



County of Orange/Santa Ana Region Priority Project Preliminary Water Quality Management Plan (PWQMP)

Project Name:

**215-223 Mesa Drive
Costa Mesa, CA 92627
APN: 426-062-06**

Prepared for:

**Homex Development LLC.
17741 Mitchell, Suite 200
Irvine, CA 92614
Phone: 949-252-9999**

Prepared by:

**W.H. Civil Inc.
Wai Lin Maung Chen
548 Wald
Irvine, CA 92618
Phone: 949-229-1413
Prepared Date: 03-23-2026**



Project Owner's Certification			
Planning Application No. (If applicable)	PDES-26-0001	Grading Permit No.	
Tract/Parcel Map and Lot(s) No.	N/A	Building Permit No.	N/A
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			439-213-25
			439-213-24

This Water Quality Management Plan (WQMP) has been prepared for 161 Cecil Place LLC by W.H. Civil Inc. The WQMP is intended to comply with the requirements of the County of Orange NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan, including the ongoing operation and maintenance of all best management practices (BMPs), 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. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner:			
Title			
Company	Homex Development Llc.		
Address	17741 Mitchell, Suite 200, Irvine, CA 92614		
Email			
Telephone #	949-252-9999		
I understand my responsibility to implement the provisions of this WQMP including the ongoing operation and maintenance of the best management practices (BMPs) described herein.			
Owner Signature		Date	

Water Quality Management Plan (WQMP)

Preparer (Engineer): Wai Lin Maung Chen			
Title	Project Manager	PE Registration #	C-83487
Company	W.H. Civil		
Address	548 Wald, Irvine CA 92618		
Email	WAI@WHENGINEERINGGROUP.COM		
Telephone #	949-229-1413		
I hereby certify that this Water Quality Management Plan is in compliance with, and meets the requirements set forth in, Order No. R8-2009-0030/NPDES No. CAS618030, of the Santa Ana Regional Water Quality Control Board.			
Preparer Signature		Date	3/23/2026
Place Stamp Here			

Contents

Page No.

Section I	Permit(s) and Water Quality Conditions of Approval or Issuance	1
Section II	Project Description	3
Section III	Site Description	7
Section IV	Best Management Practices (BMPs)	9
Section V	Inspection/Maintenance Responsibility for BMPs.....	22
Section VI	BMP Exhibit (Site Plan)	25
Section VII	Educational Materials	26

Attachments

Attachment A	TGD Exhibits
Attachment B	BMP Worksheets
Attachment C	Educational Materials

Section I Permit(s) and Water Quality Conditions of Approval or Issuance

Provide discretionary or grading/building permit information and water quality conditions of approval, or permit issuance, applied to the project. If conditions are unknown, please request applicable conditions from staff. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available on the OC Planning website (ocplanning.net).*

Project Information			
Permit/ Application No. (If applicable)	PDES-26-0001	Grading or Building Permit No. (If applicable)	
Address of Project Site (or Tract Map and Lot Number if no address) and APN	439-213-25 439-213-24		
Water Quality Conditions of Approval or Issuance			
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	N/A		
Conceptual WQMP			
Was a Conceptual Water Quality Management Plan previously approved for this project?			

Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	N/A

Section II Project Description

II.1 Project Description

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the Technical Guidance Document (TGD) for information that must be included in the project description.*

Description of Proposed Project				
Development Category (From Model WQMP, Table 7.11-2; or -3):	Priority Project Category for North Country Permit Area Significant redevelopment project where addition or replacement of 5000 or more square feet of impervious area.			
Project Area (ft ²): 18,651	Number of Dwelling Units: 4		SIC Code: 1521	
Project Area	Pervious		Impervious	
	Area (sq ft)	Percentage	Area (sq ft)	Percentage
Pre-Project Conditions	9,543	51%	9,108	49%
Post-Project Conditions	11,067	59%	7,584	41%
Drainage Patterns/Connections	Storm water sheet flow toward Mesa Drive, which flows northwest toward Orange Avenue			
Narrative Project Description:	The proposed project consists of combining two existing lots into one condominium lot with four units. Each unit will be an individual building, and each building area will drain to a separate biofiltration planter along Mesa Drive. The shared driveway will be constructed using permeable pavers. Overflow runoff will discharge to Mesa Drive via a curb drain outlet.			

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the Technical Guidance Document (TGD) for guidance.*

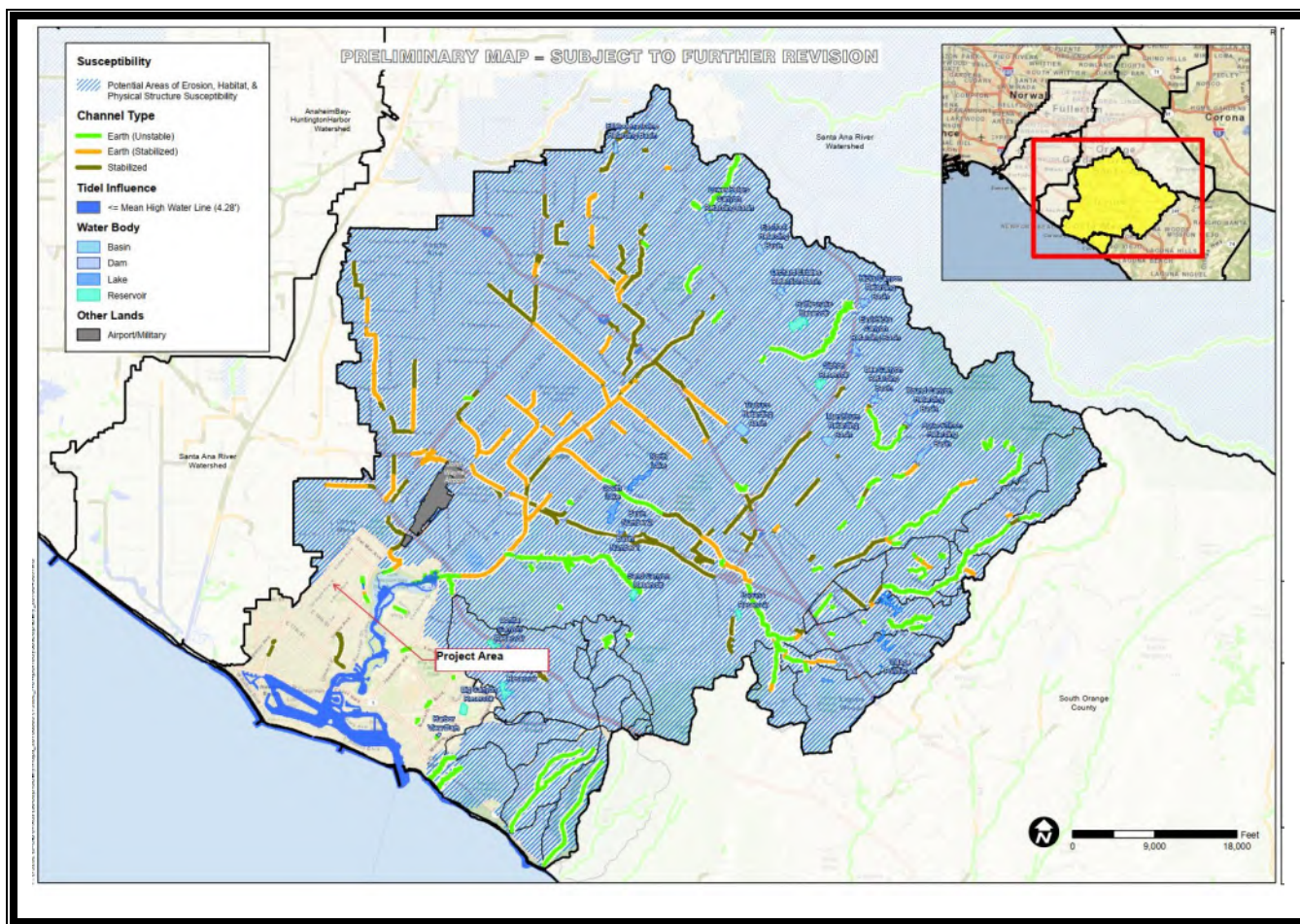
Pollutants of Concern			
Pollutant	Check One for each: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
Suspended-Solid/ Sediment	E ☒	N ☐	
Nutrients	E ☒	N ☐	
Heavy Metals	E ☐	N ☒	
Pathogens (Bacteria/Virus)	E ☒	N ☐	
Pesticides	E ☒	N ☐	
Oil and Grease	E ☒	N ☐	
Toxic Organic Compounds	E ☐	N ☒	
Trash and Debris	E ☒	N ☐	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are potentially susceptible to hydromodification impacts. Refer to Section 2.2.3.1 in the Technical Guidance Document (TGD) for North Orange County or Section 2.2.3.2 for South Orange County.

☒ No – Show map

☐ Yes – Describe applicable hydrologic conditions of concern below. Refer to Section 2.2.3 in the Technical Guidance Document (TGD).



II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the Technical Guidance Document (TGD).*

Proposed project will follow existing drainage pattern by flowing toward Mesa Drive, which flows toward Orange Avenue.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the Technical Guidance Document (TGD).*

Property will be owned privately and BMPs will be maintained an HOA.

Section III Site Description

III.1 Physical Setting

Fill out table with relevant information. *Refer to Section 2.3.1 in the Technical Guidance Document (TGD).*

Name of Planned Community/Planning Area (if applicable)	N/A
Location/Address	215-223 Mesa Drive
	Cost Mesa, CA
General Plan Land Use Designation	Residential Building
Zoning	Single Family Residential
Acreage of Project Site	0.4282 Acre
Predominant Soil Type	Silty Sand

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.2 in the Technical Guidance Document (TGD).*

Site Characteristics	
Precipitation Zone	0.75 inch
Topography	Flat terrain, less than 2% slope from rear to front.

Priority Project Water Quality Management Plan (WQMP)

Drainage Patterns/Connections	Sheet flow from rear of the lot to front of the lot toward street.
Soil Type, Geology, and Infiltration Properties	Silty Sand
Hydrogeologic (Groundwater) Conditions	More than 30 feet deep
Geotechnical Conditions (relevant to infiltration)	Soil Type C per Hydrologic Soil Group Map from TGD.
Off-Site Drainage	No offsite water into the area.
Utility and Infrastructure Information	No know utility conflict

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the Technical Guidance Document (TGD).*

Receiving Waters	Upper Newport Bay, Lower Newport Bay
303(d) Listed Impairments	Upper Newport Bay – Copper, Toxicity, Indicator Bacteria, Chlordane, DDT, Nutrients, PCBs, Chlordane Lower Newport Bay - Copper, Toxicity, Indicator Bacteria, Chlordane, DDT, Nutrients, PCBs, Chlordane
Applicable TMDLs	Copper, Toxicity, Indicator Bacteria, Chlordane, DDT, Nutrients, PCBs, Chlordane
Pollutants of Concern for the Project	Sediments, Nutrients, Pesticides, Bacteria
Environmentally Sensitive and Special Biological Significant Areas	N/A

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. (Please ask your assigned planner or plan checker regarding whether your project is part of an approved WIHMP or equivalent.)
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-3.2.2 of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?		YES ☐	NO ☐
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.	n/a		

Project Performance Criteria	
If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	n/a
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	Priority Projects must infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event (Design Capture Volume). A properly designed biotreatment system may only be considered if infiltration, harvest and use, and evapotranspiration (ET) cannot be feasibly implemented for the full design capture volume. In this case, infiltration, harvest and use, and ET practices must be implemented to the greatest extent feasible and biotreatment may be provided for the remaining design capture volume. A diversity of controls will be provided, if feasible, to achieve the greatest feasible retention of the Design Capture Volume, then, if necessary, biotreatment of the remaining design capture volume.
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	If it is not feasible to meet LID performance criteria through retention and/or biotreatment provided on-site or at a sub-regional/regional scale, then treatment control BMPs shall be provided on-site or offsite prior to discharge to waters of the US. Sizing of treatment control BMP(s) shall be based on either the unmet volume after claiming applicable water quality credits.
Calculate LID design storm capture volume for Project.	DCV – $C \times d \times A$ Imp = 41% D = 0.75 inch A = 18,651 sq-ft $C = 0.75 \times \text{imp} + 0.15 = 0.458$ DCV = 534 cu-ft

IV.2. Site Design and Drainage

Describe site design and drainage including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP "BMP Exhibit."
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs.

Refer to Section 2.4.2 in the Technical Guidance Document (TGD).

5 drainage area is derived for the project.

DMA-1 drains toward bio-filtration planter TCM-1

DMA-2 drains toward bio-filtration planter TCM-2

DMA-3 drains toward bio-filtration planter TCM-3

DMA-4 drains toward bio-filtration planter TCM-4

DMA-5 is a permeable paver area.

IV.3 LID BMP Selection and Project Conformance Analysis

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the Technical Guidance Document (TGD) for selecting LID BMPs and Section 2.4.3 in the Technical Guidance Document (TGD) for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls (HSCs)

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☐
Street trees (canopy interception)	☐
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☒
Other:	☐

DMA-5 will be a permeable paver. See attached worksheet.

IV.3.2 Infiltration BMPs

Name	Included?
Bioretention without underdrains	☒
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other:	☐
Other:	☐

4 bio-filtration system is proposed for DMA-2 3, 5 and 6.

BMP AREA	AREA	IMPERVIOUS AREA	C	i	DCV	A _{requires}	A _{proposed}
	SQ-FT	SQ-FT		INCH	CU-FT	sq-ft	sq-ft
DMA-1	3,992	1,955	0.517	0.75	129.1	130	275
DMA-2	2,797	1,967	0.677	0.75	118.4	119	340
DMA-3	3,629	1,684	0.498	0.75	113	113	281
DMA-4	2,552	1,757	0.666	0.75	106.3	107	333

$$DDp = (dp/K_{media}) \times 12 = 28.8 \text{ hr}$$

$$dp = 6 \text{ inch}$$

$$K_{media} = 2.5 \text{ in/hr}$$

$$d_{filtered} = 6 \text{ inch}$$

$$A_{requires} = DCV / (dp + d_{filtered})$$

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration and/or rainwater harvesting BMPs included.

Name	Included?
All HSCs; <i>See Section IV.3.1</i>	☐
Surface-based infiltration BMPs	☐
Biotreatment BMPs	☒
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

n/a

IV.3.4 Biotreatment BMPs

Name	Included?
Bioretention with underdrains	☐
Stormwater planter boxes with underdrains	☐
Rain gardens with underdrains	☐
Constructed wetlands	☐
Vegetated swales	☐
Vegetated filter strips	☐
Proprietary vegetated biotreatment systems	☐
Wet extended detention basin	☐
Dry extended detention basins	☐
Other:	☐
Other:	☐

n/a

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. *See Section 5 of the Technical Guidance Document (TGD).* Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval (if applicable).

Hydromodification Control BMPs	
BMP Name	BMP Description
Nb/a	

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP.*

Regional/Sub-Regional LID BMPs
n/a

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

Treatment Control BMPs	
BMP Name	BMP Description
n/a	

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	Private residence
N2	Activity Restrictions	☐	☒	Private residence
N3	Common Area Landscape Management	☐	☒	Private residence
N4	BMP Maintenance	☒	☐	Private residence
N5	Title 22 CCR Compliance (How development will comply)	☒	☐	Private residence
N6	Local Industrial Permit Compliance	☐	☒	Private residence
N7	Spill Contingency Plan	☐	☒	Private residence
N8	Underground Storage Tank Compliance	☐	☒	Private residence
N9	Hazardous Materials Disclosure Compliance	☐	☒	Private residence
N10	Uniform Fire Code Implementation	☐	☒	Private residence
N11	Common Area Litter Control	☐	☒	Private residence
N12	Employee Training	☐	☒	Private residence
N13	Housekeeping of Loading Docks	☐	☒	Private residence
N14	Common Area Catch Basin Inspection	☐	☒	Private residence
N15	Street Sweeping Private Streets and Parking Lots	☐	☒	Private residence
N16	Retail Gasoline Outlets	☐	☒	Private residence

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if structural source controls were not used.

Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
S1	Provide storm drain system stenciling and signage	☐	☒	Private residence
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	Private residence
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☐	☒	Private residence
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	No slope or channel
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☐	☐	
S6	Dock areas	☐	☒	Private residence
S7	Maintenance bays	☐	☒	Private residence
S8	Vehicle wash areas	☐	☒	Private residence
S9	Outdoor processing areas	☐	☒	Private residence
S10	Equipment wash areas	☐	☒	Private residence
S11	Fueling areas	☐	☒	Private residence
S12	Hillside landscaping	☐	☒	Private residence
S13	Wash water control for food preparation areas	☐	☒	Private residence
S14	Community car wash racks	☐	☒	Private residence

IV.4 Alternative Compliance Plan (If Applicable)

N/A

IV.4.1 Water Quality Credits

Description of Proposed Project				
Project Types that Qualify for Water Quality Credits (Select all that apply):				
☐ Redevelopment projects that reduce the overall impervious footprint of the project site.	☐ Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.		☐ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).	
☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).	☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned		☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).	
☐ Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	☐ Developments in a city center area.	☐ Developments in historic districts or historic preservation areas.	☐ Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.	☐ In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.
Calculation of Water Quality Credits (if applicable)	N/a			

IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the Model WQMP.*

N/a

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the funding mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	Responsible Party(s)	Inspection/Maintenance Activities Required	Minimum Frequency of Activities
Permeable Paver	Owner	Yes	See table below
Bio-Planer	Owner	Yes	See table below

INF-5 Permeable Pavement	
Activity	Frequency
GENERAL INSPECTIONS	
Inspect for areas of sediment accumulation in the pavement surface	Four times per year during wet season, including inspection just before the wet season and within 24 hours after at least two storm events ≥ 0.5 inches.
If sediment accumulation is elevated, inspect for potential sources of sediment in the tributary area and recommend control approaches	
Observe and record drawdown rate via observation port following storm event	
Periodically (every 2 to 5 years) measure the permeability of the surface of the permeable pavement	
Identify any damage to pavement	
Inspect overflow structures	
Identify any needed corrective maintenance that will require site-specific planning or design	
ROUTINE MAINTENANCE	
Permeable Surface Layer	
Remove sediment and leaf litter using a mechanical sweeper (i.e., regenerative air or vacuum-assisted sweeper)	Two to four times per year during wet season including just before the wet season, depending on sediment and debris load
Manually remove weeds	Annually
Power wash surface layer (without using surfactants)	Annually
Patch pavement surface where needed	As needed
Other activities specific to pavement surface type	As needed
Coordinate with maintenance of adjacent pavement to ensure permeable pavement is protected	As needed
Underdrain and Outflow Structures	
Inspect outlets and remove accumulated sediment	Four times per year during wet season, including inspection just before the wet season.
Repair structural damage to outlets	As needed

INF-5 Permeable Pavement

Activity	Frequency
CORRECTIVE (MAJOR) MAINTENANCE	
Prepare documentation of issues and resolutions for review by appropriate parties; modify WQMP if needed.	Before major maintenance
Document major maintenance activities; record modified WQMP and as-built plan set if needed	After major maintenance
Take photographs before and after from the same vantage point	Before and after

INF-3 Bioretention Without Underdrain

Activity	Frequency
GENERAL INSPECTIONS	
Remove trash and debris	Four times per year during wet season, including inspection just before the wet season and within 24 hours after at least two storm events ≥ 0.5 inches.
Repair eroded facility areas	
Inspect and maintain access roads	
Inspect and resolve areas of standing water	
Remove minor sediment in facility bottom	
Provide vector control if needed	
Identify any needed corrective maintenance that will require site-specific planning or design	
ROUTINE MAINTENANCE	
Vegetation	
Irrigate as recommended by a landscape professional, typically for the first 3 years to establish vegetation	As needed
Remove undesirable vegetation	Four times per year during wet season, including inspection just before the wet season.
Reseed or replant areas of thin or missing vegetation	Annually
Mulch	
Remove and replace mulch in areas where significant sediment (>1 inch) has accumulated	Annually
Add an additional 1-2 inches of mulch; replace any	Annually

INF-3 Bioretention Without Underdrain

Activity	Frequency
mulch that is removed	
Media Layer	
Scarify media to promote infiltration while removing mulch	Annually
Replace top 3-6 inches of media layer and replace vegetation	Estimated every 10 years (highly site specific)
Replace full depth of media and replace vegetation	Estimated every 30 years (highly site specific)
Inflow, Underdrain and Outflow Structures	
Check energy dissipation function and add riprap	Four times per year during wet season, including inspection just before the wet season.
Inspect inlets and outlets and remove accumulated sediment	Four times per year during wet season, including inspection just before the wet season.
Flush underdrain	As needed
Repair structural damage to inlets, outlets, and underdrain	As needed
CORRECTIVE (MAJOR) MAINTENANCE	
For the adaptable configuration, utilize results of downtown observations to determine the need for adjustment of the outlet structure (i.e., uncapping closed underdrain)	Based on twice-yearly drawdown observations following events 0.5 inch or larger
Prepare documentation of issues and resolutions for review by appropriate parties; modify WQMP if needed.	Before major maintenance
Document major maintenance activities; record modified WQMP and as-built plan set if needed	After major maintenance
Take photographs before and after from the same vantage point	Before and after

Section VI BMP Exhibit (Site Plan)

VI.1 BMP Exhibit (Site Plan)

Include a BMP Exhibit (Site Plan), at a size no less than 24" by 36," which includes the following minimum information:

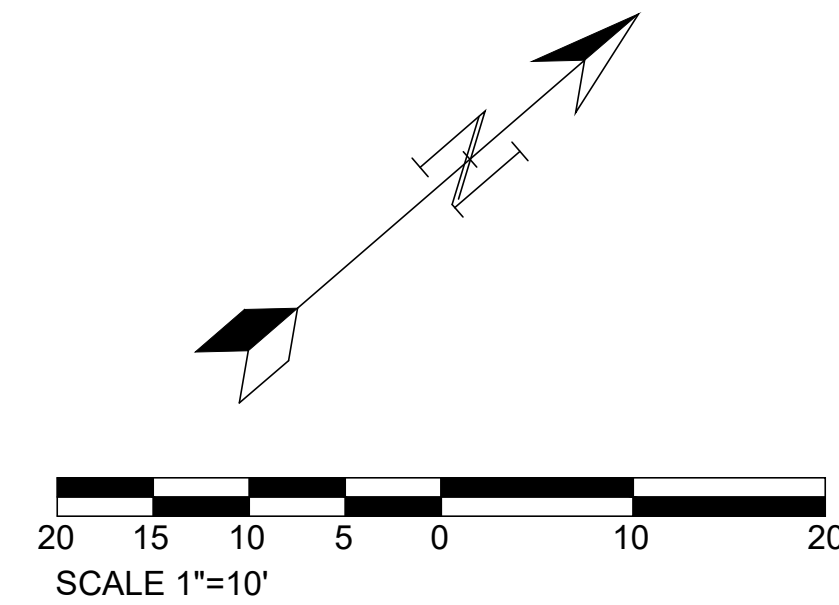
- Insert in the title block (lower right hand corner) of BMP Exhibit: the WQMP Number (assigned by staff) and the grading/building or Planning Application permit numbers
- Project location (address, tract/lot number(s), etc.)
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Delineate the area being treated by each structural BMP
- GIS coordinates for LID and Treatment Control BMPs
- Drainage connections
- BMP details
- Preparer name and stamp

Please do not include any areas outside of the project area or any information not related to drainage or water quality. The approved BMP Exhibit (Site Plan) shall be submitted as a plan sheet on all grading and building plan sets submitted for plan check review and approval. The BMP Exhibit shall be at the same size as the rest of the plan sheets in the submittal and shall have an approval stamp and signature prior to plan check submittal.

VI.2 Submittal and Recordation of Water Quality Management Plan

Following approval of the Final Project-Specific WQMP, three copies of the approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be submitted. In addition, these documents shall be submitted in a PDF format.

Each approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be recorded in the Orange County Clerk-Recorder's Office, prior to close-out of grading and/or building permit. Educational Materials are not required to be included.

[illegible]

DETAIL
STORMWATER PLANTER AREA
NOT TO SCALE

NOTE:

1. AVOID UNNECESSARY COMPACTION OF EXISTING SUBGRADE BELOW BIORETENTION AREA.
2. SCARIFY SUBGRADE TO A DEPTH OF 3" (MIN) IMMEDIATELY PRIOR TO PLACEMENT OF AGGREGATE STORAGE AND BIOTREATMENT SOIL MATERIAL.
3. FOR STRUCTURAL SUPPORT, SUBGRADE UNDER WALLS ONLY COMPACTED PER ENGINEER SPECIFICATIONS.
4. VERTICAL SIDE WALLS ARE SPACE LIMITED.
 - A. ALL BIORETENTION AREA WALLS SHALL EXTEND TO BOTTOM OF AGGREGATE STORAGE LAYER OR DEEPER. MINIMUM DEPTHS SHALL BE DESIGNED TO PREVENT LATERAL SEEPAGE INTO THE ADJACENT PAVEMENT SECTION.
 - B. FOOTING AND/OR LATERAL BRACING SHALL BE DESIGNED BY THE ENGINEER TO WITHSTAND ANTICIPATED LOADING ASSUMING NO REACTIVE FORCES FROM THE UNCOMPACTED BIOTREATMENT SOIL.
5. BIORETENTION AREA WALLS EXTENDING MORE THAN 36" BELOW ADJACENT LOAD-BEARING SURFACE, OR WHEN LOCATED ADJACENT TO PAVERS, SHALL HAVE FOOTING OR LATERAL BRACING. FOOTING OR LATERAL BRACING MAY EXCLUDED ONLY IF THE FOLLOWING CONDITIONS DEMONSTRATES THAT THE PROPOSED WALL DESIGN MEETS LOADING REQUIREMENTS. WALL SHALL NOT ENROACH INTO TREATMENT AREA.
 - A. CONTRACTOR TO PROVIDE 3" MINIMUM COVER OVER ALL LATERAL BRACING FOR PLANT ESTABLISHMENT.
 - B. ALL CONSTRUCTION JOINT SHALL INCORPORATE EPOXY, DOWEL/TIE BAR, KEYWAY, OR WATER STOP.
6. 18" PLANTING MEDIA. PLANTING MEDIA INFILTRATION RATE PER BI-RETENTION TECHNICAL SPECIFICATION T-1 STORM WATER PLANTER.
 - A. HAVE A MINIMUM DEPTH OF 1.5 FEET. EXCLUDING THE MULCH LAYER.
 - B. ACHIEVE A LONG-TERM INFILTRATION MINIMUM INFILTRATION RATE OF AT LEAST 5 INHR TO SUPPORT MAXIMUM STORMWATER RUNOFF RETENTION AND POLLUTANT REMOVAL; AND
 - C. CONSIST OF 60 TO 70 PERCENT SAND MEETING THE SPECIFICATIONS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C33 AND 30 TO 40 PERCENT COMPOST

Section VII Educational Materials

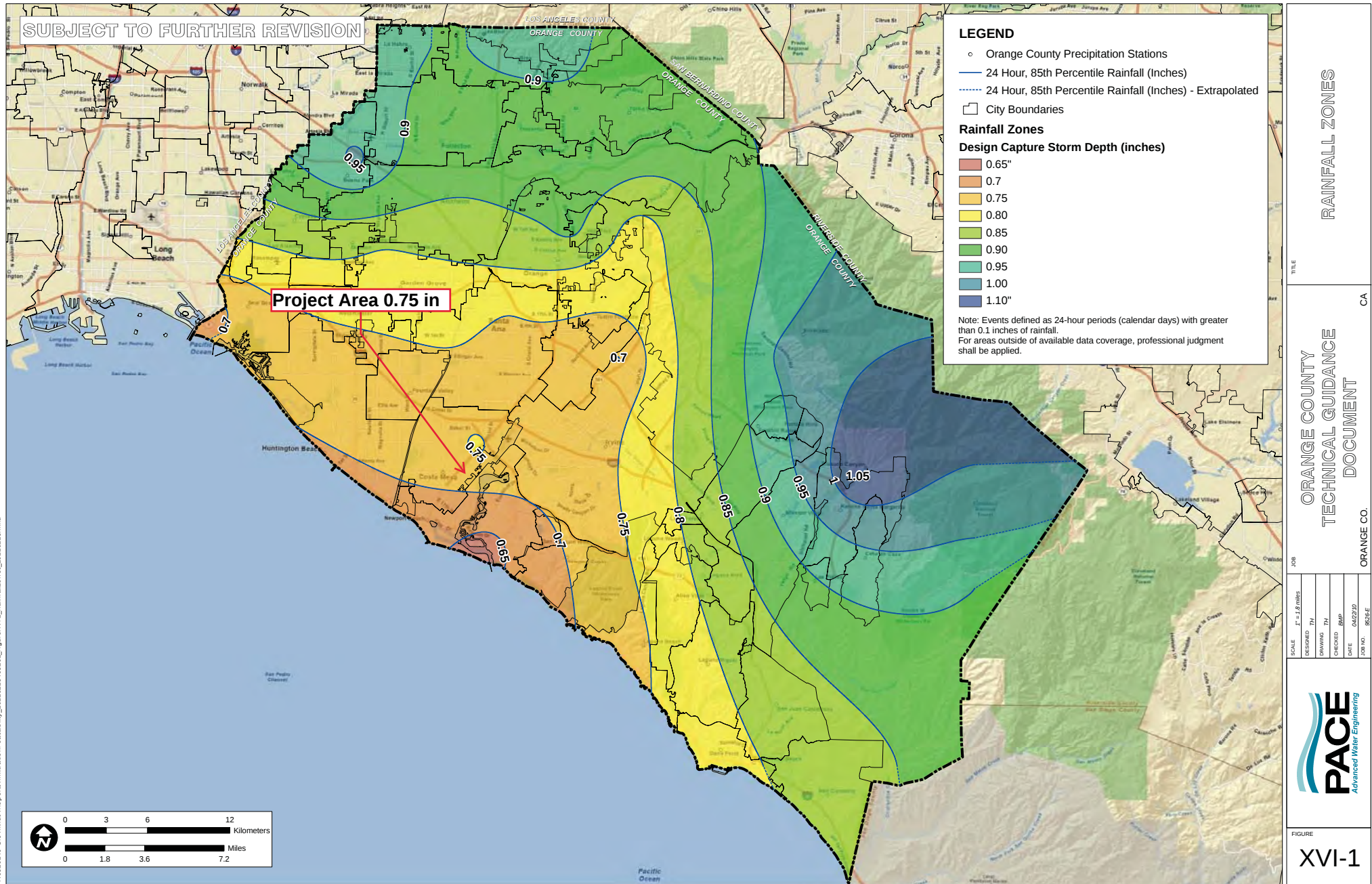
Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. Please only attach the educational materials specifically applicable to this project. Other materials specific to the project may be included as well and must be attached.

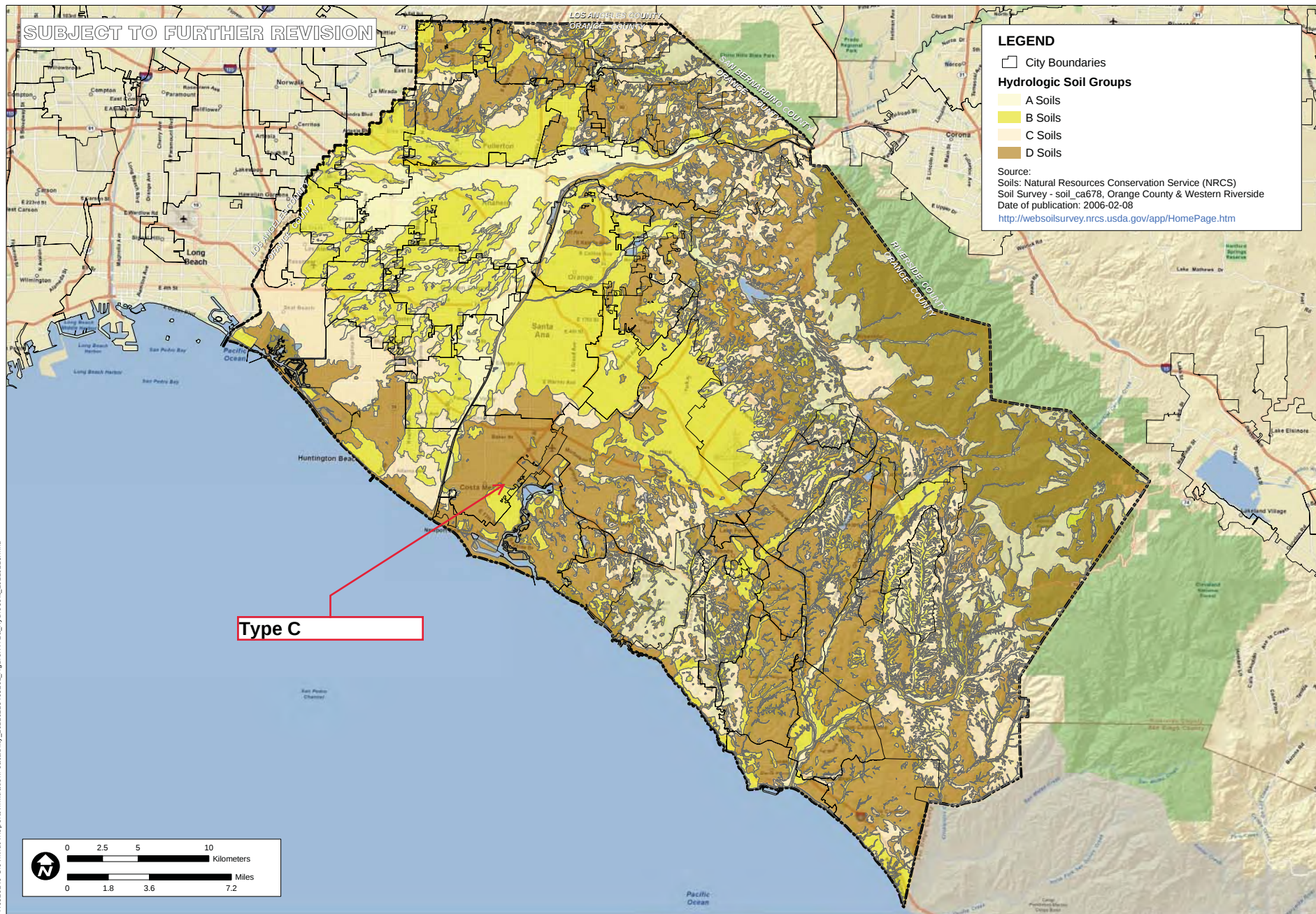
Education Materials			
Residential Material (http://www.ocwatersheds.com)	Check If Applicable	Business Material (http://www.ocwatersheds.com)	Check If Applicable
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☒	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☒	Proper Maintenance Practices for Your Business	☐
Household Tips	☒	Other Material	Check If Attached
Proper Disposal of Household Hazardous Waste	☒		
Recycle at Your Local Used Oil Collection Center (North County)	☐		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☒		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☒		☐
Sewer Spill	☐		☐
Tips for the Home Improvement Projects	☒		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☐		☐
Tips for Pool Maintenance	☐		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☐		☐
Tips for Projects Using Paint	☒		☐

Attachment A

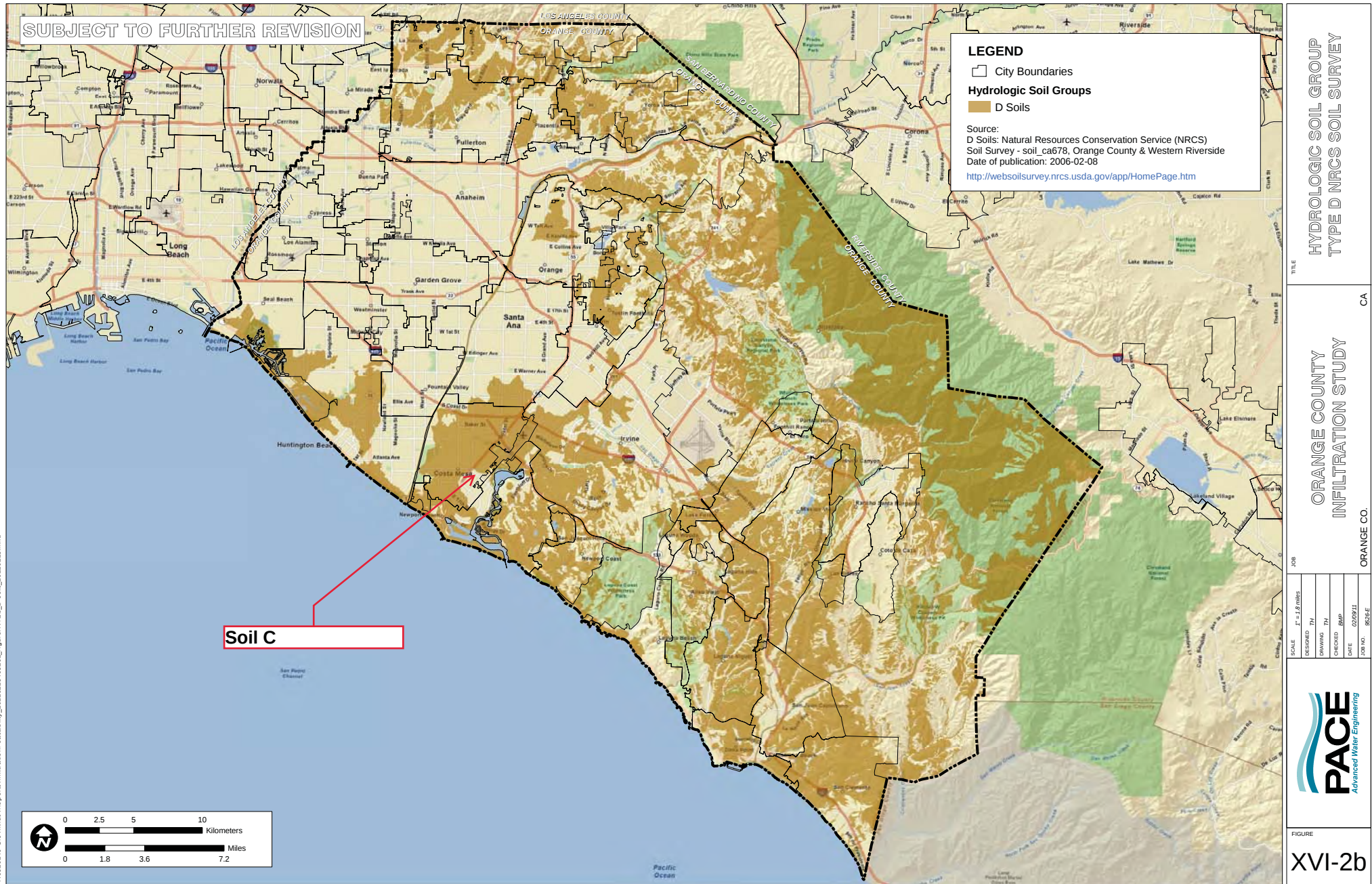
TGD Exhibits

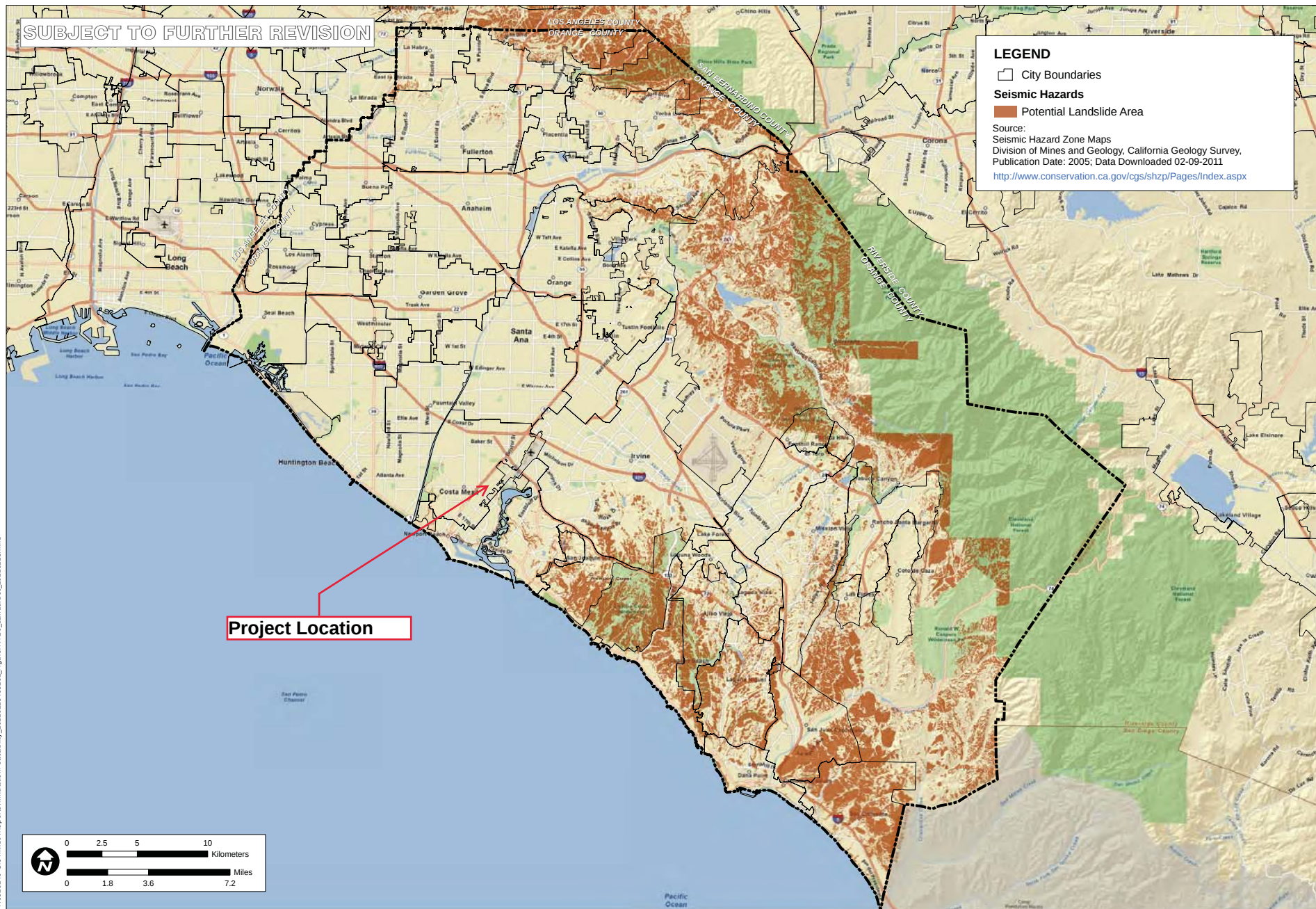
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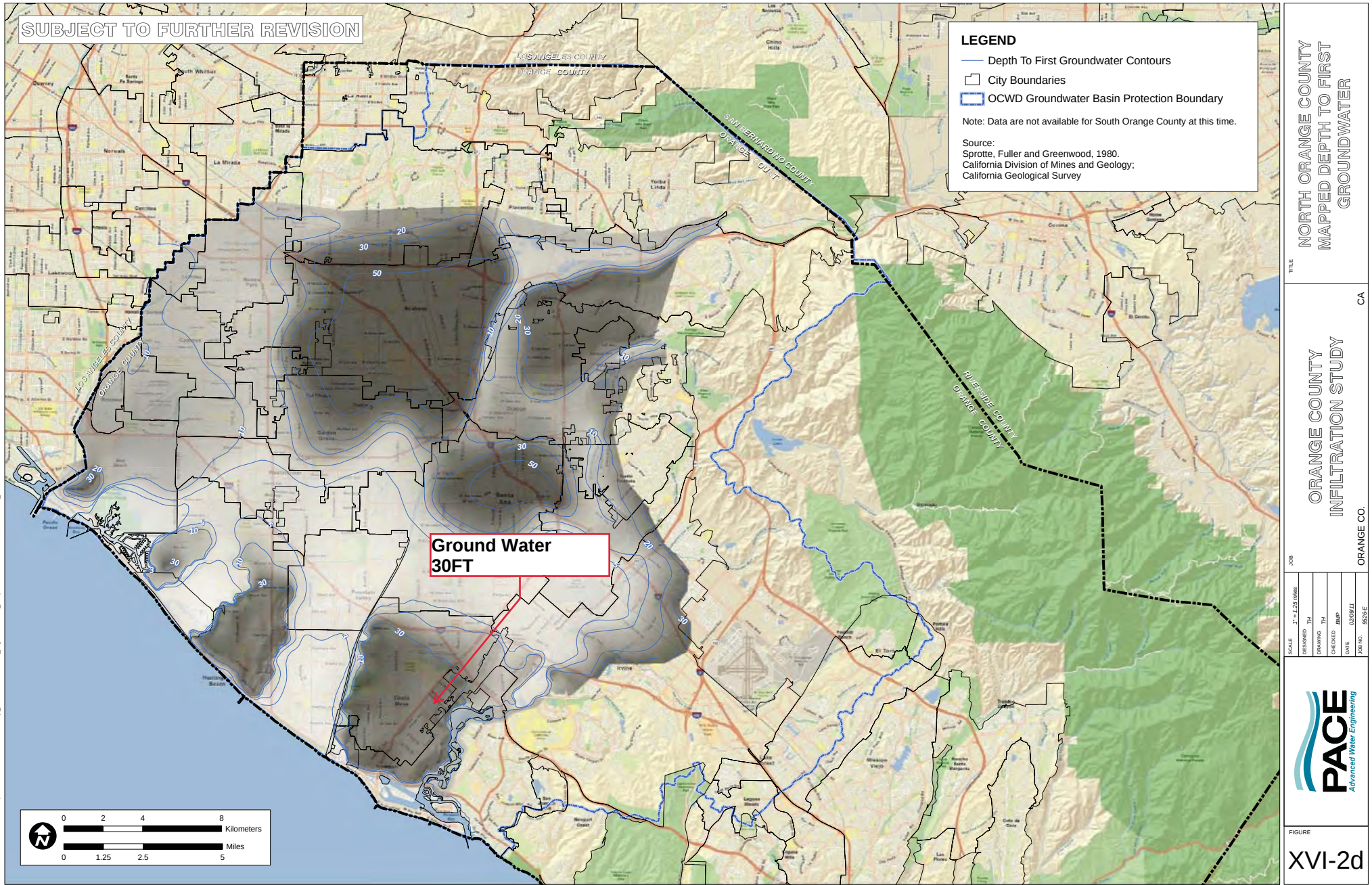
NRCS HYDROLOGIC SOILS GROUPS	
ORANGE COUNTY INFILTRATION STUDY	TITLE
ORANGE CO.	CA
JOB NO.	SCALE
DESIGNED TH	DRAWING TH
CHECKED BMP	DATE 03/09/11
JOB NO.	SIZE E
FIGURE	
XVI-2a	



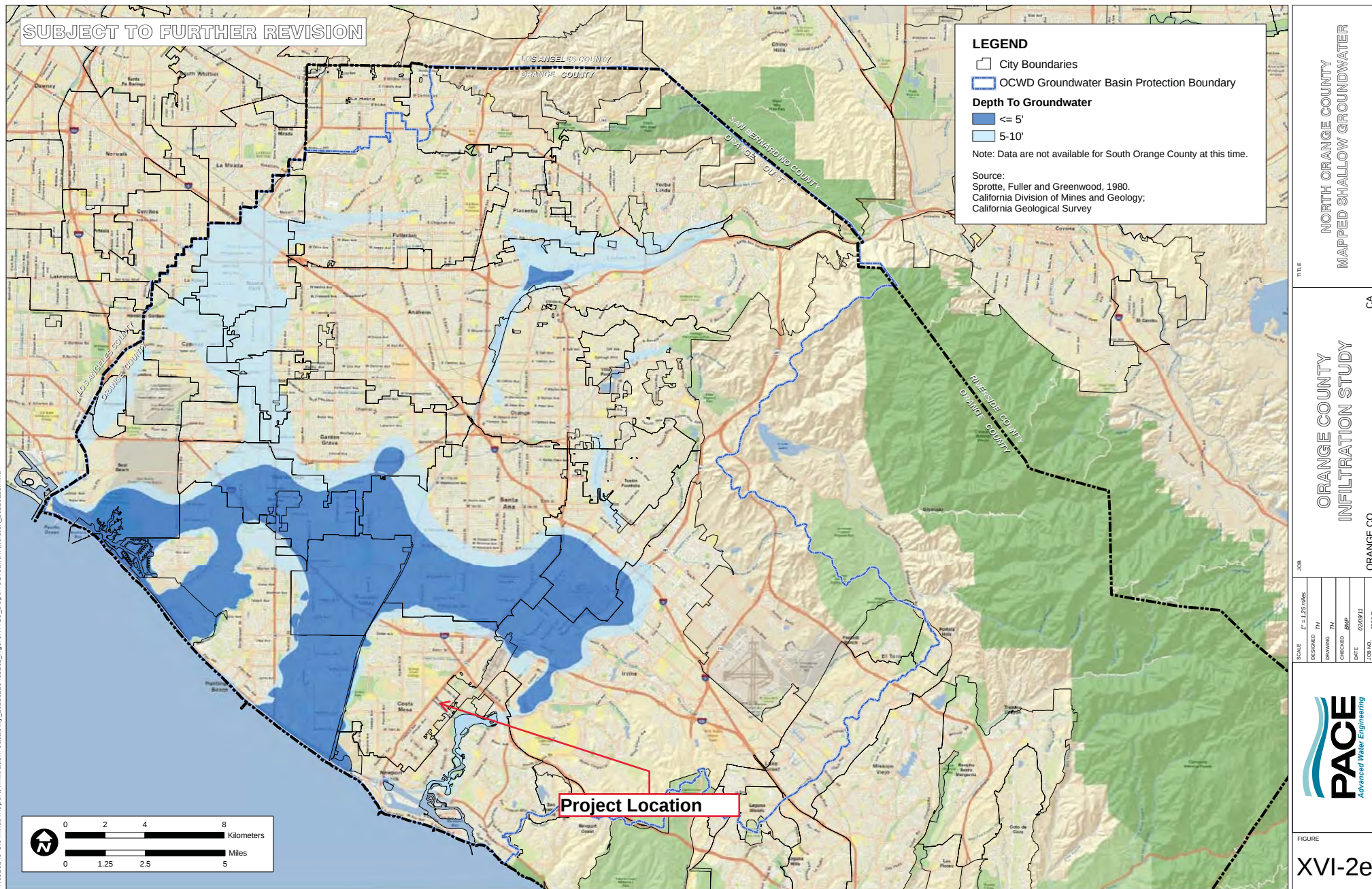


HYDROLOGIC SOIL GROUP TYPE D NRCS SOIL SURVEY													
ORANGE COUNTY INFILTRATION STUDY	CA												
<table border="1"> <tr> <td>SCALE</td> <td>1" = 1.25 miles</td> </tr> <tr> <td>DESIGNED</td> <td>TH</td> </tr> <tr> <td>DRAWN</td> <td>TH</td> </tr> <tr> <td>CHECKED</td> <td>BMF</td> </tr> <tr> <td>DATE</td> <td>03/09/11</td> </tr> <tr> <td>JOB NO.</td> <td>5025E</td> </tr> </table>		SCALE	1" = 1.25 miles	DESIGNED	TH	DRAWN	TH	CHECKED	BMF	DATE	03/09/11	JOB NO.	5025E
SCALE	1" = 1.25 miles												
DESIGNED	TH												
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CHECKED	BMF												
DATE	03/09/11												
JOB NO.	5025E												
FIGURE XVI-2c													

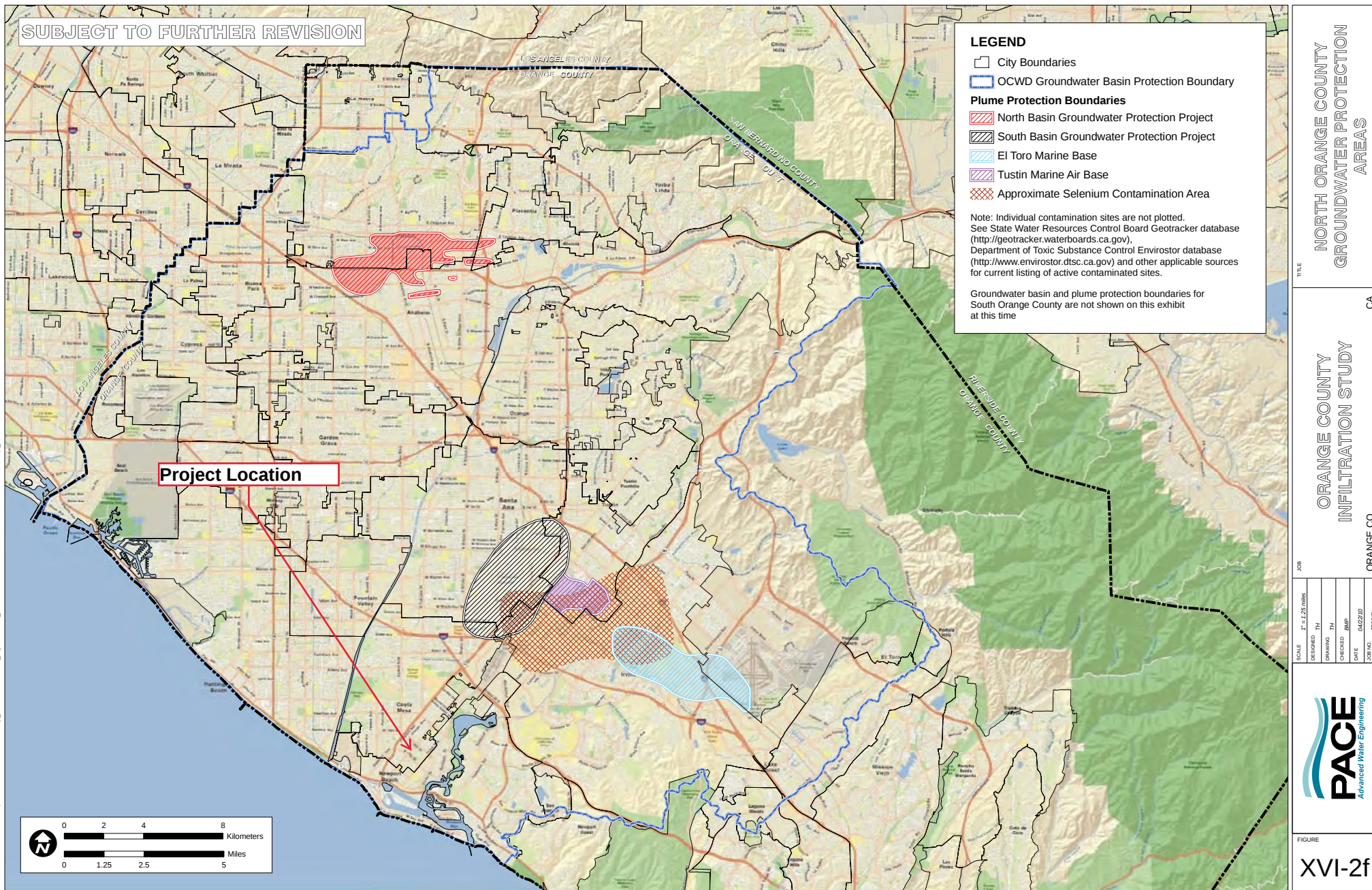
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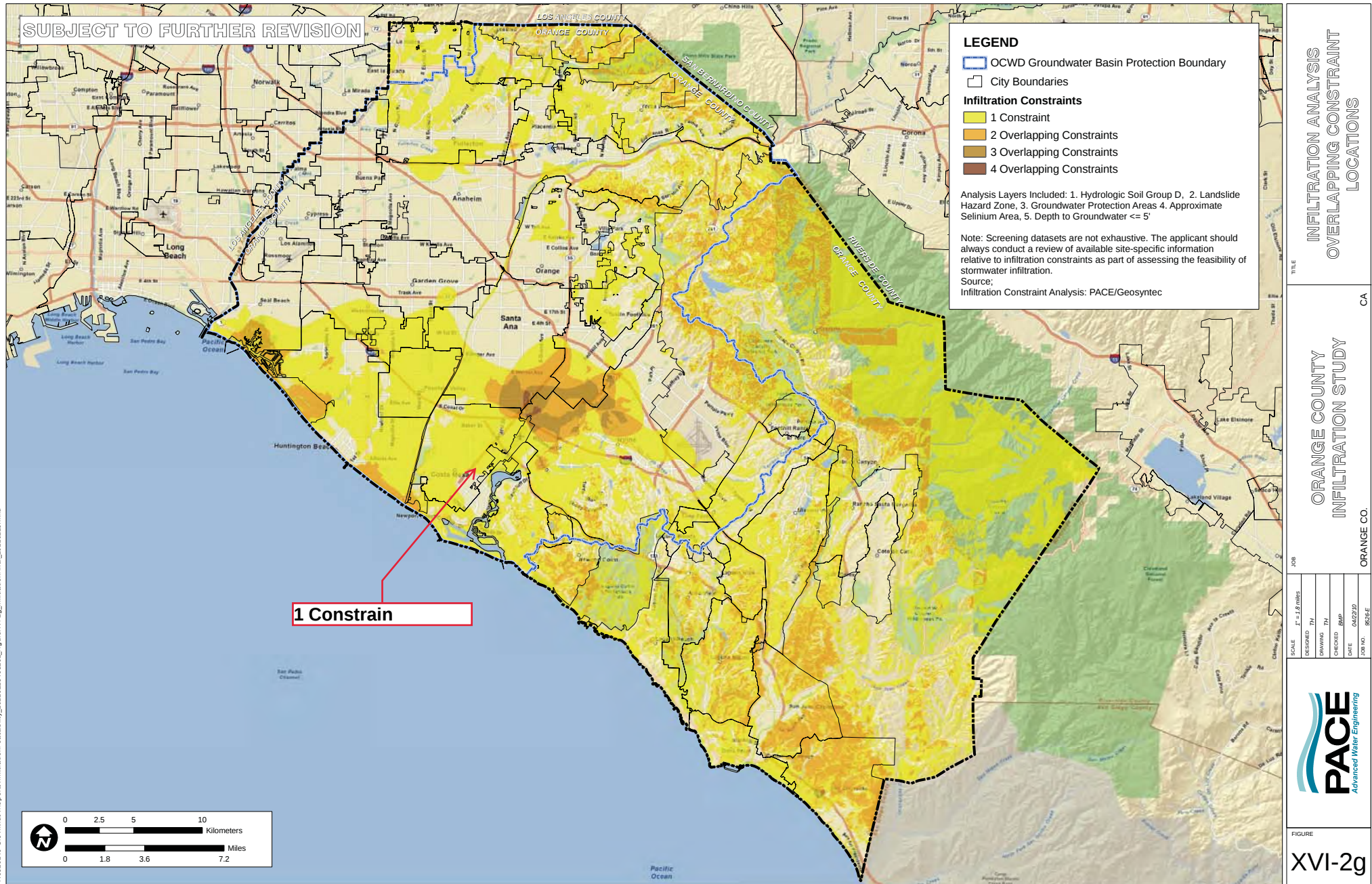


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P:\1924\GIS\MapDocs\InfiltrationFeasibility_201102151924\Figures\XVI-2f_NorthOCGroundwaterProtectionArea\ScreenMap_20110215.mxd





PRELIMINARY MAP - SUBJECT TO FURTHER REVISION

Susceptibility

Potential Areas of Erosion, Habitat, & Physical Structure Susceptibility

Channel Type

Earth (Unstable)
Earth (Stabilized)
Stabilized

Tidel Influence

<= Mean High Water Line (4.28')

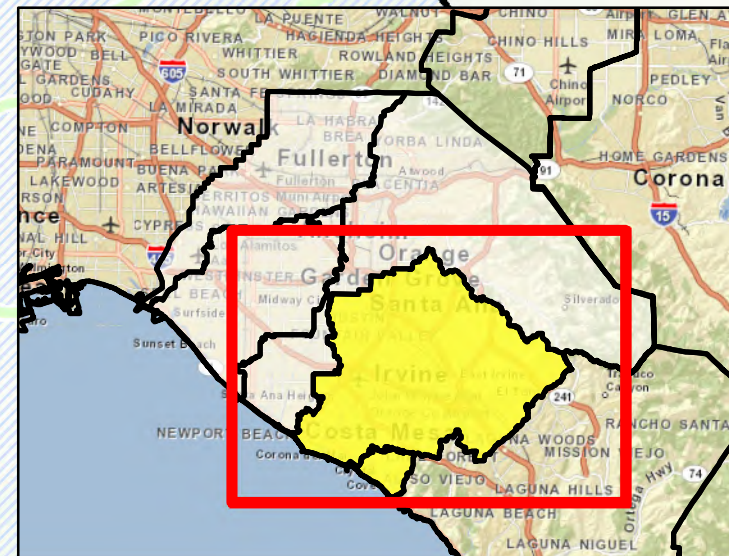
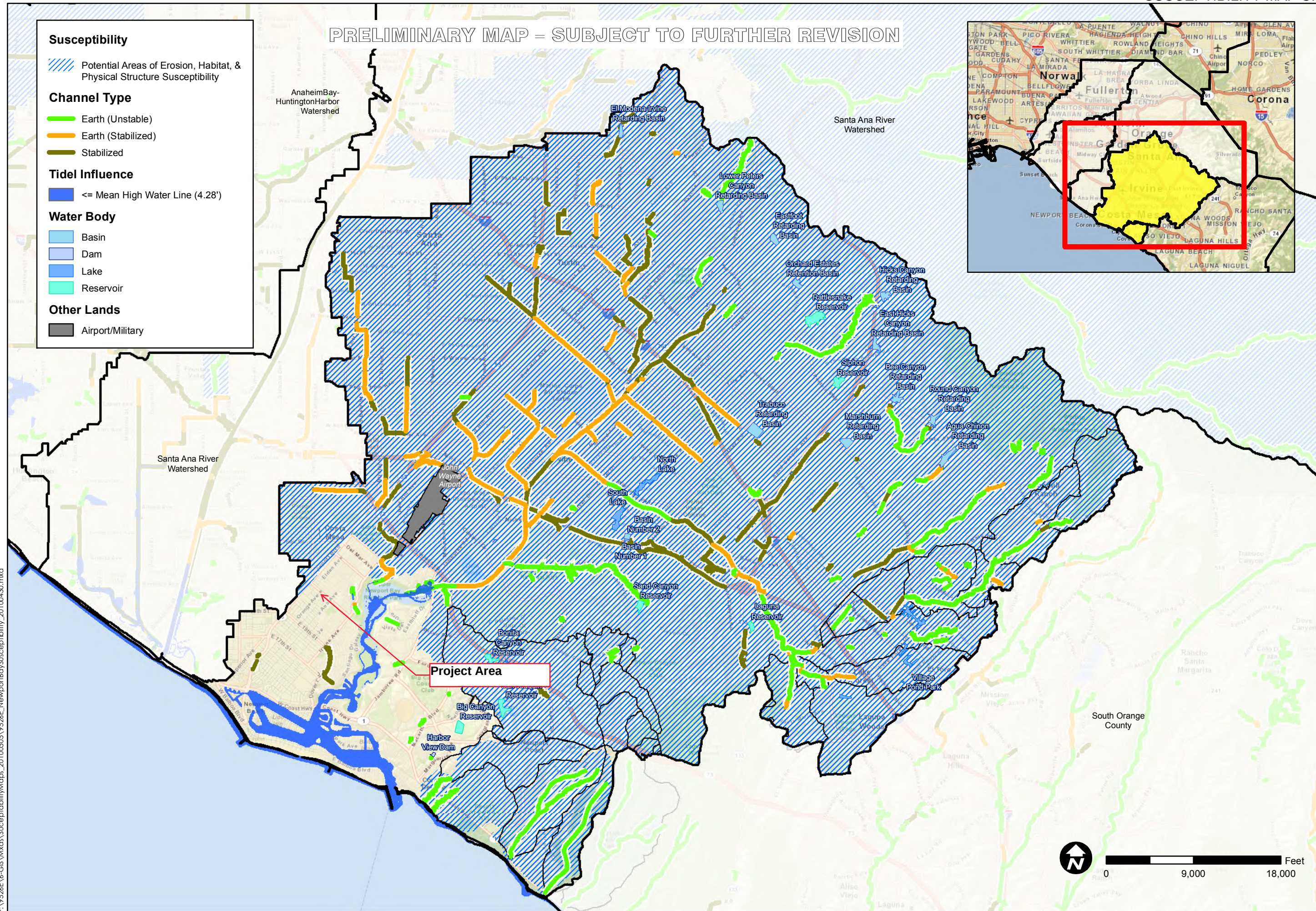
Water Body

Basin
Dam
Lake
Reservoir

Other Lands

Airport/Military

P:\9526E\6-GIS\Wxd\Susceptibility\Maps_20100505\9526E_NewportBaySusceptibility_20100430.mxd



SUSCEPTIBILITY ANALYSIS
NEWPORT BAY-
NEWPORT COASTAL STREAMS

ORANGE COUNTY
WATERSHED
MASTER PLANNING

SCALE	1" = 12,000'
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/30/10
JOB NO.	9526-E



FIGURE

4

Attachment B

BMP Worksheets

Table 2.7: Infiltration BMP Feasibility Worksheet

	Infeasibility Criteria	Yes	No
1	Would Infiltration BMPs pose significant risk for groundwater related concerns? Refer to Appendix VII (Worksheet I) for guidance on groundwater-related infiltration feasibility criteria.		x
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Would Infiltration BMPs pose significant risk of increasing risk of geotechnical hazards that cannot be mitigated to an acceptable level? (Yes if the answer to any of the following questions is yes, as established by a geotechnical expert): • The BMP can only be located less than 50 feet away from slopes steeper than 15 percent • The BMP can only be located less than eight feet from building foundations or an alternative setback. • A study prepared by a geotechnical professional or an available watershed study substantiates that stormwater infiltration would potentially result in significantly increased risks of geotechnical hazards that cannot be mitigated to an acceptable level.		x
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
3	Would infiltration of the DCV from drainage area violate downstream water rights?		x
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

	Partial Infeasibility Criteria	Yes	No
4	Is proposed infiltration facility located on HSG D soils or the site geotechnical investigation identifies presence of soil characteristics which support categorization as D soils?		x
Provide basis: Per soil Map from TGD Appendix XVI, the project site is located in soil C Area. Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
5	Is measured infiltration rate below proposed facility less than 0.3 inches per hour? This calculation shall be based on the methods described in Appendix VII.		x
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
6	Would reduction of over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters?		
Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
7	Would an increase in infiltration over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters?		
Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

x

x

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

Infiltration Screening Results (check box corresponding to result):		
8	Is there substantial evidence that infiltration from the project would result in a significant increase in I&I to the sanitary sewer that cannot be sufficiently mitigated? (See Appendix XVII) Provide narrative discussion and supporting evidence: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.	x
9	If any answer from row 1-3 is yes: infiltration of any volume is not feasible within the DMA or equivalent. Provide basis: Summarize findings of infeasibility screening	Full volume infiltration
10	If any answer from row 4-8 is yes, infiltration is permissible but is not presumed to be feasible for the entire DCV. Criteria for designing biotreatment BMPs to achieve the maximum feasible infiltration and ET shall apply. Provide basis: Summarize findings of infeasibility screening	
11	If all answers to rows 1 through 10 are no, infiltration of the full DCV is potentially feasible, BMPs must be designed to infiltrate the full DCV to the maximum extent practicable.	

Attachment C

Education Materials



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 throughout Orange County to educate and encourage the public to protect water quality, monitor runoff in the storm drain system, investigate illegal dumping and maintain storm drains.

Support from Orange County residents and businesses is needed to improve water quality and reduce urban runoff pollution. Proper use and disposal of materials will help stop pollution before it reaches the storm drain and the ocean.



The Effect on the Ocean

Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.

For More Information

- California Environmental Protection Agency**
www.calepa.ca.gov
- **Air Resources Board**
www.arb.ca.gov
 - **Department of Pesticide Regulation**
www.cdpr.ca.gov
 - **Department of Toxic Substances Control**
www.dtsc.ca.gov
 - **Integrated Waste Management Board**
www.ciwmb.ca.gov
 - **Office of Environmental Health Hazard Assessment**
www.oehha.ca.gov
 - **State Water Resources Control Board**
www.waterboards.ca.gov

Earth 911 - Community-Specific Environmental Information 1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
(714) 433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management Dept. of Orange County (714) 834-6752 or visit www.oclandfills.com for information on household hazardous waste collection centers, recycling centers and solid waste collection

O.C. Agriculture Commissioner
(714) 447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
(714) 708-1646 or visit www.uccemg.com

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take 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



- 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.

Sources of Non-Point Source Pollution

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)	738-6853
Garden Grove Public Works	(714)	741-5956
Huntington Beach Public Works	(714)	536-5431
Irvine Public Works.	(949)	724-6315
La Habra Public Services.	(562)	905-9792
La Palma Public Works.	(714)	690-3310
Laguna Beach Water Quality.	(949)	497-0378
Laguna Hills Public Services.	(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)	993-8245
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	(877)	897-7455
Orange County 24-Hour Water Pollution Problem Reporting Hotline 1-877-89-SPILL (1-877-897-7455)		

On-line Water Pollution Problem Reporting Form
www.ocwatersheds.com



Printed on Recycled Paper



- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers and cleaners – can be blown or washed into storm drains.
- A little water from a garden hose or rain can also send materials into storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in storm drains is (from sinks or toilets), water in storm drains is not treated before entering our waterways.

Where Does It Go?

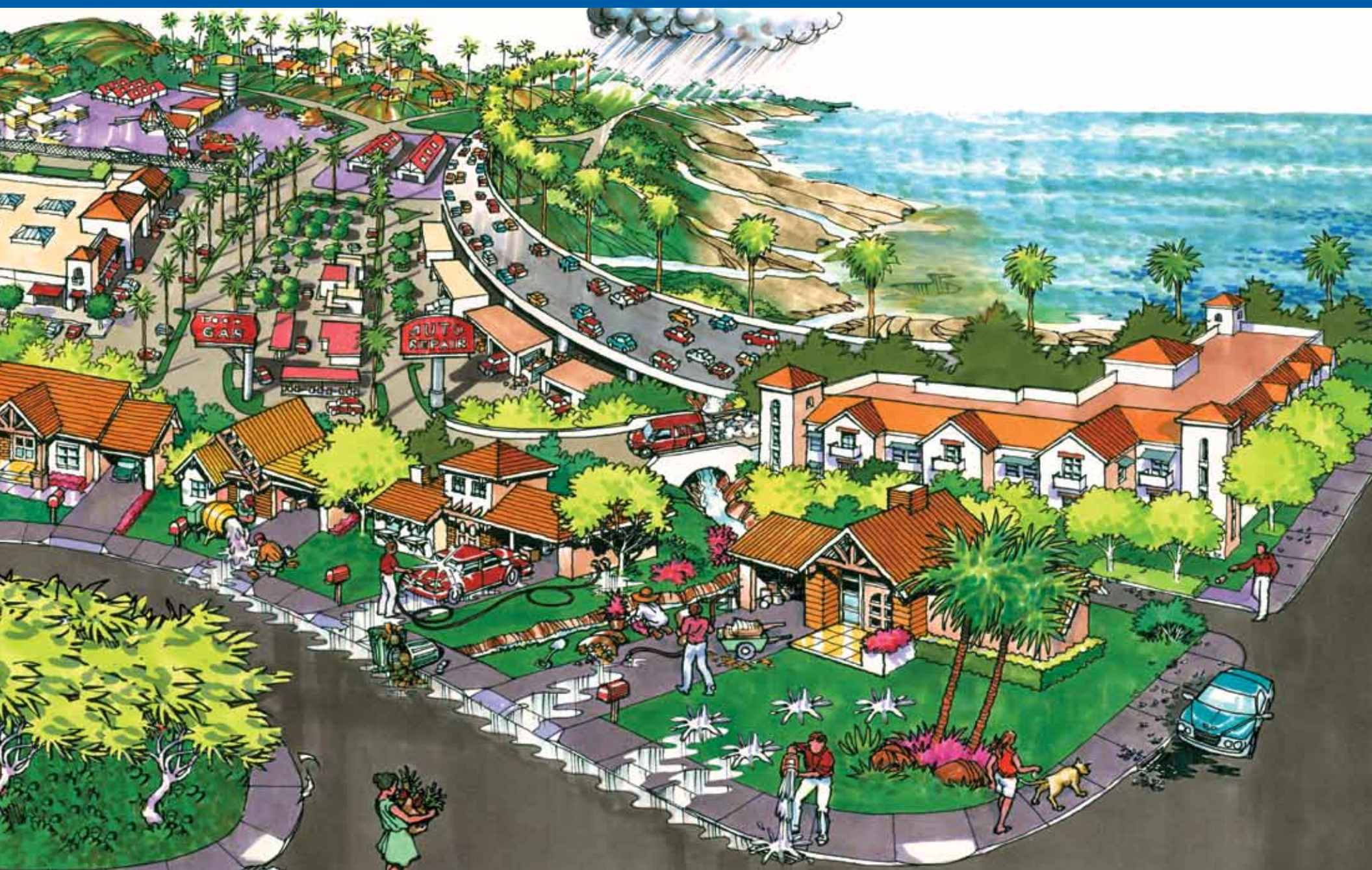
- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff.
- Stormwater runoff results from rainfall. When rainstorms cause large volumes of water to rinse the urban landscape, picking up pollutants along the way.
- Urban runoff can happen any time 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.

Did You Know?

Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

The Ocean Begins at Your Front Door

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 the 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 (HHWCC).
- For a HHWCC near you call (714) 834-6752 or visit 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 it in the 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 to drain 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 your vehicles 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.

Pool Maintenance

- Pool and spa water must be dechlorinated and free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- When it is not raining, drain dechlorinated pool and spa water directly into the sanitary sewer.
- Some cities may have ordinances that do not allow pool water to be disposed of in 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 within 48 hours.
- Take unwanted pesticides to a HHWCC to be recycled. For locations and hours of HHWCC, call (714) 834-6752 or visit 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 of it 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 HHWCC.

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

What Common Pollutants are Found in Runoff?

Common runoff pollutants include trash, pet waste, yard debris, fertilizer, pesticides, engine oil, paint, home solvents, and detergents. Continue reading to learn how these pollutants affect our water resources and what you can do to help.



Who is H₂OC?

H₂OC is YOU! H₂OC is also a cooperative stormwater program which includes all 34 cities in Orange County, the County of Orange, and Orange County Flood Control District. Clean and healthy beaches, creeks, rivers, bays, wetlands, and ocean are important to Orange County. H₂OC provides resources to residents and businesses to prevent water pollution and encourage personal action by working with communities to prevent polluted runoff from entering our waterways. Join us at H2OC.org to learn more about how you can protect local waterways and be the solution to runoff pollution!

Visit

H2OC.org to learn more about runoff, water pollution, and what you can do to protect our water resources!

Contact

24-Hour Pollution Reporting Hotline:
(877) 89-SPILL (77455)

24-Hour Reporting Website:
myOCeServices.ocgov.com

*For more information on household hazardous waste centers go to www.oclandfills.com/hazardous or call (714) 834-4000

**UCCE Master Gardeners: ucceocmghotline@ucanr.edu
mgorange.ucanr.edu/Gardening_Hotline/

YOU ARE THE SOLUTION TO RUNOFF POLLUTION



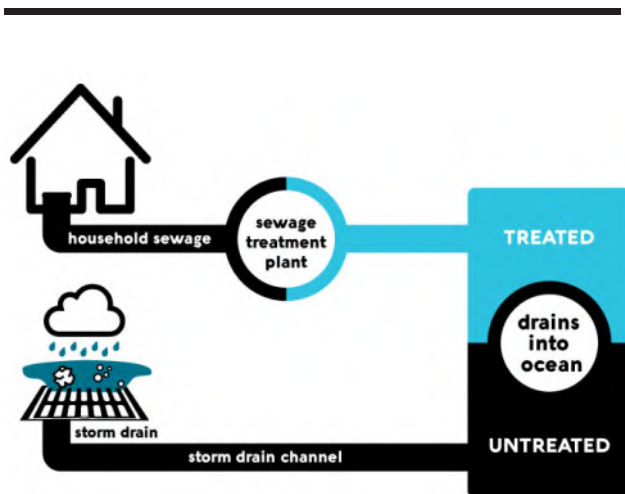
H₂OC
STORMWATER PROGRAM

What is Runoff?

Runoff is water from rain and outdoor water use that drains from roofs, driveways, sidewalks, and other surfaces, which does not soak into the ground. As runoff flows over surfaces it will pick up and carry pollutants it encounters, many of which come from waste we produce or mishandle. In Orange County, runoff is captured by storm drains where it flows untreated to the ocean.

Water that flows into storm drains is NOT TREATED

Runoff from homes and businesses may contain pollutants that have harmful effects on downstream creeks, rivers, bays, and ocean. Unlike household sewage, this water is not treated and can negatively impact recreational use, wildlife habitat, and even human health.



TRASH

If trash such as cigarette butts, straws, cups, and other debris enter our waterways, it can create water flow problems and contaminate aquatic habitats. Always properly dispose of waste and recyclables and secure your trash can lid to prevent trash from being released into the environment.



PET WASTE

Pet waste is a threat to human and environmental health because it contains harmful bacteria and pathogens. Being a responsible pet owner means picking up after your pet on walks and in your yard, especially before it rains.



YARD DEBRIS

If yard debris reaches local waterways, it can obstruct stormwater flow, clog storm drains, and cause other problems like flooding and erosion. Be sure to collect all debris when doing yard work and properly dispose of it in a green waste bin, or better yet, compost it.



ENGINE OIL

If engine oil enters our waterways, aquatic animals and plants can be negatively affected. It is important to repair leaking vehicles as soon as possible. Clean affected areas utilizing absorbents available at auto and home supply stores. Be sure to follow manufacturer's directions for proper use and disposal of absorbent. Used engine oil can be disposed of at a Household Hazardous Waste Center (HHWC*) or where oil was purchased.



FERTILIZER

If improperly applied, fertilizers can enter our waterways and cause ecological problems. For proper application, follow the manufacturer's instructions and stop applying fertilizers 48 hours before a forecasted rain event.



PESTICIDES

If pesticides, which include herbicides, insecticides, fungicides, and rodenticides, enter our waterways, they can be dangerous to human health and aquatic life. Be sure to limit pesticide use by using nonchemical methods or least-toxic pesticides whenever possible and contact the University of California Cooperative Extension (UCCE) Master Gardeners** with any questions. To properly apply pesticides, follow the manufacturer's instructions and stop applying 48 hours before a forecasted rain event.



PAINT

Paints, and related materials, contain a wide range of chemicals. These products should never be put in storm drains, sewers or septic systems. Instead, dispose of unused paint at your local HHWC*.



DETERGENTS

If phosphorus from detergents enters our waterways, it can cause ecological problems, including fish kills. Additionally, detergents can remove the protective mucous layer from fish, leaving them susceptible to disease. When using detergents for outdoor cleaning projects, do not allow wash water to reach the storm drain system.



HOME SOLVENTS

Many common household cleaning products contain harmful chemicals which are toxic and volatile. If not used and disposed of properly, these chemicals enter our waterways and pose a threat to both human and aquatic life. Always follow the manufacturer's instructions and dispose of the material at your local HHWC*.



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, if we are not careful, our daily activities can lead directly to water pollution problems. Water that drains through your watershed can pick up pollutants which are then transported to our waterways and beautiful ocean.

You can prevent water pollution by taking personal action and by working with members of your watershed community to prevent urban runoff from entering your waterway.

For more information,
please call the
Orange County Stormwater Program
at **1.877.89.SPILL**
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
at **1.877.89.SPILL**.

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help protect your watershed. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



Printed on Recycled Paper

Help Prevent Ocean Pollution: Tips For Protecting Your Watershed



The Ocean Begins
at Your Front Door



Tips for Protecting Your Watershed

My Watershed. Our Ocean.

Water + shed, noun: A region of land within which water flows down into a specified water body, such as a river, lake, sea, or ocean; a drainage basin or catchment basin.

Orange County is comprised of 11 major watersheds into which most of our water flows, connecting all of Orange County to the Pacific Ocean.



As water from rain (stormwater) or sprinklers and hoses (urban runoff) runs down your driveway and into your neighborhood streets, sidewalks

and gutters, it flows into storm drains that lead to waterways within your watershed. The waterways from other cities merge as they make their way through our watersheds until all the runoff water in Orange County meets at the Pacific Ocean. The water that reaches our ocean is not pure. As it flows through the watershed, it picks up pollutants such as litter, cigarette butts, fertilizer, pesticides, pet waste, motor oil and lawn clippings. Unlike water that enters the sewer (from sinks and toilets), water that enters the storm drain is not treated before it flows, ultimately, to the ocean.

Water quality can be improved by "Adopting Your Watershed." Through this effort, we are challenging citizens and



organizations to join the Orange County Stormwater Program and others who are working to protect and restore our creeks, rivers, bays and ocean.

There are many opportunities to get involved:

- Appreciate your watershed - explore the creeks, trails and ocean and make observations about its conditions. If you see anything abnormal (such as dead fish, oil spills, leaking barrels, and other pollution) contact the Orange County 24-hour water pollution problem reporting hotline at 1.877.89.SPILL to report the problem.
- Research your watershed. Learn about what watershed you live in by visiting www.ocwatersheds.com.
- Find a watershed organization in your community and volunteer to help. If there are no active groups, consider starting your own.
- Visit EPA's Adopt Your Watershed's Catalog of Watershed Groups at www.epa.gov/adopt to locate groups in your community.
- Organize or join in a creek, river, bay or ocean cleanup event such as Coastal & Inner Coastal Cleanup Day that takes place the 3rd Saturday of every September. For more information visit www.coast4u.org.

Follow these simple tips to protect the water quality of your watershed:

- Sweep up debris and dispose of it in the trash. Do not hose down driveways or sidewalks into the street or gutter.
- Use dry cleanup methods such as cat litter to absorb spills and sweep up residue.
- Set your irrigation systems to reflect seasonal water needs or use weather-based controllers. Inspect for runoff regularly.
- Cover trashcans securely.
- Take hazardous waste to a household hazardous waste collection center. (For example, paint, batteries and petroleum products)
- Pick up after your pet.
- Follow application and disposal directions for pesticides and fertilizers.
- If you wash your car at home, wash it on your lawn or divert the runoff onto a landscaped area. Consider taking your car to a commercial car wash, where the water is reclaimed or recycled.
 - Keep your car well maintained.
 - Never pour oil or antifreeze in the street, gutter or storm drain.



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, not properly disposing of household hazardous waste can lead to water pollution. Batteries, electronics, paint, oil, gardening chemicals, cleaners and other hazardous materials cannot be thrown in the trash. They also must never be poured or thrown into yards, sidewalks, driveways, gutters or streets. Rain or other water could wash the materials into the storm drain and eventually into our waterways and the ocean. In addition, hazardous waste must not be poured in the sanitary sewers (sinks and toilets).

**NEVER DISPOSE
OF HOUSEHOLD
HAZARDOUS
WASTE IN THE
TRASH, STREET,
GUTTER,
STORM DRAIN
OR SEWER.**

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

**To Report Illegal Dumping of
Household Hazardous Waste
call 1-800-69-TOXIC**

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.



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Help Prevent Ocean Pollution:

Proper Disposal of Household Hazardous Waste



**The Ocean Begins at
Your Front Door**



ORANGE COUNTY

Pollution Prevention

Leftover household products that contain corrosive, toxic, ignitable, or reactive

*WHEN POSSIBLE,
USE
NON-HAZARDOUS
OR
LESS-HAZARDOUS
PRODUCTS.*

ingredients are considered to be “household hazardous waste” or “HHW.” HHW can be found throughout your home, including the bathroom, kitchen, laundry room and garage.

Disposal of HHW down the drain, on the ground, into storm drains, or in the trash is illegal and unsafe.

Proper disposal of HHW is actually easy. Simply drop them off at a Household Hazardous Waste Collection Center (HHWCC) for free disposal and recycling. Many materials including anti-freeze, latex-based paint, motor oil and batteries can be recycled. Some centers have a “Stop & Swap” program that lets you take partially used home, garden, and automobile products free of charge. There are four HHWCCs in Orange County:

Anaheim:.....1071 N. Blue Gum St
Huntington Beach: 17121 Nichols St
Irvine:..... 6411 Oak Canyon
San Juan Capistrano:.... 32250 La Pata Ave

Centers are open Tuesday-Saturday, 9 a.m.-3 p.m. Centers are closed on rainy days and major holidays. For more information, call (714) 834-6752 or visit www.oclandfills.com.

Common household hazardous wastes

- Batteries
- Paint and paint products
- Adhesives
- Drain openers
- Household cleaning products
- Wood and metal cleaners and polishes
- Pesticides
- Fungicides/wood preservatives
- Automotive products (antifreeze, motor oil, fluids)
- Grease and rust solvents
- Fluorescent lamps
- Mercury (thermometers & thermostats)
- All forms of electronic waste including computers and microwaves
- Pool & spa chemicals
- Cleaners
- Medications
- Propane (camping & BBQ)
- Mercury-containing lamps

- Television & monitors (CRTs, flatscreens)

Tips for household hazardous waste

- Never dispose of HHW in the trash, street, gutter, storm drain or sewer.
- Keep these materials in closed, labeled containers and store materials indoors or under a cover.
- When possible, use non-hazardous products.
- Reuse products whenever possible or share with family and friends.
- Purchase only as much of a product as you'll need. Empty containers may be disposed of in the trash.
- HHW can be harmful to humans, pets and the environment. Report emergencies to 911.



The Pollution Solution

Several residential activities can result in water pollution. Among these activities are car washing and hosing off driveways and sidewalks. Both activities can waste water and result in excess runoff. Water conservation methods described in this pamphlet can prevent considerable amounts of runoff and conserve water. By taking your car to a commercial car wash and by sweeping driveways and sidewalks, you can further prevent the transport of pollutants to Orange County waterways. Here are some of the common pollutants for which you can be part of the solution:

1 Pesticides and Fertilizer

- Pollution:** The same pesticides that are designed to be toxic to pests can have an equally lethal impact on our marine life. The same fertilizer that promotes plant growth in lawns and gardens can also create nuisance algae blooms, which remove oxygen from the water and clog waterways when it decomposes.



- Solution:** Never use pesticides or fertilizer within 48 hours of an anticipated rainstorm. Use only as much as is directed on the label and keep it off driveways and sidewalks.

2 Dirt and Sediment

- Pollution:** Dirt or sediment can impede the flow of the stormwater and negatively impact stream habitat as it travels through waterways and deposits downstream. Pollutants can attach to sediment, which can then be transported through our waterways.
- Solution:** Protect dirt stockpiles by covering them with tarps or secure plastic sheets to prevent wind or rain from allowing dirt or sediment to enter the storm drain system.

3 Metals

- Pollution:** Metals and other toxins present in car wash water can harm important plankton, which forms the base of the aquatic food chain.
- Solution:** Take your car to a commercial car wash where the wash water is captured and treated at a local wastewater treatment plant.



DID YOU KNOW?

Did you know that most of the pollution found in our waterways is not from a single source, but from a “non-point” source meaning the accumulation of pollution from residents and businesses throughout the community.

4 Pet Waste

- Pollution:** Pet waste carries bacteria through our watersheds and eventually will be washed out to the ocean. This can pose a health risk to swimmers and surfers.

- Solution:** Pick up after your pets!

5 Trash and Debris

- Pollution:** Trash and debris can enter waterways by wind, littering and careless maintenance of trash receptacles. Street sweeping collects some of this trash; however, much of what isn't captured ends up in our storm drain system where it flows untreated out to the ocean.
- Solution:** Don't litter and make sure trash containers are properly covered. It is far more expensive to clean up the litter and trash that ends up in our waterways than it is to prevent it in the first place. Come out to one of Orange County's many locations for Coastal and Inner-Coastal Cleanup Day, which is held in September.



6 Motor Oil / Vehicle Fluids

- Pollution:** Oil and petroleum products from our vehicles are toxic to people, wildlife and plants.
- Solution:** Fix any leaks from your vehicle and keep the maintenance up on your car. Use absorbent material such as cat litter on oil spills, then sweep it up and dispose of it in the trash. Recycle used motor oil at a local Household Hazardous Waste Collection Center.



A TEAM EFFORT

The Orange County Stormwater Program has teamed with the Municipal Water District of Orange County (MWDOC) and the University of California Cooperative Extension Program (UCCE) to develop this pamphlet.

Low Impact Development (LID) and sustainable water use prevents water pollution and conserves water for drinking and reuse. Reducing your water use and the amount of water flowing from your home protects the environment and saves you money.

Thank you for making water protection a priority!

For more information, please visit

Orange County Stormwater Program
www.ocwatersheds.com/publiced/

Municipal Water District of Orange County
www.mwdoc.com

University of California Master Gardeners of Orange County
www.uccemg.com

UC Cooperative Extension OC Water Quality and Water Resources
www.ucanr.org/sites/urbanwatermgmt/



To report a spill, call the Orange County 24-Hour Water Pollution Prevention Reporting Hotline at 1-877-89-SPILL \ (1-877-897-7455)

Special Thanks to
The City of Los Angeles Stormwater Program for the use of its artwork

The Metropolitan Water District of Southern California for the use of the California-Friendly Plant and Native Habitat photos



Homeowners Guide for Sustainable Water Use

Low Impact Development, Water Conservation & Pollution Prevention



The Ocean Begins at Your Front Door



RUNOFF, RAINWATER AND REUSE

Where Does Water Runoff Go?

Stormwater, or water from rainfall events, and runoff from outdoor water use such as sprinklers and hoses flows from homes directly into catch basins and the storm drain system. After entering the storm drain, the water flows untreated into streams, rivers, bays and ultimately the Pacific Ocean. Runoff can come from lawns, gardens, driveways, sidewalks and roofs. As it flows over hard, impervious surfaces, it picks up pollutants. Some pollutants carried by the water runoff include trash, pet waste, pesticides, fertilizer, motor oil and more.

Water Conservation

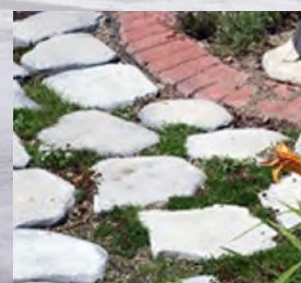
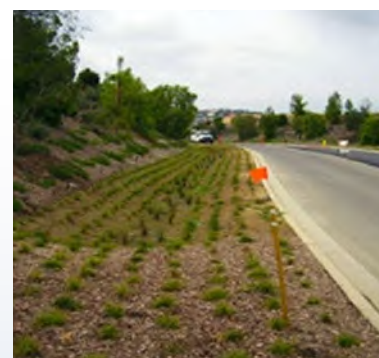
Pollution not only impairs the water quality for habitat and recreation, it can also reduce the water available for reuse. Runoff allowed to soak into the ground is cleaned as it percolates through the soil, replenishing depleted groundwater supplies. Groundwater provides at least 50% of the total water for drinking and other indoor household activities in north and central Orange County. When land is covered with roads, parking lots, homes, etc., there is less land to take in the water and more hard surfaces over which the water can flow.

In Orange County, 60-70% of water used by residents and businesses goes to irrigation and other outdoor uses. Reusing rainwater to irrigate our lawn not only reduces the impact of water pollution from runoff, but it also is a great way to conserve our precious water resources and replenish our groundwater basin.

What is Low Impact Development (LID)?

Low Impact Development (LID) is a method of development that seeks to maintain the natural hydrologic character of an area. LID provides a more sustainable and pollution-preventative approach to water management.

New water quality regulations require implementation of LID in larger new developments and encourage implementation of LID and other sustainable practices in existing residential areas. Implementing modifications to your lawn or garden can reduce pollution in our environment, conserve water and reduce your water bill.



Permeable pavement allows water runoff to infiltrate through the soil and prevents most pollutants from reaching the storm drain system.

OPTIONS FOR RAINWATER HARVESTING AND REUSE

Rainwater harvesting is a great way to save money, prevent pollution and reduce potable water use. To harvest your rainwater, simply redirect the runoff from roofs and downspouts to rain barrels. Rain gardens are another option; these reduce runoff as well as encourage infiltration.

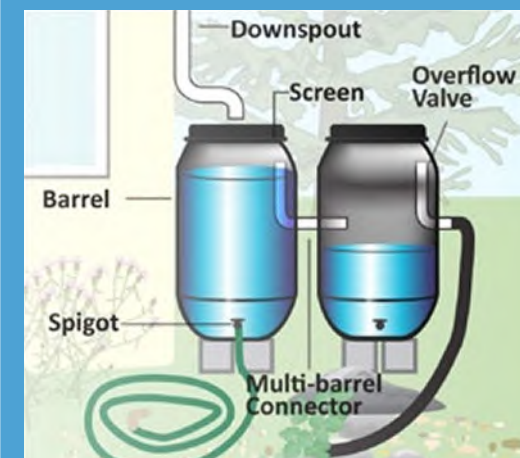
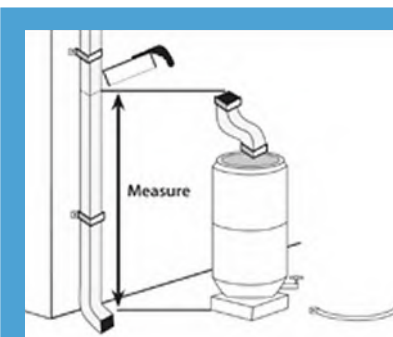
Downspout Disconnection/Redirection

Disconnecting downspouts from pipes running to the gutter prevents runoff from transporting pollutants to the storm drain. Once disconnected, downspouts can be redirected to rain gardens or other vegetated areas, or be connected to a rain barrel.

Rain Barrels

Rain barrels capture rainwater flow from roofs for reuse in landscape irrigation. Capacity of rain barrels needed for your home will depend on the amount of roof area and rainfall received. When purchasing your rain barrel, make sure it includes a screen, a spigot to siphon water for use, an overflow tube to allow for excess water to run out and a connector if you wish to connect multiple barrels to add capacity of water storage.

Mosquito growth prevention is very important when installing a rain barrel. The best way to prevent mosquito breeding is to eliminate entry points by ensuring all openings are sealed tightly. If these methods are unsuccessful, products are available to kill mosquito larvae, but that are harmless to animals and humans. Regular application of these products is essential. Please visit the Orange County Vector Control website for more information at www.ocvcd.org/mosquitoes3.php.



Rain Gardens

Rain gardens allow runoff to be directed from your roof downspout into a landscaped area. Vegetation and rocks in the garden will slow the flow of water to allow for infiltration into the soil. Plants and soil particles will absorb pollutants from the roof runoff. By utilizing a native plant palette, rain gardens can be maintained all year with minimal additional irrigation. These plants are adapted to the semi-arid climate of Southern California, require less water and can reduce your water bill.

Before modifying your yard to install a rain garden, please consult your local building and/or planning departments to ensure your garden plan follows pertinent building codes and ordinances. Besides codes and ordinances, some home owner associations also have guidelines for yard modifications. If your property is in hill areas or includes engineered slopes, please seek professional advice before proceeding with changes.



For information on how to disconnect a downspout or to install and maintain a rain barrel or rain garden at your home, please see the Los Angeles Rainwater Harvesting Program, A Homeowner's "How-To" Guide, November 2009 at www.larainwaterharvesting.org/

OTHER WATER CONSERVATION AND POLLUTION PREVENTION TECHNIQUES

Native Vegetation and Maintenance

"California Friendly" plants or native vegetation can significantly reduce water use. These plants often require far less fertilizers and pesticides, which are two significant pollutants found in Orange County waterways. Replacing water "thirsty" plants and grass types with water efficient natives is a great way to save water and reduce the need for potentially harmful pesticides and fertilizer.

Please see the California Friendly Garden Guide produced by the Metropolitan Water District of Southern California and associated Southern California Water Agencies for a catalog of California friendly plants and other garden resources at www.bewaterwise.com/Gardensoft.

Weed Free Yards

Weeds are water thieves. They often reproduce quickly and rob your yard of both water and nutrients. Weed your yard by hand if possible. If you use herbicides to control the weeds, use only the amount recommended on the label and never use it if rain is forecast within the next 48 hours.

Soil Amendments

Soil amendments such as green waste (e.g. grass clippings, compost, etc.) can be a significant source of nutrients and can help keep the soil near the roots of plants moist. However, they can cause algal blooms if they get into our waterways, which reduces the amount of oxygen in the water and impacts most aquatic organisms. It is important to apply soil amendments more than 48 hours prior to predicted rainfall.



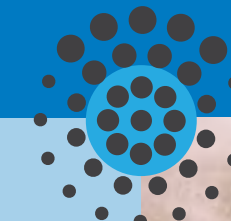
IRRIGATE EFFICIENTLY

Smart Irrigation Controllers

Smart Irrigation Controllers have internal clocks as well as sensors that will turn off the sprinklers in response to environmental changes. If it is raining, too windy or too cold, the smart irrigation control sprinklers will automatically shut off.

Check with your local water agency for available rebates on irrigation controllers and smart timers.

- Aim your sprinklers at your lawn, not the sidewalk – By simply adjusting the direction of your sprinklers you can save water, prevent water pollution from runoff, keep your lawn healthy and save money.
- Set a timer for your sprinklers** – lawns absorb the water they need to stay healthy within a few minutes of turning on the sprinklers. Time your sprinklers; when water begins running off your lawn, you can turn them off. Your timer can be set to water your lawn for this duration every time.
- Water at Sunrise** – Watering early in the morning will reduce water loss due to evaporation. Additionally, winds tend to die down in the early morning so the water will get to the lawn as intended.
- Water by hand** – Instead of using sprinklers, consider watering your yard by hand. Hand-watering ensures that all plants get the proper amount of water and you will prevent any water runoff, which wastes water and carries pollutants into our waterways.
- Fix leaks** - Nationwide, households waste one trillion gallons of water a year to leaks – that is enough water to serve the entire state of Texas for a year. If your garden hose is leaking, replace the nylon or rubber hose washer and ensure a tight connection. Fix broken sprinklers immediately.



Water runoff from sprinklers left on too long will carry pollutants into our waterways.

Help Prevent 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 **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 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 representatives or call the Orange County Stormwater Program.



Household Tips



The Ocean Begins at Your Front Door



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

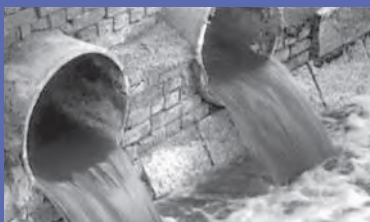
- Take your car to a commercial car wash whenever possible.
- Choose soaps, cleaners, or detergents labeled “non-toxic,” “phosphate free” or “biodegradable.” Vegetable and citrus-based products are typically safest for the environment, **but even these should not be allowed into the storm drain.**
- 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.ciwmb.ca.gov/UsedOil.

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.oclandfills.com.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, not properly disposing of used oil is illegal and can lead to fines. If you pour or drain oil onto driveways, sidewalks or streets, it can be washed into the storm drain.

Help prevent water pollution by taking your used oil and oil filters to a used oil collection center. Most major automotive maintenance centers will accept up to five gallons of used motor oil at no cost. For a list of locations, please visit www.cleanup.org.



For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL**
(1-877-897-7455)
or visit
www.ocwatersheds.com.

For information about the proper
disposal of household hazardous
waste, call the **Household Waste**
Hotline at **1-877-89-SPILL**
(1-877-897-7455)
or visit 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.



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Help Prevent Ocean Pollution:

Tips for the Home Mechanic



**The Ocean Begins at
Your Front Door**

Tips for the Home Mechanic

WORK SITE

- Locate the storm drains on or near your property. Do not allow used oil or any materials to flow into these drains.
- Examine your home for sources of pollution.
- Perform automotive projects under cover and in a controlled area to prevent stormwater runoff.
- Sweep or vacuum your automotive workspace regularly
- Use a damp mop to clean work areas. Never hose down surfaces into the street, gutter or storm drain.
- Pour mop water into a sink or toilet. Never dispose of water in a parking lot, street, gutter or storm drain.



PREVENT LEAKS AND SPILLS

- Keep absorbent materials such as rags and/or cat litter in the work area
- Empty drip pans into a labeled, seal container before they are full
- Wipe up any spills or repair leaks as they happen. Don't let them sit.
- Place large pans under any wrecked cars until all fluids are drained.
- Promptly dispose of collected fluids into a hazardous waste drum or deliver them to an oil recycling center. Used oil recycling locations can be found at <http://www.ochealthinfo.com/regulatory/usedoil.htm>

CLEANING SPILLS

- Clean up spills immediately by using absorbent material such as rags, cat litter or sand. If the material spilled is hazardous, dispose of the rag, litter or sand in the same manner as hazardous waste. If the material spill is non-hazardous, dispose of it in the trash.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution



Problem Reporting Hotline at 1-877-89-SPILL (1-877-897-7455) or visit www.ocwatersheds.com to fill out an incident report.

- Report emergencies to 911.

VEHICLE FLUID MANAGEMENT

- Vehicle fluids are hazardous waste and must be stored and disposed of in accordance with all local, state and federal laws.
- Designate an area to drain vehicle fluids away from storm drains and sanitary drains.
- When possible, drain vehicle fluids indoors or within covered areas, and only over floors that are constructed of a non-porous material such as concrete. Asphalt and dirt floors absorb spilled or leaked fluids, making the cleanup extremely difficult.





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.oclandfills.com.

Please do not mix your oil with other substances!

For more information, please call the Orange County Stormwater Program at 1-877-89-SPILL (1-877-897-7455) or visit 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.oclandfills.com.



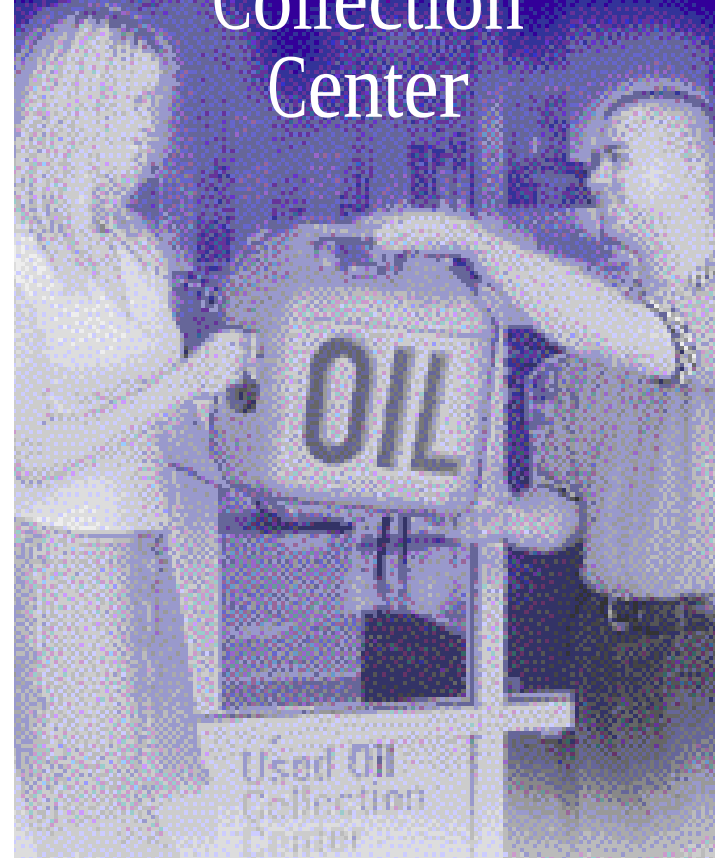
For additional information about the nearest oil recycling center, call the Used Oil Program at 1-800-CLEANUP or visit www.cleanup.org.

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Help Prevent Ocean Pollution:

Recycle at Your Local Used Oil Collection Center



The Ocean Begins at Your Front Door



CENTRAL COUNTY

Used Oil Collection Centers

Balboa

Hill's Boat Service
814 E Bay Ave., Balboa, CA 92661
(949)675-0740()
CIWMB#: 30-C-03538

Balboa Island

Island Marine Fuel
406 S Bay Front, Balboa Island, CA 92662
(949)673-1103()
CIWMB#: 30-C-03728

Corona Del Mar

Corona Del Mar 76
2201 E. Pacific Coast Hwy., Corona Del Mar, CA 92625
(949)673-3320()
CIWMB#: 30-C-06620

Corona Del Mar Chevron

2546 E. Coast Hwy., Corona Del Mar, CA 92625
(949)495-0774(14)
CIWMB#: 30-C-06424

Mobil (Harbor View)

2500 San Joaquin Hills Rd., Corona Del Mar, CA 92625
(949)640-4759()
CIWMB#: 30-C-03363

Costa Mesa

AutoZone #5520
744 W. 19th St., Costa Mesa, CA 92627
(901)495-7159()
CIWMB#: 30-C-05992

Big O Tires #5571

3181 Harbor Blvd., Costa Mesa, CA 92626
(949)443-4155()
CIWMB#: 30-C-04676

Big O Tires #694

322 E. 17th St., Costa Mesa, CA 92627
(949)642-4131()
CIWMB#: 30-C-05811

Coast General Performance

2855 Harbor Blvd., Costa Mesa, CA 92626
(714)540-5710()
CIWMB#: 30-C-05916

Connell Chevrolet

2828 Harbor Blvd., Costa Mesa, CA 92626
(714)546-1200()
CIWMB#: 30-C-06286

EZ Lube Inc #15

3599 Harbor Blvd., Costa Mesa, CA 92626
(714)966-1647()
CIWMB#: 30-C-03137

EZ Lube Inc #46

400 E 17th St., Costa Mesa, CA 92627
(714)556-1312()
CIWMB#: 30-C-05779

EZ Lube Inc. #44

2248 Harbor Blvd., Costa Mesa, CA 92627
(714)556-1312()
CIWMB#: 30-C-05737

Firestone Store #71T7

475 E 17th St., Costa Mesa, CA 92627
(949)646-2444()
CIWMB#: 30-C-02120

Jiffy Lube #1969

300 E 17th St., Costa Mesa, CA 92627
(949)548-2505()
CIWMB#: 30-C-05553

Jiffy Lube #1970

2175 Newport Blvd., Costa Mesa, CA 92627
(949)548-4150()
CIWMB#: 30-C-05554

Jiffy Lube #607

2255 Fairview Rd., Costa Mesa, CA 92627
(949)650-5823()
CIWMB#: 30-C-05551

Jiffy Lube #861

375 Bristol St., Costa Mesa, CA 92626
(714)557-5823()
CIWMB#: 30-C-05552

Kragen Auto Parts #0725

1739 Superior Ave., Costa Mesa, CA 92627
(949)642-3384()
CIWMB#: 30-C-02624

Kragen Auto Parts #0796

1175 Baker Blvd., Unit E, Costa Mesa, CA 92626
(714)662-2005()
CIWMB#: 30-C-02664

Nabers Cadillac

2600 Harbor Blvd., Costa Mesa, CA 92626
(714)444-5200()
CIWMB#: 30-C-05051

Oil Stop Inc.

Oil Stop Inc. Costa Mesa, CA 92626
(714)434-8350()
CIWMB#: 30-C-06293

Pep Boys #660

2946 Bristol St., Costa Mesa, CA 92626
(714)549-1533()
CIWMB#: 30-C-03416

Plaza Chevron Service Center

3048 Bristol Costa Mesa, CA 92626
(714)545-4257()
CIWMB#: 30-C-01123

Scher Tire Inc #15 dba Goodyear Tire

1596 Newport Blvd., Costa Mesa, CA 92627
(949)548-9384()
CIWMB#: 30-C-03034

Fountain Valley

Firestone Store #7147
17975 Magnolia Ave., Fountain Valley, CA 92708
(714)842-3341()
CIWMB#: 30-C-01219

Golden Shell

8520 Warner Ave., Fountain Valley, CA 92708
(714)842-7150()
CIWMB#: 30-P-05002

Kragen Auto Parts #0734

9880 Warner Ave., Fountain Valley, CA 92708
(714)964-6427()
CIWMB#: 30-C-02609

Kragen Auto Parts #1505

16147 Harbor Blvd., Fountain Valley, CA 92708
(714)531-8525()
CIWMB#: 30-C-04125

Oil Can Henry's

9525 Warner Ave., Fountain Valley, CA 92708
(714)473-7705()
CIWMB#: 30-C-05843

Purrfect Auto Service #10

16780 Harbor Blvd., Fountain Valley, CA 92708
(714)839-3899()
CIWMB#: 30-C-01380

Huntington Beach

AutoZone #5528
6800 Warner Ave., Huntington Beach, CA 92647
(714)891-8211()
CIWMB#: 30-C-04777

Bella Terra Car Wash

16061 Beach Blvd., Huntington Beach, CA 92647
(714)847-4924()
CIWMB#: 30-C-06195

Big O Tires #553

19411 Beach Blvd., Huntington Beach, CA 92648
(714)536-7571()
CIWMB#: 30-C-00970

Econo Lube N' Tune #26

19961 Beach Blvd., Huntington Beach, CA 92648
(714)557-5823()
CIWMB#: 30-C-06117

Expertec Automotive

7680 Talbert Ave Suite A & B, Huntington Beach, CA 92648
(714)848-9222()
CIWMB#: 30-C-05914

EZ Lube Inc #16

7361 Edinger Ave., Huntington Beach, CA 92647
(714)899-3600()
CIWMB#: 30-C-03289

EZ Lube Inc. #79

9862 Adams St., Huntington Beach, CA 92647
(714)556-1312()
CIWMB#: 30-C-06547

Firestone Store #71T5

16171 Beach Blvd., Huntington Beach, CA 92647
(714)847-6081()
CIWMB#: 30-C-02118

Huntington Beach Car Wash

18971 Beach Blvd., Huntington Beach, CA 92648
(714)847-4924()
CIWMB#: 30-C-05303

Jiffy Lube #1857

8971 Warner Ave., Huntington Beach, CA 92647
(714)596-7213()
CIWMB#: 30-C-05053

Kragen Auto Parts #1468

10072 Adams Ave., Huntington Beach, CA 92646
(714)593-6156()
CIWMB#: 30-C-04284

Kragen Auto Parts #1511

7171 Warner Ave., Huntington Beach, CA 92647
(714)842-4531()
CIWMB#: 30-C-04129

Kragen Auto Parts #1633

18888 Beach Blvd., Huntington Beach, CA 92648
(714)965-2353()
CIWMB#: 30-C-02645

Oilmax 10 Minute Lube/Wash

9862 Adams Ave., Huntington Beach, CA 92646
(714)964-7110()
CIWMB#: 30-C-03219

Pep Boys #799

19122 Brookhurst St., Huntington Beach, CA 92646
(714)964-0777()
CIWMB#: 30-C-03439

Quik Change Lube & Oil

5841 Warner Ave., Huntington Beach, CA 92649
(714)840-2331()
CIWMB#: 30-C-03208

R Kids Tire and Service #6

5062 Warner Ave., Huntington Beach, CA 92647
(714)846-1189()
CIWMB#: 30-C-05691

Saturn of Huntington Beach

18801 Beach Blvd., Huntington Beach, CA 92648
(714)841-5428()
CIWMB#: 30-C-05221

USA Express Tire & Service Inc

7232 Edinger Ave., Huntington Beach, CA 92647
(714)842-0717()
CIWMB#: 30-C-04429

Zito's Auto Care

19002 Magnolia St., Huntington Beach, CA 92646
(714)968-8788()
CIWMB#: 30-C-03251

Irvine

Firestone Store #71W4
51 Auto Center Dr., Irvine, CA 92618
(949)829-8710()
CIWMB#: 30-C-03689

Irvine City Auto Parts

14427 Culver Dr., Irvine, CA 92604
(949)551-5588()
CIWMB#: 30-C-02186

Jiffy Lube #1856 Irvine Spectrum

8777 Irvine Center Dr., Irvine, CA 92618
(949)753-0485()
CIWMB#: 30-C-06094

Jiffy Lube #1988

3080 Main St., Irvine, CA 92614
(714)961-5491(27)
CIWMB#: 30-C-04450

Kragen Auto Parts #4174

15315 Culver Dr., Ste.#170, Irvine, CA 92604
(602)631-7115()
CIWMB#: 30-C-06417

Newport Beach

Jiffy Lube #2811
1520 W Coast Hwy., Newport Beach, CA 92663
(949)764-9255()
CIWMB#: 30-C-05629

Newport Landing Fuel Dock

503 E Edgewater Newport Beach, CA 92661
(949)673-7878()
CIWMB#: 30-C-03628

Orange

AutoZone #5942
1330 N. Glassell Orange, CA 92867
(714)538-4551()
CIWMB#: 30-C-04553

Big O Tires #570

1825 E. Katella Ave., Orange, CA 92867
(714)538-0016()
CIWMB#: 30-C-00974

David Wilsons Ford of Orange

1350 W Katella Ave., Orange, CA 92867
(714)633-6731()
CIWMB#: 30-C-02341

EZ Lube #74

3232 Chapman Ave. #E, Orange, CA 92869
(714)556-1312(106)
CIWMB#: 30-C-06627

Firestone Store #71R5

1690 N Tustin Ave., Orange, CA 92867
(714)282-8144()
CIWMB#: 30-C-0122

Jiffy Lube #1457

433 W. Katella Ave., Orange, CA 92867
(714)720-5757()
CIWMB#: 30-C-06280

Kragen Auto Parts #1764

910 Tustin St., Orange, CA 92867
(714)771-3000()
CIWMB#: 30-C-02625

Managed Mobile, Inc.

1030 N Batavia St., #B, Orange, CA 92867
(714)400-0250()
CIWMB#: 30-C-05776

Pep Boys #806

215 E Katella Ave., Orange, CA 92867
(714)997-1540()
CIWMB#: 30-C-01759

Santiago Hills Car Care

8544 East Chapman Ave., Orange, CA 92869
(714)919-1060()
CIWMB#: 30-C-05622

Scher Tire #33

1821 E. Katella Ave., Orange, CA 92867
(909)343-3100()
CIWMB#: 30-C-06324

Tabassi Shell Service Station

830 E Katella Ave., Orange, CA 92867
(714)771-6990()
CIWMB#: 30-C-00552

The Tune-up Center

193 S Main St., Orange, CA 92868
(714)633-1876()
CIWMB#: 30-C-02091

Tony's Fuel and Towing

1650 W La Veta Ave., Orange, CA 92868
(714)953-7676()
CIWMB#: 30-C-00868

Truck Lubrication Company

143 S. Pixley Orange, CA 92868
(714)997-7730()
CIWMB#: 30-C-06001

Santa Ana

All Phase Environmental
910 E. Fourth St., Santa Ana, CA 92701
(714)731-5995()
CIWMB#: 30-C-06116

Archie's Tire & Towing

4518 Westminster Ave., Santa Ana, CA 92703
(714)636-4518()
CIWMB#: 30-C-02058

AutoZone #3320

2007 S. Main St., Santa Ana, CA 92707
(901)495-7217()
CIWMB#: 30-C-06508

AutoZone #5232

430 W 17th Santa Ana, CA 92706
(714)547-7003()
CIWMB#: 30-C-04609

AutoZone #5538

1101 S Bristol Santa Ana, CA 92704
(714)241-0335()
CIWMB#: 30-C-00829

Big O Tires

1211 W. Warner Ave., Santa Ana, CA 92707
(714)540-8646()
CIWMB#: 30-C-04679

Big O Tires #712

1302 E. 17th St., Santa Ana, CA 92705
(714)541-6811()
CIWMB#: 30-C-05813

Firestone Store #71T5

3733 S Bristol Santa Ana, CA 92704
(714)549-4015()
CIWMB#: 30-C-01223

Firestone Store #71TA

101 S Main St., Santa Ana, CA 92701
(714)542-8857()
CIWMB#: 30-C-02123

Firestone Store #71W6

2005 N Tustin Ave., Ste A, Santa Ana, CA 92705
(714)541-7977()
CIWMB#: 30-C-03688

Guaranty Chevrolet Motors Inc.

711 E 17th St., Santa Ana, CA 92701
(714)973-1711(277)
CIWMB#: 30-C-06506

Jiffy Lube #1303

2025 N. Tustin Santa Ana, CA 92701
(714)720-5757()
CIWMB#: 30-C-06283

John's Mobil

1465 S Main St., Santa Ana, CA 92707
(714)835-3266()
CIWMB#: 30-C-00578

Kragen Auto Parts #0736

1302 E 17th St., Santa Ana, CA 92705
(714)953-6061()
CIWMB#: 30-C-02610

Kragen Auto Parts #1253

1400 W Edinger Ave., Santa Ana, CA 92704
(714)754-1432()
CIWMB#: 30-C-02627

Kragen Auto Parts #1376

521 W 17th St., Santa Ana, CA 92706
(714)543-4492()
CIWMB#: 30-C-03901

Kragen Auto Parts #1516

2337 S Bristol Ave., Santa Ana, CA 92704
(714)557-0787()
CIWMB#: 30-C-04106

Kragen Auto Parts #1648

1015 S Main St., Santa Ana, CA 92701
(714)568-1570()
CIWMB#: 30-C-05664

Pep Boys #609

120 E 1st St., Santa Ana, CA 92701
(714)547-7477()
CIWMB#: 30-C-01738

Pep Boys #802

1107 S Harbor Blvd., Santa Ana, CA 92704
(714)775-0828()
CIWMB#: 30-C-01739

Purrfect Auto Service

2519 S Main St., Santa Ana, CA 92707
(714)549-7900()
CIWMB#: 30-C-02085

Saturn of Santa Ana

1350 Auto Mall Dr., Santa Ana, CA 92705
(714)648-2444()
CIWMB#: 30-C-05222

Scher Tire #28

1805 N Grand Ave., Santa Ana, CA 92705



Clean 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. Home improvement projects and work sites must be maintained to ensure that building materials do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump building materials into the ocean, so don't let them enter the storm drains. Follow these tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while performing home improvement projects. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



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Help Prevent Ocean Pollution: Tips for Home Improvement Projects

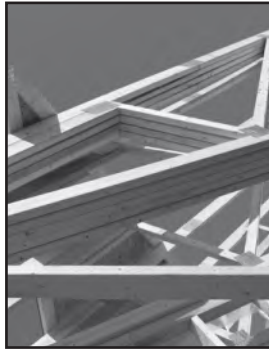


Tips for Home Improvement Projects

Home improvement projects can cause significant damage to the environment. Whether you hire a contractor or work on the house yourself, it is important to follow these simple tips while renovating, remodeling or improving your home:

General Construction

- Schedule projects for dry weather.
- Keep all construction debris away from the street, gutter and storm drain.
- Store materials under cover with temporary roofs or plastic sheets to eliminate or reduce the possibility that rainfall, runoff or wind will carry materials from the project site to the street, storm drain or adjacent properties.

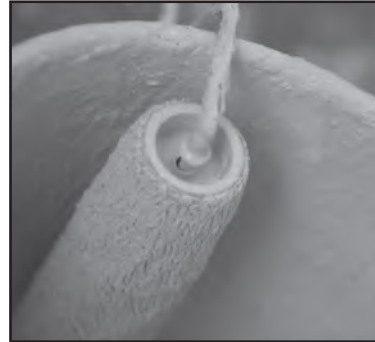


Building Materials

- Never hose materials into a street, gutter or storm drain.
- Exposed piles of construction material should not be stored on the street or sidewalk.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Do not mix more fresh concrete than is needed for each project.
- Wash concrete mixers and equipment in a designated washout area where the water can flow into a containment area or onto dirt.
- Dispose of small amounts of dry excess materials in the trash. Powdery waste, such as dry concrete, must be properly contained within a box or bag prior to disposal. Call your local trash hauler for weight and size limits.

Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Place the lid on firmly and store the paint can upside-down in a dry location away from the elements.
- Tools such as brushes, buckets and rags should never be washed where excess water can drain into the street, gutter or storm drain. All tools should be rinsed in a sink connected to the sanitary sewer.
- When disposing of paint, never put wet paint in the trash.
- Dispose of water-based paint by removing the lid and letting it dry in the can. Large amounts must be taken to a Household Hazardous Waste Collection Center (HHWCC).
- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.
- For HHWCC locations and hours, call (714) 834-6752 or visit www.oilandfills.com.



Erosion Control

- Schedule grading and excavation projects for dry weather.
- When temporarily removing soil, pile it in a contained, covered area where it cannot spill into the street, or obtain the required temporary encroachment or street closure permit and follow the conditions instructed by the permit.

- When permanently removing large quantities of soil, a disposal location must be found prior to excavation. Numerous businesses are available to handle disposal needs. For disposal options, visit www.ciwmb.ca.gov/SWIS.
- Prevent erosion by planting fast-growing annual and perennial grasses. They will shield and bind the soil.

Recycle

- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry (bricks, concrete, etc.), carpet, plastic, pipes (plastic, metal and clay), drywall, rocks, dirt and green waste.
- For a listing of construction and demolition recycling locations in your area, visit www.ciwmb.ca.gov/recycle.



Spills

- Clean up spills immediately by using an absorbent material such as cat litter, then sweep it up and dispose of it in the trash.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at 1-877-897-7455 or visit www.ocwatersheds.com to fill out an incident reporting form.



Clean 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. Materials and excess concrete or mortar can be blown or washed into the storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never throw building materials 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 **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com.

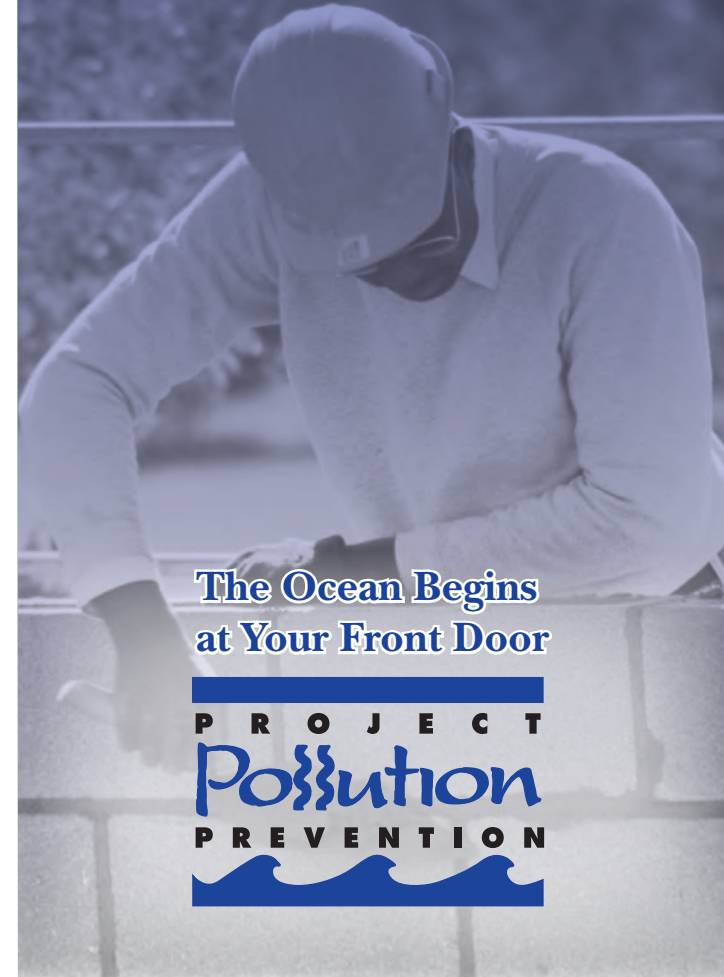
To report a spill,
call the
**Orange County 24-Hour
Water Pollution Reporting Hotline**
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The Tips contained in this brochure provide useful information about how you can keep materials and washwater from entering the storm drain system. If you have other suggestions for how water and materials may be contained, please contact your city's stormwater representative or call the Orange County Stormwater Program.



Tips for Using Concrete and Mortar



**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

Tips for Using Concrete and Mortar

Never allow materials or washwater to enter the street or storm drain.

Before the Project

- Schedule projects for dry weather.
- Store materials under cover, with temporary roofs or plastic sheets, to eliminate or reduce the possibility that the materials can be carried from the project site to streets, storm drains or adjacent properties via rainfall, runoff or wind.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Take measures to block nearby storm drain inlets.

During the Project

- Set up and operate small mixers on tarps or heavy drop cloths.
- Do not mix more fresh concrete or cement than is needed for the job.



- When breaking up pavement, pick up all chunks and pieces and recycle them at a local construction and demolition recycling company. (See information to the right)
- When making saw cuts in pavement, protect nearby storm drain inlets during the saw-cutting operation and contain the slurry. Collect the slurry residue from the pavement or gutter and remove from the site.



Clean-Up

- Dispose of small amounts of dry concrete, grout or mortar in the trash.
- Never hose materials from exposed aggregate concrete, asphalt or similar treatments into a street, gutter, parking lot, or storm drain.
- Wash concrete mixers and equipment in designated washout areas where the water can flow into a containment area or onto dirt. Small amounts of dried material can be disposed of in the trash. Large amounts



should be recycled at a local construction and demolition recycling company. (See information below)

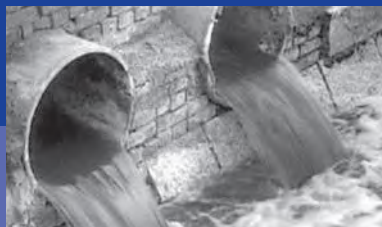
- Recycle cement wash water by pumping it back into cement mixers for reuse.

Spills

- Never hose down pavement or impermeable surfaces where fluids have spilled. Use an absorbent material such as cat litter to soak up a spill, then sweep and dispose in the trash.
- Clean spills on dirt areas by digging up and properly disposing of contaminated dry soil in trash.
- Immediately report significant spills to the County's 24-Hour Water Pollution Problem Reporting Hotline at 1-877-897-7455 or log onto the County's website at www.ocwatersheds.com and fill out an incident reporting form.

For a list of construction and demolition recycling locations in your area visit www.ciwmb.ca.gov/Recycle/.

For additional information on how to control, prevent, remove, and reduce pollution refer to the Stormwater Best Management Practice Handbook, available on-line at www.cabmphandbooks.com.



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as painting can lead to water pollution if you're not careful. Paint must be used, stored and disposed of properly to ensure that it does not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump paint into the ocean, so don't let it enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while using, storing and disposing of paint. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



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Help Prevent Ocean Pollution:

Tips for Projects Using Paint



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

Tips for Projects Using Paint

Paint can cause significant damage to our environment. Whether you hire a contractor or do it yourself, it is important to follow these simple tips when purchasing, using, cleaning, storing and disposing of paint.

Purchasing Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Whenever possible, use water-based paint since it usually does not require hazardous solvents such as paint thinner for cleanup.

Painting

- Use only one brush or roller per color of paint to reduce the amount of water needed for cleaning.
- Place open paint containers or trays on a stable surface and in a position that is unlikely to spill.
- Always use a tarp under the area or object being painted to collect paint drips and contain spills.

Cleaning

- Never clean brushes or rinse paint containers in the street, gutter or storm drain.
- For oil-based products, use as much of the paint on the brushes as possible. Clean brushes with thinner. To reuse thinner, pour it through a fine filter (e.g. nylon, metal gauze or filter paper) to remove solids such as leftover traces of paint.
- For water-based products, use as much of the paint on the brushes as possible, then rinse in the sink.
- Collect all paint chips and dust. Chips and dust from marine paints or paints containing lead, mercury or tributyl tin are hazardous waste. Sweep up and dispose of at a Household Hazardous Waste Collection Center (HHWCC).

Storing Paint

- Store paint in a dry location away from the elements.
- Store leftover water-based paint, oil-based paint and solvents separately in original or clearly marked containers.
- Avoid storing paint cans directly on cement floors. The bottom of the can will rust much faster on cement.
- Place the lid on firmly and store the paint can upside-down to prevent air from entering. This will keep the paint usable longer. Oil-based paint is usable for up to 15 years. Water-based paint remains usable for up to 10 years.

Alternatives to Disposal

- Use excess paint to apply another coat, for touch-ups, or to paint a closet, garage, basement or attic.
- Give extra paint to friends or family. Extra paint can also be donated to a local theatre group, low-income housing program or school.
- Take extra paint to an exchange program such as the “Stop & Swap” that allows you to drop off or pick up partially used home care products free of charge. “Stop & Swap” programs are available at most HHWCCs.
- For HHWCC locations and hours, call 1-877-897-7455 or visit www.oclandfills.com.



Disposing of Paint

- Never put wet paint in the trash.

For water-based paint:

- If possible, brush the leftover paint on cardboard or newspaper. Otherwise, allow the paint to dry in the can with the lid off in a well-ventilated area protected from the elements, children and pets. Stirring the paint every few days will speed up the drying.
- Large quantities of extra paint should be taken to a HHWCC.
- Once dried, paint and painted surfaces may be disposed of in the trash. When setting a dried paint can out for trash collection, leave the lid off so the collector will see that the paint has dried.

For oil-based paint:

- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.

Aerosol paint:

- Dispose of aerosol paint cans at a HHWCC.

Spills

- Never hose down pavement or other impermeable surfaces where paint has spilled.
- Clean up spills immediately by using an absorbent material such as cat litter. Cat litter used to clean water-based paint spills can be disposed of in the trash. When cleaning oil-based paint spills with cat litter, it must be taken to a HHWCC.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at 1-877-897-7455 or visit www.ocwatersheds.com to fill out an incident reporting form.



Clean 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 storm drains that flow to the ocean. Overwatering lawns can also send materials into 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 **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
1-877-89-SPILL (1-877-897-7455).

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.



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Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins
at Your Front Door



Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter 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, fertilizers, and pesticide applied to the landscape.
- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.



Garden & Lawn Maintenance

- Do not overwater. 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 drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's 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, visit www.ipm.ucdavis.edu.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it 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.oclandfills.com



For More Information, please
visit the Orange County
Stormwater Program website at
www.ocwatersheds.com

To report a spill,
Call the Orange County 24-hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455)
(For emergencies, dial 911)

The tips contained in this brochure provide useful
information about how you can keep excess
runoff from carrying pollutants to the storm drain
system. Please visit the Orange County Stormwater
Program at www.ocwatersheds.com/Publiced for
more resources. Other important resources include:

Municipal Water District of Orange County
www.mwdoc.com

University of California Master Gardeners of
Orange County
www.uccemg.com

UC Cooperative Extension / OC Water Quality &
Water Resources
www.ucanr.org/sites/urbanwatermgmt/



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Help Prevent Ocean Pollution:

Tips to Prevent Overwatering

The Ocean Begins at
Your Front Door



Tips to Prevent Overwatering

What is Overwatering?

Overwatering is the use of irrigation in exceedance of the water demand of a landscaped area.

In Orange County, 60-70% of water used by residents and businesses goes to irrigation and other outdoor uses. By utilizing water resources more efficiently, more potable water may be available for other uses and will not cause urban runoff.



How Does Overwatering Lead to Pollution?

Even during the hottest summer months, you can often see water runoff going into our storm drains and into our waterways. This runoff is usually the result of overwatering of lawns. The water carries trash, motor oil, pet waste and other pollutants into our storm drains, which flow untreated to the ocean. Water runoff both pollutes our waterways and wastes water.

IT'S THE LAW! If you live in Southern Orange County, runoff from landscape irrigation that enters the street and catch basins is prohibited. Please contact your city for more information about what you can do to prevent overwatering and urban runoff.

Lawn Watering Needs

- During the fall and winter months, your lawn needs far less water than during the summer. Adjust sprinkler controls to water less during winter months.
- If your blades of grass spring up after you step on them, they are adequately watered.
- If your grass is a vibrant green and is not pale, it is receiving enough water. If your lawn becomes less verdant, it may need nutrients and not water. If possible, seek assistance from a gardening professional.
- Overwatering during fall and winter months can saturate soils and lead to lawn disease.

When is the Best Time to Water?

- Watering early in the morning before sunrise will reduce water loss due to evaporation.
- Wind tends to die down in the early morning, so the water will get to the lawn as intended.

How do I Irrigate Most Efficiently?

- Adjust the direction of your sprinkler heads so water does not spray on sidewalks, driveways or roads. By simply adjusting the direction of your sprinklers you can save water, prevent water pollution from runoff and keep your lawn healthy.
- Use an irrigation timer to minimize runoff and maximize water absorption. Water districts often provide irrigation schedules to determine the best water scheme for your yard (e.g. Irvine Ranch Water District Always Water Smart weekly irrigation schedules).
- Consider using smart irrigation controllers. Smart irrigation controllers have internal clocks as well as sensors that will turn off the sprinklers in response to environmental changes. If it is raining, too windy or too cold, the smart irrigation control sprinklers will automatically shut off.
- Consider replacing your sprinkler heads with rotating sprinkler nozzles. Rotating nozzles water more uniformly and efficiently, reducing your outdoor water use by up to 30%.
- Check with your local water agency for available rebates on irrigation controllers and other water efficient devices.
- Water by hand. Instead of using sprinklers, consider watering your yard by hand. Hand-watering ensures that all plants get the proper amount of water and you will prevent any water runoff, which carries pollutants into our waterways and wastes water.
- Fix leaks. Nationwide, households waste one trillion gallons of water a year to leaks. If your



garden hose is leaking, replace the nylon or rubber hose washer and ensure a tight connection. Fix broken sprinklers immediately.

Be Careful With Pesticides and Fertilizer

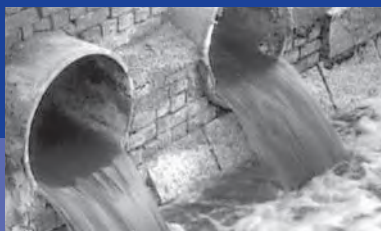
- Never apply pesticides or fertilizer when rain is predicted within the next 48 hours.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed rather than blanketing an entire area.
- Utilize least toxic alternatives to pesticides to manage lawn and garden pests where possible. Pesticides are transported via runoff to waterways and can be harmful to aquatic organisms. Visit www.ipm.ucdavis.edu for more information about pest management practices.



Native Vegetation and Maintenance

- "California Friendly" plants or native vegetation can significantly reduce water use. These plants often require far less fertilizers and pesticides, which are two significant pollutants found in Orange County waterways. Replacing water "thirsty" plants and grass types with water efficient natives is a great way to save water and reduce the need for potentially harmful pesticides and fertilizer.
- Please see the California Friendly Garden Guide produced by the Metropolitan Water District of Southern California and associated Southern California Water Agencies for a catalog of California friendly plants and other garden resources at www.bewaterwise.com/Gardensoft.





Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as pest control can lead to water pollution if you're not careful. Pesticide treatments must be planned and applied properly to ensure that pesticides do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pesticides into the ocean, so don't let it enter the storm drains. Pesticides can cause significant damage to our environment if used improperly. If you are thinking of using a pesticide to control a pest, there are some important things to consider.

For more information,
please call
University of California Cooperative
Extension Master Gardeners at
(714) 708-1646
or visit these Web sites:
www.uccemg.org
www.ipm.ucdavis.edu

For instructions on collecting a specimen
sample visit the Orange County
Agriculture Commissioner's website at:
http://www.ocagcomm.com/ser_lab.asp

To report a spill, call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
at 1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

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Help Prevent Ocean Pollution:

Responsible Pest Control

The Ocean Begins
at Your Front Door



Tips for Pest Control

Key Steps to Follow:

Step 1: Correctly identify the pest (insect, weed, rodent, or disease) and verify that it is actually causing the problem.



This is important because beneficial insects are often mistaken for pests and sprayed with pesticides needlessly.

Consult with a Certified Nursery

Professional at a local nursery or garden center or send a sample of the pest to the Orange County Agricultural Commissioner's Office.

Determine if the pest is still present – even though you see damage, the pest may have left.

Step 2: Determine how many pests are present and causing damage.



Small pest populations may be controlled more safely using non-pesticide techniques. These include removing food sources, washing off leaves with a strong stream of water, blocking entry into the home using caulking and replacing problem plants with ones less susceptible to pests.

Integrated Pest Management (IPM) usually combines several least toxic pest control methods for long-term prevention and management of pest problems without harming you, your family, or the environment.



Step 3: If a pesticide must be used, choose the least toxic chemical.

Obtain information on the least toxic pesticides that are effective at controlling the target pest from the UC Statewide Integrated Pest Management (IPM) Program's Web site at www.ipm.ucdavis.edu.

Seek out the assistance of a Certified Nursery Professional at a local nursery or garden center when selecting a pesticide. Purchase the smallest amount of pesticide available.

Apply the pesticide to the pest during its most vulnerable life stage. This information can be found on the pesticide label.

Step 4: Wear appropriate protective clothing.

Follow pesticide labels regarding specific types of protective equipment you should wear. Protective clothing should always be washed separately from other clothing.

Step 5: Continuously monitor external conditions when applying pesticides such as weather, irrigation, and the presence of children and animals.

Never apply pesticides when rain is predicted within the next 48 hours. Also, do not water after applying pesticides unless the directions say it is necessary.

Apply pesticides when the air is still; breezy conditions may cause the spray or dust to drift away from your targeted area.

In case of an emergency call 911 and/or the regional poison control number at (714) 634-5988 or (800) 544-4404 (CA only).

For general questions you may also visit www.calpoison.org.

Step 6: In the event of accidental spills, sweep up or use an absorbent agent to remove any excess pesticides. Avoid the use of water.

Be prepared. Have a broom, dust pan, or dry absorbent material, such as cat litter, newspapers or paper towels, ready to assist in cleaning up spills.

Contain and clean up the spill right away. Place contaminated materials in a doubled plastic bag. All materials used to clean up the spill should be properly disposed of according to your local Household Hazardous Waste Disposal site.

Step 7: Properly store and dispose of unused pesticides.

Purchase Ready-To-Use (RTU) products to avoid storing large concentrated quantities of pesticides.



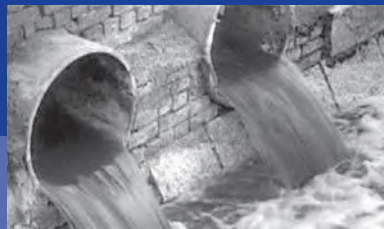
Store unused chemicals in a locked cabinet.

Unused pesticide chemicals may be disposed of at a Household Hazardous Waste Collection Center.

Empty pesticide containers should be triple rinsed prior to disposing of them in the trash.

Household Hazardous Waste
Collection Center
(714) 834-6752
www.oclandfills.com





Clean 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. Pet waste and pet care products can be washed into the storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never put pet waste or pet care 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 **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
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1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

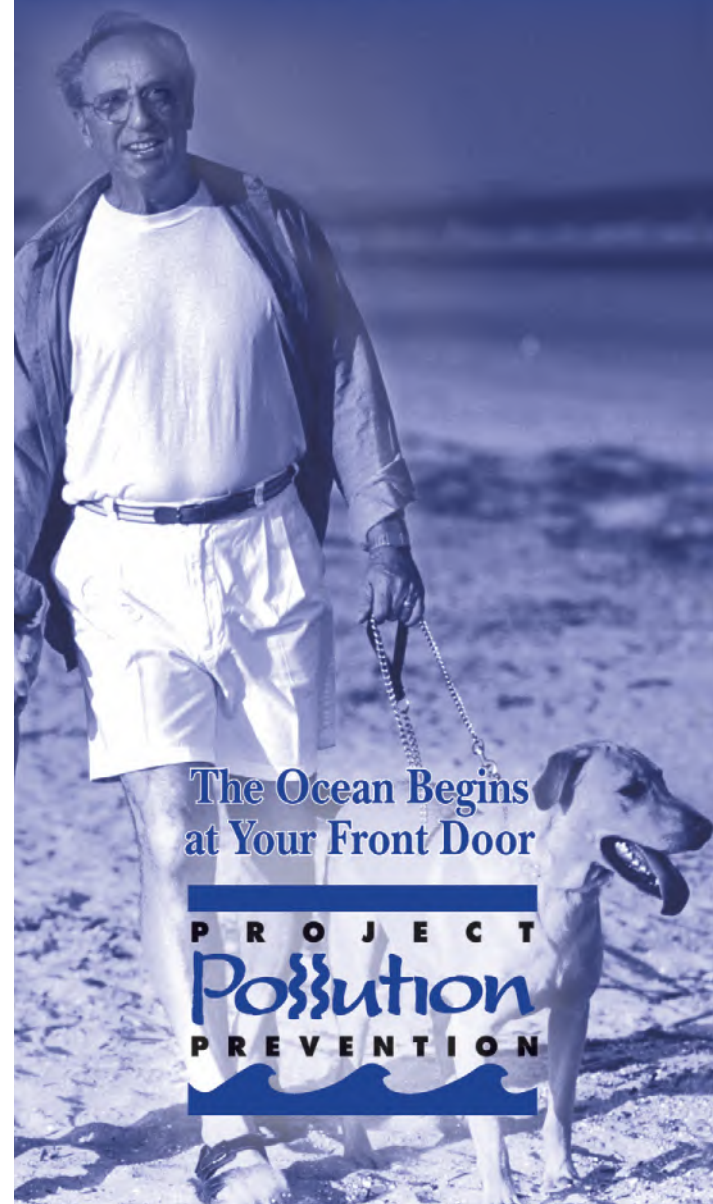
The tips contained in this brochure provide useful information to help prevent water pollution while caring for your pet. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



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Help Prevent Ocean Pollution:

Tips for Pet Care



The Ocean Begins
at Your Front Door



Tips for Pet Care

Never let any pet care products or washwater run off your yard and into the street, gutter or storm drain.

Washing Your Pets

Even biodegradable soaps and shampoos can be harmful to marine life and the environment.

- If possible, bathe your pets indoors using less-toxic shampoos or have your pet professionally groomed. Follow instructions on the products and clean up spills.
- If you bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from running into the street, gutter or storm drain.



Flea Control

- Consider using oral or topical flea control products.
- If you use flea control products such as shampoos, sprays or collars, make sure to dispose of any unused products at a Household Hazardous Waste Collection Center. For location information, call (714) 834-6752.



Why You Should Pick Up After Your Pet

It's the law!
Every city has an ordinance requiring you to pick up after your pet. Besides being a nuisance, pet



waste can lead to water pollution, even if you live inland. During rainfall, pet waste left outdoors can wash into storm drains. This waste flows directly into our waterways and the ocean where it can harm human health, marine life and the environment.

As it decomposes, pet waste demands a high level of oxygen from water. This decomposition can contribute to killing marine life by reducing the amount of dissolved oxygen available to them.



Have fun with your pets, but please be a responsible pet owner by taking care of them and the environment.

- Take a bag with you on walks to pick up after your pet.
- Dispose of the waste in the trash or in a toilet.



For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
**Orange County 24-Hour
Water Pollution Problem
Reporting Hotline**
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.



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Help Prevent Ocean Pollution:

Tips for Residential Pool, Landscape and Hardscape Drains



The Ocean Begins
at Your Front Door



Tips for Residential Pool, Landscape and Hardscape Drains

Pool Maintenance

All pool water discharged to the curb, gutter or permitted pool drain from your property must meet the following water quality criteria:

- 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.
- There is no discharge of filter media or acid cleaning wastes.



Some cities have ordinances that do not allow pool water to be discharged to the storm drain. Check with your city.

Landscape and Hardscape Drains

The following recommendations will help reduce or prevent pollutants from your landscape and hardscape drains from entering the street, gutter or storm drain. Unlike water that enters the sewer (from sinks and toilets), water that enters a landscape or hardscape drain is not treated before entering our creeks, rivers, bays and ocean.

Household Activities

- Do not rinse spills of materials or chemicals to any drain.
- Use dry cleanup methods such as applying cat litter or another absorbent material, then sweep it up and dispose of it in the trash. If the material is hazardous, dispose of it at a Household Hazardous Waste Collection Center (HHWCC). For locations, call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveways, sidewalks or patios to your landscape or hardscape drain. Sweep up debris and dispose of it in the trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash.

- Do not store items such as cleaners, batteries, automotive fluids, paint products, TVs, or computer monitors uncovered outdoors. Take them to a HHWCC for disposal.

Yard Maintenance

- Do not overwater. Water by hand or set automated irrigation systems to reflect seasonal water needs.
- Follow directions on pesticides and fertilizers (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Cultivate your garden often to control weeds and reduce the need to use chemicals.



Vehicle Maintenance

- Never pour oil or antifreeze down your landscape or hardscape drain. Recycle these substances at a service station, a waste collection center or used oil recycling center. For locations, contact the Used Oil Program at 1-800-CLEANUP or visit www.CLEANUP.org.
- Whenever possible, take your vehicle to a commercial car wash.
- If you do wash your vehicle at home, do not allow the washwater to go down your landscape or hardscape drain. Instead, dispose of it in the sanitary sewer (a sink or toilet) or onto an absorbent surface such as your lawn.
- Use a spray nozzle that will shut off the water when not in use.

