

# Appendix G

---

Preliminary Water Quality Management Plan



**WQ XX-XXXX**

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

**Project Name:**

**2514, 2534 Westminster Ave  
2514, 2534 Westminster Avenue  
Santa Ana, CA 92706**

**Prepared for:**

**Community Development Partners  
3416 Via Oporto Suite 301  
Newport Beach, CA 92663  
949-467-1344**

**Prepared by:**

**Ware Malcomb  
10 Edelman  
Irvine, CA 92618  
(949) 660-9128**

**Date Prepared: 08/03/2020**



<b>Project Owner's Certification</b>			
Planning Application No. (If applicable)	TBD	Grading Permit No.	TBD
Tract/Parcel Map and Lot(s) No.	TBD	Building Permit No.	TBD
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			2514, 2534 Westminster Ave Santa Ana, CA 92706 198-132-23, 198-132-218

This Water Quality Management Plan (WQMP) has been prepared for Community Development Partners by Ware Malcomb. 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.

<b>Owner: Kyle Paine</b>			
Title	President		
Company	Community Development Partners		
Address	3416 Via Oporto, Suite 301 Newport Beach, CA 92663		
Email	<a href="mailto:kyle@communitydevepartners.com">kyle@communitydevepartners.com</a>		
Telephone #	949-467-1344		
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)**  
 2514, 2534 Westminster Avenue

<b>Preparer (Engineer):</b>			
Title	Director, Civil Engineering	PE Registration #	72588
Company	Ware Malcomb		
Address	10 Edelman Irvine, CA 92618		
Email	lcorsbie@waremalcomb.com		
Telephone #	949.660.9128		
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	08/03/20
Place Stamp Here			

## Contents

Page No.

<b>Section I</b>	<b>Permit(s) and Water Quality Conditions of Approval or Issuance .....</b>	<b>1</b>
<b>Section II</b>	<b>Project Description.....</b>	<b>3</b>
<b>Section III</b>	<b>Site Description .....</b>	<b>8</b>
<b>Section IV</b>	<b>Best Management Practices (BMPs).....</b>	<b>10</b>
<b>Section V</b>	<b>Inspection/Maintenance Responsibility for BMPs.....</b>	<b>24</b>
<b>Section VI</b>	<b>BMP Exhibit (Site Plan) .....</b>	<b>25</b>
<b>Section VII</b>	<b>Educational Materials .....</b>	<b>26</b>

## Attachments

<b>Attachment A .</b> .....	<b>Educational Materials</b>
<b>Attachment B .</b> .....	<b>Reference Maps</b>
<b>Attachment C .</b> .....	<b>BMP Fact Sheets</b>
<b>Attachment D .</b> .....	<b>Calculations</b>
<b>Attachment E .</b> .....	<b>Operations &amp; Maintenance</b>
<b>Attachment F .</b> .....	<b>Soil Report</b>

## **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).

<b>Project Information</b>			
Permit/Application No. (If applicable)	N/A	Grading or Building Permit No. (If applicable)	N/A
Address of Project Site (or Tract Map and Lot Number if no address) and APN	2514, 2534 Westminster Avenue, Santa Ana, CA 92706 APN: 198-132-23, 198-132-21		
<b>Water Quality Conditions of Approval or Issuance</b>			
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	<p>NPDES Stormwater Permit No. T.B.D. Order No. T.B.D., Amended by Order T.B.D.</p> <p>The project is considered to be a significant redevelopment project, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site.</p> <p>Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect health and safety.</p> <p>The project redevelopment results in the addition or replacement of xx,xxx square feet of impervious area, which accounts for the greater than 50 percent of the impervious area on-site. The numeric sizing criteria applies to the entire development.</p>		
<b>Conceptual WQMP</b>			

Was a Conceptual Water Quality Management Plan previously approved for this project?	N/A
<b>Watershed-Based Plan Conditions</b>	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	Santa Ana WIHMP indicates the project is located outside of potential Areas of Erosion, Habitat & Physical Structure Susceptibility. <b>Applicable Santa Ana Reach 1 TMDLs: Fecal Coliform</b>

## Section II Project Description

### II.1 Project Description

Provide a detailed project description including:

- Project areas;
- Land uses;
- Land cover;
- Design elements;
- A general description not broken down by drainage management areas (DMAs).

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):	The project is considered to be a significant redevelopment where the project results in the addition or replacement of xx,xxx square feet of impervious area, which accounts for greater than 50% of the impervious area on-site. The numeric sizing criteria applies to the entire development.			
Project Area (ft <sup>2</sup> ): 89,267	Number of Dwelling Units: <u>  0  </u>		SIC Code: <u>          </u>	
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	39,070	44%	50,612	56%
Post-Project Conditions	12,101	13%	77,581	87%
Drainage Patterns/Connections	<p><b>Existing Drainage Patterns:</b></p> <p>The existing runoff generally drains from southeast to northwest with multiple high points and ridges. The existing runoff drains offsite to the public storm drain system on Westminster Avenue and Huron Dr, ultimately going to a public catch basin on Westminster Avenue to the west of the site.</p> <p><b>Proposed Drainage Patterns:</b></p>			



In the proposed condition, the existing drainage pattern will mostly be maintained. The runoff will be conveyed via proposed valley gutters to an inlet onsite and into a proposed ADS StormTech chamber to the north. The larger storm events will be conveyed via 18" RCP pipe to the existing 42" RCP on Westminster Avenue.

<p>Narrative Project Description: (Use as much space as necessary.)</p>	<p>The project is comprised of the construction of seven new affordable housing buildings, associated paving for drive aisle, sidewalk, trash enclosures, and landscaping into an existing parking lot. The existing paving will be demolished. There are existing buildings to remain beyond the property to the southwest.</p> <p>The proposed BMP for the project will be the ADS StormTech unit to the north. Runoff will either be infiltrated for treatment or bypass the system and be conveyed via 18" RCP to the 42" RCP storm drain main on Westminster avenue.</p>
---	---

## 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:		Additional Information and Comments
	E=Expected to be of concern	N=Not Expected to be of concern	
Suspended-Solid/ Sediment	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Nutrients	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Heavy Metals	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Pathogens (Bacteria/Virus)	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Pesticides	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Oil and Grease	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Toxic Organic Compounds	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Trash and Debris	E <input checked="" type="checkbox"/>	N <input type="checkbox"/>	

### **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).*

This project is located in an area with no susceptibilities per Orange County Watershed Master Planning Susceptibility Analysis for the Santa Ana River.

#### **II.4 Post Development Drainage Characteristics**

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

The project will divert runoff flow to a proposed BMP via storm drain and sheet flows for treatment before leaving the project site through the public curb and gutter.

Receiving Water Bodies:

- Santa Ana River Reach 1

## **II.5 Property Ownership/Management**

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

Community Development Partners will be the owners and a management company will be handling ongoing operations and maintenance.

## **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)	City of Santa Ana
Location/Address	2514 Westminster Ave
	Santa Ana, CA 92706
General Plan Land Use Designation	Currently developed. Project will demolish existing parking lot to build seven new affordable housing buildings.
Zoning	C2 - General Commercial
Acreage of Project Site	2.05 acres
Predominant Soil Type	Hydrological Soil Type B

### **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).*

<b>Site Characteristics</b>	
Precipitation Zone	0.8"
Topography	The existing project site exhibits an average grade of about 1% sloping northwesterly. The approximate maximum elevation difference across the site is 2.7'.

Drainage Patterns/Connections	The project will have one drainage area that will have one ADS StormTech as an underground infiltration BMP. The BMP will receive water via sheet flow piping prior to treatment. Flows beyond the DCV will bypass the private storm drain system and will ultimately discharge to the public storm drain system on Westminster Ave.
Soil Type, Geology, and Infiltration Properties	Hydrologic Soil Type B. This soil group has moderate infiltration when thoroughly wetted. An assumed infiltration rate will be used for preliminary calculations and will be verified with a percolation test prior to final design.
Hydrogeologic (Groundwater) Conditions	20'
Geotechnical Conditions (relevant to infiltration)	Pending geotechnical study.
Off-Site Drainage	No offsite drainage.
Utility and Infrastructure Information	No private storm drain on site.

### 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	Santa Ana Reach 1
303(d) Listed Impairments	None Listed
Applicable TMDLs	Fecal Coliform
Pollutants of Concern for the Project	Suspended Solids, Nutrients, Metals, Pathogens, Pesticides, Oil & Grease, Toxics, Trash & Debris



Environmentally Sensitive and Special Biological Significant Areas	The project is not located within or adjacent to an ESA and does not discharge directly to an ESA.
--	---

## 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 <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.	Not applicable.		

<b>Project Performance Criteria</b>	
<p>If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)</p>	<p>N/A</p>
<p>List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)</p>	<p>Infiltrate, harvest and use, evapotranspire, or biofilter, the 85<sup>th</sup> percentile, 24-hour storm event (Design Capture Volume, or “DCV”). LID BMPs must be designed to retain, on-site, (infiltrate, harvest and use, or evapotranspire) storm water runoff up to 80 percent average annual capture efficiency.</p> <p>A properly designed biofiltration 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 biofiltration may be provided for the remaining design capture volume.</p>
<p>List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)</p>	<p>If LID performance criteria have not been met through retention and biofiltration on-site or in a regional LIDBMP (per criteria in Section 7.II3.5), the Project shall participate in the LID Waiver Program (see Section 7.II-3.1) and treatment control BMP(s) shall be based on either:</p> <ul style="list-style-type: none"> <li>• The unmet volume as calculated in TGD Appendix VI. Treatment control sizing, or</li> <li>• If no controls have been provided upstream of treatment control BMPs, permit based sizing criteria may be used:</li> <li>• Capture and infiltrate, filter, or treat 80 percent of average annual runoff volume, OR</li> <li>• Capture and infiltrate, filter, or treat the runoff from the 24-hour, 85<sup>th</sup> percentile storm event, as determined from the County of Orange’s 85<sup>th</sup> Percentile Precipitation Isopluvial Map and draw down the stored volume in no more than 48 hours following the end of precipitation, OR</li> <li>• Treat the maximum flow rate of runoff produced by the 85<sup>th</sup> percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two,</li> </ul>

	<p>OR</p> <ul style="list-style-type: none"> <li>The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event.</li> </ul>
<p>Calculate LID design storm capture volume for Project.</p>	<p>DRAINAGE AREA 1</p> <p><math>C = 0.75 \times 0.865 + 0.15 = 0.737</math></p> <p><math>D = 0.8</math></p> <p><math>A = 2.049</math></p> <p><math>DCV = 0.737 \times 0.8 \times 2.049 \times 43560 \text{ SF/AC} \times 1/12 \text{ IN/FT} = 4,386 \text{ CU-FT}</math></p> <p>VOLUME:</p> <p>DESIGN CAPTURE VOLUME = 4,386 CU-FT</p> <p>PER CAPTURE EFFICIENCY METHOD FOR VOLUME-BASED BMPS</p> <p>PROPOSED ADS STORMTECH VOLUME = 5,022 CF</p> <p>Proposed ADS StormTech chamber is located at 33°45'34.93"N, 117°54'14.05"W.</p>

## 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).*

The site is designed with minimum widths for all impervious surfaces, such as sidewalks, drive aisles, and driveways. The landscape area is maximized wherever possible. The site is composed of one drainage area, DMA 1. The site runoff is conveyed to a catch basin at the middle (southwest) of the site. The first flush runoff is then piped to an ADS StormTech chamber for infiltration. Runoff from larger storm events will be piped via 18" RCP to the existing 42" RCP storm drain on Westminster Avenue.

DRAINAGE AREA 1

$$C = 0.75 \times 0.865 + 0.15 = 0.737$$

$$D = 0.8$$

$$A = 2.049$$

$$DCV = 0.737 \times 0.8 \times 2.049 \times 43560 \text{ SF/AC} \times 1/12 \text{ IN/FT} = 4,386 \text{ CU-FT}$$

VOLUME:

$$\text{DESIGN CAPTURE VOLUME} = 4,386 \text{ CU-FT}$$

PER CAPTURE EFFICIENCY METHOD FOR VOLUME-BASED BMPS

$$\text{PROPOSED ADS STORMTECH VOLUME} = 5,022 \text{ CF}$$

Proposed ADS StormTech chamber is located at 33°45'34.93"N, 117°54'14.05"W.

### **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.

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

### IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	<input type="checkbox"/>
Rain gardens	<input type="checkbox"/>
Porous landscaping	<input type="checkbox"/>
Infiltration planters	<input type="checkbox"/>
Retention swales	<input type="checkbox"/>
Infiltration trenches	<input type="checkbox"/>
Infiltration basins	<input type="checkbox"/>
Drywells	<input type="checkbox"/>
Subsurface infiltration galleries	<input type="checkbox"/>
French drains	<input type="checkbox"/>
Permeable asphalt	<input type="checkbox"/>
Permeable concrete	<input type="checkbox"/>
Permeable concrete pavers	<input type="checkbox"/>
Other: ADS StormTech chamber	<input checked="" type="checkbox"/>
Other:	<input type="checkbox"/>

DMA 1

$C = 0.75 \times 0.865 + 0.15 = 0.799$

$D = 0.8$

$A = 2.059$

$DCV = 0.799 \times 0.8 \times 2.059 \times 43560 \text{ SF/AC} \times \frac{1}{12} \text{ IN/FT} = 4,776 \text{ CU-FT}$

VOLUME:

DESIGN CAPTURE VOLUME = 4,776 CU-FT

PER CAPTURE EFFICIENCY METHOD FOR VOLUME-BASED BMPS

PROPOSED ADS STORMTECH VOLUME = 5,022 CF

Proposed ADS StormTech chamber is located at 33°45'34.93"N, 117°54'14.05"W.

**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>	<input type="checkbox"/>
Surface-based infiltration BMPs	<input type="checkbox"/>
Biotreatment BMPs	<input type="checkbox"/>
Above-ground cisterns and basins	<input type="checkbox"/>
Underground detention	<input type="checkbox"/>
Other:	<input type="checkbox"/>
Other:	<input type="checkbox"/>
Other:	<input type="checkbox"/>



Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with evapotranspiration and/or rainwater harvesting BMPs in combination with infiltration BMPs. If not, document below how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

N/A
-----

**IV.3.4 Biotreatment BMPs**

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs included. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	<input type="checkbox"/>
Stormwater planter boxes with underdrains	<input type="checkbox"/>
Rain gardens with underdrains	<input type="checkbox"/>
Constructed wetlands	<input type="checkbox"/>
Vegetated swales	<input type="checkbox"/>
Vegetated filter strips	<input type="checkbox"/>
Proprietary vegetated biotreatment systems	<input type="checkbox"/>
Wet extended detention basin	<input type="checkbox"/>
Dry extended detention basins	<input type="checkbox"/>
Other:	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. If not, document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

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
N/A	N/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	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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N2	Activity Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N3	Common Area Landscape Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N4	BMP Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N5	Title 22 CCR Compliance (How development will comply)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N6	Local Industrial Permit Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None known.
N7	Spill Contingency Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a project part.
N8	Underground Storage Tank Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No USTs proposed.
N9	Hazardous Materials Disclosure Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N10	Uniform Fire Code Implementation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N11	Common Area Litter Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N12	Employee Training	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N13	Housekeeping of Loading Docks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No loading docks proposed.
N14	Common Area Catch Basin Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N15	Street Sweeping Private Streets and Parking Lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N16	Retail Gasoline Outlets	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No RGOs proposed.

### 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.

<b>Structural Source Control BMPs</b>				
<b>Identifier</b>	<b>Name</b>	<b>Check One</b>		<b>If not applicable, state brief reason</b>
		<b>Included</b>	<b>Not Applicable</b>	
S1	Provide storm drain system stenciling and signage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No outdoor material storage areas.
S3	Design and construct trash and waste storage areas to reduce pollution introduction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S5	Protect slopes and channels and provide energy dissipation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No slopes or channels proposed.
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No requirements apply to project.
S6	Dock areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No dock areas proposed.
S7	Maintenance bays	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No maintenance bays proposed.
S8	Vehicle wash areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No vehicle wash areas proposed.
S9	Outdoor processing areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No outdoor processing areas proposed.
S10	Equipment wash areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No equipment wash areas proposed.
S11	Fueling areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No fueling areas proposed.
S12	Hillside landscaping	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No hillside landscaping proposed.
S13	Wash water control for food preparation areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No food prep areas proposed.
S14	Community car wash racks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No community car wash racks proposed.

#### **IV.4 Alternative Compliance Plan (If Applicable)**

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 WQMP.*

##### **IV.4.1 Water Quality Credits**

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the Technical Guidance Document (TGD) for calculation methods for applying water quality credits.*

<b>Description of Proposed Project</b>				
<b>Project Types that Qualify for Water Quality Credits (Select all that apply):</b>				
<input type="checkbox"/> Redevelopment projects that reduce the overall impervious footprint of the project site.	<input type="checkbox"/> 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.	<input type="checkbox"/> 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).		
<input type="checkbox"/> 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).	<input type="checkbox"/> 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		<input type="checkbox"/> 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).	
<input type="checkbox"/> Developments with dedication of undeveloped portions to parks, preservation areas and other previous uses.	<input type="checkbox"/> Developments in a city center area.	<input type="checkbox"/> Developments in historic districts or historic preservation areas.	<input type="checkbox"/> 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.	<input type="checkbox"/> 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)	Not applicable.
---	-----------------

#### 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.

<b>BMP Inspection/Maintenance</b>			
<b>BMP</b>	<b>Reponsible Party(s)</b>	<b>Inspection/Maintenance Activities Required</b>	<b>Minimum Frequency of Activities</b>
Education for Property Owners, Tenants. & Occupants (N1)	Owner	Provide practical information materials on general good housekeeping practices that contribute to protection of stormwater quality to third party management company and tenants	Annually
Activity Restrictions (N2)	Owner	Review restricted and prohibited activities with owners and third party management company	Annually
Common Area Landscape Management (N3)	Owner	Owner to provide for maintenance of landscaping to meet current water efficiency	Regular maintenance once a week and monthly to determine deficiencies

**Priority Project Water Quality Management Plan (WQMP)**  
 2514, 2534 Westminster Avenue

BMP Maintenance (N4)	Owner	Owner to provide for maintenance of BMPs per requirements of the WQMP and O&M Manual in Attachment A.	Regular maintenance once a week and monthly to determine deficiencies
Common Area Litter Control (N11)	Owner	Litter patrol may be included with landscaping maintenance or with waste disposal services	Regular maintenance once a week or as needed
Employee Training/Education Program (N12)	Owner	Conduct training sessions on stormwater quality	Annually and/or Within 30 days of employee start date
Common Area Catch Basin Inspection (N14)	Owner	Inspect, clean, and maintain area drains, ribbon gutters, curb & gutters, swales, and other drainage systems	Annually and prior to October 1 <sup>st</sup> .
Street Sweeping Private Streets & Parking Lots (N15)	Owner	Owner to provide for maintenance of private streets and parking lots	Regular street sweeping once a month
Efficient Irrigation (S4)	Owner	Owner to provide for inspection of irrigation systems and corrections for any problems as necessary	Quarterly and as necessary

## **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.



## Section VII Educational Materials

Refer to the Orange County Stormwater Program ([ocwatersheds.com](http://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.

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

# Attachment “A”

To be provided at final WQMP submittal.

# Attachment “B”

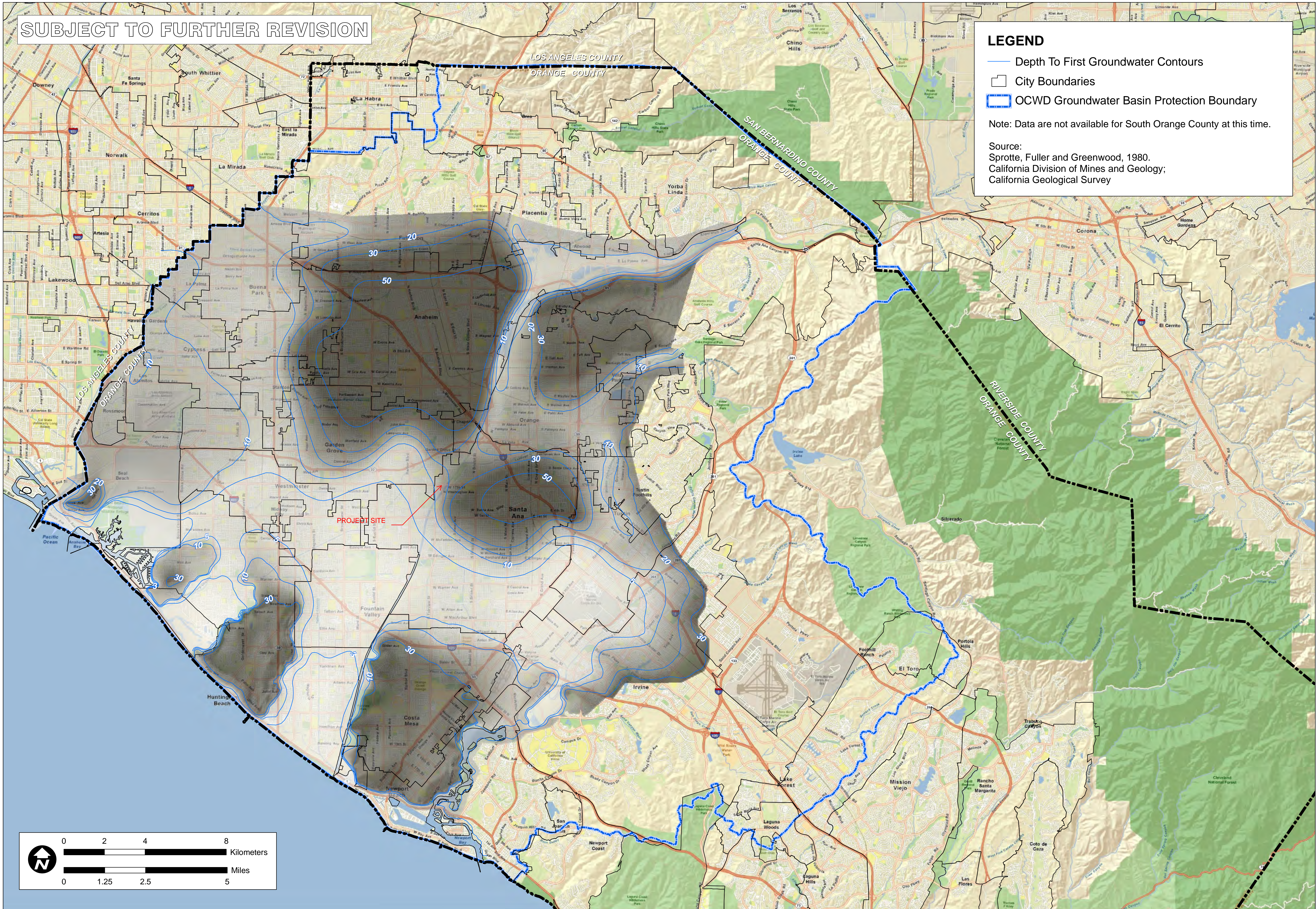
SUBJECT TO FURTHER REVISION

**LEGEND**

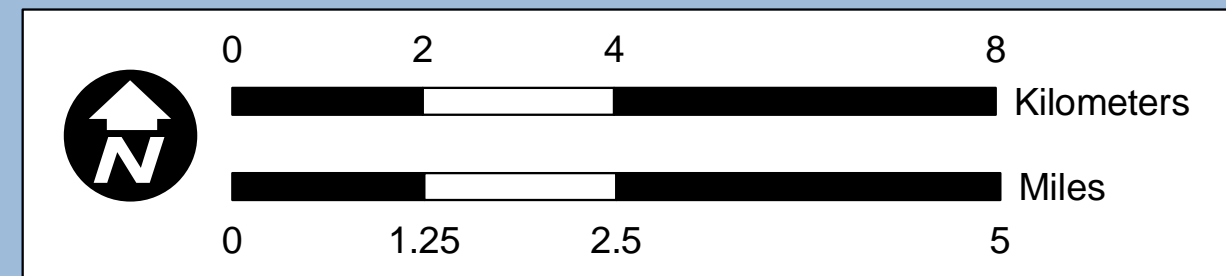
- Depth To First Groundwater Contours
- City Boundaries
- ▭ OCWD Groundwater Basin Protection Boundary

Note: Data are not available for South Orange County at this time.

Source:  
Sprotte, Fuller and Greenwood, 1980.  
California Division of Mines and Geology;  
California Geological Survey



P:\9526E\6-GIS\Mxd\Reports\Infiltration\Feasibility\_20110215\9526E\_FigureXVI-2d\_DepthToGroundwaterOverview\_20110215.mxd



**TITLE**  
NORTH ORANGE COUNTY  
MAPPED DEPTH TO FIRST  
GROUNDWATER

**JOB**  
ORANGE COUNTY  
INFILTRATION STUDY  
ORANGE CO. CA

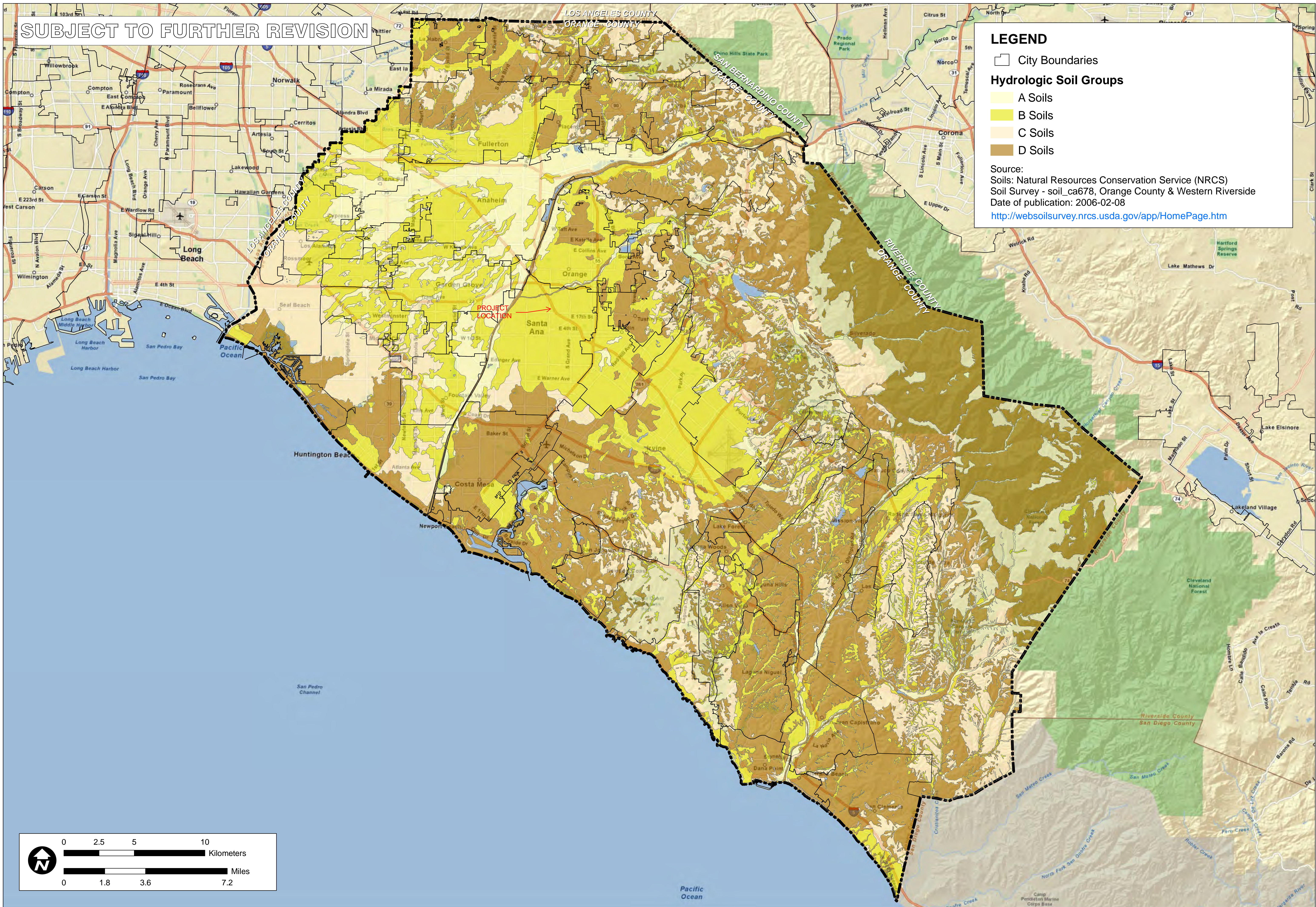
**SCALE**  
1" = 1.25 miles

DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

**FIGURE**  
XVI-2d



SUBJECT TO FURTHER REVISION



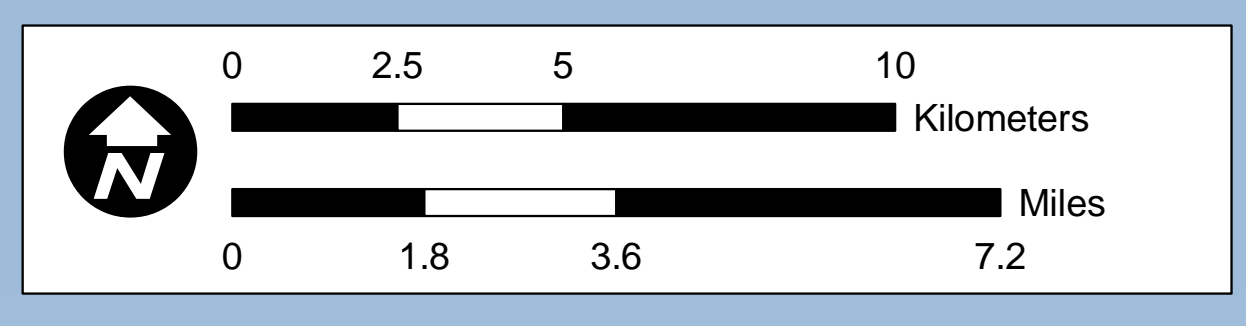
**LEGEND**

- City Boundaries

**Hydrologic Soil Groups**

- A Soils
- B Soils
- C Soils
- D Soils

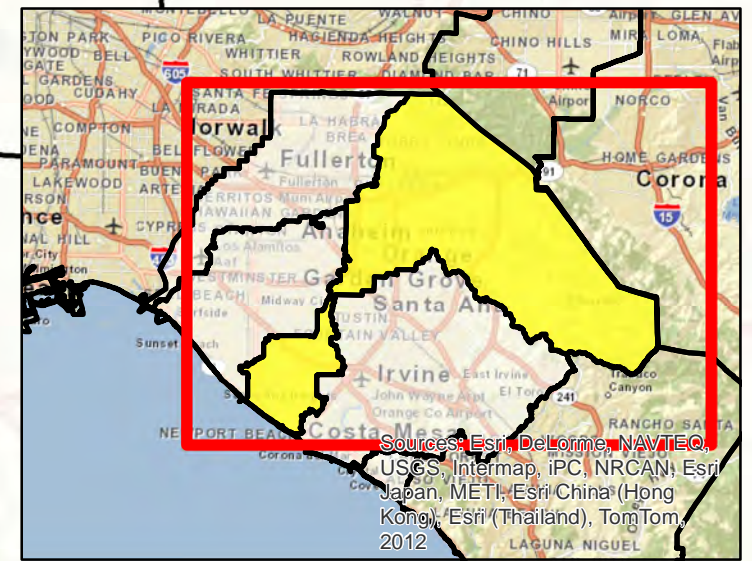
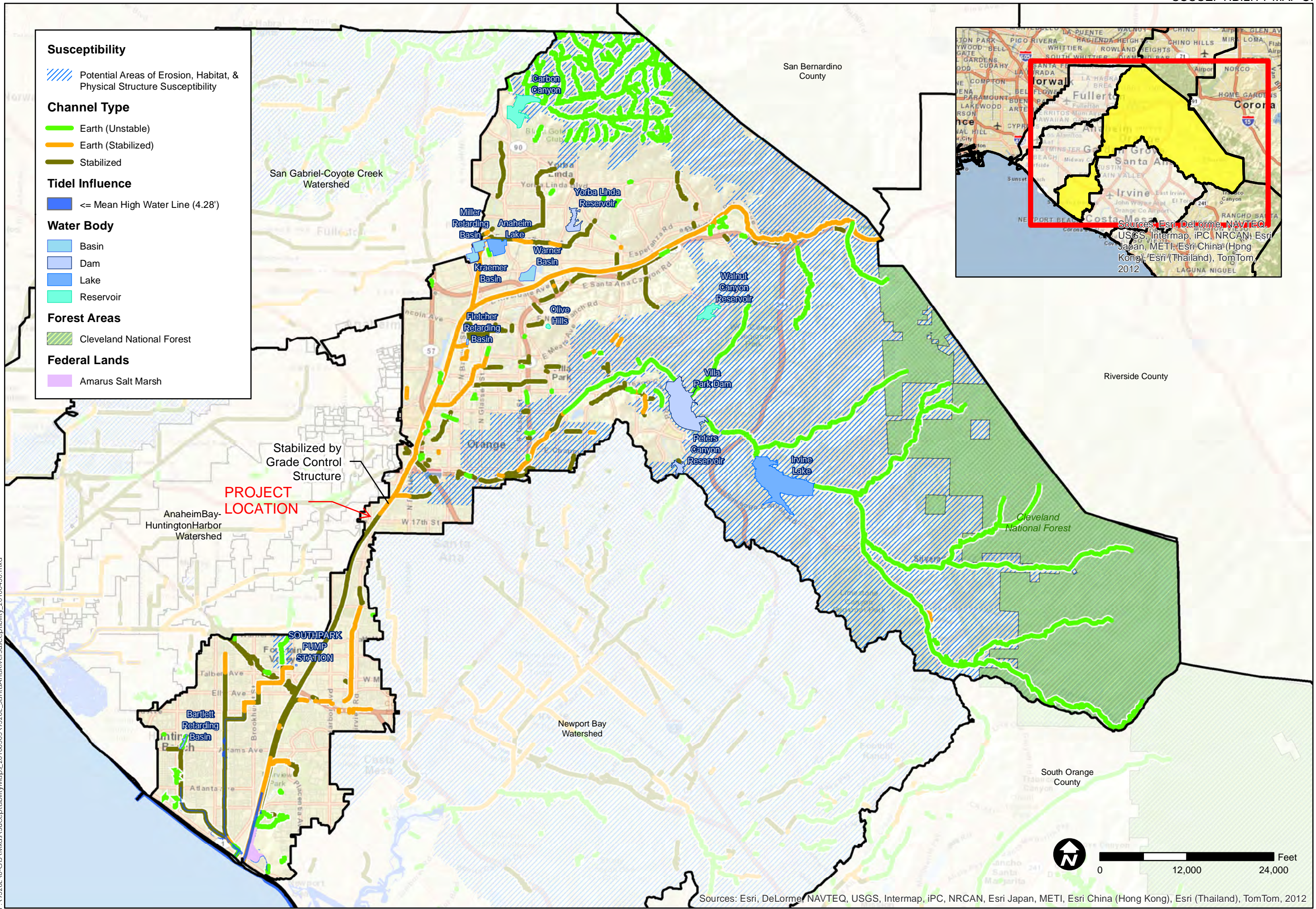
Source:  
 Soils: Natural Resources Conservation Service (NRCS)  
 Soil Survey - soil\_ca678, Orange County & Western Riverside  
 Date of publication: 2006-02-08  
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>



TITLE: NRCS HYDROLOGIC SOILS GROUPS  
 JOB: ORANGE COUNTY INFILTRATION STUDY  
 SCALE: 1" = 1.8 miles  
 DESIGNED: TH  
 DRAWING: TH  
 CHECKED: BMP  
 DATE: 02/09/11  
 JOB NO.: 9526-E  
 ORANGE CO. CA

FIGURE XVI-2a

P:\9526E\6-GIS\Mxd\Reports\InfiltrationFeasibility\_20110215\9526E\_FigureXVI-2a\_HydroSoils\_20110215.mxd



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012

**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

**Forest Areas**

- Cleveland National Forest

**Federal Lands**

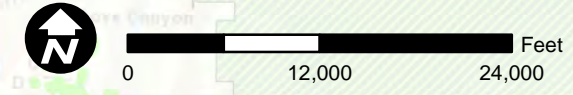
- Amarus Salt Marsh

SUSCEPTIBILITY ANALYSIS  
SANTA ANA RIVER

ORANGE COUNTY  
WATERSHED  
MASTER PLANNING

SCALE 1" = 12000'

DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/30/10
JOB NO.	9526 E



P:\9526E\6-GIS\MapDocs\Susceptibility\Maps\_20100505\9526E\_SantaAnaRiverSusceptibility\_20100430.mxd

# Attachment “C”

To be provided at final WQMP submittal.

# Attachment “D”

To be provided at final WQMP submittal.

# Attachment “E”

To be provided at final WQMP submittal.

# Attachment “F”

To be provided at final WQMP submittal.