conducted by a qualified acoustical consultant to confirm that the required level of noise attenuation has been achieved. If the testing finds that noise levels exceed allowable standards, additional mitigation shall be required prior to issuance</p>			

4. Mitigation Monitoring and Reporting Program

La Floresta Village Mitigation Monitoring Program La Floresta Development Proposal							
EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)	
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements
N-4	On-Site Noise Generation Impacts	D/PC	Building Dept Official/ Development Services Official	<p>of the occupancy certificate, in a manner meeting the approval of the Building Official.</p> <p><b>N-4 On-Site Noise Mitigation</b></p> <p>a. Prior to approval of any final tract map, conditional use permit or site plan in La Floresta Village that includes non-residential use, the City shall retain an acoustical consultant at the applicant's expense to review the proposed final map or site plan and identify any potential noise conflicts, and provide recommendations for mitigating those conflicts. The analysis and recommendations shall be reviewed and approved by the Building Official and the City Planner, and shall be adopted as conditions of approval. A note shall be placed on the final map or site plan listing all noise mitigation conditions that will be required, as determined by the Building Official and City Planner.</p> <p>b. Prior to issuance of any building permit for a non-residential structure in La Floresta Village that is adjacent to an existing or planned residential use, the Building Official and the City Planner shall ensure that all feasible noise mitigation measures that were adopted as conditions of</p>			

**La Floresta Village Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)		
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date
				approval on the tentative map or site plan have been incorporated into the building plans.				
<b>Public Services and Utilities</b>								
PS-1	1. Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> 2. Fire Protection	C				Development Services Official/ Fire Dept Official	<b>PS-1 Fire Protection</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Fire Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.	
PS-2	1. Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> 2. Police Protection	C				Development Services Official/ Police Dept Official	<b>PS-2 Police Protection</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Police Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.	
PS-3	1. Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>▪ City of Brea General Plan</li> <li>▪ Public Safety Element</li> <li>▪ Community Services Element</li> <li>▪ Community Development Element</li> </ul> 2. School Services	C				Development Services Official/ School District Official (BOUSD)	<b>PS-3 School Fees</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Brea Olinda Unified School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Development Proposal located within BOUSD boundaries.	

4. Mitigation Monitoring and Reporting Program

**La Floresta Village Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)			Construction Phase (C)	
			Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/Mitigation Specialist	Mitigation Requirements
PS-4	<ol style="list-style-type: none"> <li>Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>City of Brea General Plan</li> <li>Public Safety Element</li> <li>Community Services Element</li> <li>Community Development Element</li> </ul> </li> <li>School Services</li> </ol>	C			Development Services Official/School District Official (PYLUSD)	<p><b>PS-4 School Fees</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Placentia Yorba Linda School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Village Development located within the PYLUSD boundaries.</p>	
PS-5	<ol style="list-style-type: none"> <li>Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>City of Brea General Plan</li> <li>Public Safety Element</li> <li>Community Services Element</li> <li>Community Development Element</li> </ul> </li> <li>Library Services</li> </ol>	C			Development Services Official/Library Official (City of Brea)	<p><b>PS-5 Library Fees</b> Prior to issuance of each Certificate of Occupancy, the applicant shall pay library impact fees to offset its fair-share of the City's cost of providing additional resources to Project residents.</p>	
PS-6	<ol style="list-style-type: none"> <li>Consistency with Applicable Plans and Regulations: <ul style="list-style-type: none"> <li>City of Brea General Plan</li> <li>Public Safety Element</li> <li>Community Services Element</li> <li>Community Development Element</li> </ul> </li> <li>Wastewater Treatment</li> </ol>	C			Public Works Official/OC San District Official	<p><b>PS-6 Sewer Facilities</b> a. Prior to approval of the first final subdivision map for La Floresta Village (except maps for financing purposes only, the applicant shall submit a sewer system improvement phasing plan for the La Floresta Village development project meeting the approval of the City Engineer and the Orange County Sanitation District. b. Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the</p>	



**La Floresta Village Mitigation Monitoring Program  
La Floresta Development Proposal**

EIR Mitigation #	Impact(s)	Monitoring Phase	Design/Plan Check (D/PC)		Construction Phase (C)		
			Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements	Sign-Off Date	Monitoring Supervisor/ Mitigation Specialist	Mitigation Requirements
	Peak Hour <ul style="list-style-type: none"> <li>▪ Kraemer Avenue &amp; Imperial Hwy (Brea) – PM Peak Hour</li> <li>▪ Placentia Ave &amp; Bastanchury Road (Placentia) – PM Peak Hour</li> <li>▪ Kraemer Avenue &amp; Bastanchury Road (Placentia) – PM Peak Hour</li> </ul>					fees to address a fair share of costs for improvements to impacted intersections listed. For intersections in the City of Placentia, the La Floresta Development Proposal will be responsible for the payment to the City of Placentia of a fair share of costs for improvements to impacted intersections listed. Please see Table 3.0 - Traffic Mitigation Improvements for specific street improvements determined necessary.	

**Table 4 – Proposed Traffic Mitigation – Year 2025 (Intersections with Significant Project Impacts), La Floresta Development Proposal**

Intersection	With Birch Hills	With La Floresta Village	With Full Project	Project Responsibility
<b>City of Brea</b>				
Associated Road & Lambert Road	None required.	None required.	Add westbound de facto right turn lane.	Nexus Fees
Valencia Avenue & Birch St/Rose Ave	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Nexus Fees
Kraemer Blvd. & Imperial Hwy	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Nexus Fees
<b>City of Placentia</b>				
Placentia Avenue & Bastanchury Road	None required	Add separate northbound right turn lane.	Add separate northbound right turn lane.	Share
Kraemer Blvd. & Bastanchury Road	None required	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Share
<p>Note: A de facto right turn lane is an unstriped right-turn (typically with a width of 19 feet from curb to outside of through lane) that is wide enough to separately serve both through and right-turn traffic.                      Source: Austin-Foust Associates, November 2006</p>				



## 5. Errata

This Errata section identifies any changes made to the Draft Environmental Impact Report (DEIR) to correct or clarify the information contained in that document. Changes made to the DEIR are identified here in ~~strikeout text~~ to indicate deletions and in **bold italics** to signify additions.

### 5.1 Revisions to the Text of the EIR

- Section 3.6, Cumulative Setting, is added to page 3-18 of the Draft EIR, as follows:

#### 3.6 Cumulative Setting

***Cumulative impacts such as traffic, noise, and air quality impacts are evaluated in Section 5.0 based upon General Plan growth projections, presented in Table 3.6-1 below. The assumed cumulative setting for other impacts that are not quantitatively driven are described in each impact analysis section under Cumulative Impacts.***

<b>Land Use Category</b>	<b>Projected Dwelling Units (2020)</b>			<b>Projected Population (2020)</b>		
	<b>City</b>	<b>Sphere of Influence</b>	<b>Total</b>	<b>City</b>	<b>Sphere of Influence</b>	<b>Total</b>
<b>Hillside Residential</b>	<b>262</b>	<b>1,903</b>	<b>2,165</b>	<b>705</b>	<b>5,117</b>	<b>5,822</b>
<b>Very Low Density Residential</b>	<b>439</b>	<b>4</b>	<b>443</b>	<b>1,181</b>	<b>11</b>	<b>1,192</b>
<b>Low Density Residential</b>	<b>9,475</b>	<b>774</b>	<b>10,249</b>	<b>25,479</b>	<b>2,080</b>	<b>27,650</b>
<b>Medium Density Residential</b>	<b>3,105</b>	<b>0</b>	<b>3,105</b>	<b>8,351</b>	<b>0</b>	<b>8,351</b>
<b>High Density Residential</b>	<b>5,117</b>	<b>0</b>	<b>5,117</b>	<b>13,761</b>	<b>0</b>	<b>13,761</b>
<b>Mixed Use I-Residential</b>	<b>332</b>	<b>0</b>	<b>332</b>	<b>893</b>	<b>0</b>	<b>893</b>
<b>Mixed Use II-Residential</b>	<b>1,338</b>	<b>0</b>	<b>1,338</b>	<b>3,598</b>	<b>0</b>	<b>3,598</b>
<b>Totals</b>	<b>20,069</b>	<b>2,680</b>	<b>22,749</b>	<b>53,968</b>	<b>7,208</b>	<b>61,176</b>
<b>Source: Brea General Plan, December 2002</b>						

2. Section 4.2.2 – Description of the Project, La Floresta Village, Table 4.2-1, page 4-3, is hereby amended to read as follows:

Under Planning Area 9, the unit total is 222 units, rather than 200 units.

Corresponding changes are hereby made throughout the DEIR in any location referring specifically to the build-out of Planning Area 9.

3. Section 4.2.2 – Description of the Project, La Floresta Village, page 4-39, is hereby amended to read as outlined below.

#### Linear Parks

Linear parks 50 feet in width are proposed along the La Floresta Village site boundaries abutting the existing the existing residential neighborhood located to the east of the La Floresta Village site, as illustrated in Exhibit 4.2-11a – La Floresta Village: Conceptual Open Space Plan. **Exhibit RTC-1, contained in Section 5.2 – Revisions to Exhibits in the EIR, augments existing exhibits and provides a more detailed illustration of the linear park and the trails planned on the La Floresta Village site than was available at the time the Draft EIR was released. As shown, the linear park will incorporate a 5-foot-wide meandering concrete trail and a 5-foot-wide meandering decomposed granite trail that can be used by pedestrians, bike riders, or equestrians.** As noted previously, block walls would remain in these areas.

4. Section 5.3, page 5.3-32, under Degradation of the Existing Visual Character or Quality of the Site and Its Surroundings, the following Mitigation Measure is added to assure that any visual impacts to the Vesuvius neighborhood are minimized although no significant impacts are anticipated:

#### **AES-1 Implementation of the Linear Park**

***The proposed linear park on the La Floresta Village site, running along the easterly property line, shall be fully implemented, consistent with final Landscape Plans, concurrently with the construction of any planned adjacent development within the Project.***

In addition, existing Mitigation Measure AES-1 is renumbered to AES-2, and Mitigation Measure AES-2 is renumbered to AES-3.

5. Section 5.3, page 5.1-48, Mitigation Measure AES-3 (formerly AES-2) is hereby modified to read as follows:

#### **AES-3 Construction Screening**

*Temporary construction screening shall be utilized throughout the construction process in all areas where a solid visual barrier does not exist between adjacent uses or roadways on both the La Floresta Village and Birch Hill sites. **Barriers shall be installed in such a manner as to not adversely affect traffic safety in any adjacent area.***

6. Section 5.3, page 5.1-48, Mitigation Measure AES-2 (formerly AES-1) is hereby amended to read as follows:

**AES-2 Construction Lighting**

Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area. **Spillage shall be controlled to the maximum extent feasible and shall not exceed 0.5 foot candles at any property line, consistent with the level of lighting determined necessary for safety and security purposes on the Project sites.**

7. Section 5.4 – Cultural Resources, pages 5.4-6 and 5.4-7, Mitigation Measures CR-1 through CR-3 are deleted and replaced with new Mitigation Measure CR-1 in **bold italics** below, as follows:

**Mitigation Measures:**

**CR-1 Pacific Electric Railway Tracks, Birch Hills Site**

***Subsequent Precise Development Plans to be reviewed and approved by the Development Services Department of the City of Brea for the implementation of the proposed Birch Hills project shall 1) acknowledge the existing railroad bed alignment to the fullest extent possible 2) retain the embedded rails in the golf cart road and as many other historic-age features as possible (palm trees, drainage pipes, roadbed profile), and 3) interpret the Pacific Electric railroad at appropriate public viewing areas at the property with durable plaques and/or kiosks preferably along the proposed public recreational trail adjacent to the railroad alignment .***

**Level of Significance after Mitigation:** Less than Significant

8. Section 5.4 - Cultural Resources, page 5.4-8, Mitigation Measure CR-4 is revised to read as follows:

**CR-2 ~~CR-4~~ Archaeological Monitor**

*An Orange County certified archaeologist monitor shall be present during all ground-disturbing construction activities occurring in native sediments/ soils. In the event that cultural resources are exposed during construction, the monitor shall be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archeologist determines that they are unique archeological resources as defined by **criteria for listing in the California Register of Historical Resources, §21083.2 of CEQA,** then the archeologist shall conduct additional excavations to avoid impacts to these resources by the development. If they are not “unique,” then no further mitigation would be required. ~~Unique cultural resources shall be determined based on the criteria set forth in §21083.2 of CEQA.~~*

9. Section 5.6 – Hazards and Hazardous Materials, Table 5.6-1, page 5.6-23, Wastewater Sump, third column under “Mitigation” is changed as follows:

**HAZ-4 Wastewater Sump Area**

***Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former wastewater sump, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.***

**HAZ-1 Underground Storage Tanks**

~~*Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.*~~

10. Section 5.8.4, Page 5.8-7, Project Impacts and Mitigation Measures, Consistency with Applicable Plans and Regulations, City of Brea General Plan: Community Development Element – Land Use, is hereby changed to read as follows with respect to the conclusions of analysis regarding the La Floresta Village Site:

**Level of Significance:** ~~Potentially Significant.~~ **Less than Significant.**

**Mitigation Measures:** None are required.

**Level of Significance after Mitigation:** Less than Significant.

11. Section 5.12.4, Table 5.12.4, page 5-12-20 of the DEIR is hereby replaced by the following table:

**Table 5.12-4  
Project Trip Generation Summary –  
La Floresta Development Proposal**

Land Use	Amount	Unit	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
<b>La Floresta Village</b>									
4. Medium Density Residential	398.00	DU	52	199	251	211	111	322	3,224
5. High Density Residential	540.00	DU	43	232	275	227	108	335	3,580
16. Mixed Use Residential <sup>1</sup>	150.00	DU	12	65	77	63	30	93	995
17. Mixed Use Commercial <sup>1</sup>	156.80	TSF	174	45	219	220	298	518	5,137
30. Public Facility <sup>2</sup>	5.30	AC	0	0	0	0	0	0	0
SUB-TOTAL			281	541	822	721	547	1,268	12,936
<b>Existing Trips for La Floresta Project</b>			<b>223</b>	<b>47</b>	<b>270</b>	<b>35</b>	<b>253</b>	<b>288</b>	<b>2,049</b>
<b>La Floresta Village Project Increment</b>			<b>58</b>	<b>494</b>	<b>552</b>	<b>686</b>	<b>294</b>	<b>980</b>	<b>10,887</b>
<b>Birch Hills</b>									
5. High Density Residential	247.00	DU	20	106	126	104	49	153	1,638
29. Golf Course <sup>3</sup>	18	Hole	6	2	8	4	7	11	184
31. Community Center	20.00	TSF	20	13	33	10	23	33	458
SUB-TOTAL			46	121	167	118	79	197	2,280
<b>Existing Trips for Birch Hills Project</b>			<b>6</b>	<b>2</b>	<b>8</b>	<b>4</b>	<b>7</b>	<b>11</b>	<b>184</b>
<b>Birch Hills Project Increment</b>			<b>40</b>	<b>119</b>	<b>159</b>	<b>114</b>	<b>72</b>	<b>186</b>	<b>2,096</b>
<b>Full Project Total</b>									
4. Medium Density Residential	398.00	DU	52	199	251	211	111	322	3,224
5. High Density Residential	787.00	DU	63	338	401	331	157	488	5,218
14. Natural Open Space	75.60	AC	0	0	0	0	0	0	0
16. Mixed Use Residential	150.00	DU	12	65	77	63	30	93	995
17. Mixed Use Commercial	156.80	TSF	174	45	219	220	298	518	5,137
29. Golf Course <sup>3</sup>	18	Hole	6	2	8	4	7	11	184
30. Public Facility (Adult)	5.30	AC	0	0	0	0	0	0	0
31. Community Center	20.00	TSF	20	13	33	10	23	33	458
GRAND TOTAL			327	662	989	839	626	1,465	15,216
<b>Existing Trips for both La Floresta/Birch Hills</b>			<b>229</b>	<b>49</b>	<b>278</b>	<b>39</b>	<b>260</b>	<b>299</b>	<b>2,233</b>
<b>Full Project Total Project Increment</b>			<b>98</b>	<b>613</b>	<b>711</b>	<b>800</b>	<b>366</b>	<b>1,166</b>	<b>12,983</b>
<b>Trip Rates</b>									
4. Medium Density Residential		DU	0.13	0.50	0.63	0.53	0.28	0.81	8.10
5. High Density Residential		DU	0.08	0.43	0.51	0.42	0.20	0.62	6.63
14. Natural Open Space		AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16. Mixed Use Residential		DU	0.08	0.43	0.51	0.42	0.20	0.62	6.63
17. Mixed Use Commercial		TSF	1.11	0.29	1.40	1.40	1.90	3.30	32.76
30. Public Facility (Adult)		AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31. Community Center		TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes: <sup>1</sup> Village Core area. Commercial uses include 111,300 square feet of retail/restaurant and 45,500 square feet of office. <sup>2</sup> Active adult recreation center. <sup>3</sup> Existing golf course is reconfigured, but retains the same number of trips.									
Abbreviations: Comm. – commercial      TSF – thousand square feet DU – dwelling unit      AC - acre									

Source: Austin-Foust Associated, July 2008

12. Section 5.12, Table 5.12-6, page 5.12-35, under City of Placentia, items in parentheses are changed from ~~(a)~~ to **1**; and from ~~(b)~~ to **2**, referring to notes at the bottom of the table.
13. Section 5.12, page 5.12-39, paragraph 4, first sentence is revised to read as follows:
- Within the City of Placentia, the proposed Project contributes to a cumulative impact at **the intersection of Kraemer Boulevard and Bastanchury Road.** ~~the intersection.~~
14. Section 10.0 Bibliography, Subsection 10.12 – Traffic and Circulation, page 10-6, is modified to add the following specific references as cited in Appendix J – Traffic Study, to the Draft EIR:
1. **Austin-Foust Associates, Inc., “Tri-City Traffic Model Documentation and Validation”, February 2003.**
  2. **Austin-Foust Associates, Inc., “City of Brea General Plan, Technical Notebook”, January 2003.**
  3. **Austin-Foust Associates, Inc., City of Brea Transportation Improvement Plan, Nexus Program Procedures Description”, May 1995.**
  4. **Transportation Research Board, National Research Council, “Highway Capacity Manual 2000”, 2000.**
15. Appendix J to the Draft, Traffic study, Table 7, page 18, under the City of Placentia subheading, item #42, Rose & Imperial Highway is modified to add a third eastbound through lane as a committed improvement.
16. Minor grammatical and formatting comments have been suggested. The following edits and corrections are made in the Draft EIR as listed below:
- Page 1-1, Section 1.1 - Introduction, 2<sup>nd</sup> paragraph
 

This document focuses on issues determined to be potentially significant as discussed in the Initial Study and the public scoping process completed for this project, as well as comments received on the Notice of Preparation (NOP) circulated by the City of Brea **on December 19, 2005.** ~~in December 2005.~~ Section 2.2 – Notice of Preparation and Initial Study, describes this process. See appendix A for these documents.
  - Page 1-1, Section 1.2 – Project Description, 2<sup>nd</sup> paragraph, 1<sup>st</sup> sentence
 

Proposed development on the La Floresta Village site totals 1,088 residential units, including portions devoted to senior housing and live/work housing over commercial use; 156,800 square feet of mixed-use commercial; and **5.3** ~~53.27~~ acres devoted to an active adult recreation center for project residents.
  - Page 2-12, 3<sup>rd</sup> bulleted item – delete underline from “oil well abandonment”.
  - Page 2-12, last two bulleted items – capitalize “a” in “Approval of utility connections ...”.

- Page 2-14, Section 2.10 – Important Terms, numbered items 1, 5 and 6 – capitalize “The development ...”, “The reconfiguration ...”, and “The development”.

- Page 3-17, Section 3.5.1 – La Floresta Village Site, 1<sup>st</sup> paragraph, last sentence:

A Demolition Permit was approved by the City in March 2005, and demolition activities were **completed** ~~completely~~ in April 2006.

- Page 3-17, Section 3.5.1 – La Floresta Village Site, 2<sup>nd</sup> paragraph, 3<sup>rd</sup> and 4<sup>th</sup> sentences:

An Initial Study/Notice of Preparation (NOP) was distributed on December 19, 2005, which started the mandatory 30-day NOP public review period, ending **on** January 19, 2006. The City **of** Brea held a public scoping meeting for the EIR on December 19, 2006.

- Page 3-18, Section 3.5.1 – La Floresta Village Site, 1<sup>st</sup> paragraph, 2<sup>nd</sup> sentence

An Initial Study/Notice of Preparation (NOP) was distributed on December 19, 2005, which started the mandatory 30-day NOP public review period, ending **on** January 19, 2006.

- Page 4-3, Section 4.2.2 – Description of the Project, La Floresta Village Site, 1<sup>st</sup> sentence

The La Floresta Village site is approximately 119 acres in size and is proposed to be developed in a range of residential product types varying from 5.0 to **28.5 gross** ~~8.5 net dwelling units per acre to 28.5 net dwelling units per acre~~ with a “Village Core” incorporating both residential and non-residential components ... Planning Area 5 (PA-5), located at the corner of Valencia Avenue and Imperial Highway is devoted ~~to~~ primarily to **mixed use residential and** non-residential uses. One hundred fifty residential **units** are, however, incorporated in this mixed-use area. ...

- Page 4-3, Table 4.2-1, 4<sup>th</sup> column heading, change “Proposed Net Density” to “Proposed Gross Density.”

- Page 4-39, Circulation, 1<sup>st</sup> sentence

The proposed Circulation Plan for La Floresta Village incorporates a hierarchy of collector and local streets ranging from **39** ~~52~~-feet to 72 feet in right-of-way width

- Page 4-39, Trails, 1<sup>st</sup> paragraph

... as well as additional pedestrian and Class III bicycle **routes** ~~trails~~ for circulation within the La Floresta Village community.

- Page 4-75, Table 4.2-2, 4<sup>th</sup> column heading, change “Net Density” to “Gross Density.” In the 1<sup>st</sup> row (PA 12a), 4<sup>th</sup> column, change “24.0” to “24.5.”

- Page 4-75, Landscaping, Walls and Fences, 2<sup>nd</sup> sentence  
Typical landscape conditions planned along Kraemer Boulevard and Birch Street **are** re-shown in Exhibit 4.2-24.
- Page 4-112, 4<sup>th</sup> bulleted item, underline "California Division of Oil, Gas and Geothermal Resources (DOGGR); La Floresta Village site"
- Page 5.2-31, 2<sup>nd</sup> paragraph, 1<sup>st</sup> sentence  
Although the proposed development would substantially alter the intensity of development on the site and substantially change the visual character of the site, these changes are not considered adverse relative to the existing conditions on the site ~~presently~~.
- Page 5.1-31, Viewpoints One through Four, 1<sup>st</sup> sentence  
Aesthetics impacts would be greatest to those receptors with unobstructed views in closest proximity to the La Floresta Village site, which are shown in the visual simulations for Viewpoints 1 through 4 on Exhibit 5.2-2b through Exhibit 5.1.535.1-53e.
- Page 5.1-50, 1<sup>st</sup> paragraph  
The visual character of the Birch Hills site would remain similar to the existing character. ~~and the~~ **The** La Floresta Village site is largely vacant disturbed land at present. ...
- Page 5.2-1, Regulatory setting – add parenthesis at the end of the last line.
- Page 5.3-15, Construction Air Quality Impacts, Both Sites, last sentence  
Although worst-case, project-related construction activity PM<sub>10</sub> is predicted to temporarily exceed the 150-pound/day threshold, the absence of much PM<sub>2.5</sub> within this dust generation level suggests a minimal potential health impact despite substantial amounts of **PM<sub>10</sub>**. ~~PM<sub>10</sub>~~.
- Page 5.3-15, Construction Air Quality Impacts, Both Sites, 5<sup>th</sup> paragraph, 1<sup>st</sup> sentence  
Exhaust emissions would also result from **on-site** ~~on~~ and off-site heavy equipment.
- Page 5.3-19, Fill Hauling Impact, Both Sites, 1<sup>st</sup> paragraph, 3<sup>rd</sup> line – delete period after "Kraemer Boulevard".
- Page 5.3-21, Regional Mobile Source Operational Impacts after Project Completion, Both Sites, 1<sup>st</sup> sentence – delete extra period at the of the sentence.

- Page 5.3-22, 1<sup>st</sup> paragraph after table, 2<sup>nd</sup> sentence  
This represents approximately 87% of the total **forecasted** ~~foree~~cast housing growth for Brea between 2005 and 2015.
- Page 5.3-25, Section 5.3.5 – Cumulative Impacts, 2<sup>nd</sup> paragraph, 1<sup>st</sup> sentence  
The Project is located in a non-attainment area for both ozone and **PM<sub>10</sub>** ~~PM<sub>10</sub>~~-(particulate matter).
- Page 5.4-6, Birch Hills Site, 1<sup>st</sup> paragraph, last line – delete comma after “September”.
- Pages 5.4-9 and 5.4-10, Mitigation Measures

#### **Mitigation Measures:**

##### **CR-6 Paleontological Monitor**

All construction-related ground disturbance related to the Hartley Center–La Floresta Village development project that could potentially impact the paleontologically sensitive Quaternary Older Alluvium **shall** ~~will~~-be monitored by a qualified paleontological monitor on a full-time basis. Ground disturbances in Holocene-age alluvium **shall** ~~will~~-be monitored on a part-time basis to ensure that underlying paleontologically sensitive sediments are not impacted.

##### **CR-7 Paleontological Mitigation Plan**

An Orange County Certified Paleontologist **shall** ~~will~~-be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed La Floresta Village development project. Paleontological monitoring **shall** ~~will~~-include inspection of exposed rock units during active excavations. The monitor **shall** ~~will~~-have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data.

##### **CR-8 Progress Reports**

The Certified Paleontologist **shall** ~~will~~-prepare monthly progress reports to be filed with the client and the lead agency.

##### **CR-9 Recordation of Fossil Localities**

At each fossil locality, pertinent geologic data **shall** ~~will~~-be recorded on field data forms, stratigraphic sections **shall** ~~will~~-be measured, and appropriate sediment samples **shall** ~~will~~-be collected and submitted for analysis.

##### **CR-10 Recovery of Fossils**

Recovered fossils **shall** ~~will~~-be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and repositied in a designated paleontological curation facility. Potential repositories include the

Natural History Museum of Los Angeles County and the San Bernardino County Museum.

**CR-11 Final Monitoring and Mitigation Report**

The Certified Paleontologist **shall** ~~will~~ prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.

- Page 5.5-15, La Floresta Village Site, Liquefaction, 3<sup>rd</sup> bullet
  - A **relatively** ~~relative~~ shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.
- Page 5.5-16, Birch Hills Site, Liquefaction, 3<sup>rd</sup> bullet
  - A **relatively** ~~relative~~ shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

- Page 5.5-17, 1<sup>st</sup> paragraph

Adverse effects from expansive soils can be readily mitigated **through** ~~through~~ the use of well-reinforced foundations, post-tension slabs, and pre-moistening of supporting surface soils prior to construction.

- Page 5.6-5, Methane and Hydrogen Sulfide, last paragraph, last sentence – add period to the end of the sentence

The laboratory results indicated that methane was detected at some of the sample locations.

- Page 5.6-18 and 5.6-19 – item d., underline “Grading Protocol”; item e., underline “Grading Monitor”; item f., underline “Residential Structure Setbacks”.

- Page 5.6-21, Hydrogen Sulfide, 1<sup>st</sup> sentence

Low concentrations of hydrogen sulfide (**H<sub>2</sub>S**) detected during a soil gas survey were determined to be the result of plant matter decay (GeoSyntec, 2004).

- Pages 5.6-25 and 5.6-26, Table 5.6-1, Hazardous Materials Remediation Summary - item d., underline “Grading Protocol”; item e., underline “Grading Monitor”; item f., underline “Residential Structure Setbacks”.

- Page 5.7-2, Surface Water Quality, 1<sup>st</sup> sentence

The La Floresta Village site is within the jurisdiction of the Santa Ana ~~Regional~~ **Region of the California Regional** Water Quality Control Board and is within the Carbon Creek Watershed (County of Orange Watershed B).

- Page 5.7-27, Mitigation Measure HYD-6, item c
  - c. Prior to any final map approval for the Birch Hills development, the applicant/owner shall consult with the Orange County Flood Control District (OCFCD) to identify **the** requirements for **the provision of project-related facilities** ~~any facility or property improvements planned for construction~~ within the OCFCD channel easement. Such improvements shall be constructed to the satisfaction of the OCFCD and the City Engineer.
  
- Page 5.8-7, Section 5.8.4 – Project Impacts and Mitigation Measures, La Floresta Site, 2<sup>nd</sup> paragraph
 

The proposed La Floresta Village development would comply with Community Development Element – Land Use policies listed in Section 5.8.2 under “Regulatory Setting” (beginning on page 5.8.3) in that it is a master planned project that contains a range of single- and multi-family residential densities and dwelling types (including vertically integrated live/work dwelling units), allows for a range of support commercial and office land uses in ~~close~~ proximity to future residents, and incorporates a system of trail links, a linear park, and community recreation facilities.
  
- Page 5.8-7, Section 5.8.4 – Project Impacts and Mitigation Measures, La Floresta Site, 3<sup>rd</sup> paragraph
 

The proposed residential densities range from 5.0 to **28.5** ~~48.5~~ dwelling units per acre as illustrated in Table 4.2-1 – Statistical Overview of Proposed Development, La Floresta Village.
  
- Page 5.8-7, Section 5.8.4 – Project Impacts and Mitigation Measures, Birch Hills Site, 1<sup>st</sup> sentence
 

The Birch Hills site is designated **as** “Birch Hills Specific Plan.”
  
- Page 5.9-11, Section 5.9.4 – Project Impacts and Mitigation Measures, last paragraph on page, 1<sup>st</sup> sentence
 

Because of ~~close~~ proximity,
  
- Page 5.9-28, Construction Noise Impacts, Both Sites, 1<sup>st</sup> sentence
 

The impact area for construction noise is very localized, and cumulative impacts would only occur when other construction sites are in ~~close~~ proximity to the Project sites.
  
- Page 5.11-8, Wastewater Treatment, item 3
  3. Facilities affecting the greatest number of customers or which would cause the most damage in the event of failure are given higher priority rankings **than** ~~that~~ those that do not. This means that downstream facilities with larger tributary flows receive higher priority than upstream facilities.

- Page 5.11-35, 1<sup>st</sup> sentence

This **section** of the EIR has analyzed the potential public service and utility impacts

- Page 7-2, last sentence

Section **7-5** ~~7-17~~ identifies the environmentally superior alternative.

- Page 7-7, Section 7.3.1, Aesthetics, 1<sup>st</sup> paragraph

This Alternative would result in the alteration of the existing visual character of the La Floresta Village site in a manner similar to the proposed Project. Commercial development on the La Floresta Village site would, however, comprise a larger portion of the project under General Plan assumptions. Due **to** the increased commercial intensity, aesthetic and light and glare impacts could thus be somewhat greater than the proposed Project.

- Page 7-8, Section 7.3.5 – Geology and Soils, 1<sup>st</sup> paragraph

This Alternative would allow development more intense than the proposed Project, however, impacts to geology and soils are location-specific and not directly affected by development intensity. Therefore, **impacts** ~~impacts~~ due to geology and grading would be considered similar to the proposed Project. No unmitigable significant impacts related to geology and soils were identified for the proposed Project. Alternative B is not considered either inferior or superior to the proposed Project relative to cultural resources.

- Page 7-9, Section 7.3.7 – Hydrology and Water Quality, 1<sup>st</sup> paragraph

Alternative B would allow commercial development that is more intense than the proposed Project. Also, low-density residential development in the Birch Hills site would be expected to result in more developed area than the clustered high-density housing in the proposed Project. Impacts to hydrology and water quality could therefore be greater than the proposed **Project** ~~project~~ due to the increased development area and greater proportion of impervious surfaces that would be expected with increased commercial development and lower density residential development. This alternative would be considered inferior to the proposed Project with respect to hydrology and water quality.

- Page 7-14, Section 7.4.5 – Cultural Resources, 2<sup>nd</sup> sentence

Alternative C would allow development less intense than the proposed Project; however, impacts to cultural resources are location specific and not driven by development intensity. Therefore, **impacts** ~~impacts~~ due to grading and site preparation would be similar to the proposed Project. ...

---

## 5.2 Revisions to Exhibits in the EIR

15. Exhibits are replaced in the Draft EIR as described below. All new exhibits noted follow this Errata section.
  1. Section 4.2.4, Project Description, subsection 4.2.2, La Floresta Village Site, page 4-63, Exhibit 4.2-11b, La Floresta Village: Typical Linear Park Edge Conditions, is replaced by Exhibit RTC 1.0 illustrating an updated plan and section views for the linear park adjacent to the Vesuvius neighborhood.
  2. Section 4.2.4, Project Description, subsection 4.2.2, La Floresta Village Site, page 4-33, Exhibit 4.2-4l, La Floresta Village: Conceptual Building Elevations, Planning Area 9 - Senior Living Facility, is replaced by Exhibits RTC 2.0, 3.0, 3.1 and 3.2, illustrating a revised conceptual site plan, section views, and an east building elevation.
  3. Section 4.2.4, Project Description, subsection La Floresta Village Site, page 4-71, Exhibit 4-15a and page 4-73, Exhibit 4-15b, La Floresta Village: Tentative Tract Map 16934, Sheets 1 and 2, respectively, are replaced by Exhibits RTC 4.1 and RTC 4.2 illustrating the current Tentative Tract Map incorporating various minor modifications.
  4. Section 4.2.4, Project Description, subsection Birch Hills Site, page 4-109, Exhibit 4.2-29, Birch Hills Tentative Tract Map 16933 is replaced with Exhibit RTC 5.0 illustrating the current Tentative Tract Map incorporating various minor modifications.
  5. Section 5.1, Exhibit 5.1-5a, Visual Simulation Key Map, page 5.1-33, is replaced by Exhibit RTC 6.0 – Visual Simulation Key Map, illustrating all viewpoints, including additional viewpoints from within the Vesuvius neighborhood.
  6. Section 5.1, Exhibit 5.1-5f, La Floresta Village: Viewpoint Five, Looking West, is replaced by revised visual simulations at locations within the Vesuvius neighborhood indicated on the revised key map, and illustrated in Exhibits RTC 7.0, 8.0, and 9.0.







# La Floresta Village - Planning Area 9, Conceptual Site Plan - Senior Living Facility



## Vesuvius Neighborhood

### STATISTICAL SUMMARY

**RESIDENTIAL UNITS:**  
 A. INDEPENDENT UNITS: 178 TOTAL  
 B. ASSISTED LIVING UNITS: 44 TOTAL

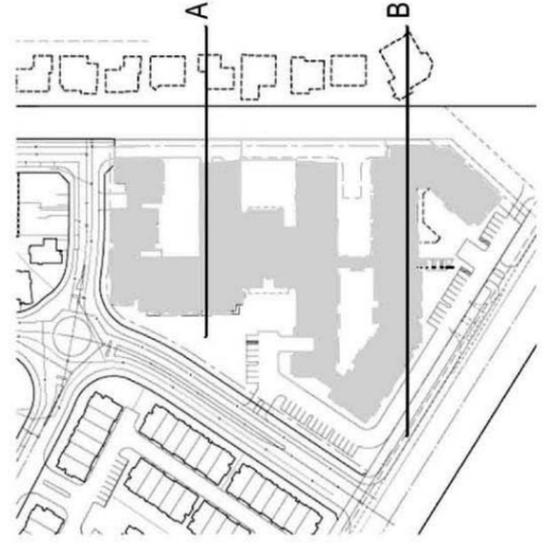
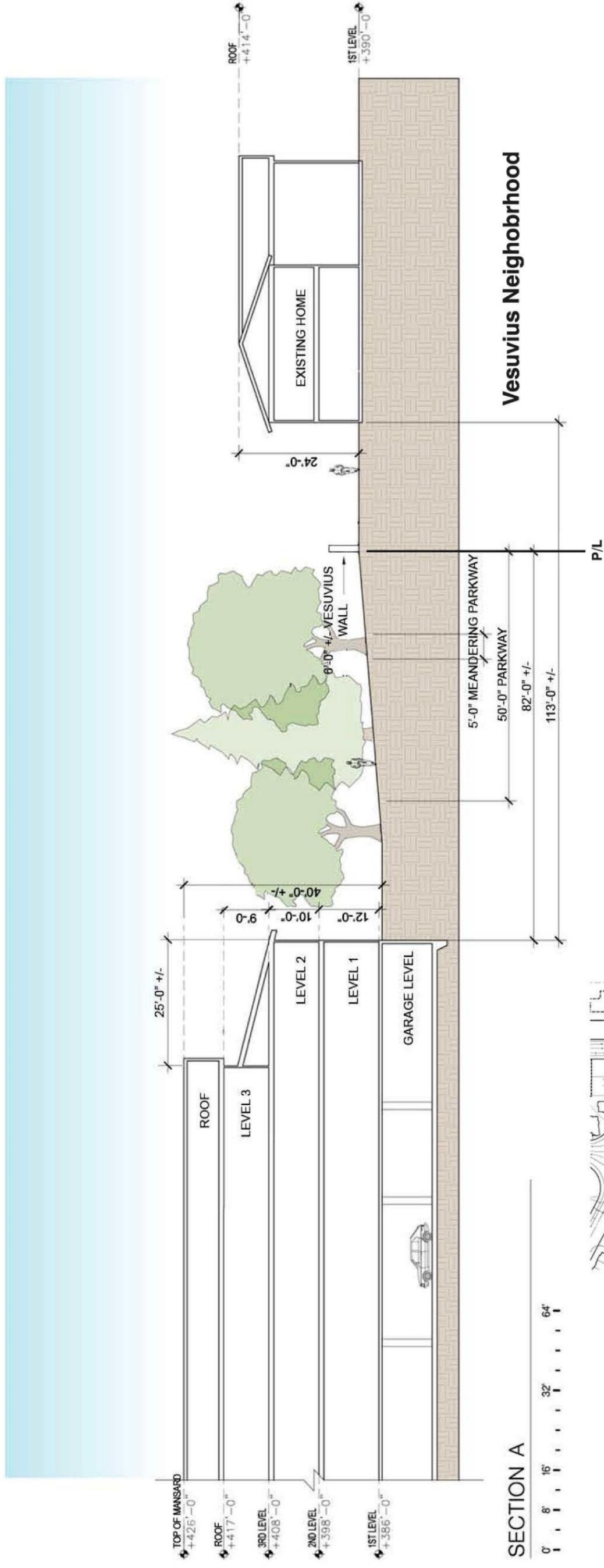
**PARKING**  
 A. UNDERGROUND STALLS: 204  
 B. ABOVE GROUND SPACES: 36 TOTAL

**POOL**  
 A. SINGLE POOL IS PROVIDED FOR BOTH RECREATION AND THERAPY. ITS SIZE IS APPROXIMATELY 875 SQ. FT.

**COURTYARDS**  
 A. ROSE GARDEN COURTYARD (A) 9,971 SQ. FT.  
 B. POOL COURTYARD (B) 7,364 SQ. FT.  
 C. HUMMINGBIRD/ BUTTERFLY COURTYARD (D) 10,837 SQ. FT.  
 D. READER'S RETREAT COURTYARD (D): 6,957 SQ. FT.  
 E. CALIFORNIA CITRUS COURTYARD (E): 11,585 SQ. FT.



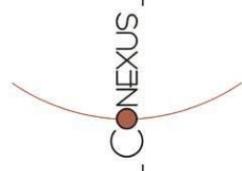
# La Floresta Village - Planning Area 9, Site Cross-section A - Senior Living Facility



**SECTION A**  
 0' 8' 16' 32' 64'

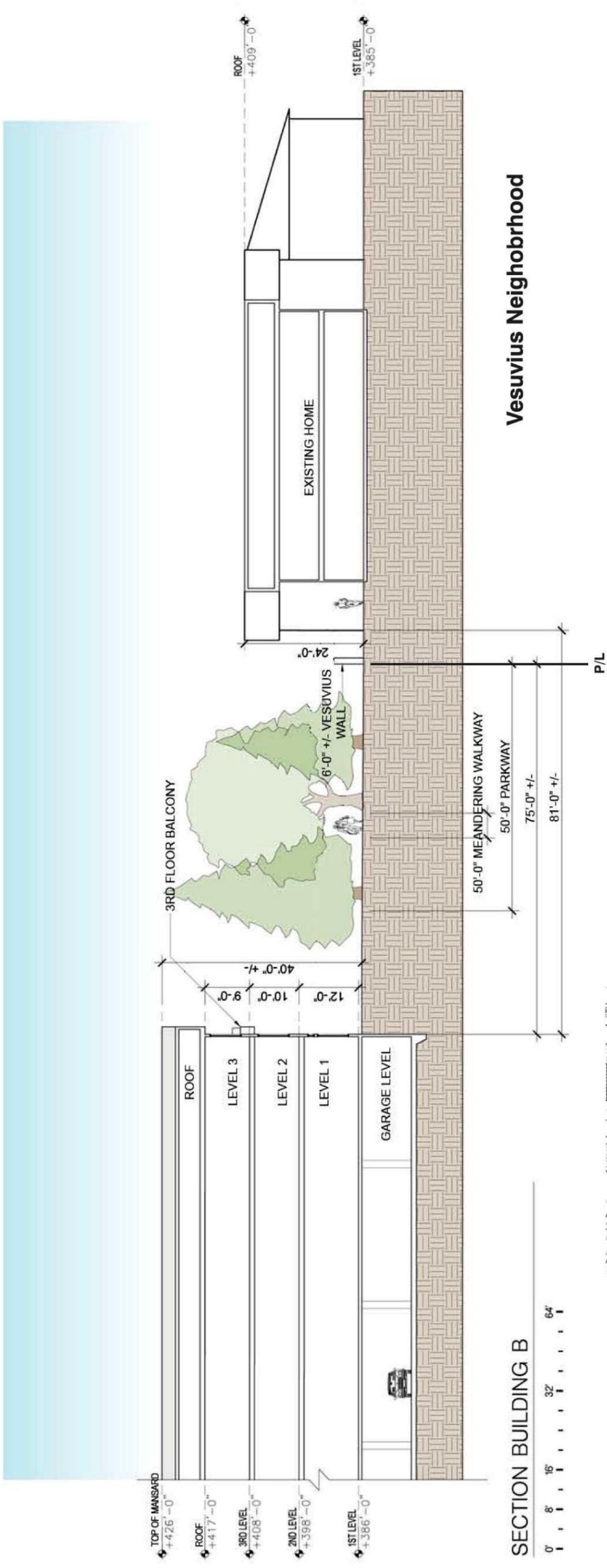
**Vesuvius Neighborhood**

P/L

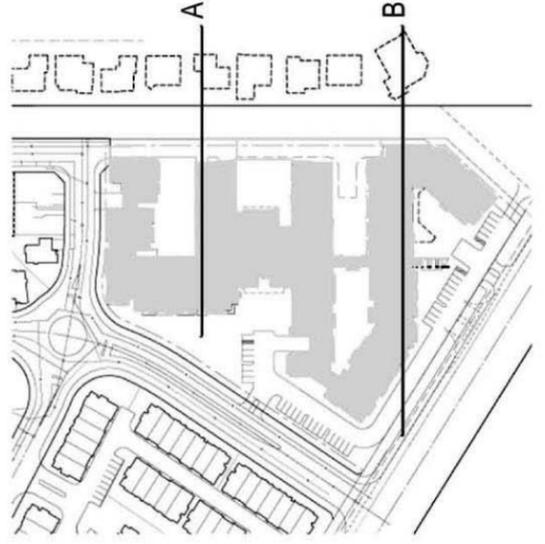




La Floresta Village - Planning Area 9, Site Cross-section B - Senior Living Facility



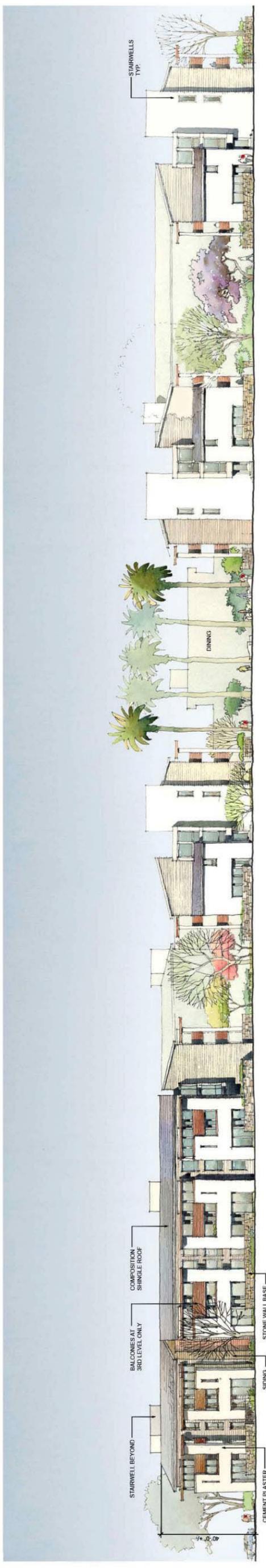
Vesuvius Neighborhood



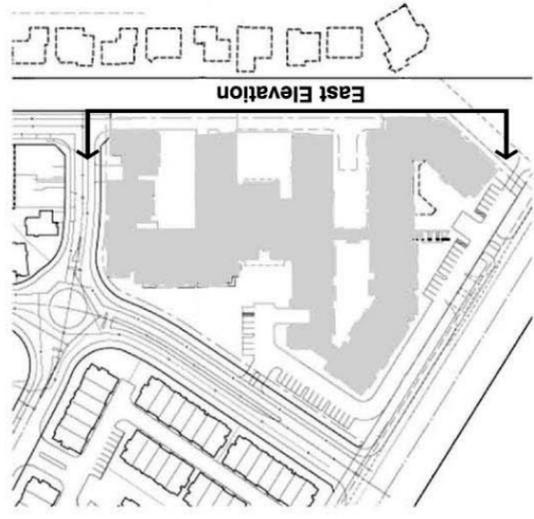
SECTION BUILDING B



La Floresta Village - Planning Area 9, East Elevation - Senior Living Facility

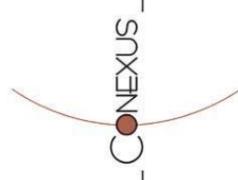


NEIGHBORHOOD (EAST) ELEVATION



Source: Steinberg Architects, February 2007.

▲ Not to Scale  
 Exhibit RTC 3.2



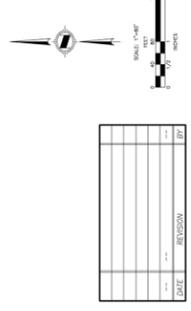
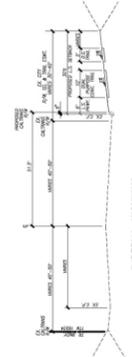
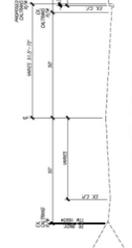
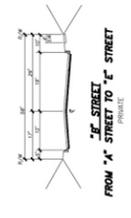
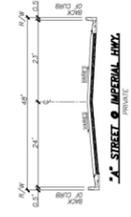
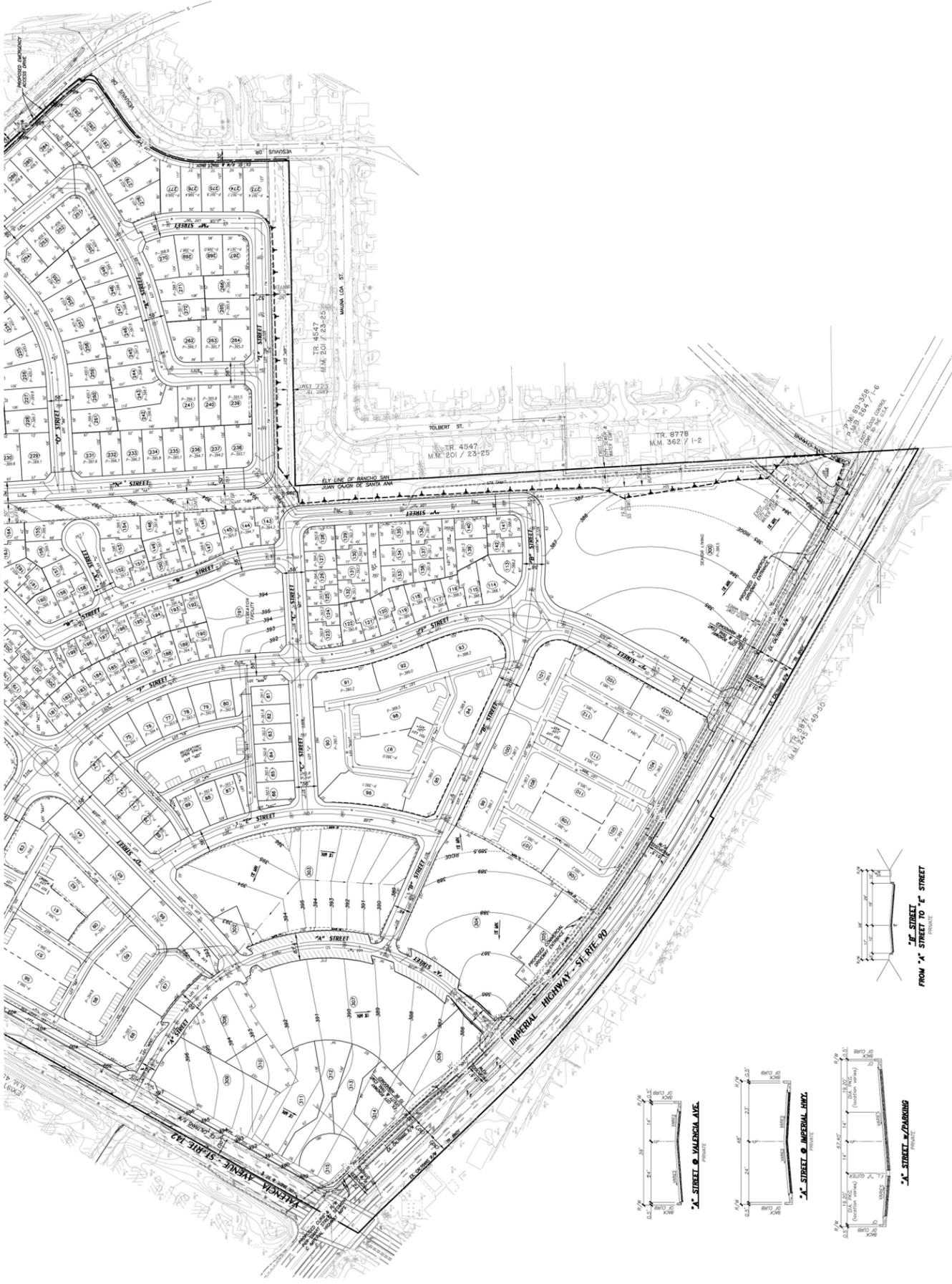






**Tentative Tract Map 16934, Sheet 2 of 2**

**SEE SHEET 1**



DATE	REVISION	BY

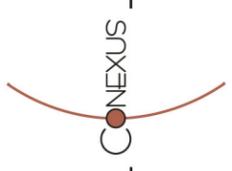
**PREPARED FOR:**  
**CHEVRON LAND & DEVELOPMENT COMPANY**  
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 Fax (714) 671-3446

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 Ph. (714) 671-3446

**TENTATIVE TRACT NO. 16934 FOR CONDOMINIUM PURPOSES**

SHEET 2 OF 2

Not to Scale  
 Exhibit RTC 4.2

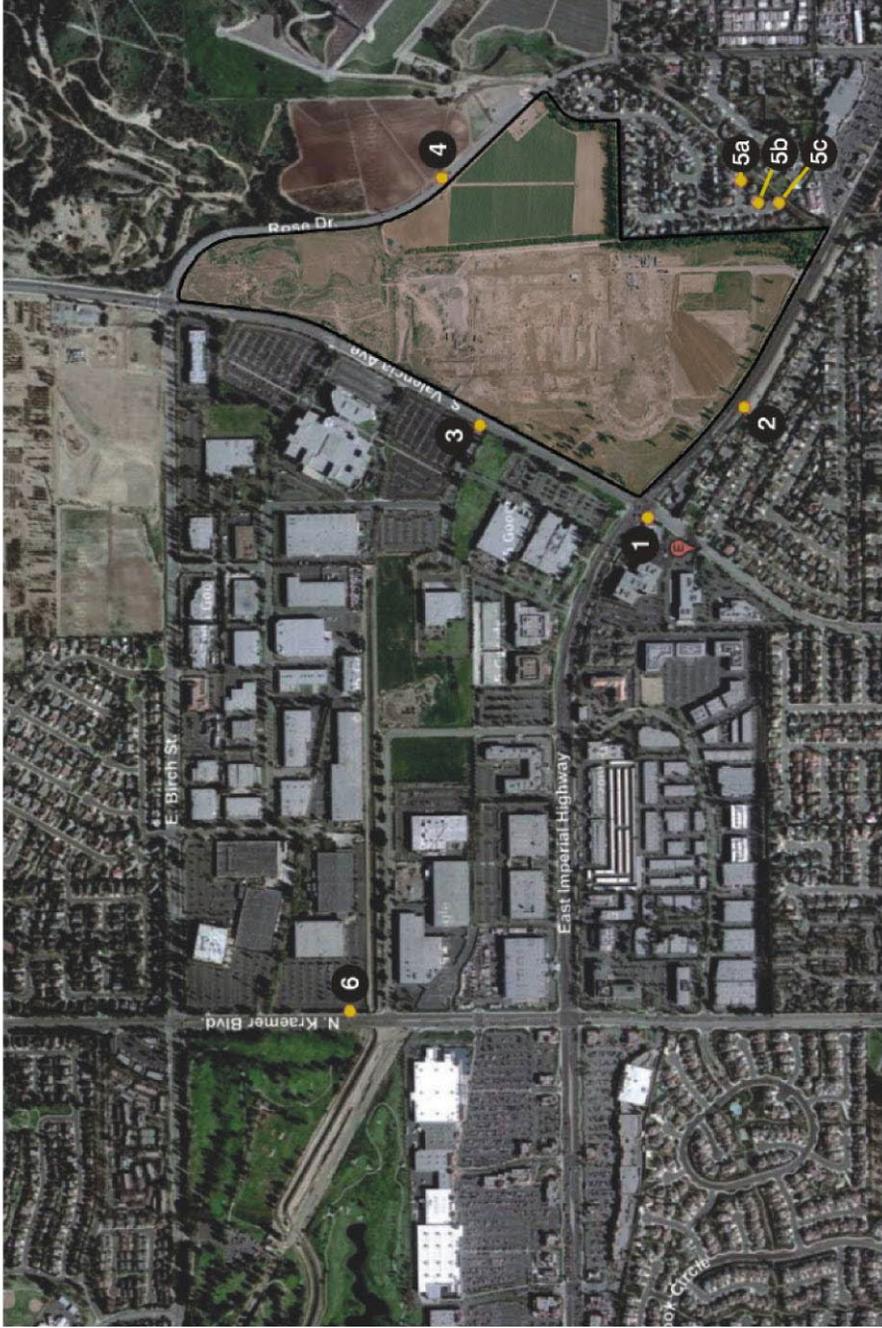








**Visual Simulation Key Map**



**Legend - # (1) - (6) Viewpoint Locations**

- (1) La Floresta Village looking east
- (2) La Floresta Village looking northeast
- (3) La Floresta Village looking south
- (4) La Floresta Village looking southwest
- (5a) La Floresta Village looking west from Mujica Place, Vesuvius Neighborhood
- (5b) La Floresta Village looking west from 425 Tolbert Street, Vesuvius Neighborhood
- (5c) La Floresta Village looking west from 445 Tolbert Street, Vesuvius Neighborhood
- (6) Birch Hills looking northwest

Source: TRG Land Inc., March 2007.

▲ Not to Scale  
 □ Exhibit RTC 6.0





### La Floresta Village - Revised Viewpoint 5a: Looking West from Mujica Place, Vesuvius Neighborhood



Note: Purple area illustrates portions of future structures that would be visible from viewpoint.  
Source: TRG Land Inc., March 2007.



La Floresta Village - New Viewpoint 5b: Looking West from 425 Tolbert Street,  
Vesuvius Neighborhood



Note: Purple area illustrates portions of future structures that would be visible from viewpoint.  
Source: TRG Land Inc., March 2007.

Not to Scale  
 Exhibit RTC 8.0



La Floresta Village - New Viewpoint 5c: Looking West from 445 Tolbert Street,  
Vesuvius Neighborhood



Note: Purple area illustrates portions of future structures that would be visible from viewpoint.  
Source: TRG Land Inc., March 2007.

Not to Scale  
 Exhibit RTC 9.0



**Appendix A**  
**Conceptual Water Quality Management Plan**  
**for La Floresta (TTM 16934)**  
**November 9, 2007**



# CONCEPTUAL WATER QUALITY MANAGEMENT PLAN



FOR

## TTM 16934 "LA FLORESTA"

NORTHWEST CORNER OF  
VALENCIA AVENUE AND IMPERIAL HIGHWAY INTERSECTION  
CITY OF BREA  
COUNTY OF ORANGE, CALIFORNIA

Prepared for

*La Floresta, LLC. c/o  
Chevron Land Development*

145 S. State College Blvd., 4th Floor  
Brea, CA 92821  
(714) 577 1372

Prepared by



**Hunsaker and Associates Irvine, Inc.**

Three Hughes  
Irvine, CA 92618  
(949) 583-1010

# **Conceptual Water Quality Management Plan (WQMP)**

**For:**

## **TENTATIVE TRACT MAP 16934 "LA FLORESTA"**

**NORTHWEST CORNER OF VALENCIA AVENUE AND  
IMPERIAL HIGHWAY INTERSECTION  
CITY OF BREA  
COUNTY OF ORANGE, CALIFORNIA**

**Prepared for:**

**La Floresta, LLC. c/o  
Chevron Land Development  
145 S. State College Blvd., 4th Floor  
Brea, CA 92821  
(714) 577-3509**

**Prepared by:**



**Hunsaker & Associates Irvine, Inc.  
3 Hughes  
Irvine, CA 92618  
(949) 583-1010**

**Prepared: November 9, 2007**

**OWNER'S CERTIFICATION**  
**CONCEPTUAL WATER QUALITY MANAGEMENT PLAN**  
**FOR**  
**TENTATIVE TRACT MAP 16934**  
**"LA FLORESTA"**

This Water Quality Management Plan (WQMP) has been prepared for La Floresta, LLC by Hunsaker & Associates Irvine, Inc. The WQMP is intended to comply with the requirements of the City of Brea Municipal Code, Chapter 30.32, requiring the preparation of a Water Quality Management Plan (WQMP).

The undersigned is aware that Best Management Practices (BMP's) are enforceable pursuant to the City of Brea's Municipal Code, Chapter 30.32. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated cities of Orange County within the Santa Ana Region Stormwater Runoff Management Program. Once the undersigned transfers its interests in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved-signed copies of this document shall be available on the subject site in perpetuity.

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: La Floresta, LLC  
145 S. State College Blvd., 4<sup>th</sup> Floor  
Brea, CA 92823

Telephone #: (714) 577-3509

Date: \_\_\_\_\_

# Contents

Section I	<b>Discretionary Permit(s) and Water Quality Conditions</b>	1
Section II	<b>Project Description</b>	2
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- 24. City of Brea Water Conserving Landscape Ordinance

Appendix

**A Conditions of Approval (To be provided in the tentative approval process)**

# **SECTION 1**

## Section I Discretionary Permit(s) and Water Quality Conditions

This Conceptual Water Quality Management Plan is intended to comply with the requirements of the City of Brea Development Services Department and Water Quality Ordinance (City Municipal Code Chapter 13.32), requiring the preparation of a Water Quality Management Plan and coverage under the Statewide National Pollution Discharge Elimination System (NPDES) General Permit for Construction Activities.

The said property is located on the northwest corner of Valencia Avenue and Imperial Highway, in the City of Brea, County of Orange. Tentative Tract Map 16934 is currently under review and therefore, conditions of approval are not yet available.

Based on Appendix A (General Plan Consistency) of the proposed La Floresta Specific Plan, the project shall subject to the following:

**Goal CR-12: Protect the beneficial uses of ground and surface waters.**

*Policy CR-12.2 Evaluate development projects for compliance with NPDES requirements, aiming toward reducing pollutant loads in stormwater runoff, minimizing impervious surface areas, and minimizing peak flows.*

**Implementation: The City has adopted a Master Plan of storm drains. The project is designed to incorporate adequate storm drainage facilities. The overall general existing drainage pattern will be retained in conjunction with the development of the La Floresta Specific Plan. Storm water will be primarily directed into a closed drainage system and held in two retention basin, in the central portion of the site and at the southernmost point of the site, prior to discharging into Carbon Creek Channel.**

## **SECTION 2**

## Section II Project Description

Tentative Tract 16934 known as "La Floresta" is the City of Brea's first proposed mixed-use development. The General Plan land use designation for the project is "Mixed Use II" (MUII). The Project is located at the northwest corner of Valencia Avenue and Imperial Highway in the City of Brea. The approximately 119-acre project will be comprised of areas for the development attached residential condominium homes, a neighborhood park, recreation facilities, swimming pools, pocket parks and an office and retail commercial center. Proposed residential and commercial development is as follows:

<b>Planning Area</b>	<b>Land Use Designation</b>	<b>Acreage</b>	<b>Net Density</b>	<b>Approx. Dwelling Units</b>	<b>Approx. Unit Size (range)</b>
1	High Density Residential (R-H)	6.4	14.5	99	1,460 sf - 2,335 sf
2	Medium Density Residential (R-M)	13.0	5.0	65	1,981 sf - 2,595 sf
3	Medium Density Residential (R-M)	11.3	8.5	107	1,415 sf - 1,773 sf
4a	High Density Residential (H-M)	3.8	13.0	56	Not available
4b	High Density Residential (H-M)	2.1	13.0	35	Not available
5	Village Core – Retail Lots	14.7	9.4	150	Not available
6	Medium Density Residential (R-M)	4.0	5.0	23	Not available
7	Medium Density Residential (R-M)	9.4	15.0	150	Not available
8	Medium Density Residential (R-M)	12.5	6.0	98	1,415 sf - 1,773 sf
9	Very High Density Residential (R-H)	6.7	28.5	200	Not available
10	Medium Density Residential (R-M)	19.1	5.0	105	2,155 sf - 2,819 sf
11	Recreation Facility	4.6	--	--	N/A
<b>Total</b>	<b>--</b>	<b>107.7</b>	<b>--</b>	<b>1,088</b>	

**Conceptual Water Quality Management Plan (WQMP)**  
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Residential units throughout the site will range in size from approximately 400 square-foot assisted-living studios to approximately 2,900 sf in the medium density residential condominium units. Paved areas include the project's backbone streets and sidewalk areas located throughout the site (approximately 10.5 acres), private residential driveways, the parking lot for the proposed neighborhood park located in the northeastern portion of the site and the office and commercial retail center parking area located in the southwestern portion of the project site.

Parking for the office and retail center will be provided via the proposed at-grade parking lot. Parking for residential areas will be provided via parking garages, on-street parking and designated spaces (covered and uncovered). All parking shall be in compliance with the City of Brea Zoning Code (Chapter 20.08.040). Current parking configuration (from the "La Floresta" Project Overview) is briefly summarized in the following table:

Planning Area	Parking Required	Parking Provided
1	162 spaces	177 spaces
2	126 spaces	244 spaces
3	286 spaces	319 spaces
4a	138 spaces	150 spaces
4b	68 spaces	91 spaces
5 Village Core – Retail	Not available	1,161 spaces (see below)
6	40 spaces	113 spaces
7	376 spaces	409 spaces
8	180 spaces	273 spaces
9 Assisted Living	Not available	200 spaces
10	190 spaces	321 spaces
11 Recreation Area	Not available	31 spaces

The Village Core of Planning Area 5 will have a diverse mix of commercial, live-work and residential. Current building sizes are summarized below:

Building Pad	Area (Sq. ft.)
Restaurant "A"	9,500 sf
Restaurant "A" Mezzanine	4,000 sf
Restaurant "B"	6,000 sf
Restaurant "B" Mezzanine	2,000 sf
Bank "C"	5,000 sf
Bank "D"	4,000 sf
Drug Store "E"	14,000 sf

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Building Pad	Area (Sq. ft.)
Grocery "F"	12,000 sf
Coffee Shop "G"	1,800 sf
Retail/Food "H"	35,358 sf
Restaurant "I"	4,500 sf
Office "J"	30,000 sf
Live Work "K"	9,600 sf
Restaurant "K"	6,790 sf
Condos "L"	210,000 sf
Total:	354,549 sf

Parking for this portion of the project is allotted as summarized below:

Building Pad	Parking Provided
Residential Building	452 spaces
Parallel Parking on "E" Street	20 spaces
Angled Parking on "A" Street	90 spaces
Buildings "D", "E", "F", "G"	140 spaces
Buildings "A", "B", "C", "H"	178 spaces
Parking Garage	281 spaces
Total	1161 spaces

Landscaped areas for the project will encompass approximately 20% of the site and include private lawns, gardens, landscape medians and planters, proposed landscaping around the perimeter of the site, a neighborhood park at the northeastern portion of the site and proposed pocket parks located throughout the site, as well as various easements located along the eastern portion of the site. Total park and open space area is approximately 21.7 acres. All landscaping shall be equipped with efficient irrigation systems and landscape designed in compliance with the City of Brea Landscape Ordinance.

Swimming pools and spas will be located within selected recreation and community centers located at the eastern/central portion of the site and at the central portion of the site (Planning Areas 8 and 11).

All existing streets surrounding the project are public and currently owned and maintained by the City of Brea and the California Department of Transportation (Caltrans), as appropriate. All onsite streets, driveways and parking lots are private and will be maintained by the Homeowner's Association and the Business Owner's Association.

Anticipated activities within the project area include working and business activities, spa and fitness activities, dining, entertainment, commuting, swimming, walking, running and jogging, picnicking and reading, and other recreational and non-recreational activities.

Outdoor storage of materials will not be permitted onsite. No fueling bays, vehicle washing/cleaning, or vehicle maintenance and repair areas are proposed. Loading areas will include designated loading areas located within the commercial development as well as the assisted living area. A loading dock may also be proposed for the proposed grocery facility.

Delivery and trash areas for the commercial portion of the site will be located adjacent to the commercial buildings. The trash enclosures shall be enclosed and protected from rain and storm water run-on. The exact locations of these improvements have yet to be determined in the project's current phase of planning. Once this information is known, it shall be included in this CWQMP or in the final WQMP.

Trash enclosures shall be provided for high density residential areas and shall be covered and protected from rain and storm run-on and runoff.

Daily generation of homeowner related trash and office and retail/commercial facility related trash are anticipated. On a daily basis, such trash will be collected by the retail/commercial facility staff and disposed of in designated trash enclosures. Homeowners shall be responsible for disposing of trash in designated trash enclosures or within covered trash cans within the private homeowner lots. The trash shall be removed by the local, private waste management company for proper disposal to a central trash disposal facility offsite on a weekly basis.

All restaurant facilities located within the commercial area shall be required to route sewer drains from food preparation areas through a grease interceptor prior to discharging to the public sewer system. An indoor grease storage unit will also be provided.

Fully developed, impermeable surfaces will cover approximately 80% of the project area. Permeable surfaces will cover approximately 20% of the project area.

All improvements throughout the site shall be constructed by the developer, La Floresta, LLC. The entire site is currently owned and maintained by La Floresta, LLC. **The contact person is Jim Martinez, Project Manager. Mr. Martinez can be reached at La Floresta, LLC, c/o Chevron Land Development 145 S. State College Blvd., 4th Floor, Brea, CA 92821, (714) 577-3509.**

**Post-construction, all common improvements (landscape, street and storm drain,) shall be owned by either the Property Owner's Association (POA) or Home Owner's Association (HOA) and maintained by agreement and fees for maintenance set forth by each of the Associations. At current, the HOA and POA have not been established for the project.** Once the HOA and POA have been established and Covenants, Conditions and Restrictions (CC&R's) have been prepared, the applicable information shall be included in the WQMP.

The anticipated stormwater or urban runoff pollutants reasonably expected to be associated with this project are:

1. *Sediment.* Driveways, parking areas, roads and roof-tops are expected to be common sources of sediment due to wear.
2. *Organic Compounds.* These compounds can be expected to be derived from automotive fluids, pesticides, and fertilizers.
3. *Nutrients.* Nutrients, including nitrogen, phosphorous, and other compounds can be anticipated to be generated by or founding organic litter, fertilizers, food waste, sewage and sediment.
4. *Metals.* Potential sources of trace metals (copper, lead, cadmium, chromium, nickel and zinc) include motor vehicles, re-roofing and hardscape/construction materials, and chemicals.
5. *Bacteria and viruses.* Anticipated sources include animal excrement (found in areas where pets are often walked), sanitary sewer overflow, and trash container handling areas.
6. *Oil and Grease.* Potential sources of oil and grease include motor vehicles.
7. *Oxygen-Demanding Substances.* Potential sources include biodegradable organic materials and various household chemicals, which deplete dissolved oxygen levels in water courses.
8. *Pesticides.* Sources of pesticides include household bug-spray, weed killers and other household sources.
9. *Trash and Debris.* These sources include common litter, biodegradable organic matter such as leaves, grass cuttings and food wastes from landscaped areas.

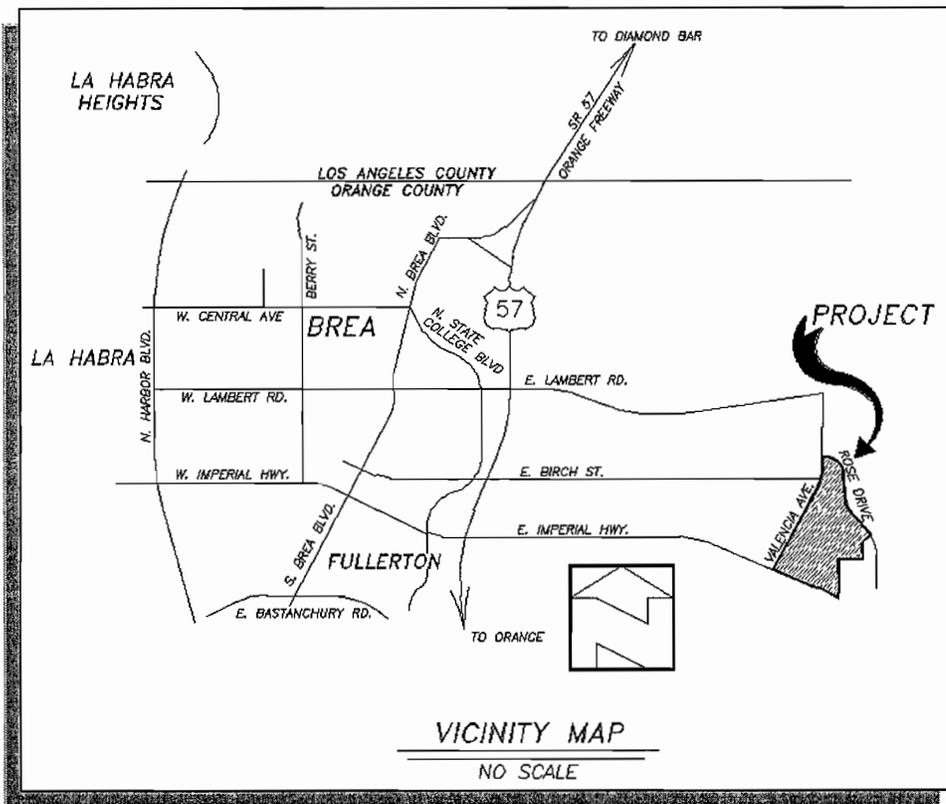
Applicable Standard Industrial Classification (SIC) codes for the project include restaurant service (5812), shopping center (6512-01) and senior citizen housing (8361-14).

**This project is classified as a Priority Project, Categories 1, 2, 4 and 7 per the Countywide Orange County Storm Water Program.** Therefore, treatment control BMPs are required to remove pollutants typically associated with urban runoff.

## **SECTION 3**

## Section III Site Description

The project, "La Floresta", is located at the northwest corner of Valencia Avenue and Imperial Highway, in the City of Brea. The approximately 119 acre site is bounded to the west by Valencia Avenue and light commercial developments of Tract 8600 and 9762 beyond; to the north by Rose Drive; to the east by Rose Drive, a planned hillside community (to the northeast) and single family homes of Tract 4547 (to the southeast); and to the south by Imperial Highway (SR-90) and single-family homes of Tract 5871 beyond. The General Plan land use designation for the project is "Mixed Use II" (MUII). The project site is located within the proposed La Floresta Specific Plan.



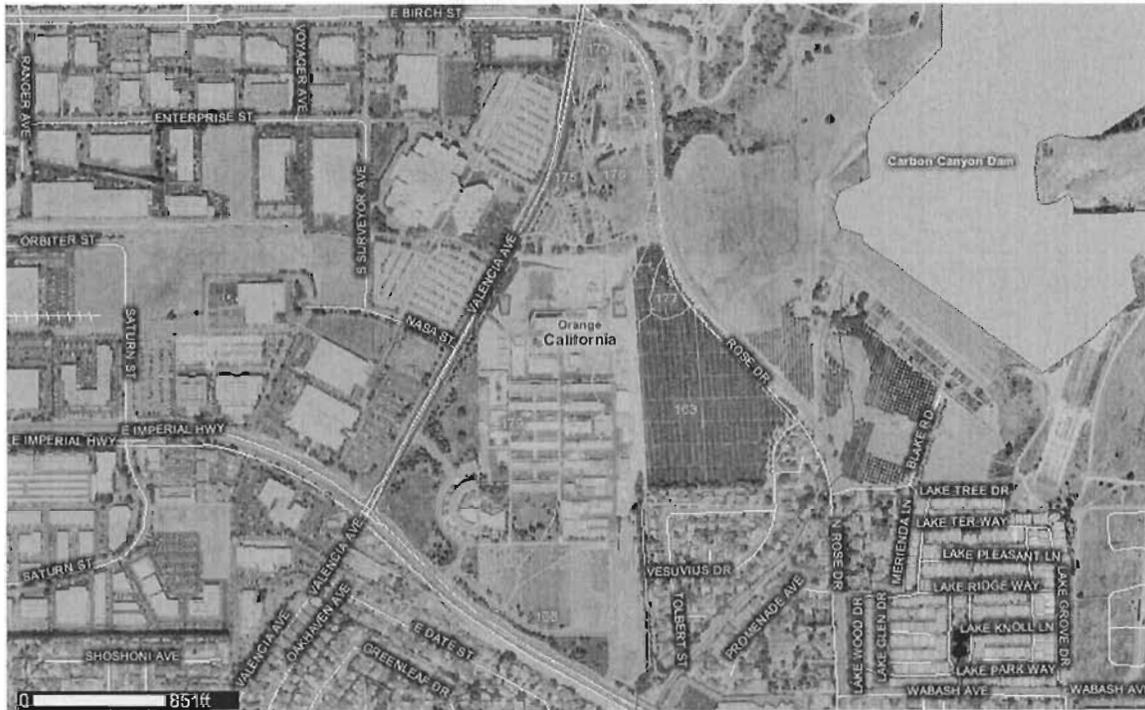
The project location is also shown on Exhibits A & B.

The southwestern and southern portions of the site are currently occupied by a three-story concrete and steel framed office building, and several single-story concrete walled buildings, with attendant manicured landscape and parking areas. This area is part of an office/industrial complex that formerly served as a research and development center for Unocal. A commercial nursery (Olinda Nursery) and agricultural field occupy the northerly and central-eastern portions of the site, respectively. The northern portion of the site was previously utilized for oil exploration, with four oil wells constructed. These wells were abandoned in 1916, 1926, 1975 and 1980. The southeasterly most corner of the project is traversed by the Carbon Creek Channel. The site also contains a concrete spillway and earthen retention basin.

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Existing vegetation varies throughout the project site. Natural vegetation within the northeasterly portion of the site consists of native grasses, shrubs and trees. Manicured landscape areas exist around the office complex in the southerly portion. The northerly and easterly portions of the site are essentially devoid of any natural vegetation due to its current uses as a nursery and agricultural land.

The Natural Resources Conservation Services shows the site Area of Interest (AOI) as having a mix of these various soils:



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
134	CALLEGUAS CLAY LOAM, 50 TO 75 PERCENT SLOPES, ERODED	2.1	1.7
163	METZ LOAMY SAND	35.6	28.9
166	MOCHO LOAM, 0 TO 2 PERCENT SLOPES	14.5	11.7
173	MYFORD SANDY LOAM, 2 TO 9 PERCENT SLOPES	3.0	2.5
175	MYFORD SANDY LOAM, 9 TO 15 PERCENT SLOPES	4.2	3.4
176	MYFORD SANDY LOAM, 15 TO 30 PERCENT SLOPES	10.1	8.2
177	MYFORD SANDY LOAM, 9 TO 30 PERCENT SLOPES, ERODED	2.1	1.7
179	MYFORD SANDY LOAM, THICK SURFACE, 2 TO 9 PERCENT SLOPES	51.2	41.5
195	SAN EMIGDIO FINE SANDY LOAM, 2 TO 9 PERCENT SLOPES	0.6	0.5

The Orange County Hydrology Manual, Hydrologic Classification of Soils Map Plate A shows the site as having a combination of Group B and D type soils. Group B soils are characterized as having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained sandy-loam soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission. Group D soils have High runoff potential. Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

Currently, the site has no known problems with soil contamination. An approximately 3-acre portion of the site was previously remediated for hazardous soil conditions related to the past oil well usage.

Topographically the southern and eastern portions of the site are characterized by low-lying alluvial terraces with minimal relief. The northern and western portions of the site consist of rounded hills and ridgelines of low to moderate height with intervening canyons and draws. A prominent hill exists in the northeastern portion of the site. This hill was isolated during construction of Rose Drive, which transected an existing northeast-trending ridgeline. Drainage is by sheet flow to the canyons and draw areas, which drain generally to the south. The majority of topographical relief onsite is in the north where elevations range from 454 feet to 380 feet. A localized topographic low exists in the southeasterly most corner of the site within Carbon Creek at an approximate elevation of 358 feet. The natural slopes onsite range from 2:1 to 5:1 (vertical: horizontal).

Regionally, the site is located easterly of the Los Angeles Basin on the southwestern flank of the Puente Hills that form the western to northwestern margin of the Peninsular Ranges Geomorphic Province. The Puente Hills are bracketed by the Whittier and Chino Fault Zones and have been created by uplift along these faults. Approximately 13,000 feet of Miocene-aged marine clastic sedimentary rock underlies the Puente Hills. These sediments overlie approximately 16,000 feet of Tertiary aged rock, which are underlain by Mesozoic plutonic basement rocks. The site is underlain by Quaternary-age alluvium and terrace deposits that are mantled by artificial fill.

In the existing condition, runoff from the site drains southerly as sheet flow prior to entering an existing RCP located centrally and easterly, at the project's eastern boundary. Runoff is then discharged to the Carbon Creek Channel.

In the developed condition, runoff from all areas of the site will be conveyed southerly via proposed storm drain improvements to the project's southernmost limit prior to discharging to the existing Carbon Creek Channel. Low flows and first flush volumes will be conveyed to one of five water quality basins or a series of Filterra® Bioretention Filtration units prior to discharging offsite.

Pre-construction, the proposed site is approximately 40% impervious and approximately 60% pervious, with a runoff coefficient of approximately 0.45. Post-construction, the proposed site will consist of approximately 80% impervious surface and 20% pervious surface, with a runoff coefficient of approximately 0.75.

The project resides within the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB, Region 8) and within the Carbon Creek Watershed (County of Orange Watershed B). Runoff from the site is discharged to the Carbon Creek Channel (OCFD Facility No. B01) and conveyed in a southerly and westerly direction to Coyote Creek (in Los Angeles Regional Water Quality Control Board, Region 4) prior to discharging to the San Gabriel River. Carbon Creek is currently not listed as an impaired water body under the 2006 CWA Section 303(d) List (SWRCB Approval Date: October 25, 2006), nor does it have Total Maximum Daily Loads (TMDLs) identified. Coyote Creek has been listed as impaired for Coliform Bacteria (Nonpoint/Point Source), Dissolved Copper (Nonpoint Source), Diazinon (Source Unknown), pH (Source Unknown), Toxicity (Point Source). Coyote Creek TMDL projected completion dates are: Coliform Bacteria – 2019, Dissolved Copper – 2006, Diazinon – 2019, pH – 2019, and Toxicity – 2007.

At current, there are no known "environmentally sensitive areas" and "areas of special biological significance" located onsite, as defined by the 2003 Orange County Drainage Area Management Plan (DAMP) and the Water Quality Control Plan for the Santa Ana Basin (Basin Plan). A biological assessment will be required prior to final determination. The project does discharge directly to Carbon Creek Channel. Therefore, it is subject to the conditions of a 401 Certification from the RWQCB. At current, the environmental documentation for the project is in the initial phases. Once the document is in draft form, any applicable information from the document shall be incorporated into this Conceptual WQMP or the final WQMP.

### **Hydrologic Conditions of Concern**

#### *Existing Condition*

Approximately half of the on-site drainage area (57 acres) is commercial buildings and parking lots and the other half of the on-site drainage area is natural and agriculture. Storm runoff produced from the undeveloped off-site drainage area (approximately 141 acres) is conveyed through the existing double 48-inch RCP, crossing Rose Drive, and discharged onto the project site. The off-site flow combined with the on-site flow produced from the undeveloped sub-area (47 acres) then drain onto the existing concrete channel. At the end of the channel the flow is discharged into the existing 33-inch RCP where it confluences with the runoff produced from the on-site sub-areas. The total runoff produced from these areas finally discharges to the Carbon Canyon Flood Channel (CCFC). Runoff produced from the remainder of the project site is also conveyed to the CCFC through the existing storm drain systems provided throughout the site and in Imperial Highway.

The existing storm drain system located in Imperial Highway is capable of conveying a 50-year storm produced from the site. However, the existing 33-inch RCP, that connects the CCFC and the on-site concrete channel, has a capacity of approximately 40 cfs. Per the information obtained from the U.S. Army Corps of Engineers, Los Angeles District, the CCFC has enough capacity to accept the runoff produced from the on-site area as well as the off-site area.

#### *Proposed Condition*

The project site will be a mix of residential, commercial, open space and park areas. The on-site and off-site drainage areas as well as the flow patterns will remain the same as in the existing condition. The flows that contribute to the existing 33-inch RCP and the storm drain system located in Imperial Highway will be reduced to its 25-year storm capacity per City of Brea criterion. The runoff produced from the off-site area and the majority area of the on-site will be collected in a proposed storm drain system with pipe size ranging from 54-inch to 90-inch RCP based on City of Brea standards.

Based on the preliminary hydrology and hydraulic calculations and information obtained from other agencies, there shall be no negative impacts to the existing facilities as well as the channel floodplain due to the development of the project.

A diversion structure is proposed to direct discharges beyond the allowed 100-year peak flow to a retention basin, as shown in the project's hydrology report. The detention basin is also depicted in Exhibit A (WQMP Site Plan). The proposed 66" R.C.P. in the main line acts as a "restrictor" pipe which raises the water surface elevation in the structure. Flows beyond the allowable are spilled over the weir, which has been set at a predetermined elevation, then conveyed via a 36" R.C.P. to the retention basin. Once the peak flows recede, a valve within the structure opens and allows the retained flows to discharge back to the main storm drain system. A volume of 1.9 ac-ft of storage was calculated per the unit hydrograph, with a flow-by of approximately 334 cfs.

The top of weir elevation was determined by hydraulic analysis of the storm drain main line using the "restrictor" pipe to raise the water surface. This elevation included an entrance loss (see hydraulic calculations). The size of the diversion structure was determined by the length of the weir, and by depth of water over the crest. In this case, a depth of 1 foot over the weir was calculated in order to achieve a weir length of 20 feet. A total depth of water in the structure is approximately 9.05' above the floor of the structure to the peak flow water surface elevation. A 1 foot freeboard was assumed for this diversion; therefore the minimum height of the reinforced concrete box structure is 10 feet from invert to soffit. Structural calculations for the weir diversion structure are based on the computer program by the Orange County Flood Control District "O.C. BOX". OCFCD parameters were assumed in making these calculations.

First flush and low flows from the various portions of the site will be conveyed to water quality basins or a series of Filterra® Bioretention Filtration units prior to discharging offsite. All proposed BMPs are depicted in the WQMP Site Plan (Exhibit A). The areas of the site tributary to the proposed BMPs are depicted in the BMP Drainage Exhibit (Exhibit C).

All calculations have been included in the Hydrology and Hydraulics report for the project.

# **SECTION 4**

## Section IV Best Management Practices (BMPs)

BMPs are structural devices, procedures, rules or methods which, when implemented and followed, should reduce and/or eliminate the specific source of pollution of which the BMP is targeted. This section describes how each of these BMPs was developed and will be implemented for the proposed project. For those routine BMPs that are not applicable to this project, an explanation is included as to why that is the case. All BMPs indicated in this WQMP will be maintained in good and effective condition.

The property owner, La Floresta, LLC, shall establish requirements for (a) ownership/maintenance of and/or maintenance easements for community common areas in the project and (b) implementation of educational pollution prevention on BMPs, including community awareness programs.

This WQMP identifies Best Management Practices (BMPs) that will be used onsite to control predictable pollutant runoff, and identifies, at a minimum, the measures specified in the Countywide Water Quality Management Plan (WQMP) and NPDES Drainage Area Management Plan (DAMP), the assignment of long-term maintenance responsibilities, and the location(s) of all structural BMPs.

All source control BMPs listed for specific land use/type of project in the following Countywide Water Quality Management Plan tables have been discussed and considered for utilization to the extent that they are appropriate for the site and project. Routine Source Control BMPs are required to be incorporated in all new development and redevelopment projects unless not applicable. In the tables provided, all BMPs to be incorporated in the project are indicated. For those designated as not applicable, a brief reason why is stated.

### Site Design BMPs

The following table shows site design BMPs that are included in this project. A brief description of each BMP also follows:

**Site Design BMPs**

Technique	Included?		If no, state justification.
	Yes	No	
Minimize Directly Connected Impervious Areas (DCIAs) (C-Factor Reduction)	✓		
Create Reduced or "Zero Discharge" Areas (Runoff Volume Reduction) <sup>1</sup>	✓		
Minimize Impervious Area/Maximize Permeability (C-Factor Reduction) <sup>2</sup>	✓		
Conserve Natural Areas (C-Factor Reduction)		✓	Project site is previously disturbed research center site or in agricultural use. No undisturbed "Natural Areas" exist to be conserved.

- 1 Detention and retention areas incorporated into landscape design provide areas for retaining and detaining stormwater flows, resulting in lower runoff rates and reductions in volume due to limited infiltration and evaporation. Such Site Design BMPs may reduce the size of Treatment Control BMPs.
- 2 The "C Factor" is a representation of the ability of a surface to produce runoff. Surfaces that produce higher volumes of runoff are represented by higher C Factors. By incorporating more pervious, lower C Factor surfaces into a development, lower volumes of runoff will be produced. Lower volumes and rates of runoff translate directly to lowering treatment requirements.

### **Minimize Directly Connected Impervious Areas**

The project has been designed to include the following concepts to reduce the amount of directly connected impervious areas and reduce the project's C-factor:

1. Drain rooftops to adjacent landscaping prior to discharging to the storm drain system.
2. Drain sidewalks, walkways and trails to adjacent landscaping.
3. Use of various open space and park areas as well as landscaped slopes.
4. Commercial and high density residential areas incorporate the use of landscaped island buffers in parking lot.
5. Use of multi-level commercial and residential units.

### **Create Reduced or "Zero Discharge" Areas**

Although the project does not include zero discharge areas, site design has incorporated reduced discharge areas with the employment of open space, park and landscape areas and the use of various detention and water quality basins.

### **Minimize Impervious Area/Maximize Permeability**

The following concepts have been incorporated into project designs to minimize impervious area and maximize pervious areas:

1. Reduce impervious footprint of residential units via the use of multi-level homes.
2. Use of large residential lots in the northern and eastern portions of the site.
3. Creating open space and park areas as well as providing additional canopy and landscaping.
4. Use of minimum street widths, per City standards.
5. Construct sidewalks and walkways to minimum width, as required by ADA standards.
6. Minimize the use of decorative concrete within the common areas of the site.

### **Conserve Natural Areas**

Existing vegetation varies throughout the project site. Natural vegetation within the northeasterly portion of the site consists of disturbed native and non-native grasses, shrubs and trees. Manicured landscape areas exist around the existing office complex in the southerly portion. The northerly and easterly portions of the site are essentially devoid of any natural vegetation due to its current uses as a nursery and agricultural land. Vegetation in these areas will be removed and replaced with native and/or drought tolerant plant species.

**Source Control BMPs**

The following table shows source control BMPs (routine non-structural and routine structural) included in this project and those that have not been included.

**Routine Non-Structural BMPs**

Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
N1	Education for Property Owners, Tenants and Occupants	✓		
N2	Activity Restrictions	✓		
N3	Common Area Landscape Management	✓		
N4	BMP Maintenance	✓		
N5	Title 22 CCR Compliance (How development will comply)	✓		
N6	Local Water Quality Permit Compliance		✓	The County of Orange does not issue water quality permits.
N7	Spill Contingency Plan	✓		Applies to commercial/industrial projects that use or generate hazardous materials.
N8	Underground Storage Tank Compliance		✓	None proposed.
N9	Hazardous Materials Disclosure Compliance		✓	No storage or use of hazardous materials requiring disclosure.
N10	Uniform Fire Code Implementation		✓	Commercial site will not store, use or generate materials regulated under UFC.
N11	Common Area Litter Control	✓		
N12	Employee Training	✓		
N13	Housekeeping of Loading Docks	✓		
N14	Common Area Catch Basin Inspection	✓		
N15	Street Sweeping Private Streets and Parking Lots	✓		
N16	Commercial Vehicle Washing		✓	No commercial vehicle washing allowed on-site

## Routine Non-Structural BMPs

### 1. N1 - Homeowners/Business Owners/Tenant Education

*Responsible Party: HOA*

*Implementation Frequency: Ongoing. Information shall be provided to facility users as check-in.*

La Floresta, LLC will insure that all tenants be notified of the impacts of their actions on water quality at the first sale of units. La Floresta, LLC will establish requirements for the implementation of an awareness program that informs facility users of the impacts of dumping oil, paints, solvents or other potentially harmful chemicals into the storm drain; the proper use and management of fertilizers, pesticides and herbicides in home landscaping and gardening practices; the impacts of littering and improper watering (see Section V, Table 1). Post construction, the HOA and POA shall be responsible from implementing this BMP as well as providing environmental awareness education materials, including, but not limited to those listed in Section VII and included in Attachment A of this WQMP, to all members of the HOA and commercial tenants, and every 6 months thereafter.

### 2. N2 - Activity Restrictions

*Responsible Party: HOA/POA*

*Implementation Frequency: Continuous.*

Within the Covenants, Conditions and Restrictions to be prepared for La Floresta, language will be included to identify surface water quality protection required of all commercial tenants, facility users, employees, and the HOA/POA. These include but are not limited to the following:

- No discharge of fertilizer, pesticides, and wastes to the adjacent streets nor in any areas that will discharge from project site to offsite storm drains;
- No hose down of parking lot and walkways;
- No vehicle maintenance or washing onsite; and
- No littering.

Surface water quality activities will also be conducted in conformance with the WQMP as it relates to the handling and disposal of contaminants.

### 3. N3 - Common Area Landscape Management (including IC-7)

*Responsible Party: HOA/POA*

*Implementation Frequency: Weekly.*

Management programs will be designed and established by the HOA and POA, which will own and maintain all common areas within the project site. These programs will include how to mitigate the potential dangers of fertilizer and pesticide usage (see Section V, Table 1). Ongoing maintenance will be consistent with any City of Brea Water Conserving Landscape Ordinance (Municipal Code Chapter 20.52), the County of Orange Water Conservation Resolution

(Ordinance. No. 3802) and the State of California Model Water-Efficient Landscape Ordinance. Fertilizer and Pesticide usage shall be consistent with County Management Guidelines for use of Fertilizers and Pesticides. Attachment A of this WQMP includes copies of these requirements and ordinances.

**4. N4 - BMP Maintenance**

*Responsible Party: HOA/POA*

*Implementation Frequency: As required by applicable BMP.*

The HOA/POA shall be responsible for implementation of each applicable non-structural BMP as well as scheduling inspection and maintenance cleaning of all applicable structural BMP facilities. The HOA/POA, through the landscape maintenance contractor, will be responsible for inspection and maintenance activities in landscape areas (See Exhibit A). Debris and other water pollutants will be controlled, contained and disposed of in a proper manner by the maintenance contractor. Table 1, Figure "A" in Section V refers.

**5. N5 - Title 22 CCR Compliance (Swimming Pool Facility)**

*Responsible Party: HOA*

*Implementation Frequency: Continuous.*

La Floresta, LLC shall comply with Title 22 of California Code of Regulations and relevant sections of the California Health and Safety Code regarding hazardous waste management, which will be enforced by County Environmental Health on behalf of the State. All materials considered as hazardous must be properly handled and disposed of by an approved disposal facility.

**6. Common Area Litter Control (N11)**

*Responsible Party: HOA/POA*

*Implementation Frequency: Daily/Weekly.*

The HOA/POA, through the site maintenance contractor, will be required to maintain weekly sweeping and trash pick-up within the project area. Daily inspection will be made of trash receptacles to make sure lids are closed and pick-up of any excess trash on the ground has occurred. The HOA/POA shall be responsible for common area litter controls. Pursuant to Figure "A", responsibility shall include the emptying of trash receptacles, noting of disposal violations by residents, tenants, facility users and employees, and reporting such violations to the HOA/POA for investigation, as appropriate.

**7. Employee Training (N12)**

*Responsible Party: HOA/POA*

*Implementation Frequency: At initial hire and annually thereafter.*

An annual employee training/education program will be established by the HOA/POA and would apply to future employees, contractors and volunteers of the HOA/POA to inform and train employees and contractors engaged in maintenance activities regarding the impact of dumping

oil, paints, solvents or other potentially harmful chemicals into storm drain; the proper use of fertilizers and pesticides in landscaping maintenance practices; and the impacts of littering and improper water disposal (see attached Matrix & Appendix). The HOA/POA shall be responsible for these activities as they relate to their employees, volunteers, subcontractors and contractors.

**8. Housekeeping of Loading Docks (N13)**

*Responsible Party: POA*

*Implementation Frequency: Inspect and clean weekly.*

Any designated loading docks shall be designed to preclude run-on and runoff with measures such as overflow containment and dead-end sumps. When possible, loading docks shall be covered and protected from storm run-on. Direct connections to the storm drain system with any below grade loading docks shall be prohibited. All spills shall be cleaned up as soon as possible, with materials disposed of properly. Good housekeeping practices shall be followed. Areas shall be inspected frequently for spills, litter, trash and other debris. Use of sweeping shall be preferred over washdown. If washdown is used, wash water must be disposed of properly.

Any designated loading docks shall be kept clean of spills, debris, trash and any material that may enter the storm drain system. All spills shall be cleaned up as soon as possible, with materials disposed of properly. Good housekeeping practices shall be followed. Areas shall be inspected frequently for spills, litter, trash and other debris. Use of sweeping shall be preferred over washdown.

**9. Common Area Catch Basin Inspection (N14)**

*Responsible Party: HOA/POA*

*Implementation Frequency: Inspect every six months and clean once per year.*

Post-construction, the HOA/POA shall be responsible for cleaning and maintaining all private catch basins and the City of Brea and Caltrans shall be responsible for cleaning and maintaining all public catch basins and storm drains. These activities shall be done on a regular basis, and prior to the storm season, no later than October 1<sup>st</sup> of each year (Table 1, Figure "A").

**10. Street Sweeping Private Streets and Parking Lots (N15)**

*Responsible Party: HOA/POA*

*Implementation Frequency: Weekly.*

The HOA/POA shall have all parking areas and streets vacuum swept on a weekly basis. This procedure may be intensified around October 1<sup>st</sup> of each year prior to the "first flush" storm.

**Routine Structural BMPs**

Structural BMPs shall be installed by La Floresta, LLC, the developer, through the construction and development of the project. For instance; slope planting and irrigation systems shall be designed by licensed landscape architects and installed by qualified contractors to specifications and standards of the City of Brea and the County of Orange. The structural BMPs used for this project are summarized in Table 2, Figure "A", located in Section V.

**Routine Structural BMPs**

Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Provide storm drain system stenciling and signage	✓		
Design and construct outdoor material storage areas to reduce pollution introduction		✓	No outdoor material storage areas proposed.
Design and construct trash and waste storage areas to reduce pollution introduction	✓		
Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	✓		
Protect slopes and channels and provide energy dissipation		✓	No slopes are proposed. Project will discharge to fully improved channels.
Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)		✓	Project resides in the jurisdiction of the Santa Ana RWQCB, not the San Diego RWQCB.
a. Dock areas	✓		
b. Maintenance bays		✓	No maintenance bays required for proposed project.
c. Vehicle wash areas		✓	Vehicle washing prohibited onsite.
d. Outdoor processing areas		✓	No outdoor processing areas proposed.
e. Equipment wash areas		✓	Equipment washing prohibited onsite.
f. Fueling areas		✓	No fueling areas allowed onsite.
g. Hillside landscaping		✓	Project is not considered hillside development.
h. Wash water control for food preparation areas	✓		
i. Community car wash racks		✓	None proposed.

**1. Catch Basin Stenciling (CASQA BMP SD-13)**

*Responsible Party: HOA*

*Implementation Frequency: Monthly inspections and re-stencil every 6 months or as necessary.*

During construction, the developer shall have all catch basins stenciled with the message "No Dumping - Drains to Ocean". This will be done in a location that can be clearly seen by all and will be routinely inspected and re-stenciled, as required, until the HOA accepts maintenance responsibility proposed drainage system. Thereafter, the HOA will routinely inspect the posted signs, as necessary (Table 2, Figure "A").

**2. Trash Enclosures (CASQA BMP SD-32 and DAMP IC-22)**

*Responsible Party: HOA*

*Implementation Frequency: Daily.*

Trash enclosures shall be provided in designated areas of the residential development and commercial/retail center. The enclosures will be covered to prevent contact with wind and rain. The areas will also be designed to prevent contact with storm run-on. Drainage from the trash enclosure areas will be prohibited to enter the storm drain system. Waste areas shall be inspected daily and kept in an orderly manner by the HOA, the owners of residential detached homes and by tenants of the commercial/retail facilities.

**3. Common Area Runoff - Minimizing Landscape Design (CASQA BMP SD-10)**

*Responsible Party: HOA*

*Implementation Frequency: Prior to planting and replanting.*

As a part of the design of all common area landscape irrigation, implementation of the City of Brea Water Conserving Landscape Ordinance, Brea Municipal Code Chapter 20.52, including, but not limited to, such provisions as water sensors, programmable irrigation times (for short cycles), etc., will be used. Such common areas will be maintained by the HOA (Table 2, Figure A).

**4. Common Area Efficient Irrigation (CASQA BMP SD-12)**

*Responsible Party: HOA*

*Implementation Frequency: Weekly inspections.*

As a part of the design of all common area landscape areas, similar planting material with similar water requirements will be used in order to reduce excess irrigation runoff and promote surface filtration. Such common areas will be owned and maintained by the HOA and constructed in accordance to City of Brea Water Conserving Landscape Ordinance, Brea Municipal Code Chapter 20.52, as included in Attachment A of this WQMP (Table 2, Figure A).

**5. Loading Docks and Loading Areas (SD-31, IC-10)**

*Responsible Party: POA/Commercial Tenants*

*Implementation Frequency: Daily*

Designated loading docks shall be designed to preclude run-on and runoff with measures such as overflow containment and dead-end sumps. When possible, loading docks shall be covered and protected from storm run-on. Direct connections to the storm drain system with any below grade loading docks shall be prohibited. All spills shall be cleaned up as soon as possible, with materials disposed of properly. Good housekeeping practices shall be followed. Areas shall be inspected frequently for spills, litter, trash and other debris. Use of sweeping shall be preferred over washdown. If washdown is used, wash water must be disposed of properly.

Designated loading docks shall be kept clean of spills, debris, trash and any material that may enter the storm drain system. All spills shall be cleaned up as soon as possible, with materials disposed of properly. Good housekeeping practices shall be followed. Areas shall be inspected frequently for spills, litter, trash and other debris. Use of sweeping shall be preferred over washdown.

**6. Wash Water Control for Food Preparation Areas**

*Responsible Party: POA*

*Implementation Frequency: Weekly inspections.*

Food establishments (per State Health & Safety Code 27520) shall have contained areas, sinks, each with sanitary sewer connections for disposal of wash waters containing kitchen and food wastes. Adequate signs shall be provided and appropriately placed stating the prohibition of discharging of washwater to the storm drain system. All residences with kitchens will have sinks that drain to the sanitary sewer.

**7. Building Maintenance (DAMP IC-3)**

*Responsible Party: POA/HOA*

*Implementation Frequency: Continuous.*

As part of the project's ongoing maintenance program, facility maintenance personnel shall properly collect and dispose of water when washing buildings, rooftops and other large objects. Work areas shall be prepared before conducting building maintenance and all materials generated and used shall be properly disposed. All wash water shall be contained and disposed of properly or into landscaped areas. Water from roof drains, which will discharge to the parking lot areas, shall be collected and disposed of properly.

**8. Parking and Storage Area Maintenance (DAMP IC-15)**

*Responsible Party: POA/HOA*

*Implementation Frequency: Daily*

The parking lot shall be cleaned on a regular basis. All wash water shall be properly contained, collected and disposed. Parking lot shall be kept in a clean and orderly state. Use of absorbent materials to clean up vehicle related spills and leaks shall be disposed of properly. Inspections of the parking lot shall be conducted on a regular basis.

**9. Pool and Fountain Cleaning (DAMP IC-16)**

*Responsible Party: HOA*

*Implementation Frequency: Weekly*

Regular cleaning of the pool and adequate chlorine to control algae shall be required. Additionally, pool filters shall be cleaned and inspected regularly. Pool water shall be discharged of properly, into the sanitary sewer.

Nutrients, pH, and chlorine can adversely affect fish and wildlife in water bodies. The following BMPs will ensure the cleanliness of the pool facility and the environment.

Pool and spa water must be dechlorinated if it is to be emptied into a ditch, on the ground, or a lawn or to the storm drainage system. The rate of flow into the ditch or drainage system will be regulated so that it does not cause problems such as surcharging or flooding.

If pool and spa water cannot be dechlorinated, it will be discharged to the sanitary sewer. Prior to draining, the local wastewater treatment plant will be notified to ensure they are aware of the volume of discharge and the potential effects of chlorine levels

Diatomaceous earth used in pool filters will not be disposed of in surface waters, on the ground, into storm drainage systems or septic systems. It will be dried out as much as possible, bagged in plastic, and dispose of at the landfill.

Pool water for this facility shall be discharged to a sanitary sewer line or collected by a professional pool service company for proper disposal. The company shall be required to provide proof of proper disposal and any permits required for disposal.

**10. Eating and Drinking Establishments (DAMP BMP IC-22)**

*Responsible Party: POA/Commercial facility tenants*

*Implementation Frequency: Daily*

Good house keeping practices shall be used in the kitchen food preparation area. All wash water of the kitchen area will be kept indoors and prevented from reaching storm drains. Wash water shall be directed to sanitary sewers. All grease materials; oil and trash shall be recycled or disposed of properly. Additionally, grease interceptors shall be required in all restaurant and food services establishments.

**11. Fire Sprinkler Testing (DAMP IC-23)**

*Responsible Party: POA/HOA*

*Implementation Frequency: Monthly*

Testing of fire sprinklers shall be conducted on non-rainy days and for the shortest duration possible to minimize discharge volume. All flow paths will be inspected and debris removed as necessary. Flows will be directed toward landscaped areas whenever possible in a manner that is safe and would not cause erosion. Sprinklers may also be directed into sanitary sewer with permission from the appropriate sewer agency.

**Treatment BMPs**

The following table shows treatment BMPs that are included in this project. A brief description of each BMP also follows:

**Treatment BMPs**

Name	Included?		If not applicable, state brief reason
	Yes	No	
Vegetated (Grass) Strips		✓	Not feasible, insufficient area.
Vegetated (Grass) Swales		✓	Insufficient grade to convey runoff from storm drain system to potential swale area.
Dry Detention Basin	✓		
Wet Detention Basin		✓	Considered but no selected based on the additional area required for wet basins.
Constructed Wetland		✓	Considered but not selected due to the potential for vectors.
Detention Basin/Sand Filter		✓	Detention basin and Filterra® units anticipated to provide adequate treatment.
Porous Pavement Detention		✓	Considered but determined not feasible due to potential for saturation of adjacent surfaces.
Porous Landscape Detention		✓	Considered but determined not feasible due to potential for saturation of adjacent surfaces.
Infiltration Basin		✓	Detention basin and Filterra® units anticipated to provide adequate treatment.
Infiltration Trench		✓	Detention basin and Filterra® units anticipated to provide adequate treatment.
Media Filter		✓	Detention basin and Filterra® units anticipated to provide adequate treatment.
Proprietary Control Measures	✓		

### **Extended Detention Basin (TC-22)**

First flush and low flow runoff drainage areas 1, 3, 4, 8 and 9 will be conveyed to an extended detention basin located within each drainage area for treatment prior to further conveyance downstream to Carbon Creek Channel. The locations of the drainage areas and proposed basins are depicted in the BMP Drainage Exhibit (Exhibit C). The exhibit also shows the Storm Water Quality Design Volume (SQDV) required for each basin's tributary drainage area. Maintenance of the basins shall be that of the HOA.

Drainage Area Designation	Area (ac)	SQDV (ac-ft)
1	25.94	1.11
3	7.74	0.33
4	20.66	0.73
8	11.54	0.49
9	5.15	0.22

The basins will treat storm water pollutants through absorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatilization. Removal rates for heavy metals and nutrients, shown below are based on removal effectiveness per field and laboratory tests conducted by the University of Maryland (Davis et. al. 1998):

Total Phosphorus	70-83%
Metals (Cu, Zn, Pb)	93-98%
TKN	68-80%
Organics	90%
Bacteria	90%

### **Filterra® Bioretention Filtration Units**

Low flows and first flush storm runoff the site will be conveyed to a series of Filterra® Bioretention Filtration units for treatment prior to entering the project's storm drain system. The units will be effective in removing expected pollutants from project runoff through the filtering characteristics of the units engineered plant, soil and microbe media that capture, remove, degrades and uptakes pollutants through physical, chemical and biological processes. The locations of the units are as shown in the WQMP Site Plan. The drainage areas for the proposed Filterra® units, as well as the calculated Storm Water Quality Design Flow (SQDF) for each tributary drainage area is provided in Exhibit B.

The units are sized according to its tributary area land use and size. Based on the project's proposed land use, each Filterra® unit is capable of treating approximately 1.0 acres. The units will be installed in series to limit the number of catch basins required and to localize the unit areas. The units will be employed in drainage areas 2, 5, 6, 7 and 10. Maintenance of the units shall be that of the HOA and POA, as appropriate.

**Conceptual Water Quality Management Plan (WQMP)**  
**TENTATIVE TRACT MAP 16934 "LA FLORESTA"**  
**NORTHWEST OF VALENCIA AVENUE AND**  
**IMPERIAL HIGHWAY INTERSECTION**  
**BREA, CALIFORNIA**

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Drainage Area Designation	Area (ac)	SQDF (cfs)	Number of Units (Approximate)
2	10.73	1.37	11
5	7.62	0.98	8
6	14.37	2.39	15
7	5.43	0.70	6
10	6.96	1.16	7

In comparing the treatment effectiveness of the proposed BMPs with the project's expected pollutants of concern, it is anticipated that BMPs will be effective in reducing the pollutants so that the project is consistent with the requirements of the MS4 Permit and the County of Orange DAMP. The project Treatment BMPs (extended detention basins and Filterra® units) will be employed with routine structural and non-structural BMPs to reduce project pollutants and prevent impairment or further degradation of the project's receiving water bodies.

*Since the project is in the conceptual phase of development, it may be necessary to remove and/or replace the proposed BMPs as project designs become more refined. In the event that the proposed BMPs may not be employed due to various design constraints (such as lack of grade, etc.), the owner will notify the Santa Ana RWQCB and propose an alternative BMP satisfactory to the RWQCB requirements.*

# **SECTION 5**

## Section V Inspection/Maintenance Responsibility for BMPs

Maintenance and inspection activities for the identified BMPs will be performed as indicated on the BMP Maintenance Responsibility/Frequency Matrix (see Figure "A") which is enclosed at the end of this Section.

Post-construction, all common improvements (landscape, street and storm drain,) shall be owned by either the Property Owner's Association (POA) or Home Owner's Association (HOA) and maintained by agreement and fees for maintenance set forth by each of the Associations. At current, the HOA and POA have not been established for the project. Once the POA and HOA have been established, the contact information of each shall be included in the final WQMP.

Until the POA and HOA accept responsibility for all structural and non-structural BMPs pertaining to the project site, the owner of the property, La Floresta, LLC shall be responsible for inspecting and maintenance of the proposed BMPs and treatment BMP systems. The contact is Jim Martinez, at La Floresta, LLC, c/o Chevron Land Development 145 S. State College Blvd., 4th Floor, Brea, CA 92821, (714) 577-3509.

The City of Brea and Caltrans will be responsible for maintenance of all public streets and public storm drains adjacent to the site, as appropriate.

Maintenance and inspection activities for the identified BMPs will be performed as indicated on the enclosed BMP Maintenance Responsibility/Frequency Matrix (see Figure "A"). Please note that BMP N4 is not included in this matrix, since the matrix itself is BMP N4. La Floresta, LLC shall be responsible for all maintenance and inspection responsibilities for all areas within project limits, area drains and private parking lots within the site. **The POA and HOA shall be the mechanism to ensure long-term maintenance of all structural and non-structural BMP's. The POA and HOA shall retain all maintenance records for a period of three years after the recorded inspection date for the lifetime of the project. The records shall be made readily available for review by government agencies.**

**A Notice of Transfer of Responsibility shall be submitted to the City of Brea in the event that responsibility for the Water Quality Management Plan (WQMP) for the subject property identified in this WQMP, and the implementation of this plan, is being transferred from the existing owner of the site (or a portion thereof) to a new owner. A copy of the Notice of Transfer of Responsibility form is provided at the end of this section.**



**FIGURE A**  
**TABLE NO. 1**  
**NON-STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX**

<u>BMP</u>	<u>RESPONSIBILITY</u>	<u>FREQUENCY</u>
N-1, N-2 Homeowner, Business owner or Tenant Education, Activity Restrictions and Employee Training	POA/HOA	Ongoing. Information to be provided to facility users at sign in, employees and management at hire, and every six months thereafter.
N-3 IC-7 Common Area Landscape Management	POA/HOA	Weekly inspections during regular maintenance, manage landscaping in accordance with the City of Brea Landscape Water Efficiency Ordinance and with the County of Orange Management Guidelines for Use of Fertilizers and Pesticides.
N-4 BMP Maintenance	POA/HOA	Table 1 hereon.
N-11 Litter Control	POA/HOA	Weekly sweeping and daily trash pick up within project areas and landscape areas. Daily inspection of trash receptacles to ensure that lids are closed and pick up any excess trash on the ground, noting trash disposal violations by tenants and facility users and reporting the violations to the management for investigation.
N-12 Employee Training	POA/HOA	Employee training program for all volunteers and employees of the HOA at hire and every six months.



**FIGURE A**  
**TABLE NO. 1**  
**NON-STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX**

<b><u>BMP</u></b>	<b><u>RESPONSIBILITY</u></b>	<b><u>FREQUENCY</u></b>
N-13 Good Housekeeping of Loading Docks	PAO and Commercial Tenants	Inspect frequently (per day) for spills, trash, litter and debris. Sweep daily when in use. Clean up any spills immediately and dispose of materials properly.
N-15 Street Sweeping Private Streets and Parking Lots	POA/HOA for all private areas within the site and the City of Brea for all public streets.	Streets will be vacuum-swept using City-approved equipment on a weekly basis. This procedure will be intensified around October 1st of each year prior to the "first flush" storm.



**FIGURE A**  
**TABLE NO. 2**  
**STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX**

<b><u>BMP</u></b>	<b><u>RESPONSIBILITY</u></b>	<b><u>FREQUENCY</u></b>
SD-10 Common Area Runoff Efficient Landscape	HOA/POA through its maintenance contractor.	In conjunction with maintenance activities and prior to finalizing any replanting schemes. Verify that plants continue to be grouped according to similar water requirements in order to reduce excess irrigation runoff.
SD-12 Common Area Efficient Irrigation	HOA/POA through its maintenance contractor.	Once a week, in conjunction with maintenance activities. Verify that runoff minimizing landscape design continues to function by checking that water sensors are functioning properly, that irrigation heads are adjusted properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather and day or night time temperatures.
SD-13 Catch Basin Stenciling	HOA/POA through the site maintenance contractor, for all private storm drains and area drains; by the City of Brea and Caltrans for all public storm drains.	On a monthly basis, inspect for re-stenciling needs and re-stencil as necessary, or every six months.



**FIGURE A**  
**TABLE NO. 2**  
**STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX**

<u><b>BMP</b></u>	<u><b>RESPONSIBILITY</b></u>	<u><b>FREQUENCY</b></u>
SD-32 Trash Enclosures	HOA/POA	Daily inspection and removal of debris, litter, and trash. Ensure all lids are closed and any trash/debris located on the ground are removed and disposed of properly. Ensure enclosures are secure.
IC-3 Building Maintenance	POA/HOA through the site maintenance contractor.	Ongoing. Properly collect and dispose of water when washing buildings, rooftops and other large objects. Prepare work area before conducting building maintenance and properly dispose of all materials generated and used.
SD-32 IC-10 Outdoor Loading and Unloading of Materials	POA/Commercial Tenants/HOA	Daily inspection and cleaning to ensure all litter is removed and spills are cleaned up. Sweeping shall be preferred to washing. In the even washing is used, all wash water will be collected and disposed of properly.
IC-15 Parking Area and Storage Maintenance	POA/HOA	Inspect parking lot daily and clean lot regularly. Clean up any automobile fluid leaks as soon as possible and dispose of all materials properly.



**FIGURE A**  
**TABLE NO. 2**  
**STRUCTURAL BMP MAINTENANCE RESPONSIBILITY/FREQUENCY MATRIX**

<b><u>BMP</u></b>	<b><u>RESPONSIBILITY</u></b>	<b><u>FREQUENCY</u></b>
IC-16	Pool and Fountain Cleaning HOA	Weekly cleaning and adequate chlorine to control algae. Weekly inspection and cleaning of filters. Discharge pool water properly, into the sanitary sewer.
IC-22	Eating and Drinking Establishments (POA) Commercial Tenants	Daily inspection of food preparation areas to ensure kitchen is clean and all wash water kept indoors and prevented from reaching storm drains. Ensure grease interceptors are working properly, and all grease materials, oil and trash are recycled or disposed of properly.
IC-23	Fire Sprinkler Testing/Maintenance HOA/POA	Monthly testing and maintenance as required by the City, local Fire Department or the Orange County Fire Authority. Conduct testing/maintenance on non-rainy days for the shortest duration possible. Direct all discharge to landscaped areas or the sanitary sewer, with permission from the appropriate sewer agency.



## Water Quality Management Plan Notice of Transfer of Responsibility

Tracking No. Assigned by the City of Brea: \_\_\_\_\_  
 Submission of this Notice of Transfer of Responsibility constitutes notice to the City of Brea that responsibility for the Water Quality Management Plan (“WQMP”) for the subject property identified below, and implementation of that plan, is being transferred from the Previous Owner (and his/her agent) of the site (or a portion thereof) to the New Owner, as further discussed.

### I. Previous Owner/Previous Responsible Party Information

Company/Individual Name: La Floresta, LLC c/o Chevron Land Development		Contact Person: Jim Martinez	
Title: Project Manager			
Street Address: 145 S. State College Blvd., 4th Floor			
City: Brea	State: CA	Zip: 92821	Phone: 714 577-3509

### II. Information about Site Transferred

Name of Project (if applicable): La Floresta		Contact Person: Jim Martinez	
Title of WQMP applicable to Site: CWQMP for La Floresta			
Planning Area (PA) and/or Tract Number(s) for Site Lot Numbers (if Site is a portion of a tract) : Tentative Tract map 16934			
Date WQMP Prepared (and revised if applicable) : Prepared 11/09/07			
Street Address of Site: Northwest corner of Valencia Avenue and Imperial Highway			
City: Brea	State: CA	Zip: 92823	Phone: 714 577-3509

### III. New Owner/New Responsible Party Information

Company/Individual Name:		Contact Person:	
Title:			
Street Address:			
City:	State:	Zip:	Phone:

### IV. Ownership Transfer Information

General Description of Site Transferred to New Owner:	General Description of Portion of Project/Parcel Subject to WQMP Retained by Owner (if any):
Lot/Tract Numbers of Site Transferred to New Owner:	
Remaining Lot/Tract Numbers Subject to WQMP Still Held by Owner (if any):	
Date of Ownership Transfer:	

**Conceptual Water Quality Management Plan (WQMP)  
TENTATIVE TRACT MAP 16934 "LA FLORESTA"  
NORTHWEST OF VALENCIA AVENUE AND  
IMPERIAL HIGHWAY INTERSECTION  
BREA, CALIFORNIA**

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Note: When the Previous Owner is transferring a site that is a portion of a larger project/parcel addressed by the WQMP, as opposed to the entire project/parcel addressed by the WQMP, the General Description of the Site transferred and the remainder of the project/parcel not transferred shall be set forth as maps attached to this notice. These maps shall show those portions of a project/parcel addressed by the WQMP that are transferred to the New Owner (the Transferred Site), those portions retained by the Previous Owner, and those portions previously transferred by Previous Owner. Those portions retained by Previous Owner shall be labeled "Previous Owner," and those portions previously transferred by Previous Owner shall be labeled as "Previously Transferred."

**V. Purpose of Transfer**

The purpose of this Notice of Transfer of Responsibility are: 1) to track transfer of responsibility for implementation and amendment of the WQMP when property to which the WQMP is transferred from the Previous Owner to the New Owner, and 2) to facilitate notification to a transferee of property subject to a WQMP that such New Owner is now the Responsible Party of record for the WQMP for those portions of the site that it owns.

**VI. Certifications**

**A. Previous Owner**

I Certify under penalty of law that I am no longer the owner of the Transferred Site as described in Section II above. I have provided the New Owner with a copy of the WQMP applicable to the Transferred Site that the New Owner is acquiring from the Previous Owner.

Printed Name of Previous Owner Representative:	Title:
Signature of Previous Owner Representative:	Date:

**B. New Owner**

I Certify under penalty of law that I am the owner of the Transferred Site, as described in Section II above, that I have been provided a copy of the WQMP, and that I have informed myself and understand the New Owner's responsibilities related to the WQMP, its implementation, and Best Management Practices associated with it. I understand that by signing this notice, the New Owner is accepting all ongoing responsibilities for implementation and amendment of the WQMP for the Transferred Site, which the New Owner has acquired from the Previous Owner.

Printed Name of New Owner Representative:	Title:
Signature of New Owner Representative:	Date:

# **SECTION 6**

## **Section VI    Location Map, Plot Plan & BMP Details**

# **Appendix A**

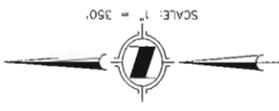
**Exhibit A      WQMP SITE PLAN**

# LEGEND

- PROJECT BOUNDARY
- NAP
- DIRECTION OF SURFACE FLOW (ONSITE)
- DIRECTION OF SURFACE FLOW (OFFSITE)
- PROP. STORM DRAIN & FLOW DIRECTION
- OFFSITE STORM DRAIN & FLOW DIRECTION (EXISTING)
- LANDSCAPE AREAS (PRIVATE) WITH BMP'S: (MAINTAINED BY HOA)
- SD-10 SITE DESIGN/LANDSCAPE PLANNING
- SD-12 EFFICIENT IRRIGATION
- LANDSCAPE SLOPES (PRIVATE) WITH BMP'S: (MAINTAINED BY HOA)
- SD-10 SITE DESIGN/LANDSCAPE PLANNING
- SD-12 EFFICIENT IRRIGATION
- CATCH BASIN (PRIVATE) WITH BMP:
- SD-13 CATCH BASIN STENCILING
- OFFSITE CATCH BASIN (EXISTING)
- SD-31 TRASH ENCLOSURE LOCATIONS TBD
- FILTERTERRA BIORETENTION FILTRATION UNIT (TO BE PLACED IN SERIES)
- TC-22 EXTENDED DETENTION BASIN (WATER QUALITY BASIN)
- DETENTION BASIN (FOR FLOOD CONTROL)



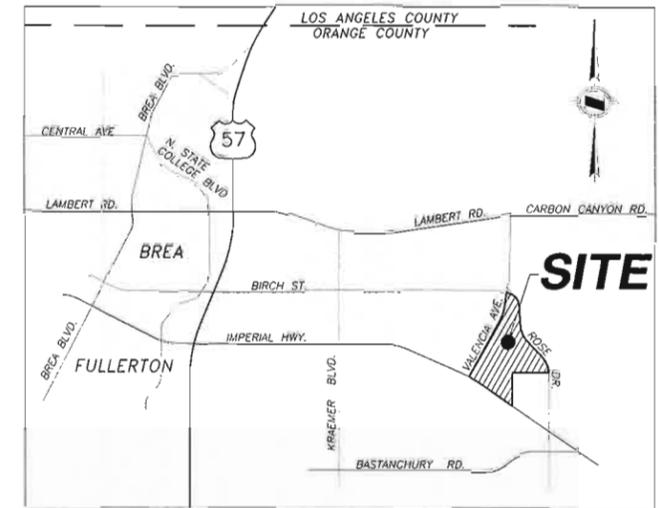
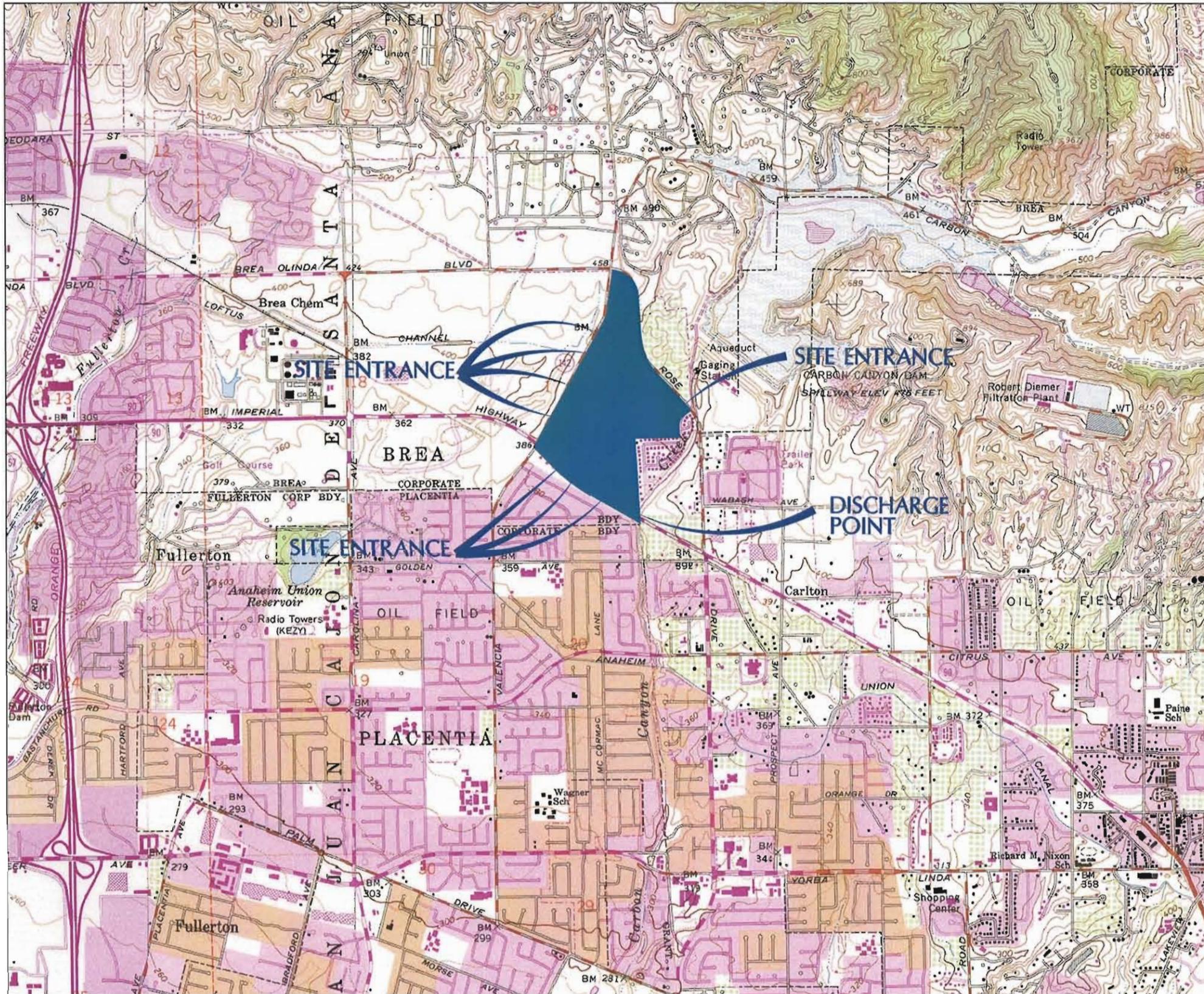
VICINITY MAP  
NOT TO SCALE



<b>PREPARED: 11/08/07</b> <b>HUNSAKER &amp; ASSOCIATES</b> I R V I N E , I N C . PLANNING ■ ENGINEERING ■ SURVEYING Three Hughes • Irvine, CA 92618 • PH: (949) 583-1010 • FX: (949) 583-0759	<b>PREPARED FOR:</b> <b>LA FLORESTA, LLC.</b> 145 S. STATE COLLEGE BLVD., ROOM 4114 BREA, CA 92821 (714) 671-3534	<b>PREPARED:</b> 11/08/07 <b>W.O.#</b> 433-40	<b>"LA FLORESTA"</b> <b>TENTATIVE TRACT 16934</b> <b>CITY OF BREA, CA</b>	<b>CWQMP</b> <b>EXHIBIT A</b> <b>SITE PLAN</b>
	<small>L:\Unococ\HortleyCenter\SY_WQ\CWQMP-SITE_PLAN.dwg</small>			

## **Appendix B**

## **Exhibit B      Vicinity Map**



VICINITY MAP  
NOT TO SCALE

## LEGEND

 PROJECT AREA



PREPARED BY:

**HUNSAKER & ASSOCIATES**  
IRVINE, INC.  
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Three Hughes • Irvine, CA 92618 • PH: (949) 583-1010 • FX: (949) 583-0759

PREPARED FOR:

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145 S. STATE COLLEGE BLVD., ROOM 4114  
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(714) 671-3534

DATE PREPARED:

11/08/07

W.O. 433-40

"LA FLORESTA"  
TENTATIVE TRACT 16934  
CITY OF BREA, CA

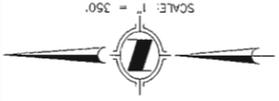
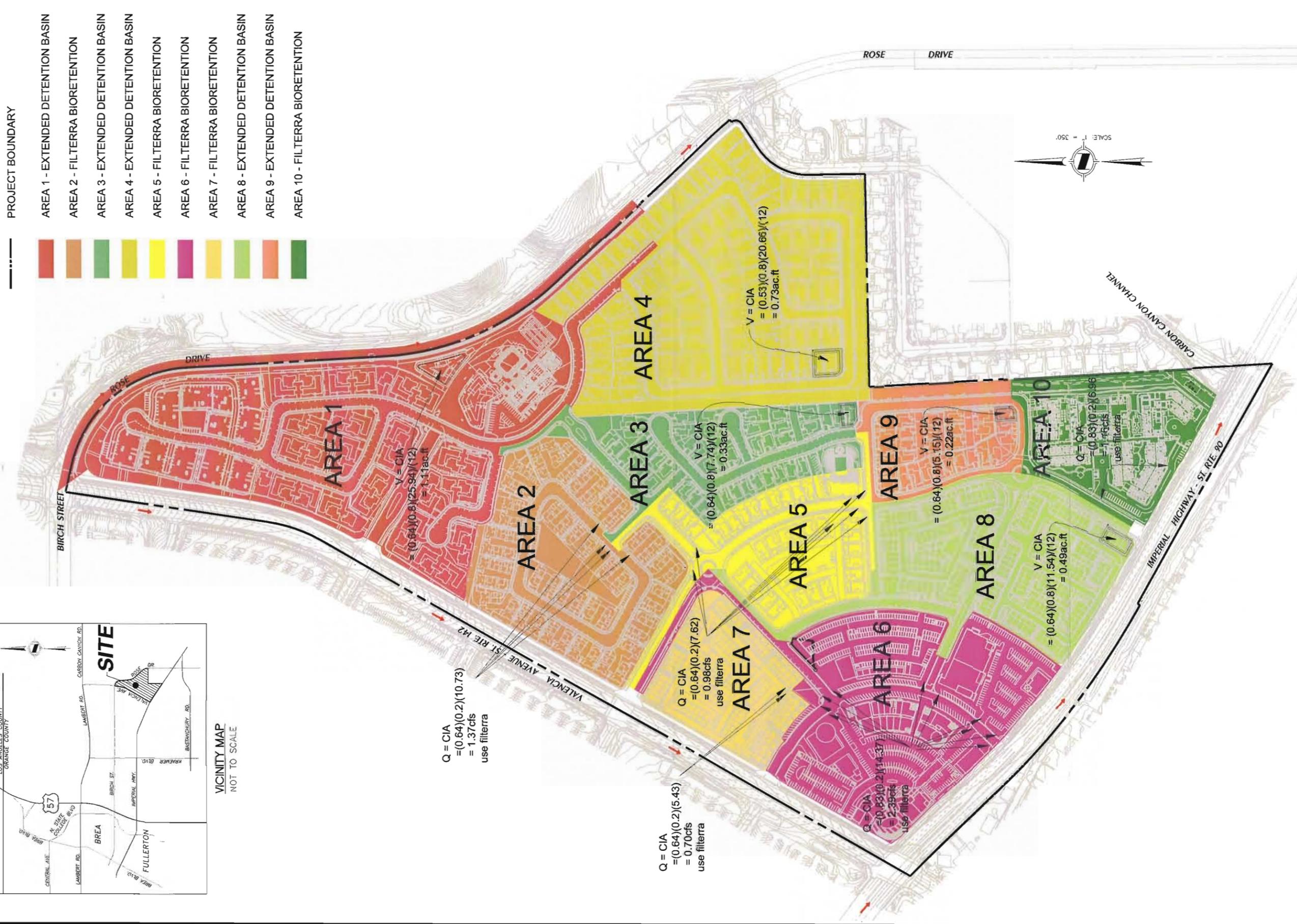
CWQMP  
EXHIBIT B  
VICINITY MAP

# **Appendix C**

## **Exhibit C      BMP DRAINAGE EXHIBIT**

# LEGEND

- PROJECT BOUNDARY
- AREA 1 - EXTENDED DETENTION BASIN
- AREA 2 - FILTERRA BIORETENTION
- AREA 3 - EXTENDED DETENTION BASIN
- AREA 4 - EXTENDED DETENTION BASIN
- AREA 5 - FILTERRA BIORETENTION
- AREA 6 - FILTERRA BIORETENTION
- AREA 7 - FILTERRA BIORETENTION
- AREA 8 - EXTENDED DETENTION BASIN
- AREA 9 - EXTENDED DETENTION BASIN
- AREA 10 - FILTERRA BIORETENTION



<b>PREPARED:</b> 11/08/07 <b>PREPARED FOR:</b> <b>LA FLORESTA, LLC.</b> 145 S. STATE COLLEGE BLVD., ROOM 4114 BREA, CA 92821 (714) 671-3534	<b>PREPARED:</b> 11/08/07 <b>W.O.#</b> 433-40	<b>CWQMP</b> <b>BMP</b> <b>DRAINAGE</b> <b>EXHIBIT</b>
	<b>"LA FLORESTA"</b> <b>TENTATIVE TRACT 16934</b> <b>CITY OF BREA, CA</b>	

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## **Appendix D**

## **Exhibit D      Treatment BMP Details**



## Design Considerations

- Tributary Area
- Area Required
- Hydraulic Head

## Description

Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to detain the stormwater runoff from a water quality design storm for some minimum time (e.g., 48 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. They can also be used to provide flood control by including additional flood detention storage.

## California Experience

Caltrans constructed and monitored 5 extended detention basins in southern California with design drain times of 72 hours. Four of the basins were earthen, less costly and had substantially better load reduction because of infiltration that occurred, than the concrete basin. The Caltrans study reaffirmed the flexibility and performance of this conventional technology. The small headloss and few siting constraints suggest that these devices are one of the most applicable technologies for stormwater treatment.

## Advantages

- Due to the simplicity of design, extended detention basins are relatively easy and inexpensive to construct and operate.
- Extended detention basins can provide substantial capture of sediment and the toxics fraction associated with particulates.
- Widespread application with sufficient capture volume can provide significant control of channel erosion and enlargement caused by changes to flow frequency

## Targeted Constituents

<input checked="" type="checkbox"/>	Sediment	▲
<input checked="" type="checkbox"/>	Nutrients	●
<input checked="" type="checkbox"/>	Trash	■
<input checked="" type="checkbox"/>	Metals	▲
<input checked="" type="checkbox"/>	Bacteria	▲
<input checked="" type="checkbox"/>	Oil and Grease	▲
<input checked="" type="checkbox"/>	Organics	▲

## Legend (Removal Effectiveness)

- Low
- High
- ▲ Medium



relationships resulting from the increase of impervious cover in a watershed.

## Limitations

- Limitation of the diameter of the orifice may not allow use of extended detention in watersheds of less than 5 acres (would require an orifice with a diameter of less than 0.5 inches that would be prone to clogging).
- Dry extended detention ponds have only moderate pollutant removal when compared to some other structural stormwater practices, and they are relatively ineffective at removing soluble pollutants.
- Although wet ponds can increase property values, dry ponds can actually detract from the value of a home due to the adverse aesthetics of dry, bare areas and inlet and outlet structures.

## Design and Sizing Guidelines

- Capture volume determined by local requirements or sized to treat 85% of the annual runoff volume.
- Outlet designed to discharge the capture volume over a period of hours.
- Length to width ratio of at least 1.5:1 where feasible.
- Basin depths optimally range from 2 to 5 feet.
- Include energy dissipation in the inlet design to reduce resuspension of accumulated sediment.
- A maintenance ramp and perimeter access should be included in the design to facilitate access to the basin for maintenance activities and for vector surveillance and control.
- Use a draw down time of 48 hours in most areas of California. Draw down times in excess of 48 hours may result in vector breeding, and should be used only after coordination with local vector control authorities. Draw down times of less than 48 hours should be limited to BMP drainage areas with coarse soils that readily settle and to watersheds where warming may be determined to downstream fisheries.

## Construction/Inspection Considerations

- Inspect facility after first large to storm to determine whether the desired residence time has been achieved.
- When constructed with small tributary area, orifice sizing is critical and inspection should verify that flow through additional openings such as bolt holes does not occur.

## Performance

One objective of stormwater management practices can be to reduce the flood hazard associated with large storm events by reducing the peak flow associated with these storms. Dry extended detention basins can easily be designed for flood control, and this is actually the primary purpose of most detention ponds.

Dry extended detention basins provide moderate pollutant removal, provided that the recommended design features are incorporated. Although they can be effective at removing some pollutants through settling, they are less effective at removing soluble pollutants because of the absence of a permanent pool. Several studies are available on the effectiveness of dry extended detention ponds including one recently concluded by Caltrans (2002).

The load reduction is greater than the concentration reduction because of the substantial infiltration that occurs. Although the infiltration of stormwater is clearly beneficial to surface receiving waters, there is the potential for groundwater contamination. Previous research on the effects of incidental infiltration on groundwater quality indicated that the risk of contamination is minimal.

There were substantial differences in the amount of infiltration that were observed in the earthen basins during the Caltrans study. On average, approximately 40 percent of the runoff entering the unlined basins infiltrated and was not discharged. The percentage ranged from a high of about 60 percent to a low of only about 8 percent for the different facilities. Climatic conditions and local water table elevation are likely the principal causes of this difference. The least infiltration occurred at a site located on the coast where humidity is higher and the basin invert is within a few meters of sea level. Conversely, the most infiltration occurred at a facility located well inland in Los Angeles County where the climate is much warmer and the humidity is less, resulting in lower soil moisture content in the basin floor at the beginning of storms.

Vegetated detention basins appear to have greater pollutant removal than concrete basins. In the Caltrans study, the concrete basin exported sediment and associated pollutants during a number of storms. Export was not as common in the earthen basins, where the vegetation appeared to help stabilize the retained sediment.

## **Siting Criteria**

Dry extended detention ponds are among the most widely applicable stormwater management practices and are especially useful in retrofit situations where their low hydraulic head requirements allow them to be sited within the constraints of the existing storm drain system. In addition, many communities have detention basins designed for flood control. It is possible to modify these facilities to incorporate features that provide water quality treatment and/or channel protection. Although dry extended detention ponds can be applied rather broadly, designers need to ensure that they are feasible at the site in question. This section provides basic guidelines for siting dry extended detention ponds.

In general, dry extended detention ponds should be used on sites with a minimum area of 5 acres. With this size catchment area, the orifice size can be on the order of 0.5 inches. On smaller sites, it can be challenging to provide channel or water quality control because the orifice diameter at the outlet needed to control relatively small storms becomes very small and thus prone to clogging. In addition, it is generally more cost-effective to control larger drainage areas due to the economies of scale.

Extended detention basins can be used with almost all soils and geology, with minor design adjustments for regions of rapidly percolating soils such as sand. In these areas, extended detention ponds may need an impermeable liner to prevent ground water contamination.

The base of the extended detention facility should not intersect the water table. A permanently wet bottom may become a mosquito breeding ground. Research in Southwest Florida (Santana et al., 1994) demonstrated that intermittently flooded systems, such as dry extended detention ponds, produce more mosquitoes than other pond systems, particularly when the facilities remained wet for more than 3 days following heavy rainfall.

A study in Prince George's County, Maryland, found that stormwater management practices can increase stream temperatures (Galli, 1990). Overall, dry extended detention ponds increased temperature by about 5°F. In cold water streams, dry ponds should be designed to detain stormwater for a relatively short time (i.e., 24 hours) to minimize the amount of warming that occurs in the basin.

### Additional Design Guidelines

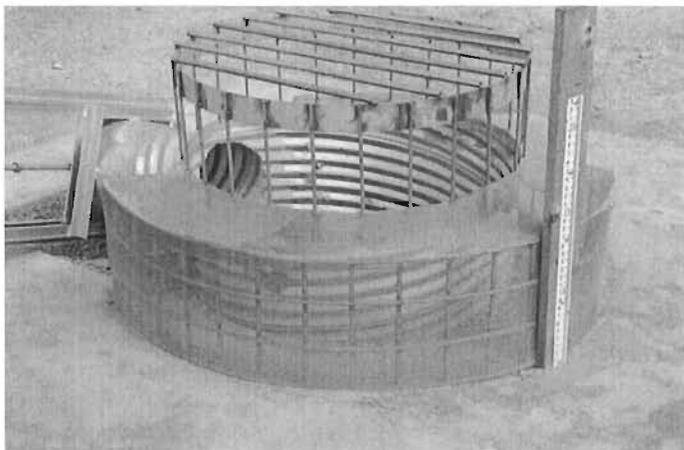
In order to enhance the effectiveness of extended detention basins, the dimensions of the basin must be sized appropriately. Merely providing the required storage volume will not ensure maximum constituent removal. By effectively configuring the basin, the designer will create a long flow path, promote the establishment of low velocities, and avoid having stagnant areas of the basin. To promote settling and to attain an appealing environment, the design of the basin should consider the length to width ratio, cross-sectional areas, basin slopes and pond configuration, and aesthetics (Young et al., 1996).

Energy dissipation structures should be included for the basin inlet to prevent resuspension of accumulated sediment. The use of stilling basins for this purpose should be avoided because the standing water provides a breeding area for mosquitoes.

Extended detention facilities should be sized to completely capture the water quality volume. A micropool is often recommended for inclusion in the design and one is shown in the schematic diagram. These small permanent pools greatly increase the potential for mosquito breeding and complicate maintenance activities; consequently, they are not recommended for use in California.

A large aspect ratio may improve the performance of detention basins; consequently, the outlets should be placed to maximize the flowpath through the facility. The ratio of flowpath length to width from the inlet to the outlet should be at least 1.5:1 (L:W) where feasible. Basin depths optimally range from 2 to 5 feet.

The facility's drawdown time should be regulated by an orifice or weir. In general, the outflow structure should have a trash rack or other acceptable means of preventing clogging at the entrance to the outflow pipes. The outlet design implemented by Caltrans in the facilities constructed in San Diego County used an outlet riser with orifices



**Figure 1**  
**Example of Extended Detention Outlet Structure**

sized to discharge the water quality volume, and the riser overflow height was set to the design storm elevation. A stainless steel screen was placed around the outlet riser to ensure that the orifices would not become clogged with debris. Sites either used a separate riser or broad crested weir for overflow of runoff for the 25 and greater year storms. A picture of a typical outlet is presented in Figure 1.

The outflow structure should be sized to allow for complete drawdown of the water quality volume in 72 hours. No more than 50% of the water quality volume should drain from the facility within the first 24 hours. The outflow structure can be fitted with a valve so that discharge from the basin can be halted in case of an accidental spill in the watershed.

### ***Summary of Design Recommendations***

- (1) Facility Sizing - The required water quality volume is determined by local regulations or the basin should be sized to capture and treat 85% of the annual runoff volume. See Section 5.5.1 of the handbook for a discussion of volume-based design.

Basin Configuration – A high aspect ratio may improve the performance of detention basins; consequently, the outlets should be placed to maximize the flowpath through the facility. The ratio of flowpath length to width from the inlet to the outlet should be at least 1.5:1 (L:W). The flowpath length is defined as the distance from the inlet to the outlet as measured at the surface. The width is defined as the mean width of the basin. Basin depths optimally range from 2 to 5 feet. The basin may include a sediment forebay to provide the opportunity for larger particles to settle out.

A micropool should not be incorporated in the design because of vector concerns. For online facilities, the principal and emergency spillways must be sized to provide 1.0 foot of freeboard during the 25-year event and to safely pass the flow from 100-year storm.

- (2) Pond Side Slopes - Side slopes of the pond should be 3:1 (H:V) or flatter for grass stabilized slopes. Slopes steeper than 3:1 (H:V) must be stabilized with an appropriate slope stabilization practice.
- (3) Basin Lining – Basins must be constructed to prevent possible contamination of groundwater below the facility.
- (4) Basin Inlet – Energy dissipation is required at the basin inlet to reduce resuspension of accumulated sediment and to reduce the tendency for short-circuiting.
- (5) Outflow Structure - The facility's drawdown time should be regulated by a gate valve or orifice plate. In general, the outflow structure should have a trash rack or other acceptable means of preventing clogging at the entrance to the outflow pipes.

The outflow structure should be sized to allow for complete drawdown of the water quality volume in 72 hours. No more than 50% of the water quality volume should drain from the facility within the first 24 hours. The outflow structure should be fitted with a valve so that discharge from the basin can be halted in case of an accidental spill in the watershed. This same valve also can be used to regulate the rate of discharge from the basin.

The discharge through a control orifice is calculated from:

$$Q = CA(2g(H-H_o))^{0.5}$$

where: Q = discharge (ft<sup>3</sup>/s)  
 C = orifice coefficient  
 A = area of the orifice (ft<sup>2</sup>)  
 g = gravitational constant (32.2)  
 H = water surface elevation (ft)  
 H<sub>o</sub> = orifice elevation (ft)

Recommended values for C are 0.66 for thin materials and 0.80 when the material is thicker than the orifice diameter. This equation can be implemented in spreadsheet form with the pond stage/volume relationship to calculate drain time. To do this, use the initial height of the water above the orifice for the water quality volume. Calculate the discharge and assume that it remains constant for approximately 10 minutes. Based on that discharge, estimate the total discharge during that interval and the new elevation based on the stage volume relationship. Continue to iterate until H is approximately equal to H<sub>o</sub>. When using multiple orifices the discharge from each is summed.

- (6) Splitter Box - When the pond is designed as an offline facility, a splitter structure is used to isolate the water quality volume. The splitter box, or other flow diverting approach, should be designed to convey the 25-year storm event while providing at least 1.0 foot of freeboard along pond side slopes.
- (7) Erosion Protection at the Outfall - For online facilities, special consideration should be given to the facility's outfall location. Flared pipe end sections that discharge at or near the stream invert are preferred. The channel immediately below the pond outfall should be modified to conform to natural dimensions, and lined with large stone riprap placed over filter cloth. Energy dissipation may be required to reduce flow velocities from the primary spillway to non-erosive velocities.
- (8) Safety Considerations - Safety is provided either by fencing of the facility or by managing the contours of the pond to eliminate dropoffs and other hazards. Earthen side slopes should not exceed 3:1 (H:V) and should terminate on a flat safety bench area. Landscaping can be used to impede access to the facility. The primary spillway opening must not permit access by small children. Outfall pipes above 48 inches in diameter should be fenced.

### Maintenance

Routine maintenance activity is often thought to consist mostly of sediment and trash and debris removal; however, these activities often constitute only a small fraction of the maintenance hours. During a recent study by Caltrans, 72 hours of maintenance was performed annually, but only a little over 7 hours was spent on sediment and trash removal. The largest recurring activity was vegetation management, routine mowing. The largest absolute number of hours was associated with vector control because of mosquito breeding that occurred in the stilling basins (example of standing water to be avoided) installed as energy dissipaters. In most cases, basic housekeeping practices such as removal of debris accumulations and vegetation

management to ensure that the basin dewaterers completely in 48-72 hours is sufficient to prevent creating mosquito and other vector habitats.

Consequently, maintenance costs should be estimated based primarily on the mowing frequency and the time required. Mowing should be done at least annually to avoid establishment of woody vegetation, but may need to be performed much more frequently if aesthetics are an important consideration.

Typical activities and frequencies include:

- Schedule semiannual inspection for the beginning and end of the wet season for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows.
- Remove accumulated trash and debris in the basin and around the riser pipe during the semiannual inspections. The frequency of this activity may be altered to meet specific site conditions.
- Trim vegetation at the beginning and end of the wet season and inspect monthly to prevent establishment of woody vegetation and for aesthetic and vector reasons.
- Remove accumulated sediment and re-grade about every 10 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Inspect the basin each year for accumulated sediment volume.

## Cost

### *Construction Cost*

The construction costs associated with extended detention basins vary considerably. One recent study evaluated the cost of all pond systems (Brown and Schueler, 1997). Adjusting for inflation, the cost of dry extended detention ponds can be estimated with the equation:

$$C = 12.4V^{0.760}$$

where: C = Construction, design, and permitting cost, and  
V = Volume (ft<sup>3</sup>).

Using this equation, typical construction costs are:

\$ 41,600 for a 1 acre-foot pond

\$ 239,000 for a 10 acre-foot pond

\$ 1,380,000 for a 100 acre-foot pond

Interestingly, these costs are generally slightly higher than the predicted cost of wet ponds (according to Brown and Schueler, 1997) on a cost per total volume basis, which highlights the difficulty of developing reasonably accurate construction estimates. In addition, a typical facility constructed by Caltrans cost about \$160,000 with a capture volume of only 0.3 ac-ft.

An economic concern associated with dry ponds is that they might detract slightly from the value of adjacent properties. One study found that dry ponds can actually detract from the

perceived value of homes adjacent to a dry pond by between 3 and 10 percent (Emmerling-Dinovo, 1995).

**Maintenance Cost**

For ponds, the annual cost of routine maintenance is typically estimated at about 3 to 5 percent of the construction cost (EPA website). Alternatively, a community can estimate the cost of the maintenance activities outlined in the maintenance section. Table 1 presents the maintenance costs estimated by Caltrans based on their experience with five basins located in southern California. Again, it should be emphasized that the vast majority of hours are related to vegetation management (mowing).

<b>Table 1 Estimated Average Annual Maintenance Effort</b>			
<b>Activity</b>	<b>Labor Hours</b>	<b>Equipment &amp; Material (\$)</b>	<b>Cost</b>
Inspections	4	7	183
Maintenance	49	126	2282
Vector Control	0	0	0
Administration	3	0	132
Materials	-	535	535
<b>Total</b>	<b>56</b>	<b>\$668</b>	<b>\$3,132</b>

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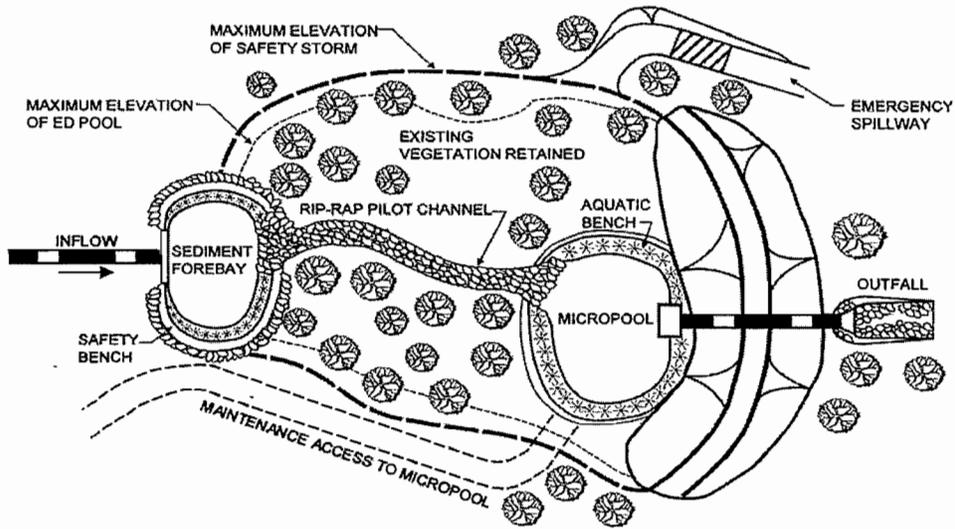
Young, G.K., et al., 1996, *Evaluation and Management of Highway Runoff Water Quality*, Publication No. FHWA-PD-96-032, U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.

### **Information Resources**

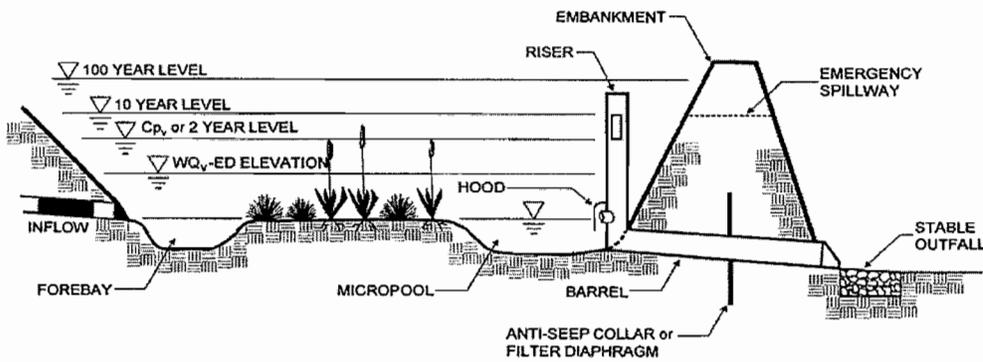
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PLAN VIEW



PROFILE

Schematic of an Extended Detention Basin (MDE, 2000)



## Filterra<sup>®</sup> Stormwater Bioretention Filtration System

### Design Assistance

Phone or email us at [design@filterra.com](mailto:design@filterra.com) to request your Filterra<sup>®</sup> DAKit (Design Assistance Kit). This includes placement "Do's and Don'ts," example scenarios, detail drawings, specifications, project information form, and other essential design information.

### Proper Placement

1. Do not place in a sump condition. Filterra<sup>®</sup> cannot be used as a stand-alone inlet – it will need effective bypass during higher intensity rainfall events.
2. Do not direct surface flow to Filterra<sup>®</sup> in a "head-on" configuration. The ideal way to load Filterra<sup>®</sup> to prevent system damage is a cross linear flow (left-to-right or right-to-left) in the gutter in front of Filterra<sup>®</sup>. This prevents the re-suspension and possible exit of the trapped pollutants, mulch, and engineered media from within Filterra<sup>®</sup> during the high flow bypass stage.
3. Refer to example scenarios in the Filterra<sup>®</sup> DAKit (Design Assistance Kit).
4. Send completed project information form along with plans to Americast for placement and application review.

### Placement Review

Because we want your project with Filterra<sup>®</sup> to be a great success, we *respectfully require* that each Filterra<sup>®</sup> project be reviewed by our placement/design staff. This review is mandatory, as proper placement ensures you of the most efficient and cost effective solution, as well as optimum performance and minimal maintenance.

### Filterra<sup>®</sup> Placement Example

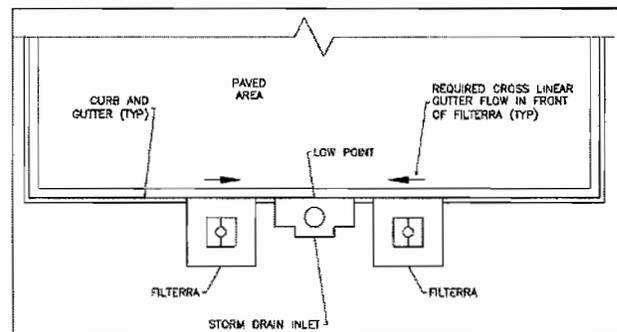


Figure 1

### Profile View of Filterra<sup>®</sup>

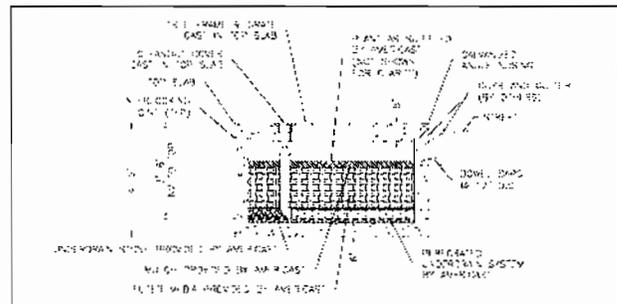


Figure 2



Filterra<sup>®</sup> is a Division of Americast  
Filterra<sup>®</sup> National Headquarters  
11352 Virginia Precast Road, Ashland, Virginia 23005  
Toll-free: (866) 349-3458 • Fax: (804) 789-8400  
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**FILTERRA® ADVANCED BIORETENTION SYSTEM  
PRODUCT OVERVIEW AND PERFORMANCE SUMMARY**

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**  
Manufactured by: Americast, Inc  
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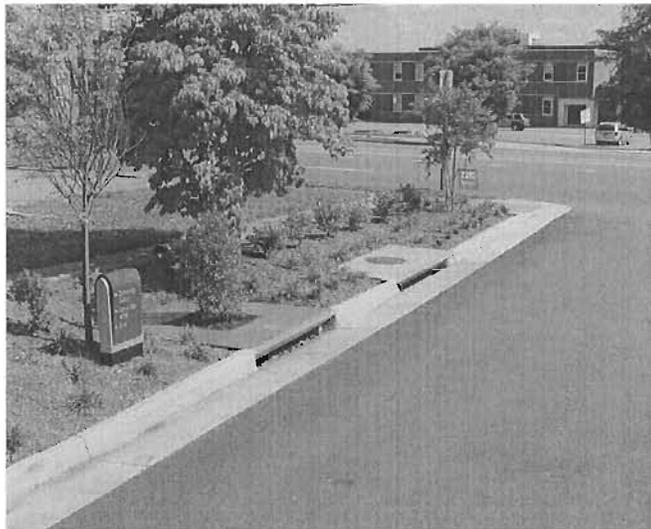


June 2006

A Growing Idea in Stormwater Filtration

## Filterra Advanced Bioretention System

### Product Overview and Performance Summary



Performance Summary for the following Pollutant Constituents:

Total Suspended Solids  
Heavy Metals  
Phosphorus  
Nitrogen  
Oil and Grease  
Bacteria  
Flow Rate Performance  
Effluent Water Quality Performance

Summary provided to \_\_\_\_\_

Manufactured by:  
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# FILTERRA® ADVANCED BIORETENTION SYSTEM PRODUCT OVERVIEW AND PERFORMANCE SUMMARY

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## PRODUCT DESCRIPTION

Filterra is an advanced high flow rate Bioretention Best Management Practice (BMP) for treating urban stormwater runoff. Exceptional pollutant removal efficiencies are achieved by filtering runoff through a specially engineered plant / soil / microbe media that captures, removes, degrades and uptakes pollutants through a variety of physical, chemical, and biological processes.

Filterra is a self contained system that is delivered to a site completely assembled and ready for use. The system consists of a concrete box, three inches of mulch, two feet of filter media, plant (shrub or tree), observation / cleanout pipe and under-drain system.

Runoff drains directly from impervious surfaces through an inlet structure in the concrete box and flows through the mulch, plant, and soil filter media. Treated water flows out of the system via an under-drain connected to a storm drain pipe, receiving water body or other appropriate outfall.

The concrete container and treatment media are below grade with the only features visible being the concrete top slab, tree grate, plant, and inlet opening. Filterra® looks very similar to an ordinary tree box except that it is specially designed to treat runoff. This is the only commercially available BMP that can also help to enhance the aesthetic value of the urban setting since it uses typical landscaping plants.

The Filterra® soil media is specifically designed to achieve relatively high flow-through rates, much greater than those found in typical bioretention or filtration practices. Based on available field and lab-scale test data and long-term continuous simulation modeling of the system's hydraulic function, Filterra is designed to treat 90% or greater of the annual rainfall.

## FILTERRA ADVANTAGES & BENEFITS

- **Small, Shallow Footprint**
- **High Removal Rates & Effluent Quality**
- **High Treatment Volume**
- **Aesthetically Pleasing**
- **Low Maintenance**
- **Sustainable Design**
- **Well Engineered**
- **Simple to Design**



## BMP PERFORMANCE COMPARISON

The performance data on Filterra® currently available indicates that the system is capable of providing effective treatment for TSS (solids), phosphorus, nitrogen, metals and bacteria. The table below compares the removal efficiency of Filterra with other BMP technologies. The table shows that Filterra performs as well or better than many other BMP technologies available.

<b>BMP Pollutant Removal Efficiency Comparison</b>				
<b>BMP TYPE</b>	<b>TSS</b>	<b>TP</b>	<b>TN</b>	<b>Metals Cu/Zn</b>
* Filterra <sup>3,4,5</sup>	85	57	43	57
Bioretention Systems <sup>8</sup>	81	29	49	51-71
Sand Filters <sup>6</sup>	81-90	39-44	36-53	50-92
Infiltration Systems <sup>2</sup>	95	70	51	98
Proprietary Media Filters <sup>6</sup>	40	17	13	53
Hydrodynamic Devices <sup>6</sup>	0	15	5	8-17

\* Average Efficiencies

## CONCLUSION

The Filterra bioretention system has been developed over many years in order to provide a BMP technology that will reliably and effectively address your water quality requirements. Filterra has been designed with ease of maintenance in mind to ensure long term operation and effectiveness. Finally, we at Filterra are committed to providing you the highest quality performance and services available.

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## FILTERRA® ADVANCED BIORETENTION SYSTEM PRODUCT OVERVIEW AND PERFORMANCE SUMMARY

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### **REFERENCES:**

1. Schueler, T. 1996 Design of Stormwater Filtering Systems, Center for Watershed Protection, Columbia, MD
2. Center for Watershed Protection (undated) Comparative Pollutant Removal Capacity of Stormwater Treatment Practices, Article 64, Practice of Watershed Protection, Columbia MD
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# FILTERRA® ADVANCED BIORETENTION SYSTEM TSS REMOVAL PERFORMANCE SUMMARY

Application: Stand Alone Stormwater Treatment Best Management Practice

Type of Treatment: High Flow Rate Media Filtration and Bioretention

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## TOTAL SUSPENDED SOLIDS (TSS)

**Background** - Total Suspended solids (TSS) has been and still remains the basic standard parameter to measure BMP performance. Because many pollutants of concern (P / metals / organic toxins / etc) are attached to sediments in runoff (through weak electrostatic forces / adsorption / cation exchange / etc.), TSS is often used as a target pollutant and surrogate for many other pollutants. Generally, the smaller the sediment particles the higher the surface area and the more reactive pollutants are to clinging onto small sediment particles. This means that finer sediments from erosion of fine silts, clays, glacial tills and atmospheric deposition may carry with them higher concentrations of pollutants than sediment with larger particles. These fine particles are of greater concern than the coarse particles in that phosphorus, heavy metals and other toxins will readily attach to, and be transported with, fine particles<sup>8</sup>.

Therefore, in general to achieve better performance a BMP technology must be capable of removing finer sediment particles. For example, in areas where air deposition is one of the dominate sources of pollutant particulate matter, a BMP must be able to remove particle sizes ranging from about 10 microns to 60 microns. To evaluate TSS performance it is important to understand not only the TSS removal efficiency but particle size distribution of the technology and sediment sources.

## STUDY RESULTS

The TSS performance summary data table below shows the findings of both the 2001 University of Virginia laboratory tests<sup>3</sup> and the 2006 University of Virginia field monitoring program<sup>4</sup>. GeoSyntec Consultants also conducted an independent evaluation of the UVA field study with their summary evaluation also provided. TSS field data was analyzed using EPA Method 160.2 using a 0.45 micron pore size with a practical range of the method of 4 mg/L to 20,000 mg/L.

SUMMARY OF TSS % REMOVAL			
STUDY	Min	Max	Avg.
UVA Lab <sup>3</sup>	57	98	85
UVA Field Monitoring <sup>4</sup>	75	93	87
GeoSyntec Evaluation Study <sup>5</sup>	70	96	82
<b>Average % Removal (ALL)</b>			<b>85</b>

## PARTICLE SIZE REMOVAL

In 2006 GeoSyntec Consultants<sup>5</sup> conducted a lab-scale particle size treatment analysis of the Filterra® soil-mulch media. The test showed that Filterra® could remove 87% of a Sil-Co-Sil mix with a mean particle size of 19 microns. This study was conducted in accordance with Washington's Department of Ecology TAPE protocol to evaluate particle size distribution. This result is of particular relevance when runoff sediments are dominated by small particles.

Table 3. TSS data for lab-scale treatment study

TSS				
Round	Inflow	Outflow	Percent Removal	Duplicate Relative Percent Difference
1	41.7	11.5	72.4%	
2	48.7	4.2	91.4%	
3	43.6	6.8	84.4%	
4	28.4	8.5	70.1%	
5	44.0	<2.0	95.5%	
6	77.0	6.3	91.8%	
7	75.0	2.7/4.3	95.3%	45.7%
8	18.0	3.7	79.4%	
9	8.3	<2.0	75.9%	
10	84.0	7.8	90.7%	
11	170/140	11.0	92.9%	19.4%
12	210.0	18.0	91.4%	
13	120.0	21.0/3.3	89.9%	145.7%
14	260.0	14.0	94.6%	
15	100.0	12.0	88.0%	
AVERAGE			86.9%	

Table 2. Statistical summary of TSS data for lab-scale treatment study

Point of Discharge	Median (mg/L) 95% Confidence Interval	Min (mg/L)	Max (mg/L)	Average Percent Removal <sup>a)</sup>	Significant Difference <sup>b)</sup>
Influent	75.0 ± 27.5	8.3	260		
Effluent	7.8 ± 3.2	ND (<2.0)	18.0	86.9%	Yes

a) Calculated as average of the individual event percent removals.

b) Based on nonparametric analysis of significant difference ( $\alpha = 0.05$ ) between influent and effluent medians.

## CONCLUSION

Based on these findings Filterra® has demonstrated a TSS percent removal of 85% for typical urban runoff sediments and an 87% removal rate for smaller size particles of a mean size of 19 microns.



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## **FILTERRA® ADVANCED BIORETENTION SYSTEM TSS REMOVAL PERFORMANCE SUMMARY**

**Application: Stand Alone Stormwater Treatment Best Management Practice**

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**Manufactured by: Americast, Inc**

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1. Schueler, T. 1996 Design of Stormwater Filtering Systems, Center for Watershed Protection, Columbia, MD
2. Center for Watershed Protection (undated) Comparative Pollutant Removal Capacity of Stormwater Treatment Practices, Article 64, Practice of Watershed Protection, Columbia MD
3. Yu, Shaw, 2001 Laboratory Testing of a Mix Media Filter System, Department of Civil Engineering, University of Virginia, Charlottesville, VA.
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# FILTERRA® ADVANCED BIORETENTION SYSTEM HEAVY METAL REMOVAL PERFORMANCE SUMMARY

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**  
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## HEAVY METALS - BACKGROUND

The major anthropogenic sources of heavy metals come from intensive automobile use, weathering of building materials, and atmospheric deposition which contribute lead, copper, zinc, and other heavy metals to urban and roadway runoff. Metals may be found in natural waters in particulate form by the formation of precipitates, such as hydroxides, sulfides, and carbonates, or by adsorption to clay, silica, or organic particulate matter.

Metals have been found to be one of the leading pollutants of lakes, reservoirs and ponds in the U.S., and a leading pollutant of estuaries. Metals do not break down or degrade over time but accumulate in the environment in the sediments and find their way into the food chain. Metals bio-accumulate in living organisms and are toxic. Human health can be affected if metals enter the drinking water supply or if consumed by eating contaminated fish.

Investigations by the University of Maryland have shown that bioretention facilities are quite effective in removing metals such as lead, copper, and zinc from stormwater runoff. Removal rates of these metals were excellent: over 95% for all metals, with effluent copper and lead levels mostly less than 5 ug/L and zinc less than 25 ug/L.

## FILTERRA REMOVAL PROCESSES

Filterra uses several mechanisms to remove heavy metals.

First, metals strongly attached to TSS particulate matter are removed through sedimentation and filtration. Filterra has been shown to have a TSS removal efficiency of 85%.

Second, dissolved metals react with the organic matter (i.e., carboxyl ions) to form organic complexes. Metals tightly bind to the mulch and other organic particles in the soil. In a 2001 bioretention lab study performed by Davis et al, the surface mulch layer exhibited a high capacity for metal removal with sorption capabilities two to three times greater than the soil used.

Third, metal removal occurs by the microbes and plant uptake. As the organic matter decays metals are released and available for up-take by the plants. Filterra bio-accumulates metals within the plant and captures metals in the media. As the plant grows so does Filterra's ability to store more metals.



## STUDY RESULTS

The table below shows the percent removal for the 2001 University of Virginia Laboratory Study for Cu, the 2006 field monitoring study also conducted by the University of Virginia and an independent evaluation of the UVA data by GeoSyntec.

The field samples were analyzed for total cadmium, copper, lead and zinc. No cadmium or lead was detected in any of the samples. Complicating the field data is that a significant proportion of the total Cu and Zn analyses resulted in concentrations below the limits of detection, for both influent and effluent concentrations.

## SUMMARY OF METALS % REMOVAL

STUDY	Avg.% Removal
UVA <sup>2</sup> Lab (Cu)	82
UVA Field Monitoring <sup>3</sup> (Cu)	33
UVA Field Monitoring <sup>3</sup> (Zn)	48
GeoSyntec Evaluation Study <sup>4</sup> (Zn)	64
<b>Average % Removal (ALL)</b>	<b>57</b>



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## **FILTERRA® ADVANCED BIORETENTION SYSTEM HEAVY METAL REMOVAL PERFORMANCE SUMMARY**

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### **REFERENCES:**

1. Davis, A., M., Shokouhian, et., al. 1998  
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FINAL TM3 10-19-04.DOC/ 041530002.

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# FILTERRA® ADVANCED BIORETENTION SYSTEM PHOSPHORUS REMOVAL PERFORMANCE SUMMARY

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**  
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## TOTAL PHOSPHORUS (TP) - BACKGROUND

Phosphorus is often identified as a pollutant of concern where runoff discharges to fresh or brackish lakes and bays. In these aquatic ecosystems too much phosphorus can contribute to eutrophication and algae blooms that can cause harm to fisheries and restrict recreational uses. When phosphorus enters a lake or a bay it generally accumulates in the bottom sediments and cycles seasonally between organic and inorganic forms making phosphorus readily available for plant and algae uptake.

Urban runoff can contain levels of P that are many (three to five) times higher than a natural stream or river. To minimize phosphorus buildup and its adverse environmental impacts it is necessary to prevent it entering urban runoff by reducing non-point inputs such as controlling the use of fertilizers or capturing phosphorus in treatment technologies before it enters the aquatic system.

Filterra works differently from most BMPs in how it removes phosphorus from runoff. Filterra works in two stages. In the first stage phosphorus is captured by the filter media. Organic phosphorus (i.e., part of the plants, animal tissues and their waste) is removed by filtration and sedimentation. Inorganic phosphorus (i.e. from fertilizers) and soluble ortho-phosphorus (from decaying matter) chemically react with Fe, Ca and Al silicates in the media's sand components to create phosphate compounds.

The second stage of removal is unique to bioretention technology and Filterra. The soluble ortho-phosphorus from runoff is created by decomposition of organic matter and is up-taken and retained by both the media micro-organisms and plant – hence the term “Bioretention”. Filterra not only captures phosphorus, but consumes it. As Filterra's plant grows so does Filterra's capacity to transform and retain phosphorus. Filterra's ability to remove phosphorus doesn't degrade over time, but actually increases. Filterra is capable of regeneration of its pollutant removal capacity as long as the plant continues to grow.

## STUDY RESULTS

The TP performance summary data table below shows the findings of both the 2001 University of Virginia (UVA) laboratory tests and the 2006 UVA field monitoring program. GeoSyntec Consultants conducted an independent evaluation of the field monitoring that is also provided.

Total Phosphorus (TP) was determined in the influent and effluent samples by Standard Method 18 4500 P B+E (colorimetric determination of dissolved orthophosphate; persulfate digestion, ascorbic acid determination).

FILTERRA TOTAL PHOSPHORUS % REMOVAL			
STUDY	Min	Max	Ave.
UVA <sup>5</sup> Lab	29	83	58
UVA Field Monitoring <sup>6</sup>	-3	90	60
GeoSyntec Evaluation <sup>7</sup>	-50	90	52
<b>Average % Removal</b>			<b>57</b>

## EFFLUENT QUALITY

The Filterra system produced an average effluent Total Phosphorus concentration of 0.1 mg/L; the mean irreducible concentration for filtering systems is 0.14 mg/L with a lower confidence limit concentration of 0.01 mg/L. This shows that Filterra performs as well as or better than other media filters.

Comparison of Filterra Performance with 'Irreducible' Concentrations <sup>8</sup>			
	TSS	Total P	Total Kjeldahl N
All Filtering Systems	20 – 40	0.15 - 0.2	1.2
Mean Runoff concentration	22.5	0.209	< 1.46
Mean Filterra effluent concentration	4.5	0.10	1.1
Concentrations in mg/L.			



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## FILTERRA® ADVANCED BIORETENTION SYSTEM PHOSPHORUS REMOVAL PERFORMANCE SUMMARY

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# FILTERRA® ADVANCED BIORETENTION SYSTEM NITROGEN REMOVAL PERFORMANCE SUMMARY

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## NITROGEN REMOVAL - BACKGROUND

Total Kjeldahl nitrogen (TKN) is a parameter that is sometimes used as an indicator of pollution. TKN includes nitrogen from ammonia, amino acids, polypeptides, proteins or other organic sources. TKN is a measure of the concentration of reduced forms of nitrogen in surface water, principally, ammonium and amino forms of organic nitrogen. TKN plus  $\text{NO}_2$  and  $\text{NO}_3$  is generally used to derive total nitrogen TN. TKN and TN are not synonymous as they include different forms of nitrogen. However, TKN and TN are often used interchangeably as TKN usually comprises the major source of nitrogen in urban runoff. Because nitrogen is so readily converted from one form to another depending on environmental conditions, identifying sources of nitrogen from analyses of different forms at a single monitoring station is difficult. Filterra's field testing focused on TKN which means the TN would have been slightly higher by adding nitrate and nitrite components.

Filterra was designed to support a complete soil ecosystem and thus Filterra cycles nitrogen. As organic nitrogen (detritus material) and ammonia enter the media, it is biologically transformed by bacteria into nitrites and then nitrates. Nitrate is the form of nitrogen that plants can up-take and transform in tissue. Nitrogen from fertilizer contains inorganic forms of nitrate that is readily available for plant up-take. So whether nitrogen enters the Filterra ecosystem in an organic or inorganic form, nitrogenous compounds are eventually transformed into nitrates ready for plant uptake. Essentially any form of nitrogen pollution becomes plant food. The result is the plant grows more vigorously. Just as with most of the pollutants of concern the plant performs a vital role of retaining nitrogen by up-take into its tissue – i.e. bioretention.

A major benefit of Filterra and bioretention technology is the ability of the system to capture and hold pollutants such as N, P and metals as long as the plant is alive and thriving. Vigorous plant growth is the indicator that nature is transforming pollutants in the runoff into plant food.

## STUDY RESULTS

TKN was determined in the influent and effluent samples by U.S. EPA Method 351.3 (Colorimetric; Titrimetric; Potentiometric). Total Kjeldahl nitrogen is defined as the sum of free-ammonia and organic nitrogen compounds which are converted to ammonium sulfate when the sample is heated in the presence of concentrated sulfuric acid, potassium sulfate and mercuric sulfate. The ammonia is distilled and determined by titration if the concentration of nitrogen is above 1 mg/L, by colorimetric procedures if the nitrogen concentration is below 1 mg/L, or by a potentiometric procedure for nitrogen concentrations between 0.05 and 1,400 mg/L.

The results shown below are the findings from all Filterra studies.

**SUMMARY OF FILTERRA TN (TKN) % REMOVAL**

Study	Min	Max	Avg.
UVA Lab <sup>1</sup>	25	75	45
UVA Field Monitoring <sup>2</sup>	28	53	>42
GeoSyntec Evaluation Study <sup>3</sup>	0	53	42
Average % Removal			43



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# FILTERRA® ADVANCED BIORETENTION SYSTEM OIL AND GREASE REMOVAL SUMMARY

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**

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## OIL AND GREASE - BACKGROUND

High concentrations of oil and grease (O&G) can cause toxicity in receiving waters thus many jurisdictions are requiring that O&G discharge be reduced or eliminated in stormwater discharges. Sources of O&G in stormwater are primarily from the operation, use and handling of oil associated with automobile operation and maintenance. O&G can also be found in higher concentrations depending on the land use and types of activities. Generally O&G concentrations are higher in industrial and commercial land uses and highways and lower in residential uses. Of course O&G can be discharged through accidental spills or illegal dumping from restaurants, individuals and maintenance facilities.

Once O&G finds its way into stormwater runoff it can become emulsified with water to form little droplets, float on the surface of the water or attach to the surface of trash debris or sediments through absorption or adsorption. O&G that become attached to trash, debris and sediment can be removed by any number of processes commonly used by most BMP technologies. The difficult portion of the O&G to remove is the part that is free flowing on the surface or emulsified within the water column.

## FILTERRA'S REMOVAL PROCESSES

Filterra very efficiently captures that portion of the O&G attached to trash, debris and sediments through the simple filtration process. Essentially, all of the trash and debris is captured on the surface of the filter media. O&G attached to sediment are also trapped within the filter media. Studies show that Filterra will capture about 85% of all sediments.

The emulsified and free floating portion of the O&G is essentially captured, absorbed or soaked up by the organic material in the Filterra system, i.e. 3" of mulch on the surface of the media and the peat within the media. Once the emulsified and free floating O&G have been captured it is then degraded and transformed by bacteria to smaller less harmful compounds that can be volatilized or completely consumed to CO<sub>2</sub> and water. This biological degradation of O&G occurs over the course of 3 to 10 days with 92% efficiency<sup>2</sup>.

In 2004 the University of Maryland (UM) conducted a series of tests to demonstrate the effectiveness of mulch in capturing and removing O&G from runoff. The UM study showed about 90% of the O&G is captured through sorption by mulch. Within 3 to 10 days 92% of the capture O&G has been degraded through

microbiological processes. Additional findings and recommendations from the 2004 UM report the importance of mulch in bioretention systems are provided below:

*"Overall, it can be concluded that there are several advantages to placing a surface mulch layer on a bioretention system for O&G removal.*

***First**, it appears that high contaminant removal efficiency can be achieved by the placement of a thin (~3 cm) layer of mulch to treat both dissolved and particulate-associated hydrocarbon contaminants.*

***Second**, because it only takes a relatively short time (3 to 4 days with single contaminants, and a maximum 10 days with the higher contamination of oil) to degrade the trapped contaminants after the storm event, no accumulation of hydrocarbons occurs, demonstrating that this is a sustainable process.*

***Third**, there is no need to inoculate the mulch with specific microorganisms to degrade the O&G contaminants because the native microbial population in the mulch tested has been found to have an appropriate biodegradation capacity. In addition, after exposure of the mulch microorganisms to the contaminants, an increased population of contaminant-degrading microbes is available for biodegradation during a subsequent re-exposure.*

***Fourth**, the moisture content of the mulch layer did not decrease drastically after the storm event under an air stream, which will be beneficial for microorganisms in the mulch as well as in the soil below.*

***Fifth**, the mulch layer has high permeability; therefore, it should not cause significant head build-up on the surface of bioretention systems during the storm event, so that the runoff can readily infiltrate to the soil."*

## MONITORING RESULTS

Unfortunately O&G levels at our monitoring site were below the levels of detection. Since Filterra is a bioretention system with a 3 inch layer of mulch it is assumed until further studies that Filterra will perform with the similar efficiency as tests show in the UM study, i.e. greater than 90% removal through sorption and microbiological degradation in 3 to 10 days.

Manufactured by:



For ordering and technical information call:  
866 349 3458

## **FILTERRA® ADVANCED BIORETENTION SYSTEM OIL AND GREASE REMOVAL SUMMARY**

**Application: Stand Alone Stormwater Treatment Best Management Practice**

**Type of Treatment: High Flow Rate Media Filtration and Bioretention**

Manufactured by: Americast, Inc  
11352 Virginia Precast Road, Ashland VA 23005

Toll Free (East Coast) (866) 349-3458

Toll Free (West Coast) (877) 345-1450

[www.filterra.com](http://www.filterra.com)

June 2006



### **REFERENCES:**

1. Yu, Shaw, et.al., 2006 Field Evaluation of Filterra® Stormwater Bioretention Filtration System, Department of Civil Engineering, University of Virginia, Charlottesville, VA.
2. Hong, Eunyoung, 2002, Sustainable Oil and Grease Removal from Stormwater Runoff Hotspots using Bioretention, "MS Dissertation, Department of Civil and Environmental Engineering, A.J. Clark School of Engineering, University of Maryland, College Park, Maryland, 167 pages.
3. California Department of Transportation, Division of Environmental Analysis, 2004, BMP Pilot Retrofit Program, REPORT ID CTSW - RT - 01 – 050, Sacramento, CA 95814



For ordering and technical information call:  
866 349 3458

# FILTERRA® ADVANCED BIORETENTION SYSTEM BACTERIA REMOVAL PERFORMANCE SUMMARY

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**  
 Manufactured by: Americast, Inc  
 11352 Virginia Precast Road, Ashland VA 23005  
 Toll Free (East Coast) (866) 349-3458  
 Toll Free (West Coast) (877) 345-1450  
 www.filterra.com



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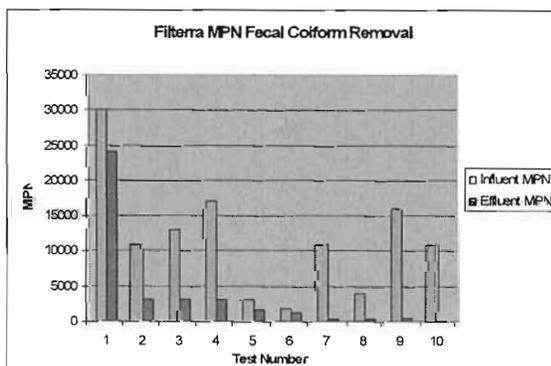
## BACTERIA REMOVAL

Filterra is an innovative stormwater Best Management Practice that has been shown to be effective in removal of TSS, TP, TN and metals. The technology uses a variety of physical, chemical and biological pollutant removal mechanisms to achieve high removal efficiencies to meet local, state and national pollutant removal requirements. With the growing concern about bacterial impairment of recreational waters associated with stormwater runoff, laboratory tests were conducted on the Filterra media to determine its ability to remove fecal coliform.

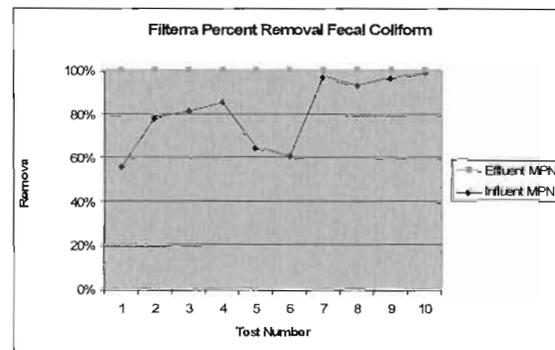
Urban stormwater runoff may have fecal coliform levels of 3,600<sup>6</sup> to 20,000<sup>7</sup> MPN / 100 ml. For safe water contact usages fecal coliform levels should be at or below 400 to 200 MPN / 100ml.

The Washington Suburban Sanitary Commission (WSSC) in Silver Spring, MD conducted a series of Filterra column tests in the laboratory. The samples were analyzed for fecal coliform MPN via Method SM 9221 E2 (MTF Direct Test, A-1 Medium) from the 19<sup>th</sup> edition of *Standard Methods for the Examination of Water and Wastewater*. Data were reported in MPN per 100 mL.

Over 30 tests were performed during a 6 week period. The average removal over the test period was 70%. However, after 4 weeks of testing the average removal increased to 98%. During the first 4 weeks there was some variability in removal and on two occasions fecal coliform broke through the filter media. The lowest MPN level achieved was 170 MPN which is near the commonly used threshold number of 200 MPN for water contact activities. The table below shows the influent and effluent MPN counts.



The table below shows how the effluent quality improved over time (6 week period). It is believed that the media goes through a maturation process where it develops a complex microbiological ecosystem that enhances predation, capture and destruction of fecal coliform. Clark and Pitt (1999) note that media filters develop a biofilm on and within the media that promotes the ability of the media to remove bacteria.



## FIELD TESTING

Preliminary 2006 site evaluation field tests were conducted on several units for analysis of E. coli to meet local regulatory requirements. Grab samples were taken of the influent and effluent during a storm event. Initial analysis resulted in low levels of E. coli in both influent and effluent samples. Cold weather and new site development may explain these low results. However, where influent levels were greater, results showed levels of E. coli at 10 and 18 MPN/100ml and both with less than 1 MPN/100ml in the effluent samples, although these concentrations are too low for statistical extrapolation.

Due to low E. coli levels and the need to meet nationwide regulatory requirements, subsequent tests will include fecal coliform analysis. Field testing will continue through 2006 with periodic updates as well as research on how to optimize the bacteria removal capabilities of the Filterra system.

## CONCLUSION

The best available information on Filterra demonstrates this technology is capable of removal of fecal bacteria. Current data has shown removal rates of up to 90% and effluent quality at or near to that suitable for receiving waters designated for human contact uses.

Manufactured by:

For ordering and technical information call:  
 866 349 3458

## FILTERRA® ADVANCED BIORETENTION SYSTEM BACTERIA REMOVAL PERFORMANCE SUMMARY

Application: Stand Alone Stormwater Treatment Best Management Practice

Type of Treatment: High Flow Rate Media Filtration and Bioretention

Manufactured by: Americast, Inc

11352 Virginia Precast Road, Ashland VA 23005

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### REFERENCES:

1. Erickson, J. 2004, Fecal Coliform Removal by Filterra Bioretention Media, WSSC Laboratory Services Group, Silver Spring, MD
2. Center for Watershed Protection, 1999, Article, "Microbes and Urban Watersheds: "Ways to Kill 'Em", Watershed Protection Techniques, 3(1): 566-574
3. Center for Watershed Protection, 1999, Article I, "Microbes and Urban Watersheds: I. Introduction: Vol. 3, No.1, Watershed Protection Techniques.
4. Center for Watershed Protection, 1999, Article II, "Microbes and Urban Watersheds: Concentration, Sources, and Pathways", Vol. 3, No.1, Watershed Protection Techniques.
5. Center for Watershed Protection, 1999, Article IV, "Microbes and Urban Watersheds: "Implication for Managers", Vol. 3, No.1, Watershed Protection Techniques.
6. Maryland Dept. of the Environment, 2000 Maryland Stormwater Design Manual, 2000, Chapter 1, Table 1.1
7. Pitt, R. 1998. "Epidemiology and Stormwater Management." *Stormwater Quality Management*. CRC /Lewis Publishers. New York, NY.



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# FILTERRA® ADVANCED BIORETENTION SYSTEM FLOW RATE PERFORMANCE SUMMARY

**Application: Stand Alone Stormwater Treatment Best Management Practice**  
**Type of Treatment: High Flow Rate Media Filtration and Bioretention**

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## HIGH FLOW RATE

One of the most innovative and advanced features of Filterra is its very high design flow rate. It was the design objective to engineer a media that had the highest flow rates possible to treat large volumes yet still retained pollutant removal capabilities to meet water quality standards.

Generally, media filters (sand / bioretention) operate in the flow range of 0.25" to 4.0" / hour<sup>1</sup>. Filterra operates in an effective range of 80" to 115" / hour. Americast, Inc. Filterra's manufacturer working with the Civil Engineering Department at the University of Virginia spent over 2 years in the development of the current media formula.

Filterra's high flow rate is orders of magnitude higher than conventional practices. High flows are key to Filterra's ability to treat high volumes of runoff with a small filter surface area. Generally, Filterra is designed to treat >90% of the total annual rainfall events using a filter surface area of only 36 ft<sup>2</sup>. Higher volume treatment is possible by increasing the filter surface area to drainage area ratio.

## HIGH FLOW VERIFICATION

The high flow rate has been verified with laboratory column tests, full scale model tests, flow test for a three year old operating unit and actual storm event testing. The results of these tests are discussed below.

## LABORATORY TESTS

The independent soils testing firm GeoTesting Express, Inc. in Acton, MA<sup>3</sup>, performed the laboratory tests. Testing was performed under constant head conditions using ASTM D 2434 protocol. The soil media was tested using in a saturated condition using lightly and heavily compacted media. These test results show the extreme range of flow rates possible under the best or worst conditions.

Filterra Media Laboratory Hydraulic Function Test				
Sample <sup>3</sup>	Void Ratio	Bulk Density	Perm'b'ty cm/sec	Permeability in/hr
Light Compaction	0.67	123	0.21	<b>297</b>
High/Heavy Compaction	0.43	134	0.035	<b>50</b>
Average	0.55	128	0.123	173

## FULL-SCALE MODEL TESTS

Extensive model testing was necessary during product development not only to verify the ultimate design flow rate but also to optimize the under drain design so it would not restrict flows and to ensure the consistency between various media batches. The table below shows a summary of six test series, each with different batches of media. The table shows each batch had quite consistent flows with an average flow (permeability) of 97 inches / hour.

Full-scale Model Test using a 6'x6' Filterra unit				
Test Runs	No. Test Runs	gal/ min	cf/min	in/hr
Test A	7	31.4	4.2	84
Test B	10	40.2	5.4	107
Test C	10	35.9	4.8	96
Test D	10	31.2	4.2	83
Test E	8	37.1	5	99
Test F	3	43.1	5.8	115
<b>Average</b>				<b>97</b>

## LONG TERM FIELD FLOW TESTS

Flow tests have been performed on a three year old, regularly maintained 6'x6' unit treating a commercial development. The flow test was performed just prior to the scheduled maintenance to see if the unit was still operating at design flow rates. Water was delivered to the Filterra unit at the design rate of (300 cf/h or 100 in /hr) to see if a system due for maintenance still operated at the design flow rate. The findings were that no bypass occurred at 100 in / hr.

Filterra Field Flow Tests		
Filterra System	Design Flow Rate	Observed Field Flow Rate
3 yr old system 6'x6' size - dry	300 cf/h	> 300 cf/h
6 mth old system 6'x4' size - dry	202 cf/h	> 225 cf/h
6 mth old system 6'x4' size - wet	202 cf/h	> 225 cf/h

## STORM EVENT FIELD MONITORING

A total of sixteen precipitation events were monitored during this study period from October 2004 through November 2005<sup>2</sup>. The population of storms that were monitored includes a range of precipitation average ...



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## FILTERRA® ADVANCED BIORETENTION SYSTEM FLOW RATE PERFORMANCE SUMMARY

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### STORM EVENT FIELD MONITORING (CONT'D)

... intensities from a maximum of 1.07 inches per hour (June 29, 2005) to 0.01 inches per hour (November 28, 2005).

During the study period only three storm events caused the unit to over flow. During these overflow events the measured effluent of the unit was at or above 116 in/ hr. (i.e. at the measurement capacity of the weir used for the effluent from the unit)<sup>3</sup>.

The total rainfall that fell during the events monitored was measured at 14.92". The amount that was measured through the study Filterra unit was 13.84", or 93% of the total. This provides further confirmation of the 90% treatment performance goals.

### CONSERVATIVE DESIGN FLOW RATE

All data shows that Filterra is capable of operating at over 100 in / hr. However, in sizing Filterra, an engineering safety factor of 1.25 is used. The design rate used for sizing Filterra is 80 in / hr. This conservative flow rate ensures the long term, high flow rate capacity of the system is sustainable between maintenance periods for many years.



### REFERENCES.

1. Maryland Dept. of the Environment, 2000 Maryland Stormwater Design Manual, 2000, Chapter 1, Chapter 3, 3.40
2. Yu, Shaw, et.al., 2006 Field Evaluation of Filterra® Stormwater Bioretention Filtration System, Department of Civil Engineering, University of Virginia, Charlottesville, VA.
3. GeoSyntec Consultants, Inc. 2006 Filterra® Bioretention Treatment System Technical Evaluation Report, Acton, MA. Appendix H, E

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# FILTERRA® ADVANCED BIORETENTION SYSTEM EFFLUENT WATER QUALITY COMPARISON

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## EFFLUENT WATER QUALITY COMPARISON

Each BMP technology has a practical limit to the quality of effluent it can achieve. Effluent quality is a function of various design parameters, influent concentration and the nature of the pollutant removal mechanism (s) used for a given technology.

For example, Filterra has been designed to optimize the pollutant removal mechanisms incorporating an array of physical (i.e., filtration / sedimentation) chemical (i.e., cation exchange / adsorption) and biological (i.e., degradation / uptake) pollutant removal processes found in nature's plant / soil / microbe complex.

Hydrodynamic devices and dry detention basins rely primarily on physical sedimentation processes.

Generally, the more pollutant removal mechanisms, the higher the treatment levels tend to be. This is the theory behind treatment trains where several different technologies are placed in a series to improve water quality. Filterra is designed as a self contained treatment train containing all treatment mechanisms possible in one system.

For media filters in general, any device capable of high removal efficiency with high pollutant influent concentration may show low removal efficiency with low influent concentrations.

Decreased efficiency of media and other BMPs receiving low influent concentration has been demonstrated and it has been shown that in some cases there is an 'irreducible' concentration achievable. The following extract discusses this fact<sup>1,2</sup>:

*"As treatment occurs and pollutants in stormwater become less concentrated, they become increasingly hard to remove. There appears to be a practical limit to the effluent quality that any BMP can be observed to achieve for the stormwater it treats. This limit is dictated by the chemical and physical nature of the pollutant of concern, the treatment mechanisms and processes within the BMP, and the sensitivity of laboratory analysis techniques to measure the pollutant. This concept of "irreducible concentration"<sup>3</sup> has significant implications for how BMP efficiency estimates are interpreted."*

Therefore, in order to understand how to evaluate the relative performance of BMPs by percent removal alone, even where the results are statistically significant, often does not provide a useful method to compare BMP performance<sup>4</sup>.

## COMPARISON OF EFFLUENT QUALITY

Filterra's effluent water quality as measured by TSS, TP and TKN has been shown to be better than other media filters as shown in the table below. This is particular interest when considering BMP choice to achieve TMDL targets.

	<b>TSS</b>	<b>Total P</b>	<b>TKN</b>
Filterra <sup>6</sup>	4.9	0.10	1.1
All Other Filters	20 – 40	0.15 - 0.2	1.2
Mean Influent Concentrations	22.5	0.209	< 1.46
Concentrations in mg/L.			Source: 5

The 2004 Caltrans "BMP Retrofit Study"<sup>7</sup> also found that a more valid approach for relative comparison of BMP performance would be pollutant effluent concentrations at the same influent concentrations. Caltrans developed a comparison method that shows the relative expected effluent concentrations of various BMPs at the same influent concentration. The table below shows the actual Filterra effluent concentrations from field studies compared to the expected effluent concentrations shown in the Caltrans study. The Filterra concentrations used are at or very near the same influent concentrations used in the Caltrans report.

<b>Influent</b>	<b>TSS 114 mg/L</b>	<b>TP 0.38mg/L</b>	<b>Total Zn 355mg/L</b>
Filterra <sup>6,6</sup>	12	0.22	<20
Sand Filters <sup>7</sup>	8-16	0.16-0.34	24-50
Proprietary Media Filters <sup>7</sup>	78	0.3	333
Hydrodynamic Systems <sup>7</sup>	68	0.28	197

It can be seen from the table above that based on the best available information on the expected effluent quality that Filterra effluent water quality is as good as or better than sand filters, proprietary media filters and hydrodynamic systems.



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## **FILTERRA® ADVANCED BIORETENTION SYSTEM EFFLUENT WATER QUALITY COMPARISON**

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### **REFERENCES:**

1. U.S. EPA report "Stormwater Best Management Practice Design Guide: Volume 1 General Considerations", (U.S. EPA, 2004).
2. U.S. EPA report "Urban Stormwater BMP Performance Monitoring" (Strecker et al., 2002):
3. Schueler, T. 1996 Design of Stormwater Filtering Systems, Center for Watershed Protection, Columbia, MD
4. GeoSyntec Consultants, 2000, Determining Urban Stormwater Best Management Practice (BMP) Removal Efficiencies, Urban Water Resources Research Council (UWRRC) of ASCE.
5. Center for Watershed Protection (undated). Irreducible Pollutant Concentrations Discharged From Stormwater Practices. Article 65 *In*: Practice of Watershed Protection. Ellicott City, MD. Also in Schueler, T. 1996. The limits of stormwater Treatment. Technical Note 75. Watershed Protection Techniques 2:2 pp. 376-379.
6. Yu, Shaw, et.al., 2006 Field Evaluation of Filterra® Stormwater Bioretention Filtration System, Department of Civil Engineering, University of Virginia, Charlottesville, VA. Table 4, 5, 6
7. California Department of Transportation, Division of Environmental Analysis, 2004, BMP Pilot Retrofit Program, REPORT ID CTSW - RT - 01 - 050, Sacramento, CA 95814, Table 1
8. GeoSyntec Consultants, Inc. 2006 Filterra® Bioretention Treatment System Technical Evaluation Report, Acton, MA., Appendix I

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 **AMERICAST**

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866 349 3458

# **SECTION 7**

## **Section VII Educational Materials Included**

1. The Ocean begins at your front door
2. Ten Ways that you Will Save the Most
3. Your Home. Your Community. Your Environment
4. Household Tips to Help Ocean Pollution
5. After the Storm
6. Construction Runoff Guidance Manual
7. Information on What You and Your Community Can Do to Use Water More Efficiently
8. Sewage Spill Reference Guide
9. Proper Maintenance Practices for Your Business
10. Water Quality Guidelines for Pool Maintenance
11. Water Quality Guidelines for Permitted Lot and Pool Drains
12. A Guide for Food Service Facilities
13. Water Quality Guidelines for Exterior Restaurant Cleaning Operations
14. Water Quality Guidelines for Landscaping and Gardening
15. Healthy Lawn Healthy Environment
16. EPA Citizen's Guide to Pest Control and Pesticide Safety
17. Integrated Waste Management Collection Centers
18. Waste Oil Collection Centers – North Orange County
19. Using Pest Control Products
20. County of Orange Management Guidelines for the Use of Fertilizers and Pesticides
21. State of California Model Landscape Ordinance
22. County of Orange Water Quality Ordinance
23. City of Brea Water Quality Ordinance
24. City of Brea Water Conserving Landscape Ordinance

1. The Ocean begins at your front door

# The Ocean Begins at Your Front Door

## For More Information

- California Environmental Protection Agency  
[www.calepa.ca.gov](http://www.calepa.ca.gov)
- Air Resources Board  
[www.arb.ca.gov](http://www.arb.ca.gov)
- Department of Pesticide Regulation  
[www.cdpr.ca.gov](http://www.cdpr.ca.gov)
- Department of Toxic Substances Control  
[www.dtscc.ca.gov](http://www.dtscc.ca.gov)
- Integrated Waste Management Board  
[www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)
- Office of Environmental Health Hazard Assessment  
[www.oehha.ca.gov](http://www.oehha.ca.gov)
- State Water Resources Control Board  
[www.waterboards.ca.gov](http://www.waterboards.ca.gov)

**Earth 911** - community-specific environmental information  
1-800-cleanup or visit [www.1800cleanup.org](http://www.1800cleanup.org)

**Health-Care Agency's Ocean and Bay Water Closure and Posting Hotline**  
714-433-6400 or visit [www.ocbeachinfo.com](http://www.ocbeachinfo.com)

**Integrated Waste Management/Dept. of Orange County**  
information on household hazardous waste collection centers, recycling centers and solid waste collection  
714-834-6752 or visit [www.oclandfills.com](http://www.oclandfills.com)

**O.C. Agriculture Commissioner**  
714-447-7100 or visit [www.ocagcom.com](http://www.ocagcom.com)

**Stormwater Best Management Practice Handbook**  
Visit [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

**UC Master Gardener Hotline**  
714-708-1646 or visit [www.ucceng.org](http://www.ucceng.org)

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications. Make questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to [ocstormwaterinfo-join@list.ocwatersheds.com](mailto:ocstormwaterinfo-join@list.ocwatersheds.com)

## Orange County Stormwater Program

Aliso Viejo	(949) 425-2535
Anaheim Public Works Operations	(714) 765-6860
Brea Engineering	(714) 990-7666
Buena Park Public Works	(714) 562-3655
Costa Mesa Public Services	(714) 754-5323
Cypress Public Works	(714) 229-6740
Dana Point Public Works	(949) 248-3584
Fountain Valley Public Works	(714) 593-4441
Fullerton Engineering Dept.	(714) 788-6853
Garden Grove Public Works	(714) 741-5956
Huntington Beach Public Works	(714) 536-5431
Irvine Public Works	(949) 724-0315
La Habra Public Services	(562) 905-9792
La Palma Public Works	(714) 690-3310
Laguna Beach Water Quality	(949) 497-0378
Laguna Hills Public Service	(949) 707-2650
Laguna Niguel Public Works	(949) 362-4337
Laguna Woods Public Works	(949) 639-0500
Lake Forest Public Works	(949) 461-3480
Los Alamitos Community Dev	(562) 431-3538
Mission Viejo Public Works	(949) 470-3056
Newport Beach, Code & Water	
Quality Enforcement	(949) 644-3215
Orange Public Works	(714) 532-6480
Placentia Public Works	(714) 998-8245
Rancho Santa Margarita	(949) 635-1800
San Clemente Environmental Programs	(949) 361-6143
San Juan Capistrano Engineering	(949) 234-4413
Santa Ana Public Works	(714) 647-3380
Seal Beach Engineering	(562) 431-2527 x317
Stanton Public Works	(714) 379-9222 x204
Tustin Public Works Engineering	(714) 573-3150
Villa Park Engineering	(714) 998-1500
Westminster Public Works Engineering	(714) 898-3311 x446
Yorba Linda Engineering	(714) 961-7138
Orange County Stormwater Program	(714) 567-6363

Orange County 24-Hour  
Water Pollution Problem Reporting Hotline  
(714)-567-6363

On-line Water Pollution Problem Reporting form  
[www.ocwatersheds.com](http://www.ocwatersheds.com)



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*Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.*

### ***Did You Know?***

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact the largest source of water pollution comes from city streets, neighborhoods, construction sites, and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff refers to runoff resulting from rainfall. It is very noticeable during heavy rainstorms when large volumes of water drain off the urban landscape picking up pollutants along the way.
- Urban runoff can happen anytime of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

### ***Where Does It Go?***

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers, and cleaners – can be blown or washed into the storm drains.
- A little water from a garden hose or rain can also send materials into the storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets) water in the storm drains is not treated before entering our waterways.

### ***Sources of Non-Point Source Pollution***

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating, and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

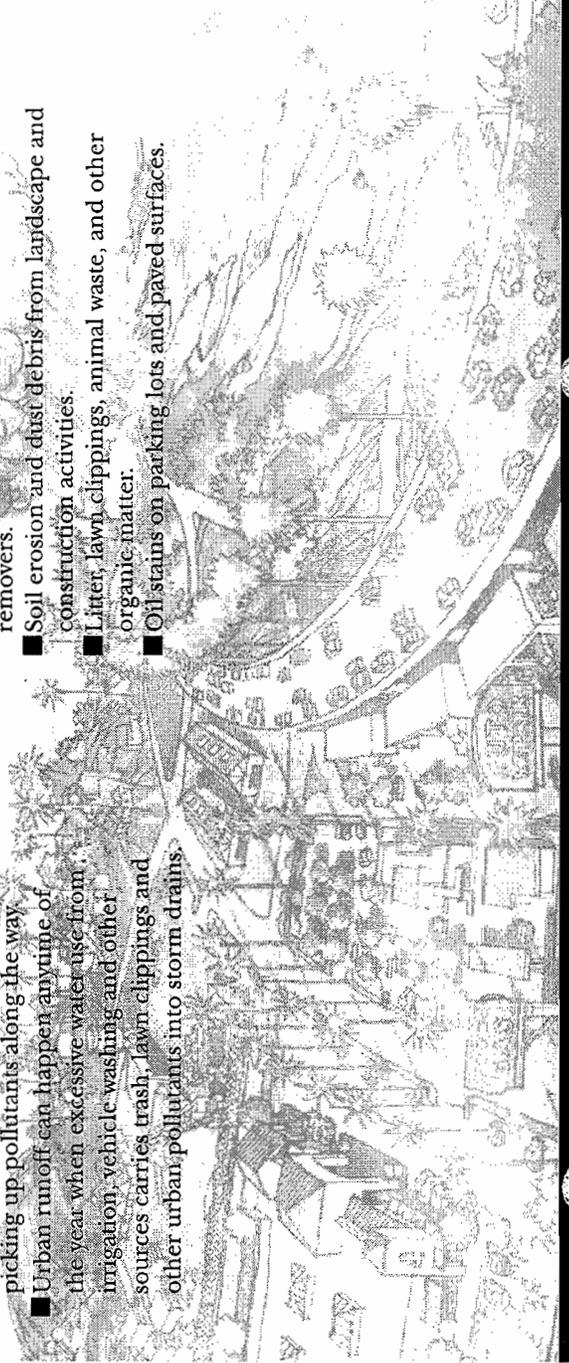
### ***The Effect on the Ocean***

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

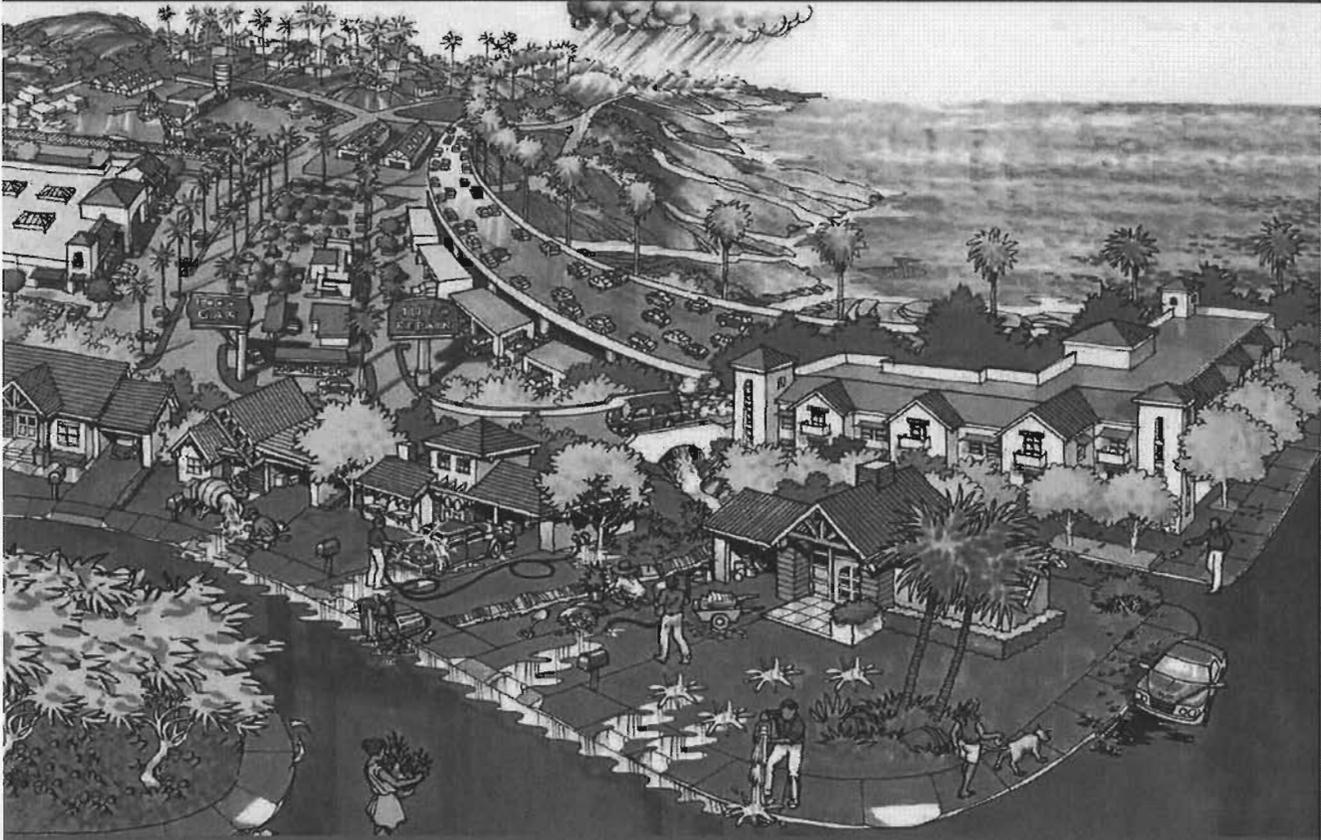
Stormwater quality management programs have been developed by the Orange County Stormwater Program under National Pollutant Discharge Elimination System (NPDES) permits. The program educates and encourages the public to protect water quality, monitor runoff in the storm drain system, manage NPDES permit process for municipalities, investigate illegal disposals, and maintain storm drains.

The support of Orange County residents, businesses and industries is needed to improve water quality and reduce the threat of stormwater and urban runoff pollution. Proper use and disposal of materials we use everyday will help stop this form of pollution before it reaches the storm drain and the ocean.

*Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.*



# The Ocean Begins at Your Front Door



*Never allow pollutants to enter the street, gutter or storm drain!*

Follow these simple steps to help reduce water pollution:

## Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products, and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste collection center.
- For a household hazardous waste collection center near you call (714) 834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).

- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of in trash.

## Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor vehicle for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit [www.1800cleanup.org](http://www.1800cleanup.org).

## Pool Maintenance

- Pool and spa water must be dechlorinated and be free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- Whenever possible, drain dechlorinated pool and spa water directly into the sanitary sewer but only when it is not raining.
- Some cities may have ordinances that do not allow pool water to be disposed into the storm drain. Check with your city.

## Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted with 48 hours.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. For locations and hours of Household Hazardous Waste Collection Centers call 714-834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).

## Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle

## Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a Household Hazardous Waste Collection Center.

## Common Pollutants

### Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

### Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

### Automobile

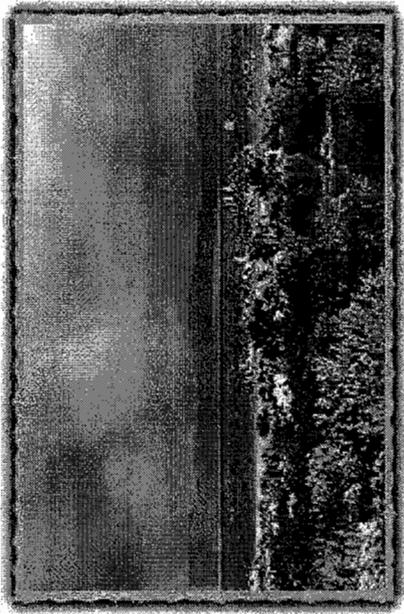
- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

## 2. Ten Ways that you Will Save the Most

## Ten ways that will save the most:



1. Water your lawn only when it needs it. Step on your grass. If it springs back, when you lift your foot, it doesn't need water. So set your sprinklers for more days in between watering. **Saves 750-1,500 gallons** per month. Better yet, especially in times of drought, water with a hose.
2. Fix leaky faucets and plumbing joints. **Saves 20 gallons** per day for every leak stopped.
3. Don't run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end. **Saves 150 gallons** each time. For a two-car family that's **up to 1,200 gallons** a month.
4. Install water-saving shower heads or flow restrictors. **Saves 500 to 800 gallons** per month.
5. Run only full loads in the washing machine and dishwasher. **Saves 300 to 800 gallons** per month.
6. Shorten your showers. Even a one or two minute reduction can **save up to 700 gallons** per month.
7. Use a broom instead of a hose to clean driveways and sidewalks. **Saves 150 gallons** or more each time. At once a week, that's **more than 600 gallons** a month.
8. Don't use your toilet as an ashtray or wastebasket. **Saves 400 to 600 gallons** per month.
9. Capture tap water. While you wait for hot water to come down the pipes, catch the flow in a watering can to use later on house plants or your garden. **Saves 200 to 300 gallons** per month.
10. Don't water the sidewalks, driveway or gutter. Adjust your sprinklers so that water lands on your lawn or garden where it belongs-- and only there. **Saves 500 gallons** per month.



## In the bathroom:

1. Put a plastic bottle or a plastic bag weighted with pebbles and filled with water in your toilet tank. Displacing water in this manner allows you to use less water with each flush. **Saves 5 to 10 gallons a day. That's up to 300 gallons a month, even more for large families.** Better yet, for even greater savings, replace your water-guzzling five to seven gallon a flush toilet with a three and a half gallon, low flush, or one and a half gallon, ultra-low flush model.
2. If you're taking a shower, don't waste cold water while waiting for hot water to reach the shower head. Catch that water in a container to use on your outside plants or to flush your toilet. **Saves 200 to 300 gallons a month.**
3. Check toilet for leaks. Put dye tablets or food coloring into the tank. If color appears in the bowl without flushing, there's a leak that should be repaired. **Saves 400 gallons a month.**
4. Turn off the water while brushing your teeth. **Saves three gallons each day.**
5. Turn off the water while shaving. Fill the bottom of the sink with a few inches of water to rinse your razor. **Saves three gallons each day.**



## In the kitchen and laundry:

1. If you wash dishes by hand--and that's the best way--don't leave the water running for rinsing. If you have two sinks, fill one with rinse water. If you only have one sink, use a spray device or short blasts instead of letting the water run. **Saves 200 to 500 gallons** a month.
2. When washing dishes by hand, use the least amount of detergent possible. This minimizes rinse water needed. **Saves 50 to 150 gallons** a month.



3. Keep a bottle of drinking water in the refrigerator. This beats the wasteful habit of running tap water to cool it for drinking. **Saves 200 to 300 gallons** a month.
4. Don't defrost frozen foods with running water. Either plan ahead by placing frozen items in the refrigerator overnight or defrost them in the microwave. **Saves 50 to 150 gallons** a month.
5. Don't let the faucet run while you clean vegetables. Rinse them in a filled sink or pan. **Saves 150 to 250 gallons** a month.
6. Use the garbage disposal less and the garbage more (even better--compost!). **Saves 50 to 150 gallons** a month.

## Outside:

1. Put a layer of mulch around trees and plants. Chunks of bark, peat moss or gravel slows down evaporation. **Saves 750 to 1,500 gallons** a month.
2. If you have a pool, use a pool cover to cut down on evaporation. It will also keep your pool cleaner and reduce the need to add chemicals. **Saves 1,000 gallons** a month.
3. Water during the cool parts of the day. Early morning is better than dusk since it helps prevent the growth of fungus. **Saves 300 gallons**.
4. Don't water the lawn on windy days. There's too much evaporation. **Can waste up to 300 gallons** in one watering.
5. Cut down watering on cool and overcast days and don't water in the rain. Adjust or deactivate automatic sprinklers. **Can save up to 300 gallons** each time.
6. Set lawn mower blades one notch higher. Longer grass means less evaporation. **Saves 500 to 1,500 gallons** each month.
7. Have an evaporative air conditioner? Direct the water drain line to a flower bed, tree base, or lawn.
8. Drive your car onto a lawn to wash it. Rinse water can help water the grass.
9. Tell your children not to play with the garden hose. **Saves 10 gallons** a minute.
10. If you allow your children to play in the sprinklers, make sure it's only when you're watering the yard--if it's not too cool at that time of day.
11. Xeriscape--replace your lawn and high-water-using trees and plants with less thirsty ones. But do this only in wet years. Even drought resistant plantings take extra water to get them going. That'll **save 750 to 1,500 gallons** a month.
12. When taking your car to a car wash--a good idea for saving water--be sure it's one of the many that recycles its wash water.
13. Dispose of hazardous materials properly! One quart of oil can contaminate 250,000 gallons of water, effectively eliminating that much water from our water supply. Contact your city or county for proper waste disposal options.

## While Shopping

Water is an essential ingredient in most manufacturing operations. Especially for those 1 billion of us in the high-consumption class, cutting down on our purchases of material things--from clothes and shoes to paper and appliances--**conserves and protects water supplies as effectively as installing a low-flush toilet does.** As with so many natural resources, as long as prices in the marketplace fail to reflect full social and ecological costs, voluntary changes in consumption patterns will play an important role in the quest for sustainability.

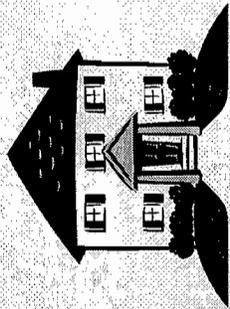
- A kilogram (2.2 lbs) of hamburger or steak produced by a typical California beef cattle operation, for instance, uses some 20,500 liters (5,400 gal.) of water.
- We rarely think about water when we see an automobile, for example, but producing a typical U.S. car requires more than 50 times its weight in water!
- Producing 1 serving (4.3 oz.) of tomatoes requires 8 gallons of water.
- Producing 1 serving (4.6 oz.) of oranges requires 14 gallons of water.
- Producing 1 serving (2 oz.) of pasta requires 36 gallons of water.
- Producing 1 serving (8 fl. oz.) of milk requires 48 gallons of water.
- Producing 1 serving (8 oz.) of chicken requires 330 gallons of water.

### 3. Your Home. Your Community. Your Environment



## did you know...

- The activities you carry out around your home could affect local streams, rivers, and lakes even though you may live miles away from those types of wildlife areas.
- Water from a garden hose or a storm can carry automotive and household materials, such as motor oil, fertilizers, household cleaners, and garbage, to local streams, rivers, and lakes through a storm drain.
- One quart of motor oil spilled down a storm drain can contaminate 250,000 gallons of water.
- Lawn clippings and other yard waste deposited in storm drains can affect water quality of creeks and streams.
- Over-application of fertilizer can wash down into a storm drain and enter creeks and streams making algae grow, which deprives fish of oxygen.
- Over-watering lawns can cause soil erosion that could eventually obstruct flood control channels and create seepage problems for your neighbors. Plus, it's a waste of water.



Californians measure their quality of life by the **homes** they live in, the **communities** they work and reside in, and the **natural environment** they rest and recreate in.

As a California home builder, we've gone to great lengths to **protect the environment** during the construction of your new home.

We would like to **thank you for doing your part** in maintaining a quality of life we can all be proud of for generations to come.



**your home.  
your community.  
your environment.**

Simple things you can do in and around your new home to protect and preserve clean water.

Provided by:



For more information, contact the California Building Industry Association at 916/443-7933 or check out our web site at [www.cbia.org](http://www.cbia.org)



## congratulations on the purchase of your new home!

As you begin to work on making your new house your home, California's home builders want to remind you of the **important role you can play** in protecting and preserving our state's valuable water resources and environment.

How you perform the special and routine activities designed to maintain the beauty and comfort of your home – from painting a room to caring for your lawn and garden – **can have a significant impact** on the quality of California's water resources and the region's environment.

When your home was built, **extensive precautions were taken by home builders** to prevent the local creeks, streams, and waterways from being polluted by water runoff and debris at the construction site. The low plastic fences and hay bales you may have seen in the construction areas represent the types of environmental management measures used to limit erosion and storm water runoff.

**Now it is your turn.** Here are several simple suggestions for you to follow to do your part in keeping water clean for your community and the environment.

## what you can do to help keep the water clean...

Properly use and store all toxic products, including solvents, paints and cleaners. Use completely paint cleaners and other products or share leftovers with a neighbor.



Take household hazardous materials containers, such as pesticides and used motor oil to a hazardous material collection center. Contact the County for the nearest location.

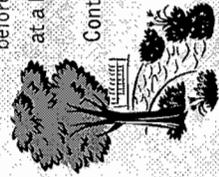


Use kitty litter or other absorbent materials to clean spills, rather than hosing down spills. Depending on the substance, dispose used absorbent materials in the trash can or at a hazardous materials collection center.



Rinse water-based paint brushes in the sink. Filter and reuse paint thinner or brush cleaners. Dispose of used thinner, oil and latex paint at a hazardous materials collection center.

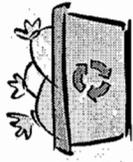
Use pesticides, herbicides and fertilizers in accordance with label instructions. Do not apply before rain and always dispose of leftovers at a hazardous materials collections center.



Control erosion during landscaping projects to prevent dirt and debris from entering storm drains.

## ...and preserve the environment.

Conserve water by using landscaping materials that are suited to your climate.



Throw all rubbish in tightly sealed trash cans. Recycle reusable materials, but be sure materials won't blow out of the recycling bin before they are collected. Pick up and properly dispose of litter in your neighborhood.



Use a broom rather than a hose to clean up garden clippings. Put leaves and clippings in a trash can or a compost pile.



Divert rain spouts and garden hoses away from paved surfaces and onto grass to allow water to filter through the soil.

Program your watering system to water less during the rainy season, and remember to turn the sprinklers off on expected rainy days.



Conserve water when washing your car. Wash engines at a 'Do It Yourself Car Wash' where the drainage is not connected to the storm drain.



Pick up animal waste and dispose in the trash can.

#### 4. Household Tips to Help Ocean Pollution

*Do your part to prevent water pollution in our creeks, rivers, bays and ocean.*

Clean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common household activities can lead to water pollution if you're not careful.

Litter, oil, chemicals and other substances that are left on your yard or driveway can be blown or washed into storm drains that flow to the ocean. Over-watering your lawn and washing your car can also flush materials into the storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated.

You would never pour soap, fertilizers or oil into the ocean, so don't let them enter streets, gutters or storm drains. Follow the easy tips in this brochure to help prevent water pollution.

**REMEMBER THE WATER IN YOUR STORM DRAIN IS NOT TREATED BEFORE IT ENTERS OUR WATERWAYS**

For more information,

please call the

Orange County Stormwater

Program at (714) 567-6363

or visit

[www.ocwatersheds.com](http://www.ocwatersheds.com).

To report spills, call the

Orange County 24-Hour Water

Pollution Problem Reporting Hotline

at (714) 567-6363.

For emergencies, call 911.

The tips contained in this brochure provide useful information to help prevent water pollution while performing everyday household activities. If you have other suggestions, please contact your city's stormwater representative or call the Orange County Stormwater Program.

GENUINE  
RECYCLED  
PAPER



50% PRE-CONSUMER  
10% POST-CONSUMER



RECYCLE  
USED OIL



The Ocean Begins at Your Front Door

P R O J E C T  
**Pollution**  
P R E V E N T I O N

# Pollution Prevention

## Household Activities

- **Do not rinse spills with water!** Sweep outdoor spills and dispose of in the trash. For wet spills like oil, apply cat litter or another absorbent material, then sweep and bring to a household hazardous waste collection center (HHWCC).
- Securely cover trash cans.
- Take household hazardous waste to a household hazardous waste collection center.
- Store household hazardous waste in closed, labeled containers inside or under a cover.
- Do not hose down your driveway, sidewalk or patio. Sweep up debris and dispose of in trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of in the trash.
- Bathe pets indoors or have them professionally groomed.

## Household Hazardous Wastes include:

- ▲ Batteries
- ▲ Paint thinners, paint strippers and removers
- ▲ Adhesives
- ▲ Drain openers
- ▲ Oven cleaners
- ▲ Wood and metal cleaners and polishes
- ▲ Herbicides and pesticides
- ▲ Fungicides/wood preservatives
- ▲ Automotive fluids and products
- ▲ Grease and rust solvents
- ▲ Thermometers and other products containing mercury
- ▲ Fluorescent lamps
- ▲ Cathode ray tubes, e.g. TVs, computer monitors
- ▲ Pool and spa chemicals

## Gardening Activities

- Follow directions on pesticides and fertilizers, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Water your lawn and garden by hand to control the amount of water you use. Set irrigation systems to reflect seasonal water needs. If water flows off your yard and onto your driveway or sidewalk, your system is over-watering.
- Mulch clippings or leave them on the lawn. If necessary, dispose in a green waste container.
- Cultivate your garden often to control weeds.

## Washing and Maintaining Your Car

- Take your car to a commercial car wash whenever possible.
- Choose soaps, cleaners, or detergents labeled "non-toxic," "phosphate free" or "biodegradable." Vegetable and citrus-based products are typically safest for the environment, **but even these should not be allowed into the storm drain.**
- Shake floor mats into a trash can or vacuum to clean.

- Do not use acid-based wheel cleaners and "hose off" engine degreasers at home. They can be used at a commercial facility, which can properly process the washwater.
- **Do not dump washwater onto your driveway, sidewalk, street, gutter or storm drain.** Excess washwater should be disposed of in the sanitary sewers (through a sink, or toilet) or onto an absorbent surface like your lawn.
- Use a nozzle to turn off water when not actively washing down automobile.
- Monitor vehicles for leaks and place pans under leaks. Keep your car well maintained to stop and prevent leaks.
- Use cat litter or other absorbents and sweep to remove any materials deposited by vehicles. Contain sweepings and dispose of at a HHWCC.
- Perform automobile repair and maintenance under a covered area and use drip pans or plastic sheeting to keep spills and waste material from reaching storm drains.
- **Never pour oil or antifreeze in the street, gutter or storm drains.** Recycle these substances at a service station, HHWCC, or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit [www.1800CLEANUP.ORG](http://www.1800CLEANUP.ORG).

For locations and hours of Household Hazardous Waste Collection Centers in Anaheim, Huntington Beach, Irvine and San Juan Capistrano, call (714)834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).

## 5. After the Storm

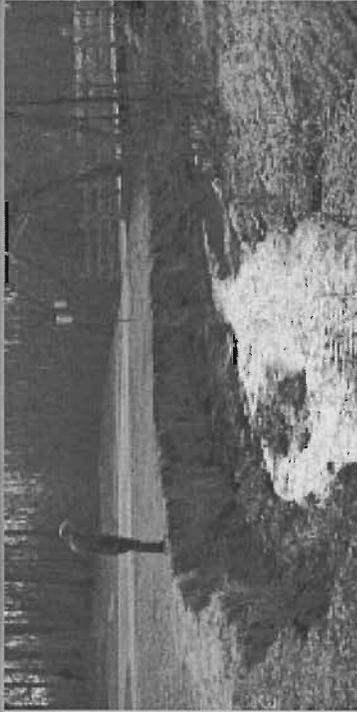


## What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.



## Why is stormwater runoff a problem?



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

## The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- ◆ Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- ◆ Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- ◆ Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- ◆ Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- ◆ Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- ◆ Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



# Stormwater Pollution Solutions

## Residential



*Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.*

### Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.



- ◆ Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- ◆ Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- ◆ Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- ◆ Cover piles of dirt or mulch being used in landscaping projects.

### Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.



- ◆ Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- ◆ Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

### Septic systems

Leaking and poorly maintained septic



systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- ◆ Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- ◆ Don't dispose of household hazardous waste in sinks or toilets.

### Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.



- ◆ When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

*Education is essential to changing people's behavior. Signs and workers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.*



## Residential landscaping

**Permeable Pavement**—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

**Rain Barrels**—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

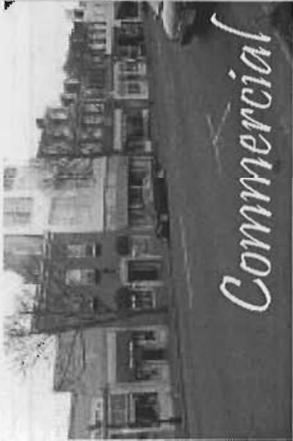


**Rain Gardens and Grassy Swales**—Specially designed areas planted with native plants can provide natural places for

rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.



**Vegetated Filter Strips**—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.



## Commercial

- ◆ Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.
- ◆ Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- ◆ Cover grease storage and dumpsters and keep them clean to avoid leaks.
- ◆ Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.



## Construction

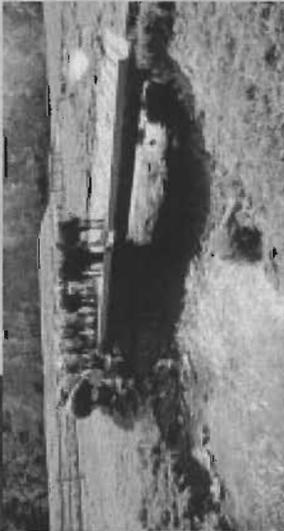
- ◆ Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.
- ◆ Divert stormwater away from disturbed or exposed areas of the construction site.
- ◆ Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- ◆ Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



## Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- ◆ Keep livestock away from streambanks and provide them a water source away from waterbodies.
- ◆ Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- ◆ Vegetate riparian areas along waterways.
- ◆ Rotate animal grazing to prevent soil erosion in fields.
- ◆ Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



## Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- ◆ Clean up spills immediately and properly dispose of cleanup materials.
- ◆ Provide cover over fueling stations and design or retrofit facilities for spill containment.
- ◆ Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- ◆ Install and maintain oil/water separators.



## Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- ◆ Conduct preharvest planning to prevent erosion and lower costs.
- ◆ Use logging methods and equipment that minimize soil disturbance.
- ◆ Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- ◆ Construct stream crossings so that they minimize erosion and physical changes to streams.
- ◆ Expedite revegetation of cleared areas.

## 6. Construction Runoff Guidance Manual



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# Section 1

## Introduction

This *Construction Runoff Guidance Manual* (Manual) presents the construction requirements developed as part of the countywide Drainage Area Management Plan (DAMP) for compliance with the third term National Pollutant Discharge Elimination System (NPDES) municipal stormwater permits issued by the Santa Ana (Order No. R8-2002-0010, NPDES No. CAS618030) and San Diego (Order No. R9-2002-0001, NPDES No. CAS0108740) Regional Water Quality Control Boards (Regional Boards). This Manual additionally complements requirements in the County and City Water Quality Ordinances and Grading Ordinances. The information in this Manual is intended to assist applicants for building or grading permits to understand the water quality requirements during the construction phase of new development and significant redevelopment projects.

The goal of this Manual and the program described in the DAMP is to control pollutant discharges from construction sites. Water from construction sites can be a major transporter of sediment and other pollutants. Activities and materials used on construction sites may be a source of pollutants. These include paints, lacquers, and primers; herbicides and pesticides; soaps and detergents; wood preservatives; equipment fuels, lubricants, coolants, and hydraulic fluids; and cleaning solvents.

These pollutants can leak from heavy equipment, be spilled, or can be eroded by rain from exposed soil or stockpiles. Once released, they can be transported into the receiving waters of Orange County, where they may become available to enter aquatic food chains, cause fish toxicity problems, contribute to algal blooms, impair recreational uses, and degrade drinking water sources.

### 1.1 Regulatory Background

Various permits and ordinances have been adopted to address water quality impacts from urban and construction site runoff. Summarized below are the relevant regulations and their applicability to construction sites.

#### 1.1.1 Orange County NPDES Permits

In early 2002, the San Diego and Santa Ana Regional Boards issued NPDES permits that regulate stormwater discharge from municipal storm drain systems. The permits require the County and cities to implement a program to eliminate significant pollutant discharges from construction activities by requiring the implementation of appropriate Best Management Practices (BMPs) on all construction sites. BMPs are activities, practices, procedures, or devices implemented to avoid, prevent or reduce pollution of the municipal storm drain system and receiving waters.

### **1.1.2 General Construction NPDES Permit**

In 1999, the State Water Resources Control Board adopted Order No., 99-08-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit)*. This permit was subsequently amended to include smaller construction sites. The General Construction Permit requires that construction sites with 1 acre or greater of soil disturbance or less than 1 acre but part of a greater common plan of development apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing Best Management Practices (BMPs) to address construction site pollutants.

The County's and Cities' construction site requirements are coordinated with, but separate from the General Construction Permit. The General Construction Permit applies regardless of whether a construction site discharges directly to receiving waters or to a municipal storm drain system. Inspections of construction sites by County/Cities or by Regional Board staff are separate and carry different enforcement actions/mechanisms.

### **1.1.3 Water Quality Ordinances**

The County and Cities in Orange County have adopted Water Quality Ordinances. The purpose of the Ordinances is the improvement of water quality and compliance with NPDES permit requirements for the control of urban pollutants. The ordinances prohibit non-stormwater discharges to the municipal storm drain system unless covered by the discharge exceptions and require that pollutants in stormwater be reduced to the maximum extent practicable using BMPs. The Ordinances require that potential pollution causing activities comply with the requirements in the DAMP. The Ordinances further provide a legal mechanism for enforcement actions to be taken.

### **1.1.4 Grading Ordinances**

Municipal Grading Ordinances set the rules and regulations for grading operations including operations preparatory to grading on private property. In addition to other requirements, the Ordinances require that a project owner, developer or contractor prepare erosion control plans (ECPs), obtain a grading permit, and implement and maintain erosion and sediment control BMPs. The Ordinances additionally describe County/City inspection and legal enforcement mechanisms.

## **1.2 Glossary**

A glossary of key terms used in this Manual is included at the end of the document.

# Section 2

## Requirements of Construction Projects

### 2.1 Applicability

All construction project proponents are responsible for implementing BMPs to assure compliance with the Water Quality Ordinance and, where applicable, the Grading Ordinance. A **construction project** for the purposes of these requirements is any site for which building or grading permits are issued and where an activity results in the disturbance of soil such as soil movement, grading, excavation, clearing, road construction, structure construction, or structure demolition; and sites where uncovered storage (stockpiling) of materials and wastes such as dirt, sand or fertilizer occurs; or exterior mixing of cementaceous products such as concrete, mortar or stucco will occur.

The DAMP establishes a tiered BMP implementation system as a requirement of building and grading permits during the construction process. This system identifies minimum BMP requirements that must be implemented by the responsible parties for construction projects. Responsible parties include the owner of the construction property, the construction contractor, and any other individual or entity performing construction activities.

Projects that do not meet the definition of a construction project described above are exempt from the minimum BMP requirements. Examples of projects that might be considered exempt would be similar to the following:

- Interior Remodeling
- Mechanical Permit Work
- Electrical Permit Work
- Tenant Improvements
- Signs
- Changes of Use within an Existing Building
- Temporary Mobile Home and Trailer Permits
- Minor Permits Accessory to an Existing Building (such as patio covers and decks).

Exemption from the minimum BMP requirements does not relieve the project owner or contractor from adhering to the basic discharge prohibitions identified in the Water Quality and Grading Ordinances (see Section 2.3.1).

## 2.2 General Requirements

Construction projects are required to comply with two interrelated sets of municipal directives with respect to water quality management: (1) compliance with applicable discharge prohibition requirements set forth in the Water Quality Ordinance to prevent unauthorized non-stormwater discharges, and (2) implementation of BMPs to the maximum extent practicable, in accordance with the DAMP and local agency requirements, to reduce contaminants in stormwater discharges.

In addition, construction projects that involve 1 acre or greater of soil disturbance must comply with the General Construction Permit. The discharge prohibitions and BMP requirements are consistent with and complementary to the requirements of the General Construction Permit. Therefore, compliance with the State's General Construction permit will typically lead to compliance with the County/Cities' BMP implementation requirements. However, the County or Cities may require Erosion Control Plans (ECPs) showing all BMPs for construction, even when a project disturbs less than 1 acre of soil and is not covered by the General Construction Permit (i.e., not a part of a larger common plan of development).

Table 2-1 shows the general requirements and expectations for construction projects based on size of land disturbance.

**Table 2-1  
General Requirements for Construction Water Quality Management**

Project Description	Water Quality Requirements
Construction Projects $\geq$ 1 Acre Soil Disturbance	<ul style="list-style-type: none"> <li>■ Apply for local grading or building permit</li> <li>■ Comply with grading or building permit and local ordinances</li> <li>■ Submit Notice of Intent (NOI) for General Construction Permit Coverage to SWRCB</li> <li>■ Prepare a SWPPP</li> <li>■ Implement SWPPP</li> <li>■ Implement BMPs as required by the County/Cities and the General Construction Permit</li> <li>■ Submit General Construction Permit Notice of Termination (NOT) to Regional Board at project conclusion</li> </ul>
Other Projects	<ul style="list-style-type: none"> <li>■ Apply for local grading or building permit</li> <li>■ Comply with grading or building permit and local ordinances</li> <li>■ Implement BMPs as required by the County/Cities</li> </ul>

### **2.3.1 Discharge Prohibitions on Construction Sites**

Without exception, discharges of stormwater from a construction site to the municipal storm drain system or receiving waters are prohibited if the discharge contains pollutants that have not been reduced to the maximum extent practicable through the implementation of BMPs. In general, construction activities require the implementation of a combination of BMPs to control erosion and sediment transport, and pollutants from materials and waste management storage and activities.

Non-stormwater discharges from a construction site to the municipal storm drain system or receiving waters are prohibited. Exceptions to prohibitions of non-stormwater discharges include (a full list is available in the Water Quality Ordinance):

- Discharges composed entirely of stormwater, or
- Discharges for which the discharger has reduced to the maximum extent practicable the amount of pollutants through implementation of BMPs, or
- Discharges from certain activities that may be present on a construction site including landscape irrigation, diverted stream flows, rising groundwater and de minimis groundwater infiltration to the municipal storm drain system, passive foundation drains, and flows from riparian habitats and wetlands.

### **2.3.2 BMP Implementation**

Construction project owners, developers, or contractors must implement the BMP requirements in the DAMP or equivalent measures, methods, or practices. Proper selection of BMPs depends on numerous factors that are specific to individual sites and activities, and therefore the DAMP does not advocate or require the use of particular practices unless the County/City determines that BMPs implemented by the project proponent are not adequate to prevent discharges of pollutants. In that case, implementation of specific BMPs, additional BMPs, and/or other controls may be required. BMPs are described more fully in Section 3.

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# Section 3

## Best Management Practices (BMPs) for Construction Projects

This section presents construction stormwater management requirements and required temporary construction site BMPs. Permanent post-construction BMPs are not addressed in this document. These requirements can be found in the Model Water Quality Management Plan (WQMP), Exhibit 7.II in Section 7 of the DAMP.

### 3.1 BMP Implementation Requirements

All construction projects must implement BMPs to prevent or reduce pollutant discharges into the municipal storm drain system or receiving waters. The implementation requirements depend on size of disturbed soil area, and in the Santa Ana Permit area, proximity to Areas of Special Biological Significance (ASBS—see Glossary).

Based on the size of disturbed soil area and location of construction sites, two categories of BMP implementation have been identified<sup>1</sup>. These categories are described in Table 3-1 and correspond to priorities that the County and Cities assign to construction sites as discussed further in Section 5.1.

**Table 3-1**  
**BMP Implementation Requirements for Construction Projects**

Site Area	Priority	BMP Requirements
Total Disturbed Soil Area <1 Acre (except as noted below)	Low	<ul style="list-style-type: none"> <li>■ Meet minimum requirements (Section 3.2)</li> <li>■ Implement all appropriate Construction BMPs (Section 3.4)</li> </ul>
Total Disturbed Soil Area ≥1 Acres (covered by General Permit)  OR  Within the Santa Ana Regional Board jurisdiction where the total Disturbed Soil Area is <1 Acre and tributary to and/or within 500 feet of an ASBS	Medium	<ul style="list-style-type: none"> <li>■ Meet minimum requirements (Section 3.2)</li> <li>■ Implement Site Management Requirements (Section 3.3)</li> </ul>
	High	<ul style="list-style-type: none"> <li>■ Implement all appropriate Construction BMPs (Section 3.4)</li> <li>■ Comply with General Construction Permit (except if &lt;1 Acre)</li> </ul>

<sup>1</sup> The County or Cities may elect to require specific minimum BMPs for each prioritization category.

### 3.2 Minimum Requirements

All construction projects regardless of size are required, at a minimum, to implement an effective combination of erosion and sediment controls and waste and materials management BMPs. These minimum requirements are summarized in Table 3-2 and must be conveyed to construction contractors as part of the plan notes or on a separate erosion control plan as required by the agency.

**Table 3-2  
 Minimum Requirements for All Construction Sites**

Category	Minimum Requirements
Erosion and Sediment Control	Sediments from areas disturbed by construction shall be retained on site using an effective combination of erosion and sediment controls to the maximum extent practicable and stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.
Waste and Materials Management Control	Construction-related materials, wastes, spills or residues shall be retained on site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.

BMPs that may be used to meet the minimum requirements are described later in this Section.

### 3.3 Site Management Requirements

The following requirements are for deployment of selected construction BMPs and apply to all projects with one acre or greater of soil disturbance and projects tributary to or within 500 feet of an ASBS within the Santa Ana Regional Board jurisdiction with less than 1 acre of soil disturbance. BMPs that may be used to meet the site management requirements are described later in this Section.

#### Dry Season Requirements (May 1 through September 30)

- A. Wind erosion BMPs (dust control) shall be implemented.
- B. Sediment control BMPs shall be installed and maintained at all operational storm drain inlets internal to the project.
- C. BMPs to control off-site sediment tracking shall be implemented and maintained.

- D. Appropriate waste management and materials pollution control BMPs shall be implemented to prevent the contamination of stormwater by wastes and construction materials.
- E. Appropriate non-stormwater BMPs shall be implemented to reduce or prevent the contamination of stormwater from construction activities.
- F. There shall be a "weather triggered" action plan and the ability to deploy standby sediment control BMPs as needed to protect all exposed portions of the site within 48 hours of a predicted storm event (a predicted storm event is defined as a National Weather Service forecasted, 50% chance of rain).
- G. Sufficient materials needed to install standby *sediment control BMPs* (at the site perimeter, site slopes, and operational inlets within the site) necessary to reduce or prevent sediment discharges from exposed portions of the site shall be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described in item H below are not considered "exposed" for purposes of this requirement.
- H. Deployment of permanent erosion control BMPs (physical or vegetation) should commence as soon as practical on slopes that are completed for any portion of the site. Standby BMP materials should not be relied upon to prevent erosion of slopes that have been completed.

#### **Wet Season Requirements (October 1 through April 30)**

In addition to the Dry Season Requirements:

- A. Sediment control BMPs shall be implemented at all appropriate locations along the site perimeter, at all operational storm drain inlets and at all non-active slopes, to provide sufficient protection for storms likely to occur during the rainy season.
- B. Adequate physical or vegetation erosion control BMPs (temporary or permanent) shall be installed and established for all completed slopes prior to the start of the rainy season. These BMPs must be maintained throughout the rainy season. If a selected BMP fails, it must be repaired and improved, or replaced with an acceptable alternate as soon as it is safe to do so. Repairs or replacements must result in an adequate BMP or additional BMPs should be installed to provide adequate protection.
- C. The amount of exposed soil allowed at one time shall not exceed that which can be adequately protected by deploying standby erosion control and sediment control BMPs prior to a predicted rainstorm.
- D. All disturbed areas that are not completed but that are not being actively graded (non-active area) shall be protected from erosion with temporary or permanent

BMPs (erosion and sediment control). The ability to deploy standby BMP materials is not sufficient for these areas. Erosion and sediment control BMPs must actually be deployed. This includes all building pads, unfinished roads and slopes.

- E. Sufficient materials needed to install standby *erosion and sediment control BMPs* necessary to protect all exposed portions of the site from erosion and to reduce or prevent sediment discharges shall be stored on site. Areas that have already been protected from erosion using permanent physical stabilization or established vegetation stabilization BMPs are not considered “exposed” for purposes of this requirement.

### 3.4 Construction BMPs

In order to meet the minimum requirements for all projects and the site management requirements for medium and high priority projects, construction contractors must select, install, and maintain appropriate BMPs on all construction projects. BMPs must be installed in accordance with an industry recommended standard or in accordance with the General Construction Permit. BMPs are tools that are used to ensure sites meet the requirements outlined above. Selection of BMPs is a site-specific process and as such, no specific type or number of BMPs is required<sup>2</sup>.

Described below are the construction BMPs from the California Stormwater Best Management Practice Handbook, Construction, 2003 Edition (see Section 3.6 for further information). The Handbook contains BMP fact sheets for six major categories of BMPs and guidelines on how to select erosion and sediment controls as well as material and waste management controls. These categories of BMPs and their applicability are discussed below.

- Erosion Control
- Sediment Control
- Wind Erosion Control
- Tracking Control
- Non-Stormwater Management
- Waste Management & Materials Pollution Control

#### 3.4.1 Erosion Control

Erosion Control is any source control practice that protects the soil surface and prevents the soil particles from being detached by rainfall or wind. One or more of the following

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<sup>2</sup> The County or Cities may elect to require specific minimum BMPs for each prioritization category.

physical and/or vegetation stabilization BMPs, are required to prevent or reduce, to the maximum extent practicable, erosion from exposed slopes.

**Physical Stabilization:**

If physical stabilization is selected, materials must be appropriate to the circumstances in which they are deployed, and sufficient material must be deployed. Chemicals that may affect water quality should not be used.

- EC-3 Hydraulic Mulch
- EC-4 Hydroseeding
- EC-5 Soil Binders
- EC-6 Straw Mulch
- EC-7 Geotextiles & Mats

**Vegetation Stabilization:**

If vegetative stabilization is selected, the stabilizing vegetation must be installed, irrigated and established prior to the onset of the storm season (October 1). Established vegetation is defined as a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on disturbed areas. In the event stabilizing vegetation has not been established by October 1, other forms of physical stabilization must be employed to prevent erosion during storm events until the stabilizing vegetation is established.

- EC-4 Hydroseeding (to establish interim vegetation)

**Wind Erosion (Dust) Control:**

Apply water or other dust palliatives as necessary to prevent or alleviate dust nuisance:

- WE-1 Wind Erosion Control

**3.4.2 Sediment Control**

Sediment Control is any practice that traps the soil particles after they have been detached and moved by wind or water. Sediment control measures are usually passive systems that rely on filtering or settling the particles out of the water or wind that is transporting them.

**Perimeter Protection:**

Protect the perimeter of the site or exposed area from sediment ingress/discharge in sheet flows using one or more of the following:

- SE-1 Silt Fence
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm

- SE-8 Sand Bag Barrier
- SE-9 Straw Bale Barrier

**Storm Drain Inlet Protection:**

Protect all operational storm drain inlets internal to the project by using:

- SE-10 Storm Drain Inlet Protection

**Resource Protection:**

Protect Environmentally Sensitive Areas (ESAs) and watercourses from sediment in sheet flows by using one or more of the following:

- SE-1 Silt Fence
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-8 Sand Bag Barrier
- SE-9 Straw Bale Barrier

**Sediment Capture:**

Capture sediments in channeled stormwater by using one or more of the following:

- SE-3 Sediment Trap
- SE-10 Storm Drain Inlet Protection
- SE-2 Sediment Basin (Sediment Basin(s) must be designed in accordance with the General Permit or other industry standard).

**Velocity Reduction:**

Reduce the discharge velocity of stormwater by using one or more of the following:

- SE-1 Silt Fence
- SE-4 Check Dam
- SE-2 Sediment Basin
- EC-10 Outlet Protection/Velocity Dissipation Devices

**Off-site Sediment Tracking:**

Reduce or prevent sediment from being tracked off-site by using one or more of the following:

- TC-1 Stabilized Construction Entrance/Exit
- TC-2 Construction Road Stabilization
- TC-3 Entrance/Outlet Tire Wash

### 3.4.3 Waste Management

Reduce or prevent the contamination of stormwater by wastes through proper management of the following types of wastes:

- Solid
- Sanitary
- Concrete
- Hazardous
- Equipment-related wastes

BMPs that must be implemented for handling, storing, and disposing of wastes generated by a construction project to reduce or prevent the release of waste materials into stormwater discharges include:

- WM-4 Spill Prevention and Control
- WM-5 Solid Waste Management
- WM-6 Hazardous Waste Management
- WM-7 Contaminated Soil Management
- WM-8 Concrete Waste management
- WM-9 Sanitary/Septic Waste Management
- WM-10 Liquid Waste Management
- NS-8 Vehicle and Equipment Cleaning
- NS-9 Vehicle and Equipment Fueling
- NS-10 Vehicle and Equipment Maintenance

### 3.4.4 Materials Management

Reduce or prevent the contamination of stormwater from construction materials by covering and/or providing secondary containment of storage areas and/or by taking adequate precautions when handling materials. BMPs to implement for handling, storing, and using construction materials to prevent the release of those materials into stormwater discharges are:

- WM-1 Material Delivery and Storage
- WM-2 Material Use
- WM-3 Stockpile Management

### 3.4.5 Non-Stormwater Management

Non-stormwater management BMPs limit or reduce potential pollutants at their source before they are exposed to stormwater. These BMPs are also referred to as “good housekeeping practices” that involve day-to-day operations of the construction site and

are usually under the control of the contractor. BMPs to implement for non-stormwater management, depending on the conditions and/or applicability of deployment are:

- NS-1 Water Conservation Practices
- NS-2 Dewatering Operations
- NS-3 Paving and Grinding Operations
- NS-4 Temporary Stream Crossing
- NS-5 Clear Water Diversion
- NS-6 Illicit Connection/ Discharge
- NS-7 Potable Water/Irrigation
- NS-8 Vehicle and Equipment Cleaning
- NS-9 Vehicle and Equipment Fueling
- NS-10 Vehicle and Equipment Maintenance
- NS-11 Pile Driving Operations
- NS-12 Concrete Curing
- NS-13 Concrete Finishing
- NS-14 Materials and Equipment Use Over Water
- NS-15 Demolition/ Adjacent to Water
- NS-16 Temporary Batch Plants

### **3.5 BMP Standard Plans**

Accepted standard plans that may be used for construction BMPs are found in the Orange County Environmental Management Agency (now RDMD) Standard Plans, 1996 Edition. This includes the following BMPs standard plans: Sandbag Velocity Reducer (No. 1328) and Temporary Drainage Inlet (No. 1330). These standard plans have been included at the end of this document.

### **3.6 BMP References**

The primary reference for construction, implementation, and maintenance of construction BMPs is the California Stormwater Best Management Practice Handbook – Construction. This handbook has been recently revised and the latest version can be purchased or downloaded from <http://www.cabmphandbooks.com>.

# Section 4

## Documentation Requirements

This section presents documentation requirements for construction projects. The documentation requirements are summarized below in Table 4-1.

**Table 4-1**  
**Documentation Requirements for Construction Projects**

Site Area	Documentation Requirement
Total Disturbed Soil Area < 1 Acre	<ul style="list-style-type: none"> <li>■ BMPs to meet Minimum Requirements as Standard Conditions in Grading or Building Permit, or as Plan Notes (Erosion Control Plan at the discretion of the County/City)</li> </ul>
Total Disturbed Soil Area ≥ 1 Acres (covered by General Construction Permit)	<ul style="list-style-type: none"> <li>■ Proof of Submittal of NOI</li> <li>■ Stormwater Pollution Prevention Plan (SWPPP)</li> <li>■ Erosion Control Plans (ECPs) meeting Minimum Requirements and Site Management Requirements</li> <li>■ BMPs to meet Minimum Requirements and Site Management Requirements as Standard Conditions or Plan Notes (if no Grading Permit)</li> </ul>

### 4.1 Documentation Requirements for Construction Projects Subject to the General Construction Permit

The following describe the process to be followed for a private construction project that is subject to the General Construction Permit (1 acre or greater of soil disturbance or less than 1 acre but part of a greater common plan of development):

- The project owner, developer, or contractor is responsible for preparing the Notice of Intent (NOI) and submitting it to the State Water Resources Control Board. Before receiving a grading or building permit, the project owner, developer, or contractor must submit to the County/City proof of submittal for General Construction Permit coverage.
- For grading permit projects, an Erosion Control Plan must be submitted in accordance with the County/City grading ordinance.
- Prior to the start of construction, a SWPPP meeting the requirements of the General Construction Permit must be prepared by the owner, developer, or contractor. The SWPPP must be implemented year-round throughout the duration of the project's

construction. A SWPPP Template is available for download from <http://cabmphandbooks.com>. It is important to note that the County/City and its staff are not responsible for reviewing, approving, or enforcing the SWPPP; these are responsibilities of the Santa Ana or San Diego Regional Boards and their staffs. County/City Inspector(s) may choose to use the SWPPP as an informal tool for on-site inspections; thus, the SWPPP must be made available upon the inspector's request.

- Once the project owner, developer, or contractor receives a grading or building permit (if applicable) and initiates construction, BMPs must be implemented throughout the duration of the project as specified in Table 3.1.
- To comply with the General Construction Permit, the contractor must perform inspections before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible depending upon field conditions. The results of all inspections and assessments must be documented and copies of the completed inspection checklists must be maintained with the SWPPP.
- The County/City will inspect and enforce issued and applicable ordinances as noted in Section 5, including implementation of BMPs as specified in Table 3.1. The County/City will notify the appropriate Regional Board of non-compliance when the non-compliance meets the criteria of posing a threat to human or environmental health.
- Once project construction is completed and the site fully complies with the final stabilization requirements of the General Construction Permit, the owner/developer will submit a Notice of Termination (NOT) to the State Water Resources Control Board.

## **4.2 Documentation Requirements for Other Sites (< 1 Acre)**

Private construction projects disturbing < 1 acre of soil must implement BMPs to comply with minimum requirements listed in Table 3-2. Projects covered under a grading permit are required to develop Erosion Control Plans (ECPs). These ECPs must show proposed locations of the erosion control BMPs that will be implemented during the construction. If the project is tributary to or within 500 feet of an ASBS in the Santa Ana Regional Board region, site management requirements (Section 3.3) shall also apply.

## **Section 5**

# **Municipal Inspection of Construction Sites**

The County/City will perform inspections of construction sites to verify that the requirements of the DAMP are being implemented and maintained, and that construction sites appropriately comply with requirements of local permits (building, grading, NPDES, etc.) and Ordinances (Grading, Water Quality, and others) as detailed in this Manual and as augmented by the local agency, and that they continue to protect water quality.

### **5.1 Prioritization of Construction Site Threat to Water Quality**

The County/City will evaluate the potential threat to water quality posed by the construction activity and assign a threat priority of low, medium, or high. Based on the threat of prioritization the County/City will set an inspection frequency to ensure that BMPs are adequate, are being implemented and maintained properly, and that no discharge violations are occurring. Factors considered in the threat prioritization include:

- Size and type of the construction project
- Time of Construction - rainy season (October 1 - April 30) versus dry season
- Location- tributary to an impaired waterway or near an ASBS or ESA
- Site topography

### **5.2 Inspection Frequencies**

Construction sites will be inspected, according to the priority established by the County/City, until construction activity is complete. The minimum frequency of construction site inspections is shown in Table 5-1:

**Table 5-1**  
**Minimum Inspection Frequency of Construction Projects**

Construction Site Priority	Rainy Season (October 1 - April 30)		Dry Season (May 1 - September 30)
	Projects within the jurisdiction of the Santa Ana Regional Board	Projects within the jurisdiction of the San Diego Regional Board	
<b>High</b>	Once per month	Once per week *	As needed
<b>Medium</b>	Twice during the season		As needed
<b>Low</b>	Once during the season	Twice during the season	As needed

\* Or monthly if the County/City has submitted a written statement to the San Diego Regional Board

### 5.3 Inspection Responsibilities

At a minimum, the following will be addressed during inspections:

- Ensure that the owner/developer/contractor is meeting the construction program requirements of the DAMP;
- Ensure that there is an effective combination of erosion, sediment, and material and waste management BMPs being implemented and maintained in order to reduce or prevent the discharge of pollutants into stormwater conveyances and receiving waters;
- Ensure that the owner/developer/contractor implements and maintains appropriate BMPs on a year round basis;
- Ensure no discharge violations (excessive sediment, oil sheen, trash, etc.) are occurring or pose a reasonable threat of occurring;
- Ensure that, if issues are noted during the inspections, appropriate corrective actions are taken.

The primary mechanism that inspectors will use to determine if the minimum requirements and BMPs for construction activities are being met will be to assess the site against the minimum requirements (Table 3-2) and the approved plans. The minimum

requirements are intended to be easy to interpret field observations that allow an assessment of site conditions during both dry and wet season conditions.

The inspector will utilize the following framework when conducting an inspection:

- Review contractor's self-inspection checklist to determine whether minimum self-inspections have been performed;
- Review the applicable County/City required erosion and sediment control plans and contract documents and determine whether they are being properly implemented;
- Determine if BMPs are being effectively implemented in accordance with the approved plans and suggested list of BMPs, and are maintained properly;
- Determine whether the owner/developer/contractor is making appropriate adjustments when ineffective BMPs are found; and
- Determine if discharges are occurring from the site or are flowing into onsite storm drain inlets and determine if such discharges are prohibited.

If a discharge violation is observed, or if BMPs are either not implemented or not being maintained properly, enforcement actions may be imposed. If the inspected site does not meet the minimum requirements, inspectors will follow-up within a reasonable period to assure that all applicable requirements are implemented.

## 5.4 Enforcement Actions

The County/City inspectors and/or other staff who possess internal enforcement authority through established policies and procedures will undertake enforcement of construction projects. Inspectors will enforce compliance with the construction program, grading or building permit, and local ordinances such as the Water Quality Ordinance. The inspectors will document violations observed.

If an inspector observes a significant and/or immediate threat to water quality, action will be taken to require the developer/contractor to immediately cease the discharge and the County/City will be obligated to forward this information to the Regional Water Quality Control Board for review of additional enforcement action or remediation requirements.

The County/City enforcement steps that may be taken by inspectors include but are not limited to:

- Verbal Warning
- Written Actions under the Water Quality Ordinance
  - Notice of Non-Compliance

- Administrative Compliance Order
- Administrative Citations or Fines
- Cease and Desist Order
- Civil and Criminal Actions
- Written Actions under Building/Grading Ordinances
  - Corrective Action Notice
  - Stop Work Order
  - Revocation of Permit(s) and/or Denial of Future Permits
  - Civil and Criminal Actions

In selecting enforcement options, the inspector will normally apply similar enforcement actions to violations of a similar nature. However, a more severe enforcement action may be taken when a violator has either a history of non-compliance or has failed to take good faith actions to eliminate continued violations. If egregious or unusual circumstances are indicated, a higher level of enforcement action will be taken.

#### **Verbal Warnings:**

Typically, the initial method of requesting corrective action and enforcing compliance will be a verbal warning from the inspector to the contractor. The inspector will notify the developer/contractor's project supervisor of the violation and document the violation and the notification to the contractor's project supervisor in the inspection file. A specific time frame for correcting the problem and a follow-up inspection date will be documented by the inspector. In judging the degree of severity, the inspector may also take into account any history of similar or repeated violations by the same developer or contractor at this or other sites.

#### **Written Warnings:**

If a deficiency that was noted in a prior verbal warning is not corrected by the next inspection, or the severity of the violation is such that a verbal warning is not strong enough, a written warning will be issued. The written warning will describe the deficiency that is to be corrected, suggested corrective action(s), the specific time frame for correction, and a date for a follow-up inspection.

A copy of the written warning will be provided to the contractor's project supervisor and another copy may be provided to the owner/developer. A copy will be placed in the active inspection file. Once the violation has been corrected to the satisfaction of the inspector, the inspector will document compliance in the inspection file. Depending on the severity of the violation(s), the options for issuing written warnings for enforcement of local ordinances and grading/building permits on private construction projects may vary. Written warnings include, but are not limited to, Notice of Non-Compliance, Administrative Compliance Order, Administrative Citations or Fines, and Cease and Desist Order.

### **Stop Work Orders:**

If a written warning has not been addressed by the next inspection, or if the developer/contractor has not complied with their permit requirements, or if a significant threat to water quality is observed (such as a failure of BMPs resulting in a significant release of sediment or other pollutants off site), a stop work order will be issued by the inspector or the appropriate official. Stop work orders prohibit further construction activity until the problem is resolved and provide a time frame for correcting the problem.

The stop work order will describe the infraction and specify what corrective action must be taken. A copy of the stop work order will be given to the contractor's project supervisor and placed in the active inspection file. A copy of the stop work order will also be sent to the owner/developer. To restart work once a stop work order has been issued, the contractor's project supervisor must request the inspector to re-inspect the project and verify that the deficiencies have been satisfactorily corrected. If the inspector is satisfied with the corrections, the inspector may sign off on that phase of the project, and work may proceed. In severe cases, the building or grading permit may be revoked.

### **Revocation of Permit(s) and/or Denial of Future Permits:**

In severe cases of non-compliance or significant discharges, it may be necessary to revoke the grading and/or building permit that a developer/contractor is working under, withhold final approval, or deny future permits on the project. The developer/contractor would then have to re-apply for permits and meet any requirements that the County/City may place on the project.

### **Civil and Criminal Actions:**

In severe cases, the County/City may also use Civil and or Criminal court actions under local ordinances, such as the Water Quality Ordinance, which may result in significant fines levied upon the non-compliant responsible parties.

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# Glossary

The following definitions are important in understanding the County/City's construction stormwater protection program.

**ASBS** – Area of Special Biological Significance. The Water Quality Control Plan for Ocean Waters of California (California Ocean Plan) designates 35 Areas of Special Biological Significance, two of which lie within the Santa Ana Regional Board jurisdiction:

- Newport Beach Marine Life Refuge (HU801.110)
- Irvine Coast Marine Life Refuge (HU801.110)

**BMP** – Best Management Practices (BMPs) are activities, practices, procedures, or facilities implemented to avoid, prevent, or reduce pollution of the stormwater system and receiving waters.

**Construction Project** - any site for which building or grading permits are issued and where an activity results in the disturbance of soil such as soil movement, grading, excavation, clearing, road construction, structure construction, or structure demolition; and sites where uncovered storage of materials and wastes such as dirt, sand, or fertilizer occurs; or exterior mixing of cementaceous products such as concrete, mortar, or stucco will occur.

**Demolition** - an activity involving the demolishing or the destruction of a structure, facilities, or associated appurtenances.

**Erosion Control** - the activity of reducing or eliminating erosion (the wearing away of the ground surface as a result of the movement of wind, water, and/or ice) by using a combination of Best Management Practices to protect adjacent private property, watercourses, public facilities, and receiving waters from an abnormal deposition of sediment or dust.

**Erosion Control Plan** – A plan (including drawings, specifications, or other requirements) detailing the methods of implementing an erosion control system.

**Discharge** – the release spill, leak, pump, flow, escape, leaching, dumping or disposal of any liquid, semi-solid, or solid substance.

**Environmentally Sensitive Area (ESA)** – includes but is not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated in the Ocean Plan as Areas of Special Biological Significance (ASBS) or by the State Water Resources Control Board (Water Quality Control Plan and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan and amendments); areas designated as preserves or equivalent under the Natural Community Conservation Planning Program; and any areas designated as Critical

Aquatic Resources (CARS) or other equivalent environmentally sensitive areas which have been identified by the County or City.

***Municipal Storm Drain System*** – the street gutter, channel, storm drain, catch basin, constructed drain, lined diversion structure, wash area, inlet, outlet, or other facility, which is part of or tributary to the County-wide stormwater runoff system and owned, operated, maintained, or controlled by the County/City, and used for the purpose of collecting, storing, transporting, or disposing of stormwater.

***Non-stormwater*** – any runoff or discharge not entirely composed of stormwater.

***Notice of Intent (NOI)*** – an application submitted by the owner/operator of a project that constitutes his intent to be authorized by an NPDES permit issued for stormwater discharges associated with the construction activity indicated.

***Notice of Termination*** – a form to discontinue coverage under an NPDES general permit for stormwater discharges associated with industrial activity and stormwater discharges associated with construction activity.

***Pollutant*** – any liquid, solid or semi-solid substances that will interfere with or adversely affect the beneficial uses of the receiving waters, flora, or fauna of the state. A more detailed definition is included in the Water Quality Ordinance. Generally, pollutants can include such items as:

- Artificial materials
- Household wastes
- Metals and Non-metals
- Petroleum and related hydrocarbons
- Animal wastes
- Substances having a pH less than 6.5 or greater than 8.6, or unusual coloration, turbidity or odor
- Waste materials, sediment, and wastewater generated by construction sites and construction activities
- Pollutants defined by the Federal Clean Water Act
- Other constituents or materials, including but not limited to pesticides, herbicides, fertilizers, fecal coliform, fecal streptococcus or enterococcus, or eroded soils, sediment and particulate materials.

***Receiving Water*** – A river, lake, ocean, stream, or other watercourse identified in the Basin Plan into which waters may be discharged.

**Regional Board** - Regional Water Quality Control Boards administer water quality requirements within a watershed region. There are nine Regional Boards under the SWRCB. The San Diego Regional Board and the Santa Ana Regional Board have jurisdiction in Orange County.

**Stormwater** -stormwater runoff and snow melt runoff

**SWRCB** - State Water Resources Control Board, California agency that implements and enforces water quality and NPDES permit requirements and oversees the Regional Boards.

**Stormwater Pollution Prevention Plan (SWPPP)** - Document required by the General Construction Permit to be developed and implemented by construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development. The SWPPP emphasizes the use of appropriately selected, correctly installed, and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs that can effectively address source control of pollutants during changing construction activities.

**Waste Discharge Identification (WDID) Number** - an identification number assigned by the Storm Water Resources Control Board upon receipt of a complete NOI.

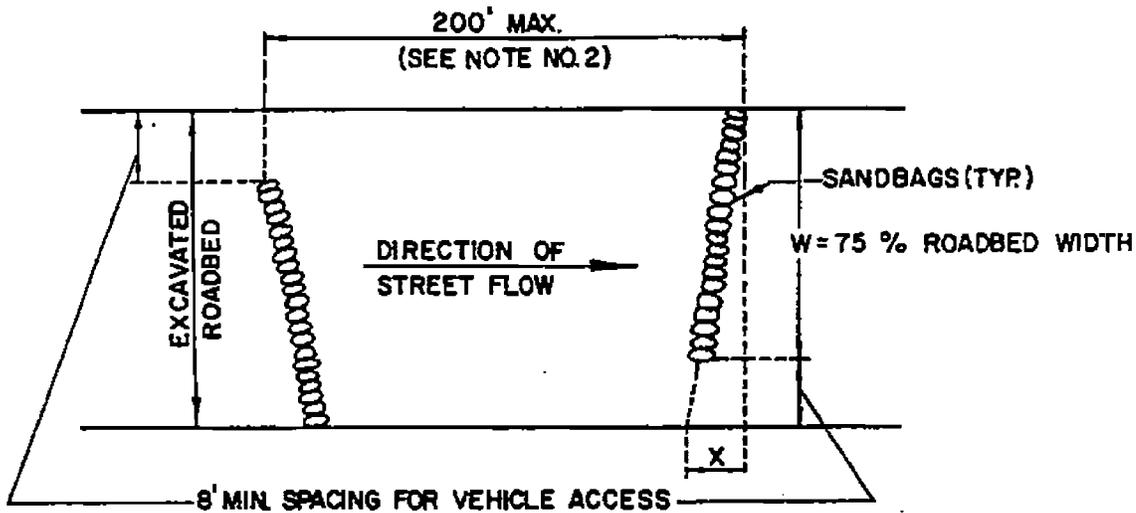
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Orange County Environmental Management Agency  
(Now County of Orange Resources & Development  
Management Department)

BMP Standard Plans

- Sandbag Velocity Reducer (No. 1328)
- Temporary Drainage Inlet (No. 1330)

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**PLAN**

W	X
20' - 30'	5'
31' - 40'	7'
41' - 50'	9'
51' - 60'	10.5'
61' - 70'	12'



**TYPICAL SECTION**

**TYPICAL ELEVATION**

**NOTES:**

1. Gravel bags are encouraged over the use of sandbags and may be required in areas which are particularly sensitive to sediment deposition.
2. Requirements for and spacing of velocity reducers for streets with grades of less than 4% shall be as shown on the approved Erosion Control Plan.
3. This standard detail shall be used as shown on the approved Erosion Control Plan.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

APPROVED *[Signature]*  
H. J. KRIZAN DIRECTOR OF REGULATION

STD. PLAN

1328

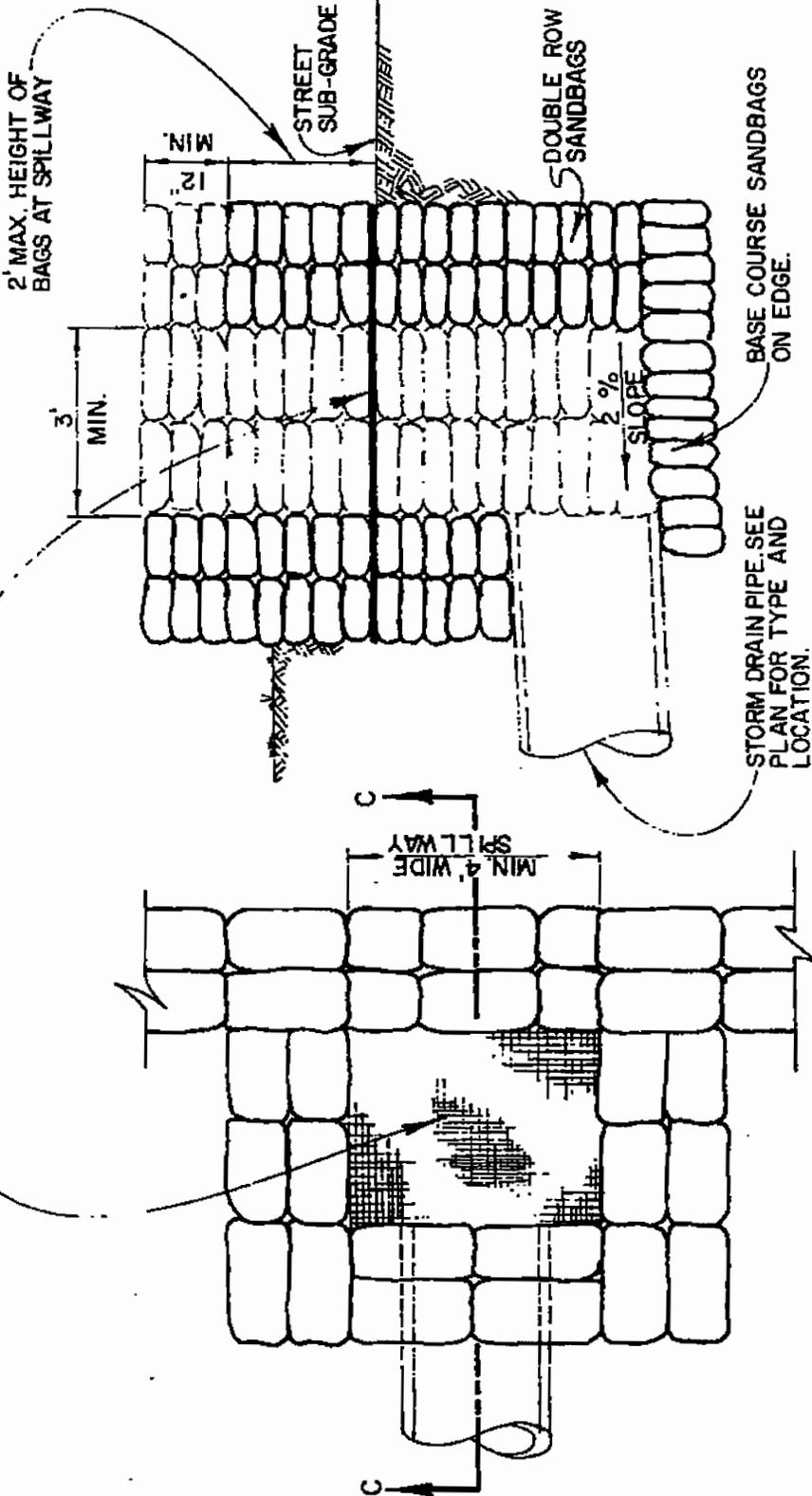
Adopted: Res. 82-71B

**SANDBAG VELOCITY REDUCER**

SHEET 1 OF 1

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6" X 6" - W14 X W1.4 W.W.M. OR APPROVED  
ALT. SCREEN AS SAFETY BARRIER.



PLAN

SECTION C-C

NOTES:

1. Gravel bags are encouraged over the use of sandbags and may be required in areas which are particularly sensitive to sediment deposition.
2. A portion of catch basin may be constructed in place of sandbags.
3. This standard detail shall be used as shown on the approved erosion control plan.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

APPROVED *H.J. Krizan*  
H.J. KRIZAN DIRECTOR OF REGULATION

Adopted: Res. 82-718

STD. PLAN

1330

SHT. 1 OF 1

TEMPORARY DRAINAGE INLET

7. Information on What You and Your Community Can Do to Use Water More Efficiently

# Information on What You and Your Community Can Do To Use Water More Efficiently

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For more information on what you and your community can do to use water more efficiently, contact:

U.S. Environmental Protection Agency  
Office of Water  
401 M Street, S.W.  
Washington, D.C. 20460

For more information on pollution prevention programs at U.S. EPA, contact:

U.S. Environmental Protection Agency  
Office of Pollution Prevention  
401 M Street, S.W.  
Washington, D.C. 20460

United States: 20W-0002  
Environmental Protection Agency  
July 1990

OW (WH-556): OPPE OPM-222

## **Preventing Pollution Through Efficient Water Use**

- How Efficient Water Use Helps Prevent Pollution
- What Individuals Can Do
- What Communities Can Do

## **How Efficient Water Use Helps Prevent Pollution**

Using water more efficiently can help prevent pollution as well as protect and conserve our finite water resources. More efficient water use by you and your community has many other benefits.

### **Fewer Pollutants**

Using less water reduces the amount of waste-water discharged into our lakes, streams, rivers, and marine waters.

The amount of pollutants wastewater carries can also be reduced, as treatment efficiency improves.

Recycled process water can reduce pollutants from industry.

More efficient irrigation can minimize runoff of agricultural pollutants and reduce the use of fertilizers and pesticides.

### **Protection of Aquatic Habitats**

- Building fewer and smaller new water projects can help preserve wetlands, which naturally treat pollutants.
- Diverting less water preserves more stream flow to maintain a healthy aquatic environment.

### **Protection of Drinking Water Sources**

- Less pumping of groundwater lowers the chance that pollutants will be drawn into a water supply well.
- With less water use, septic system performance can improve, reducing the risk of groundwater contamination.
- Highest quality water sources are preserved for drinking water by using treated wastewater for other uses.

### **Energy Conservation**

- Efficient water use means less power needed to pump and treat water and wastewater.
- Less water use reduces the amount of energy required for heating hot water.
- Less energy demand results in fewer harmful by-products from power plants.

### **Other Reasons to Use Water Wisely**

Preventing pollution is only one reason why using water efficiently makes sense. Here are a few more:

#### **Money Saved**

- Less water use results in fewer pumping and treatment costs.
- Saving money on water and wastewater operations frees money for meeting water quality, public health and water treatment goals.
- Water saved is also energy, and money, saved for you and your community.

#### **Improved Reliability**

- Water conservation provides a hedge against drought impacts.
- Improving water efficiency may be quicker and cheaper than developing a new supply.
- Reduced water use may extend the life of your water or wastewater facility.

or

- Reduced water use may increase the efficiency of wastewater treatment, and reduce overflows during storms.
- Communities which use water efficiently are better prepared to cope with effects of possible future climate change.

### **What Individuals Can Do**

More efficient water use begins with individuals, in the home and place of work. Taking these and other steps, and encouraging others to do so, makes good economic as well as environmental sense.

#### **In: The Home**

- Install a toilet dam or plastic bottle in your toilet tank.
- Install a water-efficient showerhead (2.5 gallons or less per minute).
- When you buy a new toilet, purchase a low flow model (1.6 gallons or less per flush).

#### **Outdoors**

- Water in the morning or evening to minimize evaporation.
- Install a drip-irrigation watering system for valuable plants.
- Use drought-tolerant plants and grasses for landscaping, and reduce grass-covered areas.

#### **At Work or School**

- Adopt the same water-saving habits that are effective at home.
- Ask about installing water-efficient equipment and reducing outdoor water use.
- Encourage employers to explore the use of recycled "gray-water" or reclaimed wastewater.

### **What Communities Can Do**

A water supplier or wastewater system operator (public or private) has cost-effective options to process and deliver water more efficiently. A community can do the same, and can foster ways to use water wisely.

Not all of these steps are expensive. The best choices vary by region and by community, start by asking if these are appropriate where you live and work.

#### **A Water Supplier or Wastewater Processor Can:**

- Identify who uses water, and reduce unaccounted for water use.
- Find and repair leaking pipes.

- Consider a new pricing scheme which encourages conservation.
- Reduce excess pressure in water lines.
- Explore the reuse of treated wastewater for uses other than drinking water.
- Charge hookup fees which encourage more efficient water use in new buildings.
- Build water efficiency into future demand projections, facility planning, and drought planning.

**A Community Can:**

- Adopt plumbing and building codes that require water-efficient equipment and practices.
- Adopt a water-efficient landscaping ordinance to reduce the water used for golf courses and commercial landscapes.
- Retrofit older buildings with water-efficient equipment, starting with public buildings.
- Reduce municipal water use for landscaping and other uses.

## 8. Sewage Spill Reference Guide

## Sewage Spill Regulatory Requirements

Allowing sewage to discharge to a gutter or storm drain may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up efforts.

Here are the pertinent codes, fines, and agency contact information that apply.

**Orange County Stormwater Program**  
24 Hour Water Pollution Reporting Hotline  
(714) 567-6363

- County and city water quality ordinances prohibit discharges containing pollutants.

**Orange County Health Care Agency  
Environmental Health**  
(714) 567-3600

California Health and Safety Code, Sections 5410-5416

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
  - must immediately notify the local health agency of the discharge.
  - shall reimburse the local health agency for services that protect the public's health and safety (water-contact receiving waters).
  - who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between \$500-\$1,000) and/or imprisonment for less than one year.

**Regional Water Quality Control Board  
Santa Ana Region San Diego Region**  
(909) 782-4130 (858) 457-2952

- Requires the prevention, mitigation, response to and reporting of sewage spills.

**California Office of Emergency Services**  
(800) 852-7550

California Water Code, Article 4, Chapter 4, Sections 13268-13271  
California Code of Regulations, Title 23, Division 3, Chapter 5.2, Article 2,  
Sections 2250-2260

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than \$20,000) and/or imprisonment for not more than one year.

07/13 Rev. 002  
Printed on recycled paper

## Sewage Spill Reference Guide



www.ocwaterboards.com



Health Care Agency  
Environmental Health



## Your Responsibility as a Private Property Owner



This brochure was designed, courtesy  
of the Orange County Sanitation District (OCSO).  
For additional information, call (714) 962-2411,  
or visit their website at www.ocsd.com

## What is a Sewage Spill?

Sewage spills occur when the wastewater being transported via underground pipes overflows through a manhole, cleanout, or broken pipe. Sewage spills can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches.

### Common Causes of Sewage Spills

**Grease** builds up inside and eventually blocks sewer pipes. Grease gets into the sewer from food establishments, household drains, as well as from poorly maintained commercial grease traps and interceptors. Grease is the most common cause of pipe blockages.

**Structure problems** caused by tree roots in the lines, broken/cracked pipes, missing or broken cleanout caps, or undersized sewers can cause blockages.

**Infiltration and inflow (I/I)** impacts pipe capacity and is caused when groundwater or rainwater enters the sewer system through pipe defects and illegal connections.

### You Are Responsible for a Sewage Spill Caused by a Blockage or Break in Your Sewer Lines!

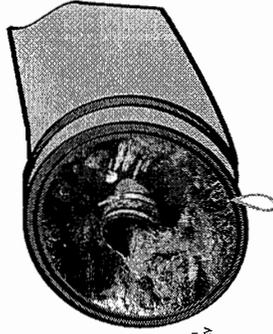
Time is of the essence in dealing with sewage spills. You are required to immediately:

**Control and minimize the spill.** Keep spills contained on private property and out of gutters, storm drains, and public waterways by shutting off or not using the water.

**Use sandbags, dirt and/or plastic sheeting** to prevent sewage from entering the storm drain system.

**Clear the sewer blockage.** Always wear gloves and wash your hands. It is recommended that a plumbing professional be called for clearing blockages and making necessary repairs.

**Always notify your city sewer/public works department or public sewer district of sewage spills.** If the spill enters the storm drain also notify the Health Care Agency. In addition, if it exceeds 1,000 gallons notify the Office of Emergency Services. Refer to the numbers listed in this brochure.



Overflowing cleanout pipe located on private property

### You Could Be Liable

Allowing sewage from your home, business or property to discharge to a gutter or storm drain may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up and enforcement efforts. See Regulatory Codes & Fines section for pertinent codes and fines that apply.

### What to Look For

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas.

Look for:

- Drain backups inside the building.
- Wet ground and water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains.
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

### Caution

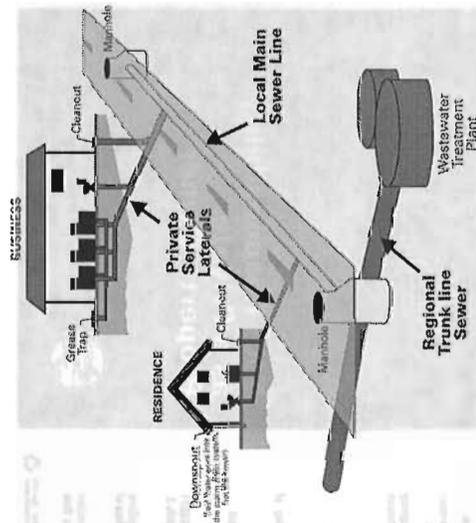
Keep people and pets away from the affected area. Untreated sewage has high levels of disease-causing viruses and bacteria. Call your local health care agency listed on the back for more information.

**If You See a Sewage Spill Occurring,  
Notify Your City Sewer/Public Works  
Department or Public Sewer District  
IMMEDIATELY**

## How a Sewer System Works

A property owner's sewer pipes are called service laterals and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer (including the area under the street). These laterals are the responsibility of the property owner and must be maintained by the property owner. Many city agencies have adopted ordinances requiring maintenance of service laterals. Check with your city sewer/local public works department for more information.

Operation and maintenance of local and regional sewer lines are the responsibility of the city sewer/public works departments and public sewer districts.



## How You Can Prevent Sewage Spills

- 1 Never put grease down garbage disposals, drains, or toilets.
- 2 Perform periodic cleaning to eliminate grease, debris and roots in your service laterals.
- 3 Repair any structural problems in your sewer system and eliminate any rainwater infiltration/inflow leaks into your service laterals.

Sewage spills can cause damage to the environment. Help prevent them!

## Orange County Agency Responsibilities

- **City Sewer/Public Works Departments—** Responsible for protecting city property and streets, the local storm drain system, sewage collection system and other public areas.
- **Public Sewer/Sanitation District—** Responsible for collecting, treating, and disposing of wastewater.
- **County of Orange Health Care Agency—** Responsible for protecting public health by closing oceanbay waters and, may close food-service businesses if a spill poses a threat to public health.
- **Regional Water Quality Control Boards—** Responsible for protecting State waters.
- **Orange County Stormwater Program—** Responsible for preventing harmful pollutants from being discharged or washed by stormwater runoff into the municipal stormdrain system, creeks, bays and the ocean.

## You Could Be Liable for Not Protecting the Environment

Local and state agencies have legal jurisdiction and enforcement authority to ensure that sewage spills are remedied.

They may respond and assist with containment, relieving pipe blockages, and/or clean-up of the sewage spill, especially if the spill is flowing into storm drains or onto public property.

**A property owner may be charged for costs incurred by these agencies responding to spills from private properties.**

## Report Sewage Spills!

### City Sewer/Public Works Departments

Also Viejo	(949) 425-2500
Anaheim	(714) 762-6840
Brea	(714) 990-7691
Costa Mesa	(714) 952-3955
Cypress	(714) 756-2448
Fountain Valley	(949) 752-5682
Fullerton	(714) 632-4600
Garden Grove	(714) 761-5556
Huntington Beach	(714) 906-8861
Irvine	(949) 724-6515
Laguna Beach	(949) 457-0765
Laguna Hills	(949) 707-2650
Laguna Niguel	(949) 362-4337
Laguna Woods	(949) 634-0500
La Habra	(562) 905-9792
La Palma	(714) 690-3368
Lake Forest	(949) 461-3480
Los Alamitos	(562) 431-3538
Mission Viejo	(949) 470-3095
Newport Beach	(949) 644-3011
Orange	(714) 332-4480
Orange County	(714) 367-4363
Placentia	(714) 932-8245
San Clemente	(949) 300-1553
San Juan Capistrano	(949) 342-2222
Santa Ana	(714) 447-3380
Seal Beach	(562) 431-2927
Stanton	(714) 288-6742
Tustin	(714) 962-2411
Villa Park	(714) 934-1500
Westminster	(714) 938-3311
Yorba Linda	(714) 951-7170

### Public Sewer Districts

Costa Mesa Sanitary District	(714) 754-5522/
El Toro Water District	(714) 332-4433
Emerald Bay Service District	(949) 854-8571
Garden Grove Sanitary District	(714) 741-6355
Irvine Ranch Water District	(949) 453-6300
Los Alamitos/Hossmoor Sewer District	(562) 431-2223
Midway City Sanitary District (Westminster)	(714) 934-3553
Moulton Niguel Water District	(949) 331-2500
Orange County Sanitation District	(714) 962-2411
Santa Margarita Water District	(949) 454-6620
South Coast Water District	(949) 459-4555
South Orange County Wastewater Authority	(949) 234-5400
Sunset Beach Sanitary District	(562) 493-9932
Yorba Linda Sanitary District	(714) 951-7170
Yorba Linda Water District	(714) 777-3616

### Other Agencies

Orange County Health Care Agency	(714) 867-1600
Office of Emergency Services	(800) 952-7550

## 9. Proper Maintenance Practices for Your Business

Help Prevent Ocean Pollution:

# Proper Maintenance Practices for Your Business



The Ocean Begins at Your Front Door

PROJECT  
**Pollution**  
PREVENTION

## Preventing water pollution at your commercial/industrial site

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains and streets is not treated before entering our waterways.

You would never pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow the easy tips in this brochure to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit [www.swrcb.ca.gov/stormwater/industrial.html](http://www.swrcb.ca.gov/stormwater/industrial.html).



For more information, please call the

Orange County Stormwater Program

at (714) 567-6363

or visit

[www.ocwatersheds.com](http://www.ocwatersheds.com).

To report a spill, or

call the Orange County

24-Hour Water Pollution

Reporting Hotline

(714) 567-6363.

For emergencies dial 911.



RECYCLE  
USED OIL

# Storm Drain Awareness and Maintenance Practices

## *Landscape Maintenance*

- Compost grass clippings, leaves, sticks and other vegetation, or dispose at a permitted landfill or in green waste containers. Do not dispose of these materials in streets, waterways or storm drains.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid over-watering.
- Follow label directions for the use and disposal of fertilizers, herbicides and pesticides.
- Do not apply pesticides, herbicides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

## *Building Maintenance*

- Never allow wash water, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose in the trash.
- If you must wash your building, sidewalk or parking lot, you must contain the water. Collect the water with a shop vac, and contact your city or sanitation agency for proper disposal information. Do not let water enter the street or storm drains.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to block insects, animals, rainwater and sand. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.

- Call your trash hauler to replace leaking dumpsters.

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain. Even materials that seem harmless — like latex paint or biodegradable cleaners — can damage the environment.

**NEVER  
DISPOSE OF  
ANYTHING  
IN THE  
STORM  
DRAIN.**

- Recycle paints, solvents, lumber and other materials.
- Store materials indoors or under cover and away from storm drains.
- Use chemicals that can be recycled. For more information about recycling and collection centers, visit [www.oilandfills.com](http://www.oilandfills.com).
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

## 10. Water Quality Guidelines for Pool Maintenance

Help Prevent Ocean Pollution:

# Tips for Pool Maintenance

For more information, please call the Orange County Stormwater Program at (714) 567-6363 or visit [www.ocwatersheds.com](http://www.ocwatersheds.com).

Orange County 24-Hour Water Pollution Reporting Hotline at (714) 567-6363.

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while maintaining your pool. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



Clean beaches and healthy creeks, rivers, bays, and oceans are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Swimming pools and spas are common in Orange County, but they must be maintained properly to guarantee that chemicals aren't allowed to enter the street, where they can flow into the storm drains and then into the waterways. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pool chemicals into the ocean, so don't let it enter the storm drains. Follow these easy tips to help prevent water pollution.



The Ocean Begins at Your Front Door



# Tips for Pool Maintenance



Many pools are plumbed to allow the pool to drain directly to the sanitary sewer. If yours is not, follow these instructions for disposing of pool and spa water.

## *Acceptable and Preferred Method of Disposal*

When you cannot dispose of pool water in the sanitary sewer, the release of dechlorinated swimming pool water is allowed if all of these tips are followed:

- The residual chlorine does not exceed 0.1 mg/l (parts per million).
- The pH is between 6.5 and 8.5.
- The water is free of any unusual coloration, dirt or algae.
- There is no discharge of filter media.
- There is no discharge of acid cleaning wastes.

- Some cities may have ordinances that do not allow pool water to be disposed into a storm drain. Check with your city.

## *How to Know if You're Following the Standards*

You can find out how much chlorine is in your water by using a pool testing kit. Excess chlorine can be removed by discontinuing the use of chlorine for a few days prior to discharge or by purchasing dechlorinating chemicals from a local pool supply company. Always make sure to follow the instructions that come with any products you use.

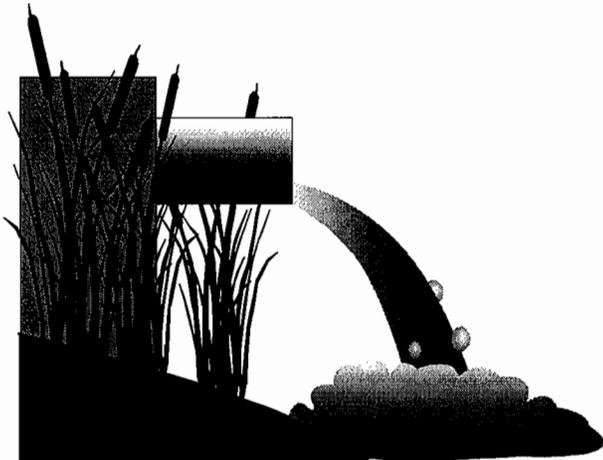


## *Doing Your Part*

By complying with these guidelines, you will make a significant contribution toward keeping pollutants out of Orange County's creeks, streams, rivers, bays and the ocean. This helps to protect organisms that are sensitive to pool chemicals, and helps to maintain the health of our environment.

## 11. Water Quality Guidelines for Permitted Lot and Pool Drains

## Water Quality Guidelines for Permitted Lot & Pool Drains



This guide is intended to explain the water quality issues associated with your permitted lot drain.

If you follow the guidelines outlined on the reverse you will help prevent adverse impacts on our creeks, bays and ocean.

**PROJECT**  
**Pollution**  
**PREVENTION**

## Pool Maintenance

All pool water discharged to the curb/gutter or to a permitted pool drain in the rear of your property must meet the following water quality criteria:

- The residential chlorine does not exceed 0.1 mg/L (parts per million)
- The pH is between 6.5 and 8.5
- The water is free of any unusual coloration
- There is no discharge of filter media or acid cleaning wastes
- For additional information about obtaining a pool drain permit call (714) 834-6107.

## Home Repairs

- Contain all paint. Never wash down or pour paint into a gutter or your lot drain
- Rinse off cement mixers and cement laden tools in a contained washout area that cannot flow to your lot drain. Allow to dry and then discard with your household trash.

## Yard Maintenance

- Minimize the use of pesticides and fertilizers and don't apply if it is windy or about to rain
- Conserve water by not over watering lawn areas
- Always pick up pet waste and dispose of properly

For more information and to report any water quality problems call (714) 567-6363

## 12. A Guide for Food Service Facilities

# Help Prevent Ocean Pollution:

## A Guide for Food Service Facilities

# DELA



### The Ocean Begins at Your Front Door

P R O J E C T  
**Pollution**  
P R E V E N T I O N

Grease blockage in sewer pipe

Photo Courtesy of the  
Monterey Regional Water Pollution Control Agency.

### Maintenance of Grease Traps and Interceptors

- Reduce solids going to the grease trap or interceptor.
- Inspect and clean grease traps frequently to ensure proper operation.
- Have a licensed company inspect and pump out grease interceptors regularly to ensure proper operation.
- Keep maintenance records on-site for reference and regulatory review.

**For more information, call the Orange County Stormwater Program at (714) 567-6363 or visit [www.ocwatersheds.com](http://www.ocwatersheds.com).**

**Report sewage spills and discharges that are not contained to your site to the Orange County 24-Hour Water Pollution Reporting Hotline at (714) 567-6363.**

**For emergencies call 911.**

CALIFORNIA  
*Restaurants*  
ASSOCIATION

### Prevent Fats, Oils, and Grease from Blocking the Sewers

Fats, oils, and grease (FOG) can cause sewer line blockages which can make sewage overflow into your facility and into storm drains that lead to the ocean. To stop the substances from building up in sewer lines, prevent them from entering your drains.

### Practices in the Kitchen

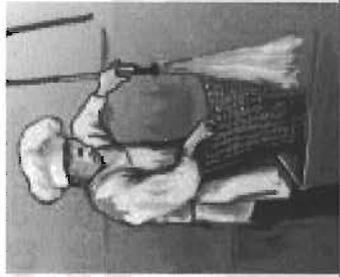
- Collect waste cooking oil and grease in portable containers with lids. Transfer into drums or barrels for recycling.
- Do not pour oil or grease down any drain. Recycle or use absorbent materials and dispose of waste in the trash.
- Dry-wipe pots, pans, dishware, and work areas to remove all visible grease before washing. Dispose of waste in the trash.
- Use drain screens to capture food waste and dispose of properly into the trash.
- Train employees about proper grease disposal and post "NO GREASE" signs near all sinks or drains.

# Pollution Prevention

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, allowing debris from your business to enter the gutter and storm drains can lead to water pollution. Storm drains carry rainwater from our streets, and should never contain wash water, trash, grease or other materials. Unlike substances that enter the sanitary sewers (from sinks and toilets), substances that enter the storm drains do not receive treatment before entering our waterways. In addition, blocked sewer lines can cause raw sewage to back up into kitchens, bathrooms, city streets, storm drains, and our waterways.

**USE GREASE INTERCEPTORS TO CAPTURE FATS, OILS AND GREASE (FOG).**

This brochure will explain steps your food establishment can take to help preserve water quality by keeping debris out of storm drains and by preventing fats, oils, and grease from blocking sewer lines.



## Cleaning Spills and Equipment

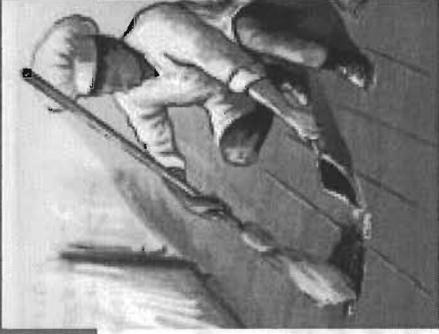
■ **Never hose a spill into a gutter, street or storm drain!**

- Before mopping a wet kitchen spill, absorb it with towels, cat litter or other absorbent materials.
- Sweep up dry spills immediately and dispose of the material in the trash.

**ABSORB WET SPILLS WITH CAT LITTER OR TOWELS; DISCARD IN THE TRASH.**

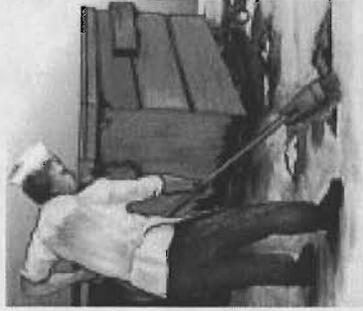
- Scrape grease and food waste from floor mats and filters before cleaning. Dispose of scrapings in trash.

- After scraping, clean floor mats, filters, and garbage cans in a mop sink or a designated, curbed area connected to the sanitary sewer. Consider using a cleaning service for these activities.



## Dumpster/Grease Bin Area Cleaning

- Keep the area around the dumpster clear of trash and other debris. Do not overfill the dumpster.
- Cover dumpsters to block insects, animals, rainwater and wind.



- Sweep or vacuum up trash and throw it away.
- Absorb wet spills with cat litter, towels or similar materials. Discard in the trash.

## Do not rinse your dumpster area!

Doing so can cause grease and trash to enter the storm drains.

- Have leaky dumpsters replaced.

**USE JANITORIAL MOP SINKS FOR CLEANING MOPS, TOWELS AND FLOOR MATS.**

### 13. Water Quality Guidelines for Exterior Restaurant Cleaning Operations

## Preventing Releases to the Storm Drain

**Question:** Can any liquids, solids or spilled materials from restaurant cleaning operations be discharged to the stormdrain?  
**Answer:** No restaurant wastewater or waste may be discharged to the storm drain.  
**Remember:** Think...about what you are doing before you start cleaning.

**Question:** Does the restaurant have the equipment, material and personnel to handle a spill or discharge (such as a grease or sewage spill)?  
**Answer:** Be Prepared...for any spill or discharge.

**Remember:** Pre-plan: Gather the right equipment and enough material ahead of time.

**Question:** Is it safe for me to clean up spills and discharges?

**Answer:** Know...in advance, what you are handling and what to do and make sure staff are trained.

**Remember:** Your safety is paramount.

**Question:** When do I begin to clean up spills and discharges?

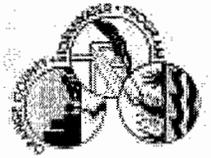
**Answer:** Act...immediately, using known and safe procedures, and try to contain the spilled material on your property.

**Remember:** Protect the storm drain.

**Question:** Do I need to report spills or discharges?

**Answer:** Communicate...the spill to your supervisor as soon as possible.

**Remember:** Report all spills and discharges that are not contained on site to the number below or to 911 after hours.

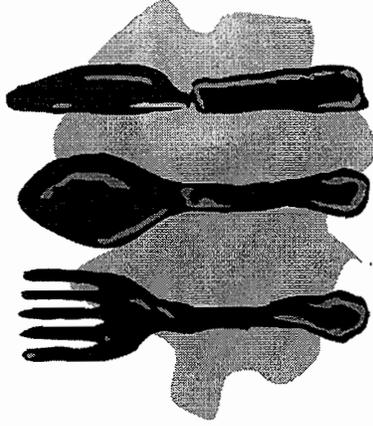


Questions regarding this brochure may be directed to:

The Orange County Public Facilities and Resources Department's Stormwater Section at (714) 567-6363

Orange County Stormwater Program  
1750 S. Douglass Road  
Anaheim, CA 92806

# Water Quality Guidelines for Exterior Restaurant Cleaning Operations



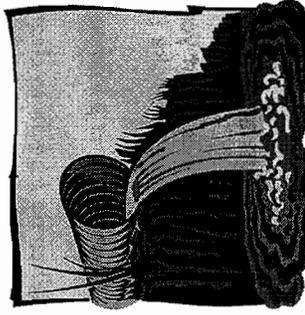
June 2001

This brochure has been prepared to inform restaurants in Orange County of the guidelines recommended for external restaurant cleaning operations in order to protect the water quality in storm drains, channels, creeks, bays and ocean.

## Water Quality Guidelines for Exterior Restaurant Cleaning Operations

This brochure is intended to explain the regulatory issues regarding the discharge of restaurant cleaning wastewater and the procedures that should be followed when conducting activities outside your restaurant that may result in offsite runoff.

When cleaning your facility you need to follow these guidelines in order to prevent waste or wastewater from entering the storm drains where it flows untreated to the ocean.



### General Cleaning Operations

- Clean floor mats, filters and garbage cans in a mop sink, area with a floor drain that is connected to the sanitary sewer or in an area which will contain the wastewater.
- Pour all wastewater into a janitorial or mop sink.
- Keep dumpster areas clean and lids closed. Clean the area following guidelines.

## Hose Washing of Dumpster Areas, Sidewalks and Common Areas

- If hot water, soap or any other cleaning agent is used, block the storm drain and collect water/waste and discharge to the sanitary sewer (with the approval of the local sanitation district).

- If only cold tap water with no cleaning agent is used, then the following Best Management Practices (BMPs) must be implemented before washing:

- Prior to washing, clean and/or sweep all large debris from the area, and

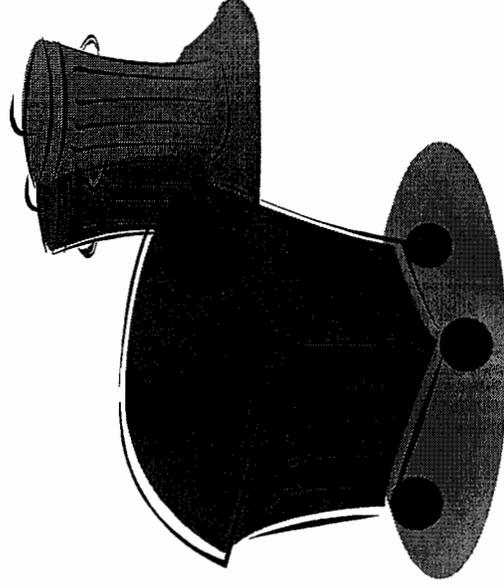
- Clean any fluid spills with an appropriate dry method, such as kitty litter or other absorbent, and dispose of appropriately,

- To the extent practicable, the wash water must be directed to vegetative or unpaved areas where it would soak into the ground.

- If the wash water appears contaminated (cloudy, colored, presence of suspended solids), additional Best Management Practices such as diversion to the sanitary sewer (with approval) or filtration methods must be implemented.

## Steam/Pressure Washing of Dumpster Areas, Sidewalks and Common Areas

- Block the storm drain and collect all water/waste for disposal to the sanitary sewer (with the prior approval of the local sanitation district).



Before you allow anything to go into the gutter or storm drain, stop and think/storm drains do not go to the sewer, they flow directly into channels and creeks, through wetlands and to the ocean.

Remember the ocean begins at your front door.

## 14. Water Quality Guidelines for Landscaping and Gardening

Help Prevent Ocean Pollution:

# Tips for Landscape & Gardening

The Ocean Begins  
at Your Front Door

P R O J E C T  
**Pollution**  
P R E V E N T I O N

**C**lean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into the storm drains that flow to the ocean. Overwatering lawns can also send materials into the storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

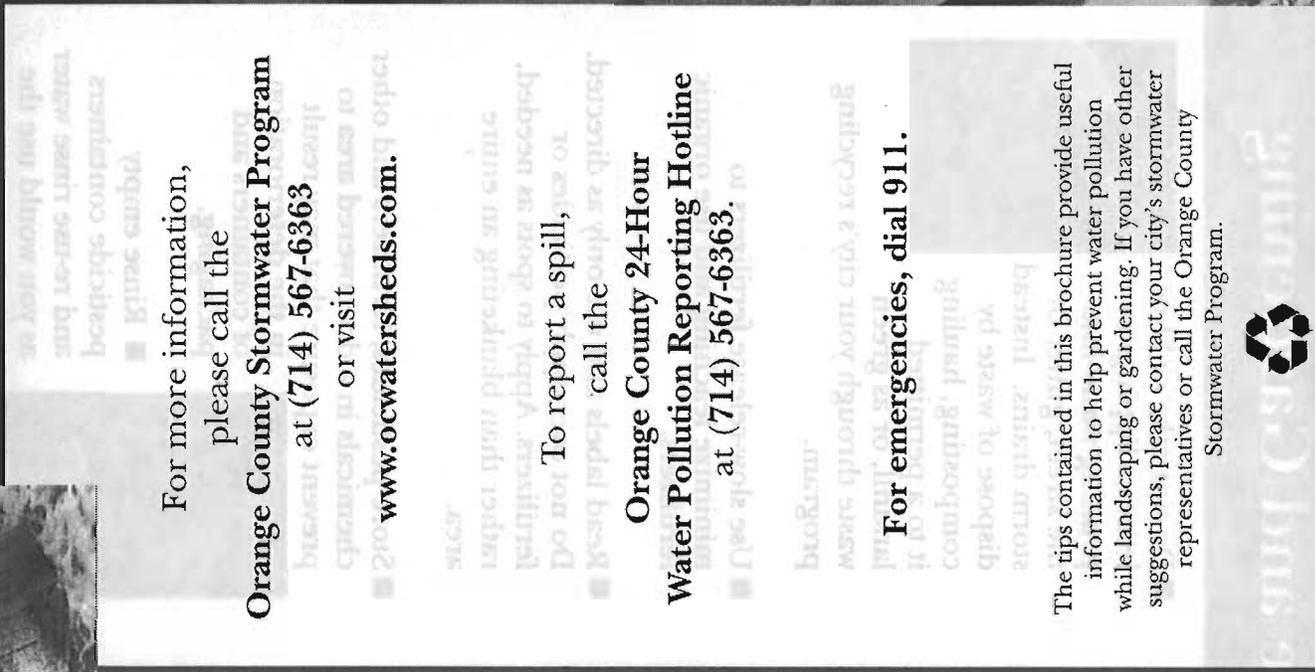
You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information, please call the Orange County Stormwater Program at (714) 567-6363 or visit [www.ocwatersheds.com](http://www.ocwatersheds.com).

**Orange County 24-Hour  
Water Pollution Reporting Hotline**  
at (714) 567-6363.

**For emergencies, dial 911.**

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



# Tips for Landscape and Gardening

Never allow gardening products or polluted water to enter the street or storm drain.

## General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.



■ Plant native vegetation to reduce the amount of water, fertilizer, herbicides, and pesticides needed.

- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

## Garden & Lawn Maintenance

- Do not over-water. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.

- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drains. Instead dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.



- Use slow-release fertilizers to minimize leaching and use organic fertilizers.

- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.

- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result

in the deterioration of containers and packaging.

- Rinse empty pesticide containers and re-use rinse water as you would use the



product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.

- When available, use non-toxic alternatives to traditional pesticides and use pesticides specifically designed to control the pest you are targeting. For more information, check [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu).

- If fertilizer is spilled, sweep up the spill before applying irrigation water. If the spill is liquid, apply an absorbent material like cat litter and then sweep and dispose in the trash.

- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

## Household Hazardous Waste Collection Centers

Anaheim: 1071 N. Blue Gum St.

Huntington Beach: 17121 Nichols St.

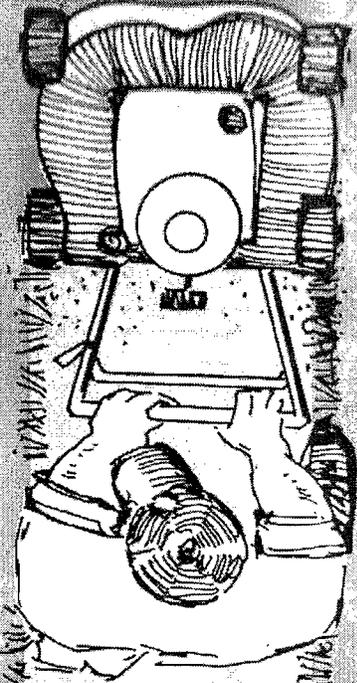
Irvine: 6411 Oak Canyon

San Juan Capistrano: 32250 La Pata Ave.

For more information, call (714) 834-6752 or visit

[www.ocwatersheds.com](http://www.ocwatersheds.com)

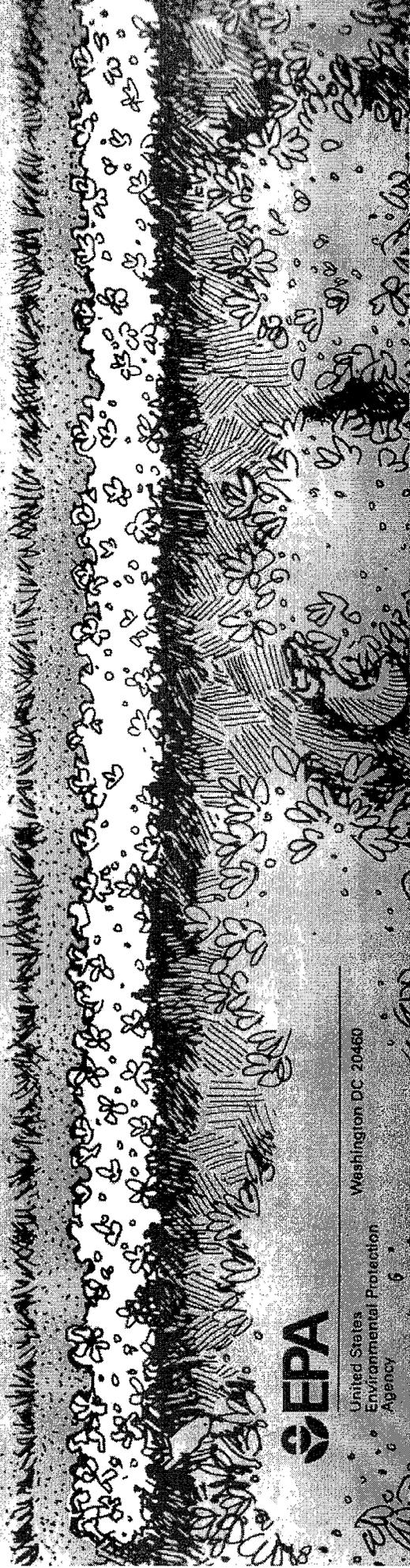
## 15. Healthy Lawn Healthy Environment



# Healthy Lawn

# Healthy Environment

Caring for Your Lawn in an Environmentally Friendly Way



United States  
Environmental Protection  
Agency

Washington DC 20460

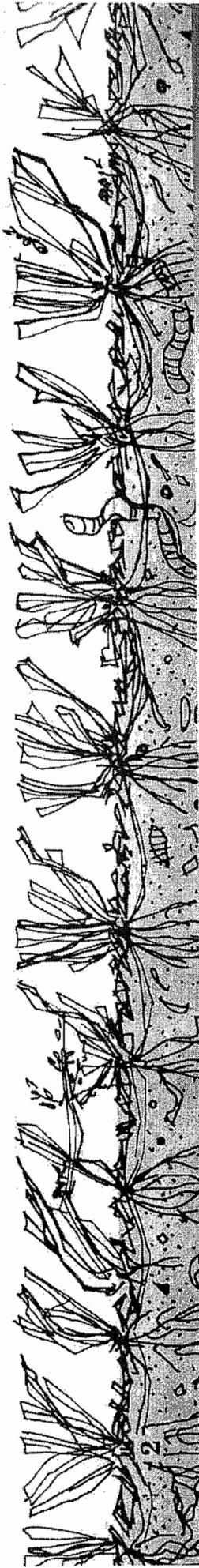
# HEALTHY LAWN, HEALTHY

## Caring for Your Lawn in an Environmentally Friendly Way

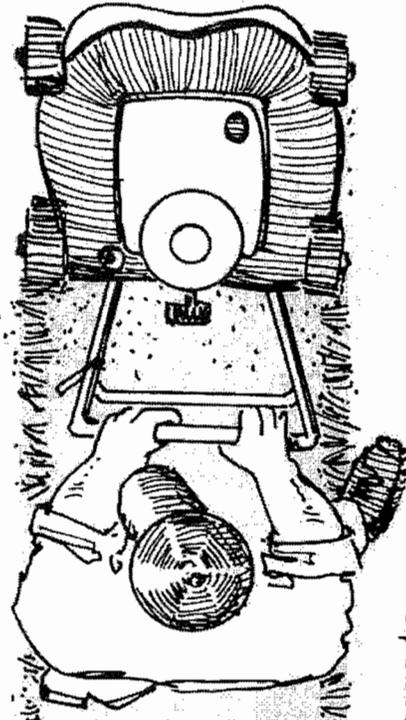
Picture a healthy green lawn: perfect for lounging, great for ball games and cookouts, a real asset to your home. But did you know that your lawn—and how you take care of it—can also help the environment? 🌱 Healthy grass provides feeding ground for birds, who find it a rich source of insects, worms, and other food. Thick grass prevents soil erosion, filters contaminants from rainwater, and absorbs many types of airborne pollutants, like dust and soot. Grass is also highly efficient at converting carbon dioxide to oxygen, a process that helps clean the air. 🌸 Caring for your lawn properly can both enhance its appearance and contribute to its environmental benefits. You don't have to be an expert to grow a healthy lawn. Just keep in mind that the secret



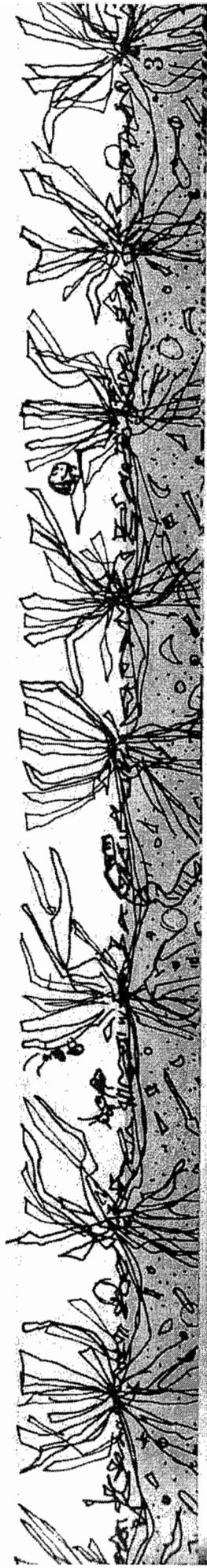
 printed on recycled paper



# ENVIRONMENT



is to work with nature. This means creating conditions for grass to thrive and resist damage from weeds, disease, and insect pests. It means setting realistic goals for your lawn, whether you or a professional lawn care service will be doing the work. And if you choose to use pesticides, it means using them with care so as to get the most benefit and reduce any risks. 🌸 Caring for your lawn in an environmentally sensible way can have a bigger impact than you might think. Your lawn is only a small piece of land, but all the lawns across the country cover a lot of ground. That means you and your lawn care activities, along with everyone else's, can make a difference to the environment. And that's why taking care of the environment begins in our own backyards.



# Working With Nature: A Preventive Health Care Program For Your Lawn

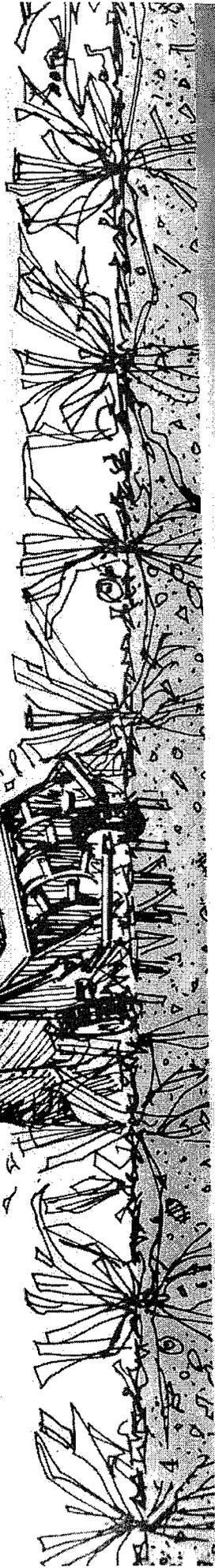
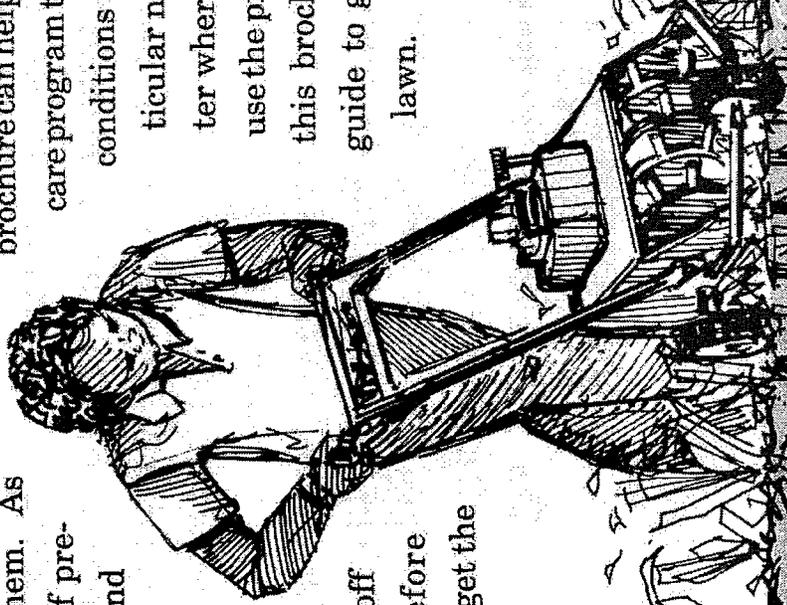
To start, think about lawn care as a **preventive** health care program, like one you would use to keep up your own health. The idea is to prevent problems from occurring so you don't have to treat them. As they say, an ounce of prevention is worth a pound

of cure. A healthy lawn can out-compete most weeds, survive most insect attacks, and fend off most diseases—before these problems ever get the upper hand.

Your lawn care program should be tailored to local conditions—the amount of rainfall you get, for example, and the type of soil you have. The sources listed at the back of this brochure can help you design a lawn care program that suits both local conditions and your own particular needs. But no matter where you live, you can use the program outlined in this brochure as a general guide to growing a healthy lawn.

A preventive health care program for your lawn should have the following steps:

1. Develop healthy soil
2. Choose a grass type that thrives in your climate
3. Mow high, often, and with sharp blades
4. Water deeply but not too often
5. Correct thatch build-up
6. Set realistic goals



## 1. Develop Healthy Soil

Good soil is the foundation of a healthy lawn. **To grow well, your lawn needs soil with good texture, some key nutrients, and the right pH, or acidity/alkalinity balance.**

Start by checking the texture of your soil to see whether it's heavy with clay, light and sandy, or somewhere in between. Lawns grow best in soil with intermediate or "loamy" soils that have a mix of clay, silt, and sand.

Whatever soil type you have, you can probably improve it by periodically adding organic matter like compost, manure, or grass clippings. Organic matter helps to lighten a predomi-

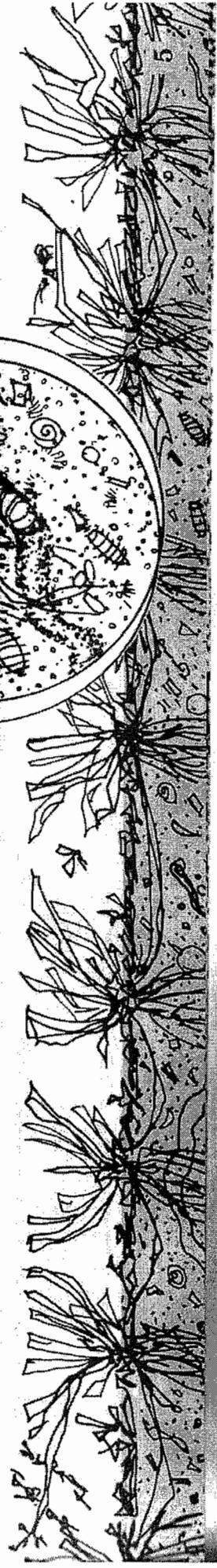
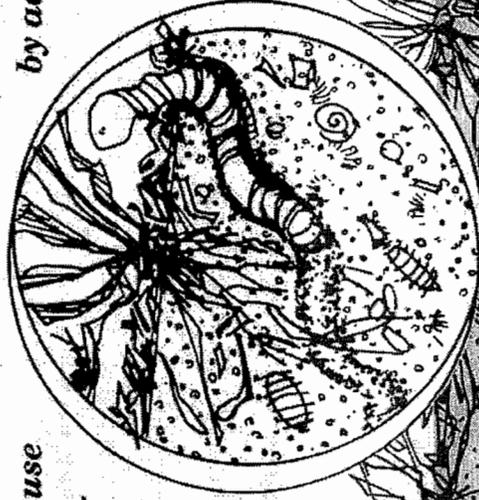
nantly clay soil and it helps sandy soil retain water and nutrients.

Also check to see if your soil is packed down from lots of use or heavy clay content. This makes it harder for air and water to penetrate, and for grass roots to grow. To loosen compacted soil, some lawns may need to be aerated several times a year. This process involves pulling out plugs of soil to create air spaces, so water and nutrients can again penetrate to the grass roots.

**Most lawns need to be fertilized every year, because they need more nitrogen, phosphorus, and potassium**

**than soils usually contain.** These three elements are the primary ingredients found in most lawn fertilizers. It's important not to over-fertilize—you could do more harm to your lawn than good—and it's best to use a slow-release fertilizer that feeds the lawn slowly. It's also important to check the soil's pH. Grass is best able to absorb nutrients in a slightly acidic soil, with a pH of 6.5 to 7.0. **Soil that is too acidic can be "sweetened" with lime; soil that's not acid enough can be made more "sour" by adding sulfur.**

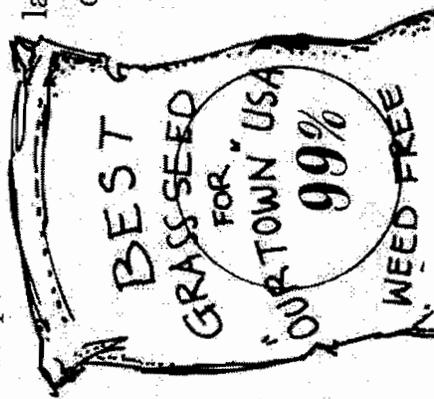
Have your soil tested periodically to see whether it needs more



## 2. Choose A Grass Type That Thrives In Your Climate

organic matter or the pH needs adjusting. Your county extension agent (listed in your phone book under county government) or local nursery should be able to tell you how to do this. These experts can also help you choose the right fertilizer, compost, and other "soil amendments," and they can advise you about aerating if your soil is compacted. If a professional service takes care of your lawn, make sure it takes these same steps

to develop good soil. There's no getting around it: your lawn's health is only as good as the soil it grows in.



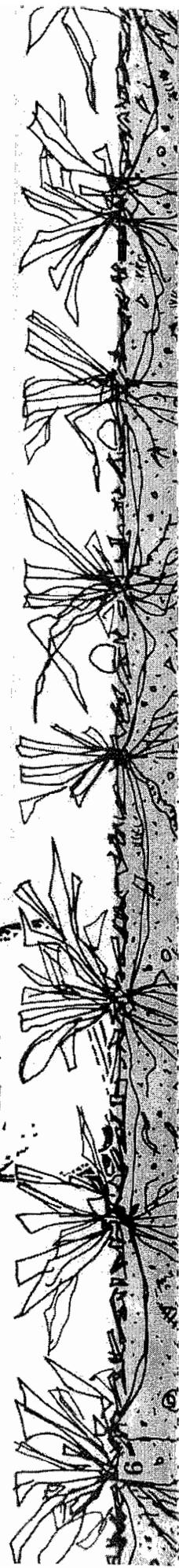
**The right type of grass—one that suits your needs and likes the local weather—will always give better results.** Grasses vary in the type of climate they prefer, the amount of water and nutrients they need, their resistance to pests, their tolerance for shade, and the degree of wear they can withstand.

If you are putting in a new lawn, it will be worth your while to do some research to identify the best grass type for your needs.

If you're working with an established lawn that fails to thrive despite proper care, you might consider replanting with a different type of grass.

Why struggle to grow grass that's susceptible to fungal disease if you live in a humid climate? Or a water-loving species if you live in an area with water shortages? Grass that is well-adapted to your area will grow better and resist local pests and diseases better.

New grass varieties and mixtures come out on the market every year. Ask your county extension agent or another one of the sources listed in this brochure for recommendations.



### 3. Mow High, Often and With Sharp Blades

*Mowing high—that is, keeping your lawn a bit long—will produce stronger, healthier grass with fewer pest problems.*

Longer grass has more leaf surface to take in sunlight. This enables it to grow thicker and develop a deeper root system, which in turn helps the grass survive drought, tolerate insect damage, and fend off diseases. Longer grass also shades the soil surface keeping it cooler, helping it retain moisture, and

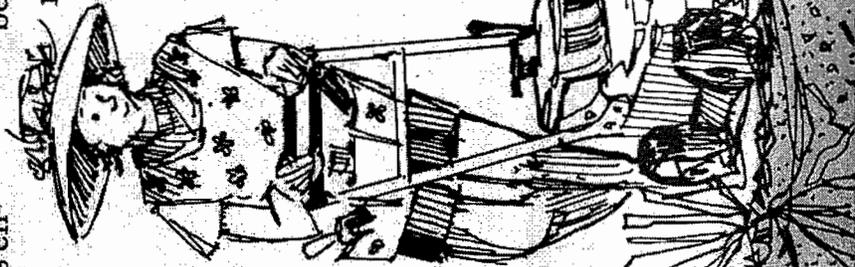
making it difficult for weeds to germinate and grow.

A lawn's ideal length will vary with the type of grass, but many turf grass species are healthiest when kept between 2-1/2 and 3-1/2 inches. The ruler at the back of this brochure will help you judge the best mowing height for your grass variety. You may have to readjust your mower—most are set too low.

It's also important to mow with sharp blades to prevent tearing and injuring the grass. And it's best to

mow often, because grass adjusts better to frequent than infrequent mowing. *The rule of thumb is to mow often enough that you never cut more than one-third of the height of the grass blades.* Save sometime and help your lawn and the environment by leaving short clippings on the grass—where they recycle nitrogen—rather than sending them in bags to the landfill.

You don't have to grow a foot-high meadow to get good results. Just adding an inch will give most lawns a real boost.



## 4. Water Deeply But Not Too Often

Watering properly will help your lawn grow deep roots that make it stronger and less vulnerable to drought. Most lawns are watered too often but with too little water. ***It's best to water only when the lawn really needs it, and then to water slowly and deeply.*** This trains the grass roots down. Frequent shallow watering trains the roots to stay near the surface, making the lawn less able to find moisture during dry periods.

Every lawn's watering needs are unique: they depend on local

rainfall, the grass and soil type, and the general health of the lawn. But even in very dry areas, no established home lawn should require daily watering.

Try to water your lawn in a way that imitates a slow, soaking rain, by using trickle irrigation, soaker hoses, or other water-conserving methods. It's also best to water in the early morning, especially during hot summer months, to reduce evaporation.

Apply about an inch of water—enough that it soaks 6–8 inches into

the soil. Then let the lawn dry out thoroughly before watering it again.

The best rule is to water only when the lawn begins to wilt from dryness—when the color dulls and footprints stay compressed for more than a few seconds.



## 5. Correct Thatch Build-Up

All grass forms a layer of dead plant material, known as thatch, between the grass blades and the soil. When thatch gets too thick—deeper than one-half inch—it prevents water and nutrients from penetrating to the soil and grass roots. Some grasses tend to form a thick layer of thatch. **Overuse of fertilizer can also create a heavy layer of thatch.**

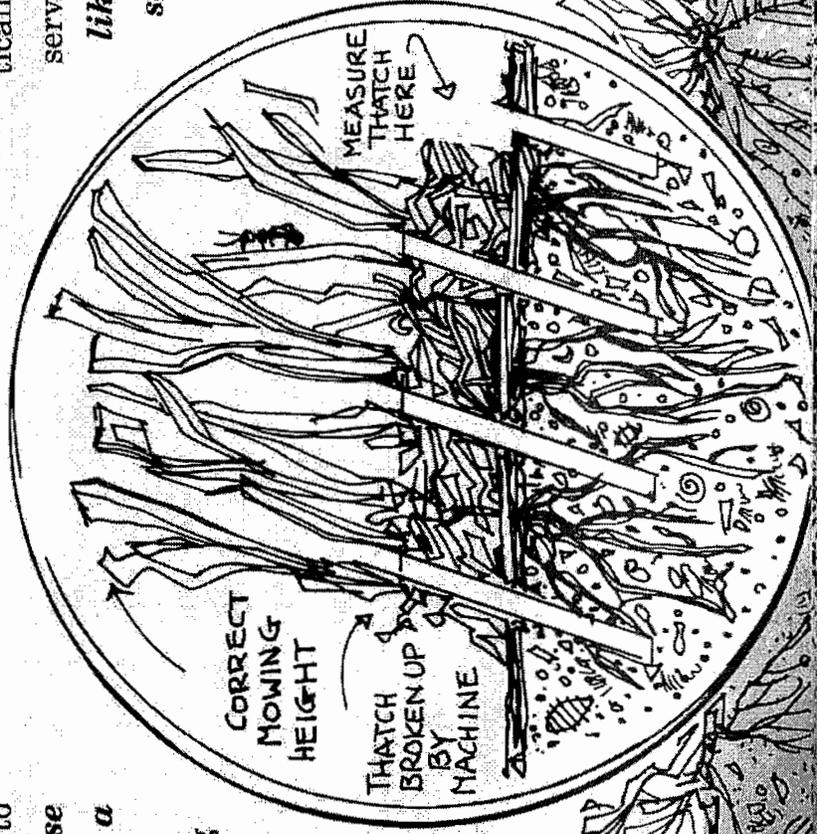
You can reduce thatch by raking the lawn or using a machine that slices through the thatch layer to break it up. Sprinkling a thin layer of topsoil or compost over the lawn will also help.

**In a healthy lawn, microorganisms and earthworms help keep the thatch layer in balance by decomposing it and releasing the nutrients into the soil.**

## 6. Set Realistic Goals

Setting realistic goals will allow you to conduct an environmentally sensible lawn care program. It's probably not necessary to aim for putting-green perfection. Did you know that a lawn with 15 percent weeds can look practically weed-free to the average observer? **Even a healthy lawn is likely to have some weeds or insect pests. But it will also have beneficial insects and other organisms that help keep pests under control.**

Also realize that grass just can't grow well in certain spots. Why fight a losing battle



with your lawn, when you have other options? At the base of a tree, for example, you might have better luck with wood chips or shade-loving ornamental plants like ivy, periwinkle, or pachysandra. If your climate is very dry, consider converting some of your lawn to dry-garden landscaping. It could save time, money, and water resources.

## What Is IPM?

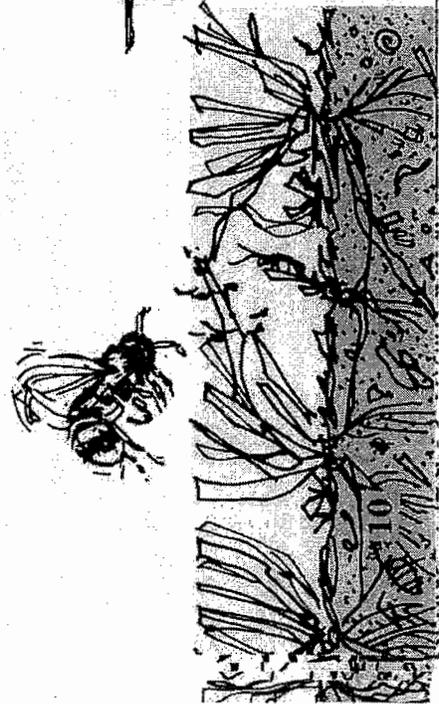
Integrated Pest Management is essentially common-sense pest control. IPM is not a new concept; some forms of it have been practiced for centuries.

IPM involves the careful management use of three different pest control tactics—biological, cultural, and chemical—to get the best long-term results with the least disruption of the environment. Biological control means using natural enemies of the pest, like lady bugs to control aphids.

Cultural or horticultural control in-

volves the use of gardening methods like mowing high to shade out weeds. Chemical control involves the judicious use of pesticides.

IPM is a highly effective approach that minimizes the use of pesticides and maximizes the use of natural processes. Lawn care professionals who use IPM should have a sophisticated understanding of the ecosystem of your turf and the available pest control tactics. Home gardeners can also practice IPM by following the steps outlined in this brochure.



honey bee



ant



earthworm



big-eyed bug

These are some good bugs you will not want to kill!



## Tips For Using Pesticides

Sometimes, even with good lawn care practices, weather conditions or other factors can cause pest problems to develop. Pesticides can help control many lawn pests. But pesticides have risks as well as benefits, and it's important to use them properly.

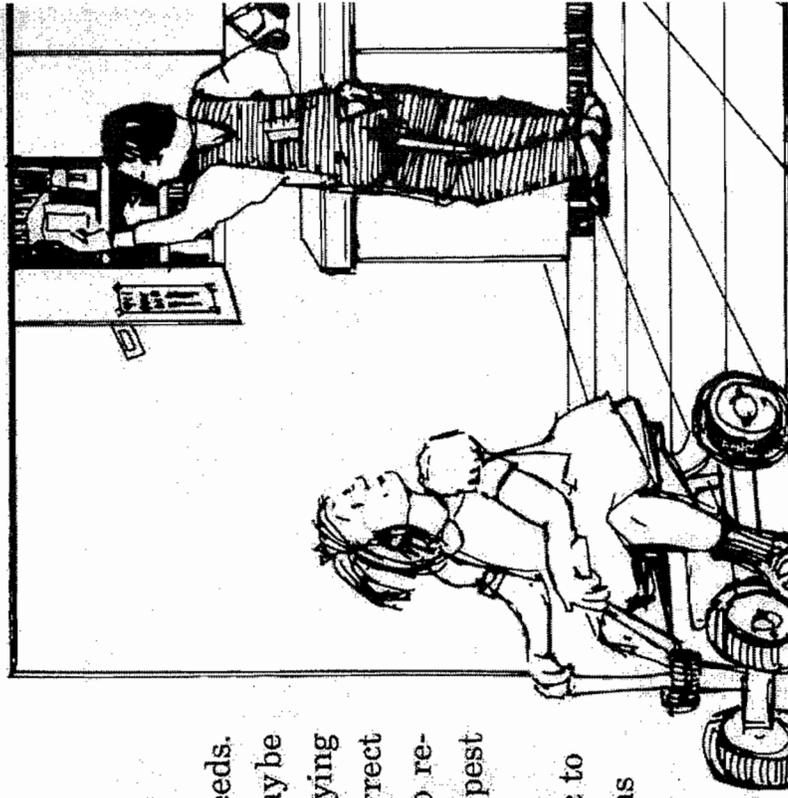
The chemicals we call pesticides include insecticides, herbicides, and fungicides. These products are designed to kill or control pest insects, weeds, and fungal diseases. Pesticides can be very effective. But don't be tempted to rely solely on pesticides as a quick-fix solution to any lawn problem. Serious, ongoing pest problems are often a sign that your lawn is

not getting everything it needs. In other words, the pests may be a symptom of an underlying problem. You need to correct the underlying problem to reduce the chance that the pest will reappear.

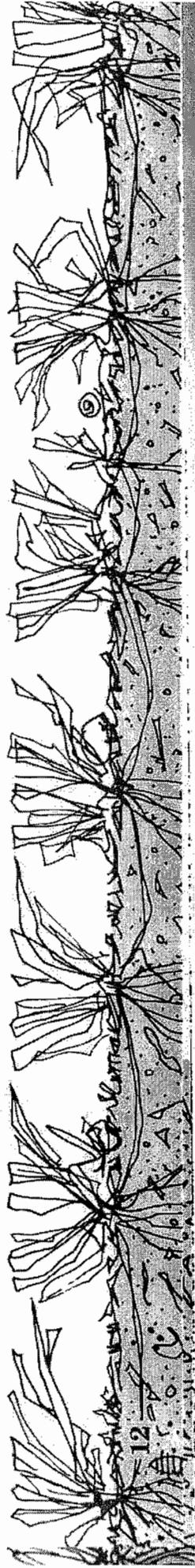
All pesticides are toxic to some degree. This means they can pose some risk to you, to your children and pets, and to any wildlife that venture onto your lawn—especially if these chemicals are overused or

carelessly applied. Pesticides can also kill earthworms and other beneficial

organisms, disrupting the ecological balance of your lawn.



Store pesticides out of children reach in a locked cabinet or garden shed.

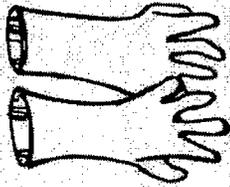


When Spraying, Protect

## Before Using Any Pesticide, Be Sure To Review These Basic Rules

### 1. Take safety precautions. Never assume a pesticide is harmless.

- Read the entire label and follow its instructions. Use only the amount directed, at the time and under the conditions specified, and for the purpose listed.
- Be sure to wear any protective clothing—like gloves, long sleeves, and long pants—indicated on the label. Wash this clothing separately before using it again.
- Keep children and pets away from pesticides, and make sure no one goes on a treated lawn for at least the time prescribed by the pesticide label.
- Remember to follow any state or local requirements for posting your treated lawn or notifying your neighbors that a pesticide has been applied.
- Store and dispose of pesticides properly, according to the label directions and any state and local regulations.



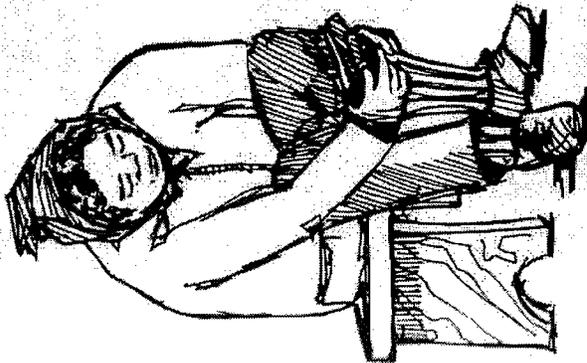
your skin



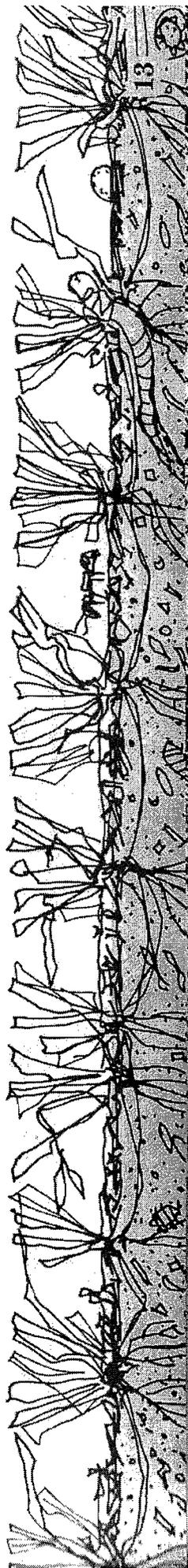
your eyes



your lungs



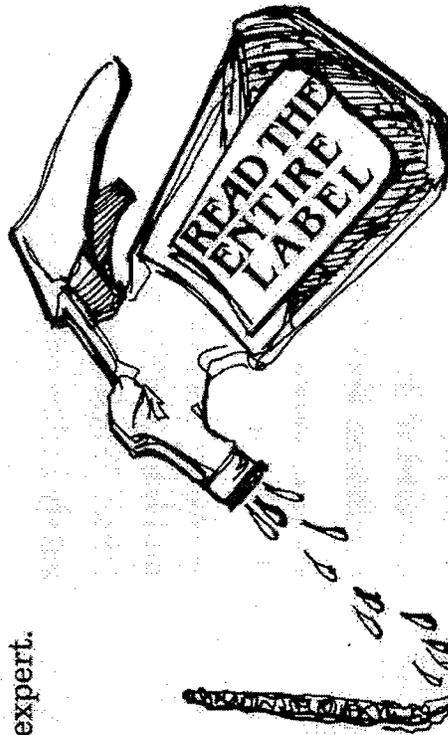
Wash this clothing separately before using it again.



2. Use pesticides to minimize pests, not eradicate them. The latter is often impossible and unnecessary.

3. Be sure you have accurately identified the pest so you can choose the best pesticide for the job and use it most effectively. Obtain professional advice from your county extension agent or a local expert.

4. Spot treat whenever possible. In most cases, it isn't necessary to treat the whole lawn with pesticides if the problem is confined to certain areas. Spraying more than necessary is wasteful and can be environmentally damaging.



If you have questions about a pesticide, call EPA's toll-free National Pesticide Information Center (1-800-858-7378). For general information on minimizing pesticide risks, call EPA for a free copy of the *Citizen's Guide to Pesticides* (EPA 730-K95-001). The number to call is 1-800-490-9198.



# Choosing A Lawn Care Service

Many people choose to hire a professional company to help maintain their lawn. Lawn care companies offer a range of services, from fertilizing and pest control to aerating, mowing, and renovation.

Lawn care companies should follow the same healthy lawn program outlined in this brochure. They should also follow the same precautions for minimizing pesticide risks.

How can you be sure that a service will do these things? Start by asking questions like these:

**Q.** Is the company licensed?

**A.** Nearly all states require lawn care companies to be licensed. The qualifications for obtaining a license vary from state to state, but having a license is one indication that the company is reputable and operating legally.

**Q.** Does the company have a good track record?

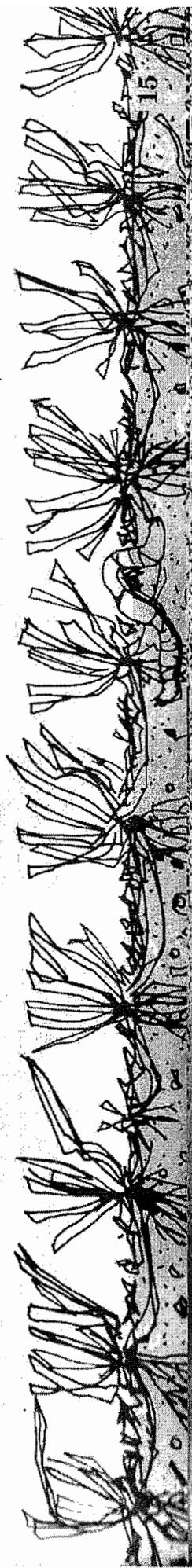
**A.** Ask neighbors and friends who have dealt with the company if they were satisfied with the service they received. Call the Better Business Bureau or the state or local consumer protection office listed in your phone

book; have they received any complaints about the company? Determine from the state pesticide regulatory agency if the company has a history of violations.

**Q.** Is the company affiliated with a professional lawn care association?

**A.** Affiliation with a professional association helps members to stay informed of new developments in the lawn care field.

**Q.** Does the company offer a variety of pest management approaches? Does it apply pesticides on a set schedule or only when they are really needed? Does it use integrated pest management, or "IPM"—an approach that

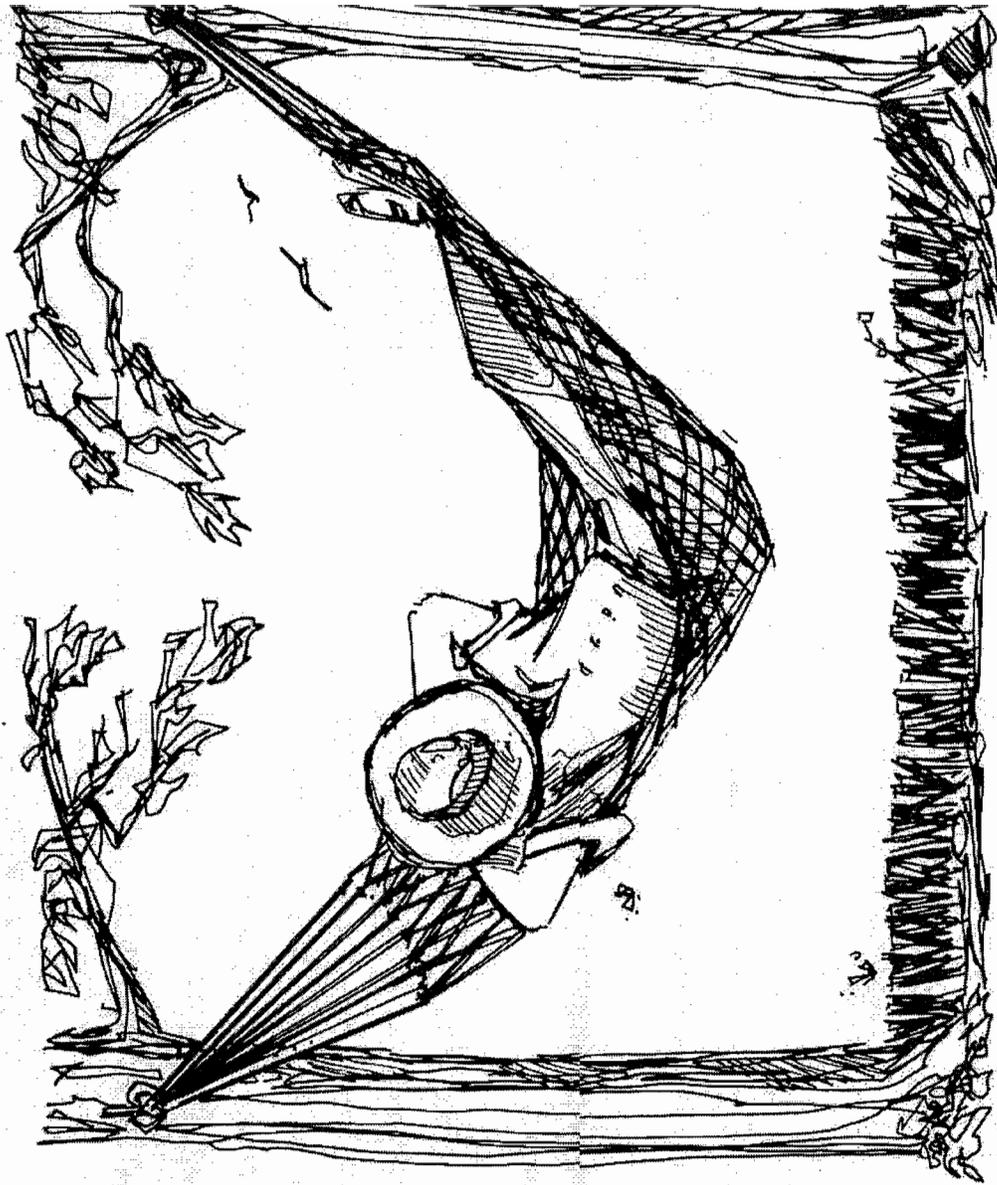


often reduces pesticide use by combining it with other, non-chemical methods of pest control?

**A.** More and more lawn companies are offering integrated pest management (IPM) in response to public concern about pesticides. Be aware that IPM is a general term and that companies may use it to describe a wide range of activities. Find out exactly what a company means if it says it uses IPM.

**Q.** Is the company willing to help you understand your lawn's problems and the solutions?

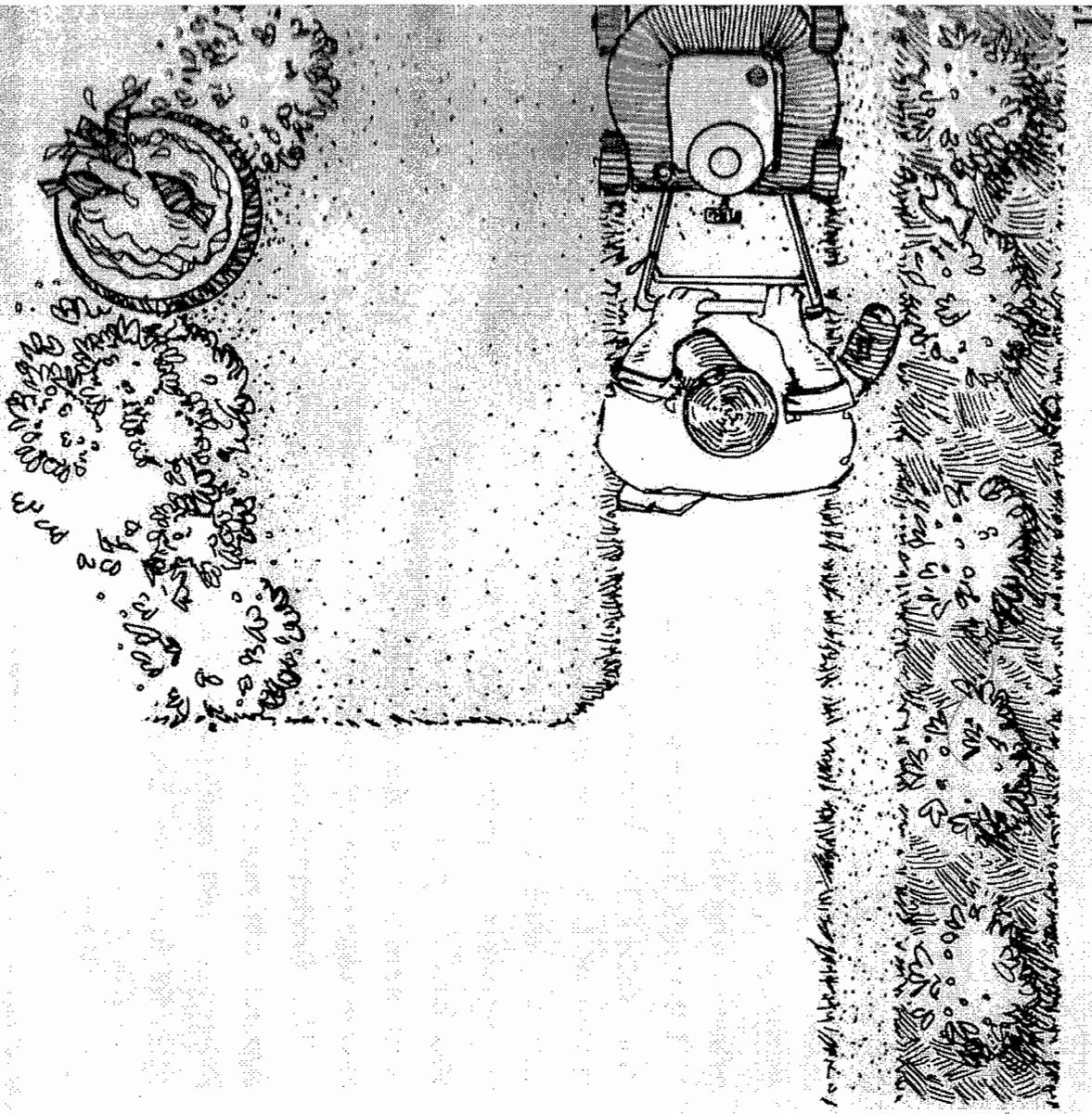
**A.** Lawn services generally apply fertilizers and pesticides. But you may be the one who mows and waters—and poor watering and mowing practices can lead to disappointing results. The



company should tell you how it plans to take care of your lawn, and advise you about the work you need to do to keep your lawn in good shape.

**Q.** Will the company tell you what pesticides it applies to your lawn and why, and what health and environmental risks may be presented by their use?

**A.** You have a right to this information. If asked, the company should readily supply it. All pesticides sold legally in the United States are registered by EPA, but such registration is *not* a guarantee of safety. Ask to see a copy of pesticide labels to make sure they bear an EPA registration number, and to review the directions that should be followed. If the company can't answer your questions about the chemicals it uses, call NPIC (1-800-858-7378) for more information.



## For More Information

Affiliated with the Land Grant university in each state is a system of **County Cooperative Extension Offices**. Usually listed in the telephone directory under county or state government, these offices often have a range of resources on lawn care and landscape maintenance, including plant selection, pest control, and soil testing.

**State agriculture and/or environmental agencies** may publish information on pests and pest management strategies. The state pesticide regulatory agency can provide information on pesticide regulations, and may also have information on companies with a history of complaints or violations. NPIC (see below) can identify the agency responsible for pesticide regulation in each state.

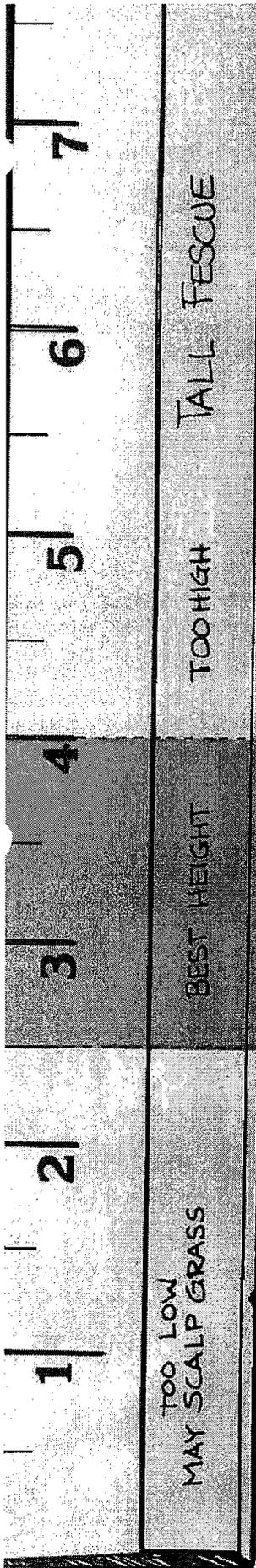
The **National Pesticide Information Center** is a toll-free, information service that can be reached by calling 1-800-858-7378 or at npic.orst.edu. The operators can provide a wide range of information about the health effects of pesticides, and provide assistance in dealing with pesticide-related emergencies.

**Libraries, bookstores, and garden centers** usually have a wide selection of books that discuss lawn care and other aspects of landscape management. Garden centers may also have telephone hotlines or experts available on the premises to answer your gardening questions.

The **Environmental Protection Agency** can provide information on integrated pest management strategies for lawn care. See our Web site

at [www.epa.gov/pesticides/controlling](http://www.epa.gov/pesticides/controlling).

Some **suppliers of lawn care products** can provide helpful tips, answer questions, and help identify problems. Look for information/hotline numbers on product packaging.



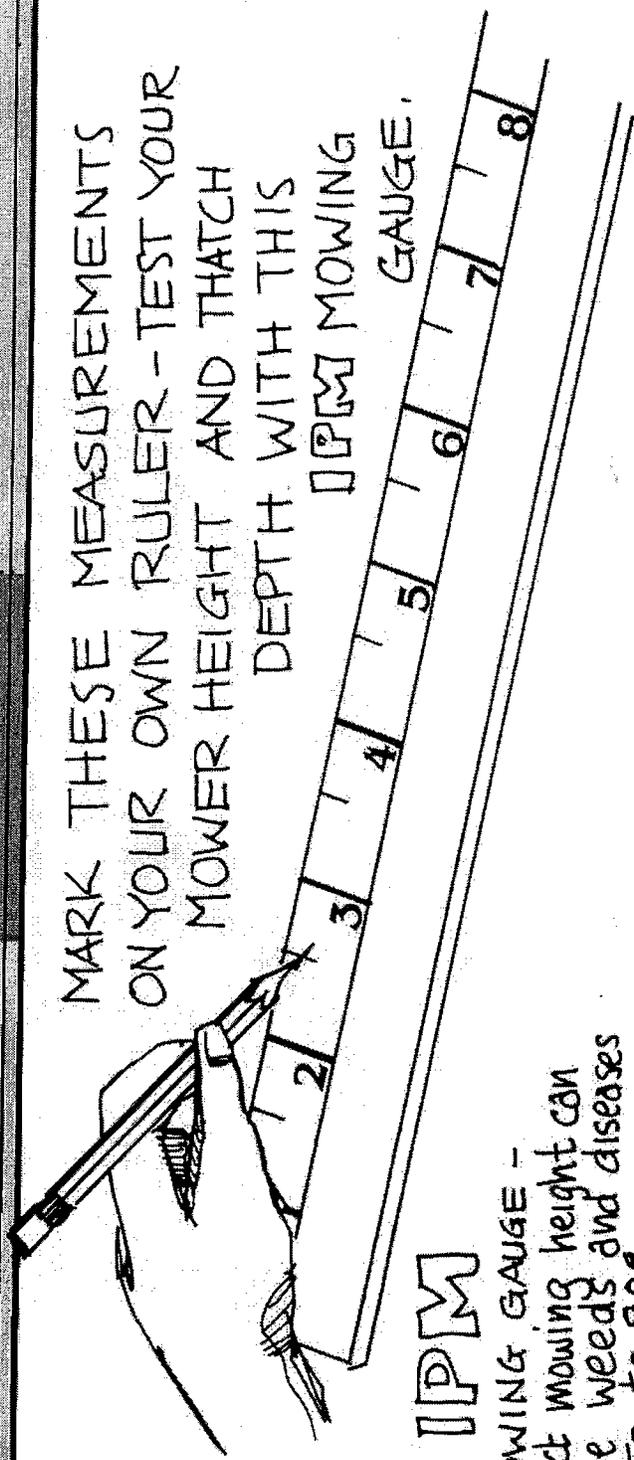
Thatch Risk  
for Diseases  
and Insects

HIGH **N**

MEDIUM

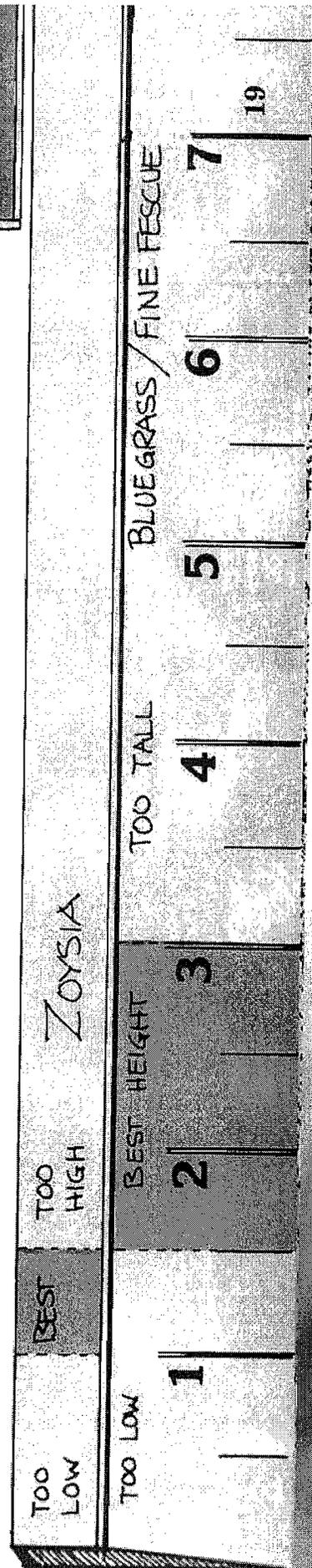
LOW

MARK THESE MEASUREMENTS  
ON YOUR OWN RULER - TEST YOUR  
MOWER HEIGHT AND THATCH  
DEPTH WITH THIS  
IPM MOWING  
GAUGE.



**IPM**

-MOWING GAUGE -  
correct mowing height can  
reduce weeds and diseases  
by 50 to 80%.

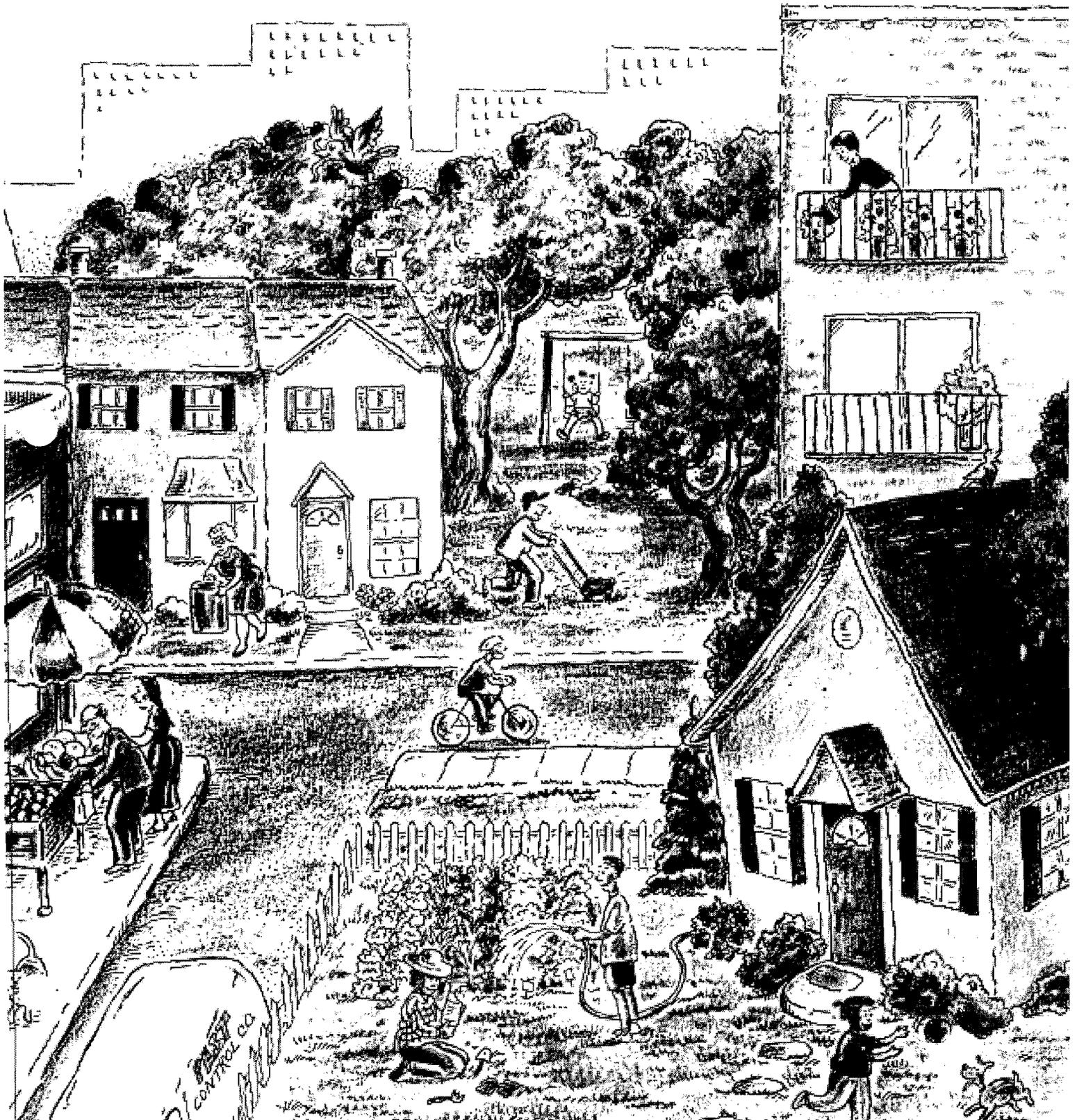


ZOYSIA

## 16. EPA Citizen's Guide to Pest Control and Pesticide Safety



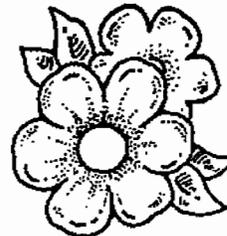
# Citizen's Guide to Pest Control and Pesticide Safety



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# Foreword

The Environmental Protection Agency (EPA) is charged with ensuring that pesticides do not pose unreasonable risks to the public and to the environment. EPA regulates the use of pesticides under the authority of two laws—the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA). Most all pesticides may legally be sold in the United States if they have been “registered” by EPA and if they bear an EPA registration number. Federal pesticide registration, however, is only the first step in preventing pesticide risks. Just as important are the steps that consumers take to control pests and use pesticides safely. EPA hopes that this booklet will help you control pests safely.

# Introduction



**SOONER OR LATER**, we're all pestered by pests. Whether it's ants in the kitchen or weeds in the vegetable garden, pests can be annoying and bothersome. At the same time, many of us are concerned that the pesticides we use to control pests can cause problems too. How can pests be controlled safely? When and how should pesticides be used?

This booklet is intended to help answer these questions. The questions have no single right answer, but *Citizen's Guide to Pest Control and Pesticide Safety* gives the information you need to make informed decisions. You should be able to control pests without risking your family's health and without harming the environment.

**The major goals of this booklet are to help you understand—**

- ◆ What steps to take to control pests in and around your home.
- ◆ What alternatives to chemical pesticides are available, including pest prevention and non-chemical pest controls.

## Did you know that these common household products are pesticides?



- ✓ Cockroach sprays and baits.
- ✓ Insect sprays and wasp repellents for indoor use.
- ✓ Insect repellents for personal use.
- ✓ Termite control products.
- ✓ Rat and other rodent poisons.
- ✓ Flea and tick sprays, powders, and pet collars.
- ✓ Kitchen, laundry, and bath disinfectants and sanitizers, including bleach.
- ✓ Products to kill mold and mildew.
- ✓ Lawn and garden products such as weed killers.
- ✓ Swimming pool chemicals, including those that kill algae.
- ✓ Repellents that keep deer, raccoons, or rabbits away from your garden.



- ◆ How to choose pesticides and how to use, store, and dispose of them safely.
- ◆ How to reduce your exposure when others use pesticides.
- ◆ How to choose a pest control company.
- ◆ What to do if someone is poisoned by a pesticide.

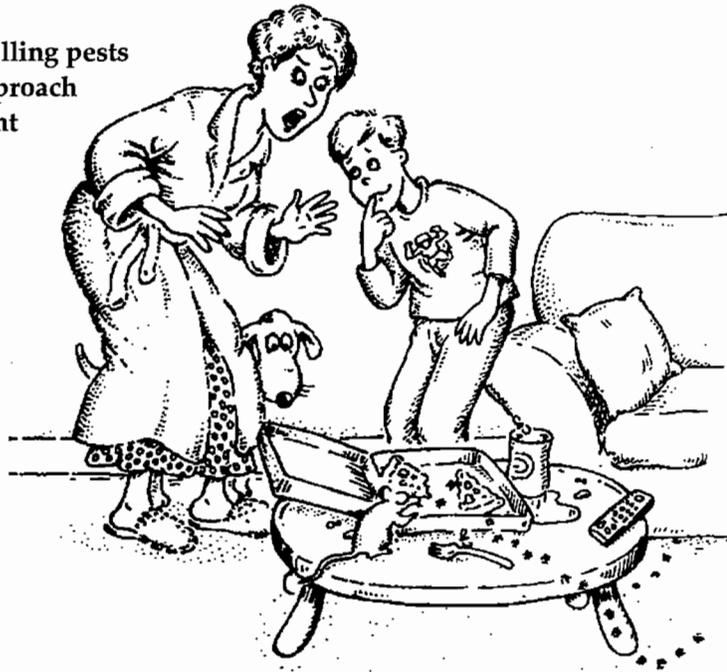
# Pests, Pest Control, and Pesticides

 **PLANTS**, insects, mold, mildew, rodents, bacteria, and other organisms are a natural part of the environment. They can benefit people in many ways. But they can also be pests. Apartments and houses are often hosts to common pests such as cockroaches, fleas, termites, ants, mice, rats, mold, or mildew. Weeds, hornworms, aphids, and grubs can be a nuisance outdoors when they get into your lawn, flowers, yard, vegetable garden, or fruit and shade trees. Pests can also be a health hazard to you, your family, and your pets. It's easy to understand why you may need and want to control them.

Nowadays, you can choose from many different methods as you plan your strategy for controlling pests. **Sometimes a non-chemical method of control is as effective and convenient as a chemical alternative.** For many pests, total elimination is almost impossible, but it is possible to control them. **Knowing your options is the key to pest control.** Methods available to you include pest prevention, non-chemical pest controls, and chemical pesticides. Each of these methods will be described in more detail in the next three sections of this booklet (starting on pages 6, 11, and 13).

## Pest Management

**The most effective strategy for controlling pests may be to combine methods in an approach known as integrated pest management (IPM) that emphasizes preventing pest damage.** In IPM, information about pests and available pest control methods is used to manage pest damage by the most economical means and with the least possible hazard to people, property, and the environment. An example of using the IPM approach for lawn care is presented in the next section of this booklet titled "Preventing Pests."



Some signs of pest infestation are unmistakable.

Knowing a range of pest control methods gives you the ability to choose among them for an effective treatment. Knowing the options also gives you the choice of limiting your exposure to potentially harmful chemicals. No matter what option you choose, you should follow these steps to control your pest problem:

## First Steps in Pest Management

**1 Identify the pest problem.** This is the first and most important step in pest control—figuring out exactly what you’re up against. Some pests (or signs of them) are unmistakable—most people recognize a cockroach or a mouse. Other signs that make you think “pest” can be misleading. For example, what may look like a plant “disease” may be, in fact, a sign of poor soil or lack of water.

Use **free sources** to help identify your pest and to learn the most effective methods to control it. These sources include library reference books (such as insect field guides or gardening books) and pest specialists at your County Cooperative Extension Service or local plant nurseries. These resources are usually listed in the telephone book.

**2 Decide how much pest control is necessary.** Pest control is not the same as pest elimination. Insisting on getting rid of all pests inside and outside your home will lead you to make more extensive, repeated, and possibly hazardous chemical treatments than are necessary. Be reasonable. Ask yourself these questions:

- ◆ Does your lawn really need to be totally weed free?
- ◆ Recognizing that some insects are beneficial to your lawn, do you need to get rid of all of them?
- ◆ Do you need every type of fruit, vegetable, or flower you grow, or could you replace ones that are sensitive to pests with hardier substitutes?
- ◆ Can you tolerate some blemished fruits and vegetables from your garden?
- ◆ Is anyone in your home known to be particularly sensitive to chemicals?

**3 Choose an effective option.** Use the information gathered in Step 1, your answers to the questions in Step 2, and guidance in the sections titled "Preventing Pests," "Using Non-Chemical Pest Controls," and "Using Chemical Pest Controls" to determine which option you want to choose. If you're still uncertain, get further advice from the free sources listed in Step 1.

**4 Evaluate the results.** Once a pest control method has been chosen and implemented, always allow time for it to work and then evaluate its effectiveness by taking the following steps:

- ◆ Compare pre-treatment and post-treatment conditions. Is there evidence of a clear reduction in the number of pests?
- ◆ Weigh the benefits of short-term chemical pesticide control against the benefits of long-term control using a variety of other treatments, including non-chemical methods.

It's easier to prevent pests than to control them. You may not need to worry about the four pest control steps just mentioned **IF** you make the effort to prevent pests in the first place.



The first step in pest control is to identify the pest.

# Preventing Pests

 **PESTS SEEK PLACES TO LIVE** that satisfy basic needs for air, moisture, food, and shelter. The best way to control pests is to try to prevent them from entering your home or garden in the first place. You can do this by removing the elements that they need to survive. Take the following preventive actions:

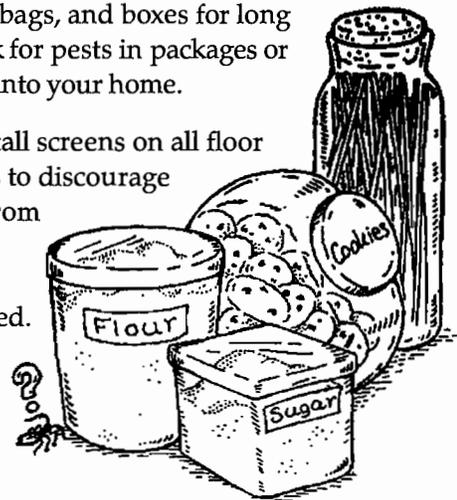
## Indoor Prevention

◆ **Remove water.** All living things, including pests, need water for survival. Fix leaky plumbing, and do not let water accumulate anywhere in or around your home. For example, do not leave any water in trays under your houseplants, under your refrigerator, or in buckets overnight. Remove or dry out water-damaged and wet materials. Even dampness or high humidity can attract pests.

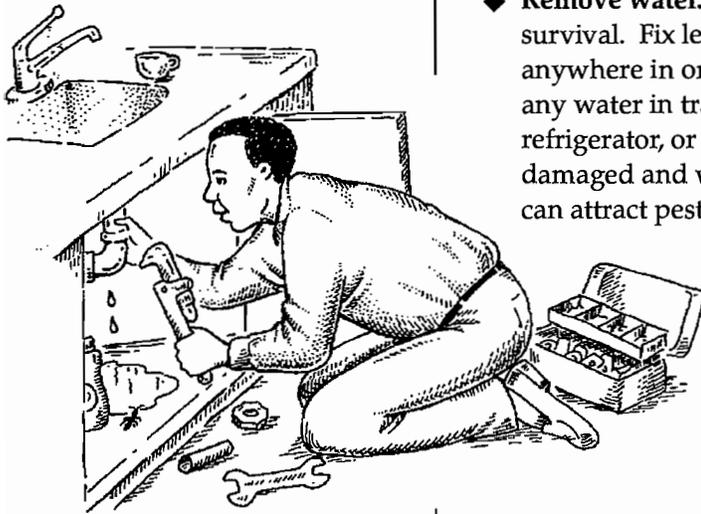
◆ **Remove food.** Store your food in sealed glass or plastic containers, and keep your kitchen clean and free from cooking grease and oil. Do not leave food in pet bowls on the counter or floor for long periods of time. Put food scraps or refuse in tightly covered, animal-proof garbage cans, and empty your garbage frequently.

◆ **Remove or block off indoor pest hiding places.** Caulk cracks and crevices to control pest access. Bathe pets regularly and wash any mats or surfaces they lie on to control fleas. Avoid storing newspapers, paper bags, and boxes for long periods of time. Also, check for pests in packages or boxes before carrying them into your home.

◆ **Block pest entryways.** Install screens on all floor drains, windows, and doors to discourage crawling and flying pests from entering your home. Make sure any passageways through the floor are blocked. Place weatherstripping on doors and windows. Caulk and seal openings in walls. Keep doors shut when not in use.



Store food in sealed containers.



Pests need water to survive. Fix leaky pipes.

## Outdoor Prevention

- ◆ **Remove or destroy outdoor pest hiding places.** Remove piles of wood from under or around your home to avoid attracting termites and carpenter ants. Destroy diseased plants, tree prunings, and fallen fruit that may harbor pests. Rake fallen leaves. Keep vegetation, shrubs, and wood mulch at least 18 inches away from your house.
- ◆ **Remove breeding sites.** Clean up pet droppings from your yard; they attract flies that can spread bacteria. Do not accumulate litter or garbage; it draws mice, rats, and other rodents. Drain off or sweep away standing puddles of water; water is a breeding place for mosquitos and other pests. Make sure drain pipes and other water sources drain away from your house.
- ◆ **Take proper care of all outdoor plants.** These include flowers, fruit and shade trees, vegetable and other plants, and your lawn. Good plant health care reduces pest control needs—healthy plants resist pests better than do weak plants. Plant at the best time of year to promote healthy growth. Use mulch to reduce weeds and maintain even soil temperature and moisture. Water adequately. Native flowers, shrubs, and trees often are good choices because they adapt well to local conditions and require minimal care.



Remove breeding sites.  
Clean up litter or garbage.

## Gardening

- ◆ Select healthy seeds and seedlings that are known to resist diseases and are suited to the climate where you live. Strong seeds are likely to produce mature plants with little need for pesticides.
- ◆ If your garden is large, alternate rows of different kinds of plants. Pests that prefer one type of vegetable (carrots, for example) may not spread to every one of your carrot plants if other vegetables (not on the pests' diet) are planted in the neighboring rows.
- ◆ Don't plant the same crop in the same spot year after year. That way your plants are not as vulnerable to pests that survive the winter.
- ◆ Make sure your garden plot has good drainage. Raised beds will improve drainage, especially of clay soils. If a heavy clay soil becomes compacted, it does not allow air and water to get to the roots easily, and plants struggle to grow. To loosen



compacted soil and create air spaces so that water and nutrients can reach the roots, buy or rent a tiller that breaks up the dirt and turns it over. Before planting, add sand and organic matter to enrich the soil mixture in your garden plot. Also, have the soil tested periodically to see whether you need to add more organic matter or adjust the pH (acidity/alkalinity) balance by adding lime or sulfur. Your County Cooperative Extension Service, listed in the telephone book, or local nursery should be able to tell you how to do this.

- ◆ Mulch your garden with leaves, hay, grass clippings, shredded/chipped bark, or seaweed. **Do not use newspapers** to keep down weeds or to fertilize plants. **Newsprint may contain toxic metals** such as lead and mercury.

Before planting, add organic matter to enrich the soil mixture in your garden plot.

## Lawn Care

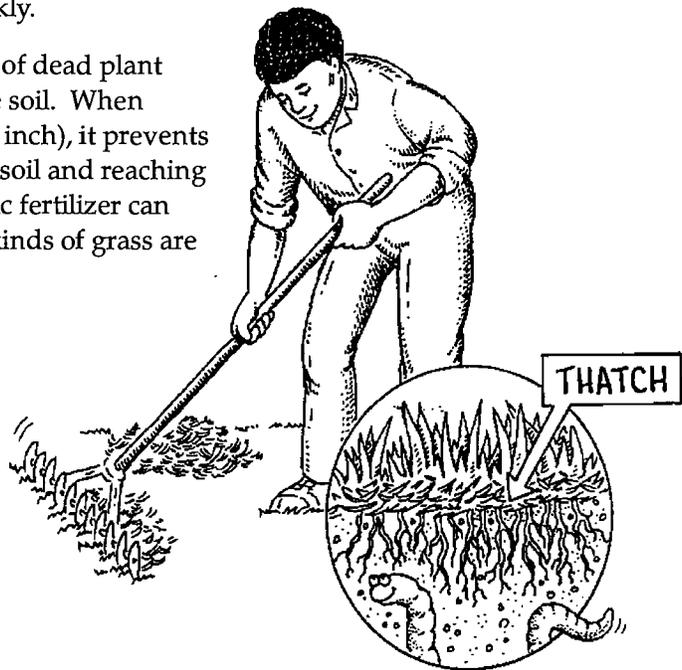
Tending a garden may not be your hobby; but if you rent or own a home, you might need to care for the lawn. You don't have to be an expert to grow a healthy lawn—the key is to work with nature. You need to create the right conditions for your grass to grow strong and stay healthy. A healthy lawn can resist damage from weeds, disease, and insect pests. **Set realistic weed and pest control goals** for your lawn.

Think of lawn care as a preventive health care program, like one you would follow to stay healthy yourself. The goal is to prevent problems from ever occurring.

Pesticides can be effective, but should not be relied on as the quick-fix solution to any lawn problem. Serious, ongoing pest problems are often a sign that your lawn is not getting what it needs to stay healthy. Pests may be a symptom of an underlying problem. You need to correct the underlying problem to reduce the chances of pests reappearing.

Make these six steps part of a preventive health care program for your lawn:

- 1** Develop healthy soil that has the right pH balance, key nutrients, and good texture. You can buy easy-to-use soil analysis kits at hardware stores or contact your local County Cooperative Extension Service for a soil analysis.
- 2** Choose a type of grass that grows well in your climate. For instance, if your area gets very little rain, don't plant a type of grass that needs a lot of water. Your local County Cooperative Extension Service can advise you on which grasses grow best in your area.
- 3** Mow high, mow often, and make sure the lawn mower blades are sharp. Grass that is slightly long makes a strong, healthy lawn with few pest problems. Weeds have a hard time taking root and growing when grass is fairly long (around 2½ to 3½ inches for most types of grass). A foot-high meadow isn't necessary; just adding an inch to the length of your grass will give most lawns a real boost.
- 4** Water deeply but not too often. The best rule is to water only when the lawn begins to wilt from dryness—when the color dulls and footprints stay in the grass for more than a few seconds. Avoid watering during the hottest part of the day because the water will evaporate too quickly.
- 5** Correct thatch buildup. Thatch is a layer of dead plant material between the grass blades and the soil. When thatch gets too thick (deeper than ¾ of an inch), it prevents water and nutrients from getting into the soil and reaching the roots of the grass. Overusing synthetic fertilizer can create a heavy layer of thatch, and some kinds of grass are prone to thatch buildup.



Get rid of excess thatch by raking the lawn or using a dethatching rake.

In a healthy lawn, earthworms, spiders, millipedes, and a variety of microorganisms help keep the thatch layer in balance by breaking it up and using it for food, which releases nutrients into the soil. You can get rid of excess thatch by raking the lawn using a dethatching rake or by using a machine that pulls plugs out of the grass and thatch layer to break it up. Sprinkle a thin layer of topsoil or compost over the lawn after dethatching or aerating it to speed up the process of decomposition.

**6 Set realistic weed and pest control goals.** It is almost impossible to get rid of all weeds and pests. However, even a lawn that is 15 percent weeds can look almost weed-free to the casual observer. A healthy lawn will probably always have some weeds and some insect pests. But a healthy lawn will also have beneficial insects and other organisms like earthworms that keep pests under control. Improper use of pesticides can kill these beneficial organisms.

By following this preventive health care program for your lawn, you should be able to rely **very little, if at all**, on chemical pesticides for weed and insect pest control. For additional information, refer to EPA's booklet *Healthy Lawn, Healthy Environment*. (See page 42 in the Reference Section.)



**If you use the preventive techniques just described, you reduce the chance of pests ever getting into your home or garden in the first place.**



# Using Non-Chemical Pest Controls

 **YOU'VE GOT PESTS**, and you want to control them with a dependable pest control method that does not contain chemical pesticides. Non-chemical pest control methods really work, and they have many advantages. Compared to chemical treatments, non-chemical methods are generally effective for longer periods of time. They are less likely to create hardy pest populations that develop the ability to resist pesticides. And many non-chemical pest controls can be used with fewer safeguards, because they are generally thought to pose virtually no hazards to human health or the environment. Two examples of non-chemical pest control methods are biological and manual treatments.

## Biological Controls

Did you know that pests themselves may be eaten or otherwise controlled by birds, insects, or other living organisms? You can use a pest's natural enemies (predators) to your advantage. These "biological controls," as they are called, take many forms:

- ◆ **Beneficial predators** such as purple martins and other birds eat insects; bats can eat thousands of insects in one night; lady beetles (ladybugs) and their larvae eat aphids, mealybugs, whiteflies, and mites. Other beneficial bugs include spiders, centipedes, ground beetles, lacewings, dragonflies, big-eyed bugs, and ants. You can install a purple martin house in your yard. You can also buy and release predatory insects. They are available from sources such as gardening catalogs and magazines.

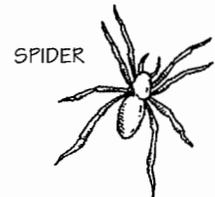
Contact your County Cooperative Extension Service, a nursery, or a garden association for information on how to attract and protect beneficial predators.

- ◆ **Parasitoids** such as miniature wasps lay their eggs inside the eggs or bodies of insect pests such as tomato hornworms. Once the eggs hatch, the offspring kill their insect hosts, making parasitoids highly effective pest controllers.

## Beneficial Predators



PURPLE MARTIN



SPIDER



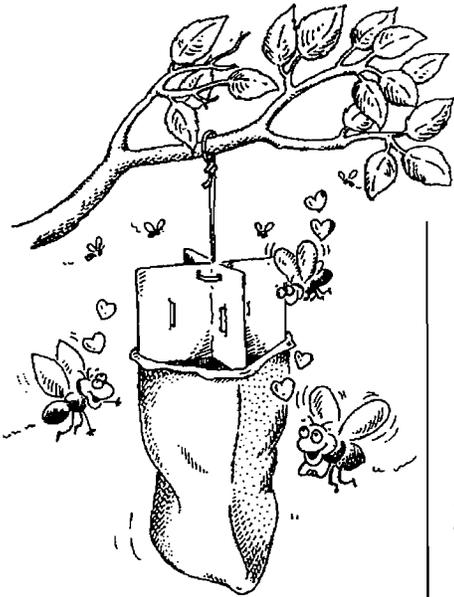
LADYBUG



CENTIPEDE

MINI-WASP





Pheromone traps lure pests.

- ◆ **Microscopic pathogens** such as fungi, bacteria, and viruses control pests. An example is milky spore disease, which attacks Japanese beetles. A number of these biological pesticides are available commercially at hardware and garden stores. (See page 43 in the Reference Section for more information.)
- ◆ **Biochemical pesticides** include pheromones and juvenile insect hormones. Pheromones are chemical substances released by various organisms (including insects) as means of communicating with others of the same species, usually as an aid to mating. Pheromones lure pests inside a trap. Juvenile insect hormones interfere with an insect's normal growth and reproductive functions by mimicking the effects of compounds that occur naturally in the pest.

### Manual Methods

- ◆ Spading and hoeing to cut up weeds.
- ◆ Hand-picking weeds from your lawn and pests from your plants, indoors or out.
- ◆ Using a flyswatter.
- ◆ Setting traps to control rats, mice, and some insects.
- ◆ Mulching to reduce weed growth.

One or a combination of several non-chemical treatments may be just what you need for your pest problem. You must be patient because results may not be immediate. And, you must work to prevent pests from entering your home or garden in the first place.

# Using Chemical Pest Controls

 **IF YOU DECIDE** that the best solution to your pest problem is chemical—by itself or, preferably, combined with non-chemical treatments—be aware that one of the greatest causes of pesticide exposure to humans is the use of pesticides in and around the home.

Anyone can buy a wide variety of “off the shelf” pesticide products to control weeds, unwanted insects, and other pests. No special training is required to use these pesticides. Yet many of the products can be hazardous to people, especially when stored, handled, applied, or disposed of improperly. **The results achieved by using chemical pesticides are generally temporary, and repeated treatments may be required.** Over time, some pests become pesticide-resistant, meaning they adapt to the chemical and are no longer harmed by it. This forces you to choose another product or method. If used incorrectly, home-use pesticide products can be poisonous to humans. As a result, it is extremely important for you to take responsibility for making sure that these products are used properly. The basic steps in reducing pesticide risks are—

- ◆ Choosing the right pesticide product.
- ◆ Reading the product label.
- ◆ Determining the right amount to purchase and use.
- ◆ Using the product safely and correctly.
- ◆ Storing and disposing of pesticides properly.

Each of these steps is described in more detail in the sections that follow.



Choosing the right product is a basic step in reducing pesticide risks.

## Choosing the Right Pesticide Product

Once you decide to use chemical pesticides, you must decide whether to do the job yourself or hire a professional pest control service. If you are interested in hiring professionals, see pages 36–38 for advice. If you choose to tackle the job yourself, the next question is the most important. Which pesticide product is the best one for your situation?

Home-use pesticides come in many forms—including solutions, aerosols, dusts, granules, baits, and wettable powders. As the name implies, wettable powders are usually mixed with water and/or other liquids and then applied. Pesticide solutions are often diluted with water. Certain formulations work better for some pests and/or some target areas than others. Many pesticides also come in ready-to-use forms, such as aerosols and spray bottles, which are often more practical and easy to use because they don't require measuring or mixing.

**Before you buy a product, read the label!** Compare product labels, and learn as much as you can about the pesticide. Contact your County Cooperative Extension Service (listed in the telephone book), local pesticide dealers, the National Pesticide Telecommunications Network (NPTN) at 1-800-858-7378, or your state pesticide agency for assistance. (See pages 45–48 in the Reference Section for state contacts.)



Read the label before you buy or use a pesticide product.

When you are ready to buy a pesticide product, follow these recommendations:

- ◆ First, be certain that you have identified the problem correctly. Then, choose the least toxic pesticide that will achieve the results you want **and** be the least toxic to you and the environment.
- ◆ When the words “broad-spectrum” appear on the label, this means the product is effective against a broad range of pests. If the label says “selective,” the product is effective against one or a few pests.
- ◆ Find the signal word—either *Danger-Poison*, *Danger*, *Warning*, or *Caution* on the pesticide label. The signal word tells you how poisonous the product is to humans. (See page 16.)

Pesticide products labeled *Danger-Poison* are “Restricted Use” and are mainly used under the supervision of a certified applicator. For the most part, these products **should not** be available for sale to the consumer.

- ◆ Choose the form of pesticide (aerosol, dust, bait, or other) best suited to your target site and the pest you want to control.



**Choose the form of pesticide best suited to your target site and the pest you want to control.**



**DANGER-POISON** means highly poisonous.

**DANGER** means poisonous or corrosive.

**WARNING** means moderately hazardous.

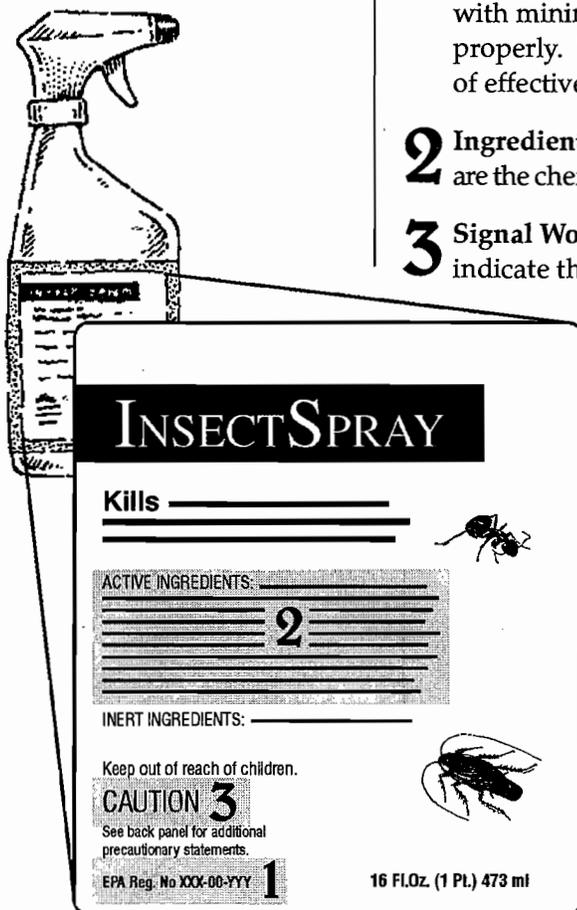
**CAUTION** means least hazardous.

## Reading the Pesticide Label

The pesticide label is your best guide to using pesticides safely and effectively. The directions on the label are there primarily to help you achieve “maximum” benefits—the pest control that you desire—with “minimum” risk. Both depend on following label directions and correctly using the pesticide. *Read the label.* Read the label *before buying* the pesticide. Read the label *before mixing or using* the pesticide *each time*, and read the label before storing or disposing of the pesticide. Do not trust your memory. You may have forgotten part of the label instructions or they may have changed. Use of any pesticide in any way that is not consistent with label directions and precautions is illegal. It may also be ineffective and, even worse, dangerous.

The main sections of a pesticide label are described below:

- 1 EPA Registration Number.** This number tells you that EPA has reviewed the product and determined that it can be used with minimal or low risk if you follow the directions on the label properly. The number is not a stamp of approval or guarantee of effectiveness.
- 2 Ingredients Statement or Active Ingredients.** Active ingredients are the chemicals in the pesticide that kill or control the target pest(s).
- 3 Signal Words.** The signal words—*Caution, Warning, or Danger*—indicate the pesticide’s potential for making you sick. The word *CAUTION* appears on pesticides that are the least harmful to you. A pesticide with the word *WARNING* is more poisonous than those with a *Caution* label. Pesticides with the word *DANGER* on the label are very poisonous or irritating. They should be used with extreme care because they can severely burn your skin and eyes.



Main sections on front label.

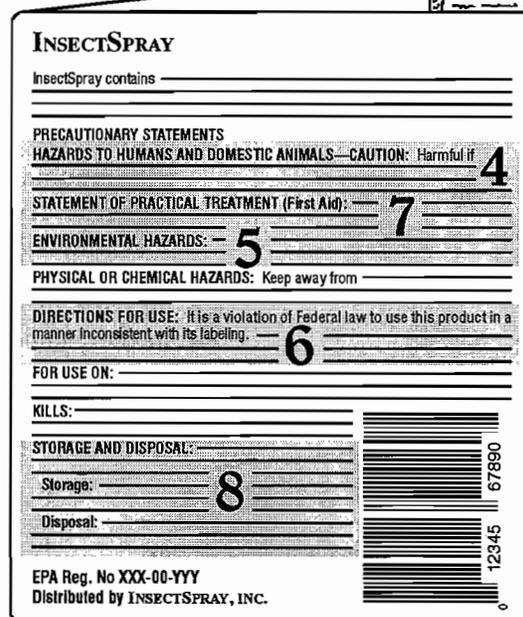
**4** **Precautionary Statements.** This part describes the protective clothing, such as gloves or goggles, that you should wear when using the pesticide. The section also tells you how to protect children or pets by keeping them away from areas treated with pesticides.

**5** **Environmental Hazards.** This section tells you if the product can cause environmental damage—if it's harmful to wildlife, fish, endangered plants or animals, wetlands, or water.

**6** **Directions for Use.** Make sure that the product is labeled for use against the pest(s) that you are trying to control. (For example, products labeled only for termites should not be used to control fleas.) Use only the amounts recommended, and follow the directions exactly.

**7** **First Aid Instructions.** The label tells you what to do if someone is accidentally poisoned by the pesticide. Look for this information in the *Statement of Practical Treatment* section. The instructions are only first aid. **ALWAYS** call a doctor or your local poison control center. You may have to take the person to a hospital right away after giving first aid. Remember to take the pesticide label or container with you.

**8** **Storage and Disposal.** Read carefully and follow all directions for safe storage and disposal of pesticide products. Always keep products in the original container and out of reach of children, in a locked cabinet or locked garden shed.



Main sections on back label.



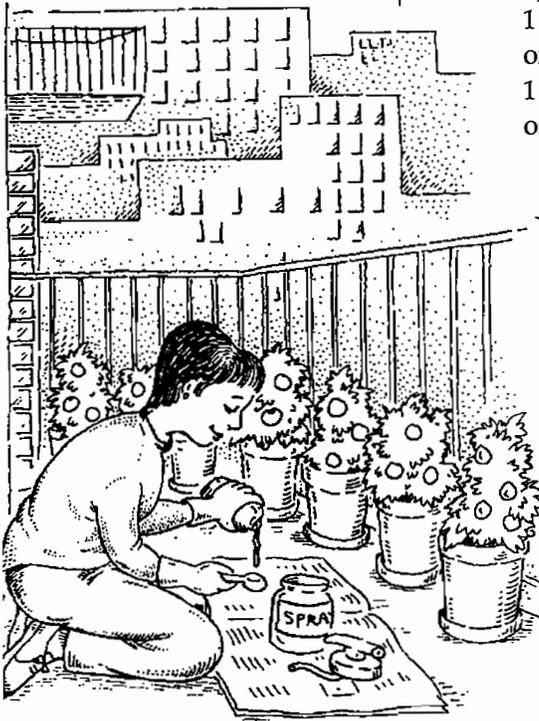
Some pesticides have small foldout booklets containing the label information.

## Determining the Correct Amount To Use

Many products can be bought in a convenient ready-to-use form, such as in spray cans or spray bottles, that won't require any mixing. However, if you buy a product that has to be measured out or mixed with water, prepare only the amount of pesticide that you need for the area where you plan to use the pesticide (target area). The label on a pesticide product contains much useful information, but there isn't always room to include examples of different dilutions for every home use. Thus, it is important to know how to measure volume and figure out the exact size of the area where you want to apply the pesticide. Determining the correct amount for your immediate use requires some careful calculations. Use the following example as an illustration of how to prepare only the amount of pesticide needed for your immediate pest control problem.

An example: The product label says, "For the control of aphids on tomatoes, mix 8 fluid ounces of pesticide into 1 gallon of water and spray until foliage is wet." You have only 6 tomato plants. From experience, you know that 1 gallon is too much, and that you really need only 1 quart of water to wet the leaves on these 6 plants. A quart is only  $\frac{1}{4}$  of a gallon. Because you want to use less water than the label says, you need less pesticide. You need only  $\frac{1}{4}$  of the pesticide amount listed on the label—only 2 fluid ounces. This makes the same strength spray recommended by the label, and is the appropriate amount for the 6 tomato plants.

In short, all you need to do is figure the amount of pesticide you need for the size of your target area, using good measurements and careful arithmetic. For help in making these calculations, see pages 39–41 in the Reference Section.



When using pesticides that must be mixed, determine the correct amount for your immediate use.

**Caution:** When you use cups, teaspoons, or tablespoons to measure pesticides, use only level measures or level spoonfuls. **NEVER** use the same tools that you use for measuring pesticides—spoons, cups, bottles—to prepare food, even if you've washed them.

## Using Pesticides Safely and Correctly

Once you have read the pesticide label and are familiar with all precautions, including first aid instructions, follow these recommendations to reduce your risks:

### Before Using a Pesticide

- ◆ Wear the items of protective clothing the label requires: for example, long-sleeved shirts, long pants, overalls, non-absorbent gloves (not leather or fabric), rubber footwear (not canvas or leather), a hat, goggles, or a dust-mist filter. If no specific clothing is listed, gloves, long-sleeved shirts and long pants, and closed shoes are recommended. You can buy protective clothing and equipment at hardware stores or building supply stores.

### When Mixing or Applying a Pesticide

- ◆ Never smoke or eat while mixing or applying pesticides. You could easily carry traces of the pesticide from your hands to your mouth. Also, some pesticide products are flammable.
- ◆ Follow the use directions on the label carefully. Use only for the purpose listed. Use only the amount directed, at the time and under the conditions specified. **Don't change the recommended amount.** Don't think that twice the amount will do twice the job. It won't. You could harm yourself, others, or whatever you are trying to protect.
- ◆ If the directions on the label tell you to mix or dilute the pesticide, do so outdoors or in a well-ventilated area. Use the amount listed on the label and measure the pesticide carefully. (Never use the same measuring cups or spoons that you use in the kitchen.) Mix only the amount that you need for each application. Do not prepare larger amounts to store for possible future use. (See "Determining the Correct Amount To Use" on page 18.)



#### When using a pesticide—

- ✓ Read and follow the label directions.
- ✓ Wear protective clothing.
- ✓ Don't smoke or eat.
- ✓ Mix and apply only the amount you need.





Mix pesticides outdoors or in a well-ventilated area.

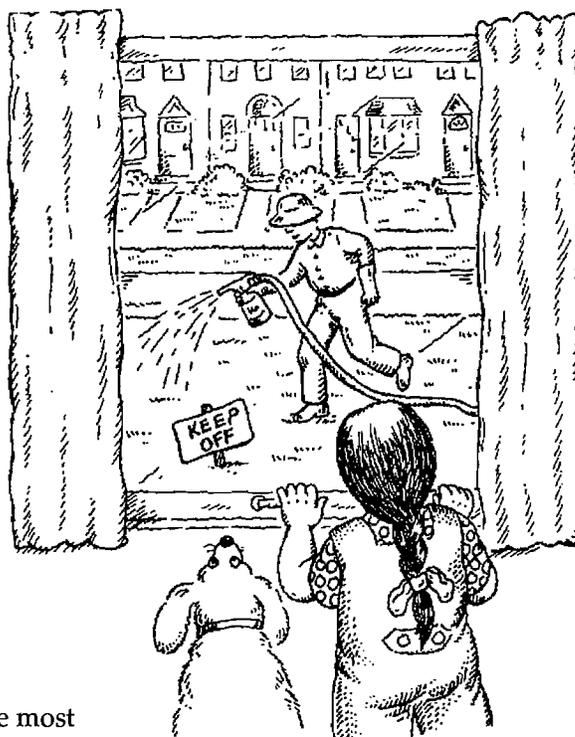
- ◆ Keep children, pets (including birds and fish), and toys (including pet toys) away from areas where you mix and apply pesticides for at least the length of time required on the label.
- ◆ **Never transfer pesticides to other containers**, such as empty soft drink or milk bottles. **Keep pesticides in their original containers**—ones that clearly identify the contents. Refasten all childproof caps tightly.
- ◆ If a spill occurs, clean it up promptly. Don't wash it away. Instead, sprinkle the spill with sawdust, vermiculite, or kitty litter. Sweep it into a plastic garbage bag, and dispose of it as directed on the pesticide product label.
- ◆ Indoors or outdoors, never put bait for insects or rats, mice, and other rodents where small children or pets can reach it. When using traps, make sure the animal inside is dead before you touch or open the trap.

### *Indoor Applications*

- ◆ Use pesticides indoors only when absolutely necessary, and use only very limited amounts.
- ◆ Provide adequate ventilation. If the label directions permit, leave all windows open and fans operating after the application is completed. If the pesticide product is only effective in an unventilated (sealed) room or house, do not stay there. Put all pets outdoors, and take yourself and your family away from treated areas for **at least** the length of time prescribed on the label.
- ◆ Apply most surface sprays only to limited areas such as cracks; don't treat entire floors, walls, or ceilings.
- ◆ Remove food, pots and pans, and dishes before treating kitchen cabinets. Don't let pesticides get on any surfaces that are used for food preparation. Wait until shelves dry before refilling them. Wash any surfaces that may have pesticide residues before placing food on them.

### *Outdoor Applications*

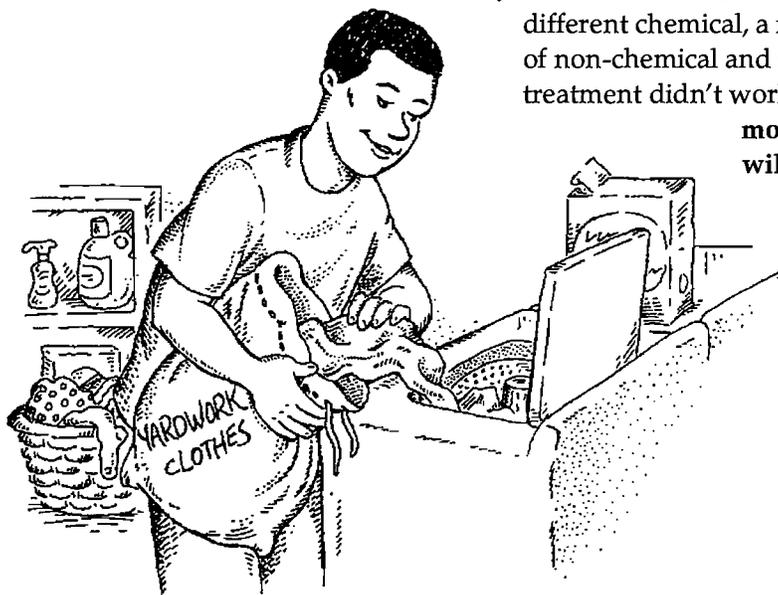
- ◆ Never apply pesticides outdoors on a windy day (winds higher than 10 mph). Position yourself so that a **light** breeze does not blow pesticide spray or dust into your face.
- ◆ Before spraying, close the doors and windows of your home.
- ◆ Use coarse droplet nozzles on your sprayer to reduce misting, and spray as close to the target as possible.
- ◆ Keep pesticides away from plants and wildlife you do not want to treat. Do not apply any pesticide to blooming plants, especially if you see honeybees or other pollinating insects around them. Do not spray bird nests when treating trees.
- ◆ Follow label directions carefully to ensure that you don't apply too much pesticide to your lawn, shrubs, or garden. Never water your lawn after applying pesticides. Before using a pesticide outdoors, check the label or contact your EPA Regional Office or County Cooperative Extension Service to find out whether the pesticide is known or suspected to run off or seep into ground water. Ground water is the underground reservoir that supplies water to wells, springs, creeks, and the like. Excessive application of pesticides could cause the pesticide to run off or seep into water supplies and contaminate them. Excess spray may also leave harmful residues on your home-grown fruit and vegetables, and could affect other plants, wildlife, and fish.
- ◆ Never mix or apply a pesticide near a wellhead.
- ◆ If you have a well, be sure it extends downward to water sources that are below, and isolated from, surface water sources. Be sure the well shaft is tightly sealed. For further information, see EPA's brochure *Pesticides in Drinking Water Wells*. (See page 42 for information on how to order a copy from EPA's Public Information Center.)
- ◆ When using total release foggers to control pests, the most important precautions you can take are to use no more than the amount needed and to keep foggers away from ignition sources (ovens, stoves, air conditioners, space heaters, and water heaters, for example). Foggers should not be used in small, enclosed places such as closets and cabinets or under tables and counters.



Keep children and pets away from areas where you apply pesticides.

## After Applying a Pesticide, Indoors or Outdoors

- ◆ To remove pesticide residues, use a bucket to **rinse** tools or equipment **three times**, including any containers or utensils that you used when mixing the pesticide. Then pour the rinsewater into the pesticide sprayer and reuse the solution by applying it according to the pesticide product label directions. (See pages 24–25 for safe disposal guidelines.)
- ◆ Always wash your hands after applying any pesticide. Wash any other parts of your body that may have come in contact with the pesticide. To prevent tracking pesticides inside, remove or rinse your boots or shoes before entering your home. Wash any clothes that have been exposed to a lot of pesticide separately from your regular wash.
- ◆ Evaluate the results of your pesticide use. Consider using a different chemical, a non-chemical method, or a combination of non-chemical and chemical methods if the chemical treatment didn't work. Again, **do not assume** that using **more pesticide than the label recommends will do a better job.** It won't.



Wash clothing worn when using pesticides separately from other laundry.

- ◆ Watch for negative effects on wildlife (birds, butterflies, and bees) in and near treated areas. If you see any unusual behavior, stop using that pesticide, and contact EPA's Pesticide Incident Response Officer (see page 35).

## Storing and Disposing of Pesticides Properly

Improper pesticide storage and disposal can be hazardous to human health and the environment. Follow these safety recommendations:

### Safe Storage of Pesticides

- ◆ Don't stockpile. Reduce storage needs by buying only the amount of pesticide that you will need in the near future or during the current season when the pest is active.
- ◆ Follow all storage instructions on the pesticide label.
- ◆ Store pesticides high enough so that they are out of reach of children and pets. Keep all pesticides in a locked cabinet in a well-ventilated utility area or garden shed.
- ◆ Store flammable liquids outside your living area and far away from an ignition source such as a furnace, a car, an outdoor grill, or a power lawn mower.
- ◆ Never store pesticides in cabinets with or near food, animal feed, or medical supplies.
- ◆ Always store pesticides in their original containers, complete with labels that list ingredients, directions for use, and first aid steps in case of accidental poisoning.
- ◆ *Never* transfer pesticides to soft drink bottles or other containers. Children or others may mistake them for something to eat or drink.
- ◆ Use child-resistant packaging correctly—close the container tightly after using the product. Child resistant does not mean child proof, so you still must be extra careful to store properly—out of children's reach—those products that are sold in child-resistant packaging.
- ◆ Do not store pesticides in places where flooding is possible or in places where they might spill or leak into wells, drains, ground water, or surface water.
- ◆ If you can't identify the contents of the container, or if you can't tell how old the contents are, follow the advice on safe disposal in the next section.

**Store pesticides in a locked cabinet out of reach of children and pets.**



***Never* transfer pesticides to soft drink bottles or other containers that children or others may mistake for something to eat or drink.**



## Safe Disposal of Pesticides

- ◆ The best way to dispose of small amounts of excess pesticides is to use them—apply them—according to the directions on the label. If you cannot use them, ask your neighbors whether they have a similar pest control problem and can use them.
- ◆ If all of the remaining pesticide cannot be properly used, check with your local solid waste management authority, environmental agency, or health department to find out whether your community has a household hazardous waste collection program or a similar program for getting rid of unwanted, leftover pesticides. These authorities can also inform you of any local requirements for pesticide waste disposal.
- ◆ **State and local laws regarding pesticide disposal may be stricter than the Federal requirements on the label.** Be sure to check with your state or local agencies before disposing of your pesticide containers.



**Do not pour leftover pesticides down the sink, into the toilet, or down a sewer or street drain.**

- ◆ If no community program or guidance exists, follow the label directions for disposal. In general, to dispose of less than a full container of a **liquid** pesticide, leave it in the original container with the cap tightly in place to prevent spills or leaks. Wrap the container in several layers of newspaper and tie it securely. Put the package in a covered trash can for routine collection with municipal trash. If you do not have a regular trash collection service, take the package to a permitted landfill (unless your town has other requirements).

**Note:** No more than 1 gallon of liquid pesticide at a time should be thrown out with the regular trash in this manner.

- ◆ Wrap individual packages of **dry** pesticides in several layers of newspaper (or place the pesticides in a tight carton or bag), and tape or tie the package closed. Put the package in a covered trash can for routine collection.

**Note:** No more than 5 pounds of dry pesticide at a time should be thrown out with the regular trash in this manner.

- ◆ Do **not** pour leftover pesticides down the sink, into the toilet, or down a sewer or street drain. Pesticides may interfere with the operation of wastewater treatment systems or pollute waterways. Many municipal systems are not equipped to remove all pesticide residues. If pesticides reach waterways, they may harm fish, plants, and other living things.
- ◆ An empty pesticide container can be as hazardous as a full one because of residues left inside. **Never reuse such a container.** When empty, a pesticide container should be rinsed carefully **three times** and the rinsewater thoroughly drained back into the sprayer or the container previously used to mix the pesticide. Use the rinsewater as a pesticide, following label directions. Replace the cap or closure securely. Dispose of the container according to label instructions. Do **not** puncture or burn a pressurized container like an aerosol—it could explode. Do not cut or puncture other empty pesticide containers made of metal or plastic to prevent someone from reusing them. Wrap the empty container and put it in the trash **after** you have rinsed it.
- ◆ Many communities have programs to recycle household waste such as empty bottles and cans. Do not recycle any pesticide containers, however, unless the label specifically states that the empty container may be recycled after cleaning.



Follow the label directions for disposal.

# Reducing Your Exposure When Others Use Pesticides



**E**VEN IF YOU NEVER USE PESTICIDES YOURSELF, you can still be exposed to them—at home, school, work, or play—by being in treated areas, as a consumer of commodities that others have treated with pesticides, or through food, water, and air that may have been contaminated with pesticides.

This section describes sources of exposure other than your own use of pesticides. It also suggests ways to reduce your overall exposure. If you know or suspect that you, or others close to you, are sensitive to chemicals, consult an expert who can help you develop a strategy for handling your potential exposure problems.

## Exposure Through Food

### Commercial Food

To ensure a safe food supply, EPA regulates the safety of food by setting safety standards to limit the amount of pesticide residues that legally may remain in or on food or animal feed that is sold in the United States. Both domestic and imported foods are monitored by the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) to ensure compliance with these safety standards.

Because most crops are treated with pesticides at least some of the time, foods you buy at the grocery store may contain small traces of pesticide residues. Pesticide levels tend to decline over time because the residues break down and because crops are usually washed and processed before reaching the marketplace. So, while we all consume small amounts of pesticides regularly, levels in our food generally are well below legal limits by the time the food reaches the grocery shelves.

Although EPA sets safety standards for the amount of pesticide residues allowed both in and on foods, you can take extra precautions to reduce the traces of pesticide residues you and your family consume in the food you buy. Follow these suggestions:

- ◆ Trim the fat from meat and poultry because residues of some pesticides concentrate in fat. Remove the skin from fish.
- ◆ Discard the fats and oils in broths and pan drippings.

- ◆ Rinse fruits and vegetables thoroughly with water. Scrub them with a brush and peel them, if possible. Taking these safety steps will remove most of the existing surface residues, along with any remaining dirt. Note that surface cleaning (rinsing and scrubbing) will not remove pesticide residues that are absorbed into the growing fruit or vegetable before harvest.
- ◆ Cook or bake foods to reduce residues of some pesticides even further.



### Home-Grown Food

Growing your own food can be an enjoyable activity. It is also a way to reduce your exposure to pesticide residues in food—especially if you decide not to use chemical pesticides on your produce and you choose a garden site where drift or runoff from a neighbor's use of pesticides will not result in unintended residues on your food. If your house is regularly treated for pest prevention, don't plant your garden where the treatments are applied.

Rinse fruits and vegetables with water. Scrub them with a brush and peel them, if possible.

### Food from the Wild

While it may seem that hunting your own game, catching your own fish, or gathering wild plant foods would reduce your overall exposure to pesticides, that isn't necessarily true. If you eat wild animals or plants from areas where pesticides are frequently used, this food may contain pesticide residues. In addition, birds such as ducks and geese may absorb pesticide residues if they have stopped to eat treated crops anywhere along their flight path.

If you eat food from the wild, you may want to take the following steps to reduce your exposure to pesticides:

- ◆ Do not fish in water bodies where contamination has occurred. Pay attention to posted signs that warn of contamination.
- ◆ Consult with fish and game officials or other appropriate officials where you plan to hunt or fish to determine whether there are any chemical problems associated with the area.
- ◆ Do not pick wild plants that are growing right next to a road, utility right-of-way, or hedgerow between farm fields. These areas may have been treated with pesticides.
- ◆ When preparing wild foods, trim fat from the meat. Discard the skin from fish.



Do not fish in water bodies where contamination has occurred.



EPA sets standards for chemicals that may be found in drinking water.

## Exposure Through Water

When pesticides are applied to land, a certain amount may run off into streams and rivers. This runoff, together with industrial waste, may result in low-level contamination of surface water. In certain settings—for example, when sandy soil lies over a ground-water source that is near the surface—pesticides can seep down through the soil to the ground water.

To ensure a safe supply of drinking water, EPA's Office of Water sets standards for pesticides and other chemicals that may be found in drinking water. Municipal water systems test their water periodically and provide treatment or alternate supply sources if residue problems occur. Generally, private wells are not tested unless the well owner requests an analysis. If you get your drinking water from a private well—

- ◆ Contact your state or local health department if you have any questions about pesticide or other chemical residues in your well water.
- ◆ If your well water is analyzed and found to contain pesticide residue levels above established or recommended health standards, use an alternate water source such as bottled water for drinking and cooking. The safest choice is distilled spring water in glass bottles. If you buy water from a local bottler, ask for the results of any recent pesticide analysis of the bottled water.

## Exposure Through Air

### Outdoors

Air currents may carry pesticides that were applied on properties nearby. You can reduce your exposure outdoors to airborne pesticide residues, or drift, by following these recommendations:

- ◆ If a close neighbor or someone else is applying pesticides outdoors near your home, you may want to stay indoors with your children and pets. Keep windows and exterior doors closed.
- ◆ If you live near fields, parks, or other areas that receive regular pesticide treatment, consider planting a group of hardy, thick-branched trees or shrubs to help serve as a buffer zone and windbreak.

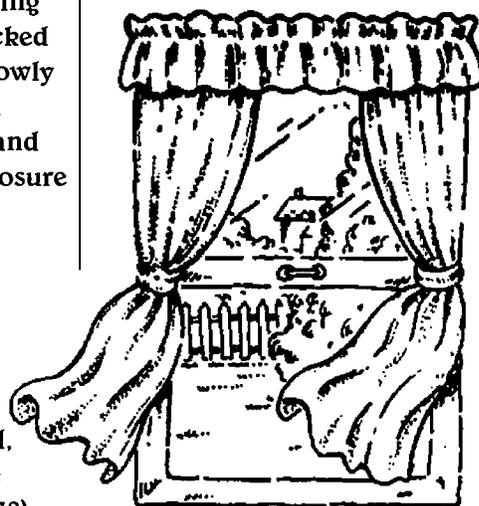
- ◆ Careless application can lead to drift or direct spraying of non-target sites. If your property is accidentally sprayed during an aerial pesticide application, you should call your local, state, or regional pesticide office. (See pages 44–48 in the Reference Section for phone numbers.) If you or someone in your family is accidentally sprayed, wash pesticide off immediately and change into clean clothes. Then call your local poison control center.

Some local governments require public notice before area-wide or broad-scale pesticide spraying activities take place. Affected residents are notified through newspaper announcements, fliers, letters, or signs posted in areas to be treated. Some communities have also enacted “right-to-know” ordinances that require public notice (usually through posting) of lawn treatments and other small-scale outdoor pesticide uses.

### Indoors

The air you breathe may contain low levels of pesticide residues long after a pesticide has been applied to objects inside a building or to indoor surfaces and crawl spaces, or after it has been tracked in from outside. Pesticides break down and disappear more slowly indoors than outdoors. In addition, many homes have built-in energy efficiency features that reduce the exchange of indoor and outdoor air and thus aggravate the problem. To limit your exposure to indoor pesticide residues—

- ◆ Air out the building adequately after a pesticide is applied indoors. Open doors and windows, and run overhead, whole-house, or window fans to exchange indoor air for outdoor air rapidly and completely.
- ◆ If you suspect that the air in your building is contaminated, consult knowledgeable professionals in your local or state health department or EPA’s pesticide hotline (1-800-858-7378), 6:30 a.m.– 4:30 p.m. Pacific time (9:30 a.m.–7:30 p.m. Eastern time) Monday–Friday, for advice on the appropriate steps to take.



Air out the building adequately after a pesticide is applied indoors.

# Poisoned by Pesticides: Don't Let This Happen to Your Child!

A 5-year-old boy drinks from a bottle of bleach that he found under the bathroom sink.

A 3-year-old girl tries to spray her hair the way mommy does, but sprays an aerosol disinfectant in her eyes instead.

A baby who has just begun to crawl eats green pebbles from behind the sofa. They look like candy, but are really rat poison.

## Where do you store your pesticides?

A 1992 nationwide study conducted by EPA revealed that almost half (approximately 47 percent) of surveyed households with children under the age of 5 had at least one pesticide stored within their reach.

These accidents could happen to your children or to children visiting your home if you don't store pesticides out of their reach or if you don't read the label carefully before using the pesticide product.

The dangers are real. In 1993 alone, an estimated 80,000 children were exposed to or poisoned by a household pesticide product that was used or stored incorrectly.

Whether or not you have young children in your home, take the following precautions to protect all children from unintentional pesticide poisonings or exposures:

- ◆ Always store pesticides out of children's reach, in locked cabinet or garden shed. Installing child-proof safety latches or padlocks on cupboards and cabinets is a good idea. Safety latches are available at your local hardware store or building supply warehouse.
- ◆ Before applying pesticides—indoors or outdoors—remove children and their toys, along with any pets and their toys, from the area. Keep them away from the area that has been treated until the pesticide has dried and for at least the length of time recommended on the pesticide label.
- ◆ If you are interrupted while applying a pesticide—by a phone call, for example—be sure to close the pesticide container properly and put it out of reach of any child who may come into the area while you are gone.

- ◆ Never remove labels from containers, and never transfer pesticides to other containers. Children may mistake them for food or drink.
- ◆ Never put rodent or insect baits where small children can find them, pick them up, and put them in their mouths.
- ◆ Make sure you close any container marked "child resistant" very tightly after you use the product. Check periodically to make sure the product is securely closed. Child resistant does not mean child proof, so you should still be careful with products that are sold in child-resistant packaging.
- ◆ Make sure others—especially babysitters, grandparents, and other caregivers—know about the potential hazards of pesticides.
- ◆ Teach children that "pesticides are poisons"—something they should never touch or eat.
- ◆ Keep the telephone number of your nearest poison control center near each phone. Have the pesticide container handy when you call.
- ◆ Always keep Syrup of Ipecac on hand (in your medicine cabinet) to use to induce vomiting. (Be sure the date is current.) But do not give it to your child until a physician or poison control center advises you to do so. The pesticide label may not recommend using Syrup of Ipecac.



Store pesticides out of children's reach.

# Handling a Pesticide Emergency

## “Help! Someone’s Been Poisoned!” What To Do in a Pesticide Emergency



If the person is unconscious, having trouble breathing, or having convulsions . . .  
***ACT FAST! Speed is crucial.***



Give needed first aid immediately.



Call 911 or your local emergency service. If possible, have someone else call for emergency help while you give first aid.



If the person is awake or conscious, not having trouble breathing, and not having convulsions . . .



Read the label for first aid instructions.



Call a doctor, a poison control center, a local emergency service (911), or the National Pesticide Telecommunications Network (toll free at 1-800-858-7378).



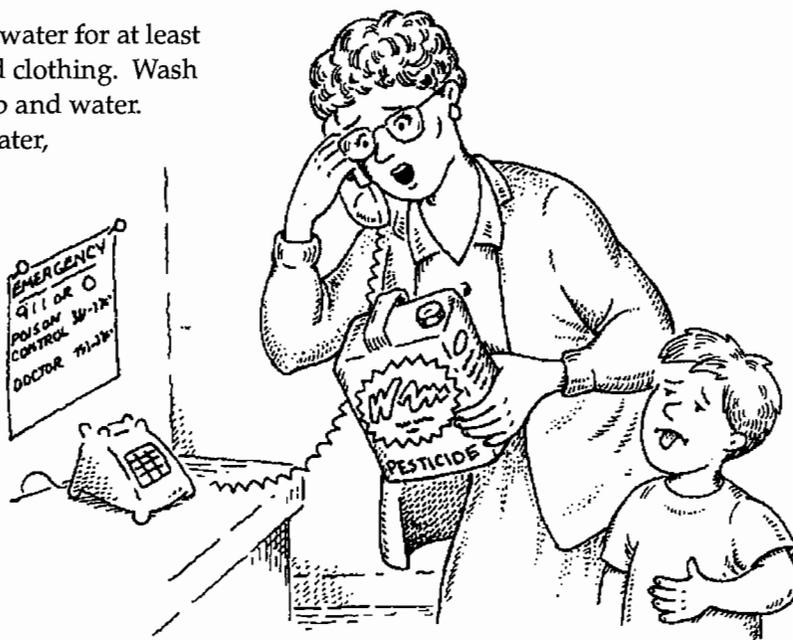
Give first aid.

## First Aid for Pesticide Poisoning

When you realize a pesticide poisoning has occurred or is occurring, try to determine what the victim was exposed to and what part of the body was affected before you take action—taking **the right action** is as important as taking **immediate action**. If the person is unconscious, having trouble breathing, or having convulsions, **ACT FAST!** Speed is crucial. Give needed first aid immediately. Call 911 or your local emergency service. If possible, have someone else call for emergency help while you give first aid. If the person is awake or conscious, not having trouble breathing, and not having convulsions, read the label for first aid instructions. Call a doctor, a poison control center, a local emergency service (911), or the National Pesticide Telecommunications Network (toll free at 1-800-858-7378). Give first aid.

Read the *Statement of Practical Treatment* section on the product label. The appropriate first aid treatment depends on the kind of poisoning that has occurred. Follow these general guidelines:

- ◆ **Swallowed poison.** A conscious victim should drink a small amount of water to dilute the pesticide. Always keep Syrup of Ipecac on hand (in your medicine cabinet) to use to induce vomiting. Be sure the date on the bottle is current. Induce vomiting **only** if a poison control center or physician advises you to do so, or if instructions on the pesticide label say so. If there is no label available to guide you, do **not** induce vomiting. Never induce vomiting if the victim is unconscious or is having convulsions.
- ◆ **Poison on skin.** Drench skin with water for at least 15 minutes. Remove contaminated clothing. Wash skin and hair thoroughly with soap and water. Dry victim and wrap in blanket. Later, discard contaminated clothing or thoroughly wash it separately from other laundry.
- ◆ **Chemical burn on skin.** Drench skin with water for at least 15 minutes. Remove contaminated clothing. Cover burned area immediately with loose, clean, soft cloth. Do not apply ointments, greases, powders, or other drugs. Later, discard contaminated clothing or thoroughly wash it separately from other laundry.



If a poisoning has occurred, call for help, and be ready to read information from the pesticide label.

- ◆ **Poison in eye.** Hold eyelid open and wash eye quickly and gently with clean cool running water from the tap or a hose for 15 minutes or more. Use only water; do not use eye drops, chemicals, or drugs in the eye. Eye membranes absorb pesticides faster than any other external part of the body, and eye damage can occur in a few minutes with some types of pesticides.
- ◆ **Inhaled poison.** If the victim is outside, move or carry the victim away from the area where pesticides were recently applied. If the victim is inside, carry or move the victim to fresh air immediately. If you think you need protection like a respirator before helping the victim, call the Fire Department and wait for emergency equipment before entering the area. Loosen the victim's tight clothing. If the victim's skin is blue or the victim has stopped breathing, give artificial respiration (if you know how) and call 911 for help. Open doors and windows so no one else will be poisoned by fumes.

### What To Do After First Aid

- ◆ First aid may precede but should not replace professional medical treatment. After giving first aid, call 911 or your local emergency service immediately. Have the pesticide label at hand when you call.
- ◆ Take the pesticide product container **with its label** to the doctor's office or emergency room where the victim will be treated. Carry the container in your trunk or flatbed away from the passengers in your vehicle. The doctor needs to know what active ingredient is in the pesticide before prescribing treatment. This information is on the label, which sometimes also includes a telephone number to call for additional treatment information.

**National Pesticide  
Telecommunications Network  
(NPTN)**

**Call Toll Free 1-800-858-7378**



Another good resource in a pesticide emergency is NPTN, the National Pesticide Telecommunications Network, a toll-free telephone service that operates Monday through Friday, from 6:30 a.m.– 4:30 p.m. Pacific time (9:30 a.m.– 7:30 p.m. Eastern time). NPTN provides information on pesticides and how to recognize and respond to pesticide poisonings. If necessary, staff at NPTN can transfer your call directly to a local poison control center. Call NPTN toll free at 1-800-858-7378.

NPTN staff answer questions about animal poisonings, too. To keep your pets from being poisoned, follow label directions on flea and tick products carefully. If you are concerned about the chemicals used in these products, consult your veterinarian.

## How To Recognize Pesticide Poisoning

**External irritants** that contact skin may cause skin damage such as redness, itching, or pimples. External irritants may also cause an allergic skin reaction that produces redness, swelling, or blistering. The mucous membranes of the eyes, nose, mouth, and throat are also quite sensitive to chemicals. Pesticide exposure may cause stinging and swelling in these membranes.

**Internal injuries** also may occur if a pesticide is swallowed, inhaled, or absorbed through the skin. Symptoms vary from organ to organ. Lung injury may result in shortness of breath, drooling (heavy salivation), or rapid breathing. Direct injury to the stomach and intestines may produce nausea, vomiting, abdominal cramps, or diarrhea. Injury to the nervous system may cause excessive fatigue, sleepiness, headache, muscle twitching, and numbness. In general, different types of pesticides produce different sets of symptoms.

If someone develops symptoms after working with pesticides, seek medical help immediately to determine if the symptoms are pesticide related. In certain cases, blood or urine should be collected for analysis, or other specific exposure tests can be made. **It is better to be too cautious than too late.**

Avoid potential health problems by minimizing your exposure to pesticides. Follow all the safety recommendations on pages 19–25.

**EPA wants to know about any adverse effects associated with pesticide exposure. If you have such information, contact—**

Pesticide Incident Response Officer  
Office of Pesticide Programs (7506C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

# Choosing a Pest Control Company



**IF YOU HAVE** a pest control problem that you do not want to handle on your own, you may decide to turn to a professional applicator. How can you be sure that the pest control company you hire will do a good job? Before you choose a company, get answers to these questions:

## **1** Is the company licensed?

Most state or local agencies issue state pest control licenses. Make sure the pest control operator's licence is **current** if one is required in your state. Also, ask if the company's **employees are bonded**, meaning that the company reimburses you for any loss or damage caused by the employee.

You may want to contact your state pesticide agency to find out about its pesticide certification and training programs and to ask whether periodic recertification is required for pest control operators. (See pages 45–48 for addresses and phone numbers.)

In addition, possession of a city license—where they are issued—is one more assurance that the company you are dealing with is reputable and responsible.

## **2** Is the company willing and able to discuss the treatment proposed for your home?

Selecting a pest control service is just as important as selecting other professional services. Look for the same high degree of competence you would expect from a doctor or lawyer. Any company, including those advertising themselves as “green,” should inspect your premises and outline a recommended control program, including the—

- ◆ Pests to be controlled.
- ◆ Extent of the problem.
- ◆ Active ingredient(s) in the pesticide chosen.
- ◆ Potential adverse health effects and typical symptoms of poisoning associated with the active ingredient.
- ◆ Form of the pesticide and application techniques.
- ◆ Non-chemical alternatives available.

- ◆ Special instructions to reduce your exposure to the pesticide (such as vacating the house, emptying the cupboards, and removing pets).
- ◆ Steps to take to minimize your pest problems in the future.

### 3 Does the company have a good track record?

Don't rely on the company salesperson to answer this question. Research the answer yourself. Ask neighbors and friends if they have ever dealt with the company. Were they satisfied with the service they received? Call the Better Business Bureau or local consumer office and find out if they have received complaints about the company.

### 4 Does the company have appropriate insurance? Can the salesperson show proof on paper that the company is insured?

Most contractors carry general liability insurance, including insurance for sudden and accidental pollution. Their insurance gives you a certain degree of protection should an accident occur while pesticides are being applied in your home. Contractors may also carry workmen's compensation insurance, which can help protect you should one of their employees be injured while working in or around your apartment or house. Although most states do not require pest control companies to buy insurance, you should **think twice** before hiring a company that is not insured.

### 5 Does the company guarantee its work?

You should be skeptical about a company that does not guarantee its work. In addition, be sure to find out what you must do to keep your part of the bargain. For example, in the case of termite control treatments, the company's guarantee may become invalid if you make structural alterations to your home without giving prior notice to the pest control company.

### 6 Is the company affiliated with a professional pest control association?

Professional associations—national, state, or local—keep members informed of new developments in pest control methods, safety, training, research, and regulations. Members agree to honor a code of ethics. The fact that a company, small or large, chooses to join a professional association signals its concern for quality.



Ask questions before choosing a pesticide company.

You and the company of your choice should develop the contract together. Your safety concerns should be noted and reflected in the choice of pesticides to be used. These concerns may include allergies, sensitivities, age of occupants (infants or elderly), resident pets, and treatment near wildlife and fish. Wise consumers get bids from two or three companies and look at value more than price. What appears to be a bargain may warrant a second look.

If you hire a pest control firm to do the job, ask the company to use the least toxic chemical method available that will do the job. Ask to see the label or Material Safety Data Sheet, which will show precautionary warnings.

Hiring a company to take care of your pest problem does not mean your job is over. You must evaluate the results. If you believe something has gone wrong with the pesticide application, contact the company and/or your state pesticide agency. Be a responsible, wise consumer and keep asking questions until your pests are under control.

# Reference Section

## Calculating the Correct Amount of Pesticide To Use for Your Target Area

To determine the size of your target area outdoors (usually a square or rectangular part of your lawn or garden), measure each side and multiply the length times the width. For example, if you want to apply a pesticide in an area that is 15 feet long and 15 feet wide, multiply  $15 \times 15$  to get a total of 225 square feet.

When you read the label for pesticides commonly applied outdoors, you will see measurements in square feet or in square yards. A section of lawn that is 1 yard long  $\times$  1 yard wide has an area of 1 square yard. Because 1 yard = 3 feet, another way to calculate the same area is this: 3 feet long  $\times$  3 feet wide = 9 square feet = 1 square yard.

To know the size of your target area indoors, you may need to determine the volume of a room. You must calculate the volume of a room, for instance, before using a bug bomb (aerosol release) to control cockroaches or fleas. In a case like this, measure and multiply the room's length times width times height. For example, if the kitchen in your apartment is 6 feet long, 5 feet wide, and 8 feet high, its volume is 240 cubic feet ( $6 \times 5 = 30 \times 8 = 240$ ).

Tables 1 to 3 (on pages 40–41) give examples for changing measurements you find on the pesticide label to match your specific target area and pest problem.



**For most pesticide uses in and around the home, you need to know some common ways to measure volume and some common abbreviations:**

1 gallon (gal.)	= 16 cups
	= 8 pints (pt.)
	= 4 quarts (qt.)
	= 128 fluid ounces (fl. oz.)
1 quart (qt.)	= 4 cups
	= 2 pt.
	= 32 fl. oz.
1 pint (pt.)	= 2 cups
	= 16 fl. oz.
1 cup	= 8 fl. oz.
1 tablespoon	= 3 teaspoons
	= ½ fl. oz.
1 teaspoon	= ⅓ fl. oz.
1 sq. yard	= 9 square feet = 3 ft. long $\times$ 3 ft. wide



Not all amounts are included in the tables. For amounts not included, use the following notes as a guide:

- ◆ To figure the amount of a ready-to-use pesticide (**not** to be diluted with water), you must change the quantity of pesticide in the same way that you change the area/volume/number of items treated to keep the correct proportion.

For example—

$$\begin{array}{l} \frac{1}{2} \text{ lb. of pesticide} \\ \text{per 1,000 sq.ft.} \end{array} = \begin{array}{l} \frac{1}{4} \text{ lb. of pesticide} \\ \text{per 500 sq.ft.} \end{array}$$

- ◆ To figure the amount of a pesticide that **is to be** diluted with water, you must change the quantity of pesticide and the quantity of water in the same way that you change the area/volume/number of items treated to keep the correct proportion.

For example—

$$\begin{array}{l} 1 \text{ lb. of pesticide} \\ \text{in 2 gals. of water} \\ \text{per 2,000 sq.ft.} \end{array} = \begin{array}{l} \frac{1}{2} \text{ lb. of pesticide} \\ \text{in 1 gal. of water} \\ \text{per 1,000 sq.ft.} \end{array}$$

**TABLE I — Diluting Pesticides with Water**

**Unit** stands for any measure of pesticide quantity. Read across.

Pesticide Label Says:

Mix "x" Units of

Pesticide . . .

*You mix . . .*

8 units per 1 gal water	2 units per 1 qt water or	1 unit per 1 pt water
16 units per 1 gal water	4 units per 1 qt water or	2 units per 1 pt water
32 units per 1 gal water	8 units per 1 qt water or	4 units per 1 pt water
128 units per 1 gal water	32 units per 1 qt water or	16 units per 1 pt water

**TABLE 2 — Measuring Pesticides for a Surface Application**

Unit stands for any measure of pesticide quantity. Read across.

Pesticide Label Says:

Apply "x" Units of

Pesticide . . .

		Your surface measures . . .		
		20,000 sq.ft.	10,000 sq.ft.	500 sq.ft.
1 unit per 1,000 sq.ft.	<b>Apply:</b>	20 units	10 units	½ unit
2 units per 1,000 sq.ft.		40 units	20 units	1 unit
5 units per 1,000 sq.ft.		100 units	50 units	2½ units
10 units per 1,000 sq.ft.		200 units	100 units	5 units

**TABLE 3 — Buying Pesticides for a Room Application**

Read across.

Pesticide Label Says:

Release One Aerosol

Can . . .

		Your room measures . . .		
		20,000 cu.ft.	10,000 cu.ft.	5,000 cu.ft.
1 per 10,000 cu.ft.	<b>Use:</b>	2 cans	1 can	don't use
1 per 5,000 cu.ft.		4 cans	2 cans	1 can
1 per 2,500 cu.ft.		8 cans	4 cans	2 cans



You may need to measure quantities of pesticides that are too small to be measured accurately with common measuring tools available at home. In this case, you should—

- ✓ Search for another pesticide product or a less concentrated form of the same pesticide.
- ✓ Find a more accurate measuring device, such as a graduated cylinder or a scale that measures small weights.



## For More Information

**For additional copies of this booklet, or for more information on subjects discussed in this booklet, contact—**

EPA's Public Information Center (PIC), 401 M Street, SW, Washington, DC 20460 (Telephone: 202-260-2080); or the National Center for Environmental Publications and Information (NCEPI), P.O. Box 42419, Cincinnati, OH 45242-2419 (Telephone: 513-489-8190 or Fax: 513-489-8695).

PIC and NCEPI have the following free information available:

- ◆ *Healthy Lawn, Healthy Environment* (EPA 700-K-92-005).
- ◆ *Pesticides in Drinking Water Wells* (EPA 20T-1004).
- ◆ *Pest Control in the School Environment: Adopting Integrated Pest Management* (EPA 735-F-93-012).
- ◆ *Pesticides and Child Safety* fact sheet (English and Spanish) (EPA 735-F-93-050 and EPA 735-F-93-051).
- ◆ *Using Insect Repellents Safely* fact sheet (English and Spanish).
- ◆ *Safety Precautions for Total Release Foggers* fact sheet.
- ◆ NCEPI also has EPA's *National Publications Catalog 1995* (EPA 703-B-95-001) and the *Catalog of Office of Pesticide Programs (OPP) Publications and Other Information Media* (EPA 730-B-94-001).

**Other sources for information about pesticides and pest control include—**

- ◆ The National Pesticide Telecommunications Network (NPTN)—1-800-858-7378 (general public), 6:30 a.m.–4:30 p.m. Pacific time (9:30 a.m.–7:30 p.m. Eastern time) Monday–Friday. NPTN provides the following information:
  - ◆ Pesticide information.
  - ◆ Information on recognizing and managing pesticide poisonings.
  - ◆ Safety information.
  - ◆ Health and environmental effects.
  - ◆ Referrals for investigation of pesticide incidents and emergency treatment information.
  - ◆ Cleanup and disposal procedures, and much more.

- ◆ County Cooperative Extension Service offices are usually listed in the telephone directory under county or state government; these offices often have a range of resources on lawn care and landscape maintenance, including plant selection, pest control, and soil testing.
- ◆ State agriculture and environmental agencies may publish information on pests, pest management strategies, and state pesticide regulations. (See state contacts on pages 45–48.)
- ◆ Libraries, bookstores, and garden centers usually have a wide selection of books that identify various pests and discuss lawn care. Garden centers may also have telephone hotlines or experts available on the premises to answer gardening questions.
- ◆ The California Department of Pesticide Regulation's Environmental Monitoring and Pest Management Branch publishes a booklet on mail order sources of biological control organisms. Single free copies of *Suppliers of Beneficial Organisms in North America* are available by writing the Department at 1020 N Street, Room 161, Sacramento, CA 95814-5624. Telephone: 916-324-4100.
- ◆ Bio-Integral Resource Center (BIRC), a non-profit organization formed in 1978 through an EPA grant, has information on least toxic methods for pest management. Write to P.O. Box 7414, Berkeley, CA 94707.



# EPA Addresses

## Headquarters

**U.S. Environmental Protection Agency**  
Office of Pesticide Programs (7506C)  
401 M Street, SW  
Washington, DC 20460  
Telephone: (703) 305-5017  
Fax: (703) 305-5558

## EPA Regional Offices

**U.S. EPA, Region 1**  
Air, Pesticides and Toxic Management  
Division  
State Assistance Office (ASO)  
1 Congress Street  
Boston, MA 02203  
Telephone: (617) 565-3932  
Fax: (617) 565-4939

**U.S. EPA, Region 2**  
Building 10 (MS-105)  
Pesticides and Toxics Branch  
2890 Woodbridge Avenue  
Edison, NJ 08837-3679  
Telephone: (908) 321-6765  
Fax: (908) 321-6788

**U.S. EPA, Region 3**  
Toxics and Pesticides Branch (3AT-30)  
841 Chestnut Building  
Philadelphia, PA 19107  
Telephone: (215) 597-8598  
Fax: (215) 597-3156

**U.S. EPA, Region 4**  
Pesticides and Toxics Branch  
(4-APT-MD)  
345 Courtland Street, NE  
Atlanta, GA 30365  
Telephone: (404) 347-5201  
Fax: (404) 347-5056

**U.S. EPA, Region 5**  
Pesticides and Toxics Branch (SP-14J)  
77 West Jackson Boulevard  
Chicago, IL 60604  
Telephone: (312) 886-6006  
Fax: (312) 353-4342

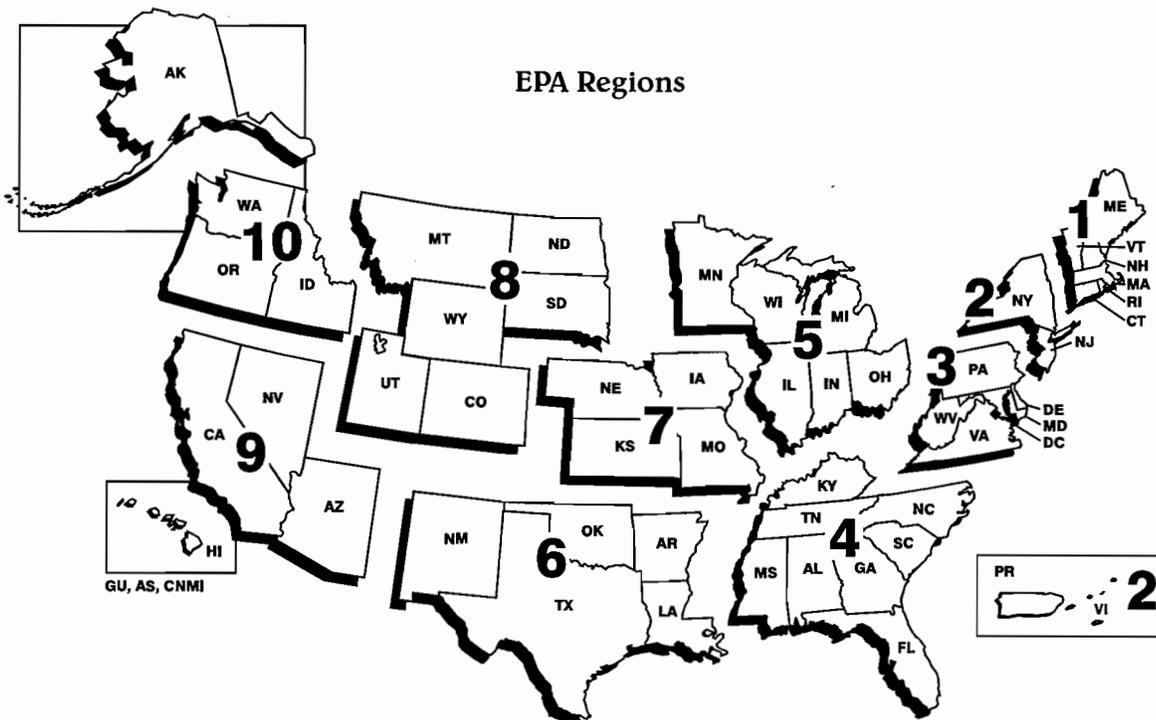
**U.S. EPA, Region 6**  
Pesticides and Toxics Branch (6PD-P)  
1445 Ross Avenue  
Dallas, TX 75202-2733  
Telephone: (214) 665-7240  
Fax: (214) 665-7263

**U.S. EPA, Region 7**  
Water, Wetlands and Pesticides Division  
726 Minnesota Avenue  
Kansas City, KS 66101  
Telephone: (913) 551-7030  
Fax: (913) 551-7065

**U.S. EPA, Region 8**  
Air, Radiation and Toxics Division  
(8ART)  
One Denver Place, Suite 500  
999 18th Street  
Denver, CO 80202-2405  
Telephone: (303) 293-1730  
Fax: (303) 293-1229

**U.S. EPA, Region 9**  
Pesticides and Toxics Branch (A-4)  
75 Hawthorne Street  
San Francisco, CA 94105  
Telephone: (415) 744-1090  
Fax: (415) 744-1073

**U.S. EPA, Region 10**  
Pesticides and Toxics Branch (AT-083)  
1200 Sixth Avenue  
Seattle, WA 98101  
Telephone: (206) 553-1091  
Fax: (206) 553-8338



# Addresses for State Pesticide Agencies

## Region 1

**Connecticut**  
 Director  
 Pesticide Management Division  
 Department of Environmental  
 Protection  
 79 Elm Street  
 Hartford, CT 06106  
 (203) 424-3369

**Maine**  
 Director  
 Board of Pesticide Control  
 Maine Department of Agriculture  
 State House Station #28  
 Augusta, ME 04333  
 (207) 287-2731

**Massachusetts**  
 Chief  
 Pesticides Bureau  
 Massachusetts Department of Food  
 and Agriculture  
 100 Cambridge Street, 21st Floor  
 Boston, MA 02202  
 (617) 727-3000

**New Hampshire**  
 Director  
 Division of Pesticide Control  
 New Hampshire Department of  
 Agriculture, Markets and Food  
 P.O. Box 2042  
 Concord, NH 03302-2042  
 (603) 271-3550

**Rhode Island**  
 Chief  
 Division of Agriculture  
 Rhode Island Department of  
 Environmental Management  
 22 Hayes Street  
 Providence, RI 02908  
 (401) 277-2782

**Vermont**  
 Director  
 Plant Industry, Laboratory and  
 Standards Division  
 Vermont Department  
 of Agriculture  
 116 State Street  
 Montpelier, VT 05602  
 (802) 828-2431

## Region 2

**New Jersey**  
 Assistant Director  
 Pesticide Control Program  
 New Jersey Department of  
 Environmental Protection  
 CN 411  
 Trenton, NJ 08625-0411  
 (609) 530-4011

**New York**  
 Chief  
 Bureau of Pesticides and Radiation  
 Division of Solid and Hazardous  
 Materials Regulation  
 New York Department of  
 Environmental Conservation  
 50 Wolf Road  
 Albany, NY 12233-7254  
 (518) 457-7482

**Puerto Rico**  
 Director  
 Analysis and Registration of  
 Agricultural Materials  
 Puerto Rico Department of Agriculture  
 Agrological Laboratory  
 P.O. Box 10163  
 Santurce, PR 00908  
 (809) 796-1735

**Virgin Islands**  
 Pesticide Program Director  
 8000 Nisky Center, Suite 231  
 Estate Nisky, Charlotte Amalie  
 St. Thomas, US VI 00802  
 (809) 774-3320, ext. 135

## Region 3

**Delaware**  
 Deputy Secretary  
 Delaware Department of Agriculture  
 Division of Consumer Protection  
 2320 South DuPont Highway  
 Dover, DE 19901  
 (302) 739-4811

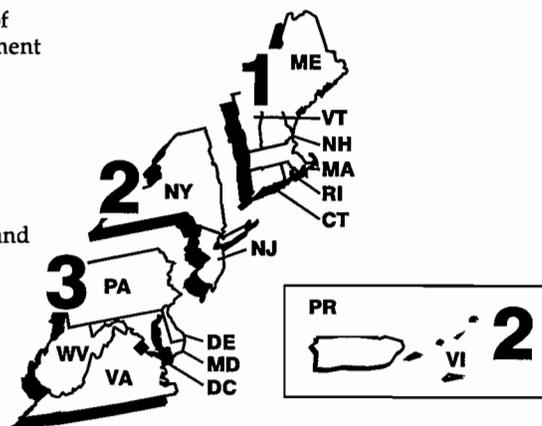
**District of Columbia**  
 Program Manager  
 Pesticide Hazardous Waste and  
 Underground Storage Tank Division  
 Environmental Regulation  
 Administration  
 Department of Consumer and  
 Regulatory Affairs  
 2100 Martin Luther King, Jr.  
 Avenue, SE, Room 203  
 Washington, DC 20020  
 (202) 645-6080

**Maryland**  
 Chief  
 Pesticide Regulation Section  
 Office of Plant Industries and  
 Pest Management  
 Maryland Department of Agriculture  
 50 Harry S. Truman Parkway  
 Annapolis, MD 21401-7080  
 (410) 841-5710

**Pennsylvania**  
 Chief  
 Agronomic Services Division  
 Bureau of Plant Industry  
 Pennsylvania Department of  
 Agriculture  
 2301 North Cameron Street  
 Harrisburg, PA 17110-9408  
 (717) 787-4843

**Virginia**  
 Program Manager  
 Office of Pesticide Services  
 Virginia Department of Agriculture  
 and Consumer Service  
 P.O. Box 1163  
 Richmond, VA 23209  
 (804) 371-6558

**West Virginia**  
 Director  
 Pesticide Division  
 West Virginia Department of  
 Agriculture  
 1900 Kanawha Boulevard, East  
 Charleston, WV 25305-0190  
 (304) 558-2209



## State Pesticide Agencies (cont'd)

### Region 4

#### Alabama

Director  
Division of Plant Protection and  
Pesticide Management  
Alabama Department of  
Agriculture and Industries  
P.O. Box 3336  
Montgomery, AL 36109-0336  
(334) 242-2656

#### Florida

Director  
Division of Agricultural  
Environmental Services  
Department of Agriculture  
and Consumer Services  
3125 Conner Boulevard  
Tallahassee, FL 32399-1650  
(904) 488-3731

#### Georgia

Assistant Commissioner  
Plant Industry Division  
Georgia Department of Agriculture  
19 Martin Luther King Drive, SW  
Atlanta, GA 30334  
(404) 656-4958

#### Kentucky

Director  
Division of Pesticides  
Kentucky Department  
of Agriculture  
100 Fair Oaks Lane  
Frankfort, KY 40601  
(502) 564-7274

#### Mississippi

Director  
Bureau of Plant Industry  
Mississippi Department of  
Agriculture and Commerce  
P.O. Box 5207  
Mississippi State, MS 39762  
(601) 325-3390

#### North Carolina

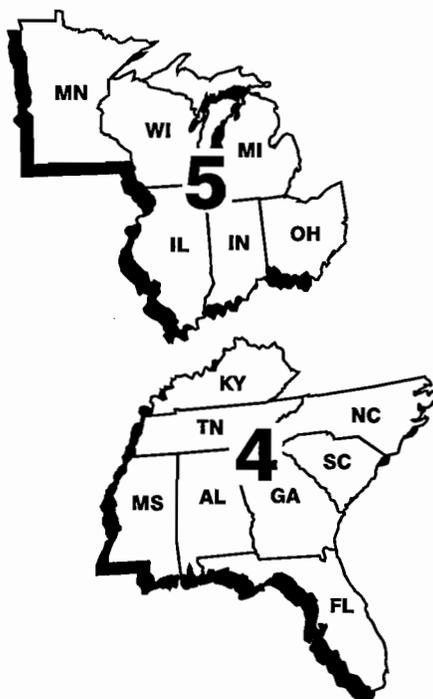
Assistant Pesticide Administrator  
Food and Drug Protection Division  
North Carolina Department of  
Agriculture  
P.O. Box 27647  
Raleigh, NC 27611-0647  
(919) 733-3556

#### South Carolina

Department Head  
Department of Pesticide Regulation  
257 Poole Agriculture Center  
Clemson University  
Clemson, SC 29634-0394  
(803) 656-3171

#### Tennessee

Director  
Plant Industries Division  
Tennessee Department of Agriculture  
P.O. Box 40627  
Nashville, TN 37204  
(615) 360-0130



### Region 5

#### Illinois

Chief  
Bureau of Environmental Programs  
Illinois Department of Agriculture  
P.O. Box 19281  
Springfield, IL 62794-9281  
(217) 785-2427

#### Indiana

Pesticide Administrator  
Office of the Indiana State Chemist  
1154 Biochemistry Building  
Purdue University  
West Lafayette, IN 47907-1154  
(317) 494-1585

#### Michigan

Director  
Pesticide and Plant  
Management Division  
Michigan Department of Agriculture  
P.O. Box 30017  
Lansing, MI 48909  
(517) 373-1087

#### Minnesota

Director  
Division of Agronomy Services  
Minnesota Department of Agriculture  
90 West Plato Boulevard  
St. Paul, MN 55107  
(612) 296-5639

#### Ohio

Specialist in Charge of  
Pesticide Regulation  
Division of Plant Industry  
Ohio Department of Agriculture  
8995 East Main Street  
Reynoldsburg, OH 43068-3399  
(614) 728-6987

#### Wisconsin

Administrator  
Agricultural Resources  
Management Division  
Wisconsin Department of Agriculture  
Trade and Consumer Protection  
2811 Agriculture Drive  
Madison, WI 53704  
(608) 224-4546

## State Pesticide Agencies (cont'd)

### Region 6

**Arkansas**  
 Director  
 Division of Feeds, Fertilizer  
 and Pesticides  
 Arkansas State Plant Board  
 #1 Natural Resources Drive  
 Little Rock, AR 72205  
 (501) 225-1598

**Louisiana**  
 Director  
 Pesticide and Environmental Programs  
 Louisiana Department of  
 Agriculture and Forestry  
 P.O. Box 3596  
 Baton Rouge, LA 70821-3596  
 (504) 925-3763

**New Mexico**  
 Chief  
 Bureau of Pesticide Management  
 Division of Agricultural and  
 Environmental Services  
 New Mexico State Department  
 of Agriculture  
 P.O. Box 3005, Department 3AQ  
 New Mexico State University  
 Las Cruces, NM 88003-0005  
 (505) 646-2133

**Oklahoma**  
 Director  
 Department of Environmental Quality  
 Plant Industry and Consumer Services  
 Oklahoma Department of Agriculture  
 2800 North Lincoln Boulevard  
 Oklahoma City, OK 73105-4298  
 (405) 271-1400

**Texas**  
 Assistant Commissioner for  
 Pesticides  
 Texas Department of  
 Agriculture  
 P.O. Box 12847  
 Austin, TX 78711  
 (512) 463-7624

### Region 7

**Iowa**  
 Chief  
 Pesticide Bureau  
 Iowa Department of Agriculture  
 Henry A. Wallace Building  
 East 9th Street and Grand Avenue  
 Des Moines, IA 50319  
 (515) 281-8591

**Kansas**  
 Director  
 Plant Health Division  
 Kansas Department of Agriculture  
 109 S.W. 9th Street  
 Topeka, KS 66612-1281  
 (913) 296-2263

**Missouri**  
 Director  
 Bureau of Pesticide Control  
 Missouri Department of Agriculture  
 P.O. Box 630  
 Jefferson City, MO 65102  
 (314) 751-2462

**Nebraska**  
 Director  
 Bureau of Plant Industry  
 Nebraska Department of Agriculture  
 301 Centennial Mall  
 P.O. Box 94756  
 Lincoln, NE 68509  
 (402) 471-2394

### Region 8

**Colorado**  
 Director  
 Division of Plant Industry  
 Colorado Department of Agriculture  
 700 Kipling Street, Suite 4000  
 Lakewood, CO 80215-5894  
 (303) 239-4140

**Montana**  
 Administrator  
 Agricultural Sciences Division  
 Montana Department of Agriculture  
 P.O. Box 200201  
 Helena, MT 59620-0201  
 (406) 444-2944

**North Dakota**  
 Director  
 Pesticide Division  
 North Dakota Department  
 of Agriculture  
 State Capitol, 600 East Boulevard,  
 6th Floor  
 Bismarck, ND 58505-0020  
 (701) 328-4756

**South Dakota**  
 Administrator  
 Office of Agronomy Services  
 Agricultural Services  
 South Dakota Department of  
 Agriculture  
 Foss Building  
 523 E. Capitol  
 Pierre, SD 57501-3182  
 (605) 773-4432

**Utah**  
 Director  
 Division of Plant Industry  
 Utah Department of Agriculture  
 Box 146500  
 Salt Lake City, UT 84114-6500  
 (801) 538-7180

**Wyoming**  
 Director  
 Technical Services  
 Wyoming Department of Agriculture  
 2219 Carey Avenue  
 Cheyenne, WY 82002-0100  
 (307) 777-6590



**State Pesticide Agencies (cont'd)**

**Region 9**

**Arizona**  
 Director  
 Environmental Services Division  
 Arizona Department of Agriculture  
 1688 West Adams  
 Phoenix, AZ 85007  
 (602) 542-3578

**California**  
 Director  
 California Department of  
 Pesticide Regulation  
 1020 N Street, Room 100  
 Sacramento, CA 95814-5624  
 (916) 445-4300

**Hawaii**  
 Administrator  
 Pesticide Programs  
 Hawaii Department of Agriculture  
 P.O. Box 22159  
 Honolulu, HI 96823-2159  
 (808) 973-9401

**Nevada**  
 Director  
 Bureau of Plant Industry  
 Nevada Division of  
 Agriculture  
 350 Capitol Hill Avenue  
 Reno, NV 89520  
 (702) 688-1180

**Guam**  
 Pesticide Program Director  
 Guam Environmental  
 Protection Agency  
 P.O. Box 22439-GMF  
 Barrigada, GU 96921  
 (671) 472-8863

**American Samoa EPA**  
 Office of the Governor  
 American Samoa Government  
 P.O. Box 2609  
 Pago Pago, American Samoa 97699  
 (684) 633-2304

**Commonwealth of the Northern  
 Mariana Islands**  
 Department of Public Works  
 Division of Environmental Quality  
 Commonwealth of the Northern  
 Mariana Islands (CNMI)  
 P.O. Box 1304  
 Saipan, Mariana Islands 96950  
 (670) 234-6984

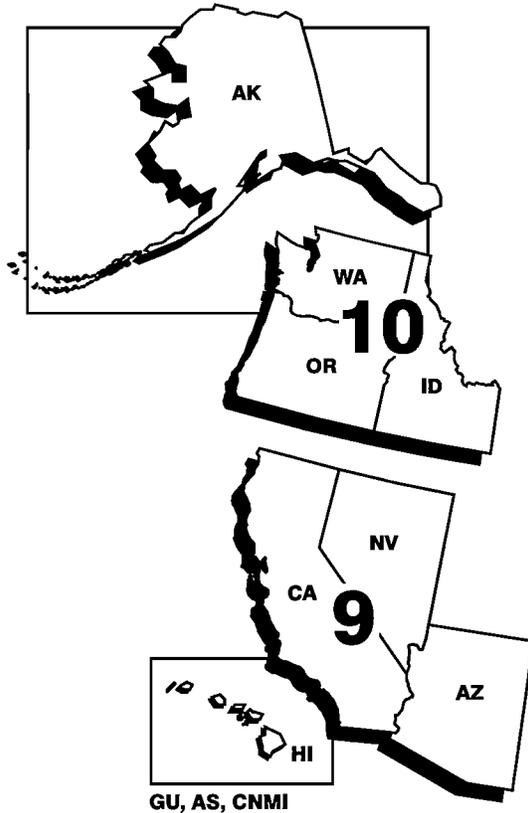
**Region 10**

**Idaho**  
 Administrator  
 Division of Agricultural Technology  
 Idaho Department of Agriculture  
 P.O. Box 790  
 Boise, ID 83701-0790  
 (208) 334-3550

**Oregon**  
 Administrator  
 Plant Division  
 Oregon Department of Agriculture  
 635 Capitol Street, NE  
 Salem, OR 97310-0110  
 (503) 986-4635

**Washington**  
 Assistant Director  
 Pesticide Management Division  
 Washington State Department  
 of Agriculture  
 P.O. Box 42560  
 Olympia, WA 98504-2560  
 (360) 902-2010

**Alaska**  
 Director  
 Division of Environmental Health  
 Alaska Department of  
 Environmental Conservation  
 410 Willoughby Avenue, Room 107  
 Juneau, AK 99801-1795  
 (907) 465-5280



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# **“Help! Someone’s Been Poisoned!”**

## **What To Do in a Pesticide Emergency**



**If the person is unconscious, having trouble breathing, or having convulsions . . .**  
***ACT FAST! Speed is crucial.***



Give needed first aid immediately.



Call 911 or your local emergency service.  
If possible, have someone else call for emergency help while you give first aid.



**If the person is awake or conscious, not having trouble breathing, and not having convulsions . . .**



Read the label for first aid instructions.



Call a doctor, a poison control center, a local emergency service (911), or the National Pesticide Telecommunications Network (toll free at 1-800-858-7378).



Give first aid.

## 17. Integrated Waste Management Collection Centers

# Integrated Waste Management

## Greenwaste Diversion Facilities

### **Brea Green Recycling**

1983 Valencia Avenue  
Brea, CA 92823  
(714) 529-0100

### **Tierra Verde Industries**

7982 Irvine Boulevard  
Irvine, CA 92618  
(949) 551-0363

### **Tierra Verde Industries**

(La Pata Greenwaste)  
31748 La Pata Road  
San Juan Capistrano, CA 92675  
(949) 728-0401

### **CVT Recycling**

1071 N Blue Gum Street  
Anaheim, CA 92806  
(714) 238-3301

### **Baker Canyon Green Recycling**

27910 Baker Canyon Road Silverado Canyon, CA  
92676 (714)649-9050 (714) 649-9210

### **Waste Management of Orange**

2050 N Glassell Steet  
Orange, CA 92865  
(714) 282-0200

### **CR Transfer**

11232 Knott Avenue  
Stanton, CA 90680  
(714) 891-2776

### **Rainbow Transfer**

17121 Nichols Street  
Huntington Beach, CA 92647  
(714) 847-3581 (949) 552-8784

### **Sunset Environmental, Inc.**

16122 Construction Circle West  
Irvine, CA 92606  
(949) 552-8784

## Hazardous Waste Collection Centers

### **Household Hazardous Waste Collection Centers (Anaheim)**

#### **Location**

The Anaheim Regional HHWCC is a public-private partnership between Taormina Industries and the County of Orange and is located at the CVT Public Recycling Center at:

1071 N. Blue Gum Street  
Anaheim, CA

#### **Operating Hours**

Tuesdays through Saturdays from 9 a.m. to 1 p.m.

(Closed on rainy days, Independence Day, Thanksgiving Day, and Christmas and New Years Days.)

#### **Stop & Swap**

When you visit the Anaheim HHWCC, check out the Stop & Swap. It's the place where you can get partially-used home, yard and automotive care products for FREE!

#### **Directions**

Between the 91 Freeway & 57 Freeways at the corner of La Palma Avenue and Blue Gum Street.

### **Household Hazardous Waste Collection Centers**

#### **(Huntington Beach)**

#### **Location**

The Huntington Beach Regional HHWCC is a public-private partnership between Rainbow Disposal and the County of Orange and is located at the Rainbow Disposal facility at:

17121 Nichols Street  
Huntington Beach, CA

#### **Operating Hours**

Tuesdays through Saturdays from 9 a.m. to 1 p.m.

(Closed on rainy days, Independence Day, Thanksgiving Day, and Christmas and New Years Days.)

**Stop & Swap**

When you visit the Huntington Beach HHWCC, check out the Stop & Swap. It's the place where you can get partially-used home, yard and automotive care products for FREE!

**Directions**

Between Beach Blvd. and Gothard off Warner. Next to Rainbow Recycling and Disposal. (Use Gate 6.)

**Household Hazardous Waste Collection Centers  
(Irvine)**

**Location**

The Irvine Regional HHWCC is a result of a partnership between the City of Irvine and the County of Orange and is located next to the City of Irvine Corporate Yard and Animal Shelter and in front of the City of Irvine Dog Park.

6411 Oak Canyon  
Irvine, CA

**Operating Hours**

Tuesdays through Saturdays from 9 a.m. to 1 p.m.

(Closed on rainy days, Independence Day, Thanksgiving Day, and Christmas and New Years Days.)

**Stop & Swap**

When you visit the Irvine HHWCC, check out the Stop & Swap. It's the place where you can get partially-used home, yard and automotive care products for FREE!

**Directions**

Off Sand Canyon between the 5 and 405 Freeways. Next to the City Corporate Yard and Animal Shelter.

**Household Hazardous Waste Collection Centers  
(San Juan Capistrano)**

**Location**

The San Juan Capistrano Regional HHWCC is located on County property at the Prima Deshecha Landfill at:

32250 La Pata Avenue  
San Juan Capistrano, CA

**Operating Hours**

Tuesdays through Saturdays from 9 a.m. to 1 p.m.

(Closed on rainy days, Independence Day, Thanksgiving Day, and Christmas and New Years Days.)

**Directions**

From the 5 Freeway, exit Ortega Highway, go east to La Pata, and turn right. Take La Pata to the landfill entrance.

**OC Landfills**

**Hours of Operation:**

Open: Monday through Saturday - Operating hours vary by landfill. Click on each landfill for specific operating hours.

Closed: Major Holidays: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas

**Landfills**

- Frank R. Bowerman Landfill in Irvine (commercial landfill only; no public dumping)
- Olinda Alpha Landfill in Brea (commercial & public dumping)
- Prima Deshecha Landfill in San Juan Capistrano (commercial & public dumping)

**Landfill Classification**

All three active landfills are permitted as Class III landfills. Class III landfills accept only non-hazardous municipal solid waste for disposal; no hazardous or liquid waste can be accepted.

## Frank R. Bowerman Landfill

### OPERATING HOURS

Monday through Saturday, 7 a.m. to 4 p.m. for all commercial customers  
Transfer Trucks ONLY from 4 p.m. to 5 p.m.

### MANAGER

• Mike Giancola

### LOCATION

11002 Bee Canyon Access Road, Irvine, CA 92602

### COMMERCIAL ACCESS ONLY

Commercial access is available from the Santa Ana Freeway (I-5) or the San Diego Freeway (I-405). Exit at Sand Canyon Avenue. The major cross street is Portola Parkway. [Click here to see map.](#)

### ACCEPTABLE WASTE

Only municipal solid waste from commercial haulers and vehicles operating under commercial status is accepted. Commercial status is verified by either showing a business license or current tax return to a fee booth attendant or participating in County's deferred payment account process.

### UNACCEPTABLE WASTE

- Asbestos, batteries, brake linings, chemicals, fuel tanks
- Mufflers, paints, poisons, hazardous waste, animal parts
- Body parts, medical wastes, radioactive material
- Auto body shredder wastes, fuels, heavy metals, explosives
- Pesticides, contaminated soil
- Liquid waste (moisture content 50% or greater)
- Nuisance dust

### LANDFILL PERMIT

Frank R. Bowerman Landfill is permitted to receive a daily maximum of no more than 8,500 tons per day. The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies. The landfill is subject to regular inspections from the California Integrated Waste Management Board and the Board's Local Enforcement Agency, the California Regional Water Quality Control Board and the South Coast Air Quality Management District to assure compliance with those regulations.

### OPEN AND CLOSURE DATES

Frank R. Bowerman Landfill is approximately 725 acres with 326 acres permitted for refuse disposal. The landfill opened in 1990 and is scheduled to close in approximately 2022. The Integrated Waste Management Department is conducting a study that may extend the life and disposal capacity of the landfill. A public park is the planned end use of the site.

### SPECIAL PROGRAMS

Biomitigation Program

Landfill capital projects sometimes affect the plant and wildlife species native to the site. The Integrated Waste Management Department strives to restore all impacted sites with plant and animal life indigenous to the area.

This is accomplished through a biological mitigation plan. The plan ensures establishment of a plant community capable of supporting wildlife species of the same diversity and density found in these communities under natural conditions.

## Olinda Alpha Landfill

### OPERATING HOURS

Monday through Saturday, 7 a.m. to 4 p.m. for all customers  
Transfer Trucks ONLY from 6 a.m. to 7 a.m.

### MANAGER

• Dave Lowry

### LOCATION

1942 North Valencia Avenue, Brea, CA 92823

### COMMERCIAL ACCESS

Commercial hauler access is available using the Orange/57 Freeway. Exit at Imperial Highway to Valencia Avenue. Click here to see map.

#### **PUBLIC ACCESS**

Orange County citizens only, others call 1-714-834-4000.

Public access is available using the Orange/57 Freeway. Exit at Lambert Road to Valencia Avenue. Click here to see map.

#### **SPECIAL WASTE**

Tires are accepted at Olinda Alpha for \$86.90 per ton.

#### **ACCEPTABLE WASTE**

Municipal solid waste from commercial haulers and the public.

#### **UNACCEPTABLE WASTE**

- Asbestos, batteries, brake linings, chemicals, fuel tanks
- Mufflers, paints, poisons, hazardous waste, animal parts
- Body parts, medical wastes, radioactive material
- Auto body shredder wastes, fuels, heavy metals
- Explosives pesticides, contaminated soil
- Liquid waste (moisture content 50% or greater)
- Nuisance dust

#### **LANDFILL PERMIT**

Olinda Alpha is permitted to receive a daily maximum of no more than 8,000 TPD.

The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies. The landfill is subject to regular inspections from the California Integrated Waste Management Board and the Board's Local Enforcement Agency, the California Regional Water Quality Control Board and the South Coast Air Quality Management District to assure compliance with those regulations.

#### **OPEN AND CLOSURE DATES**

Olinda Alpha is approximately 562 acres with about 420 acres permitted for refuse disposal. The landfill opened in 1960. Currently the landfill is scheduled to close in December 2013. The Integrated Waste Management Department is conducting a study that may extend the life and disposal capacity of the landfill. The proposed end use after landfill closure is a county regional park.

## **Prima Deshecha Landfill**

#### **OPERATING HOURS**

Monday through Saturday, 7 a.m. to 4 p.m. for all customers

Commercial Trucks and Dump Trucks ONLY from 4 p.m. to 5 p.m.

#### **MANAGER**

- Dick Harabedian

#### **LOCATION**

32250 La Pata Avenue, San Juan Capistrano, CA 92675

#### **LANDFILL ACCESS**

Public access is for Orange County citizens only, others call 1-714-834-4000.

Commercial and public access is available using the Santa Ana Freeway (I-5), exiting at Ortega Highway to La Pata Avenue.

Click here see map.

#### **SPECIAL WASTE**

Limited amount of dewatered sewage sludge is accepted.

#### **ACCEPTABLE WASTE**

Municipal solid waste from commercial haulers and the public.

#### **UNACCEPTABLE WASTE**

- Asbestos, batteries, brake linings, chemicals
- Fuel tanks, mufflers, paints, poisons
- Hazardous waste, animal parts, body parts
- Medical wastes, radioactive material

- Auto body shredder wastes, fuels, heavy metals
- Explosives, pesticides, contaminated soil
- Liquid waste (moisture content 50% or greater)
- Nuisance dust

#### LANDFILL PERMIT

Prima Landfill is permitted to accept up to 4,000 tons of waste per day (TPD).

The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies. The landfill is subject to regular inspections from the California Integrated Waste Management Board and the Board's Local Enforcement Agency, the California Regional Water Quality Control Board and the South Coast Air Quality Management District to assure compliance with those regulations.

#### OPEN AND CLOSURE DATES

Prima is approximately 1,530 acres with 1,000 acres permitted for refuse disposal. The landfill was opened in 1976 and is scheduled to close in approximately 2067. A General Development Plan is being prepared for Prima Deshecha Landfill which indicates end use as a regional park.

## Integrated Waste Management

### Recycling Programs

Please know that some cities have unincorporated "communities" within their boundaries. Unincorporated communities are listed below the incorporated cities.

CITY	INCORPORATED/ UNINCORPORATED AREA	RESIDENTIAL PROGRAM TYPE
Aliso Viejo	Unincorporated	2 cart system. Residents place recyclables and trash in separate carts. Manual yard waste collection.
Anaheim	Incorporated	3 cart system. Residents place mixed recyclables, trash & yard waste in separate carts.
Anaheim	Unincorporated	3 cart system. Residents place mixed recyclables, trash & yard waste in separate carts.
Brea	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Buena Park	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
Costa Mesa	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
Coto de Caza	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Cowan Heights	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Cowan Ranch	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Cypress	Incorporated	2 cart system. Residents place recyclables and trash in separate carts.
Dana Point	Incorporated	2 cart system. Residents place recyclables and trash in separate carts. Manual yard waste collection.
El Modena	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Emerald Bay	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Foothill Trabuco	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
Fountain Valley	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
Fullerton	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility. Manual yard waste collection.
Fullerton	Unincorporated	Residents use own containers for regular trash. Hauler-provided

<b>Garden Grove</b>	Incorporated	cart for recyclables. Manual yard waste collection.
<b>Huntington Beach</b>	Incorporated	It depends on resident location, Midway City Sanitation has 2 cart system and GG Disposal has 3 cart system.
<b>Irvine</b>	Incorporated	Residents use own containers. Sorting is done at a Material Recover Facility.
<b>Irvine Coast</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>La Habra</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>La Habra</b>	Unincorporated	2 cart system. Residents place recyclables and trash in separate carts.
<b>La Palma</b>	Incorporated	2 cart system. Residents place recyclables and trash in separate carts.
<b>Ladera</b>	Unincorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
<b>Laguna Beach</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Laguna Hills</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Laguna Laurel</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Laguna Niguel</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Laguna Woods</b>	Incorporated	2 cart system. Residents place recyclables and trash in separate carts. Manual yard waste collection.
<b>Lake Forest</b>	Incorporated	2 cart system. Residents place trash and newspaper in separate carts.
<b>Las Flores</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Los Alamitos</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Lemon Heights</b>	Unincorporated	2 cart system. Residents place recyclables and trash in separate carts.
<b>Midway City Sanitary District</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Mission Viejo</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Modjeska Canyon</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Newport Beach</b>	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
<b>North Tustin</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Olive</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Orange</b>	Incorporated	3 cart system. Residents place mixed recyclables, trash & yard waste in separate carts.
<b>Orange</b>	Unincorporated	3 cart system. Residents place mixed recyclables, trash & yard waste in separate carts.
<b>Orange Park Acres</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Panorama Heights</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Placentia</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Placentia</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Rancho Santa Margarita</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.

<b>Rossmoor</b>	Unincorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
<b>San Clemente</b>	Incorporated	2 cart system. Residents place recyclables and trash in separate carts. Manual yard waste collection.
<b>San Juan Capistrano</b>	Incorporated	3 cart system. Residents place recyclables, yard waste, and trash in separate carts.
<b>San Joaquin Hills</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Santa Ana</b>	Incorporated	3 cart system. Residents place recyclables, yard waste, and trash in separate carts.
<b>Santa Ana Heights</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Seal Beach</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Silverado Canyon</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Stanton</b>	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
<b>Stanton</b>	Unincorporated	Residents use own containers for regular trash. Hauler-provided cart for recyclables.
<b>Sunset Beach</b>	Unincorporated	Multi-family bins only.
<b>Trabuco Canyon</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Tustin</b>	Incorporated	Residents use own containers. Sorting is done at a Material Recovery Facility.
<b>Villa Park</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Westminster</b>	Incorporated	2 cart system. Residents place recyclables and trash in separate carts.
<b>Yorba Linda</b>	Incorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.
<b>Yorba Linda</b>	Unincorporated	3 cart system. Residents place recyclables, trash, and yard waste in separate carts.

## 18. Waste Oil Collection Centers – North Orange County



*Did you know that just one quart of oil can pollute 250,000 gallons of water?*

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, not properly disposing of used oil can lead to water pollution. If you pour or drain oil onto driveways, sidewalks or streets, it can be washed into the storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering the ocean. Help prevent water pollution by taking your used oil to a used oil collection center.

Included in this brochure is a list of locations that will accept up to five gallons of used motor oil at no cost. Many also accept used oil filters. Please contact the facility before delivering your used oil. This listing of companies is for your reference and does not constitute a recommendation or endorsement of the company.

Please note that used oil filters may not be disposed of with regular household trash. They must be taken to a household hazardous waste collection or recycling center in Anaheim, Huntington Beach, Irvine or San Juan Capistrano. For information about these centers, visit [www.oilandfills.com](http://www.oilandfills.com).

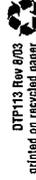
Please do not mix your oil with other substances!

**For more information, please call the Orange County Stormwater Program at (714) 567-6363 or visit [www.watersheds.com](http://www.watersheds.com).**

**For information about the proper disposal of household hazardous waste, call the Household Waste Hotline at (714) 834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).**

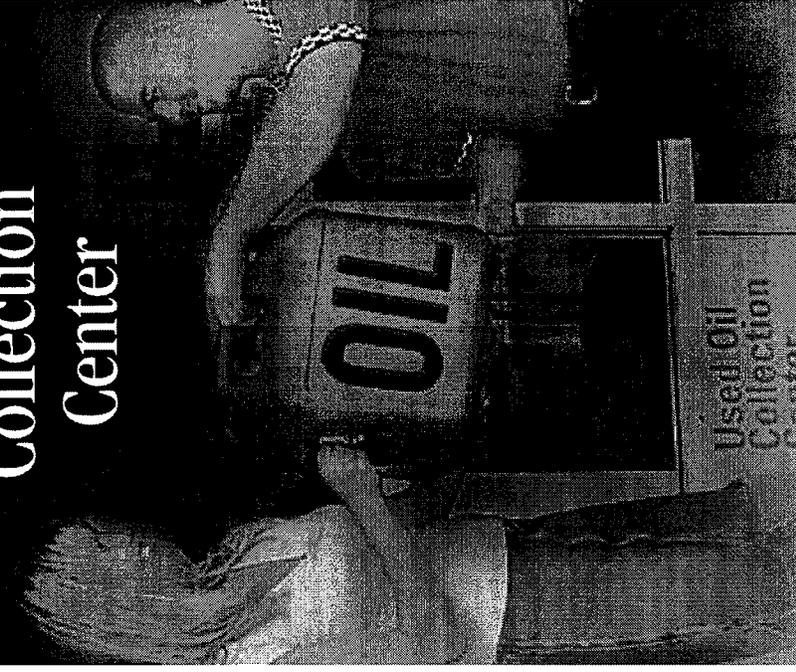


**For additional information about the nearest oil recycling center, call the Used Oil Program at 1-800-CLEANUP or visit [www.cleanup.org](http://www.cleanup.org).**



DTP113 Rev 8/03  
printed on recycled paper

# Help Prevent Ocean Pollution: Recycle at Your Local Used Oil Collection Center



**The Ocean Begins at Your Front Door**

**P R O J E C T**

**Pollution**

**P R E V E N T I O N**

**NORTH COUNTY**



## 19. Using Pest Control Products

# HOMEOWNER TIPS PROTECTING WATER

## Before Buying Pest Control Products

- Identify the pest.
- Decide if pest control products are the best control measure or if there are alternatives available.
- Are integrated pest management guidelines available for this pest?
- Read the product label:
  - Is the pest listed on the label?
  - Is it the best product for the pest?

## Before Mixing Your Sprayer

- Read the label carefully.
- Buy only enough pesticide to treat this area affected by the pest.
- Check the weather and don't apply if it's windy or about to rain.
- Measure the area you're treating.
- Calculate how much spray to mix.
- Wear long sleeve shirt, long pants, shoes and any other protective equipment listed on the label and follow all the label precautions.
- Be prepared for spills and know how to clean them up.

## When You're Ready To Spray

- Mix and load spray in an area where any spilled pesticide will not be able to drain or be washed away into storm drains, ditches, streams, ponds or other bodies of water.
- Mix sprayer on grass, not the sidewalk or driveway.
- Mix only as much as needed.

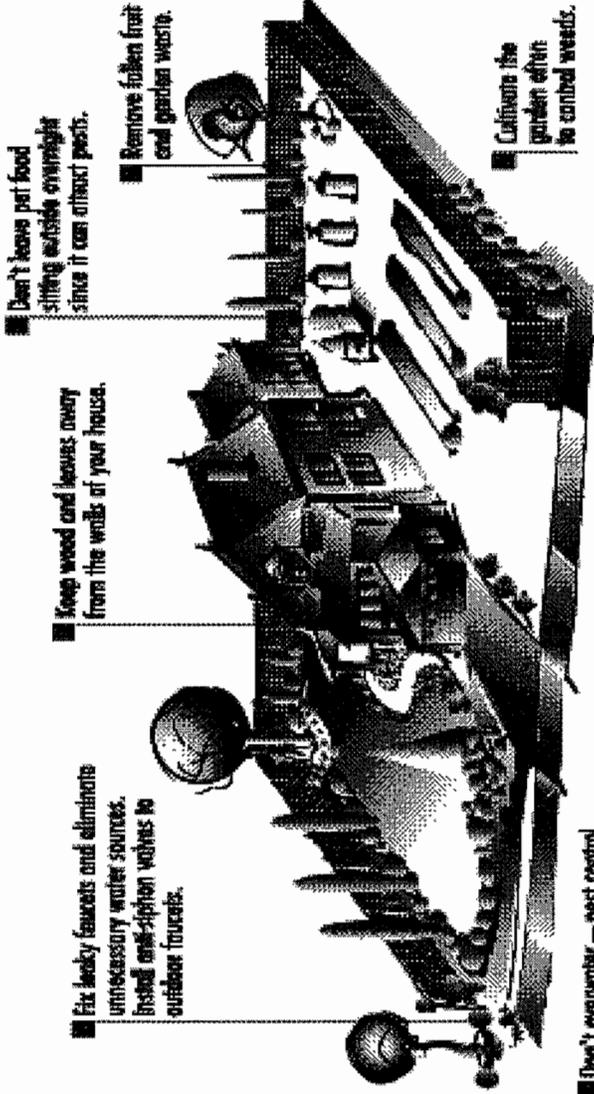
## When You're Spraying

- AVOID spraying in or near storm drains, ditches, streams, and ponds!
- Leave an untreated strip around these areas to protect the water.

## When You're done

- Never dump leftovers down any drain; Save for a future application.
- Triple-rinse sprayer and apply rinsewater to treated area.
- Take any old or unwanted pesticides to a Household Hazardous Waste Collection Center (714) 834-6752.

**Using Pest Control Products.  
It's Your Responsibility To Do It Right!**



Don't overwater - pest control products and fertilizer runoff can be washed into drains and waterways.

Clean up debris that may harbor pests. Remove weeds or dying plants.

Repair all window/door screens and seal any cracks or openings in walls.

Tightly cover garbage cans.

Healthy and well-fed plants are a good defense against insect pests.

## IPM... OUTSMARTING PESTS WHILE PROTECTING WATER

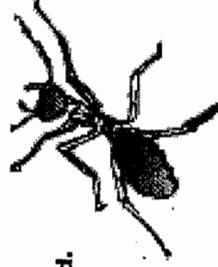
With Integrated Pest Management (IPM), homeowners use common sense and nature to make it difficult for pests to survive. IPM techniques include cultural practices (such as mulching to prevent weeds), encouraging natural enemies (good bugs), and judicious use of pest control products.

- First, identify your pest problem. To find the best solution, you need to pin down the problem. Consult gardening books, your county cooperative extension office or your local nursery.
- Decide how much pest control is necessary. If you can live with some pest damage, you can avoid intensive pest control product treatments.

- Choose an effective option. Try various types of controls first: washing bugs off plants, pruning diseased parts of plants. If you need to use pest control products, choose one that targets the problem and poses the least hazard.

- Finally, it's easier to prevent pests than to control them.

**Think ahead.**





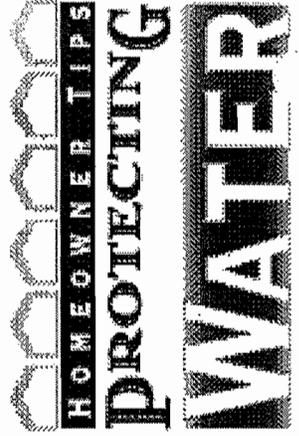
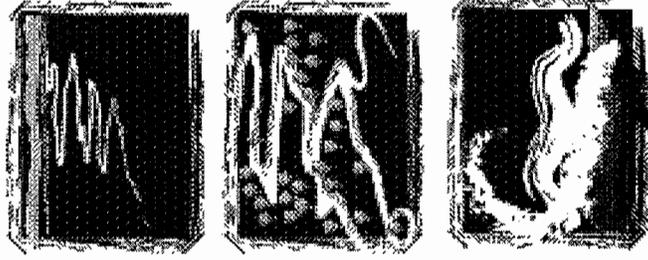
This brochure is being distributed in order to reduce the impacts of pesticides on water quality. It was produced with support from the Orange County Storm Water Program, the Coalition for Urban/Rural Environmental Stewardship (CURES) and a 319(h) grant from the State Water Resources Control Board.

**Orange County Storm Water Program Participants:**

- Anaheim Public Works/Engineering ..... (714) 765-5176
- Brea Engineering ..... (714) 990-7666
- Buena Park Public Works ..... (714) 562-3655
- Costa Mesa Public Services ..... (714) 754-5248
- Cypress Engineering ..... (714) 229-6752
- Dana Point Public Works ..... (949) 248-3562
- Fountain Valley Public Works ..... (714) 593-4400 x347
- Fullerton Engineering Dept ..... (714) 738-6853
- Garden Grove Development Services ..... (714) 741-5554
- Huntington Beach Public Works ..... (714) 536-5432
- Irvine Public Works ..... (949)724-6515
- La Habra Public Services ..... (562) 905-9792
- La Palma Public Works ..... (714) 523-1140 x102
- Laguna Beach Municipal Services ..... (949) 497-0711
- Laguna Hills Engineering ..... (949) 707-2600
- Laguna Niguel Public Works ..... (949) 362-4337
- Lake Forest Public Works ..... (949) 461-3480
- Los Alamitos Community Dev ..... (562) 431-3538 x301
- Mission Viejo Public Works ..... (949) 470-3095
- Newport Beach Public works ..... (949) 644-3311
- Orange Public Works ..... (714) 744-5551
- Placentia Engineering ..... (714) 993-8131
- San Clemente Engineering ..... (949) 361-6100
- San Juan Capistrano Engineering ..... (949) 493-1171
- Santa Ana Public Works ..... (714) 647-3380
- Seal Beach Engineering ..... (562) 431-2527 x318
- Stanton Public Works ..... (714) 379-9222 x204
- Tustin Public Works Engineering ..... (714) 573-3150
- Villa Park Engineering ..... (714) 998-1500
- Westminster Public Works Eng. .... (714) 898-3311 x215
- Yorba Linda Engineering ..... (714) 961-7170 x174
- O.C. Storm Water Program ..... (714) 567-6363
- 24 Hour Water Pollution Hotline ..... (714) 567-6363 or  
ashbyk@pfrd.co.orange.ca.us

- Chemical and Hazardous Material Spill Emergencies ..... 911
- Other Important Phone Numbers:
- For Additional Brochures ..... (714) 567-6363
- UC Masters & Coop Extension ..... (714) 708-1646  
ucmastergardeners@yahoo.com
- O.C. Household Hazardous Waste Information ..... (714) 834-6752  
or www.oc.ca.gov/IWMD
- Information on agriculture chemicals, pesticides and possible alternatives, O.C. Agriculture Commissioner ..... (714) 447-7115

Original graphics developed with support from:  
Coalition For Urban/Rural Environmental Stewardship (CURES)  
Western Crop Protection Association (WCPA)  
Responsible Industry for a Sound Environment (RISE)



20. County of Orange Management Guidelines for the Use of  
Fertilizers and Pesticides

COUNTY OF ORANGE  
PUBLIC FACILITIES & RESOURCES DEPARTMENT

**MANAGEMENT GUIDELINES  
FOR THE USE OF FERTILIZERS AND PESTICIDES**

September 2000  
(Revision to March 1993)

VICKI L. WILSON  
Director

ORANGE COUNTY BOARD OF SUPERVISORS

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## **REFERENCES**

## GLOSSARY

### **California Code of Regulations, Title 3, Division 6 (3 CCR)**

The State of California Code regulating pesticides and pest control operations.

### **California Fertilizer Association (CFA)**

An organization promoting progress in the fertilizer industry in the interest of an efficient and profitable agricultural community. Activities of CFA include developing and disseminating new information to its members and others; supporting production-oriented research programs to identify maximum yield systems for farmers; promoting ergonomic topics at our schools, colleges and universities; and maintaining open communications among the industry, universities and other state and federal agencies.

### **Chemical Labels**

As required by federal law, manufacturers of pesticides must provide chemical labels on the containers of all pesticides distributed. These labels include all necessary information on the chemical constituents of the pesticide, including recommendations and instructions for use, toxicity classification and the appropriate warning statements and emergency procedures in case of acute exposures. As required by state law, labels must be kept in good, readable condition and be attached to all pesticide containers at all times.

### **Drainage Area Management Plan (DAMP)**

A document required under the municipal NPDES stormwater permits issued to the co-permittees by Santa Ana and San Diego Regional Water Quality Control Boards.

### **Equivalent Training**

A term referring to public agency employees dealing with the application of pesticides who have not received a qualified applicator's license (QAL) from the State of California, but who has completed a training course in pesticide application offered by the County of Orange.

### **Eutrophication**

A decrease in dissolved oxygen in a body of water to such an extreme extent that plant life is favored over animal life. For example, a lake that is overgrown in algae on the surface is likely in a state of eutrophication.

### **Integrated Pest Management**

The trend in vegetation management that supports moving away from reliance on pesticides and toward an integrated approach of limited pesticide use with more environmentally friendly pest control techniques.

### **Maximum Extent Practicable (MEP)**

MEP means taking into account equitable considerations of competing factors, including, but not limited to, the gravity of the problem, fiscal feasibility, public health risks, societal concern and social benefit.

## **GLOSSARY (cont'd)**

### **Materials Data Safety Sheet (MSDS)**

Similar to chemical labels and also required by federal law, these sheets should contain all information necessary for the safe handling of pesticides. They include chemical identifications, hazardous ingredients, physical data, fire and explosion data, health hazards, reactivity data, spill or leak cleanup procedures, special protection and special precautions.

### **National Pollutant Discharge Elimination System (NPDES)**

The national program under the Clean Water Act for controlling discharges from point sources directly into Waters of the United States.

### **Permittee**

A permittee to an NPDES permit that is responsible for permit conditions relating to the discharge for which it its operator. As used in the Stormwater Permit Implementation Agreement, permittees are the County of Orange, the 33 cities of Orange County and the Orange County Flood Control District.

### **Pest Control Advisor (PCA)**

Certification obtained from the State of California after demonstrating adequate knowledge of pests, pesticides and the implications of pesticide use. A recommendation for pesticide use must be obtained from a PCA before public agencies may approve any pesticide applications.

### **Qualified Applicator's License (QAL)**

A license obtained from the State of California after demonstrating adequate knowledge of the proper techniques for handling, storing, transporting and applying pesticides. Workers must obtain a QAL before being permitted to apply or supervise application of Category 1 pesticides.

### **Qualified Fertilizer Specialist**

A person designated by the governing public agency who is knowledgeable of the proper techniques for handling, storing, transporting and applying fertilizers as defined in the Management Guidelines for Use of Fertilizers and Pesticides. This person shall be able to sample, inspect, test and make analyses of fertilizers that are in use or being considered for use in the agency's jurisdiction to such an extent to adequately determine their compliance with the management guidelines.

### **Restricted Materials Permit**

A permit that must be acquired by any public agency before application of the pesticides listed as restricted by the State of California in the Code of Regulations ("CCR"), Title 3, Division 6. In Orange County, this permit must be obtained from the County Agricultural Commissioner.

## **GLOSSARY (cont'd)**

### **State Code**

In this report, referring to CCR, Title 3, Division 6, and noted as "3 CCR."

### **Storm Drain**

Pipe or channel structure designed to convey only stormwater runoff for purposes of flood protection. Federal regulations use the term "storm sewer." Use of the word "sewer" for a stormwater conveyance structure should be discouraged, since the word "sewer" also includes sanitary sewers and combined sewers which carry human waste.

### **Toxicity Classification**

The California Department of Food and Agriculture groups pesticides into three categories according to their toxicity or potential to cause injury to people. Category 1 pesticides are the most hazardous and their use is normally restricted, while Category 3 pesticides are the least toxic to people and are generally less hazardous.

## EXECUTIVE SUMMARY

This document was prepared to establish guidelines for the management of fertilizers and pesticides. The main objective of these guidelines is to safeguard to "the maximum extent practicable"\* against unnecessary discharges of fertilizers and pesticides into surface and groundwater systems and to establish safe and reasonable standards for handling those materials. The guidelines are based on state and federal laws, environmental policies and "best management practices" established by various public and private agencies. Through this document, it is envisaged that these practices will establish a set of uniform standards and procedures.

## **1.0 INTRODUCTION**

### **1.1 Status of Fertilizer and Pesticide Use**

Fertilizers and pesticides are a primary tool of vegetation management. Used properly, fertilizers provide important nutrient supplies for vegetation and agriculture, and pesticides help to protect those resources from potential harm.

Used improperly, fertilizers and pesticides can become an impairment to surface and groundwater supplies. Careless application, mixing, transportation, storage and disposal allow chemicals to enter surface and groundwater through runoff and infiltration; the same handling problems endanger human health through exposure to toxic chemicals; soil degradation often results from overuse and misuse of pesticides and fertilizers. Even under ideal conditions, there is still a high level of risk, and consequently, there is a need for considerable professional planning and management.

### **1.2 Management Options**

Because of the risk involved in using fertilizers and pesticides, the development of management guidelines for use of fertilizers and pesticides is an essential element of the DAMP. These guidelines are designed not only to comply with the NPDES Stormwater Program, but also to minimize any threat to human health and environmental resources from improper use of fertilizers and pesticides. It is envisaged that consideration of these guidelines by the permittees will cause public agencies to re-evaluate their approach to using fertilizers and pesticides and move toward reducing dependence on them.

The guidelines that follow are intended for the use of the Permittees, although they may ultimately be used on a broader scale. They are based on the laws, management guidelines and "best management practices" established by other federal, state and local agencies. They recognize that the safe management of fertilizers and pesticides is a shared responsibility between the field worker and management. These guidelines address the concern for fertilizer and pesticide use at a basic level, and if followed, they should reasonably prevent environmental damage to the highest degree possible.

### **1.3 Definitions**

For the purpose of these guidelines, fertilizers may be referred to as "nutrients" or "soil nutrients," and the term "pesticides" will encompass all herbicides, insecticides, fungicides and rodenticides. The California Food and Agricultural Code and the California Code of Regulations, Title 3 (3 CCR)\*, constitute the laws and regulations referenced in this plan. They are referenced often and usually referred to as the "State Code."\* Also, Permittees will be referred to as "public agencies," and employees working for these public agencies who handle fertilizers & pesticides will be referred to as "workers" or "public employees."

## **2.0 FERTILIZER MANAGEMENT**

### **2.1 Definition and Scope of Guidelines**

Fertilizers are nutrients applied to soil to provide a better growing environment for plants. The fertilizers most commonly in use in Southern California today are nitrogen- and phosphorus-based. Both leach into soils easily in the presence of water and have become a water quality concern, causing algal blooms and eutrophication\* and, in some cases, causing levels to exceed federal drinking water standards.

However, fertilizers also play the important role of promoting vegetation growth that protects soil from erosion and enhances landscape aesthetics. Because there is a necessity for soil nutrients and because there is a potential for adverse effects on local waterways due to the loss of these nutrients through runoff and infiltration, management guidelines are necessary as a means of reducing the loss of fertilizers into water supplies.

### **2.2 General Considerations**

#### 2.2.1 State and Federal Law

Because most fertilizers are not as toxic as pesticides, state and federal lawmakers have not developed regulations for their use. Fertilizers are not usually considered an immediate danger to public health or safety. However, the California Fertilizer Association (CFA)\*, a Sacramento-based organization, has developed complete management guidelines for fertilizer use and the State Department of Food and Agriculture has recommendations for use of nitrate-based fertilizers, both of which are available for consultation.

#### 2.2.2 General Recommendations

1. Public agencies should periodically have soils tested before applying fertilizers to be certain that application is appropriate for and compatible with soil conditions. The samples should be analyzed by a qualified specialist for fertilizer applications\*, and workers should follow the recommendations.
2. Public agencies should choose to use organic fertilizers such as compost, peat and mulch wherever possible to increase soil porosity and water retention.
3. Workers should apply only the minimum amount of fertilizer needed and incorporate it directly into the soil around the plant, where possible, to minimize potential surface runoff.
4. Workers should not apply fertilizers in the rain or on the same day that rain is expected.
5. Workers should immediately cleanup any spill of fertilizers.

6. Storage facilities should be covered and have impermeable foundations so that potential spills don't have the opportunity to runoff into surface water or leach into groundwater systems.
7. Fertilizers that may be carried by the wind should be stored in areas away from open loading spaces and entrances of storage warehouses.
8. Fertilizers should be securely covered in the vehicle before being taken to application sites so that none can spill or fly out during transport.
9. Use slow release fertilizers -- such as water soluble nitrogen fertilizers, coated fertilizers and fertilizers of limited solubility -- whenever possible to minimize the possibility of leaching.

## **2.3 Planning for Use of Fertilizers**

### 2.3.1 Soil Testing

Most fertilizers travel quickly through water. Therefore, fertilizers will leach through soil and potentially contaminate groundwater more quickly after excess watering or irrigation, after heavy rains and where the water table is high. For this reason, soil testing is an important management technique to determine the safest fertilizer application rate.

The California Landscape Contractors Association (CLCA) has a complete list of organizations in Southern California that offer soil testing and analyzing for fertilizer use. To get a copy of that list, CLCA can be contacted at (916) 448-2522. If a reliable soil analyst is not already known, it is advisable for public agencies to consult CLCA and research a specialist who can make recommendations for fertilizer use.

### 2.3.2 Application Rates

The amount of fertilizer needed for different applications depends on a number of factors. For specific recommendations, a qualified specialist should be consulted. The following are some factors to be considered:

- The vegetation's ability to use fertilizer;
- The amount of nutrients already in the soil, including fertilizer that may still be present from a previous application;
- The amount of soil nutrients that will or can be obtained from natural processes;
- The expected loss of nutrients from the soil; and
- The temperature at the time of application.

### 2.3.3 Timing

For vegetation with different growth patterns, fertilizers should be applied at different times and in different quantities. The vegetation being managed should be researched and fertilizers applied only according to the amounts and at the time intervals recommended by a qualified specialist for fertilizer applications. This should minimize the waste of fertilizer and reduce any risk of water contamination.

## **2.4 Application Methods of Fertilizers**

This section details the most common methods for application of fertilizers. These are not the only acceptable methods of fertilizer application. Every application has its own circumstances and variables to consider. A qualified fertilizer specialist should be consulted to recommend the most appropriate application method.

### 2.4.1 Banding of Fertilizer

Probably the most common and safest application method, this involves physically working small amounts of fertilizer into the soil in a band beneath and around the sides of a seed. It allows new roots to efficiently use the nutrients and minimizes potential nutrient loss to surface runoff. However, given the labor involved, banding may not be practical for most public agency fertilizer applications.

### 2.4.2 Foliar Fertilization

This is fertilizer applied in solution form that is absorbed through leaves and stems. The method can reduce nutrient leaching into the soil when applied correctly and can be performed at the same time as pesticides application to avoid spraying twice. In this case, the guidelines for pesticide applications must also apply.

### 2.4.3 Broadcast Application

By this method, dry or liquid fertilizer is uniformly spread over the soil surface. This is often done mechanically, an example being the "drop spreader" which is usually an inverted triangle hopper. The simplest of mechanical applicators, the drop spreader is commonly mounted on wheels and pushed by hand or pulled by vehicle to drop fertilizer out of the bottom of the triangle.

Other types of broadcast applicators include spray booms for liquid fertilization or "spinning disks" mounted on a moving vehicle that throw dry fertilizer into the air. It should be noted that these latter methods do not offer much control over fertilizer drift in adverse weather conditions.

#### 2.4.4 Fertigation

Although not likely to be used by public agencies for fertilizer applications, this method is common among Californian farmers who incorporate fertilizers into irrigation water. The potential for nutrient leaching using this method, though, appears to be high.

### **2.5 Storage and Handling of Fertilizers**

#### 2.5.1 General Description

When stored and handled properly, fertilizers present no hazard to the users' health. Public employees responsible for the storage and handling of fertilizers should be aware that some fertilizers have properties that can result in dangerous chemical reactions if mixed with other substances or under unusual circumstances. For example, ammonium nitrate may become explosive if it becomes mixed in diesel fuel; a dehumidifier may be necessary for storage areas where sensitive fertilizers are stored. Also, because most fertilizers tend to be corrosive, concrete structures are preferred for fertilizer storage facilities.

#### 2.5.2 Dry Fertilizer

In most cases, dry fertilizers are safe to store, transport and handle. However, because some fertilizers have unique, potentially dangerous properties, it is advisable for public agencies to consult a qualified fertilizer specialist for the safest storage and handling procedures for specific fertilizers.

#### 2.5.3 Liquid Fertilizer

Fertilizers in liquid form are potentially more hazardous than dry fertilizer. Public employees responsible for storage and handling need to be aware of the specific properties of each liquid fertilizer in use, including corrosivity and tolerable temperature and pressure ranges. Protective equipment may be necessary for workers handling fertilizers such as sulfuric or phosphoric acid. A qualified fertilizer specialist should be consulted for recommending the safest handling and storage procedures for specific liquid fertilizers.

### **3.0 PESTICIDE MANAGEMENT**

#### **3.1 Definition and Scope of Guidelines**

Pesticides are designed to kill or restrict the growth of plants and organisms, and thus, are potentially dangerous chemicals. Increasing scientific concern for their safe use and heightened public awareness of health concerns has led to more and more regulations in the United States at both the state and federal level. Pesticide use by public agencies often involves applications to keep flood control channels and roadways clear or to minimize health and safety hazards of disease-bearing rodents and insects. Any of these applications can drain into stormwater basins if not controlled properly. Although safety concerns and the cost of complying with new regulations have encouraged some public agencies to cut back on the use of pesticides, use is still common, and their management is therefore essential.

#### **3.2 General Considerations**

##### 3.2.1 State and Federal Law

The California Department of Food and Agriculture and the federal Toxic Substances Control Act (TSCA) have set forth extensive rules and regulations that must be met by all public agencies. At an absolute minimum, public agencies must comply with these laws or be subject to the penalties described in the statutes.

##### 3.2.2 Chemical Labels and Materials Safety Data Sheets (MSDS)

1. Without exception, chemical labels\* provided by the manufacturer of each pesticide are the first source of recommendations and instructions for chemical use. Whenever a chemical is to be used by a worker or a contractor of a public agency, the user needs to be intimately familiar with the label instructions and requirements.

As described in the State Code (Ch. 2, Subch. 1, Art. 10), the label must appear on the immediate container of the chemical and include, in prominent, bold type, the appropriate warning or caution statement according to its toxicity classification\*. If a chemical is transferred to another container, a copy of the label should be transferred with it.

Workers should never handle a container that doesn't have a warning label attached, and the supervisor in charge should be immediately advised of the situation. If a label is badly damaged, the supervisor should replace it.

2. Workers using pesticides should have readily available the Materials Safety Data Sheets (MSDS)\* for each chemical they are using. Although the MSDS is a form that may vary in appearance for different chemicals, the information is the same, as required by law. Similar to the chemical labels, these sheets contain information necessary to handle each chemical safely, and all workers should be familiar with the information.

MSDS sheets include chemical identifications, hazardous ingredients, physical data, fire and explosion data, health hazards, reactivity data, spill or leak cleanup procedures, special protection and special precautions.

### 3.2.3 General Recommendations

1. Public agencies should maintain a complete list of all chemicals and their uses.
2. Public agencies should thoroughly investigate and consider all alternatives to pesticide use.
3. Workers should use pesticides only according to label instructions.
4. Work crews should bring to the work site only the amount of chemical to be used during the application and use only the minimum amount the chemical necessary.
5. Workers should consider weather conditions that could affect application (for example, they shouldn't spray when winds are exceeding 5 mph, when raining or when rain is likely).
6. Workers should consider area drainage patterns (for example, they shouldn't apply near wetlands, streams and lakes or ponds unless it is for an approved maintenance activity).
7. Workers should consider soil conditions before applying pesticides (for example, they shouldn't apply to bare or eroded ground).
8. Workers should triple-rinse empty pesticide containers before disposal and use the leftover wash as spray.
9. Workers should never clean or rinse pesticide equipment and containers in the vicinity of storm drains\*.
10. Pesticides should only be stored in areas with cement floors and in areas insulated from temperature extremes.
11. Workers should secure chemicals and equipment during transportation to prevent tipping or excess jarring in apart of the vehicle completely isolated from people, food and clothing.

12. Workers or their supervisors should inspect pesticide equipment, storage containers and transportation vehicles daily.
13. Public agencies should adopt a plan for dealing with potential accidents before they happen.
14. Workers should immediately clean up any chemical spill according to label instructions and notify the appropriate supervisors and agencies.

### **3.3 Planning for Use of Pesticides**

#### 3.3.1 Selection of Appropriate Pesticides

1. Pesticides are to be used only after recommendation from a state-licensed or certified pest control advisor.
2. Public agencies should also seek advice for appropriate pesticide use from the Orange County Agricultural Commission, from other professional pesticide handlers and/or through professional publications. The County Agricultural Commission can be contacted at (714) 447-7100.
3. A special effort should be made to limit use of restricted pesticides and all other Category One pesticides.

#### 3.3.2 Certification, Licensing and Permitting

1. Pesticides are only to be applied by or under the direct supervision of an individual with a qualified applicators license (QAL)\* for pesticide applications or by workers with equivalent training\*.
2. Chemicals listed as "restricted" in the State of California may be used only under a restricted materials permit\* (StateCode Ch. 2, Subch. 4) to be issued by the Orange County Agricultural Commission. The permit must be renewed annually for continued use. For more information, contact the Commission at (714) 447-7100.
3. All other guidelines concerning permits, licensing and certification requirements to be followed before pesticide application are detailed in the State Code, Chapter 3, Subchapter 1.

### 3.3.3 Employee Training

1. Public agency employees must know the information on the chemical label and its MSDS before using pesticides in any capacity. In addition, they should (a) know the immediate and long-term health hazards posed by chemicals to be used, the common symptoms of chemical poisoning and the ways poisoning could occur, and (b) know the safe work practices to be followed, including the appropriate protective clothing, equipment, mixing, transportation, storage, disposal and spill cleanup procedures that apply to the specific chemicals being used.
2. In addition to the training and annual continuing education required for licensing and certification (3 CCR, Ch. 3, Subch.3, Art. 2), public employees are encouraged to participate in continuing pesticide education programs whenever the programs are available.

### 3.3.4 Accident Mitigation

Public agencies using pesticides should have plans for dealing with potential accidents before they happen. These plans should consider:

1. Labels and MSDS Sheets -- All workers handling pesticides must be familiar with these instructions. The steps for accident mitigation are spelled out on chemical labels and MSDS sheets.
2. Spill Cleanup Kits -- Any time pesticides are being handled, there should be a cleanup kit on hand in case of an accident. This means there should always be a cleanup kit located in pesticide storage areas, on vehicles used to transport pesticides and on location where the chemicals are being applied. Although these kits may vary in what they contain depending on the chemical type and the situation, at a minimum they should include:
  - spill-control procedures
  - a five gallon drum with sealable lid
  - a dust pan and broom
  - a squeegee
  - a shovel
  - protective goggles, gloves, boots, coveralls
  - a tarp (for covering dry spills)
  - detergent and water (check label or MSDS for proper use)
  - barricade tape, florescent traffic safety cones or string to cordon off an area
  - large sponges, containment booms or some other absorbent material

3. Cleanup Procedures -- Spilled pesticides must be prevented from entering the local surface and/or groundwater supplies. Specific recommendations for spill cleanup should be available on each chemical label or MSDS. Specific recommendations for the sequence of procedures may also vary depending on the situation. However, generally, in case of a spill, the responsible worker(s) should:

**EVALUATE** the accident and quickly determine the most immediate concerns (medical and/or environmental).

**CONTAIN OR CONTROL** the spill.

**NOTIFY** the supervisor in charge who should, in turn, notify the proper authorities. If contact cannot be made, dial 911.

**ISOLATE** the area with fluorescent traffic safety cones, ropes or some other cordoning device to be sure that no one walks, wanders or drives through the spill area.

**CLEAN UP** the spill as best as possible following label instructions and using the appropriate spill cleanup kit.

**EVALUATE** any damage that may have occurred resulting from the spill (property damage, health damage, equipment damage, etc.) and make notes on all relevant details and circumstances before leaving the scene.

**PREPARE A COMPLETE REPORT** detailing the incident immediately after leaving the scene upon returning to the work place and submit it to the immediate supervisor.

### 3.3.5 Emergency Medical Care

Accident situations requiring emergency medical care are likely to involve acute exposure to potentially toxic chemicals. Instructions for handling these exposures appear on the chemical label. Workers should:

1. Be aware of the symptoms of acute exposures for each chemical being used.
2. Have a predetermined strategy for dealing with exposure scenarios, including knowing (a) the label recommendations for dealing with acute exposures and (b) the nearest medical facility where emergency care is available.

### 3.3.6 Equipment and Equipment Maintenance

All equipment for the handling of pesticides should be inspected and cleaned by workers before each use to ensure that there are no problems that could lead to chemical leaks, spills or accidents during the day's work (State Code Ch. 3, Subch. 3, Art. 2).

### 3.3.7 Groundwater and Surface Water Protection

Similar to the discussion of leaching in fertilizer management, the main factors determining the rate at which pesticides enter groundwater and surface water systems are chemical mobility, solubility and persistence and the soil type. For example, potentially dangerous chemicals are likely to have a high solubility and an extremely long half-life, and they are not likely to be easily absorbed into the soil. Therefore, chemicals that decompose rapidly may be preferred. However, note that to choose a chemical that may need to be applied two or three times as often may not make sense from a transportation and application risk standpoint.

Because of these factors, regardless of the category of chemicals being used, pesticide advisors should always test the soil for compatibility with specific chemicals before recommending pesticides for a specific area.

Furthermore, because the effect of these uses is not always immediately apparent, public agencies should periodically test areas that could be particularly vulnerable to contamination or deterioration. The results of these tests should be kept on public record.

## **3.4 Application of Pesticides**

### 3.4.1 Supervision

1. In cases where supervision of pesticide applications is required by the State Code, supervision must be handled by a state-licensed or certified pesticide applicator. For all other pesticide applications, supervision may be handled by workers with equivalent training.
2. Public agencies that contract pesticide applications should periodically inspect contracted work crews to be certain that contractors are following proper management guidelines. Public agencies handling their own applications should likewise inspect their work crews on a regular basis to ensure that safety standards are being met.

### 3.4.2 Proper Techniques

1. Read the label carefully and follow application instructions exactly. Be absolutely certain that the right chemical is being used for the right job before applying.
2. To prevent potentially harmful runoff, only the absolute minimum amount of pesticides should be used to ensure vegetation safety.
3. Recommendations for best weather conditions to prevent pesticide spray drift are outlined in State Code Chapter 2, Subchapter 4, Article 2.

### 3.4.3 User Safety and Protection

1. Public agencies should have on hand equipment for application of pesticides should include eye protection, gloves, respiratory gear and impervious full-body, chemical resistant clothing when called for by the chemical label.
2. Even when wearing respiratory gear or masks, when dealing with spray applications of pesticides, workers should avoid directly inhaling in the spray mist.
3. Workers should avoid working alone, especially at night.
4. Workers should clean equipment, clothing and self thoroughly after each application.
5. State laws regarding re-entry into fields that have recently been treated with pesticides should be followed (State Code Chapter 3, Subchapter 3, Article 3).
6. Public agencies are responsible for knowing and informing workers about the specific pesticides being used including how they are properly handled, the dangers involved and the proper training and safety procedures.
7. Public agencies are responsible for keeping updated records and a complete list of the pesticides being used in their jurisdiction. This should include the chemicals, amount in storage, amount of applications, dates and location of applications and pests controlled with each application.
8. Public agencies should keep all relevant label and MSDS information for each chemical updated and readily available at all times to workers handling the materials.

### **3.5 Storage, Disposal and Transportation**

#### 3.5.1 Proper Storage

1. Storage areas should be away from living areas and in a covered area that is well-insulated from temperature extremes; they should have a cement floor and good ventilation. Also, storage areas should be clearly marked according to state standards and be securely locked at all times when not in use.
2. Public agencies should ensure that chemical labels on pesticides being stored or used are kept in good condition and attached to all containers holding pesticides (State Code Ch. 3, Subch. 2, Art. 4).
3. Workers should ensure that storage equipment and containers are inspected daily for leaks or defects before being taken on the job. Containers should also be inspected and before storing at the end of the day.

#### 3.5.2 Proper Disposal

1. Workers should make certain that chemical containers are triple-rinsed before disposal (State Code Ch. 3, Subch. 2)
2. It is recommended that cleaned containers be sent back to the manufacturer for recycling whenever possible. However, once triple-rinsed, most haulers will take them to most landfills.
3. Workers should use left over rinse water as spray.
4. Public agencies should ensure that surplus or out-of-date chemicals are given to a licensed hazardous waste hauler for disposal.

#### 3.5.3 Safe Transportation Methods

1. Workers should ensure that all pesticides containers are tightly sealed and secured from tipping or excess jarring (State Code Ch. 3, Subch. 2, Art. 4).
2. Transportation compartments on vehicles should be isolated from the compartment carrying people, food and clothing and should be securely locked (State Code Ch. 3, Subch. 2, Art. 4).
3. Workers should transport only the amount of pesticide needed for the day to the site.
4. Workers should be certain that the appropriate chemical labels and MSDS sheets, a spill cleanup kit, the location of emergency medical care and a first aid kit are always brought along when transporting pesticides.

5. Public agencies should encourage all vehicles used for pesticide transportation to include radio communications for contacting help in case of a spill or some other emergency.

#### **4.0 INTEGRATED PEST MANAGEMENT\***

##### **4.1 Background on Pesticide Use**

For most of the last 50 years, the trend in vegetation management has been toward a greater reliance on pesticides. The result has been not only a tremendous increase in the use of many dangerous chemicals, but also an enormous increase in the number of pests that are resistant to the pesticides being produced. In essence, as more pesticides have been produced, more resistant strains of pests have evolved. Worse, recent studies have shown that the end result of this global trend has been no net gain in vegetation survival rates.

With these realizations becoming well known, vegetation managers are now moving away from their reliance on pesticides and toward an integrated approach that combines limited pesticides use with more environmentally-friendly pest control techniques.

##### **4.2 Scope of Guidelines**

For public agencies in Orange County, IPM practices should be preferred to the sole use of pesticides as the primary means of vegetation management. These techniques are designed to prevent overuse and to reduce reliance on them. IPM should be considered by all public agencies or their contractors before intensive use of pesticides.

The goal of IPM is not to eliminate all pests, but to keep their populations at a manageable number. Pesticides are part of IPM techniques, but they are used in small quantities and only after all other alternatives have been reviewed.

##### **4.3 Alternatives to Pesticides**

Some of the alternatives to pesticides that may be considered as part of an IPM program include:

1. Introduction of natural predators such as ladybugs, lacewings, garter snakes and toads. Also, some bacteria, viruses and insect parasites may be preferable to pesticides.
2. Selected removal or rotation of vegetation habitat to eliminate the breeding places of specific pests.
3. Weeding, hoeing and trapping manually. Pruning and thinning of trees is also an effective means of preventing epidemic tree insects and diseases.

Also, at certain times of the year and under certain environmental conditions, certain pests can be expected. Therefore, timely planting or well-timed use of small quantities of pesticides may avoid the need for some chemical use.

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## 21. State of California Model Landscape Ordinance

## **Model Landscape Ordinance**

### **Section 490. Purpose**

**The State Legislature has found:**

- that the limited supply of state waters are subject to ever increasing demands;
- that California's economic prosperity depends on adequate supplies of water;
- that state policy promotes conservation and efficient use of water;
- that landscapes provide recreation areas, clean the air and water, prevent erosion, offer fire protection, and replace ecosystems displaced by development; and
- that landscape design, installation, and maintenance can and should be water efficient.

**Consistent with the legislative findings, the purpose of this model ordinance is to:**

- promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
- establish a structure for designing, installing, and maintaining water efficient landscapes in new projects; and
- establish provisions for water management practices and water waste prevention for established landscapes.

Authority cited: Sections 65591.5, 65594, Gov. Code. Reference: Sections 65591, 65591.5, 65597, Gov. Code.

## **Model Landscape Ordinance**

### **Section 491. Definitions**

**The words used in this ordinance have the meaning set forth below:**

"anti-drain valve" or "check valve" means a valve located under a sprinkler head to hold water in the system so it minimizes drainage from the lower elevation sprinkler heads.

"application rate" means the depth of water applied to a given area, usually measured in inches per hour.

"applied water" means the portion of water supplied by the irrigation system to the landscape.

"automatic controller" means a mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.

"backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

"conversion factor (0.62)" means a number that converts the maximum applied water allowance from acre-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:

- $(325,851 \text{ gallons} / 43,560 \text{ square feet}) / 12 \text{ inches} = (0.62)$
- 325,851 gallons = one acre foot
- 43,560 square feet = one acre
- 12 inches = one foot

To convert gallons per year to 100-cubic-feet per year, another common billing unit for water, divide gallons per year by 748. (748 gallons = 100 cubic feet.)

"ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

"effective precipitation" or "usable rainfall" means the portion of total precipitation that is used by the plants. Precipitation is not a reliable source of water, but can contribute to some degree toward the water needs of the landscape.

"emitter" means drip irrigation fittings that deliver water slowly from the system to the soil.

"established landscape" means the point at which plants in the landscape have developed roots into the soil adjacent to the root ball.

"establishment period" means the first year after installing the plant in the landscape.

"Estimated Applied Water Use" means the portion of the Estimated Total Water Use that is derived from applied water. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. The Estimated Applied Water Use may be the sum of the water recommended through the irrigation schedule, as referenced in Section 492 (c) (3).

"Estimated Total Water Use" means the annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system, as described in Section 492 (c) (4).

"ET adjustment factor" means a factor of 0.8, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.

A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for purposes of the ET Adjustment Factor is 0.625.

Therefore, the ET Adjustment Factor  $(0.8) = (0.5/0.625)$ .

"evapotranspiration" means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.

"flow rate" means the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).

"hydrozone" means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated hydrozone.

"infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (inches per hour).

"irrigation efficiency" means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is 0.625. Greater irrigation efficiency can be expected from well designed and maintained systems.

"landscape irrigation audit" means a process to perform site inspections, evaluate irrigation systems, and develop efficient irrigation schedules.

"landscaped area" means the entire parcel less the building footprint, driveways, non-irrigated portions of parking lots, hardscapes- such as decks and patios, and other non-porous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens are not included.

"lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

"main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

"Maximum Applied Water Allowance" means, for design purposes, the upper limit of annual applied water for the established landscaped area as specified in Section 492 (c) (2). It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance.

"mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

"mulch" means any material such as leaves, bark, straw or other materials left loose and applied to the soil surface for the beneficial purpose of reducing evaporation .

"operating pressure" means the pressure at which a system of sprinklers is designed to operate, usually indicated at the base of a sprinkler.

"overhead sprinkler irrigation systems" means those with high flow rates (pop-ups, impulse sprinklers, rotors, etc.)

"overspray" means the water which is delivered beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.

"plant factor" means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the average plant factor of low water using plants ranges from 0 to 0.3, for average water using plants the range is 0.4 to 0.6, and for high water using plants the range is 0.7 to 1.0.

"rain sensing device" means a system which automatically shuts off the irrigation system when it rains.

"record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

"recreational area" means areas of active play or recreation such as sports fields, school yards, picnic grounds, or other areas with intense foot traffic.

"recycled water," "reclaimed water," or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation; not intended for human consumption.

"reference evapotranspiration" or "ET<sub>o</sub>" means a standard measurement of environmental parameters which affect the water use of plants. ET<sub>o</sub> is given in inches per day, month, or year as represented in Section 495, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.

"rehabilitated landscape" means any relandscaping project that requires a permit.

"run off" means water which is not absorbed by the soil or landscape to which it is applied and flows from the area. For example, run off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a severe slope.

"soil moisture sensing device" means a device that measures the amount of water in the soil.

"soil texture" means the classification of soil based on the percentage of sand, silt, and clay in the soil.

"sprinkler head" means a device which sprays water through a nozzle.

"static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.

"station" means an area served by one valve or by a set of valves that operate simultaneously.

"turf" means a surface layer of earth containing mowed grass with its roots. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

"valve" means a device used to control the flow of water in the irrigation system.

"water conservation concept statement" means a one-page checklist and a narrative summary of the project as shown in Section 492 (c) (1).

Authority cited: Section 65594, Gov. Code. Reference: Section 65597, Gov. Code.

## **Section 492. Provisions for New or Rehabilitated Landscapes**

### **Applicability**

**Except as provided in Section 492 (a) (3), this section shall apply to:**

- all new and rehabilitated landscaping for public agency projects and private development projects that require a permit; and
- developer-installed landscaping in single-family and multi-family projects.
- Projects subject to this section shall conform to the provisions in Section 492.

**This section shall not apply to:**

- homeowner-provided landscaping at single-family and multi-family projects;
- cemeteries;
- registered historical sites;
- ecological restoration projects that do not require a permanent irrigation system;
- mined-land reclamation projects that do not require a permanent irrigation system; or
- any project with a landscaped area less than 2,500 square feet.

### **Landscape Documentation Package**

A copy of the landscape documentation package conforming to this chapter shall be submitted to the city or county. No permit shall be issued until the city or county reviews and approves the landscape documentation package.

A copy of the approved landscape documentation package shall be provided to the property owner or site manager along with the record drawings and any other information normally forwarded to the property owner or site manager.

A copy of the Water Conservation Concept Statement and the Certificate of Substantial Completion shall be sent by the project manager to the local retail water purveyor.

**Each landscape documentation package shall include the following elements, which are described in Section 492 (c):**

- Water Conservation Concept Statement
- Calculation of the Maximum Applied Water Allowance
- Calculation of the Estimated Applied Water Use
- Calculation of the Estimated Total Water Use
- Landscape Design Plan
- Irrigation Design Plan
- Irrigation Schedules
- Maintenance Schedule
- Landscape Irrigation Audit Schedule

- Grading Design Plan
- Soil Analysis
- Certificate of Substantial Completion. (To be submitted after installation of the project.)
- If effective precipitation is included in the calculation of the Estimated Total Water Use, then an Effective Precipitation Disclosure Statement from the landscape professional and the property owner shall be submitted with the Landscape Documentation Package.

## Elements of Landscape Documentation Package

### Water Conservation Concept Statement

Each landscape documentation package shall include a cover sheet, referred to as the Water Conservation Concept Statement similar to the following example. It serves as a check list to verify that the elements of the landscape documentation package have been completed and has a narrative summary of the project.

#### SAMPLE WATER CONSERVATION CONCEPT STATEMENT

Project Site: \_\_\_\_\_ Project Number: \_\_\_\_\_

Project Location: \_\_\_\_\_

Landscape Architect/ Irrigation Designer/ Contractor: \_\_\_\_\_

Included in this project submittal package are:  
(Check to indicate completion)

\_\_\_ 1. Maximum Applied Water Allowance:

\_\_\_ gallons or cubic feet/year

\_\_\_ 2. Estimated Applied Water Use:

\_\_\_ gallons or cubic feet/year

\* \_\_\_ 2.(a) Estimated Amount of Water Expected from Effective Precipitation:

\_\_\_ gallons or cubic feet/year

\_\_\_ 3. Estimated Total Water Use:

\_\_\_ gallons or cubic feet/year

Note: \* If the design assumes that a part of the Estimated Total Water Use will be provided by precipitation, the Effective Precipitation Disclosure Statement in Section 494 shall be completed and submitted.

\_\_\_ 4. Landscape Design Plan

\_\_\_ 5. Irrigation Design Plan

\_\_\_ 6. Irrigation Schedules

\_\_\_ 7. Maintenance Schedule

\_\_\_ 8. Landscape Irrigation Audit Schedule

\_\_\_ 9. Grading Design Plan

\_\_\_ 10. Soil Analysis

Description of Project

(Briefly describe the planning and design actions that are intended to achieve conservation and efficiency in water use.)

Date: \_\_\_\_\_ Prepared By: \_\_\_\_\_

**The Maximum Applied Water Allowance**

A project's **Maximum Applied Water Allowance** shall be calculated using the following formula:

- $MAWA = (ET_o)(0.8)(LA)(0.62)$  where:
- MAWA = Maximum Applied Water Allowance (gallons per year)
- $ET_o$  = Reference Evapotranspiration (inches per year)
- 0.8 = ET Adjustment Factor
- LA = Landscaped Area (square feet)
- 0.62 = conversion factor (to gallons per square foot)

Two example calculations of the Maximum Applied Water Allowance are:

**PROJECT SITE ONE: Landscaped area of 50,000 sq. ft. in Fresno**

$$MAWA = (ET_o)(.8)(LA)(.62)$$

$$= (51 \text{ inches})(.8)(50,000 \text{ square feet})(.62)$$

Maximum Applied Water Allowance = 1,264,800 gallons per year  
(or 1,691 hundred-cubic-feet per year:  $1,264,800/748 = 1,691$ )

**PROJECT SITE TWO: Landscaped area of 50,000 sq. ft. in San Francisco**

$$MAWA = (ET_o)(.8)(LA)(.62)$$

$$= (35 \text{ inches})(.8)(50,000 \text{ square feet})(.62)$$

Maximum Applied Water Allowance = 868,000 gallons per year  
(or 1,160 hundred-cubic-feet per year)

Portions of landscaped areas in public and private projects such as parks, playgrounds, sports fields, golf courses, or school yards where turf provides a playing surface or serves other recreational purposes are considered recreational areas and may require water in addition to the Maximum Applied Water Allowance. A statement shall be included with the landscape design plan, designating recreational areas to be used for such purposes and specifying any needed amount of additional water above the Maximum Applied Water Allowance.

**Estimated Applied Water Use**

The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance.

A calculation of the Estimated Applied Water Use shall be submitted with the Landscape Documentation Package. It may be calculated by summing the amount of water recommended in the irrigation schedule.

### **Estimated Total Water Use**

A calculation of the Estimated Total Water Use shall be submitted with the Landscape Documentation Package. The Estimated Total Water Use may be calculated by summing the amount of water recommended in the irrigation schedule and adding any amount of water expected from effective precipitation (not to exceed 25 percent of the local annual mean precipitation) or may be calculated from a formula such as the following:

The Estimated Total Water Use for the entire landscaped area equals the sum of the Estimated Water Use of all hydrozones in that landscaped area.

$$EWU \text{ (hydrozone)} = [(ET_o)(PF)(HA)(.62)]/(IE)$$

$$EWU \text{ (hydrozone)} = \text{Estimated Water Use (gallons per year)}$$

ET<sub>o</sub> = Reference Evapotranspiration (inches per year)

PF = plant factor

HA = hydrozone area (square feet)

(.62) = conversion factor

IE = irrigation efficiency

If the Estimated Total Water Use is greater than the Estimated Applied Water Use due to precipitation being included as a source of water, an Effective Precipitation Disclosure Statement such as the one in Section 494 shall be included in the Landscape Documentation Package.

### **Landscape Design Plan**

A landscape design plan meeting the following requirements shall be submitted as part of the landscape documentation package.

#### **Plant Selection and Grouping**

- Any plants may be used in the landscape, providing the Estimated Applied Water Use recommended does not exceed the Maximum Applied Water Allowance and that the plants meet the specifications set forth in (ii), (iii) and (iv).
- Plants having similar water use shall be grouped together in distinct hydrozones.
- Plants shall be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged. The planting of trees is encouraged wherever it is consistent with the other provisions of this ordinance.
- Fire prevention needs shall be addressed in areas that are fire prone. Information about fire prone areas and appropriate landscaping for fire safety is available from local fire departments or the California Department of Forestry.

#### **Water Features**

- Recirculating water shall be used for decorative water features.
- Pool and spa covers are encouraged.

#### **Landscape Design Plan Specifications**

- The landscape design plan shall be drawn on project base sheets at a scale that accurately and clearly identifies:
- Designation of hydrozones.

- Landscape materials, trees, shrubs, groundcover, turf, and other vegetation. Planting symbols shall be clearly drawn and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated.
- Property lines and street names.
- Streets, driveways, walkways, and other paved areas.
- Pools, ponds, water features, fences, and retaining walls.
- Existing and proposed buildings and structures including elevation if applicable.
- Natural features including but not limited to rock outcroppings, existing trees, shrubs that will remain.
- Tree staking, plant installation, soil preparation details, and any other applicable planting and installation details.
- A calculation of the total landscaped area.
- Designation of recreational areas.

### **Irrigation Design Plan**

An irrigation design plan meeting the following conditions shall be submitted as part of the Landscape Documentation Package.

#### **Irrigation Design Criteria**

- **Runoff and Overspray.** Soil types and infiltration rate shall be considered when designing irrigation systems. All irrigation systems shall be designed to avoid runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Proper irrigation equipment and schedules, including features such as repeat cycles, shall be used to closely match application rates to infiltration rates therefore minimizing runoff.
- Special attention shall be given to avoid runoff on slopes and to avoid overspray in planting areas with a width less than ten feet, and in median strips.
- No overhead sprinkler irrigation systems shall be installed in median strips less than ten feet wide.
- **Irrigation Efficiency.** For the purpose of determining the maximum applied water allowance, irrigation efficiency is assumed to be 0.625. Irrigation systems shall be designed, maintained, and managed to meet or exceed 0.625 efficiency.

#### **Equipment.**

- **Water meters.** Separate landscape water meters shall be installed for all projects except for single family homes or any project with a landscaped area of less than 5,000 square feet.
- **Controllers.** Automatic control systems shall be required for all irrigation systems and must be able to accommodate all aspects of the design.
- **Valves.** Plants which require different amounts of water shall be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Anti-drain (check) valves shall be installed in strategic points to minimize or prevent low-head drainage.
- **Sprinkler heads.** Heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.
- **Rain Sensing Override Devices.** Rain sensing override devices shall be required on all irrigation systems.
- **Soil Moisture Sensing Devices.** It is recommended that soil moisture sensing devices be considered where appropriate.

## Recycled Water

- The installation of recycled water irrigation systems (dual distribution systems) shall be required to allow for the current and future use of recycled water, unless a written exemption has been granted as described in the following section (B) (ii).
- Irrigation systems shall make use of recycled water unless a written exemption has been granted by the local water agency, stating that recycled water meeting all health standards is not available and will not be available in the foreseeable future.
- The recycled water irrigation systems shall be designed and operated in accordance with all local and state codes.

## Irrigation Design Plan Specifications

- Irrigation systems shall be designed to be consistent with hydrozones.
- The irrigation design plan shall be drawn on project base sheets. It shall be separate from, but use the same format as, the landscape design plan. The scale shall be the same as that used for the landscape design plan described in Section 492 (c) (5) (C).
- The irrigation design plan shall accurately and clearly identify:
  - Location and size of separate water meters for the landscape.
  - Location, type, and size of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, and backflow prevention devices.
  - Static water pressure at the point of connection to the public water supply.
  - Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (psi) for each station.
- Recycled water irrigation systems as specified in the Section 492 (c) (4) (B).

## Irrigation Schedules

Irrigation schedules satisfying the following conditions shall be submitted as part of the Landscape Documentation Package.

An annual irrigation program with monthly irrigation schedules shall be required for the plant establishment period, for the established landscape, and for any temporarily irrigated areas.

The irrigation schedule shall:

- include run time (in minutes per cycle), suggested number of cycles per day, and frequency of irrigation for each station; and
- provide the amount of applied water (in hundred cubic feet, gallons, or in whatever billing units the local water supplier uses) recommended on a monthly and annual basis.

The total amount of water for the project shall include water designated in the Estimated Total Water Use calculation plus water needed for any water features, which shall be considered as a high water using hydrozone.

Recreational areas designated in the landscape design plan shall be highlighted and the irrigation schedule shall indicate if any additional water is needed above the Maximum Applied Water Allowance because of high plant factors (but not due to irrigation inefficiency.)

Whenever possible, irrigation scheduling shall incorporate the use of evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations to apply the appropriate levels of water for different climates.

Whenever possible, landscape irrigation shall be scheduled between 2:00 a.m. and 10:00 a.m. to avoid irrigating during times of high wind or high temperature.

### **Maintenance Schedules**

A regular maintenance schedule satisfying the following conditions shall be submitted as part of the Landscape Documentation Package:

Landscapes shall be maintained to ensure water efficiency. A regular maintenance schedule shall include but not be limited to checking, adjusting, and repairing irrigation equipment; resetting the automatic controller; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning, and weeding in all landscaped areas.

Whenever possible, repair of irrigation equipment shall be done with the originally specified materials or their equivalents.

### **Landscape Irrigation Audit Schedules**

A schedule of landscape irrigation audits, for all but single family residences, satisfying the following conditions shall be submitted to the city or county as part of the Landscape Documentation Package.

At a minimum, audits shall be in accordance with the State of California Landscape Water Management Program as described in the Landscape Irrigation Auditor Handbook, the entire document, which is hereby incorporated by reference. (See Landscape Irrigation Auditor Handbook (June 1990) version 5.5 [formerly Master Auditor Training].)

The schedule shall provide for landscape irrigation audits to be conducted by certified landscape irrigation auditors at least once every five years.

### **Grading Design Plan**

Grading design plans satisfying the following conditions shall be submitted as part of the Landscape Documentation Package.

A grading design plan shall be drawn on project base sheets. It shall be separate from but use the same format as the landscape design plan.

The grading design plan shall indicate finished configurations and elevations of the landscaped area, including the height of graded slopes, drainage patterns, pad elevations, and finish grade.

### **Soils**

A soil analysis satisfying the following conditions shall be submitted as part of the Landscape Documentation Package.

Determination of soil texture, indicating the percentage of organic matter.

An approximate soil infiltration rate (either measured or derived from soil texture/infiltration rate tables.) A range of infiltration rates shall be noted where appropriate.

Measure of pH, and total soluble salts.

A mulch of at least three inches shall be applied to all planting areas except turf.

### **Certification**

Upon completing the installation of the landscaping and the irrigation system, an irrigation audit shall be conducted by a certified landscape irrigation auditor prior to the final field observation. (See Landscape Irrigation Auditor Handbook as referenced in Section 492 (c)(9)(A)).

A licensed landscape architect or contractor, certified irrigation designer, or other licensed or certified professional in a related field shall conduct a final field observation and shall provide a certificate of substantial completion to the city or county. The certificate shall specifically indicate that plants were installed as specified, that the irrigation system was installed as designed, and that an irrigation audit has been performed, along with a list of any observed deficiencies.

Certification shall be accomplished by completing a Certificate of Substantial Completion and delivering it to the city or county, to the retail water supplier, and to the Owner of Record. A sample of such a form, which shall be provided by the city or county is:

**SAMPLE CERTIFICATE OF SUBSTANTIAL COMPLETION**

Project Site: \_\_\_\_\_ Project Number: \_\_\_\_\_

Project Location: \_\_\_\_\_

Preliminary Project Documentation Submitted: (check indicating submittal)

\_\_\_ 1. Maximum Applied Water Allowance:

\_\_\_ (gallons or cubic feet per year)

\_\_\_ 2. Estimated Applied Water Use:

\_\_\_ (gallons or cubic feet/year)

\* \_\_\_ 2a. Estimated Amount of Water Expected from Effective Precipitation:

\_\_\_ (gallons or cubic feet/year)

\_\_\_ 3. Estimated Total Water Use:

\_\_\_ (gallons or cubic feet/year)

Note: \* If the design assumes that a part of the Estimated Total Water Use will be provided by precipitation, the Effective Precipitation Disclosure Statement in Section 495 shall be completed and submitted. The Estimated Amount of Water Expected from Effective Precipitation shall not exceed 25 percent of the local annual mean precipitation (average rainfall.)

\_\_\_ 4. Landscape Design Plan

\_\_\_ 5. Irrigation Design Plan

\_\_\_ 6. Irrigation Schedules

\_\_\_ 7. Maintenance Schedule

\_\_\_ 8. Landscape Irrigation Audit Schedule

\_\_\_ 9. Grading Design Plan

\_\_\_ 10. Soil Analysis

Post-Installation Inspection: (Check indicating substantial completion)

\_\_\_ A. Plants installed as specified

\_\_\_ B. Irrigation system installed as designed

\_\_\_ dual distribution system for recycled water

\_\_\_ minimal run off or overspray

\_\_\_ C. Landscape Irrigation Audit performed

\_\_\_ Project submittal package and a copy of this certification has been provided to owner/manager and local water agency

Comments:

I/we certify that work has been installed in accordance with the contract documents.

\_\_\_\_\_

Contractor Signature, Date, State License Number

I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the Water Efficient Landscape Ordinance and that the landscape planting and irrigation installation conform with the approved plans and specifications.

---

Landscape Architect Signature, Date, State License Number

or Irrigation Designer/Consultant

or Licensed or Certified Professional in a Related Field

I/we certify that I/we have received all of the contract documents and that it is our responsibility to see that the project is maintained in accordance with the contract documents.

---

Owner Signature, Date

Authority cited: Section 65594, Gov. Code. Reference: Section 65597, Gov. Code.

## **Public Education**

Publications.

- Local agencies shall provide information to owners of all new, single family residential homes regarding the design, installation, and maintenance of water efficient landscapes.
- Information about the efficient use of landscape water shall be provided to water users throughout the community.

Model Homes.

- At least one model home that is landscaped in each project consisting of eight or more homes shall demonstrate via signs and information the principles of water efficient landscapes described in this ordinance.
- Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as hydrozones, irrigation equipment and others which contribute to the overall water efficient theme.
- Information shall be provided about designing, installing, and maintaining water efficient landscapes.

Authority cited: Section 65594, Gov. Code. Reference: Section 65597.

## **Section 493. Provisions For Existing Landscapes**

### **Water Management**

All existing landscaped areas to which the city or county provides water that are one acre or more, including golf courses, green belts, common areas, multi-family housing, schools, businesses, parks, cemeteries, and publicly owned landscapes shall have a landscape irrigation audit at least every five years. At a minimum, the audit shall be in accordance with the California Landscape Water Management Program as described in the Landscape Irrigation Auditor Handbook, the entire document which is hereby incorporated by reference. (See Landscape Irrigation Auditor Handbook, Dept. of Water Resources, Water Conservation Office (June 1990) version 5.5.)

If the project's water bills indicate that they are using less than or equal to the Maximum Applied Water Allowance for that project site, an audit shall not be required.

Recognition of projects that stay within the Maximum Applied Water Allowance is encouraged.

### **Water Waste Prevention**

Cities and counties shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Penalties for violation of these prohibitions shall be established locally.

Authority cited: Section 65594, Gov. Code. Reference: Section 65597, Gov. Code.

## Model Landscape Ordinance

### Section 494. Effective Precipitation

If effective precipitation is included in the calculation of the Estimated Total Water Use, an Effective Precipitation Disclosure Statement (similar to the following Sample Effective Precipitation Disclosure Statement) shall be completed, signed, and submitted with the Landscape Documentation Package. No more than 25 percent of the local annual mean precipitation shall be considered effective precipitation in the calculation of the Estimated Total Water Use.

#### SAMPLE EFFECTIVE PRECIPITATION DISCLOSURE STATEMENT

I certify that I have informed the project owner and developer that this project depends on \_\_\_\_\_ (gallons or cubic feet) of effective precipitation per year. This represents \_\_\_\_\_ percent of the local mean precipitation of \_\_\_\_\_ inches per year.

I have based my assumptions about the amount of precipitation that is effective upon: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I certify that I have informed the project owner and developer that in times of drought, there may not be enough water available to keep the entire landscape alive.

\_\_\_\_\_

Licensed or Certified Landscape Professional

I certify that I have been informed by the licensed or certified landscape professional that this project depends upon \_\_\_\_\_ (gallons or cubic feet) of effective precipitation per year. This represents \_\_\_\_\_ percent of the local mean precipitation of \_\_\_\_\_ inches per year.

I certify that I have been informed that in times of drought, there may not be enough water available to keep the entire landscape alive.

\_\_\_\_\_

Owner Developer

## Section 495. Reference Evapotranspiration

in inches (Historical Data, extrapolated from 12-Month Normal Year ETo Maps and U.C. publication 21426)

Orange Laguna Beach

2.2 2.6 3.4 4.6 4.6 4.9 4.9 4.4 3.4 2.4 1.9

## 22. County of Orange Water Quality Ordinance

# COUNTY OF ORANGE WATER QUALITY ORDINANCE

## ARTICLE 1. GENERAL PROVISIONS

### Sec. 9-1-10. Adoption of the Water Quality Ordinance.

Pursuant to the Orange County Flood Control Act, section 36-2, subdivision (b), paragraphs (17) and (18), and section 36-2.5 of West's Annotated California Water Code Appendix, which, among other things, authorize the District to "regulate, prohibit, or control the discharge of pollutants, waste, or any other material into the district's facilities..." and "[to] establish compliance with any federal, state, or local law, order, regulation, or rule..." there is hereby adopted a Water Quality Ordinance.

(Ord. No. 3988, § 1, 7-22-97)

### Sec. 9-1-20. Purpose.

The purpose of the Water Quality Ordinance is to prescribe regulations as mandated by the Clean Water Act [33 USC Sec. 1251 et seq., as amended] to effectively prohibit non-stormwater discharges into the storm sewers and to reduce the discharge of pollutants. Human activities, such as agriculture, construction and the operation and maintenance of an urban infrastructure may result in undesirable discharges of pollutants and certain sediments, which may accumulate in local drainage channels and waterways and eventually may be deposited in the waters of the United States. This Ordinance will improve water quality by controlling the pollutants which enter the network of storm drains throughout Orange County.

(Ord. No. 3988, § 1, 7-22-97)

### Sec. 9-1-30. Definitions.

(a) *Authorized Inspector* shall mean the person designated by the Director of Public Facilities and Resources Department and persons designated by and under his/her instruction and supervision, who are assigned to investigate compliance and detect violations of this Ordinance.

(b) *Co-permittee* shall mean the County of Orange, the Orange County Flood Control District, and all the municipalities within Orange County which are responsible for compliance with the terms of the NPDES Permit.

(c) *County* shall mean the County of Orange, California.

(d) *DAMP* shall mean the Orange County Drainage Area Management Plan, as the same may be amended from time to time.

(e) *Development project guidance* shall mean DAMP Chapter VII and the Appendix thereto, entitled Best Management Practices for New Development Including Non-Residential Construction Projects, and all subsequent amendments thereto.

(f) *Discharge* shall mean any release, spill, leak, pump, flow, escape, leaching (including subsurface migration or deposition to groundwater), dumping or disposal of any liquid, semi-solid or solid substance.

(g) *Discharge exception* shall mean the group of activities not restricted or prohibited by this Ordinance, including only:

Discharges composed entirely of stormwater; discharges subject to regulation under current EPA or Regional Water Quality Control Board issued NPDES permits, State General Permits, or other waivers, permits or approvals granted by an appropriate government agency; discharges from property for which best management practices set forth in the development project guidance are being implemented and followed; discharges to the stormwater drainage system from potable water line flushing, fire fighting activities, landscape irrigation systems, diverted stream flows, rising groundwater, and de minimis groundwater infiltration to the stormwater drainage system (from leaks in joints or connections or cracks in water drainage pipes or

conveyance systems); discharges from potable water sources, passive foundation drains, air conditioning condensation and other building roof runoff, agricultural irrigation water runoff, water from crawl space pumps, passive footing drains, lawn watering, noncommercial vehicle washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges; discharges of reclaimed water generated by a lawfully permitted water treatment facility; street wash waters when related to cleaning and maintenance by, or on behalf of, the District; discharges authorized pursuant to a permit issued under Article 6 hereof; discharges allowable under the domestic sewage exception; discharges for which the discharger has reduced to the extent feasible the amount of pollutants in such discharge; and, discharges authorized pursuant to federal or state laws or regulations.

In any action taken to enforce this division, the burden shall be on the person who is the subject of such action to establish that a discharge was within the scope of this discharge exception.

(h) *District* shall mean the Orange County Flood Control District.

(i) *Domestic sewage exception* shall mean discharges which are exceptions to this division and excluded from the definition of prohibited discharge, as defined herein, including only: Discharges composed entirely of accidental spills of untreated sanitary wastes (commonly called domestic sewage) and other wastes, but limited solely to wastes that are controlled by and are within publicly owned wastewater treatment system collection facilities, immediately prior to the accidental spill.

(j) *Enforcing Attorney* shall mean the District Attorney acting as counsel to the District or his/her designee, which counsel is authorized to take enforcement action as described herein. For purposes of criminal prosecution, only the District Attorney or his/her designee shall act as the Enforcing Attorney.

(k) *EPA* shall mean the Environmental Protection Agency of the United States of America.

(l) *Hearing Officer* shall mean the person designated by the Director of the Public Facilities and Resources Department who shall preside at the administrative hearings authorized by this division and issue final decisions on matters raised therein.

(m) *Illicit connection* shall mean any man-made conveyance or drainage system, pipeline, conduit, inlet or outlet, through which the discharge of any pollutant to the stormwater drainage system occurs or may occur. The term "illicit connection" shall not include legal nonconforming connections or connections to the stormwater drainage system that are hereinafter authorized by the agency with jurisdiction over the system at the location at which the connection is made.

(n) *Invoice for Costs* shall mean the actual costs and expenses of the District, including but not limited to administrative overhead, salaries and other expenses recoverable under State law, incurred during any inspection conducted pursuant to Article 2 of this division, or where a notice of noncompliance, administrative compliance order or other enforcement option under Article 5 of this division is utilized to obtain compliance with this division.

(o) *Legal nonconforming connection* shall mean connections to the stormwater drainage system existing as of the adoption of this division that were in compliance with all federal, state and local rules, regulations, statutes and administrative requirements in effect at the time the connection was established, including but not limited to any discharge permitted pursuant to the terms and conditions of an individual discharge permit issued pursuant to the Industrial Waste Ordinance, County Ordinance No. 703.

(p) *New Development* shall mean all public and private residential (whether single family, multi-unit or planned unit development), industrial, commercial, retail, and other nonresidential construction projects, or grading for future construction, for which either a discretionary land use approval, grading permit, building permit or nonresidential plumbing permit is required.

(q) *Nonresidential plumbing permit* shall mean a plumbing permit authorizing the construction and/or installation of facilities for the conveyance of liquids other than stormwater, potable water, reclaimed water or domestic sewage.

(r) *NPDES permit* shall mean the currently applicable municipal discharge permit(s) issued by the Regional Water Quality Control Board, Santa Ana and San Diego Regions, which establish waste discharge requirements applicable to storm runoff within the District.

(s) *Person* shall mean any natural person as well as any corporation, partnership, government entity or subdivision, trust, estate, cooperative association, joint venture, business entity, or other similar entity, or the agent, employee or representative of any of the above.

(t) *Pollutant* shall mean any liquid, solid or semi-solid substances, or combination thereof, including and not limited to:

(1) Artificial materials (such as floatable plastics, wood products or metal shavings).

(2) Household waste (such as trash, paper, plastics, cleaning chemicals, yard wastes, animal fecal materials, used oil and fluids from vehicles, lawn mowers and other common household equipment).

(3) Metals and nonmetals, including compounds of metals and nonmetals (such as cadmium, lead, zinc, copper, silver, nickel, chromium, cyanide, phosphorus and arsenic) with characteristics which cause an adverse effect on living organisms.

(4) Petroleum and related hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants and grease).

(5) Animal wastes (such as discharge from confinement facilities, kennels, pens, and recreational facilities, including, stables, show facilities, and polo fields).

(6) Substances having a pH less than 6.5 or greater than 8.6, or unusual coloration, turbidity or odor.

(7) Waste materials and wastewater generated on construction sites and by construction activities (such as painting and staining; use of sealants and glues; use of lime; use of wood preservatives and solvents; disturbance of asbestos fibers, paint flakes or stucco fragments; application of oils, lubricants, hydraulic, radiator or battery fluids; construction equipment washing, concrete pouring and cleanup; use of concrete detergents; steam cleaning or sand blasting; use of chemical degreasing or diluting agents; and use of super chlorinated water for potable water line flushing).

(8) Materials causing an increase in biochemical oxygen demand, chemical oxygen demand or total organic carbon.

(9) Materials which contain base/neutral or acid extractable organic compounds.

(10) Those pollutants defined in section 1362(6) of the Federal Clean Water Act; and

(11) Any other constituent or material, including but not limited to pesticides, herbicides, fertilizers, fecal coliform, fecal streptococcus or enterococcus, or eroded soils, sediment and particulate materials, in quantities that will interfere with or adversely affect the beneficial uses of the receiving waters, flora or fauna of the State.

(u) *Prohibited discharge* shall mean any discharge, which contains any pollutant, from public or private property to (i) the stormwater drainage system; (ii) any upstream flow, which is tributary to the stormwater drainage system; (iii) any groundwater, river, stream, creek, wash or dry weather arroyo, wetlands area, marsh, coastal slough, or (iv) any coastal harbor, bay, or the Pacific Ocean. The term "prohibited discharge" shall not include discharges allowable under the discharge exception.

(v) *Significant redevelopment* shall mean the rehabilitation or reconstruction of public or private residential (whether single family, multi-unit or planned unit development), industrial, commercial, retail, or other nonresidential structures, for which either a discretionary land use approval, grading permit, building permit or nonresidential plumbing permit is required.

(w) *State general permit* shall mean either the State general industrial stormwater permit or the State general construction permit or any other State general permit that has been or will be adopted and the terms and requirements of any such permit of either or both. In the event the U.S. Environmental Protection Agency revokes the in-lieu permitting authority of the State Water

Resources Control Board, then the term State general permit shall also refer to any EPA administered stormwater control program for industrial and construction activities.

(x) *Stormwater drainage system* shall mean street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet or other facility, which is a part of a tributary to the county-wide stormwater runoff system and owned, operated, maintained or controlled by the County of Orange, the Orange County Flood Control District or any co-permittee city, and used for the purpose of collecting, storing, transporting, or disposing of stormwater.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 2. ILLICIT CONNECTIONS AND PROHIBITED DISCHARGES**

### **Sec. 9-1-40. Prohibition on illicit connections and prohibited discharges.**

(a) No person shall:

(1) Construct, maintain, operate and/or utilize any illicit connection.

(2) Cause, allow or facilitate any prohibited discharge.

(3) Act, cause, permit or suffer any agent, employee, or independent contractor, to construct, maintain, operate or utilize any illicit connection, or cause, allow or facilitate any prohibited discharge.

(b) The prohibition against illicit connections shall apply irrespective of whether the illicit connection was established prior to the date of enactment of this division; however, legal nonconforming connections shall not become illicit connections until the earlier of the following:

(1) For all structural improvements to property installed for the purpose of discharge to the stormwater drainage system, the expiration of five (5) years from the adoption of this division.

(2) For all nonstructural improvements to property existing for the purpose of discharge to the stormwater drainage system, the expiration of six (6) months following delivery of a notice to the owner or occupant of the property, which states a legal nonconforming connection has been identified. The notice of a legal nonconforming connection shall state the date of expiration of use under this division.

A reasonable extension of use may be authorized by the Director of the Public Facilities and Resources Department or the authorized inspector upon consideration of the following factors:

(1) The potential adverse effects of the continued use of the connection upon the beneficial uses of receiving waters;

(2) The economic investment of the discharger in the legal nonconforming connection; and

(3) The financial effect upon the discharger of a termination of the legal nonconforming connection.

(c) A civil or administrative violation of section 9-1-40(a) shall occur irrespective of the negligence or intent of the violator to construct, maintain, operate or utilize an illicit connection or to cause, allow or facilitate any prohibited discharge.

(d) If an Authorized Inspector reasonably determines that a discharge, which is otherwise within the discharge exception, may adversely affect the beneficial uses of receiving waters, then the Authorized Inspector may give written notice to the owner of the property or facility that the discharge exception shall not apply to the subject discharge following expiration of the thirty-day period commencing upon delivery of the notice. Upon expiration of the thirty-day period any such discharge shall constitute a violation of section 9-1-40(a).

(e) If a request for an extension of use is denied, the owner or occupant of property on which a legal nonconforming connection exists may request an administrative hearing, pursuant to the procedures set forth in Article 5, subsections 9-1-70(f) through (j), for an extension of the period allowed for continued use of the connection.

(Ord. No. 3988, § 1, 7-22-97)

### **ARTICLE 3. CONTROLS FOR WATER QUALITY MANAGEMENT**

#### **Sec. 9-1-50. New development and significant redevelopment.**

(a) All new development and significant redevelopment within the unincorporated and incorporated areas of the county shall be undertaken in accordance with the DAMP, including but not limited to the development project guidance.

(b) Prior to the issuance by the District of a grading permit, building permit or nonresidential plumbing permit for any new development or significant redevelopment, the public facilities and resources department and/or planning and development services department shall review the project plans and impose terms, conditions and requirements on the project in accordance with section 9-1-50(a). If the new development or significant redevelopment will be approved without application for a grading permit, building permit or nonresidential plumbing permit, the public facilities and resources department and/or planning and development services department shall review the project plans and impose terms, conditions and requirement on the project in, accordance with section 9-1-50(a) prior to the issuance of a discretionary land use approval or, at the District's discretion, prior to recordation of a subdivision map.

(c) Notwithstanding the foregoing sections 9-1-50(a) and (b), compliance with the development project guidance shall not be required for construction of (1) a (one) single family detached residence or (2) improvements, for which a building permit is required, to a (one) single-family detached residence unless the public facilities and resources department and/or planning and development services department determines that the construction may result in the discharge of significant levels of a pollutant into a tributary to the stormwater drainage system.

(d) Compliance with the conditions and requirements of the DAMP shall not exempt any person from the requirement to independently comply with each provision of this division.

(e) If the public facilities and resources department and/or planning and development services department determines that the project will have a de minimis impact on the quality of stormwater runoff, then it may issue a written waiver of the requirement for compliance with the provisions of the development project guidance.

(f) The owner of a new development or significant redevelopment project, or upon transfer of the property, its successors and assigns, shall implement and adhere to the terms, conditions and requirements imposed pursuant to section 9-1-50(a) on a new development or significant redevelopment project.

(1) Each failure by the owner of the property, or its successors or assigns, to implement and adhere to the terms, conditions and requirements imposed pursuant to section 9-1-50(a) on a new development or significant redevelopment project shall constitute a violation of this division.

(g) The public facilities and resources department and/or planning and development services department may require that the terms, conditions and requirements imposed pursuant to section 9-1-50(a) be recorded with the County Recorder's office by the property owner. The signature of the owner of the property or any successive owner shall be sufficient for the recording of these terms, conditions and requirements and a signature on behalf of the District shall not be required for recordation.

(Ord. No. 3988, § 1, 7-22-97)

#### **Sec. 9-1-51. Cost recovery.**

The District shall be reimbursed by the project applicant for all costs and expenses incurred by the public facilities and resources department and/or planning and development services department in the review of new development or significant redevelopment projects for

compliance with the DAMP. The public facilities and resources department and/or planning and development services department may elect to require a deposit of estimated costs and expenses, and the actual costs and expenses shall be deducted from the deposit, and the balance, if any, refunded to the project applicant.  
(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-52. Litter control.**

No person shall discard any waste material including but not limited to common household rubbish or garbage of any kind (whether generated or accumulated at a residence, business or other location), upon any public property, whether occupied, open or vacant, including but not limited to any street, sidewalk, alley, right-of-way, open area or point of entry to the stormwater drainage system.  
(Ord. No. 3988, § 1, 7-22-97)

**ARTICLE 4. INSPECTIONS**

**Sec. 9-1-60. Scope of inspections.**

(a) *Right to inspect.* Prior to commencing any inspection as hereinbelow authorized, the Authorized Inspector shall obtain either the consent of the owner or occupant of the property or shall obtain an administrative inspection warrant or criminal search warrant.

(b) *Entry to inspect.* The Authorized Inspector may enter property to investigate the source of any discharge to any public street, inlet, gutter, storm drain or the stormwater drainage system located within the jurisdiction of the District.

(c) *Compliance assessments.* The Authorized Inspector may inspect property for the purpose of verifying compliance with this division, including but not limited to (i) identifying products produced, processes conducted, chemicals used and materials stored on or contained within the property, (ii) identifying point(s) of discharge of all wastewater, process water systems and pollutants, (iii) investigating the natural slope at tee location, including drainage patterns and man-made conveyance systems, (iv) establishing the location of all points of discharge from the property, whether by surface runoff or through a storm drain system, (v) locating any illicit connection or the source of prohibited discharge, (vi) evaluating compliance with any permit issued pursuant to Article 6 hereof, and (vii) investigating the condition of any Legal Nonconforming Connection.

(d) *Portable equipment.* For purposes of verifying compliance with this division, the Authorized Inspector may inspect any vehicle, truck, trailer, tank truck or other mobile equipment.

(e) *Records review.* The Authorized Inspector may inspect all records of the owner or occupant of property relating to chemicals or processes presently or previously occurring on-site, including material and/or chemical inventories, facilities maps or schematics and diagrams, material safety data sheets, hazardous waste manifests, business plans, pollution prevention plans, State general permits, stormwater pollution prevention plans, monitoring program plans and any other record(s) relating to illicit connections, prohibited discharges, a legal nonconforming connection or any other source of contribution or potential contribution of pollutants to the stormwater drainage system.

(f) *Sample and test.* The Authorized Inspector may inspect, sample and test any area runoff, soils area (including groundwater testing), process discharge, materials within any waste storage area (including any container contents), and/or treatment system Discharge for the purpose of determining the potential for contribution of pollutants to the Stormwater Drainage System. The Authorized Inspector may investigate the - integrity of all storm drain and sanitary

sewer systems, any Legal Nonconforming Connection or other pipelines on the property using appropriate tests, including but not limited to smoke and dye tests or video surveys. The Authorized Inspector may take photographs or video tape, make measurements or drawings, and create any other record reasonably necessary to document conditions on the property.

(g) *Monitoring.* The Authorized Inspector may erect and maintain monitoring devices for the purpose of measuring any discharge or potential source of discharge to the stormwater drainage system.

(h) *Test results.* The owner or occupant of property subject to inspection shall, on submission of a written request to the Authorized Inspector receive copies of all monitoring and test results conducted at the property.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 5. ENFORCEMENT**

### **Sec. 9-1-70. Administrative remedies.**

(a) *Notice of noncompliance.* The Authorized Inspector may deliver to the owner or occupant of any property, or to any Person responsible for an Illicit Connection or Prohibited Discharge a Notice of Noncompliance. The Notice of Noncompliance shall be delivered in accordance with section 9-1-70(e) of this division.

(1) The notice of noncompliance shall identify the provision(s) of this division, or the applicable permit which has been violated. The notice of noncompliance shall state that continued noncompliance may result in additional enforcement actions against the owner, occupant and/or person.

(2) The notice of noncompliance shall state a compliance date that must be met by the owner, occupant and/or person; provided, however, that the compliance date may not exceed ninety (90) days unless the Authorized Inspector extends the compliance deadline an additional period not exceeding ninety (90) days where good cause exists for the extension.

(b) *Administrative compliance orders.*

(1) The Authorized Inspector may issue an Administrative Compliance Order. The Administrative Compliance Order shall be delivered in accordance with section 9-1-70(e) of this division. The Administrative Compliance Order may be issued to:

a. The owner or occupant of any property requiring abatement of conditions on the property that cause or may cause a prohibited discharge or an illicit connection in violation of this division;

b. The owner of property subject to terms, conditions or requirements imposed on a project in accordance with section 9-1-50(a) to ensure adherence to those terms, conditions and requirements.

c. A permittee subject to the requirements of any permit issued pursuant to Article 6 hereof to ensure with terms, and requirements of the permit.

d. Any person responsible for an illicit connection or prohibited discharge.

(2) The administrative compliance order may include the following terms and requirements:

a. Specific steps and time schedules for compliance as reasonably necessary to eliminate an existing prohibited discharge or to prevent the imminent threat of a prohibited discharge, including but not limited to a prohibited discharge from any pond, pit, well, surface impoundment, holding or storage area;

b. Specific steps and time schedules for compliance as reasonably necessary to discontinue any illicit connection;

c. Specific requirements for containment, cleanup, removal, storage, installation of overhead covering, or proper disposal of any pollutant having the potential to contact stormwater runoff;

d. Any other terms or requirements reasonably calculated to prevent imminent threat of or continuing violations of this division, including, but not limited to requirements for compliance with best management practices guidance documents promulgated by any federal, State of California or regional agency;

e. Any other terms or requirements reasonably calculated to achieve full compliance with the terms, conditions and requirements of any permit issued pursuant hereto.

(c) *Cease and desist orders.*

(1) The Authorized Inspector may issue a cease and desist order. A cease and desist order shall be delivered in accordance with section 9-1-70(e) of this division. A cease and desist order may direct the owner or occupant of any property and/or other person responsible for a violation of this division to:

a. Immediately discontinue any illicit connection, or prohibited discharge to the stormwater drainage system;

b. Immediately container divert any flow of water off occurring in violation of any provision of this division;

c. Immediately discontinue any other violation of this division.

d. Clean up the area affected by the violation.

(2) The Authorized Inspector may direct by cease and desist order that: (1) the owner of any property, or his successor-in-interest, which property is subject to any conditions or requirements issued pursuant to section 9-1-50(a); or, (2) any permittee under any permit issued pursuant to Article 6 hereof:

a. Immediately cease any activity not in compliance with the conditions or requirements issued pursuant to section 9-1-50(a) or the terms, conditions and requirements of the applicable permit.

(d) *Recovery of costs.* The Authorized Inspector may deliver to the owner or occupant of any property, any permittee or any other person who becomes subject to a notice of noncompliance or administrative order, an invoice for costs. An invoice for costs shall be delivered in accordance with section 9-1-70(e) of this division. An invoice for costs shall be immediately due and payable to the District for the actual costs incurred by the District in issuing and enforcing any notice or order.

(1) If any owner or occupant, permittee or any other person subject to an invoice for costs fails to either pay the invoice for costs or appeal successfully the invoice for costs in accordance with section 9-1-70(f), then the enforcing attorney may institute collection proceedings.

(e) *Delivery of notice.* Any notice of noncompliance, administrative compliance order, cease and desist order or invoice of costs to be delivered pursuant to the requirements of this division shall be subject to the following:

(1) The notice shall state that the recipient has a right to appeal the matter as set forth in subsections 9-1-70(f) through (j) of this division.

(2) Delivery shall be deemed complete upon (a) personal service to the recipient; (b) deposit in the U.S. mail, postage pre-paid for first class delivery; or (c) facsimile service with confirmation of receipt.

(3) Where the recipient of notice is the owner of the property, the address for notice shall be the address from the most recently issued equalized assessment roll for the property or as otherwise appears in the current records of the County.

(4) Where the owner or occupant of any property cannot be located after the reasonable efforts of the Authorized Inspector, a Notice of Noncompliance or Cease and Desist Order shall be deemed delivered after posting on the property for a period of ten (10) business days.

(f) *Administrative hearing for notices of noncompliance, administrative compliance orders, invoices for costs and adverse determinations.* Except as set forth in section 9-1-70(h), any person receiving a notice of noncompliance, administrative compliance order, a notice of legal nonconforming connection, an invoice for costs, or any person who is subject to any adverse

determination made pursuant to this division, may appeal the matter by requesting an administrative hearing. Notwithstanding the foregoing, these administrative appeal procedures shall not apply to criminal proceedings initiated to enforce this division.

(g) *Request for administrative hearing.* Any person appealing a notice of noncompliance, an administrative compliance order, a notice of legal nonconforming connection, an invoice for costs or an adverse determination shall, within thirty (30) days of receipt thereof, file a written request for an administrative hearing, accompanied by an administrative hearing fee as established by separate resolution, with the Office of the Clerk of the Orange County Board of Supervisors, with a copy of the request for administrative hearing mailed on the date of filing to the Director, Public Facilities and Resources Department. Thereafter, a hearing on the matter shall be held before the Hearing Officer within sixty (60) days of the date of filing of the written request unless, in the reasonable discretion of the Hearing Officer and pursuant to a written request by the appealing party, a continuance of the hearing is granted.

(h) *Administrative hearing for cease and desist orders and emergency abatement actions.* An administrative hearing on the issuance of a cease and desist order or following an emergency abatement action shall be held within five (5) business days following the issuance of the order or the action of abatement, unless the hearing (or the time requirement for the hearing) is waived in writing by the party subject to the cease and desist order or the emergency abatement. A request for an administrative hearing shall not be required from the person subject to the cease and desist order or the emergency abatement action.

(i) *Rearing proceedings.* The Authorized Inspector shall appear in support of the notice, order, determination, invoice for costs or emergency abatement action, and the appealing party shall appear in support of withdrawal of the notice, order, determination, invoice for costs, or in opposition to the emergency abatement action. Except as set forth in section 9-1-30(g) (definition of discharge exception), the District shall have the burden of supporting any enforcement or other action by a preponderance of the evidence. Each party shall have the right to present testimony and other documentary evidence as necessary for explanation of the case.

(j) *Final decision and appeal.* The final decision of the Hearing Officer shall issue within ten (10) business days of the conclusion of the hearing and shall be delivered by first-class mail, postage prepaid, to the appealing party. The final decision shall include notice that any legal challenge to the final decision shall be made pursuant to the provisions of Code of Civil Procedure sections 1094.5 and 1094.6 and shall be commenced within ninety (90) days following the final decision. The administrative hearing fee paid by a prevailing party in an appeal shall be refunded.

(1) Notwithstanding this section 9-1-70(j), the final decision of the Hearing Officer in any proceeding determining the validity of a cease and desist order or following an emergency abatement action shall be mailed within five (5) business days following the conclusion of the hearing.

(k) *District abatement.* In the event the owner of property, the operator of a facility, a permittee, or any other person fails to comply with any provision of a compliance schedule issued to such owner, operator, permittee or person pursuant to this division, the Authorized Inspector may request the Enforcing Attorney to obtain an abatement warrant or other appropriate judicial authorization to enter the property, abate the condition and restore the area. Any costs incurred by the District in obtaining and carrying out an abatement warrant or other judicial authorization may be recovered pursuant to section 9-1-71(d).

(Ord. No. 3988, § 1, 7-22-97)

### **Sec. 9-1-71. Nuisance.**

Any condition in violation of the prohibitions of this division, including but not limited to the maintenance or use of any illicit connection or the occurrence of any prohibited discharge,

shall constitute a threat to the public health, safety and welfare, and is declared and deemed a nuisance pursuant to Government Code section 38771.

(a) *Court order to enjoin or abate.* At the request of the Director, Public Facilities and Resources Department or his/her designee, the Enforcing Attorney may seek a court order to enjoin and/or abate the nuisance.

(b) *Notice to owner and occupant.* Prior to seeking any court order to enjoin or abate a nuisance or threatened nuisance, the Director, Public Facilities and Resources Department or his/her designee, shall provide notice of the proposed injunction or abatement to the owner and occupant, if any, of the property where the nuisance or threatened nuisance is occurring.

(c) *Emergency Abatement.* In the event the nuisance, constitutes an imminent danger to public safety or the environment, the Authorized Inspector may enter the property from which the nuisance emanates, abate the nuisance and restore any property affected by the nuisance. To the extent reasonably practicable, informal notice shall be provided to the owner and occupant prior to abatement. If necessary to protect the public safety or the environment, abatement may proceed without prior notice to or consent from the owner or occupant thereof and without judicial warrant.

(1) An imminent danger shall include, but is not limited to, exigent circumstances created by the dispersal of pollutants, where the same presents a significant and immediate threat to the public safety or the environment.

(2) Notwithstanding the authority of the District to conduct an emergency abatement action, an administrative hearing pursuant to section 9-1-70(h) hereinabove shall follow the abatement action.

(d) *Reimbursement of costs.* All costs incurred by the District in responding to any nuisance, all administrative expenses and all other expenses, recoverable under State law, shall be recoverable from the person(s) creating, causing, committing, allowing or maintaining the nuisance.

(e) *Nuisance lien.* All costs shall become a lien against the property from which the nuisance emanated and a personal obligation against the owner thereof in accordance with Government Code sections 38773.1 and 38773.5. The owner of record of the property subject to any lien shall be given notice of the lien prior to recording as required by Government Code section 38773.1.

(1) At the direction of the Director, Public Facilities and Resources Department or his/her designee, the Enforcing Attorney is Authorized to collect nuisance abatement costs or enforce a nuisance lien in an action brought for a money judgement or by delivery to the County Assessor of a special assessment against the property in accord with the conditions and requirements of Government Code section 38773.5.

(Ord. No. 3988, § 1, 7-22-97)

### **Sec. 9-1-72. Criminal sanctions.**

(a) *Prosecutor.* The Enforcing Attorney may act on the request of the Director, Public Facilities and Resources Department or his/her designee, to pursue enforcement actions in accordance with the provisions of this division.

(b) *Infractions.* Any person who may otherwise be charged with a misdemeanor under this division may be charged, at the discretion of the Enforcing Attorney, with an infraction punishable by a fine of not more than \$100.00 for first violation, \$200.00 for a second violation, and a fine not exceeding \$500.00 for each additional violation occurring within one (1) year.

(c) *Misdemeanors.* Any person who negligently or knowingly violates any provision of this division, undertakes to conceal any violation of this division, continues any violation of this division after notice thereof, or violates the terms, conditions and requirements of any permit, shall be guilty of a misdemeanor punishable by a fine of not more than \$1,000.00 or by imprisonment for a period of not more than six (6) months, or both.

(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-73. Consecutive violations.**

Each day in which a violation occurs and each separate failure to comply with either a separate provision of this division, an administrative compliance order, a cease and desist order, or a permit issued pursuant to this division, shall constitute a separate violation of this division punishable by fines or sentences issued in accordance herewith.

(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-74. Non-exclusive remedies.**

Each and every remedy available for the enforcement of this division shall be non-exclusive and it is within the discretion of the Authorized Inspector or Enforcing Attorney to seek cumulative remedies, except that multiple monetary fines or penalties shall not be available for any single violation of this division.

(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-75. Citations.**

Pursuant to Penal Code section 836.5, the Authorized Inspector shall have the authority to cause the arrest of any person, committing a violation of this division. The person shall be released and issued a citation to appear before a magistrate in accordance with Penal Code sections 853.5, 853.6, and 853.9, unless the person demands to be taken before a magistrate. Following issuance of any citation the Authorized Inspector shall refer the matter to the Enforcing Attorney.

Each citation to appear shall state the name and address of the violator, the provisions of this division violated, and the time and place of appearance before the court, which shall be at least ten (10) business days after the date of violation. The person cited shall sign the citation giving his or her written promise to appear as stated therein. If the person cited fails to appear, the Enforcing Attorney may request issuance of a warrant for the arrest of the person cited.

(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-76. Violations of other laws.**

Any person acting in violation of this division also may be acting in violation of the Federal Clean Water Act or the State Porter-Cologne Act and other laws and also may be subject to sanctions including civil liability. Accordingly, the Enforcing Attorney is authorized to file a citizen suit pursuant to Federal Clean Water Act section 505(a), seeking penalties, damages, and orders compelling compliance, and other appropriate relief. The Enforcing Attorney may notify EPA Region IX, the Santa Ana or San Diego Regional Water Quality Control Boards, or any other appropriate state or local agency, of any alleged violation of this division.

(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-77. Injunctions.**

At the request of the Director, Public Facilities and Resources Department or his/her designee, the Enforcing Attorney may cause the filing in a court of competent jurisdiction, of a civil action seeking an injunction against any threatened or continuing noncompliance with the provisions of this division.

(a) *Order for reimbursement.* Any temporary, preliminary or permanent injunction issued pursuant hereto may include an order for reimbursement to the District of all costs incurred in enforcing this division, including costs of inspection, investigation and monitoring, the costs of

abatement undertaken at the expense of the District, costs relating to restoration of the environment and all other expenses as authorized by law.  
(Ord. No. 3988, § 1, 7-22-97)

**Sec. 9-1-78. Other civil remedies.**

(a) The Director, Public Facilities and Resources Department or his/her designee may cause the Enforcing Attorney to file an action for civil damages in a court of competent jurisdiction seeking recovery of (i) all costs incurred in enforcement of this division, including but not limited to costs relating to investigation, sampling, monitoring, inspection, administrative expenses, all other expenses as authorized by law, and consequential damages, (ii) all costs incurred in mitigating harm to the environment or reducing the threat to human health, and (iii) damages for irreparable harm to the environment.

(b) The Enforcing Attorney is authorized to file actions for civil damages resulting from any trespass or nuisance occurring on public land or to the stormwater drainage system from any violation of this division where the same has caused damage, contamination or harm to the environment, public property or the stormwater drainage system.

(c) The remedies available to the District pursuant to the provisions of this division shall not limit the right of the District to seek any other remedy that may be available by law.

(Ord. No. 3988, § 1, 7-22-97)

**ARTICLE 6. PERMITS**

**Sec. 9-1-80. Procedure.**

(a) *Discharge permit procedure.*

(1) *Permit.* On application of the owner of property or the operator of any facility, which property or facility is not otherwise subject to the requirements of a State General Permit or a National Pollution Discharge Elimination System Permit regulating storm water discharges, the Director, Public Facilities and Resources Department or his/her designee, or the Authorized Inspector, may issue a permit authorizing the release of nonstormwater discharges to the stormwater drainage system if:

a. The discharge of material or constituents is reasonably necessary for the conduct of otherwise legal activities on the property, and

b. The discharge will not cause a nuisance, impair the beneficial uses of receiving waters, or cause any reduction in established water quality standards.

(2) *Application.* The applicant shall provide all information requested by the Director, Public Facilities and Resources Department or his/her designee, for review and consideration of the application, including but not limited to specific detail as to the activities to be conducted on the property, plans and specifications for facilities located on the property, identification of equipment or processes to be used on-site and other information as may be requested in order to determine the constituents, and quantities thereof, which may be discharged if permission is granted.

(3) *Permit issuance.* The permit shall be granted or denied by the Director, Public Facilities and Resources Department or his/her designee, no later than sixty (60) days following the completion and acceptance of the application as determined by the Director, Public Facilities and Resources Department or his/her designee.

a. The applicant shall be notified in person or by first-class mail, postage prepaid, of the action taken.

(4) *Permit conditions.* The permit may include terms, conditions and requirements to ensure compliance with the objectives of this division and as necessary to protect the receiving waters, including but not limited to:

- a. Identification of the Discharge location on the property and the location at which the Discharge will enter the Stormwater Drainage System;
- b. Identification of the constituents and quantities thereof to be discharged into the Stormwater Drainage System;
- c. Specification of pollution prevention techniques and structural or nonstructural control requirements as reasonably necessary to prevent the occurrence of potential discharges in violation of this division;
- d. Requirements for self-monitoring of any discharge;
- e. Requirements for submission of documents or data, such as technical reports, production data, discharge reports, self-monitoring reports and waste manifests; and
- f. Other terms and conditions appropriate to ensure compliance with the provisions of this division and the protection of receiving waters.

(5) *General permit.* In the discretion of the Director, Public Facilities and Resources Department or his/her designee, the permit may, in accordance with the conditions identified in section 9-1-80(a)(4) hereinabove, be prepared as a general permit applicable to a specific category of activities. If a general permit is issued, any person intending to discharge within the scope of the authorization provided by the general permit may do so by filing an application to discharge with the Director, Public Facilities and Resources Department or his/her designee. No discharge within the scope of the general permit shall occur until such application is so filed.

a. Notwithstanding the foregoing in this section and section 9-1-80(a)(5), the Director, Public Facilities Resources Department or his/her designee, in his discretion, may eliminate the requirement that an application for a general permit be filed for any specific activity for which a general permit has been issued.

(6) *Permit fees.* The permission to discharge shall be conditioned upon the applicant's payment of the District's costs, in accordance with a fee schedule adopted by separate resolution, as follows:

- a. For individually issued permits, the costs of reviewing the permit application, preparing and issuing the permit, and the costs reasonably related to administrating this permit program.
- b. For general permits, the costs of reviewing the permit application, that portion of the costs of preparing the general permit which is reasonably attributable to the permittee's application for the general permit, and the costs reasonably related to administering the general permit program. Notwithstanding the foregoing, no fee shall be charged for a general permit issued pursuant to section 9-1-80(a)(5)a.

(b) *Permit suspension, revocation or modification.*

(1) The Director, Public Facilities and Resources Department or his/her designee may suspend or revoke any permit when it is determined that:

- a. The permittee has violated any term, condition or requirement of the permit or any applicable provision of this division; or
- b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is no longer appropriate to except the discharge from the prohibitions on prohibited discharge contained within this division; or
- c. The permittee fails to comply with any schedule for compliance issued pursuant to this division; or
- d. Any regulatory agency, including EPA or a Regional Water Quality Control Board having jurisdiction over the discharge, notifies the District that the discharge should be terminated.

(2) The Director, Public Facilities and Resources Department or his/her designee, may modify any permit when it is determined that:

- a. Federal or state law requirements have changed in a manner that necessitates a change in the permit; or
- b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is appropriate to modify the permit's terms, conditions or requirements; or

c. A change to the permit is necessary to ensure compliance with the objectives of this division or to protect the quality of receiving waters.

The permittee, or in the case of a general permit, each person who has filed an application pursuant to section 9-1-80(a)(5), shall be informed of any change in the permit terms and conditions at least sixty (60) days prior to the effective date of the modified permit. In the case of a general permit issued pursuant to section 9-1-80(a)(5)a., any change in the permit terms and conditions shall be published in a newspaper of general circulation within the County at least sixty (60) days prior to the effective date of the modified permit.

(3) The determination that a permit shall be denied, suspended, revoked or modified may be appealed by a permittee pursuant to the same procedures applicable to appeal of an administrative compliance order hereunder. In the absence of a judicial order to the contrary, the permittee may continue to discharge pending issuance of the final administrative decision by the hearing officer.

(c) *Permit enforcement.*

(1) *Penalties.* Any violation of the terms, conditions and requirements of any permit issued by the Director, Public Facilities and Resources Department or his/her designee, shall constitute a violation of this division and subject the violator to the administrative, civil and criminal remedies available under this division.

(d) *Compliance.* Compliance with the terms, conditions and requirements of a permit issued pursuant to this division shall not relieve the permittee from compliance with all federal, state and local laws, regulations and permit requirements, applicable to the activity for which the permit is issued.

(1) *Limited permittee rights.* Permits issued under this division are for the person identified therein as the "permittee" only, and authorize the specific operation at the specific location identified in the permit. The issuance of a permit does not vest the permittee with a continuing right to discharge.

(2) *Transfer of permits.* No permit issued to any person may be transferred to allow:

a. A discharge to the stormwater drainage system at a location other than the location stated in the original permit; or

b. A discharge by a person other than the person named in the permit, provided however, that the District may approve a transfer if written approval is obtained, in advance, from the Director, Public Facilities and Resources Department or his/her designee.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 7. INTERAGENCY COOPERATION**

### **Sec. 9-1-90. Federal Clean Water Act.**

(a) The District intends to cooperate with other agencies with jurisdiction over stormwater discharges to ensure that the regulatory purposes underlying stormwater regulations promulgated pursuant to the Clean Water Act (33 U.S.C. s 1251 et seq.) are met.

(b) The District may, to the extent authorized by law, elect to contract for the services of any public agency or private enterprise to carry out the planning approvals, inspections, permits and enforcement authorized by this division.

(c) The District may, upon designation by any city within the county, and at no cost to District, be named as an Authorized Inspector for that city.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 8. MISCELLANEOUS**

### **Sec. 9-1-100. General provisions.**

(a) *Compliance disclaimer.* Full compliance by any person or entity with the provisions of this division shall not preclude the need to comply with other local, state or federal statutory or regulatory requirements, which may be required for the control of the discharge of pollutants into stormwater and/or protection of stormwater quality.

(b) *Severability.* If any provision of this division or the application of the division to any circumstance is held invalid, the remainder of the division or the application of the division to other persons or circumstances shall not be affected.

(c) *Headings.* Headings of the sections of this division are inserted for convenience only and shall have no effect in the application of this division.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 9. JUDICIAL REVIEW**

### **Sec. 9-1-110. Procedure.**

The provisions of sections 1094.5 and 1094.6 of the Code of Civil Procedure set forth the procedure for judicial review of any act taken pursuant to this division. Parties seeking judicial review of any action taken pursuant to this division shall file such action within ninety (90) days of the occurrence of the event for which review is sought.

(Ord. No. 3988, § 1, 7-22-97)

## **ARTICLE 10. FATS, OILS AND GREASE DISPOSAL**

### **Sec. 9-1-120. Intent and purpose.**

It is the intent of this section to establish regulations for the disposal of FO&G and other insoluble waste discharges from Food Facilities within the unincorporated areas of Orange County. The purpose is to facilitate the maximum beneficial public use of the sanitary sewer systems while at the same time attempting to prevent blockages of those sanitary sewer systems as a result of the discharge of FO&G, and to specify appropriate FO&G disposal requirements for Food Facilities to protect the public health and safety.

(Ord. No. 03-002, § 2, 1-7-03)

### **Sec. 9-1-121. Definitions.**

A. *Food Facility* as defined in California Uniform Retail Food Facilities Law (CURFFL) section 113785, shall mean any commercial entity within the unincorporated areas of the County, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or equipment that uses or produces FO&G, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in CURFFL section 113785.

B. *Limited food preparation establishments* shall mean establishments engaged only in reheating, hot holding or assembly of ready to eat food products. It does not include any operation that changes the form, flavor, or consistency of food. For purposes of this Ordinance, a limited food preparation establishment is not considered to be a Food Facility.

C. *Change in operations* shall mean any change in the ownership, food types, or operational procedures that have the potential to increase by fifty (50) percent the amount of fats, oils, or grease used or generated by food preparation.

D. *Food grinder* shall mean any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation by-products for the purpose of disposing it in the sanitary sewer system.

E. *Fat, Oil and Grease (FO&G)* shall mean any substance such as a vegetable or animal product that is used in, or is a by-product of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.

F. *Grease Control Device* shall mean any grease interceptor, grease trap or other mechanism or equipment, which attaches to wastewater plumbing fixtures and lines, the purpose of which is to trap/collect FO&G prior to it being discharged into the sanitary sewer system.

A Grease Interceptor is a two (2) or three (3) compartment device that is generally required to be located, according to the Uniform Plumbing Code, underground between a Food Facility and the connection to the sanitary sewer system. These devices can be large (in excess of seven hundred fifty (750) gallons) and primarily use gravity to separate FO&G from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FO&G removed and disposed of in a proper manner on a regular interval to be effective.

Interceptors shall be structurally intact, including acceptable internal plumbing, manhole inspection covers, baffles between chambers, and a structure not compromised by intruding tree roots, etc.

A Grease Trap is a device much smaller than a Grease Interceptor and services up to a maximum of four (4) individual fixtures. Grease Traps need to be emptied more often than Grease Interceptors to be effective due to their small size. Grease Traps have limited effect and should only be used in those cases where the use of a Grease Interceptor is determined to be impossible or impracticable.

G. *Remodeling* shall mean a physical change exceeding a cost of fifty thousand dollars (\$50,000.00) to a Food Facility that requires a building permit, and involves any one (1) or combination of the following:

- (1) Under-slab plumbing in the food processing area;
- (2) A thirty (30) percent increase in the net public seating area;
- (3) A thirty (30) percent increase in the size of the kitchen area; or
- (4) Any change in the size or type of food preparation equipment.

H. *Grease Disposal Mitigation Fee* shall mean a fee charged to an Owner/Operator of a Food Facility when there are physical limitations to the property that make the installation of the usual and customary Grease Interceptor for the Food Facility under consideration, impossible or impracticable.

I. *Sewer Lateral* shall mean a building sewer (sanitary) as defined in the Uniform Plumbing Code.

J. *Director* shall mean the Director, Planning and Development Services Department, or his or her designee.

K. *County* shall mean the County of Orange.  
(Ord. No. 03-002, § 2, 1-7-03)

### **Sec. 9-1-122. Grease control device required.**

A. All fixtures, equipment and drain lines located in the food preparation and clean up areas of Food Facilities that are sources of FO&G discharge shall be connected to an approved grease control device unless otherwise determined in accordance with the provisions of this section. Dishwashers or other fixtures discharging emulsifying agents (e.g., detergents) shall be connected to the sanitary sewer system such that their potential to adversely impact the operation of the grease control device operation is minimized.

B. Unless it is impossible or impracticable, grease interceptors shall be used in all new Food Facilities where it is necessary to install a grease control device, and shall have a minimum capacity of seven hundred fifty (750) gallons. New Food Facilities shall follow sizing criteria for larger devices as specified by Resolution of the Board of Supervisors.

C. All existing Food Facilities undergoing remodeling or a change in operations shall be required to install grease control devices with each chamber readily and easily capable of cleaning and inspection of each chamber from the surface and shall include a downstream sample box in accordance with the Uniform Plumbing Code as determined by the Director.

D. Property owners of commercial properties shall be required to install and maintain approved grease control devices serving multiple Food Facilities that are located on a single parcel, in accordance with subsection "C" above and the Uniform Plumbing Code.

E. No Certificate of Use and Occupancy shall be issued for a Food Facility that is required to have an approved grease control device, until such device has been installed, inspected and approved by the Director.

F. The Director may establish additional guidelines to supplement this Ordinance regarding, but not limited to:

1. Design, construction and inspection standards of grease control devices;
2. The management, operation and maintenance standards for grease control devices;
3. Kitchen best management practice to prevent FO&G from entering the devices;
4. Grease control device cleaning, reporting, inspection and enforcement standards; and
5. standards for the collection and disposal of FO&G by appropriate entities.

G. Upon the effective date of this Ordinance, the installation of food grinders in the plumbing system of new Food Facilities shall be prohibited. Furthermore, all Food Grinders shall be removed from all existing Food Facilities by June 30, 2003.

H. Upon the effective date of this Ordinance, the introduction of any additives into a Food Facility's wastewater system for the purposes of emulsifying FO&G, is prohibited without the specific written authorization from the sanitary sewer agency that has jurisdiction over the sanitary sewer system that services the Food Facility.

(Ord. No. 03-002, § 2, 1-7-03)

**Sec. 9-1-123. Maintenance requirements.**

Within six (6) months of the effective date of this Ordinance, all existing and newly installed grease control devices shall be maintained in a manner consistent with a maintenance plan approved by the Director.

A. No FO&G that has accumulated in a grease control device shall be allowed to pass into any sewer lateral, sanitary sewer system, storm drain, or public right-of-way during maintenance activities.

B. Each new and existing Food Facility with a grease control device shall have an approved maintenance plan which specify the minimum maintenance frequency for removal of all accumulated FO&G from the grease control device, which shall be determined as follows:

1. For new Food Facilities, the minimum maintenance frequency for interceptors shall be as follows:

TABLE INSET:

Type of Establishment	Minimum Maintenance Frequency
Take out only	Every 45 days
With wok stoves, deep fryers or more than one griddle	Every 20 days
Take out & seating	Every 60 days

With wok stoves, deep fryers or more than one griddle	Every 30 days
Seating only	Every 90 days
With wok stoves, deep fryers or more than one griddle	Every 60 days

2. For existing Food Facilities with a Grease Interceptor, the maintenance plan shall be determined in one of the following methods:

- i. In the same manner as for new Food Facilities under paragraph 1 above; or
- ii. The owner/operator of a Food Facility in existence on the effective date of this Ordinance, may submit an application to the Director requesting that a maintenance plan other than that identified in subsection 1 above, be imposed on that Food Facility, due to the fact that the Food Facility has been following a regular maintenance cycle in the past, and based on the particular Food Facility operation, the current regular maintenance plan is adequate to guard against FO&G passing into the sanitary sewer system. Upon a determination by the Director that an acceptable Grease Control Device maintenance plan is being followed that meets the minimum requirements set forth in the Uniform Plumbing Code, then it may be used as the approved maintenance plan for that particular Food Facility.
- iii. In the event it is determined that a Food Facility, as a result of a change in operations, is using a Grease Interceptor that is smaller in capacity than would be required for that Food Facility under this Ordinance, the Director may allow said Food Facility to continue to operate with the smaller Grease Interceptor, provided the Food Facility prepares a maintenance plan acceptable to the Director that requires more frequent servicing than would otherwise be required if the proper sized Grease Interceptor was installed.

C. Notwithstanding "B." above, if any Grease Interceptor at any time contains floating oil/grease in the final chamber, or sludge in any chamber that is within two (2) inches of the discharge elbow, the owner and/or operator of the Food Facility shall have the Grease Interceptor serviced such that all fats, oils, grease, sludge, and other materials are completely removed from the Grease Interceptor after which the Interceptor shall be refilled with cold water.

D. Notwithstanding "B." and "C." above, all existing Food Facilities with a Grease Interceptor shall be serviced not less than every one hundred eighty (180) days. Grease Traps shall be cleaned of all material on a daily basis.

E. The owner and/or operator of a Food Facility with an approved Grease Control Device, shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal off/from the grease control device, disposal carrier and disposal site location for no less than two years. The owner and operator of a Food Facility shall, upon request, make the manifests, receipts and invoices available to any County Health Care or Code Enforcement representative, or his or her designee, representative of a local sanitation agency that has jurisdiction of the sanitary sewer system that services the Food Facility, or any authorized inspector that has jurisdiction under the Water Quality Ordinance.

F. The owner and/or operator of a Food Facility with a Grease Control Device shall allow any County Health Care or Code Enforcement representative or a representative of the local sanitation agency that has jurisdiction of the sanitary sewer system that services the Food Facility, or any authorized inspector that has jurisdiction under the Water Quality Ordinance, access to the Food Facility premises, during normal business hours, for purposes of inspecting the Food Facility's Grease Control Devices, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the Grease Control Devices.

(Ord. No. 03-002, § 2, 1-7-03)

**Sec. 9-1-124. Exceptions--Grease disposal mitigation fee.**

Commencing on July 1, 2003, new Food Facilities that are permitted to operate without an installed Grease Interceptor shall be required to pay an annual Grease Disposal Mitigation Fee.

A. A Grease Disposal Mitigation Fee shall only be allowed after all other Grease Control Devices have been considered for installation. This mitigation fee shall be established by and paid to the local sanitary sewer agency, and shall be based on the estimated annual increased cost of maintaining the private sewer lateral pipelines for removal of FO&G attributable to the Food Facility as a result of no Grease Control Device being installed.

The Food Facility owner or operator shall pay the Grease Disposal Mitigation Fee annually, no later than July 30 of each year.

B. The Grease Disposal Mitigation Fee may be waived or reduced on a no less than annual basis when the Food Facility owner or operator demonstrates to the satisfaction of the local sanitary sewer agency that they had used BMP on a regular basis to reduce the introduction of grease into the SSS.

C. The Grease Disposal Mitigation Fee may not be waived or reduced when the Food Facility's private sewer lateral pipeline has failed and resulted in a wastewater backup within or surrounding the Food Facility during the twelve (12) months prior to the waiver request.

(Ord. No. 03-002, § 2, 1-7-03)

**Sec. 9-1-125. Appeals.**

Any decision of the Director, other than a decision pursuant to section 9-1-126 of this division, may be appealed by any owner or operator of a Food Facility affected by said decision, to the Planning Commission.

(Ord. No. 03-002, § 2, 1-7-03)

**Sec. 9-1-126. Violations.**

A. The owner and operator of a Food Facility shall be in violation of this Ordinance if he or she:

1. Fails to install an approved Grease Control Device as required by this Ordinance;
2. Makes any false statement, representation, record, report, plan or other document that is filed with the County;
3. Tampers with or knowingly renders inoperable any Grease Control Device required under this Ordinance;
4. Fails to clean, maintain or remove grease from a Grease Control Device within the required time for such cleaning, maintenance or grease removal;
5. Fails to keep up-to-date and accurate records of all cleaning, maintenance, and grease removal for the Food Facility's Grease Control Device and upon request to make those records available to any County Health Care or Code Enforcement representative, or his or her designee, any representative of a local sanitation agency that has jurisdiction over the sanitary sewer system that services the Food Facility, or any authorized inspector that has jurisdiction under the Water Quality Ordinance;
6. Refuses a County Health Care or Code Enforcement representative, or his or her designee, a representative of a local sanitary sewer agency that has jurisdiction over the sanitary sewer system that services the Food Facility, or any authorized inspector that has jurisdiction under the Water Quality Ordinance, reasonable access to the Food Facility for the purposes of inspecting, monitoring, or reviewing the Grease Control Device manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the Grease Control Device, and/or to inspect the Grease Control Device;

7. Disposes of, or knowingly allows or directs FO&G to be disposed of, in an unlawful manner;
  8. Fails to remove all food grinders located in the Food Facility by June 30, 2003;
  9. Introduces additives into a wastewater system for the purposes of emulsifying fats, oils and grease without the written, specific authorization from the sanitary sewer agency that has jurisdiction of the sanitary sewer system that services the Food Facility; or
  10. Fails to pay the Grease Disposal Mitigation Fee as specified in section 9-1-124, above when due.
- B. Violations under this section shall be subject to the procedures, penalties and remedies set out in sections 1-1-34 et. Seq. and 9-1-10 et. Seq. of the Codified Ordinances of the County of Orange, California, as amended from time to time. All costs for the investigations, enforcement actions, and ultimate corrections of violations under this section, incurred by the County of Orange, shall be reimbursed by the owner/operator of the Food Facility.  
(Ord. No. 03-002, § 2, 1-7-03)

**Sec. 9-1-127. Invalidity of provisions.**

If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held to be invalid or unenforceable, such decision shall not affect the validity or enforceability of the remaining portions of this Ordinance. The Board of Supervisors hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases may be declared invalid or unenforceable.  
(Ord. No. 03-002, § 2, 1-7-03)

## 23. City of Brea Water Quality Ordinance

## CHAPTER 13.32: STORM WATER DRAINAGE

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### Section

- 13.32.010 Definitions
- 13.32.020 Prohibition on illicit connections and prohibited discharges
- 13.32.030 Control of urban runoff
- 13.32.040 Inspections
- 13.32.050 Enforcement
- 13.32.060 Permits
- 13.32.070 Interagency cooperation

### § 13.32.010 DEFINITIONS.

For purposes of this chapter, the following words and phrases shall have the meaning ascribed to them in this section:

**AUTHORIZED INSPECTOR** or **DIRECTOR**. The Director of Development Services of the City of Brea and persons designated by and under his or her instruction and supervision, who are assigned to investigate compliance with, detect violations of and/or take actions pursuant to this chapter.

**CITY**. The City of Brea, Orange County, California or the County of Orange or the Orange County Flood Control District acting on behalf of the city, as the case may be.

**CO-PERMITTEE**. The County of Orange, the Orange County Flood Control District, and/or any one of the thirty-one (31) municipalities, including the City of Brea, which are responsible for compliance with the terms of the NPDES Permits.

**DAMP**. The Orange County Drainage Area Management Plan, as the same may be amended from time to time hereafter.

**DEVELOPMENT PROJECT GUIDANCE**. DAMP Chapter VII and the Appendix thereto, entitled best management practices for new development including non-residential construction projects, as the same may be amended from time to time hereafter.

**DISCHARGE.** Any release, spill, leak, pump, flow, escape, leaching (including subsurface migration or deposition to groundwater), dumping or disposal of any liquid, semi-solid or solid substance.

**DISCHARGE EXCEPTION.** The group of activities not restricted or prohibited by this chapter, including only:

Discharges composed entirely of storm water; discharges subject to regulation under current EPA or Regional Water Quality Control Board issued NPDES permits, state general permits, or other waivers, permits or approvals granted by an appropriate government agency; discharges from property for which best management practices set forth in the development project guidance are being implemented and followed; discharges to the storm water drainage system from potable water line flushing, fire fighting activities, landscape irrigation systems, diverted stream flows, rising groundwater, and *de minimis* groundwater infiltration to the storm water drainage system (from leaks in joints or connections or cracks in water drainage pipes or conveyance systems); discharges from potable water sources, passive foundation drains, air conditioning condensation and other building roof runoffs agricultural irrigation water runoffs water from crawl space pumps, passive footing drains, lawn watering, non-commercial vehicle washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; discharges of reclaimed water generated by a lawfully permitted water treatment facility; public street wash waters when related to cleaning and maintenance by, or on behalf of, the city; discharges authorized pursuant to a permit issued under § 13.32.060 hereof; discharges allowable under the domestic sewage exception; discharges for which the discharger has reduced to the extent feasible the amount of pollutants in such discharge; and discharges authorized pursuant to federal or state laws or regulations.

In any action taken to enforce this chapter, the burden shall be on the person who is the subject of such action to establish that a discharge was within the scope of this **DISCHARGE EXCEPTION**.

**DOMESTIC SEWAGE EXCEPTION.** Discharges which are exceptions to this chapter and excluded from the definition of prohibited discharge, as defined herein, including only:

Discharges composed entirely of accidental spills of, untreated sanitary wastes (commonly called domestic sewage) and other wastes, but limited solely to wastes that are controlled by and are within publicly owned wastewater treatment system collection facilities immediately prior to the accidental spill.

**ENFORCING ATTORNEY.** The City Attorney, City Prosecutor or District Attorney acting as counsel to the City of Brea and his/her designee, which counsel is authorized to take enforcement action as described herein.

**EPA.** The Environmental Protection Agency of the United States.

**HEARING OFFICER.** The City Manager or his or her designee, who shall preside at the administrative hearings authorized by this chapter and issue final decisions on the matters raised herein.

**INVOICE FOR COSTS.** The actual costs and expenses of the city, including but not limited to administrative overhead, salaries and other expenses recoverable under state law, incurred during any inspection conducted pursuant to § 13.32.040 of this chapter or where a notice of noncompliance, administrative compliance order or other enforcement option under § 13.32.050 of this chapter is utilized to obtain compliance herewith.

**ILLICIT CONNECTION.** Any man-made conveyance or drainage system, pipeline, conduit, inlet or outlet through which the discharge of any pollutant to the storm water drainage system occurs or may occur. The term **ILLICIT CONNECTION** shall not include legal nonconforming connections or connections to the storm water drainage system that are hereinafter authorized by the agency with jurisdiction over the system at the location at which the connection is made.

**LEGAL NONCONFORMING CONNECTION.** Connections to the storm water drainage system existing as of the adoption of this chapter that were in compliance with all federal, state and local rules, regulations, statutes and administrative requirements in effect at the time the connection was established, including but not limited to any discharge permitted pursuant to the terms and conditions of an individual discharge permit issued pursuant to the Industrial Waste Ordinance, Chapter 13.24 of this Code.

**NEW DEVELOPMENT.** All public and private residential (whether single family, multi-unit or planned unit development), industrial, commercial, retail, and other non-residential construction projects, or grading for fixture construction, for which either a discretionary land use approval, grading permit, building permit or non-residential plumbing permit is required.

**NON-RESIDENTIAL PLUMBING PERMIT.** A plumbing permit authorizing the construction and/or installation of facilities for the conveyance of liquids other than storm water, potable water, reclaimed water or domestic sewage.

**NPDES PERMITS.** The currently applicable municipal discharge permit[s] issued by the Regional Water Quality Control Board, Santa Ana Region [and/or the Regional Water Quality Control Board, San Diego Region, as appropriate], which permit[s] establishes waste discharge requirements applicable to storm water runoff in the city.

**PERSON.** Any natural person as well as any corporation, partnership, government entity or subdivision, trust, estate, cooperative association, joint venture, business entity, or other similar entity, or the agent, employee or representative of any of the above.

**POLLUTANT.** Any liquid, solid or semi-solid substances, or combination thereof, including and not limited to:

1. Artificial materials (such as floatable plastics, wood products or metal shavings);

2. Household waste (such as trash, paper, and plastics; cleaning chemicals; yard wastes; animal fecal materials; used oil and fluids from vehicles, lawn mowers and other common household equipment);

3. Metals and non-metals, including compounds of metals and non-metals, (such as cadmium, lead, zinc, copper, silver, nickel, chromium, cyanide, phosphorus and arsenic), with characteristics which cause an adverse effect on living organisms;

4. Petroleum and related hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants and grease);

5. Animal wastes (such as discharge from confinement facilities, kennels, pens and recreational facilities, including, stables, show facilities, or polo fields);

6. Substances having a pH less than 6.5 or greater than 8.6, or unusual coloration, turbidity or odor;

7. Waste materials and wastewater generated on construction sites and by construction activities (such as painting and staining; use of sealants and glues; use of lime; use of wood preservatives and solvents; disturbance of asbestos fibers, paint flakes or stucco fragments; application of oils, lubricants, hydraulic, radiator or battery fluids; construction equipment washing; concrete pouring and cleanup; use of concrete detergents; steam cleaning or sand blasting; use of chemical degreasing or diluting agents; and use of super chlorinated water for potable water line flushing);

8. Materials causing an increase in biochemical oxygen demand, chemical oxygen demand or total organic carbon;

9. Materials which contain base/neutral or acid extractible organic compounds;

10. Those pollutants defined in § 1362(6) of the Federal Clean Water Act; and

11. Any other constituent or material, including but not limited to pesticides, herbicides, fertilizers, fecal coliform, fecal streptococcus or enterococcus, or eroded soils, sediment and particulate materials, in quantities that will interfere with or adversely affect the beneficial uses of the receiving waters, flora or fauna of the state.

***PROHIBITED DISCHARGE.*** Any discharge which contains any pollutant, from public or private property to (1) the storm water drainage system; (2) any upstream flow, which is tributary to the storm water drainage system; (3) any groundwater, river, stream, creek, wash or dry weather arroyo, wetlands area, marsh, coastal slough, or (4) any coastal harbor, bay, or the Pacific Ocean. The term ***PROHIBITED DISCHARGE*** shall not include discharges allowable under the discharge exception.

***SIGNIFICANT REDEVELOPMENT.*** The rehabilitation or reconstruction of public or private residential (whether single family, multi-unit or planned unit development), industrial,

commercial, retail, or other non-residential structures, for which either a discretionary land use approval, grading permit, building permit or non-residential plumbing permit is required.

**STATE GENERAL PERMIT.** Either the state general industrial storm water permit or the state general construction permit and the terms and requirements of either or both. In the event the U.S. Environmental Protection Agency revokes the in-lieu permitting authority of the State Water Resources Control Board, then the term **STATE GENERAL PERMIT** shall also refer to any EPA administered storm water control program for industrial and construction activities.

**STORM WATER DRAINAGE SYSTEM.** Street gutter, channel, storm drain, constructed drain, lined diversion structure, wash area, inlet, outlet or other facility, which is a part of or tributary to the county-wide storm water runoff system and owned, operated, maintained or controlled by city, and used for the purpose of collecting, storing, transporting, or disposing of storm water.

(Ord. 997, passed 8-19-97)

### **§ 13.32.030 PROHIBITION ON ILLICIT CONNECTIONS AND PROHIBITED DISCHARGES.**

A. No person shall:

1. Construct, maintain, operate and/or utilize any illicit connection.
2. Cause, allow or facilitate any prohibited discharge.
3. Act, cause, permit or suffer any agent, employee, or independent contractor, to construct, maintain, operate or utilize any illicit connection, or cause, allow or facilitate any prohibited discharge.

B. The prohibition against illicit connections shall apply irrespective of whether the illicit connection was established prior to the date of enactment of this chapter; however, legal nonconforming connections shall not become illicit connections until the earlier of the following:

1. For all structural improvements to property installed for the purpose of discharge to the storm water conveyance system, the expiration of five (5) years from the adoption of this chapter.
2. For all nonstructural improvements to property existing for the purpose of discharge to the storm water conveyance system, the expiration of six (6) months following delivery of a notice to the owner or occupant of the property, which states a legal nonconforming connection has been identified. The notice of a legal nonconforming connection shall state the date of expiration of use under this chapter.

C. A civil or administrative violation of § 13.32.020.A. shall occur irrespective of the negligence or intent of the violator to construct, maintain, operate or utilize an illicit connection or to cause, allow or facilitate any prohibited discharge.

D. If an Authorized Inspector reasonably determines that a discharge, which is otherwise within the discharge exception, may adversely affect the beneficial uses of receiving waters, then the Authorized Inspector may give written notice to the owner of the property or facility that the discharge exception shall not apply to the subject discharge following expiration of the thirty (30) day period commencing upon delivery of the notice. Upon expiration of the thirty (30) day period any such discharge shall constitute a violation of § 13.32.020.A.

E. The owner or occupant of property on which a legal nonconforming connection exists may request an administrative hearing, pursuant to the procedures set forth in §§ 13.32.050.A.6 through 10, for an extension of the period allowed for continued use of the connection. A reasonable extension of use may be authorized by the Director of Public Works upon consideration of the following factors:

1. The potential adverse effects of the continued use of the connection upon the beneficial uses of receiving waters;
2. The economic investment of the discharger in the legal nonconforming connection; and
3. The financial effect upon the discharger of a termination of the legal nonconforming connection.

(Ord. 997, passed 8-19-97)

### **§ 13.32.030 CONTROL OF URBAN RUNOFF.**

#### *A. New development and significant redevelopment.*

1. All new development and significant redevelopment within the city shall be undertaken in accordance with:

- a. The DAMP, including but not limited to the development project guidance; and
- b. Any conditions and requirements established by the planning agency [planning department, engineering department or building department], which are reasonably related to the reduction or elimination of pollutants in storm water runoff from the project site.

2. Prior to the issuance by the city of a grading permit, building permit or non-residential plumbing permit for any new development or significant redevelopment, the planning agency [planning department, engineering department or building department] shall review the project plans and impose terms, conditions and requirements on the project in accordance with §

13.32.030.A.1. If the new development or significant redevelopment will be approved without application for a grading permit, building permit or non-residential plumbing permit, the Director shall review the project plans and impose terms, conditions and requirements on the project in accordance with § 13.32.030.A.1 prior to the issuance of a discretionary land use approval or, at the city's discretion, prior to recordation of a subdivision map.

3. Notwithstanding § 13.32.030.A.1 and .2, compliance with the development project guidance shall not be required for construction of one (1) single family detached residence unless the Director determines that the construction may result in the discharge of significant levels of a pollutant into a tributary to the storm water drainage system.

4. Compliance with the conditions and requirements of the DAMP shall not exempt any person from the requirement to independently comply with each provision of this chapter.

5. If the Director determines that the project will have a *de minimis* impact on the quality of storm water runoff, then it may issue a written waiver of the requirement for compliance with the provisions of the development project guidance.

6. The owner of a new development or significant redevelopment project, or upon transfer of the property, its successors and assigns, shall implement and adhere to the terms, conditions and requirements imposed pursuant to § 13.32.030.A.1 on a new development or significant redevelopment project.

7. Each failure by the owner of the property or its successors or assigns, to implement and adhere to the terms, conditions and requirements imposed pursuant to § 13.32.030.A.1 on a new development or significant redevelopment project shall constitute a violation of this chapter.

8. The Director may require that the terms, conditions and requirements imposed pursuant to § 13.32.030.A.1 be recorded with the County Recorder's office by the property owner. The signature of the owner of the property or any successive owner shall be sufficient for the recording of these terms, conditions and requirements and a signature on behalf of the city shall not be required for recordation.

B. *Cost recovery.* The city shall be reimbursed by the project applicant for all costs and expenses incurred by the city in the review of new development or significant development projects for compliance with the DAMP. The Director may require a deposit of estimated costs and expenses, and the actual costs and expenses shall be deducted from the deposit, with the balance, if any, refunded to the project applicant.

C. *Litter control.* No person shall discard any waste material, including but not limited to rubbish or garbage of any kind (whether generated or accumulated at a residence, business or other location), upon any public or private property, whether occupied, open or vacant, including but not limited to any street, sidewalk, alley, right-of-way, open area or point of entry to the storm water drainage system. Every person occupying or having charge and control of property on which a prohibited disposal of waste materials occurs shall cause the proper collection and disposal of same.

(Ord. 997, passed 8-19-97)

### § 13.32.040 INSPECTIONS.

#### A. *Scope of inspections.*

1. *Right to inspect.* Prior to commencing any inspection as hereinbelow authorized, the Authorized Inspector shall obtain either the consent of the owner or occupant of the property or shall obtain an administrative inspection warrant or criminal search warrant.

2. *Entry to inspect.* The Authorized Inspector may enter property to investigate the source of any discharge to any public street, inlet, gutter, storm drain or the storm water drainage system located within the jurisdiction of the city.

3. *Compliance assessments.* The Authorized Inspector may inspect property for the purpose of verifying compliance with this chapter, including but not limited to (1) identifying products produced, processes conducted, chemicals used and materials stored on or contained within the property, (2) identifying point(s) of discharge of all wastewater, process water systems and pollutants, (3) investigating the natural slope at the location, including drainage patterns and man-made conveyance systems, (4) establishing the location of all points of discharge from the property, whether by surface runoff or through a storm drain system, (5) locating any illicit connection or the source of prohibited discharge, (6) evaluating compliance with any permit issued pursuant to § 13.32.050 hereof; and (7) investigating the condition of any legal nonconforming connection.

4. *Portable equipment.* For purposes of verifying compliance with this chapter, the Authorized Inspector may inspect any vehicle, truck, trailer, tank truck or other mobile equipment.

5. *Records review.* The Authorized Inspector may inspect all records of the owner or occupant of property relating to chemicals or processes presently or previously occurring on-site, including material and/or chemical inventories, facilities maps or schematics and diagrams, material safety data sheets, hazardous waste manifests, business plans, pollution prevention plans, state general permits, storm water pollution prevention plans, monitoring program plans and any other record(s) relating to illicit connections, prohibited discharges, a legal nonconforming connection or any other source of contribution or potential contribution of pollutants to the storm water drainage system.

6. *Sample and test.* The Authorized Inspector may inspect, sample and test any area runoff, soils area (including groundwater testing), process discharge, materials within any waste storage area (including any container contents), and/or treatment system discharge for the purpose of determining the potential for contribution of pollutants to the storm water drainage system. The Authorized Inspector may investigate the integrity of all storm drain and sanitary sewer systems, any legal nonconforming connection or other pipelines on the property using appropriate tests, including but not limited to smoke and dye tests or video surveys. The

Authorized Inspector may take photographs or video tape, make measurements or drawings, and create any other record reasonably necessary to document conditions on the property.

7. *Monitoring.* The Authorized Inspector may erect and maintain monitoring devices for the purpose of measuring any discharge or potential source of discharge to the storm water drainage system.

8. *Test results.* The owner or occupant of property subject to inspection shall, on submission of a written request, receive copies of all monitoring and test results conducted by the Authorized Inspector.

(Ord. 997, passed 8-19-97)

### **§ 13.32.050 ENFORCEMENT.**

#### *A. Administrative remedies.*

1. *Notice of noncompliance.* The Authorized Inspector may deliver to the owner or occupant of any property, or to any person responsible for an illicit connection or prohibited discharge a notice of noncompliance. The notice of noncompliance shall be delivered in accordance with § 13.32.050.A.5.

a. The notice of noncompliance shall identify the provision(s) of this chapter or the applicable permit which has been violated. The notice of noncompliance shall state that continued noncompliance may result in additional enforcement actions against the owner, occupant and/or person.

b. The notice of noncompliance shall state a compliance date that must be met by the owner, occupant and/or person; provided, however, that the compliance date may not exceed ninety (90) days unless the Authorized Inspector extends the compliance deadline an additional ninety (90) days where good cause exists for the extension.

#### *2. Administrative compliance orders.*

a. The Authorized Inspector may issue an administrative compliance order. The administrative compliance order shall be delivered in accordance with § 13.32.050.A.5. The administrative compliance order may be issued to:

(1) The owner or occupant of any property requiring abatement of conditions on the property that cause or may cause a prohibited discharge or an illicit connection in violation of this chapter;

(2) The owner of property subject to terms, conditions or requirements imposed on a project in accordance with § 13.32.050.A.1 to ensure adherence to those terms, conditions and requirements.

(3) A permittee subject to the requirements of any permit issued pursuant to § 13.32.060 hereof to ensure compliance with the terms, conditions and requirements of the permit.

(4) Any person responsible for an illicit connection or prohibited discharge.

b. The administrative compliance order may include the following terms and requirements:

(1) Specific steps and time schedules for compliance as reasonably necessary to prevent the imminent threat of a prohibited discharge, including but not limited to a prohibited discharge from any pond, pit, well, surface impoundment, holding or storage area;

(2) Specific steps and time schedules for compliance as reasonably necessary to discontinue any illicit connection;

(3) Specific requirements for containment, cleanup, removal, storage, installation of overhead covering, or proper disposal of any pollutant having the potential to contact storm water runoff;

(4) Any other terms or requirements reasonably calculated to prevent the imminent threat of or continuing violations of this chapter, including, but not limited to requirements for compliance with best management practices guidance documents promulgated by any federal, State of California or regional agency;

(5) Any other terms or requirements reasonably calculated to achieve full compliance with the terms, conditions and requirements of any permit issued pursuant hereto.

### 3. *Cease and desist orders.*

a. The Authorized Inspector may issue a cease and desist order. A cease and desist order shall be delivered in accordance with § 13.32.050.A.5. A cease and desist order may direct the owner or occupant of any property and/or other person responsible for a violation of this chapter to:

(1) Immediately discontinue any illicit connection or prohibited discharge to the storm water drainage system;

(2) Immediately contain or divert any flow of water off the property, where the flow is occurring in violation of any provision of this chapter;

(3) Immediately discontinue any other violation of this chapter;

(4) Clean up the area affected by the violation.

b. The Authorized Inspector may direct by cease and desist order that the owner of any property or any permittee under any permit issued pursuant to § 13.32.060 hereof:

(1) Immediately cease any activity not in compliance with the terms, conditions and requirements of the applicable permit.

4. *Recovery of costs.* The Authorized Inspector may deliver to the owner or occupant of any property, any permittee or any other person who becomes subject to a notice of noncompliance or administrative order, an invoice for costs. An invoice for costs shall be delivered in accordance with § 13.323.050.A.5. An invoice for costs shall be immediately due and payable to the city for the actual costs incurred by the city in issuing and enforcing any notice or order.

a. If any owner or occupant, permittee or any other person subject to an invoice for costs fails to either pay the invoice for costs or appeal successfully the invoice for costs in accordance with § 13.32.050.A.6, then the Enforcing Attorney may institute collection proceedings.

5. *Delivery of notice.* Any notice of noncompliance, administrative compliance order, cease and desist order or invoice of costs to be delivered pursuant to the requirements of this chapter shall be subject to the following:

a. The notice shall state that the recipient has a right to appeal the matter as set forth in § 13.32.050.A.6 through A.10 hereof.

b. Delivery shall be deemed complete upon (1) personal service to the recipient; (2) deposit in the U.S. mail, postage pre-paid for first class delivery; or (3) facsimile service with confirmation of receipt.

c. Where the recipient of notice is the owner of the property, the address for notice shall be the address from the most recently issued equalized assessment roll.

d. Where the owner or occupant of any property cannot be located after the reasonable efforts of the Authorized Inspector, a notice of noncompliance or cease and desist order shall be deemed delivered after posting on the property for a period often (10) business days.

6. *Administrative hearing for notices of noncompliance administrative compliance orders, invoices for costs and adverse determinations.* Except as set forth in § 13.32.050.A.8, below, any person receiving a notice of noncompliance, administrative compliance order, a notice of legal nonconforming connection, an invoice for costs, or any person who is subject to any adverse determination made pursuant to this chapter, may appeal the matter by requesting an administrative hearing. Notwithstanding the foregoing, these administrative appeal procedures shall not apply to criminal proceedings initiated to enforce this chapter.

7. *Request for administrative hearing.* Any person appealing a notice of noncompliance, an administrative compliance order, a notice of legal nonconforming connection, an invoice for costs or an adverse determination shall, within thirty (30) days of receipt thereof, file a written request for an administrative hearing, accompanied by an administrative hearing fee as established by separate resolution, with the Office of the City Clerk, with a copy of the request for administrative hearing mailed on the date of filing to the Director. Thereafter, a hearing on the matter shall be held before the Hearing Officer within forty-five (45) business days of the date of filing of the written request unless, in the reasonable discretion of the Hearing Officer and pursuant to a written request by the appealing party, a continuance of the hearing is granted.

8. *Administrative hearing for cease and desist orders and emergency abatement actions.* An administrative hearing on the issuance of a cease and desist order or following an emergency abatement action shall be held within five (5) business days following the issuance of the order or the action of abatement, unless the hearing (or the time requirement for the hearing) is waived in writing by the party subject to the cease and desist order or the emergency abatement. A request for an administrative hearing shall not be required from the person subject to the cease and desist order or the emergency abatement action.

9. *Hearing proceedings.* The Authorized Inspector shall appear in support of the notice, order, determination, invoice for costs or emergency abatement action, and the appealing party shall appear in support of withdrawal of the notice, order, determination, invoice for costs, or in opposition to the emergency abatement action. The city shall have the burden of supporting any enforcement or other action by a preponderance of the evidence. Each party shall have the right to present testimony and other documentary evidence as necessary for explanation of the case.

10. *Final decision and appeal.* The final decision of the Hearing Officer shall issue within ten (10) business days of the conclusion of the hearing and shall be delivered by first-class mail, postage prepaid, to the appealing party. The final decision shall include notice that any legal challenge to the final decision shall be made pursuant to the provisions of California Code of Civil Procedure § 1094.5 and § 1094.6 and shall be commenced within ninety (90) days following issuance of the final decision.

Notwithstanding this subparagraph 10., the final decision of the Hearing Officer in any preceding determining the validity of a cease and desist order or following an emergency abatement action shall be mailed within five (5) business days following the conclusion of the hearing.

11. *City abatement.* In the event the owner of property, the operator of a facility, a permittee or any other person fails to comply with any provision of a compliance schedule issued to such owner, operator, permittee or person pursuant to this chapter, the Authorized Inspector may request the Enforcing Attorney to obtain an abatement warrant or other appropriate judicial authorization to enter the property, abate the condition and restore the area. Any costs incurred by the city in obtaining and carrying out an abatement warrant or other judicial authorization may be recovered pursuant to § 13.32.050.B.4.

B. *Nuisance.* Any condition in violation of the prohibitions of this chapter, including but not limited to the maintenance or use of any illicit connection or the occurrence of any prohibited discharge, shall constitute a threat to the public health, safety and welfare, and is declared and deemed a nuisance pursuant to California Government Code § 38771.

1. *Court order to enjoin or abatement.* At the request of the Director, the Enforcing Attorney may seek a court order to enjoin and/or abate the nuisance.

2. *Notice to owner and occupant.* Prior to seeking any court order to enjoin or abate a nuisance or threatened nuisance, the Director shall provide notice of the proposed injunction or abatement to the owner and occupant, if any, of the property where the nuisance or threatened nuisance is occurring.

3. *Emergency abatement.* In the event the nuisance constitutes an imminent danger to public safety or the environment, the Director of Public Works may enter the property from which the nuisance emanates, abate the nuisance and restore any property affected by the nuisance. To the extent reasonably practicable, informal notice shall be provided to the owner or occupant prior to abatement. If necessary to protect the public safety or the environment, abatement may proceed without prior notice to or consent from the owner or occupant thereof and without judicial warrant.

a. An imminent danger shall include, but is not limited to, exigent circumstances created by the dispersal of pollutants, where the same presents a significant and immediate threat to the public safety or the environment.

b. Notwithstanding the authority of the city to conduct an emergency abatement action, an administrative hearing pursuant to § 13.32.050.A.8 shall follow the abatement action.

4. *Reimbursement of costs.* All costs incurred by the city in responding to any nuisance, all administrative expenses and all other expenses recoverable under state law, shall be recoverable from the person(s) creating, causing, committing, permitting or maintaining the nuisance.

5. *Nuisance lien.* All costs shall become a lien against the property from which the nuisance emanated and a personal obligation against the owner thereof in accordance with California Government Code § 38773.1 and § 38773.5. The owner of record of the property subject to any lien shall be given notice of the lien prior to recording as required by California Government Code § 38773.1.

a. At the direction of the Director, the Enforcing Attorney is authorized to collect nuisance abatement costs or enforce a nuisance lien in an action brought for a money judgment or by delivery to the County Assessor of a special assessment against the property in accord with the conditions and requirements of California Government Code § 38773.5.

(Ord. 997, passed 8-19-97)

## § 13.32.060 PERMITS.

### A. *Discharge permit procedure.*

1. *Permit.* On application of the owner of property or the operator of any facility, which property or facility is not otherwise subject to the requirements of a state general permit or a national pollution discharge elimination system permit regulating storm water discharges, the Director may issue a permit authorizing the release of non-storm water discharges to the storm water drainage system if:

a. The discharge of material or constituents is reasonably necessary for the conduct of otherwise legal activities on the property; and

b. The discharge will not cause a nuisance, impair the beneficial uses of receiving waters, or cause any reduction in established water quality standards.

2. *Application.* The applicant shall provide all information requested by the Director for review and consideration of the application, including but not limited to specific detail as to the activities to be conducted on the property, plans and specifications for facilities located on the property, identification of equipment or processes to be used on-site and other information as may be requested in order to determine the constituents, and quantities thereof, which may be discharged if permission is granted.

3. *Permit issuance.* The permit shall be granted or denied by the Director, no later than sixty (60) business days following the completion and acceptance of the application as determined by the Director.

a. The applicant shall be notified in Person or by first-class mail, postage prepaid, of the action taken.

4. *Permit conditions.* The permit may include terms, conditions and requirements to ensure compliance with the objectives of this chapter and as necessary to protect the receiving waters, including but not limited to:

a. Identification of the discharge location on the property and the location at which the discharge will enter the storm water drainage system;

b. Identification of the constituents and quantities thereof to be discharged into the storm water drainage system;

c. A change to the permit is necessary to ensure compliance with the objectives of this chapter or to protect the quality of receiving waters.

The permittee, or in the case of a general permit, each person who has filed an application pursuant to § 13.32.060.A.5, shall be informed of any change in the permit terms and conditions at least forty-five (45) business days prior to the effective date of the modified permit.

c. Specification of pollution prevention techniques and structural or non-structural control requirements as reasonably necessary to prevent the occurrence of potential discharges in violation of this chapter;

d. Requirements for self-monitoring of any discharge;

e. Requirements for submission of documents or data, such as technical reports, production data, discharge reports, self-monitoring reports and waste manifests; and

f. Other terms and conditions appropriate to ensure compliance with the provisions of this chapter and the protection of receiving waters, including requirements for compliance with best management practices guidance documents approved by any federal, State of California or regional agency.

5. *General permit.* In the discretion of the Director, the permit may, in accordance with the conditions identified in § 13.32.060.A.4, be prepared as a general permit applicable to a specific category of activities. If a general permit is issued, any person intending to discharge within the scope of the authorization provided by the general permit may do so by filing an application to discharge with the Director. No discharge within the scope of the general permit shall occur until such application is so filed.

Notwithstanding the foregoing in this subparagraph 5, the Director, in his or her discretion, may eliminate the requirement that an application for a general permit be filed for any specific activity for which a general permit has been issued.

6. *Permit fees.* The permission to discharge shall [may] be conditioned upon the applicant's payment of the city's costs, in accordance with a fee schedule adopted by separate resolution, as follows:

a. For individually issued permits, the costs of reviewing the permit application, preparing and issuing the permit, and the costs reasonably related to administering this permit program.

b. For general permits, the costs of reviewing the permit application, that portion of the costs of preparing the general permit which is reasonably attributable to the permittee's application for the general permit, and the costs reasonably related to administering the general permit program.

B. *Permit suspension, revocation or modification.*

1. The Director may suspend or revoke any permit when it is determined that:

a. The permittee has violated any term, condition or requirement of the permit or any applicable provision of this chapter; or

b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is no longer appropriate to except the discharge from the prohibitions on prohibited discharge contained within this chapter; or

c. The permittee fails to comply with any schedule for compliance issued pursuant to this chapter; or

d. Any regulatory agency, including EPA or a Regional Water Quality Control Board having jurisdiction over the discharge, notifies the city that the discharge should be terminated.

2. The Director may modify any permit when it is determined that:

a. Federal or state law requirements have changed in a manner that necessitates a change in the permit; or

b. The permittee's discharge or the circumstances under which the discharge occurs have changed so that it is appropriate to modify the permit's terms, conditions or requirements; or

3. The determination that a permit shall be denied, suspended, revoked or modified may be appealed by a permittee pursuant to the same procedures applicable to appeal of an administrative compliance order hereunder. In the absence of a judicial order to the contrary, the permittee may continue to discharge pending issuance of the final administrative decision by the Hearing Officer.

*C. Permit enforcement.*

***PENALTIES.*** Any violation of the terms, conditions and requirements of any permit issued by the Director shall constitute a violation of this chapter and subject the violator to the administrative, civil and criminal remedies available under this chapter.

*D. Compliance.* Compliance with the terms, conditions and requirements of a permit issued pursuant to this chapter shall not relieve the permittee from compliance with all federal, state and local laws, regulations and permit requirements, applicable to the activity for which the permit is issued.

1. *Limited permittee rights.* Permits issued under this chapter are for the person or entity identified therein as the "Permittee" only, and authorize the specific operation at the specific location identified in the permit. The issuance of a permit does not vest the permittee with a continuing right to discharge.

2. *Transfer of permits.* No permit issued to any person may be transferred to allow:

a. A Discharge to the storm water drainage system at a location other than the location stated in the original permit; or

b. A discharge by a person other than the person named in the permit, provided however, that the city may approve a transfer if written approval is obtained, in advance, from the Director.

3. *Compliance disclaimer.* Full compliance by any person or entity with the provisions of this chapter shall not preclude the need to comply with other local, state or federal statutory or regulatory requirements, which may be required for the control of the discharge of pollutants into storm water and/or the protection of storm water quality.

(Ord. 997, passed 8-19-97)

### **§ 13.32.070 INTERAGENCY COOPERATION.**

A. The city intends to cooperate with other agencies with jurisdiction over storm water discharges to ensure that the regulatory purposes underlying storm water regulations promulgated pursuant to the Clean Water Act (33 USC § 1251, *et seq.*) are met.

B. The city may, to the extent authorized by law, elect to contract for the services of any public agency or private enterprise to carry out the planning approvals, inspections, permits and enforcement authorized by this chapter.

(Ord. 997, passed 8-19-97)

## 24. City of Brea Water Conserving Landscape Ordinance

## CHAPTER 20.52: WATER CONSERVING LANDSCAPE

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### Section

20.52.010 Water conserving landscape requirements

#### § 20.52.010 WATER CONSERVING LANDSCAPE REQUIREMENTS.

A. The provisions of this section are intended to meet the requirements of the Water Conservation in Landscaping Act which requires each city to adopt a water conserving landscape ordinance to promote water conservation in landscaping. In order to more efficiently utilize water and other resources, it is the policy of the city to:

1. Promote and encourage the use of water conserving landscape and water efficient irrigation systems and techniques.
2. Recommend and encourage continuous maintenance of landscaping and irrigation systems to prevent water waste.
3. Encourage repair of irrigation equipment and replacement of landscaping with the original specified materials or their equivalents whenever possible.

#### B. *Applicability.*

1. This section applies to all new developments, including second dwelling units, in residential, commercial, and industrial zones and to any new or rehabilitated public agency project. This section shall not apply to cemeteries, registered historical site, and a home-owner and/or his or her contractor-provided landscaping for a single family dwelling.

2. To promote water conservation through education, all new single family residential developments with more than two (2) model homes, shall landscape at least one-half (½) of the model homes entirely with water conserving landscaping and efficient irrigation system in accordance with the following:

a. *Plant materials.* One-half (½) of the model homes shall contain exclusively low water use plant materials.

b. *Irrigation system.* One-half (½) of the model homes shall contain exclusively irrigation system that provides high efficiency in water application according to site conditions and plant needs.

c. *Interior display.* One-half (½) of the model homes shall provide a display of “water conserving landscape” plan inside the home or sales office. These drawings shall include a key identifying the common name of plants used in the yard of the home.

C. *Water conserving landscape guidelines and criteria.* The City Planner or his designee shall review each project for compliance with this section. A project must receive a minimum of eighty (80) points in each technique.

***Landscape Techniques Points***

Use of water conserving plants in seventy-five percent (75%) or more of total landscape area (Landscape Species Water Use Classification are available at the Development Services Department 30

Grouping of plants based on hydrozone 20

Limited use of turf Residential seventy-five percent (75%) maximum of total landscape area 20

Others fifty percent (50%) maximum of total landscape area 20

Use of mulch (wood chips, barks, sawdust) Two (2) inches minimum to three (3) inches maximum 5

Use of decorative hardscape, *i.e.*, alluvial rock or decorative paving 5

Where turf is used, utilize proven varieties of low water requirement turf (*i.e.*, Marathon, hybrid fescue, warm season grass) 10

Use of soil amendments to improve water holding capacity of soil where soil conditions merit 5

***Irrigation Techniques Points***

Low gallonage irrigation system used for more than seventy-five percent (75%) of total landscape area 30

Automatic controller system that can be adjusted seasonally to be consistent with the city water conservation program (Brea code, Chapter 13.20) 20

Use of irrigation system designed to water different areas of landscape by hydrozones 20

Use of irrigation system that is sensitive to slope factors of project that does not have greater than 2:1 slope 10

Use of soil moisture sensors 5

Use of rain sensors 5

Use of wind sensors 5

D. *Plan specifications.* Final landscaping and irrigation plans that are required by this section shall be provided for review and approval by the City Planner or his designee, prior to the issuance of a building permit. The landscaping must be installed prior to building occupancy.

The final landscape plan shall be in accordance with the site and grading plans, this section, and the following:

1. Separate water meters shall be installed for all projects when required by the Development Services Department except for single family homes.

2. Soil types and infiltration rate shall be considered when designing irrigation systems. All irrigation systems shall be designed to avoid run-off, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walkways, roadways, or structures. Special attention shall be given to avoid run-off on slopes and to avoid overspray in planting areas with a width less than ten (10) feet and in median strips.

3. Sprinkler heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capacity, and ease of maintenance.

4. Landscape shall be maintained to ensure water efficiency. A regular maintenance schedule shall include but not be limited to checking, adjusting, and repairing irrigation equipments; resetting the automatic controller; aerating and dethatching turf area; replenishing mulch, fertilizing, pruning, and weeding in landscape areas.

5. Whenever possible, repair of irrigation equipment and replacement of landscaping shall be done within the originally specified materials or their equivalents.

(Ord. 932, passed 1-19-93)

# **Appendix A**

## **Appendix A**

# **Conditions of Approval**

**Once the tentative map has been approved and conditions of approval have been established, the conditions shall be amended to this conceptual WQMP or included in a final WQMP.**

**Appendix B**  
**Methodology and Assumptions**  
**for Preparation of View Simulations**



## **Richard L. Johnston**

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**Methodology**  
for the  
**Creation of Visual Simulations**  
for  
**La Floresta Project**

### **Computer Modeling:**

Computer modeling of the proposed development was accomplished utilizing state of the art software. Each piece of software is selected based on its appropriateness and accuracy for each part of the modeling effort. The following software will be used for the view simulations.

Terramodel was used for all terrain and hardscape modeling  
FormZ and ArchiCad were used for all architectural elements.  
Electric Image Animation System for setup and rendering.  
Photoshop was used for photo compositing

### **Site Modeling:**

The computer modeling of the site that was necessary for use in the visual simulations was created using a digital version of the TTM #16934 provided by Husaker & Associated, Civil Engineers. Hunsaker & Associates also provide existing topographic mapping.

### **Structure Modeling:**

Planning Area 1-4 & 6-8 & 10,12 & 13 Single family detached houses, multi-family buildings and other structures were represented using our library of building. The building were selected based on the criteria supplied that best represented the proposed buildings. The building were palced in the computer model based on the Tentative Tract Map #16934 digital file.

Planning Area 5 The Village. A computer massing model was supplied by Robinson Hill Architects for use in the visual simulations.

Planning Area 9 Senior Living. The footprint of the proposed building was extruded to the maximum height. The building foot print was derived from an illustrative supplied by

the client. A building envelope that represented the building shape and height was created for use in the visual simulations.

**Photography:**

Professional photographs were taken of the selected view locations with a Fuji GX 617 Panoramic camera providing a 2.25 x 6 inch film transparency. The film was drum scanned for use in the view simulations.

**Controls:**

The location of the camera for each view was recorded as accurately as possible at the time the photograph is shot. The location will be determined by utilizing existing topographic maps. Hand held GPS locations were used for photographs being taken in areas where mapping data is not available. In addition several items that appear in each photograph were field surveyed for accurate location using the methods described above. These were used to accurately set up the views in the staging software.

**Setup and Rendering:**

The computer model was aligned to each of the photographs utilizing the staging and rendering software, Electric Image Animation System. Minimal shading and texturing was applied to the geometry and the various views corresponding to the photographs were rendered.

**Photo Composition:**

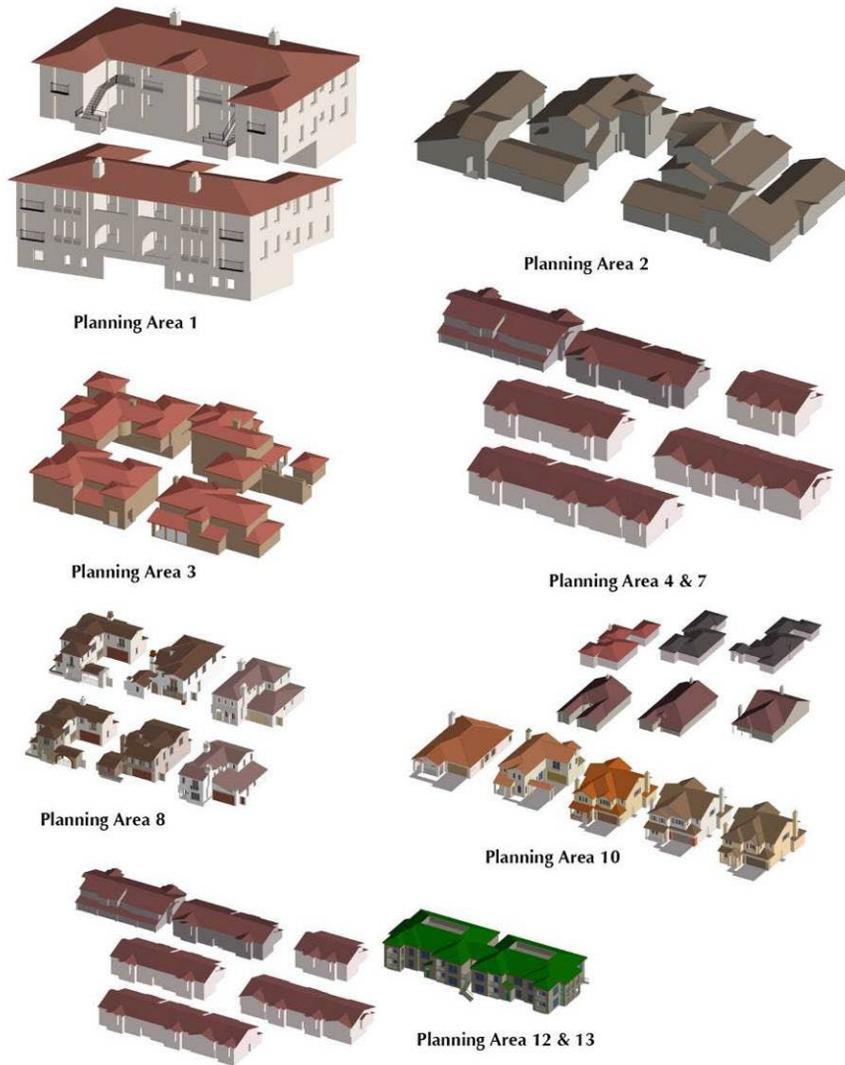
The rendered images were superimposed into the original photographs using the compositing software Photoshop. Enhancements include landscaping and foreground masking was added. The resulting image represented the proposed development at the requested level of detail.

Submitted by:  
Richard Johnston  
Digital Preview



April 30, 2007

Attachment A





# **Appendix C**

## **Revised ICU Worksheets**



103. Rose & Yorba Linda

2025 No Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	80	.05*	260	.15
NBT	2	3400	290	.09	1250	.37*
NBR	d	1700	100	.06	310	.18
SBL	1	1700	60	.04	30	.02*
SBT	2	3400	940	.28*	480	.14
SBR	1	1700	30	.02	40	.02
EBL	1	1700	70	.04	140	.08
EBT	2	3400	660	.19*	790	.23*
EBR	d	1700	90	.05	60	.04
WBL	1	1700	370	.22*	200	.12*
WBT	2	3400	610	.18	810	.24
WBR	d	1700	10	.01	170	.10
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>				<b>.79</b>		<b>.79</b>

2025 with La Floresta (Full Prj)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	80	.05*	260	.15
NBT	2	3400	300	.09	1310	.39*
NBR	d	1700	100	.06	310	.18
SBL	1	1700	60	.04	30	.02*
SBT	2	3400	990	.29*	490	.14
SBR	1	1700	30	.02	40	.02
EBL	1	1700	70	.04	140	.08
EBT	2	3400	660	.19*	780	.23*
EBR	d	1700	90	.05	50	.03
WBL	1	1700	370	.22*	190	.11*
WBT	2	3400	610	.18	810	.24
WBR	d	1700	10	.01	180	.11
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>				<b>.80</b>		<b>.80</b>

133. Imperial & Yorba Linda

2025 No Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	200	.06	250	.07
NBT	3	5100	890	.17*	1470	.29*
NBR	1	1700	90	.05	120	.07
SBL	2	3400	550	.16*	1090	.32*
SBT	3	5100	1330	.26	1120	.22
SBR	1	1700	70	.04	130	.08
EBL	2	3400	100	.03*	180	.05
EBT	2	3400	310	.09	700	.21*
EBR	1	1700	160	.09	200	.12
WBL	2	3400	80	.02	110	.03*
WBT	2	3400	570	.17*	600	.18
WBR	2	3400	1020	.30	890	.26
Right Turn Adjustment			WBR	.01*		
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>				<b>.59</b>		<b>.90</b>

2025 with La Floresta (Full Prj)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	200	.06	250	.07
NBT	3	5100	890	.17*	1500	.29*
NBR	1	1700	90	.05	120	.07
SBL	2	3400	560	.16*	1100	.32*
SBT	3	5100	1350	.26	1130	.22
SBR	1	1700	70	.04	140	.08
EBL	2	3400	100	.03*	180	.05
EBT	2	3400	310	.09	700	.21*
EBR	1	1700	160	.09	200	.12
WBL	2	3400	80	.02	110	.03*
WBT	2	3400	570	.17*	600	.18
WBR	2	3400	1020	.30	920	.27
Right Turn Adjustment			WBR	.01*		
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>				<b>.59</b>		<b>.90</b>

192. Imperial & Bastanchury

2025 No Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	100	.03	520	.15*
NBT	3	5100	2670	.52*	2620	.51
NBR	1	1700	10	.01	20	.01
SBL	2	3400	210	.06*	410	.12
SBT	3	5100	2200	.43	2630	.52*
SBR	1	1700	10	.01	10	.01
EBL	1	1700	10	.01*	10	.01
EBT	2	3400	210	.06	520	.15*
EBR	1	1700	420	.25	460	.27
WBL	1	1700	10	.01	10	.01*
WBT	2	3400	510	.15*	250	.07
WBR	1	1700	280	.16	350	.21
Right Turn Adjustment					EBR	.01*
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>			<b>.79</b>		<b>.89</b>	

2025 with La Floresta (Full Prj)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	90	.03	510	.15*
NBT	3	5100	2670	.52*	2730	.54
NBR	1	1700	10	.01	20	.01
SBL	2	3400	210	.06*	410	.12
SBT	3	5100	2260	.44	2660	.52*
SBR	1	1700	10	.01	10	.01
EBL	1	1700	10	.01*	10	.01
EBT	2	3400	200	.06	520	.15*
EBR	1	1700	420	.25	460	.27
WBL	1	1700	10	.01	10	.01*
WBT	2	3400	510	.15*	240	.07
WBR	1	1700	290	.17	360	.21
Right Turn Adjustment					EBR	.01*
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>			<b>.79</b>		<b>.89</b>	

193. Valley View & Imperial

2025 No Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	270	.16*	270	.16*
NBT	1	1700	50	.03	200	.12
NBR	1	1700	50	.03	20	.01
SBL	1	1700	200	.12	90	.05
SBT	2	3400	190	.06*	90	.03*
SBR	0	0	10		20	
EBL	1	1700	20	.01*	20	.01
EBT	3	5100	2340	.46	3000	.59*
EBR	d	1700	280	.16	300	.18
WBL	1	1700	20	.01	50	.03*
WBT	3	5100	2560	.50*	2890	.57
WBR	1	1700	60	.04	170	.10
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>			<b>.78</b>		<b>.86</b>	

2025 with La Floresta (Full Prj)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	270	.16*	290	.17*
NBT	1	1700	50	.03	200	.12
NBR	1	1700	50	.03	20	.01
SBL	1	1700	200	.12	80	.05
SBT	2	3400	190	.06*	80	.03*
SBR	0	0	10		20	
EBL	1	1700	20	.01*	20	.01
EBT	3	5100	2380	.47	3030	.59*
EBR	d	1700	300	.18	300	.18
WBL	1	1700	20	.01	50	.03*
WBT	3	5100	2560	.50*	2980	.58
WBR	1	1700	60	.04	170	.10
Clearance Interval				.05*		.05*
<b>TOTAL CAPACITY UTILIZATION</b>			<b>.78</b>		<b>.87</b>	

# **Appendix D**

## **City of Brea-Traffic Impact Fee Schedule**





APPLICANT GUIDE TO:

# Traffic Impact Fees

## What Are Traffic Impact Fees?

In July 1995, the Brea City Council adopted Ordinance 966, establishing Traffic Impact Fees for all new development in Brea and annexed portions of its sphere-of-influence. These fees are required, in part, by Orange County's Measure M, a transportation initiative passed by voters in 1990. More importantly, these are fair-share based fees that will serve to offset, or mitigate, the traffic impacts caused by new development.

In some cases, a developer may be required to make certain traffic improvements in addition to, or in-lieu of paying traffic impact fees. In this case, however, the total cost of traffic improvements and/or fees will not exceed the development's fair-share toward mitigating its own impacts. Please consult with one of the City's planners to discuss whether your project will require traffic improvements, in addition to, or in-lieu of Traffic Impact Fees.

## What Projects Require Payment of Traffic Impact Fees?

All new development projects are subject to the Traffic Impact Fees, except:

- Alterations to an existing building;
- Reconstruction (within two years), when a building has been destroyed by fire, wind, earthquakes, vandalism, or other natural or man-made disasters;
- Additions to a single-family or multiple-family residence; and,
- Construction of public schools.

## When Must Traffic Impact Fees Be Paid?

The required Traffic Impact Fees must be paid prior to the issuance of any building permits.

## How Much Are the Traffic Impact Fees?

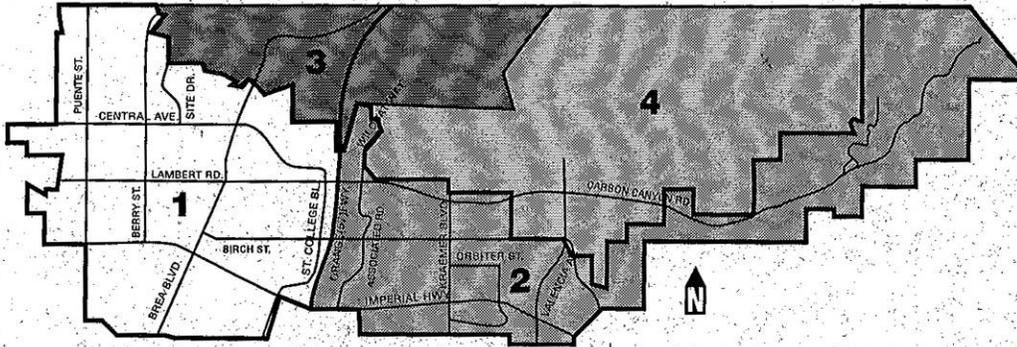
The amount of fees vary depending upon a project's type and location. The amount of Traffic Impact Fees will be adjusted annually as necessary to reflect changes in the scope and cost of improvements, inflation, and other relevant factors. However, this is a one-time fee. Please call (714) 990-7674 for more information.

### *To calculate your project's Traffic Impact Fee:*

1. Determine the fee district (see map on reverse of this page ) in which your project is located.
2. Multiply the size of your project by the fee amount in your district as noted in the Traffic Impact Fee Schedule (see reverse of this page).
3. This is your total Traffic Impact Fee payable prior to issuance of building permits.

*Continued...*

### Traffic Impact Fee Districts



### Traffic Impact Fee Schedule

Land Use Category	Unit of Development	Fee Districts			
		1	2	3	4
Low Density Residential (Up to 6 d.u. per acre)	Per dwelling unit	\$693	\$2,683	\$1,841	\$5,693
Medium Density Residential (7 to 12 d.u. per acre)	Per dwelling unit	\$561	\$2,171	\$1,490	\$4,606
High Density Residential (13 d.u. per acre & over)	Per dwelling unit	\$428	\$1,659	\$1,138	\$3,519
Commercial, Office, and/or Industrial	Per gross square foot	\$1.51	\$5.86	\$4.02	\$12.44
All other uses	Per trip end	\$70	\$271	\$186	\$575

**Sample Calculations:**

**Example 1**

Type: Medium Density Residential  
 Project Size: 6 dwelling units  
 Location: Fee District 3  
 Fee Formula: 6 x \$1,490 = \$8,940

**Example 2**

Type: Office building  
 Project Size: 10,000 square feet  
 Location: Fee District 1  
 Fee Formula: 10,000 x \$1.51 = \$15,100

## **Appendix E**

# **La Floresta Village and Birch Hills Projects – Clarification to the Water Supply Assessment June 27, 2007**



**LA FLORESTA VILLAGE AND BIRCH HILLS GOLF COURSE PROJECTS**  
**WATER SUPPLY ASSESSMENT**

**Clarification to the Water Supply Assessment**  
**Dated June 27, 2007**

**June 27, 2007**

**Prepared for:**



**City of Brea**

**Prepared by:**

**DBE Psomas**



Prepared under the supervision of Thomas B. Hooker, Jr. P.E.

La Florista WSA Clarification, June 27, 2007

City of Brea  
La Florista Village and Birch Hills Golf Course Projects  
Clarification to the Water Supply Assessment  
Dated June 27, 2007

This document provides clarification of several issues related to the La Florista Village and Birch Hills Golf Course Projects (Project) Water Supply Assessment (WSA) prepared by Daniel Boyle Engineering, dated March 14, 2006.

**Section 3, Water Demand**

The City has provided water service to the Birch Hills Golf Course for 35 years. The 2002 Water Master Plan Update (WMPU), Table 4-4 (Large Single-Location Water Users) identifies the existing average water demand for the golf course to be 203.4 acre-feet per year (afy). The proposed Project overlays this golf course, therefore the existing golf course demand offsets the estimated Project demands by a like amount when considering additional water supply for the Project. This reduces the Project additional water demand from 1,224 afy to 1,022 afy. Table 2 has been revised accordingly.

It should be noted that the City received a letter dated February 26, 2007 from Hunsaker & Associates which estimated the project's increase in water demand at less than half of the conservative amount used in the WSA. A copy of that letter is attached.

The business points of the development agreement between the project developer and the City had not been established when the WSA was published. As part of the agreement, the developer will transfer 350 shares of CDWC stock through dedication, will sell the City 100 more shares of stock to cover golf course demand, and will agree to sell to the City one half of its remaining stock in the amount of 375 shares. Accordingly, the agreement will result in the transfer to the City of a total of 825 shares of CDWC stock which provides the City an increased supply of water which will more than offset the project's total additional water demand. The WSA states that each share is equal to 1.4325 afy and, therefore, 825 shares equals 1181 afy. This additional supply provides more than a direct offset to the project's additional water demand, reducing it to 0 with a cushion of 159 afy. This calculation is based on a conservative estimate of the amount of water represented by 1 share of CDWC stock. That amount fluctuates in accordance with the Operating Safe Yield established annually by the Upper San Gabriel Basin Watermaster. Most recently, the amount so established resulted in rights to produce water amounting to 1.9 afy per share, thus increasing the amount in excess of the project's additional demand which will result from the City's imminent acquisition of CDWC shares from the developer.

**Section 5, Water Reliability Assessment**

**MWD Reliability**

It should be noted that water supply projections from MWD's 2005 RUWMP are based upon contingent future projects for which environmental impacts have yet to be assessed. This is no different than has been the case for the 79 year history of MWD. Throughout that time MWD has

La Florista WSA Clarification, June 27, 2007

met the water supply needs of its member agencies there is no evidence to suggest that it will not be capable of meeting these needs into the future.

#### CDWC Reliability

CDWC has a 33 year history of providing water to its stock holders and at no time have any of its members been shorted on their water supply. In fact, the Upper San Gabriel Basin Watermaster annual reports indicate that no water producer bound by the Judgment ever has been denied the right to overproduce from the Basin for lack of available supplemental water or for any other reason. That Judgment has been in operation for over 30 years. In summary, the stock acquisition will more than cover the project's demand from water rights owned by CDWC under the controlling Judgment with no resulting reliance on CDWC's ability to produce water in excess of those rights. However, the City of Brea is not dependant upon CDWC as the City has the capacity and facilities in place to take 100% of its supply from MWD should it decide to do so now or in the future.

#### Alternative Supplies

Southern California has been faced with the need to import water to meet its existing and future water needs for 60 years or more. Local and regional water agencies are continuously developing new supplies and improving those already in use. Alternate water supplies that may be available to the City of Brea in the future, should planned supply sources not have the projected capacity, have not been fully developed at this time. Alternatives that currently appear to be promising include, among others, future availability of recycled water from a regional plant in the north Orange County area, desalination and wheeling of sea water from a coastal location and purchase and wheeling of agricultural water along the SWP route.

The history of Southern California suggests that the region is highly likely to solve its water supply issues and provide its residents with supplies that meet both health and life style demands. The City of Brea believes that MWD and CDWC will continue to provide uninterrupted supplies to meet its water needs. Should evidence present itself to the contrary, the City will look to alternatives that bear promise at that time.

#### **Section 6, City Of Brea Water Supply Assessment**

The City has, through ownership of 1295 shares of CDWC stock, an average year entitlement of 1855 afy from the CDWC system with no reliance of the right of CDWC to overproduce from the adjudicated Basin and, thus, no reliance on the availability of supplemental, imported water. The development agreement for the project will provide the City with ownership of an additional 825 shares of CDWC stock or 1181 afy for a total of 3036 afy.

Table 7, 8 and 9 from the WSA have been expanded into Tables 7a, 7b, 8a, 8b, 9a and 9b. In Table 9 the demand increase has been revised to agree with the text which states that a 6% increases has been applied to water demand in each successive year. The tables with the "a" suffix present the same supply scenario as those in the WAS, which represent the probable supply to be taken by Brea from MWD and CDWC.

The tables with the "b" suffix present an alternative supply scenario if the City limits its supply taken from CDWC to the City's average year entitlement of 3,036 afy. It should be noted that the

La Florista WSA Clarification, June 27, 2007

City has the ability to meet 100% of its existing and ultimate demands solely from its capacity from MWD.

**Section 7 Conclusions**

The conclusions of this amended WSA remain the same; the City’s water supplies will sufficiently meet the demands of the proposed Project along with existing and projected City demands through the year 2030.

**Revised Table 2 – Additional Water Demand Summary**

Planning Area	Land Use	Area (acres)	Dwelling Units (du)	Water Use Factor	Units	Water Demand	
						(gpd)	(afy)
<b>La Florista Village</b>							
1	Residential-High Density	6.8	99	600	gpd/unit	59,400	67
2	Residential-Medium Density	13	65	800	gpd/unit	52,000	58
3	Residential-Medium Density	12.1	107	800	gpd/unit	85,600	96
4a	Residential-High Density	4.3	56	600	gpd/unit	33,600	38
4b	Residential-High Density	2.7	35	600	gpd/unit	21,000	24
5	Village Core <sup>(1)</sup>						
	Residential-High Density	10.6	192	600	gpd/unit	115,200	129
	Commercial	7		3,000	gpd/acre	21,000	24
6	Residential-Medium Density	4.6	23	800	gpd/unit	18,400	21
7	Residential-High Density	10	150	600	gpd/unit	90,000	101
8	Residential-Medium Density	16.2	98	800	gpd/unit	78,400	88
9	Residential-Very High Density	7	200	600	gpd/unit	120,000	134
10	Residential-Medium Density	21	105	800	gpd/unit	84,000	94
11	Public Facility	5.3		2,300	gpd/acre	12,190	14
subtotal =						790,790	888
<b>Birch Hills Golf Course</b>							
12a	Residential-Very High Density	4.7	115	600	gpd/unit	69,000	77
12b	Residential-High Density	11	132	600	gpd/unit	79,200	89
13	Open Space-Golf Course	75.6		2,000	gpd/acre	151,200	169
	Community Center	0.5		3,000	gpd/acre	1,500	2
	Club House (existing)	0.1		3,000	gpd/acre	300	0
subtotal =						301,200	337
<sup>(2)</sup> Existing Birch Hills Golf Course water demand =						-181,537	-203
subtotal =						119,663	134
<b>Total</b>		<b>210.3</b>	<b>1377</b>			<b>910,453</b>	<b>1,022</b>
<b>Offset - 825 Shares of CDWC Stock</b>						<b>-1,054,600</b>	<b>-1181</b>
<b>TOTAL WATER DEMAND SUBJECT TO WSA REVIEW</b>						<b>0</b>	<b>0</b>

<sup>(1)</sup> Floor Area Ratio 1.1 total land area is 16 acres

<sup>(2)</sup> Water Master Plan Update, 2002: Table 4-4

La Florista WSA Clarification, June 27, 2007

**Revised Table 3 - Projected Average Annual Demands**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
City	12,500	13,255	14,634	16,030	17,840	19,624
Project	500	1,000	1,022	1,022	1,022	1,022
Net Impact	0	0	224	0	0	0
Total	12,500	13,255	14,858	16,030	17,840	19,624

**Table 7a - Normal Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	12,500	13,255	14,858	16,030	17,840	19,624
Supply						
MWD	7,500	6,755	8,358	9,530	11,340	13,124
CDWC	5,000	6,500	6,500	6,500	6,500	6,500
Total	12,500	13,255	14,858	16,030	17,840	19,624

**Table 7b - Normal Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	12,500	13,255	14,858	16,030	17,840	19,624
Supply						
MWD	9,464	10,219	11,822	12,994	14,804	16,588
CDWC	3,036	3,036	3,036	3,036	3,036	3,036
Total	12,500	13,255	14,858	16,030	17,840	19,624

**Table 8a - Single Dry Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	13,250	14,050	15,749	16,992	18,910	20,801
Supply						
MWD	8,250	7,550	9,249	10,492	12,410	14,301
CDWC	5,000	6,500	6,500	6,500	6,500	6,500
Total	13,250	14,050	15,749	16,992	18,910	20,801

La Florista WSA Clarification, June 27, 2007

**Table 8b - Single Dry Year Supply Assessment**

Description	Projected Demands (afy)					
	2006	2010	2015	2020	2025	2030
Demand	13,250	14,050	15,749	16,992	18,910	20,801
Supply						
MWD	10,214	11,014	12,713	13,956	15,874	17,765
CDWC	3,036	3,036	3,036	3,036	3,036	3,036
Total	13,250	14,050	15,749	16,992	18,910	20,801

**Table 9a - Multiple Dry Year Supply Assessment**

2010 Assessment			
Description	2010	2011	2012
Total Demand	14,050	14,893	15,787
Supply			
MWD	7,550	8,393	9,287
CDWC	6,500	6,500	6,500
Total Supply	14,050	14,893	15,787
2015 Assessment			
Description	2015	2016	2017
Total Demand	15,749	16,694	17,696
Supply			
MWD	9,249	10,194	11,196
CDWC	6,500	6,500	6,500
Total Supply	15,749	16,694	17,696
2020 Assessment			
Description	2020	2021	2022
Total Demand	16,992	18,011	19,092
Supply			
MWD	10,492	11,511	12,592
CDWC	6,500	6,500	6,500
Total Supply	16,992	18,011	19,092
2025 Assessment			
Description	2025	2026	2027
Total Demand	18,910	20,045	21,248
Supply			
MWD	12,410	13,545	14,748
CDWC	6,500	6,500	6,500
Total Supply	18,910	20,045	21,248

**Table 9b - Multiple Dry Year Supply Assessment**

2010 Assessment			
Description	2010	2011	2012
Total Demand	14,050	14,893	15,787
Supply			
MWD	11,014	11,857	12,751
CDWC	3,036	3,036	3,036
Total Supply	14,050	14,893	15,787
2015 Assessment			
Description	2015	2016	2017
Total Demand	15,749	16,694	17,696
Supply			
MWD	12,713	13,658	14,660
CDWC	3,036	3,036	3,036
Total Supply	15,749	16,694	17,696
2020 Assessment			
Description	2020	2021	2022
Total Demand	16,992	18,011	19,092
Supply			
MWD	13,956	14,975	16,056
CDWC	3,036	3,036	3,036
Total Supply	16,992	18,011	19,092
2025 Assessment			
Description	2025	2026	2027
Total Demand	18,910	20,045	21,248
Supply			
MWD	15,874	17,009	18,212
CDWC	3,036	3,036	3,036
Total Supply	18,910	20,045	21,248



**HUNSAKER  
& ASSOCIATES**  
I R V I N E, I N C.

PLANNING  
ENGINEERING  
SURVEYING  
GOVERNMENT RELATIONS

February 26, 2007

IRVINE  
LOS ANGELES  
RIVERSIDE  
SAN DIEGO

Mr. Brian Kelly  
CHEVRON LAND AND DEVELOPMENT  
145 S. State College Boulevard, Room 4114  
Brea, CA 92821

Subject: **California Domestic Water Company  
Required Water Supply and CDWC Stock**

Dear Mr. Kelly:

The purpose of this letter is to provide you with additional insight to the water requirements for your La Floresta project in the City of Brea. The information presented is based upon as follows:

FOUNDING PARTNERS:

RICHARD HUNSAKER  
TOM R. MCGANNON  
JOHN A. MICHLER  
DOUGLAS G. SNYDER

1. The City's Water Supply Assessment (WSA) for "La Floresta Village and Birch Hills Golf Course Projects", dated March 14, 2006.
2. The City's "Water Master Plan Update" (WMPU), dated December 2002.
3. California Domestic Water Company (CDWC) - Minutes of the Board of Directors meeting, dated May 20, 2006 (Minutes).
4. The City's "Urban Water Management Plan" (UWMP), dated December 2005.

**WATER SUPPLY ASSESSMENT**

PRINCIPALS:

DAVID FRATTONE  
FRED GRAYLEE  
BRADLEY HAY  
PAUL HUDDLESTON  
KAMAL H. KARAM  
DOUGLAS L. STALEY  
KRIS WEBER  
JOSEPH E. WIGHTMAN

**Project Water Demands**

On page 5 of 18 in the WSA, the "Project Water Demands" are estimated using the water use factors from the City's WMPU. The "duty" factors, such as 600 gpd/unit are referenced, (See attached Table 2); Hunsaker & Associates Irvine, Inc., however, was unable to locate the referenced 600 gpd/DU duty factor within the WMPU.

For the La Floresta project, the use of 600 gpd/unit is equivalent to 6,440 gpd/acre. This value is not only very high for estimating water demands, but it also does not take into account the various land uses proposed for the La Floresta project. For instance, it does not seem appropriate to use the same 600 gpd/unit for the Residential very high density, Residential medium density, the Senior housing, and the Assisted living land uses.

An alternate method of calculating the project's water demand would be to utilize Table 4-3 of the City's 2002 WMPU. This table utilizes water use and duty factors based upon the proposed land use. These factors range from 1,500 gpd/acre for medium density small lot to 2,800 gpd/acre for high density uses. In 2003, the City updated its General Plan. Table CD-6 in the updated General Plan utilizes the demand factors from the WMPU as well. Since this document was reviewed and approved as part of the CQUA EIR requirement for the General Plan update, we have to conclude that the water demand factors were accurate at the time.

Three Hughes  
Irvine, California  
92618-2021  
(949) 583-1010 PH  
(949) 583-0759 FX  
www.hunsaker.com



Mr. Brian Kelly  
 CHEVRON LAND AND DEVELOPMENT  
 February 26, 2007  
 Page 3

Our office calculated a water supply demand of 285,070 gpd, utilizing these duty factors. This estimated demand is approximately one third of the estimated 938,990 gpd shown within the City's WSA for the La Floresta project. Please see the attached Table "A" showing these calculations.

Based on information you obtained from the El Toro Water District, it is our understanding that the actual water demand factors for service to Laguna Woods (age restricted community with over 12,700 units) are considerably below those represented in the WSA. The entire Laguna Woods project including residential and common area landscaping demand is only 253 gpd/unit. Additional historical information from Sunrise Senior Living, the company selected to develop the Assisted Living facility at La Floresta, has indicated that their actual use is approximately 116 gpd/unit. Both, the active adult and senior living demand factors are considerably less than the 600 gpd/unit estimated in the WSA.

The Irvine Ranch Water District (IRWD) uses a very detailed water use projection, based upon a variety of land uses. Our office calculated a water supply demand of 420,030 gpd, utilizing the IRWD guidelines. A summary table has been attached for your review as "IRWD-Irvine Duty Factors". This estimated demand is approximately one half of the estimated 938,990 gpd demand shown with the City's WSA for the La Floresta project.

This is one of the primary issues that must be reconciled before an agreement can be reached between the City of Brea and Chevron Land Development Company.

#### **Water Supply from CDWC**

The California Domestic Water Company "Historic Stockholder Entitlement" value of 1.4325 acre-feet of water per share is referenced on Page 9 of 18 in the WSA. The entitlement value does not represent a fixed allocation, but is only a reference to a point in time over 100 years ago. The value of 1.4325 acre-feet is derived from the statement on a CDWC stock certificate entitling the shareholder to "1/10 of a miners inch" of water (0.12 Cubic feet/min) for the year in which the San Gabriel Water Basin was adjudicated. At the time of CDWC stock issuance, CDWC's water allocation in the Basin was "1/10 of a miners inch" per share, based on 10,000 shares of stock. However, there are only 7,881 outstanding shares of CDWC stock at the present time, thus increasing the face value entitlement from 1.4325 acre-feet to 1.82 acre-feet of water per share.

The previous background aside, the actual shareholder entitlement is established on an annual basis depending upon conditions in the San Gabriel Basin. Each year the San Gabriel Basin Water Master establishes the Operating Safe Yield (OSY) for the groundwater basin. This OSY effectively establishes the water allotment within the basin. For the 2006-2007 year this allotment entitles all CDWC shareholders to 1.9 acre-feet of water per share of CDWC stock; said entitlement is also referenced in the CDWC minutes. It is also important to note that each California Domestic Water Company shareholder is allowed to pump any amount of water beyond their annual entitlement with a penalty fee imposition of approximately 50% for basin replenishment. It is our understanding that the water delivery cost to the City of Brea would increase from \$217.80 to \$329.41 per acre foot for water pumped beyond their annual entitlement. In effect a single share of CDWC stock represents a minimum right of 1.9 acre-feet of water per year.



Mr. Brian Kelly  
CHEVRON LAND AND DEVELOPMENT  
February 26, 2007  
Page 3

We sincerely trust that the information provided herein will be useful to you in processing the terms and conditions of the water supply for the La Floresta project. Please call me at (949) 458-5470 if you have any questions.

Sincerely,

HUNSAKER & ASSOCIATES IRVINE, INC.

A handwritten signature in cursive script that reads "Doug Staley".

Doug Staley, PE  
Principal

DS:ca  
W.O. 0433-35T  
XC: Jim Smith, H&A  
Ed Mandich, H&A  
(f:\clw\0433\35T L06-ds.doc)

**2.2 Project Construction**

Currently, there is no construction activity at either of the two project sites. The La Floresta site consists of industrial, agricultural and open space. The Birch Hills Site is exclusively used as a golf course. No construction timeline has been furnished for the proposed projects; therefore construction is estimated to begin in the next 5 years, with the development assumed to be complete by the year 2015.

**3.0 WATER DEMANDS**

**3.1 Project Water Demands**

Utilizing the proposed land use data from Table 1 and water use factors from the City's 2002 Water Master Plan Update, project water demands were developed. These demands are presented in Table 2.

**Table 2 — Water Use Summary**

Item	Land Use	Floor Area Ratio (FAR)	Units	Units	Units	Water Use (gpd)	Water Use (AFY)
<b>La Florista Village</b>							
1	Residential-High Density	6.8	99	600	gpd/unit	59,400	67
2	Residential-Medium Density	13	65	800	gpd/unit	52,000	58
3	Residential-Medium Density	12.1	107	800	gpd/unit	85,600	96
4a	Residential-High Density	4.3	56	600	gpd/unit	33,600	38
4b	Residential-High Density	2.7	35	600	gpd/unit	21,000	24
<b>Village Core*</b>							
5	Residential-High Density	10.6	192	600	gpd/unit	115,200	129
	Commercial	7		3,000	gpd/acre	21,000	24
6	Residential-Medium Density	4.6	23	800	gpd/unit	18,400	21
7	Residential-High Density	10	150	600	gpd/unit	90,000	101
8	Residential-Medium Density	16.2	98	800	gpd/unit	78,400	88
9	Residential-Very High Density	7	200	600	gpd/unit	120,000	134
10	Residential-Medium Density	21	105	800	gpd/unit	84,000	94
11	Public Facility	5.3		2,300	gpd/acre	12,190	14
<b>Subtotal =</b>						<b>790,790</b>	<b>888</b>
<b>Birch Hills Golf Course</b>							
12a	Residential-Very High Density	4.7	115	600	gpd/unit	69,000	77
12b	Residential-High Density	11	132	600	gpd/unit	79,200	89
13	Open Space-Golf Course	75		2,000	gpd/acre	150,000	168
	Community Center	0.5		3,000	gpd/acre	1,500	2
	Club House (existing)	0.1		3,000	gpd/acre	300	0
<b>Subtotal =</b>						<b>300,000</b>	<b>336</b>
<b>Total</b>		<b>210.3</b>	<b>1377</b>			<b>1,090,790</b>	<b>1,224</b>

\*Floor Area Ratio 1.1 total land area is 16 acres

Based on water demand factors from the Water Master Plan Update (WMPU) prepared by Daniel Boyle Engineering in 2002, Table 2 indicates approximately

148,200 GAL  
938,990 GAL - 1054 AFY

<b>CHAPTER 4</b>	<b>WATER DEMANDS</b>
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A separate water demand factor was developed for each land use designation. Initial values were used for each water demand factor based on experience with similar land uses. The factors were adjusted slightly as necessary until the overall water demands agreed with the historical production totals. Table 4-3 lists the calibrated water demand factors used in calculating the water demands for the computer model.

**TABLE 4-3  
Water Demand Factors**

Land Use Designation	Description	Water Demand Factor (gpd/du)
R-1H	Hillside Residential	2,500
R-1H	Single Family - Hillside	2,000
R-1	Single Family - 7,200 sq. ft. Per DU	1,500
R-1S	Single Family Small Lot	1,500
R-2	Multifamily - 4,500 sq. ft. per DU	2,000
R-3	Multifamily - 1,750 sq. Ft. per DU	2,000
R-3I	Multifamily Incentive	2,000
C-P	Administrative and Professional Office	2,000
C-N	Neighborhood Commercial	2,000
C-C	Major Shopping Center	1,500
C-G	General Commercial	1,500
C-M	Industrial Commercial	3,000
M-1	Light Industrial	3,000
M-2	General industrial	2,000
P-C	Planned Community	2,300
FP-1	Flood Plain	0

Table A - Brea Master Plan Duty Factors

Planning Area	Land Use	Description	DUs	Acres	Duty Factor (gpd/ac)	ABD (gpd)	ADD (ac-ft/yr)
<b>La Floresta Village Estimated Water Demands</b>							
1	R-3	High Density	99	6.8	2,800	19,040	21.33
2	R-1	Medium Density	65	13	1,500	19,500	21.84
3	R-2	Medium Density	107	12.1	2,000	24,200	27.11
4A	R-2	High Density	56	4.3	2,000	8,600	9.63
4B	R-2	High Density	35	2.7	2,000	5,400	6.05
	R-3	High Density	192	10.6	2,800	29,680	33.25
5	C-G	Commercial		7	3,000	21,000	23.52
6	R-1	Medium Density	23	4.6	1,500	6,900	7.73
7	R-3	High Density	150	10	2,800	28,000	31.36
8	R-1	Medium Density	98	16.2	1,500	24,300	27.22
9	R-3	Very High Density	200	7	2,800	19,600	21.95
10	R-1	Medium Density	105	21	1,500	31,500	35.28
11	P-C	Public Facility		5.3	2,300	12,190	13.65
SUBTOTAL			1,130	120.6		249,910	279.94
<b>Birch Hills Estimated Water Demands</b>							
12A	R-3	Very High Density	115	4.7	2,800	13,160	14.74
12B	R-1	High Density	132	11	2,000	22,000	24.64
SUBTOTAL			247	15.7		35,160	39.38
<b>La Floresta Village &amp; Birch Hills Estimated Water Demands</b>							
TOTAL			1,377	136.3		285,070	319

Table B - IRWD Irvine Duty Factors

Planning Area	Description	DUs	Acres	KSF	Duty Factor (gpd/unit)	ADD (gpd)	ADD (ac-ft/yr)
<b>La Floresta Village Estimated Water Demands</b>							
1	High Density	99	6.8	-	180	17,820	19.96
2	Medium Density	65	13	-	405	26,325	29.48
3	Medium Density	107	12.1	-	310	33,170	37.15
4A	High Density	56	4.3	-	180	10,080	11.29
4B	High Density	35	2.7	-	180	6,300	7.06
	High Density	192	10.6	-	180	34,560	38.71
5	Commercial	-	7	305	220	67,083	75.13
6	Medium Density	23	4.6	-	405	9,315	10.43
7	High Density	150	10	-	180	27,000	30.24
8	Medium Density	98	16.2	-	310	30,380	34.03
9	Very High Density	200	7	-	200	40,000	44.80
10	Medium Density	105	21	-	405	42,525	47.63
11	Public Facility	-	5.3	231	60	13,852	15.51
SUBTOTAL		1,130	121			358,410	401.42
<b>Birch Hills Estimated Water Demands</b>							
12A	Very High Density	115	4.7	-	180	20,700	23.18
12B	High Density	132	11	-	310	40,920	45.83
SUBTOTAL		247	16			61,620	69.01
<b>La Floresta Village &amp; Birch Hills Estimated Water Demands</b>							
TOTAL		1,377	136			420,030	470.43



## **Appendix F**

### **Traffic Circulation Related Correspondence**

- Letter from Caltrans dated May 12, 2008  
Pertaining to Requirements for  
the La Floresta Village Project**
  
- Letter from Austin-Foust Associates dated May 19, 2008  
Pertaining to Modifications Made to  
La Floresta Village Improvements  
in Response to Caltrans,  
and Consistency with the Findings  
of the EIR Traffic Analysis**



**DEPARTMENT OF TRANSPORTATION**

District 12  
3337 Michelson Drive, Suite 380  
Irvine, CA 92612-8894  
Tel: (949) 724-2267  
Fax: (949) 724-2592



*Flex your power!  
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**FAX and MAIL****May 12, 2008**

Adrienne Gladson  
City of Brea  
1 Civic Center Circle  
Brea, California 92821

File: IGR/CEQA  
SCH#: 2005121093  
Log #: 1668-F  
SR-90, SR-142, SR-57

**Subject: La Floresta Development Project – April 10, 2008 meeting follow-up**

Dear Ms. Gladson,

On April 10, 2008 the Department of Transportation met with the developer and the City to discuss outstanding areas of concern each party had with the proposed La Floresta development. The intent of this workshop type meeting was to bring everyone together and try to resolve these areas of concern. The La Floresta development involves the development of two non-contiguous sites in the City of Brea for a total of 1335 dwelling units at densities ranging from 5.0 du/ac. to 28.5 du/ac., with commercial, office, and recreational uses. The nearest State routes to the project sites are SR-90, SR-142, and SR-57.

**The Department of Transportation is a responsible agency** on this project. We have the following comments regarding what was discussed and agreed to at the April 10<sup>th</sup> meeting:

1. The development will have full signals at the following intersections:
  - Imperial and F Street
  - Imperial and A Street
  - Valencia and F Street
  - Valencia and R Street
2. The intersection of A Street and Valencia will have right turn in and right turn out access. There will be access from SB Valencia to A Street by means of a left turn in with raised median that goes through the intersection to prohibit left turn movements out of the project from A Street.
3. The Developer will add a right turn lane just before A Street on WB Imperial Highway.
4. There will be no need for an acceleration lane on EB Imperial at "A" Street due to this intersection being signalized.

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5. New hardware will be installed for the signal at Imperial & Valencia.
6. The Developer will provide dual left lanes from EB Imperial to A Street.

The Department has received and is currently reviewing the Conceptual Striping Plans submitted to our office on April 30<sup>th</sup>. Comments regarding the Conceptual Striping Plans will be sent under a separate transmittal.

Please continue to keep us informed of this project and any future developments, which could potentially impact the State Transportation Facilities. If you have any questions or need to contact us, please do not hesitate to call Maryam Molavi at (949) 724-2267 or me at (949) 724-2731.

Sincerely,



Ryan P. Chamberlain, Branch Chief  
Local Development/Intergovernmental Review

C: James Pinheiro, Department of Transportation  
Gale McIntyre, Department of Transportation  
James A. Martinez, Chevron Land and Development

*"Caltrans improves mobility across California"*



May 19, 2008

City of Brea  
One Civic Center Circle  
Brea, CA 92821

ATTENTION: Ms. Adrienne Gladson  
SUBJECT: **LA FLORESTA ACCESS**

Dear Ms. Gladson:

This letter is in response to the Caltrans letter of May 12, 2008 regarding access to the proposed La Floresta development. That letter notes that the intersection of Valencia Avenue and "A" Street will not be signalized and will have a left-turn exit prohibition (all other movements will be allowed including left turn entering).

The traffic analysis assumed a left turn exit at "A" Street, and derived a volume of 31 exiting vehicles in the AM peak hour and 127 vehicles in the PM peak hour. With the left turn prohibition, this traffic would divert to the two adjacent intersections, one on Valencia Avenue and the other on Imperial Highway. For the AM peak hour, the worst case as far as intersection capacity utilization (ICU) is concerned is if all traffic diverted to Imperial Highway (the "A" Street access point) and made a right turn. This would increase the AM peak hour ICU by less than .01, and hence would not change the reported ICU result for 2025 with-project. For the PM peak hour, only the "A" Street intersection would be affected since the westbound through movement at Valencia Avenue and Imperial Highway is not critical in the PM peak hour. The "A" Street ICU of .62 would increase to .66, which is still within level of service (LOS) "B."

In conclusion, the access change would not affect the conclusions of the EIR Traffic Study.

Very Truly Yours,

Terence W. Austin

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2223 Wellington Avenue, Suite 300 • Santa Ana, California 92701-3161  
Tel: (714) 667-0496 Fax: (714) 667-7952  
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## **Appendix G**

# **Mitigation Monitoring Program Reporting and Implementation Forms**



**La Floresta Development Proposal**  
**Birch Hills Project**  
**Mitigation Monitoring and Reporting Program**  
**Reporting and Implementation Form**

<b>Mitigation Measure #</b>		
<b>Birch Hills Development Project</b>		
<b>Location</b>	On-site	Off-site
<b>Project Phase</b>	Design	Construction
<b>Impact Issue</b>		

**Description of Activity/Method of Implementation:**

<b>Disposition</b>	
	Mitigation measure for above-noted project phase implemented. No further action is required.
	Mitigation measure for above-noted project phase not fully implemented. Further action required. (Please explain below.)
	Mitigation measure for above-noted project phase not in compliance. Further action required. (Please explain below.)

**Comments/Revisions:**

<b>Completed by:</b>		<b>Approved by:</b>	
<b>Name</b>		<b>Name</b>	
<b>Title</b>		<b>Title</b>	
<b>Date</b>		<b>Date</b>	

**La Floresta Development Proposal**  
**La Floresta Village Project**  
**Mitigation Monitoring and Reporting Program**  
**Reporting and Implementation Form**

<b>Mitigation Measure #</b>		
<b>La Floresta Village Development Project</b>		
<b>Location</b>	On-site	Off-site
<b>Project Phase</b>	Design	Construction
<b>Impact Issue</b>		

**Description of Activity/Method of Implementation:**

<b>Disposition</b>	
	Mitigation measure for above-noted project phase implemented. No further action is required.
	Mitigation measure for above-noted project phase not fully implemented. Further action required. (Please explain below.)
	Mitigation measure for above-noted project phase not in compliance. Further action required. (Please explain below.)

**Comments/Revisions:**

<b>Completed by:</b>		<b>Approved by:</b>	
<b>Name</b>		<b>Name</b>	
<b>Title</b>		<b>Title</b>	
<b>Date</b>		<b>Date</b>	