

**Major Stormwater Management Plan  
for  
Rua Michelle T.P.M.**

**Preparation Date: September 12, 2011**

**Prepared for:  
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The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan have been prepared under the direction of the following Registered Civil Engineer and meet the requirements of the Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.

*Thomas H. Koerner*

Thomas H. Koerner, RCE 65317

9/2011 SDC DPLU RCVD 01-04-12

Date

**TPM21192**

The Major Stormwater Management Plan (Major SWMP) must be completed in its entirety and accompany applications to the County for a permit or approval associated with certain types of development projects. To determine whether your project is required to submit a Major or Minor SWMP, please reference the County's Stormwater Intake Form for Development Projects.

Project Name:	RUA MICHELLE TPM
Project Location:	25569 RUA MICHELLE, ESCONDIDO
Permit Number (Land Development Projects):	
Work Authorization Number (CIP only):	N/A
Applicant:	SCSS DEVELOPMENT, LLC
Applicant's Address:	12905 SEDGE COURT, SAN DIEGO 92129
Plan Prepared By (Leave blank if same as applicant):	CREW ENGINEERING & SURVEYING 5725 KEARNY VILLA RD., STE. D
Preparer's Address:	SAN DIEGO, CA 92123
Date:	9/2011

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9926) requires all applications for a permit or approval associated with a Land Disturbance Activity to be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority development project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

Project Stages	Does the SWMP need revisions?		If YES, Provide Revision Date	County Reviewer
	YES	NO		

Instructions for a Major SWMP can be downloaded at <http://www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html>

Completion of the following checklists and attachments will fulfill the requirements of a Major SWMP for the project listed above.

## STEP 1

### PRIORITY DEVELOPMENT PROJECT DETERMINATION

**TABLE 1: IS THE PROJECT IN ANY OF THESE CATEGORIES?**

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	A	Housing subdivisions of 10 or more dwelling units. Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	B	Commercial—greater than one acre. Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	C	Heavy industry—greater than one acre. Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	D	Automotive repair shops. A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	E	Restaurants. Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	F	Hillside development greater than 5,000 square feet. Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	G	Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	H	Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	I	Street, roads, highways, and freeways. Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	J	Retail Gasoline Outlets (RGOs) that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

To use the table, review each definition A through K. If any of the definitions match, the project is a Priority Development Project. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development. Please see special requirements for previously developed sites and project exemptions on page 6 of the County SUSMP.

## **STEP 2**

### **PROJECT STORMWATER QUALITY DETERMINATION**

Total Project Site Area 5.68 (Acres or ft<sup>2</sup>)

Estimated amount of disturbed area: 2.0 (Acres or ft<sup>2</sup>)

(If >1 acre, you must also provide a WDID number from the SWRCB) WDID: N/A

Complete A through C and the calculations below to determine the amount of impervious surface on your project before and after construction.

A. Total size of project site: 5.68 (Acres or ft<sup>2</sup>)

B. Total impervious area (including roof tops) before construction 0.16 (Acres or ft<sup>2</sup>)

C. Total impervious area (including roof tops) after construction 0.78 (Acres or ft<sup>2</sup>)

Calculate percent impervious before construction:  $B/A = \frac{0.16}{5.68} = \underline{0.03} \%$

Calculate percent impervious after construction:  $C/A = \frac{0.78}{5.68} = \underline{0.14} \%$

Please provide detailed descriptions regarding the following questions:

**TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS**

1.	Please provide a brief description of the project.
	THE PROJECT IS A LOT SPLIT APPLICATION FOR A 4-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION. THIS IS A LOT SALES PROJECT.
2.	Describe the current and proposed zoning and land use designation.
	THE CURRENT AND PROPOSED ZONING AND LAND USE DESIGNATIONS ARE RURAL RESIDENTIAL AND RESIDENTIAL NO. 1.
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)
	THE PRE AND POST-PROJECT TOPOGRAPHY IS MODERATELY SLOPED. THE W/LY 2/3'S SHEET FLOWS TO AN EX. DRAINAGE THAT FLOWS N/S ACROSS THE PROPERTY. THE E'LY 1/3 SHEET FLOWS TO THE EAST & SOUTH.
4.	Describe the soil classification, permeability, erodibility, and depth to groundwater for LID and Treatment BMP consideration. (Show on Plan) If infiltration BMPs are proposed, a Geotechnical Engineer must certify infiltration BMPs in Attachment E.
	THE PROJECT HAS HYDROLOGIC SOIL GROUP B, WITH MODERATE INFILTRATION RATE, PER THE S.D. CO. HYDROLOGY MANUAL. DEPTH TO GROUNDWATER IS 7' 16" BASED ON DEEP BORINGS DRILLED IN MARCH, 2005.
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)
	THERE IS NO EVIDENCE OF CONTAMINATED OR HAZARDOUS SOILS WITHIN THE PROJECT AREA.
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).
	SEE NO. 3
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.
	THE PROJECT LENDS ITSELF TO THE USE OF LID FEATURES BECAUSE OF THE LOT SIZES (1 AC. MIN.), AND A RELATIVELY SMALL PERCENTAGE OF THE SITE WILL BE DISTURBED.
8.	Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the <i>County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects</i> ?
	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
9.	Is this an emergency project? If yes, please provide a description below.
	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

## CHANNELS & DRAINAGES

Complete the following checklist to determine if the project includes work in channels.

**TABLE 3: CHANNEL & DRAINAGE ANALYSIS**

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project include work in channels?		✓		If YES go to 2 If NO go to 13.
2.	Will the project increase velocity or volume of downstream flow?				If YES go to 6.
3.	Will the project discharge to unlined channels?				If YES go to 6.
4.	Will the project increase potential sediment load of downstream flow?				If YES go to 6.
5.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?				If YES go to 8.
6.	Review channel lining materials and design for stream bank erosion.				Continue to 7.
7.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.				Continue to 8.
8.	Include, where appropriate, energy dissipation devices at culverts.				Continue to 9.
9.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.				Continue to 10.
10.	Include, if appropriate, detention facilities to reduce peak discharges.				Continue to 11.
11.	“Hardening“ natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.				Continue to 12.
12.	Provide other design principles that are comparable and equally effective.				Continue to 13.
13.	End				

### TEMPORARY CONSTRUCTION BMPS

Please check the construction BMPs that may be implemented during construction of the project. The applicant will be responsible for the placement and maintenance of the BMPs incorporated into the final project design.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Silt Fence   | <input type="checkbox"/> Desilting Basin                           |
| <input checked="" type="checkbox"/> Fiber Rolls  | <input checked="" type="checkbox"/> Gravel Bag Berm                |
| <input checked="" type="checkbox"/> Street Sweeping and Vacuuming  | <input checked="" type="checkbox"/> Sandbag Barrier                |
| <input type="checkbox"/> Storm Drain Inlet Protection  | <input checked="" type="checkbox"/> Material Delivery and Storage  |
| <input checked="" type="checkbox"/> Stockpile Management   | <input checked="" type="checkbox"/> Spill Prevention and Control   |
| <input checked="" type="checkbox"/> Solid Waste Management   | <input checked="" type="checkbox"/> Concrete Waste Management      |
| <input checked="" type="checkbox"/> Stabilized Construction Entrance/Exit  | <input checked="" type="checkbox"/> Water Conservation Practices   |
| <input type="checkbox"/> Dewatering Operations   | <input checked="" type="checkbox"/> Paving and Grinding Operations |
| <input checked="" type="checkbox"/> Vehicle and Equipment Maintenance  |  |
| <input checked="" type="checkbox"/> Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval. |  |

### EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

Complete the checklist below to determine if a proposed project will pose an “exceptional threat to water quality,” and therefore require Advanced Treatment Best Management Practices during the construction phase.

**TABLE 4: EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION**

No.	CRITERIA	YES	NO	INFORMATION
1.	Is all or part of the proposed project site within 200 feet of waters named on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity? Current 303d list may be obtained from the following site: <a href="http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtdmlds.pdf">http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtdmlds.pdf</a>		✓	If YES, continue to 2. If NO, go to 5.
2.	Will the project disturb more than 5 acres, including all phases of the development?		✓	If YES, continue to 3. If NO, go to 5.
3.	Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity?		✓	If YES, continue to 4. If NO, go to 5.
4.	Will the project disturb soils with a predominance of USDA-NRCS Erosion factors $k_f$ greater than or equal to 0.4?		✓	If YES, continue to 6. If NO, go to 5.
5.	Project is not required to use Advanced Treatment BMPs.	✓		Document for Project Files by referencing this checklist.
6.	Project poses an “exceptional threat to water quality” and is required to use Advanced Treatment BMPs.			Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria

**Exemption potentially available for projects that require advanced treatment:** Project proponent may perform a Revised Universal Soil Loss Equation, Version 2 (RUSLE 2), Modified Universal Soil Loss Equation (MUSLE), or similar analysis that demonstrates (to the County official’s satisfaction) that advanced treatment is not required.

## **STEP 3**

### **HYDROMODIFICATION DETERMINATION**

The following questions provide a guide to collecting information relevant to hydromodification management plan (HMP) issues. If the project is exempt from the HMP criteria, please provide the supporting documentation in Attachment H. Please reference the full descriptions of the HMP exemptions located in Figure 1-1 of the County SUSMP.

**TABLE 5: HYDROMODIFICATION DETERMINATION**

	QUESTIONS	YES	NO	Information
1.	Will the project reduce the pre-project impervious area and are the unmitigated post-project outflows (outflows without detention routing) to each outlet location less as compared to the pre-project condition?		✓	If NO, continue to 2. If YES, go to 7.
2.	Would the project site discharge runoff directly to an exempt receiving water, such as the Pacific Ocean, San Diego Bay, an exempt reservoir, or a tidally-influenced area?		✓	If NO, continue to 3. If YES, go to 7.
3.	Would the project site discharge to a stabilized conveyance system, which has the capacity for the ultimate $Q_{10}$ , and extends to the Pacific Ocean, San Diego Bay, a tidally-influenced area, an exempt river reach or reservoir?		✓	If NO, continue to 4. If YES, go to 7.
4.	Does the contributing watershed area to which the project discharges have an impervious area percentage greater than 70 percent?		✓	If NO, continue to 5. If YES, go to 7.
5.	Is this an urban infill project which discharges to an existing hardened or rehabilitated conveyance system that extends beyond the "domain of analysis," where the potential for cumulative impacts in the watershed are low, and the ultimate receiving channel has a "Low" susceptibility to erosion as defined in the SCCWRP channel assessment tool?		✓	If NO, continue to 6. If YES, go to 7.
6.	Project is required to manage hydromodification impacts.	✓		Reference Appendix G "Hydromodification Management Plan" of the County SUSMP.
7.	Project is not required to manage hydromodification impacts.			Hydromodification Exempt. Keep on file.

## STEP 4

### POLLUTANTS OF CONCERN DETERMINATION

#### WATERSHED

Please check the watershed(s) for the project.

<input type="checkbox"/> San Juan 901	<input type="checkbox"/> Santa Margarita 902	<input type="checkbox"/> San Luis Rey 903	<input checked="" type="checkbox"/> Carlsbad 904
<input type="checkbox"/> San Dieguito 905	<input type="checkbox"/> Penasquitos 906	<input type="checkbox"/> San Diego 907	<input type="checkbox"/> Sweetwater 909
<input type="checkbox"/> Otay 910	<input type="checkbox"/> Tijuana 911	<input type="checkbox"/> Whitewater 719*	<input type="checkbox"/> Clark 720*
<input type="checkbox"/> West Salton 721*	<input type="checkbox"/> Anza Borrego 722*	<input type="checkbox"/> Imperial 723*	

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml)

\*Projects located fully within these watersheds require only a Minor SWMP.

#### HYDROLOGIC SUB-AREA NAME AND BASIN NUMBER(S)

Basin Number	Sub-Area Name
904.62	ESCONDIDO

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml)

**SURFACE WATERS** that each project discharge point proposes to discharge to.

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs ]. List the impairments identified in Table 7.	Distance to Project
ESCONDIDO CREEK	904.62	N/A	4.5 MILES

[http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/docs/303dlists2006/epa/r9\\_06\\_303d\\_reqtmdl\\_s.pdf](http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdl_s.pdf)

#### GROUND WATERS

Ground Waters	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN	
				●	●	●											

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml)

+ Excepted from Municipal

● Existing Beneficial Use

○ Potential Beneficial Use

## PROJECT ANTICIPATED AND POTENTIAL POLLUTANTS

Using Table 6, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

**TABLE 6: ANTICIPATED AND POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE**

<i>PDP Categories</i>	<i>General Pollutant Categories</i>								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P <sup>(1)</sup>	P <sup>(2)</sup>	P	X
Commercial Development 1 acre or greater	P <sup>(1)</sup>	P <sup>(1)</sup>		P <sup>(2)</sup>	X	P <sup>(5)</sup>	X	P <sup>(3)</sup>	P <sup>(5)</sup>
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	X <sup>(4)(5)</sup>	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft <sup>2</sup>	X	X			X	X	X		X
Parking Lots	P <sup>(1)</sup>	P <sup>(1)</sup>	X		X	P <sup>(1)</sup>	X		P <sup>(1)</sup>
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P <sup>(1)</sup>	X	X <sup>(4)</sup>	X	P <sup>(5)</sup>	X		

X = anticipated

P = potential

(1) A potential pollutant if landscaping exists on-site.

(2) A potential pollutant if the project includes uncovered parking areas.

(3) A potential pollutant if land use involves food or animal waste products.

(4) Including petroleum hydrocarbons.

(5) Including solvents.

**PROJECT POLLUTANTS OF CONCERN SUMMARY TABLE**

Please summarize the identified project pollutants-of-concern by checking the appropriate boxes in the table below and list any surface water impairments identified. Pollutants anticipated to be generated by the project, which are also causing impairment of receiving waters, shall be considered the primary pollutants of concern. For projects where no primary pollutants of concern exist, those pollutants identified as anticipated shall be considered secondary pollutants of concern.

**TABLE 7: PROJECT POLLUTANTS OF CONCERN**

Pollutant Category	Anticipated (X)	Potential (P)	Surface Water Impairments
Sediments	X		
Nutrients	X		
Heavy Metals	X		
Organic Compounds	X		
Trash & Debris	X		
Oxygen Demanding Substances	X		
Oil & Grease	X		
Bacteria & Viruses	X		
Pesticides	X		

## **STEP 5**

### **LID AND SITE DESIGN STRATEGIES**

Each numbered item below is a Low Impact Development (LID) requirement of the WPO. Please check the box(s) under each number that best describes the LID BMP(s) and Site Design Strategies selected for this project. LID BMPs selected on this table will be typically represented as a self-retaining area, self-treating area, pervious pavement and greenroof, which, should be delineated in the Drainage Management Area map in Attachment C.

**TABLE 8: LID AND SITE DESIGN**

1. Conserve natural Areas, Soils, and Vegetation
<input checked="" type="checkbox"/> Preserve well draining soils (Type A or B)
<input type="checkbox"/> Preserve Significant Trees
<input type="checkbox"/> Preserve critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions
<input type="checkbox"/> Other. Description:
2. Minimize Disturbance to Natural Drainages
<input checked="" type="checkbox"/> Set-back development envelope from drainages
<input type="checkbox"/> Restrict heavy construction equipment access to planned green/open space areas
<input type="checkbox"/> Other. Description:
3. Minimize and Disconnect Impervious Surfaces (see 5)
<input type="checkbox"/> Clustered Lot Design
<input checked="" type="checkbox"/> Items checked in 5
<input type="checkbox"/> Other. Description:
4. Minimize Soil Compaction
<input type="checkbox"/> Restrict heavy construction equipment access to planned green/open space areas
<input checked="" type="checkbox"/> Re-till soils compacted by construction vehicles/equipment
<input checked="" type="checkbox"/> Collect & re-use upper soil layers of development site containing organic materials
<input type="checkbox"/> Other. Description:
5. Drain Runoff from Impervious Surfaces to Pervious Areas
<u>LID Street &amp; Road Design</u>
<input type="checkbox"/> Curb-cuts to landscaping
<input type="checkbox"/> Rural Swales
<input type="checkbox"/> Concave Median
<input type="checkbox"/> Cul-de-sac Landscaping Design
<input checked="" type="checkbox"/> Other. Description: PITCH PAVEMENTS TO BIORETENTION

<u>LID Parking Lot Design</u>	N/A
<input type="checkbox"/> Permeable Pavements	
<input type="checkbox"/> Curb-cuts to landscaping	
<input type="checkbox"/> Other. Description:	
<u>LID Driveway, Sidewalk, Bike-path Design</u>	
<input type="checkbox"/> Permeable Pavements	
<input checked="" type="checkbox"/> Pitch pavements toward landscaping	
<input type="checkbox"/> Other. Description:	
<u>LID Building Design</u>	
<input checked="" type="checkbox"/> Cisterns & Rain Barrels	
<input checked="" type="checkbox"/> Downspout to swale or landscaping	
<input type="checkbox"/> Vegetated Roofs	
<input type="checkbox"/> Other. Description:	
<u>LID Landscaping Design</u>	
<input type="checkbox"/> Soil Amendments	
<input checked="" type="checkbox"/> Reuse of Native Soils	
<input checked="" type="checkbox"/> Smart Irrigation Systems	
<input type="checkbox"/> Street Trees	
<input type="checkbox"/> Other. Description:	
6. Minimize erosion from slopes	
<input checked="" type="checkbox"/> Disturb existing slopes only when necessary	
<input checked="" type="checkbox"/> Minimize cut and fill areas to reduce slope lengths	
<input type="checkbox"/> Incorporate retaining walls to reduce steepness of slopes or to shorten slopes	
<input type="checkbox"/> Provide benches or terraces on high cut and fill slopes to reduce concentration of flows	
<input type="checkbox"/> Rounding and shaping slopes to reduce concentrated flow	
<input type="checkbox"/> Collect concentrated flows in stabilized drains and channels	
<input type="checkbox"/> Other. Description:	

## **STEP 6**

### **SOURCE CONTROL**

Please complete the checklist on the following pages to determine Source Control BMPs. Below is instruction on how to use the checklist. (Also see instructions on page 60 of the *SUSMP*)

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies and list in Table 9.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Source Control Exhibit in Attachment B.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs into Table 9.
4. Use the format in Table 9 below to summarize the project Source Control BMPs. Incorporate all identified Source Control BMPs in your Source Control Exhibit in Attachment B.

**TABLE 9: PROJECT SOURCE CONTROL BMPS**

<i>Potential source of runoff pollutants</i>	<i>Permanent source control BMPs</i>	<i>Operational source control BMPs</i>
LANDSCAPE / OUTDOOR PESTICIDE USE	Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.	Maintain landscaping using minimum or no pesticides.
	Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.	Provide IPM information to new owners, lessees and operators.
	To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	
	Consider using pest-resistant plants, especially adjacent to hardscape.	
ROOFING, GUTTERS AND TRIM	Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

Describe your specific Source Control BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting Source Control BMPs or substituting alternatives.

SEE TABLE 9

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> A. On-site storm drain inlets <p style="text-align: center;">N/A</p>	<input type="checkbox"/> Locations of inlets.	<input type="checkbox"/> Mark all inlets with the words “No Dumping! Flows to Bay” or similar where feasible.	<input type="checkbox"/> Maintain and periodically repaint or replace inlet markings. <input type="checkbox"/> Provide stormwater pollution prevention information to new site owners, lessees, or operators. <input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a> <input type="checkbox"/> Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”
<input type="checkbox"/> B. Interior floor drains and elevator shaft sump pumps <p style="text-align: center;">N/A</p>		<input type="checkbox"/> State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	<input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.
<input type="checkbox"/> C. Interior parking garages <p style="text-align: center;">N/A</p>		<input type="checkbox"/> State that parking garage floor drains will be plumbed to the sanitary sewer.	<input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> D1. Need for future indoor & structural pest control N/A		<input type="checkbox"/> Note building design features that discourage entry of pests.	<input type="checkbox"/> Provide Integrated Pest Management information to owners, lessees, and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input checked="" type="checkbox"/> <b>D2. Landscape/ Outdoor Pesticide Use</b>  <u>Note: Should be consistent with project landscape plan (if applicable).</u>	<input type="checkbox"/> Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.  <input type="checkbox"/> Show self-retaining landscape areas, if any.  <input type="checkbox"/> Show stormwater treatment facilities.	<p>State that final landscape plans will accomplish all of the following:</p> <input type="checkbox"/> Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.  <input type="checkbox"/> Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.  <input type="checkbox"/> Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.  <input type="checkbox"/> Consider using pest-resistant plants, especially adjacent to hardscape.  <input type="checkbox"/> To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	<input type="checkbox"/> Maintain landscaping using minimum or no pesticides.  <input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>  <input type="checkbox"/> Provide IPM information to new owners, lessees and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> E. Pools, spas, ponds, decorative fountains, and other water features. N/A	<input type="checkbox"/> Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	<input type="checkbox"/> If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	<input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>
<input type="checkbox"/> F. Food service N/A	<input type="checkbox"/> For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.  <input type="checkbox"/> On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	<input type="checkbox"/> Describe the location and features of the designated cleaning area.  <input type="checkbox"/> Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	<input type="checkbox"/>

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> G. Refuse areas  N/A	<input type="checkbox"/> Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.  <input type="checkbox"/> If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.  <input type="checkbox"/> Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	<input type="checkbox"/> State how site refuse will be handled and provide supporting detail to what is shown on plans.  <input type="checkbox"/> State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.	<input type="checkbox"/> State how the following will be implemented:  Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post “no hazardous materials” signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>
<input type="checkbox"/> H. Industrial processes.  N/A	<input type="checkbox"/> Show process area.	<input type="checkbox"/> If industrial processes are to be located on site, state: “All process activities to be performed indoors. No processes to drain to exterior or to storm drain system.”	<input type="checkbox"/> See Fact Sheet SC-10, “Non-Stormwater Discharges” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)  N/A	<input type="checkbox"/> Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.  <input type="checkbox"/> Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.  <input type="checkbox"/> Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	<input type="checkbox"/> Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.  Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: <ul style="list-style-type: none"> <li>▪ Hazardous Waste Generation</li> <li>▪ Hazardous Materials Release Response and Inventory</li> <li>▪ California Accidental Release (CalARP)</li> <li>▪ Aboveground Storage Tank</li> <li>▪ Uniform Fire Code Article 80 Section 103(b) &amp; (c) 1991</li> <li>▪ Underground Storage Tank</li> </ul>	<input type="checkbox"/> See the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC-33, “Outdoor Storage of Raw Materials ” in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>

<p><input type="checkbox"/> J. Vehicle and Equipment Cleaning</p> <p>N/A</p>	<p><input type="checkbox"/> Show on drawings as appropriate:</p> <p>(1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.</p> <p>(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).</p> <p>(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.</p> <p>(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.</p>	<p><input type="checkbox"/> If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.</p>	<p>Describe operational measures to implement the following (if applicable):</p> <p><input type="checkbox"/> Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.</p> <p><input type="checkbox"/> Car dealerships and similar may rinse cars with water only.</p> <p><input type="checkbox"/> See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a></p>
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<p><input type="checkbox"/> <b>K. Vehicle/Equipment Repair and Maintenance</b></p> <p style="text-align: center;">N /A</p>	<p><input type="checkbox"/> Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.</p> <p><input type="checkbox"/> Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.</p> <p><input type="checkbox"/> Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.</p>	<p><input type="checkbox"/> State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.</p> <p><input type="checkbox"/> State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p> <p><input type="checkbox"/> State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p>	<p>In the SUSMP report, note that all of the following restrictions apply to use the site:</p> <p><input type="checkbox"/> No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.</p> <p>No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.</p> <p>No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.</p> <p><input type="checkbox"/></p>
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<p><input type="checkbox"/> L. Fuel Dispensing Areas</p> <p>N / A</p>	<p><input type="checkbox"/> Fueling areas<sup>1</sup> shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.</p> <p><input type="checkbox"/> Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area<sup>1</sup>.] The canopy [or cover] shall not drain onto the fueling area.</p>		<p><input type="checkbox"/> The property owner shall dry sweep the fueling area routinely.</p> <p><input type="checkbox"/> See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a></p>
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<sup>1</sup> The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

<input type="checkbox"/> <b>M. Loading Docks</b>  N/A	<input type="checkbox"/> Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited.  Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.  <input type="checkbox"/> Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.  <input type="checkbox"/>		<input type="checkbox"/> Move loaded and unloaded items indoors as soon as possible.  <input type="checkbox"/> See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>
<input type="checkbox"/> <b>N. Fire Sprinkler Test Water</b>  N/A		<input type="checkbox"/> Provide a means to drain fire sprinkler test water to the sanitary sewer.	<input type="checkbox"/> See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at <a href="http://www.cabmphandbooks.com">www.cabmphandbooks.com</a>

<p><b>O. Miscellaneous Drain or Wash Water</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Boiler drain lines</li> <li><input type="checkbox"/> Condensate drain lines</li> <li><input type="checkbox"/> Rooftop equipment</li> <li><input type="checkbox"/> Drainage sumps</li> <li><input checked="" type="checkbox"/> Roofing, gutters, and trim.</li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.</li> <li><input type="checkbox"/> Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system.</li> <li><input type="checkbox"/> Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment.</li> <li><input type="checkbox"/> Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.</li> <li><input type="checkbox"/> Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.</li> </ul>	
<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>P. Plazas, sidewalks, and parking lots.</b></li> </ul> <p style="text-align: center;">N/A</p>			<ul style="list-style-type: none"> <li><input type="checkbox"/> Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.</li> </ul>

## **STEP 7**

### **LID AND TREATMENT CONTROL SELECTION**

A treatment control BMP and/or LID IMP must be selected to treat the project pollutants of concern identified in Table 7 “Project Pollutants of Concern”. A treatment control facility with a high or medium pollutant removal efficiency for the project’s most significant pollutant of concern shall be selected. It is recommended to use the design procedure in Chapter 4 of the SUSMP to meet NPDES permit LID requirements, treatment requirements, and flow control requirements. If your project does not utilize this approach, the project will need to demonstrate compliance with LID, treatment and hydromodification flow control requirements. Review Chapter 2 “Selection of Stormwater Treatment Facilities” in the SUSMP to assist in determining the appropriate treatment facility for your project.

Will this project be utilizing the unified LID design procedure as described in Chapter 4 of the Local SUSMP? <i>(If yes, please document in Attachment D following the steps in Chapter 4 of the County SUSMP)</i>	
Yes	No
If this project is not utilizing the unified LID design procedure, please describe how the alternative treatment facilities will comply with applicable LID criteria, stormwater treatment criteria, and hydromodification management criteria.	

➤ Indicate the project pollutants of concern (POCs) from Table 7 in Column 2 below.

**TABLE 10: GROUPING OF POTENTIAL POLLUTANTS of Concern (POCs) by fate during stormwater treatment**

Pollutant	Check Project Specific POCs	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	✓	X	X	
Nutrients	✓		X	X
Heavy Metals	✓		X	
Organic Compounds	✓		X	
Trash & Debris	✓	X		
Oxygen Demanding	✓		X	
Bacteria	✓		X	
Oil & Grease	✓		X	
Pesticides	✓		X	

➤ Indicate the treatment facility(s) chosen for this project in the following table.

**TABLE 11: GROUPS OF POLLUTANTS and relative effectiveness of treatment facilities**

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Constructed Wetlands	Infiltration Devices (LID)	Media Filters	Higher-rate biofilters	Higher-rate media filters	Trash Racks & Hydro-dynamic Devices	Vegetated Swales
Coarse Sediment and Trash	High	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low	Medium
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low	Low

➤ Please check the box(s) that best describes the Treatment Control BMP(s) and/or LID IMP selected for this project. Please check if the treatment facility is designed for water quality or hydromodification flow control.

**TABLE 12: PROJECT LID AND TC-BMPS**

LID and TC-BMP Type	Water Quality Treatment Only	Hydromodification Flow Control
<b>Bioretention Facilities (LID)</b>		
<input checked="" type="checkbox"/> Bioretention area		✓
<input type="checkbox"/> Flow-through Planter		
<input type="checkbox"/> Cistern with Bioretention		✓
<b>Settling Basins (Dry Ponds)</b>		
<input type="checkbox"/> Extended/dry detention basin with grass/vegetated lining		
<input type="checkbox"/> Extended/dry detention basin with impervious lining		
<b>Infiltration Devices (LID)</b>		
<input type="checkbox"/> Infiltration basin		
<input type="checkbox"/> Infiltration trench		
<input type="checkbox"/> Other _____		

<b>Wet Ponds and Constructed Wetlands</b>		
<input type="checkbox"/> Wet pond/basin (permanent pool)		
<input type="checkbox"/> Constructed wetland		
<b>Vegetated Swales (LID<sup>(1)</sup>)</b>		
<input type="checkbox"/> Vegetated Swale		
<b>Media Filters</b>		
<input type="checkbox"/> Austin Sand Filter		
<input type="checkbox"/> Delaware Sand Filter		
<input type="checkbox"/> Multi-Chambered Treatment Train (MCTT)		
<b>Higher-rate Biofilters</b>		
<input type="checkbox"/> Tree-pit-style unit		
<input type="checkbox"/> Other _____		
<b>Higher-rate Media Filters</b>		
<input type="checkbox"/> Vault-based filtration unit with replaceable cartridges		
<input type="checkbox"/> Other _____		
<b>Hydrodynamic Separator Systems</b>		
<input type="checkbox"/> Swirl Concentrator		
<input type="checkbox"/> Cyclone Separator		
<b>Trash Racks</b>		
<input type="checkbox"/> Catch Basin Insert		
<input type="checkbox"/> Catch Basin Insert w/ Hydrocarbon boom		
<input type="checkbox"/> Other _____		

<sup>(1)</sup> Must be designed per SUSMP “Vegetated Swales” design criteria for water quality treatment credit (p. 65).

For design guidelines and calculations refer to Chapter 4 “Low Impact Development Design Guide” in the SUSMP. Please show all calculations and design sheets for all treatment control BMPs proposed in Attachment D.

- Create a Construction Plan SWMP Checklist for your project.

Instructions on how to fill out table

1. Number and list each measure or BMP you have specified in your SWMP in Columns 1 and Maintenance Category in Column 3 of the table. Leave Column 2 blank.
2. When you submit construction plans, duplicate the table (by photocopy or electronically). Now fill in Column 2, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. **This table must be shown on the front sheet of the grading and improvement plans.**

Stormwater Treatment Control BMPs and LID BMPs			
Description / Type	Sheet	Maintenance Category	Revisions
BIORETENTION AREAS			
RIP RAP SUMPS			
GRAVEL DESILTING PADS			

BMP's approved as part of Stormwater Management Plan (SWMP) dated xx/xx/xx on file with DPW. Any changes to the above BMP's will require SWMP revision and Plan Change approvals.

- Please describe why the chosen treatment control BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a **feasibility analysis** that demonstrates utilization of a treatment control BMP with a high or medium removal efficiency ranking is infeasible.

THE TREATMENT & LID BMP'S WERE SELECTED FOR THEIR HIGH REMOVAL EFFICIENCY FOR THE ANTICIPATED POLLUTANTS, RELATIVE LOW COST, AND RELATIVE EASE OF MAINTENANCE FOR INDIVIDUAL HOMEOWNERS.

Please provide the sizing design calculations for each Drainage Management Area in Attachment D. Guidelines for design calculations are located in Chapter 4 of the County SUSMP. To assist in these calculations a BMP sizing calculator is available for use at the following location: [http://www.projectcleanwater.org/html/wg\\_susmp.html](http://www.projectcleanwater.org/html/wg_susmp.html)

## STEP 8

### OPERATION AND MAINTENANCE

➤ Please check the box that best describes the maintenance mechanism(s) for this project.

**TABLE 13: PROJECT BMP CATEGORY**

CATEGORY	SELECTED		BMP Description
	YES	NO	
First <sup>1</sup>	✓		BIORETENTION AREAS , RIP RAP SUMPS, GRAVEL DESILTING PADS
Second <sup>2</sup>		✓	
Third <sup>3</sup>		✓	
Fourth <sup>4</sup>		✓	

Note:

1. A maintenance notification will be required.
  2. A recorded maintenance agreement and access easement will be required.
  3. The project will be required to establish or be included in a watershed specific Community Facility District (CFD) for long-term maintenance.
  4. The developer would be required to dedicate the BMP (and the property on which it is located and any necessary access) to the County.
- Please list all individual LID and Treatment Control BMPs (TC-BMPs) incorporated into the project. Please ensure the “BMP Identifier” is consistent with the legend in Attachment C “Drainage Management Area Exhibit”. Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of LID or TC-BMP provide an inspection sheet in Attachment F “Maintenance Plan”.

**TABLE 14: PROJECT SPECIFIC LID AND TC-BMPS**

BMP Identifier*: (Identifier to match TC-BMPs on TC-BMP Table.)	Type	Record Plan Page for TC-BMP	BMP Pollutant of Concern Efficiency (H,M,L)

\* For location of BMP's, see approved Record Plan dated XX/XX/XX, plan (TYPE) sheet (#)

➤ Responsible Party for Long-term Maintenance:

Identify the parties responsible for long-term maintenance of the BMPs identified above and Source Controls specified in Attachment B. Include the appropriate written agreement with the entities responsible for O&M in Attachment F. Please see Chapter 5 “Stormwater Facility Maintenance” of the County SUSMP for appropriate maintenance mechanisms.

Representative Name: FUTURE OWNERS OF PROPOSED LOTS
Company Name:
Phone Number:
Street Address:
City/State/Zip:
Email Address:

➤ Funding Source:

Provide the funding source or sources for long-term operation and maintenance of each BMP identified above. Please see Chapter 5 “Stormwater Facility Maintenance” of the County SUSMP for the appropriate funding source options. By certifying the Major SWMP the applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners.

CATEGORY 1 ; NO FUNDING REQUIRED
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**ATTACHMENTS**

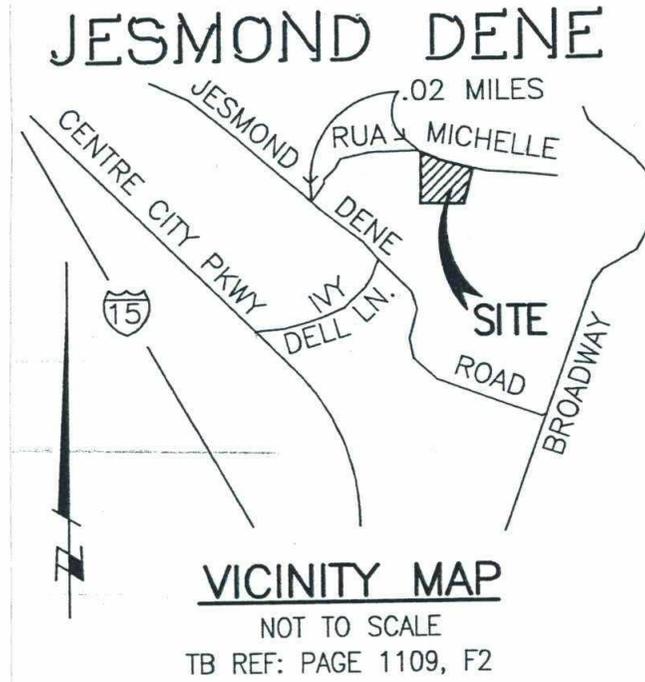
Please include the following attachments.

	ATTACHMENT	COMPLETED	N/A
A	Project Location Map	✓	
B	Source Control Exhibit, LFD& TC BMP EXHIBIT	✓	
C	Drainage Management Area (DMA) Exhibit	✓	
D	BMP Sizing Design Calculations (Water Quality and Hydromodification) and TC-BMP/IMP Design Details	✓	
E	Geotechnical Certification Sheet		✓
F	Maintenance Plan	✓	
G	Treatment Control BMP Certification		✓
H	HMP Exemption Documentation		✓
I	Addendum		

**Note:** Attachments B and C may be combined.

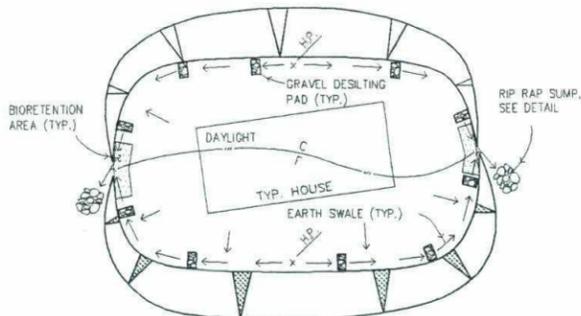
# ATTACHMENT A

## Project Location Map

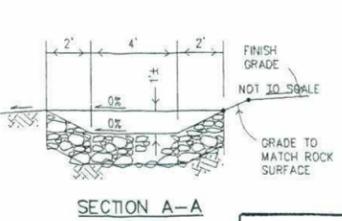
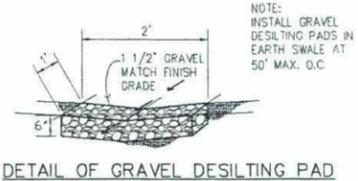


# ATTACHMENT B

Source Control, LID &  
TC BMP EXHIBIT



TYPICAL PAD DRAINAGE DETAIL  
NOT TO SCALE



- (A) CENTERLINE OF EXISTING 10' EASEMENT GRANTED TO SD&M FOR PUBLIC PER DOCUMENT RECORDED JULY 10, 1979 AS INSTRUMENT 79-284917 OF OFFICIAL RECORDS.
- (B) CENTERLINE OF EXISTING 6' EASEMENT GRANTED TO PACIFIC TELEPHONE AND TELEGRAPH COMPANY PER DOCUMENT RECORDED JULY 13, 1979 AS INSTRUMENT 79-291402 OF OFFICIAL RECORDS.
- (C) EXISTING EASEMENT FOR ROAD AND UTILITIES PURPOSES PER DOCUMENT RECORDED NOVEMBER 7, 1980 AS INSTRUMENT 80-100001 OF OFFICIAL RECORDS.

VALLEY CENTER WATER DISTRICT PER MAY 31, 2001 AS INSTRUMENT NO. 01-000001 OF OFFICIAL RECORDS.  
ROAD EASEMENT

RE-TILL SOILS COMPACTED BY CONSTRUCTION VEHICLES / EQUIPMENT.  
COLLECT & RE-USE UPPER SOIL LAYERS OF DEVELOPMENT SITE CONTAINING ORGANIC MATERIALS. (L.I.D. HANDBOOK 2.2.4.)

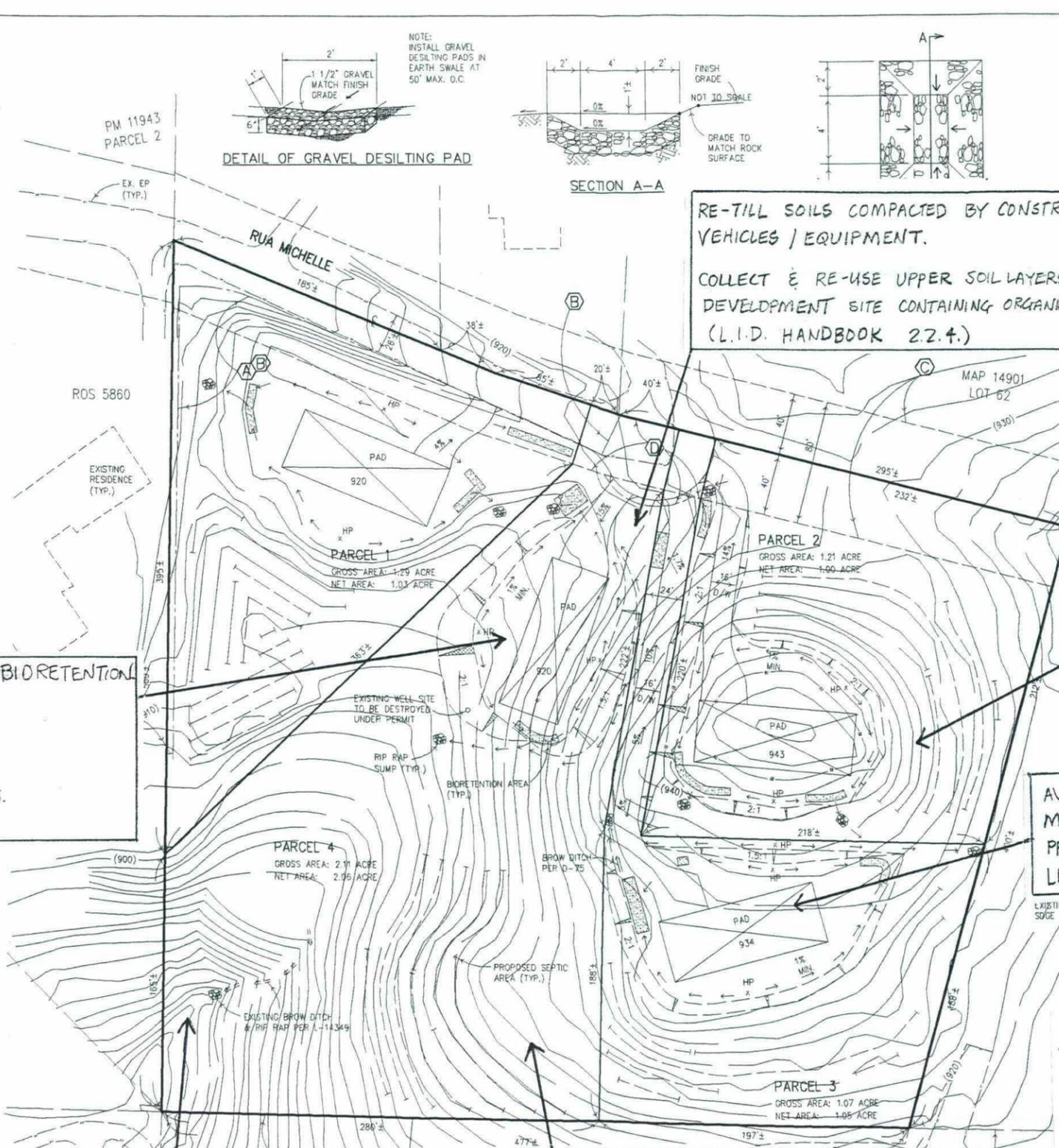
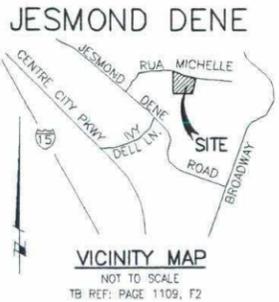
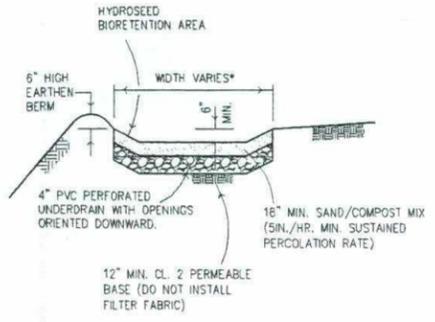
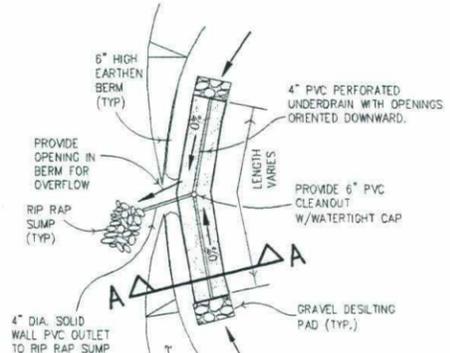
DISTURB EXISTING SLOPES ONLY WHEN NECESSARY.  
MINIMIZE CUT AND FILL AREAS TO REDUCE SLOPE LENGTHS.

AVOID ROOFING, GUTTERS AND TRIM MADE OF COPPER OR OTHER UN-PROTECTED METALS THAT MAY LEACH INTO RUNOFF.

PRESERVE WELL DRAINING SOILS (L.I.D. HANDBOOK 2.2.1)

SETBACK DEVELOPMENT ENVELOPE FROM DRAINAGES (L.I.D. HANDBOOK 2.2.2)

PITCH PAVEMENTS TOWARD BIORETENTION DOWNSPOUT TO SWALE.  
BIORETENTION REUSE OF NATIVE SOILS.  
SMART IRRIGATION SYSTEMS. (L.I.D. HANDBOOK 2.2.5)

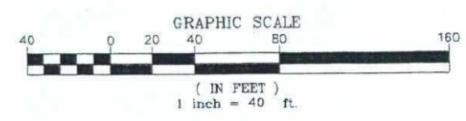


APPLICANT/OWNER:  
SCSS DEVELOPMENT, LLC  
C/O SALIM MIRO  
12905 SEDGE COURT,  
SAN DIEGO, CA 92129  
PH. (858) 922-6424

BMP LEGEND

- RIP RAP SUMP
- BIORETENTION AREA
- GRAVEL DESILTING PAD

PREPARED BY:  
CREW ENGINEERING AND SURVEYING  
5725 KEARNY VILLA ROAD, STE. "D"  
SAN DIEGO, CA 92123  
(858) 571-0555  
RONALD C. ASHMAN  
RCE 34300 EXPIRES: SEPT. 30, 2011



APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES:  
EXCAVATION: 7130 C.Y.  
EMBANKMENT: 7130 C.Y.  
IMPORT/EXPORT: 0 C.Y.  
MAXIMUM SLOPE HEIGHTS:  
CUT: 12 @ 1-1/2:1  
FILL: 12 @ 2:1

CONCEPT GRADING NOTE:  
PAD AND DRIVEWAY GRADING IS PRESENTED FOR INFORMATION ONLY TO FACILITATE THE C.E.O.A. DISCLOSURE PROCESS. THE APPLICANT PROPOSES A LOT SALES PROJECT AND DOES NOT INTEND TO GRADE INDIVIDUAL BUILDING SITES. THE APPLICANT ACKNOWLEDGE THAT TRACT GRADING OF THE SITE MAY REDEFINE THE PROJECT AND MAY NECESSITATE ADDITIONAL PUBLIC REVIEW.

COUNTY NOTE:  
THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

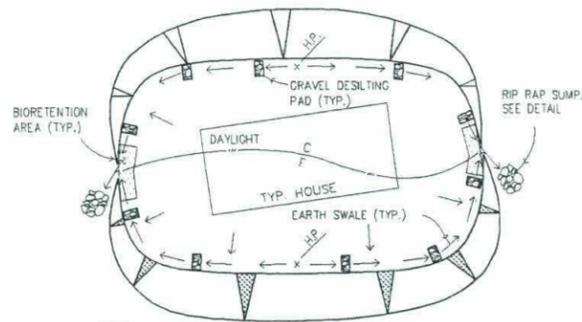
REVISIONS	BY
△	
△	
△	
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ATTACHMENT B  
SOURCE CONTROL, LID AND TC BMP EXHIBIT

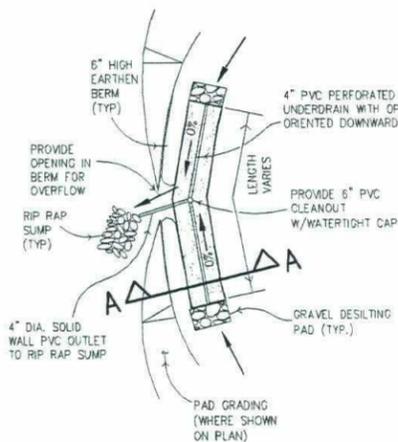
DATE: 3/9/11
SCALE: 1"=40'
DRAWN: RD
APPROVED: RA
JOB: 1326
SHEET: 1 OF 1

# ATTACHMENT C

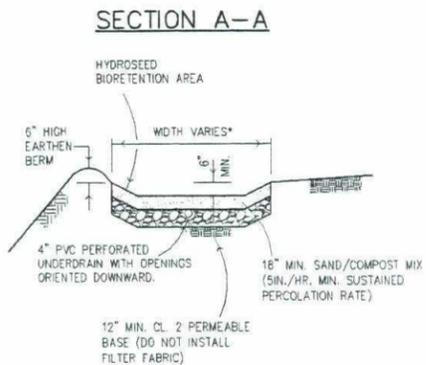
## Drainage Management Area (DMA) Exhibit



TYPICAL PAD DRAINAGE DETAIL  
NOT TO SCALE

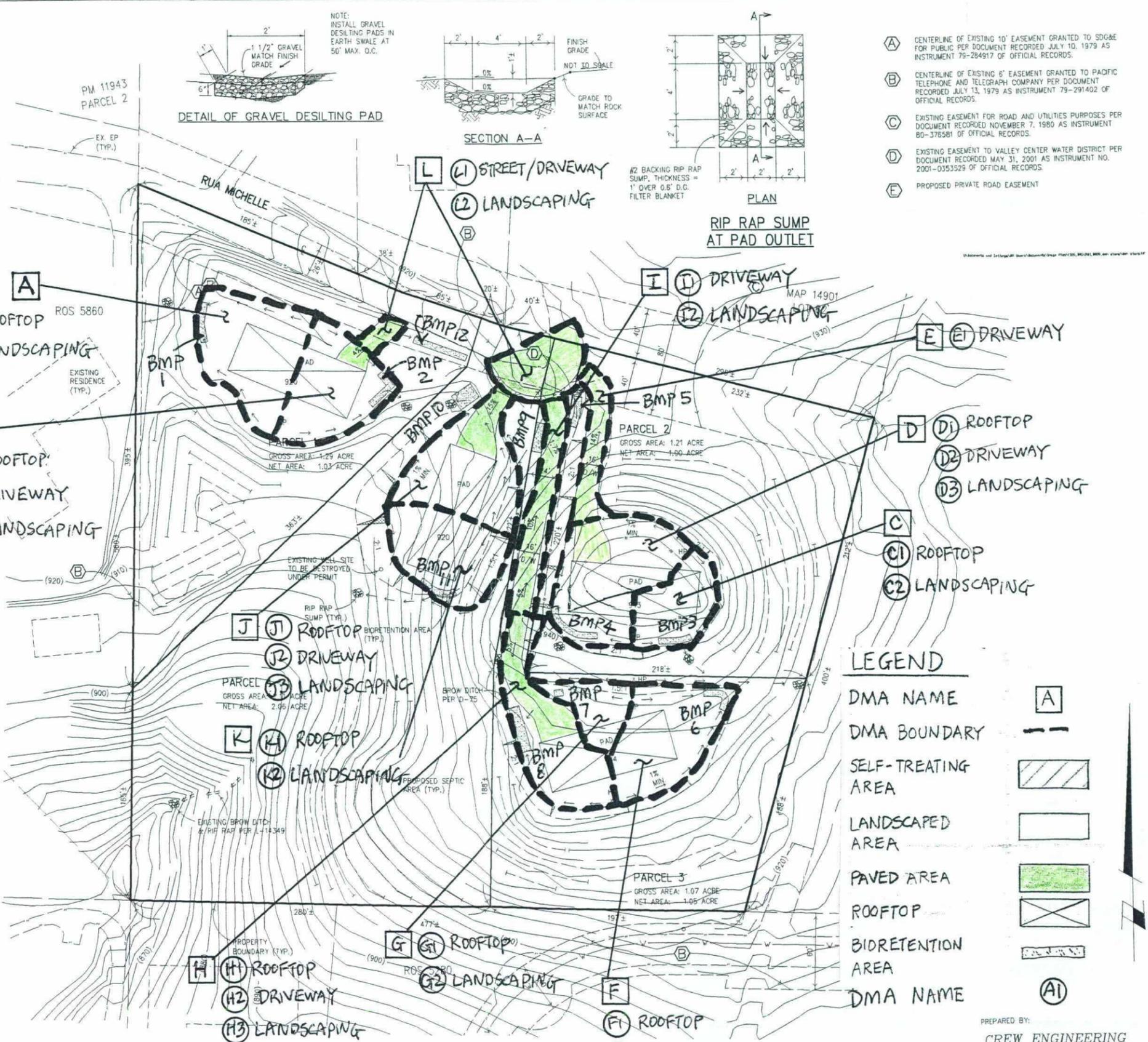
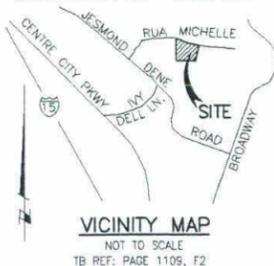


BIORETENTION AREA  
NOT TO SCALE



SECTION A-A

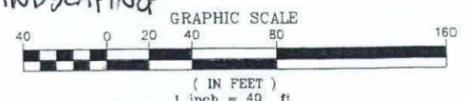
JESMOND DENE



- (A) CENTERLINE OF EXISTING 10' EASEMENT GRANTED TO SD&E FOR PUBLIC PER DOCUMENT RECORDED JULY 10, 1979 AS INSTRUMENT 79-284917 OF OFFICIAL RECORDS.
- (B) CENTERLINE OF EXISTING 6' EASEMENT GRANTED TO PACIFIC TELEPHONE AND TELEGRAPH COMPANY PER DOCUMENT RECORDED JULY 13, 1979 AS INSTRUMENT 79-291402 OF OFFICIAL RECORDS.
- (C) EXISTING EASEMENT FOR ROAD AND UTILITIES PURPOSES PER DOCUMENT RECORDED NOVEMBER 7, 1980 AS INSTRUMENT 80-376581 OF OFFICIAL RECORDS.
- (D) EXISTING EASEMENT TO VALLEY CENTER WATER DISTRICT PER DOCUMENT RECORDED MAY 31, 2001 AS INSTRUMENT NO. 2001-035329 OF OFFICIAL RECORDS.
- (E) PROPOSED PRIVATE ROAD EASEMENT

LEGEND

- DMA NAME [A]
- DMA BOUNDARY [---]
- SELF-TREATING AREA [diagonal lines]
- LANDSCAPED AREA [white box]
- PAVED AREA [green box]
- ROOFTOP [cross-hatched box]
- BIORETENTION AREA [dotted box]
- DMA NAME (A1)



APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES:  
EXCAVATION: 7130 C.Y.  
EMBANKMENT: 7130 C.Y.  
IMPORT/EXPORT: 0 C.Y.  
MAXIMUM SLOPE HEIGHTS:  
CUT: 12 @ 1-1/2:1  
FILL: 12 @ 2:1

CONCEPT GRADING NOTE:  
PAD AND DRIVEWAY GRADING IS PRESENTED FOR INFORMATION ONLY TO FACILITATE THE C.E.A. DISCLOSURE PROCESS. THE APPLICANT PROPOSES A LOT SALES PROJECT AND DOES NOT INTEND TO GRADE INDIVIDUAL BUILDING SITES. THE APPLICANT ACKNOWLEDGE THAT TRACT GRADING OF THE SITE MAY REDEFINE THE PROJECT AND MAY NECESSITATE ADDITIONAL PUBLIC REVIEW.

COUNTY NOTE:  
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REVISIONS	BY

ATTACHMENT C  
DRAINAGE MANAGEMENT AREA (DMA) EXHIBIT

PREPARED BY:  
CREW ENGINEERING AND SURVEYING  
5725 KEARNY VILLA ROAD, STE. "D"  
SAN DIEGO, CA 92123  
(858) 571-0555  
RONALD C. ASHMAN  
RCE 34300 EXPIRES: SEPT. 30, 2011

DATE: 3/9/11
SCALE: 1"=40'
DRAWN: RD
APPROVED: RA
JOB: 1326
SHEET: 1 OF 1

# ATTACHMENT D

## Sizing Design Calculations and TC-BMP/LID Design Details

(Provide BMP Sizing Calculator results and/or continuous simulation modeling results, if applicable)

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	A
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.15
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10683	Drains to LID	BMP 1	A1	0.04	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Moderate (5 - 10%)
10688	Drains to LID	BMP 1	A2	0.1	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Moderate (5 - 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 1	Bioretention	Bioretention	185	154	0.00	0.003	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	B
Receiving Water:	existing drainage course
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.12
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10698	Drains to LID	BMP 2	B1	0.04	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Moderate (5 - 10%)
10699	Drains to LID	BMP 2	B2	0.00	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Moderate (5 - 10%)
10701	Drains to LID	BMP 2	B3	0.06	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Moderate (5 - 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 2	Bioretention	bioretention	223	186	0.00	0.002	0.2

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	C
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.08
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10705	Drains to LID	BMP 3	C1	0.03	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10706	Drains to LID	BMP 3	C2	0.04	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 3	Bioretention	bioretention	119	99	0.00	0.002	0.2

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	D
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohiford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.18
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10711	Drains to LID	BMP 4	D1	0.05	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10712	Drains to LID	BMP 4	D2	0.02	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
10713	Drains to LID	BMP 4	D3	0.10	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 4	Bioretention	bioretention	241	201	0.00	0.004	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	E
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.04
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10716	Drains to LID	BMP 5	E1	0.04	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 5	Bioretention	bioretention	128	107	0.00	0.001	0.1

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	F
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.13
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10719	Drains to LID	BMP 6	F1	0.03	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10720	Drains to LID	BMP 6	F2	0.09	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)
10721	Drains to LID	BMP 1		0.00				

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 6	Bioretention	bioretention	140	117	0.00	0.003	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	G
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.04
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10724	Drains to LID	BMP 7	G1	0.00	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10725	Drains to LID	BMP 7	G2	0.03	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 7	Bioretention	bioretention	34	28	0.00	0.001	0.1

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	H
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohiford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.14
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10728	Drains to LID	BMP 8	H1	0.04	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10729	Drains to LID	BMP 8	H2	0.05	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
10730	Drains to LID	BMP 8	H3	0.05	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 8	Bioretention	bioretention	281	234	0.00	0.003	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	1
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.06
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10746	Drains to LID	BMP 9	I1	0.06	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
10747	Drains to LID	BMP 9	I2	0.00	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 9	Bioretention	bioretention	183	152	0.00	0.001	0.2

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	J
Receiving Water:	offsite sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.15
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10749	Drains to LID	BMP 10	J1	0.04	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10750	Drains to LID	BMP 10	J2	0.03	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
10751	Drains to LID	BMP 10	J3	0.08	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 10	Bioretention	bioretention	238	198	0.00	0.004	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	K
Receiving Water:	natural drainage course
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.12
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10754	Drains to LID	BMP 11	K1	0.04	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Steep (greater 10%)
10755	Drains to LID	BMP 11	K2	0.08	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 11	Bioretention	bioretention	153	127	0.00	0.003	0.3

**Project Summary**

Project Name	Rua Michelle TPM
Project Applicant	SCSS Development, LLC
Jurisdiction	County of San Diego
Parcel (APN)	187-520-11
Hydrologic Unit	Carlsbad

**Compliance Basin Summary**

Basin Name:	L
Receiving Water:	natural drainage course
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.06
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

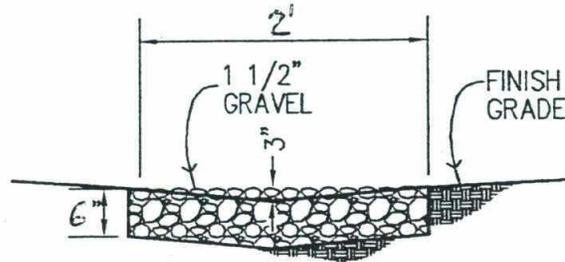
**Drainage Management Area Summary**

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
10760	Drains to LID	BMP 12	L1	0.06	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
10761	Drains to LID	BMP 12	L2	0.00	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

**LID Facility Summary**

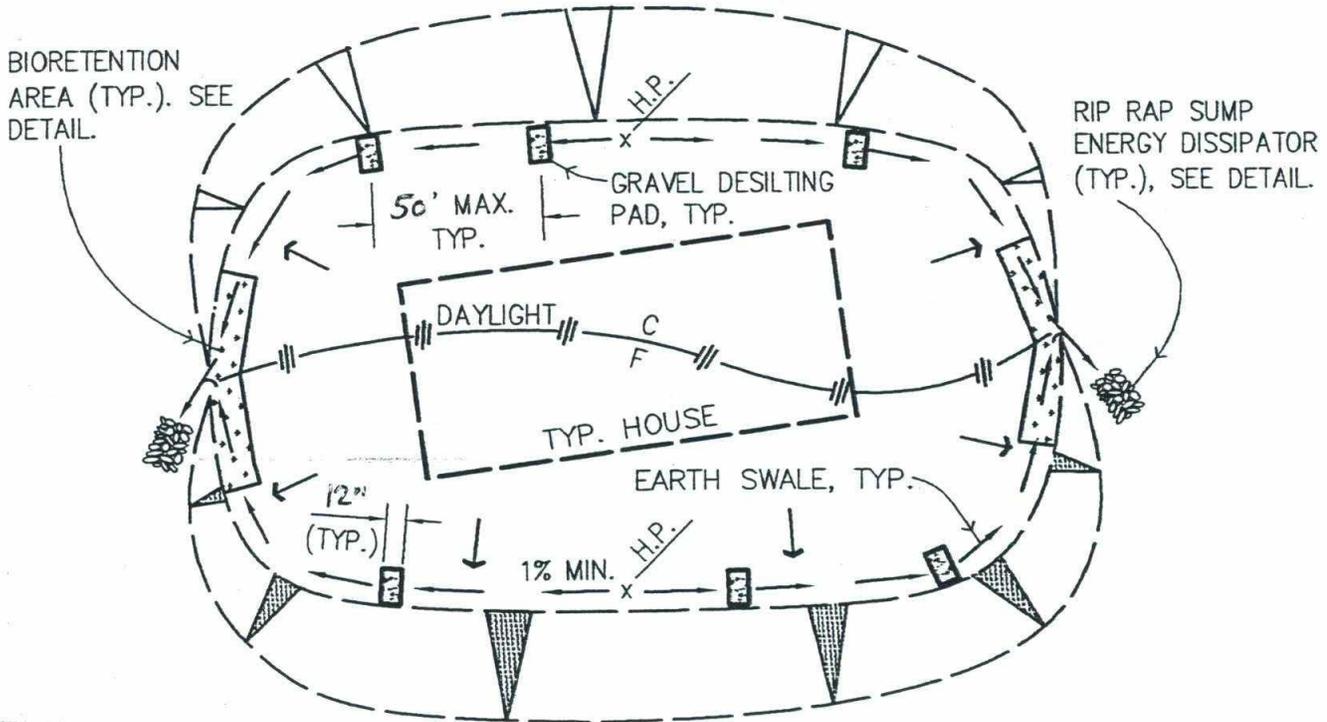
BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 12	Bioretention	bioretention	177	148	0.00	0.001	0.2

# ATTACHMENT D



NOTE:  
INSTALL GRAVEL  
DESILTING PADS IN  
EARTH SWALE AT  
50' MAX. O.C.

DETAIL OF GRAVEL DESILTING PAD

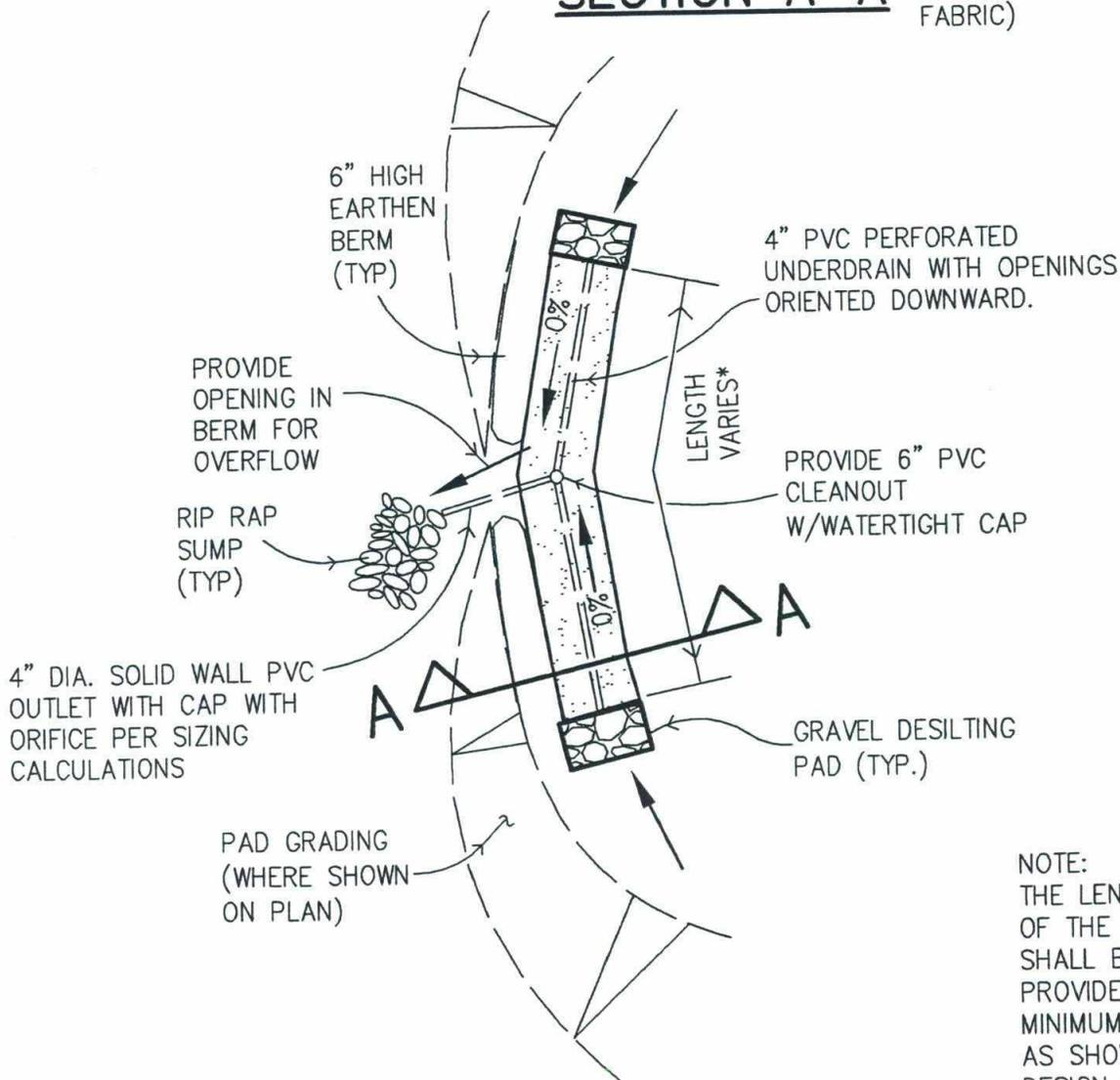
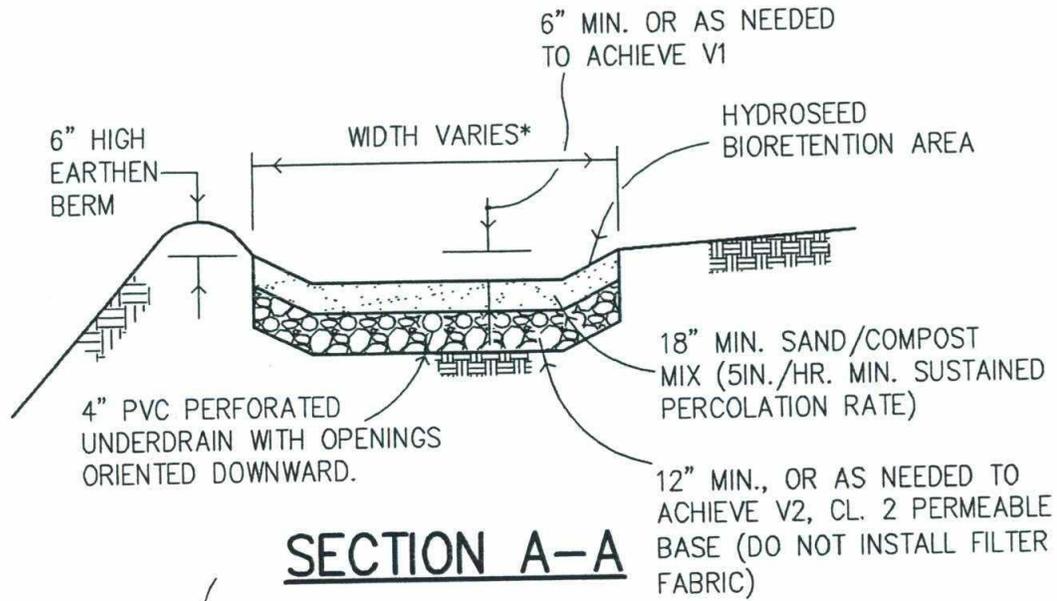


NOTE:  
NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND  
FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

TYPICAL PAD DRAINAGE DETAIL

NO SCALE

# ATTACHMENT D

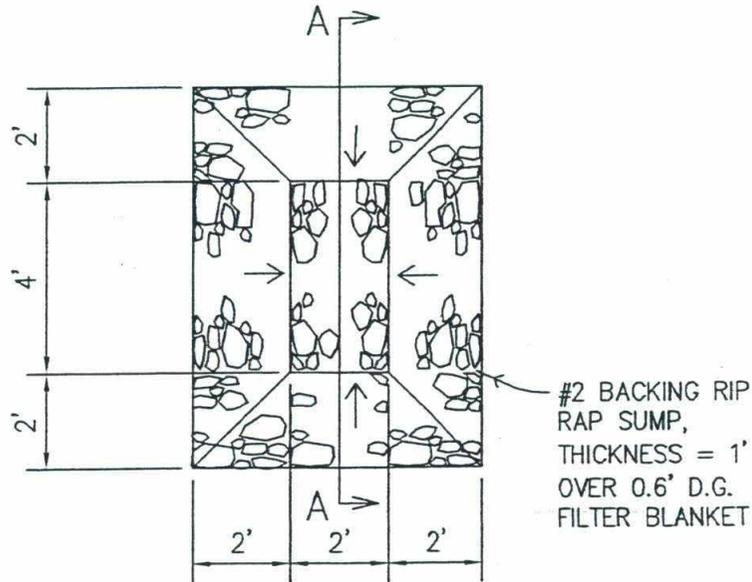


NOTE:  
THE LENGTH, WIDTH & DEPTH OF THE BIORETENTION AREAS SHALL BE ESTABLISHED TO PROVIDE THE REQUIRED MINIMUM AREA AND VOLUMES AS SHOWN ON THE SIZING DESIGN CALCULATIONS.

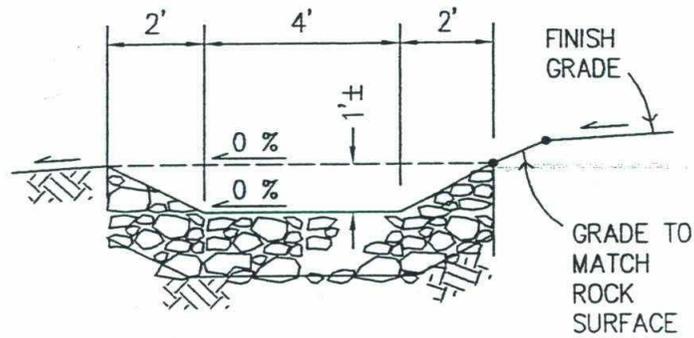
## BIORETENTION AREA

NO SCALE

# ATTACHMENT D



PLAN



SECTION A-A

## RIP RAP SUMP AT PAD OUTLET

NOT TO SCALE

## ATTACHMENT F

### Maintenance Responsibility

The BMPs for this project have been chosen and designed to require the minimum maintenance after the project construction is complete. The individual property owners will be responsible for the BMPs situated on their property. Permit enforcement activities by the County of San Diego and the RWQCB will provide assurance that ongoing maintenance will be performed in perpetuity.

### Maintenance Activities per BMPs

Over time the at-grade gravel filtering pads may become ineffective due to filling with trapped sediment. At that time the pads should be replaced by the installation of an additional pad adjacent to the ineffective pad. Anticipated replacement frequency is replacement every 5 years. Estimated replacement cost \$100.00 per pad or \$500.00 per lot.

Vegetative cover on the building sites needed for soil stabilization will be maintained by the individual homeowners. The vegetation in the bioretention areas and graded swales will be maintained by the individual homeowners in the normal course of landscape maintenance for their lot. The cost of maintenance if contracted separately could be approximately \$1000.00 per year per lot. Vegetation in the natural swales will remain in its natural condition.

Rip rap sump energy dissipaters should be inspected and maintained on a yearly basis along with the rest of the private road and drainage system. Debris and excess sediment accumulation should be removed yearly before the rainy season and after every major storm event. Design service life of the private drainage system is 25 years. The energy dissipaters may need replacement at the same time as the other improved portions of the storm drain system. Estimated yearly maintenance cost is \$100 per dissipater. Estimated replacement cost for the dissipaters on site is \$15,000.00. All estimates are current dollars and may change with inflation or other economic factors.