

**Major Stormwater Management Plan
(Major SWMP)
For
SHADOW RUN RANCH
TM 5223**

**Preparation/Revision Date:
November 28, 2012
Revised / December 19, 2013**

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 Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.




Bradley Sager, RCE #54564

Date 11-30-2012

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:	Shadow Run Ranch TM 5223
Project Location / Address:	State Highway 76 and Adams Drive
Permit Number (Land Development Projects):	
Work Authorization Number (CIP only):	
Applicant:	Shadow Run Ranch, LLC
Applicant's Address	P.O. Box 1249, Pauma Valley, CA 92061
Plan Prepared By (<i>Leave blank if same as applicant</i>):	Masson & Associates, Inc.
Preparer's Address:	200 E. Washington Ave., Escondido, CA
Date:	November 28, 2012

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 checked="" type="checkbox"/>	No <input 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 (total disturbed area). 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 (total disturbed area). 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 checked="" type="checkbox"/>	No <input 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 checked="" type="checkbox"/>	No <input 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 (paved) 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 248 Ac (Acres or ft²)

Estimated amount of disturbed area: 47 Ac (Acres or ft²)
(If >1 acre, you must also provide a WDID number from the SWRCB) WDID: _____

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: 248 Ac (Acres or ft²)
- B. Total impervious area (including roof tops) before construction 9.3 Ac (Acres or ft²)
- C. Total impervious area (including roof tops) after construction 28.9 Ac (Acres or ft²)
- Calculate percent impervious before construction: $B/A = \frac{3.75}{\quad} \%$
- Calculate percent impervious after construction: $C/A = \frac{11.6}{\quad} \%$

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 proposes 44 single family residences on minimum 2 acre lots with private streets and driveways to access all lots. The average pad size will be approximately 12,000 square feet.				
2.	Describe the current and proposed zoning and land use designation.			
The current zoning is (A70) Limited Agricultural and the current land Use Designation is (19) Agricultural. The proposed development will not change the zoning or land use designation.				
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)			
The property elevation ranges from 740 to 1430 MSL and slopes in the southerly direction toward State Highway 76. The majority of the of the site is currently covered in Orange and Avocado grooves. The lots and streets will be graded in among the groves and natural drainage courses will be maintained as much as possible.				
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 property has 3 soil types, a, b, and c. The existing soil will infiltrate at the required 5in/hr. There only a select few that will require impermeable liners. The ground water is extremely deep. And see attached exhibit E				
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)			
N/A				
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).			
Several natural drainage courses traverse the site from north to south toward State Highway76 and the San Luis Ray River. One large drainage basin (Frye Creek basin) is approximately 4 square miles in size and traverses across the northern and western portions of the site.				
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.			
The proposed project will include several Bioretention facilities located throughout the project.				
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> ?			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; text-align: center;">Yes</td> <td style="width:33%; text-align: center;">No</td> <td style="width:33%; text-align: center;">x</td> </tr> </table>		Yes	No	x
Yes	No	x		
9.	Is this an emergency project? If yes, please provide a description below.			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; text-align: center;">Yes</td> <td style="width:33%; text-align: center;">No</td> <td style="width:33%; text-align: center;">x</td> </tr> </table>		Yes	No	x
Yes	No	x		

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?		x		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	x			

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 checked="" type="checkbox"/> Desilting Basin |
| <input checked="" type="checkbox"/> Fiber Rolls | <input checked="" type="checkbox"/> Gravel Bag Berm |
| <input type="checkbox"/> Street Sweeping and Vacuuming | <input checked="" type="checkbox"/> Sandbag Barrier |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input checked="" type="checkbox"/> Material Delivery and Storage |
| <input 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 | <input checked="" type="checkbox"/> Water Conservation Practices |
| <input type="checkbox"/> Dewatering Operations | <input type="checkbox"/> Paving and Grinding Operations |
| <input 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: http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml		x	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 kf greater than or equal to 0.4? http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm			If YES, continue to 6. If NO, go to 5.
5.	Project is not required to use Advanced Treatment BMPs.	x		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

No.	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?	x		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?		x	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 Q10, and extends to the Pacific Ocean, San Diego Bay, a tidally-influenced area, an exempt river reach or reservoir?		x	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?		x	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?		x	If NO, continue to 6. If YES, go to 7.
6.	Project is required to manage hydromodification impacts.	x		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.

- San Juan 901 Santa Margarita 901 San Luis Rey 903 Carlsbad 904
 San Dieguito 905 Penasquitos 906 San Diego 907 Sweetwater 909
 Otay 910 Tijuana 911 Whitewater 719* Clark 720*
 West Salton 721* Anza Borrego 722* Imperial 723*

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
903.2	Monserate
903.22	Pauma

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

RECEIVING WATERS that each project discharge point proposes to discharge to.

RECEIVING WATERS (river, lake, reservoir, 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
San Luis Rey	903.22	Nitrogen	18 miles
San Luis Rey	903.11	Chloride, Total Dissolved Solids	18 miles
Pacific Ocean	903.11	Indicator bacteria	27 miles

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_re_qtmdls.pdf

GROUND WATERS

Ground Waters	Hydrologic Unit Basin Number	M U N	A G R	I N D	P R O C	G W R	F R E S H
Pauma	903.22	●	●	●			

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
<u>Detached Residential Development</u>	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P ¹	P ²	P	x
Commercial Development 1 acre or greater	P ¹	P ¹		P ²	X	P ³	X	P ³	P ³
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops				X ^{4 5}	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft ²	X	X			X	X	X		X
Parking Lots	P ¹	P ¹	X		X	P ¹	X		P ¹
Retail Gasoline Outlets			X	X	X	X	X		
<u>Streets, Highways & Freeways</u>	X	P ¹	X	X ⁴	X	P ³	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 (determined by your receiving waters impairments on page 10)
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
 - Preserve well draining soils (Type A or B)
 - Preserve Significant Trees
 - Preserve critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions
 - Other. Description:
2. Minimize Disturbance to Natural Drainages
 - Set-back development envelope from drainages
 - Restrict heavy construction equipment access to planned green/open space areas**
 - Other. Description:
3. Minimize and Disconnect Impervious Surfaces (see 5)
 - Clustered Lot Design
 - Items checked in 5
 - Other. Description:
4. Minimize Soil Compaction
 - Restrict heavy construction equipment access to planned green/open space areas**
 - Re-till soils compacted by construction vehicles/equipment
 - Collect & re-use upper soil layers of development site containing organic materials
 - Other. Description:
5. Drain Runoff from Impervious Surfaces to Pervious Areas
 - LID Street & Road Design
 - Curb-cuts to landscaping
 - Rural Swales
 - Concave Median
 - Cul-de-sac Landscaping Design
 - Other. Description: Runoff Directed off streets to natural or landscaped areas

LID Parking Lot Design

- Permeable Pavements
- Curb-cuts to landscaping
- Other. Description:

LID Driveway, Sidewalk, Bike-path Design

- Permeable Pavements
- Pitch pavements toward landscaping
- Other. Description:

LID Building Design

- Cisterns & Rain Barrels
- Downspout to swale or landscaping
- Vegetated Roofs
- Other. Description:

LID Landscaping Design

- Soil Amendments
- Reuse of Native Soils
- Smart Irrigation Systems
- Street Trees
- 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 checked="" 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>
On-site storm drain inlets	Mark inlets with words “No Dumping-flows to Ocean” or similar.	<p>Maintain and periodically repaint/replace inlet markings.</p> <p>Provide stormwater pollution prevention information to new owners, lessees, or operators.</p> <p>The following statement shall be included in all 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.”</p>
Landscaping/Outdoor pesticide use	<p>Final landscape plans shall preserve existing natural trees, shrubs and ground cover to maximum extent possible.</p> <p>Landscaping shall be designed to minimize irrigation and runoff, promote surface infiltration where appropriate and minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.</p> <p>Landscaped areas shall be designed to retain or detain stormwater.</p> <p>Lot owners shall consider using pest-resistant plants, especially adjacent to hardscape areas.</p> <p>Final landscape plans shall insure successful plant establishment, select plants appropriate to site soil conditions, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.</p>	<p>Maintain landscaping using minimum or no pesticides.</p> <p>Provide IPM information to new owners, lessees and operators</p>

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.

The main Source Control Best Management Practices (BMP's) used for this include marking all storm drain inlets with the words "No Dumping Drains to Ocean" or similar. Landscaping shall be designed to minimize irrigation and runoff and to promote surface infiltration where appropriate and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Landscaped areas shall be designed to retain or detain stormwater runoff. Final Landscaping plans shall preserve existing natural trees, shrubs and ground cover to the maximum extent possible. Final Landscaping Plans shall also insure successful plant establishment, select plants appropriate to site soil conditions, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions. Lot Owners shall be encouraged to consider using pest-resistant plants, especially adjacent to hardscape areas. The project consists of residential lots spread out through existing Orange and Avocado grooves and will not include large refuse areas, Industrial processes, Outdoor equipment storage areas, Vehicle equipment cleaning and repair areas, Fuel disposal, Loading docks, Fire Sprinklers or large parking lots so there will not be a need for any BMP's required for these areas.

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"/> A. On-site storm drain inlets	<input checked="" type="checkbox"/> Locations of inlets.	<input checked="" type="checkbox"/> Mark all inlets with the words “No Dumping! Flows to Bay” or similar where feasible.	<input checked="" type="checkbox"/> Maintain and periodically repaint or replace inlet markings. <input checked="" type="checkbox"/> Provide stormwater pollution prevention information to new site owners, lessees, or operators. <input checked="" type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at http://www.cabmphandbooks.com <input checked="" 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	<input type="checkbox"/>	<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	<input type="checkbox"/>	<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	<input type="checkbox"/>	<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"/> D2. Landscape/ Outdoor Pesticide Use <u>Note: Should be consistent with project landscape plan (if applicable).</u>	<input checked="" type="checkbox"/> Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. <input checked="" type="checkbox"/> Show self-retaining landscape areas, if any. <input checked="" type="checkbox"/> Show stormwater treatment facilities.	State that final landscape plans will accomplish all of the following: <input checked="" type="checkbox"/> Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. <input checked="" 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 checked="" type="checkbox"/> Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. <input checked="" type="checkbox"/> Consider using pest-resistant plants, especially adjacent to hardscape. <input checked="" 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 checked="" type="checkbox"/> Maintain landscaping using minimum or no pesticides. <input checked="" type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at http://www.cabmphandbooks.com <input checked="" type="checkbox"/> Provide IPM information to new owners, lessees and operators.
IF THESE SOURCES WILL BE	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE		

ON THE PROJECT SITE ...	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.	<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 http://www.cabmphandbooks.com
<input type="checkbox"/> F. Food service	<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.	

ON THE PROJECT SITE ...	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.)	<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"/> 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"> • Hazardous Waste Generation • Hazardous Materials Release Response and Inventory • California Accidental Release (CalARP) • Aboveground Storage Tank • Uniform Fire Code Article 80 Section 103(b) & (c) 1991 • Underground Storage Tank 	<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 http://www.cabmphandbooks.com

<input type="checkbox"/> J. Vehicle and Equipment Cleaning	<input type="checkbox"/> Show on drawings as appropriate: (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. (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). (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. (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.	<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.	<input type="checkbox"/> Describe operational measures to implement the following (if applicable): <input type="checkbox"/> Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. <input type="checkbox"/> Car dealerships and similar may rinse cars with water only. <input type="checkbox"/> See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at http://www.cabmphandbooks.com
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<input type="checkbox"/> K. Vehicle/Equipment Repair and Maintenance	<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. <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. <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.	<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. <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. <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>In the SUSMP report, note that all of the following restrictions apply to use the site:</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. <input type="checkbox"/> 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. <input type="checkbox"/> 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.
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<input type="checkbox"/> L. Fuel Dispensing Areas	<input type="checkbox"/> Fueling areas ¹ 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. <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 ¹ .] The canopy [or cover] shall not drain onto the fueling area.		<input type="checkbox"/> The property owner shall dry sweep the fueling area routinely. <input type="checkbox"/> See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at http://www.cabmphandbooks.com
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¹ 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"/> M. Loading Docks	<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. <input type="checkbox"/> 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"/> 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 www.cabmphandbooks.com
<input type="checkbox"/> N. Fire Sprinkler Test Water		<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 http://www.cabmphandbooks.com

<input type="checkbox"/> O. Miscellaneous Drain or Wash Water <input type="checkbox"/> Boiler drain lines <input type="checkbox"/> Condensate drain lines <input type="checkbox"/> Rooftop equipment <input type="checkbox"/> Drainage sumps <input type="checkbox"/> Roofing, gutters, and trim.		<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. <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. <input type="checkbox"/> Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. <input type="checkbox"/> Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. <input type="checkbox"/> Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
<input type="checkbox"/> P. Plazas, sidewalks, and parking lots.			<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.

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	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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	X	
Nutrients	x		X	X
Heavy Metals	x		X	
Organic Compounds	x		X	
Trash & Debris	x	X		
Oxygen Demanding	x		X	
Bacteria	x		X	
Oil & Grease	x		X	
Pesticides	x		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 & Hydrodynamic 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. Check both boxes if the facility is designed for both water quality and hydromodification flow control.

TABLE 12: PROJECT TCBMPS - BMPs designed to treat stormwater (e.g., LID and hydromod) shall be considered TCBMPS.

TCBMP Type		Water Quality Treatment	Hydromodification Flow Control
Bioretention Facilities (LID)			
<input checked="" type="checkbox"/>	Bioretention area	x	x
<input type="checkbox"/>	Flow-through Planter		
<input type="checkbox"/>	Cistern with Bioretention		
Basins			
<input checked="" type="checkbox"/>	Extended/dry detention basin with grass/vegetated lining	x	x
<input type="checkbox"/>	Extended/dry detention basin with impervious lining		
<input type="checkbox"/>	Underground vault		
<input type="checkbox"/>	Cistern		
Infiltration Devices (LID)			

<input type="checkbox"/>	Infiltration basin		
<input type="checkbox"/>	Infiltration trench		
<input type="checkbox"/>	Other:		
Wet Ponds and Constructed Wetlands			
<input type="checkbox"/>	Wet pond/basin (permanent pool)		
<input type="checkbox"/>	Constructed wetland		
Vegetated Swales (LID¹)			
<input type="checkbox"/>	Vegetated Swale		
Media Filters			
<input type="checkbox"/>	Austin Sand Filter		
<input type="checkbox"/>	Delaware Sand Filter		
<input type="checkbox"/>	Multi-Chambered Treatment Train (MCTT)		
Higher-rate Biofilters			
<input type="checkbox"/>	Tree-pit-style unit		
<input type="checkbox"/>	Other:		
Higher-rate Media Filters			
<input type="checkbox"/>	Vault-based filtration unit with replaceable cartridges		
<input type="checkbox"/>	Other:		
Hydrodynamic Separator Systems			
<input type="checkbox"/>	Swirl Concentrator		
<input type="checkbox"/>	Other:		
Trash Racks			
<input type="checkbox"/>	Catch Basin Insert		
<input type="checkbox"/>	Catch Basin Insert w/ Hydrocarbon boom		
<input type="checkbox"/>	Other:		
Self-Retaining Areas (LID)			
<input type="checkbox"/>	Permeable Pavements		
<input type="checkbox"/>	Self-Retaining		
<input type="checkbox"/>	Vegetated Roof		

¹ Must be designed per SUSMP “Vegetated Swales” design criteria for water quality treatment credit (p. 102-103).

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.**

Treatment Control BMPs ¹			
Description / Type	Sheet	Maintenance Category	Revisions
Bioretention Basin	Grading	1 and 2	
¹ 1 BMPs designed to treat stormwater (e.g., LID and hydromod) shall be considered TCBMPs.			

*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.

This project has decided to use bioretention facilities to treat potential pollutants of concern because they have a medium to high effectiveness in treating all pollutants of concern.

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

STEP 8

OPERATION AND MAINTENANCE

- Please check the box that best describes the maintenance mechanism(s) for this project. The recorded maintenance agreement shall be included in the Maintenance Plan for this project (Attachment F).

TABLE 13: PROJECT BMP CATEGORY

CATEGORY	SELECTED		BMP Description
	YES	NO	
First ¹	x		Basins completely within a single lot = Category 1 Basins off-site or treating streets = Category 2
Second ²	x		
Third ³			
Fourth ⁴			

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 Treatment Control BMPs (TCBMPs) incorporated into the project. Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of TCBMP provide an inspection sheet in Attachment F “Maintenance Plan”. Replicate Table 14 in Attachment G once the TCBMP has been constructed.

➤ Responsible Party for the Construction Phase:

Identify the parties responsible for maintenance during the construction phase of the BMPs identified above and Source Controls specified in Attachment B.

Developer's Name:	Sherrill Ann Schoepe				
Address:	P.O. Box 1249				
City:	Pauma Valley	State:	CA	Zip:	92061
Email Address:					
Phone Number:					
Engineer of Work:	Bradley Sager				
Engineer's Phone Number:	(760) 741-3570				

➤ Responsible Party for Ongoing 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.

Owner's Name:	Same as above				
Address:					
City:		State:		Zip:	
Email Address:					
Phone Number:					

* Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at time of project closeout.

➤ 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.

Future home owners association

ATTACHMENTS

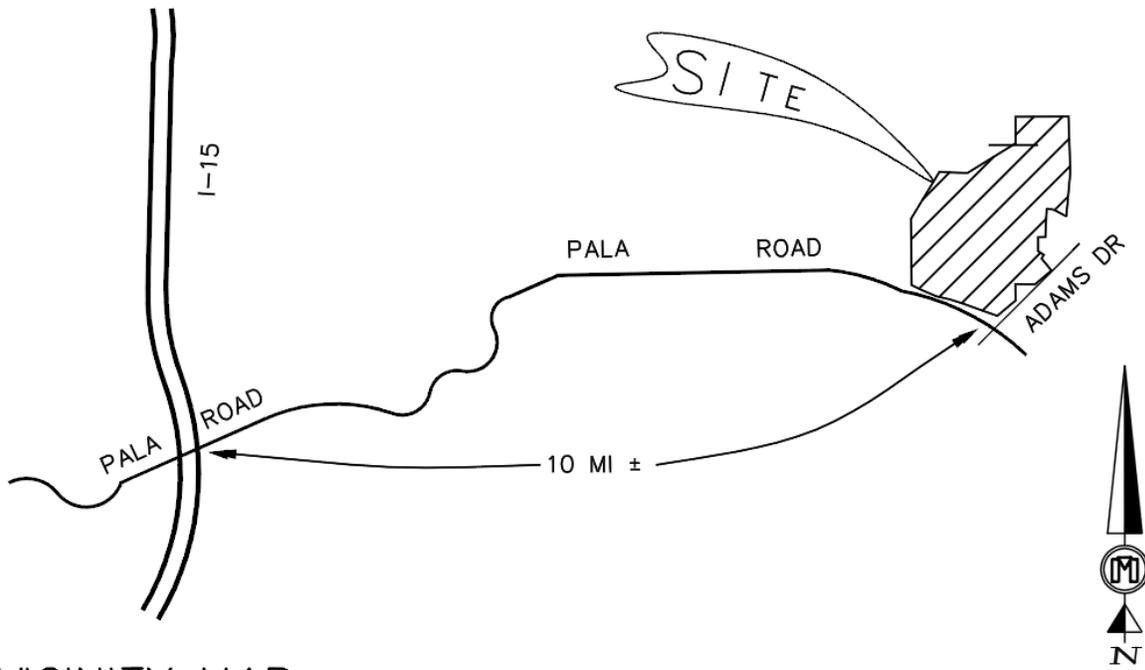
Please include the following attachments.

ATTACHMENT		COMPLETED	N/A
A	Project Location Map	x	
B	Source Control Exhibit	x	
C	Drainage Management Area (DMA) Exhibit	x	
D	BMP Sizing Design Calculations (Water Quality and Hydromodification) and TCBMP/IMP Design Details	x	
E	Geotechnical Certification Sheet	x	
F	Maintenance Plan	x	
G	Treatment Control BMP Certification (due at project completion)		x
H	HMP Study	x	
I	Geomorphic Assessment		x
J	HMP Exemption Documentation		x
K	Addendum		x

Note: Attachments B and C may be combined.

ATTACHMENT A

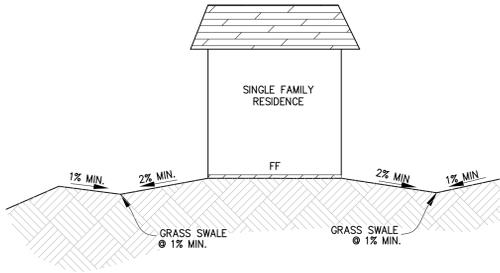
Project Location Map



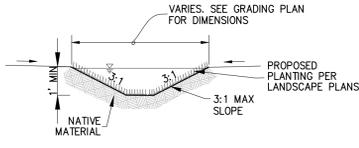
VICINITY MAP

NO SCALE

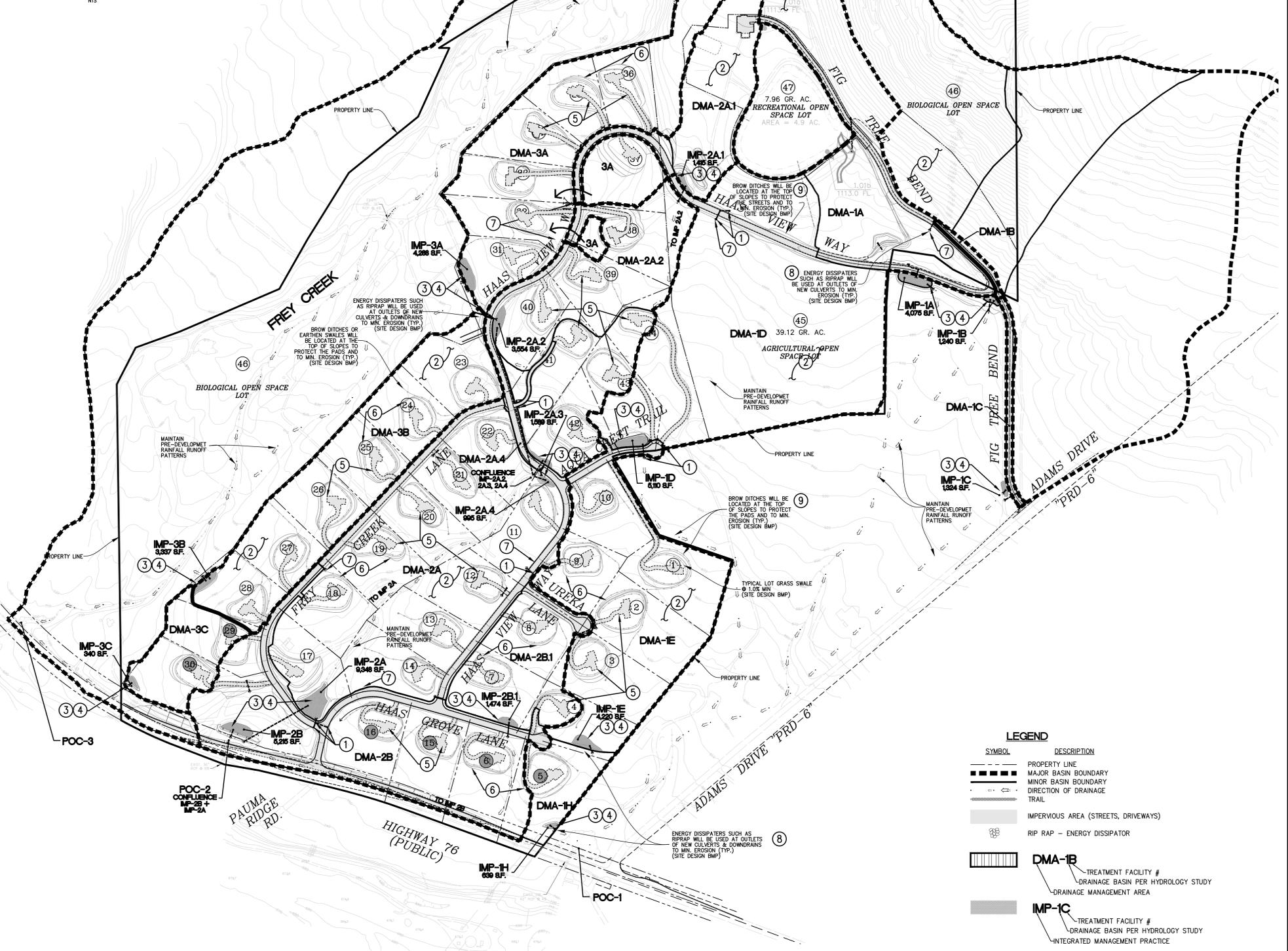
ATTACHMENT B
Source Control Exhibit



TYPICAL LOT DRAINAGE SECTION



EARTHEN SWALE DETAIL



LEGEND

SYMBOL	DESCRIPTION
---	PROPERTY LINE
---	MAJOR BASIN BOUNDARY
---	MINOR BASIN BOUNDARY
---	DIRECTION OF DRAINAGE TRAIL
---	IMPERVIOUS AREA (STREETS, DRIVEWAYS)
---	RIP RAP - ENERGY DISSIPATOR
---	DMA-1B TREATMENT FACILITY #
---	DRAINAGE BASIN PER HYDROLOGY STUDY
---	DRAINAGE MANAGEMENT AREA
---	IMP-1C TREATMENT FACILITY #
---	DRAINAGE BASIN PER HYDROLOGY STUDY
---	INTEGRATED MANAGEMENT PRACTICE

SINGLE RESIDENTIAL LOTS ARE DESIGNED TO INCORPORATE L.I.D. PRACTICES:
 1) ROOF RUNOFF TO RUN OVER THE LAWN BEFORE ENTERING THE STORM DRAIN;
 2) DISCONNECTING IMPERVIOUS SURFACES;
 3) PITCHING DRIVEWAYS TOWARDS YARDS TO FILTER THE RUNOFF;
 4) PAD GRADING WILL DIVERT RUNOFF AWAY FROM TOPS OF SLOPES;
 5) SLOPES WILL BE PERMANENTLY STABILIZED WITH LANDSCAPING.

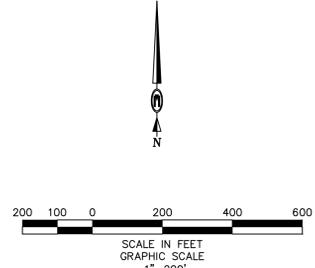
SOURCE CONTROL BMP EXHIBIT NOTES

SYMBOL	DESCRIPTION
①	ALL STORMDRAIN INLETS WILL BE MARKED WITH WORDS "NO DUMPING-FLOWS TO OCEAN" OR SIMILAR.
②	FINAL LANDSCAPE PLANS SHALL PRESERVE EXISTING NATURAL TREES, SHRUBS AND GROUND COVER TO THE MAXIMUM EXTENT POSSIBLE.
③	LANDSCAPING SHALL BE DESIGNED TO MINIMIZE IRRIGATION AND RUNOFF, PROMOTE SURFACE INFILTRATION WHERE APPROPRIATE AND MINIMIZE THE USE OF FERTILIZERS AND PESTICIDES THAT CAN CONTRIBUTE TO STORMWATER POLLUTION.
④	LANDSCAPED AREAS SHALL BE DESIGNED TO RETAIN OR DETAIN STORMWATER RUNOFF.
⑤	LOT OWNERS SHALL BE ENCOURAGED TO CONSIDER USING PEST-RESISTENT PLANTS, ESPECIALLY ADJACENT TO HARDSCAPE AREAS.
⑥	FINAL LANDSCAPE PLANS SHALL INSURE SUCCESSFUL PLANT ESTABLISHMENT, SELECT PLANTS APPROPRIATE TO SITE SOIL CONDITIONS, SLOPES, CLIMATE, SUN, WIND, RAIN, LAND USE, AIR MOVEMENT, ECOLOGICAL CONSISTENCY AND PLANT INTERACTIONS.
⑦	STREET AND HARDSCAPE RUNOFF WILL BE DIRECTED TO NATURAL OR LANDSCAPED EARTHEN SWALE FOR PRE-TREATMENT PRIOR TO DISCHARGING INTO BIORETENTION AREAS WHEREVER POSSIBLE.
⑧	RIP RAP
⑨	BROW DITCHING

TABLE 1. Summary of IMPs Characteristics

IMP #	Hydromed size (sq-ft)	WQ size (sq-ft)	IMP size (sq-ft)	Riser Diameter	H: Ponding depth (in)	R: Depth to discharge (ft)	Total surface depth, with 0.5' free-board (ft)	Drying time (hr)
IMP-1A	3147	4075	4075	42	15	6	27	55
IMP-1B	394	1240	1240	30	15	4	25	71
IMP-1C	1324	1068	1324	12	10	2	18	48
IMP-1D	1021	5110	5110	48	10	5	21	37
IMP-1E	1823	4220	4220	42	10	4	21	37
IMP-1F								
IMP-1G								
IMP-1H	333	639	639	12	10	2	18	37
IMP-2A	4352	9348	9348	48	10	5	21	37
IMP-2A1	1353	1415	1415	36	10	3	21	37
IMP-2A2	2359	3554	3554	48	10	3	21	37
IMP-2A3	568	1589	1589	24	10	3	21	37
IMP-2A4	995	957	995	12	10	2	18	37
IMP-2B	529	5215	5215	36	10	5	21	37
IMP-2B1	647	1474	1474	24	10	3	21	37
IMP-3A	1764	4288	4288	42	10	5	21	37
IMP-3B	1392	3337	3337	36	10	4	21	37
IMP-3C	108	340	340	18	10	2	18	37

* REMOVED PER DESIGN CHANGE 12-9-2013 DUE TO CHANGES IN FINAL DESIGN (IF AND 1G NO LONGER NEEDED).

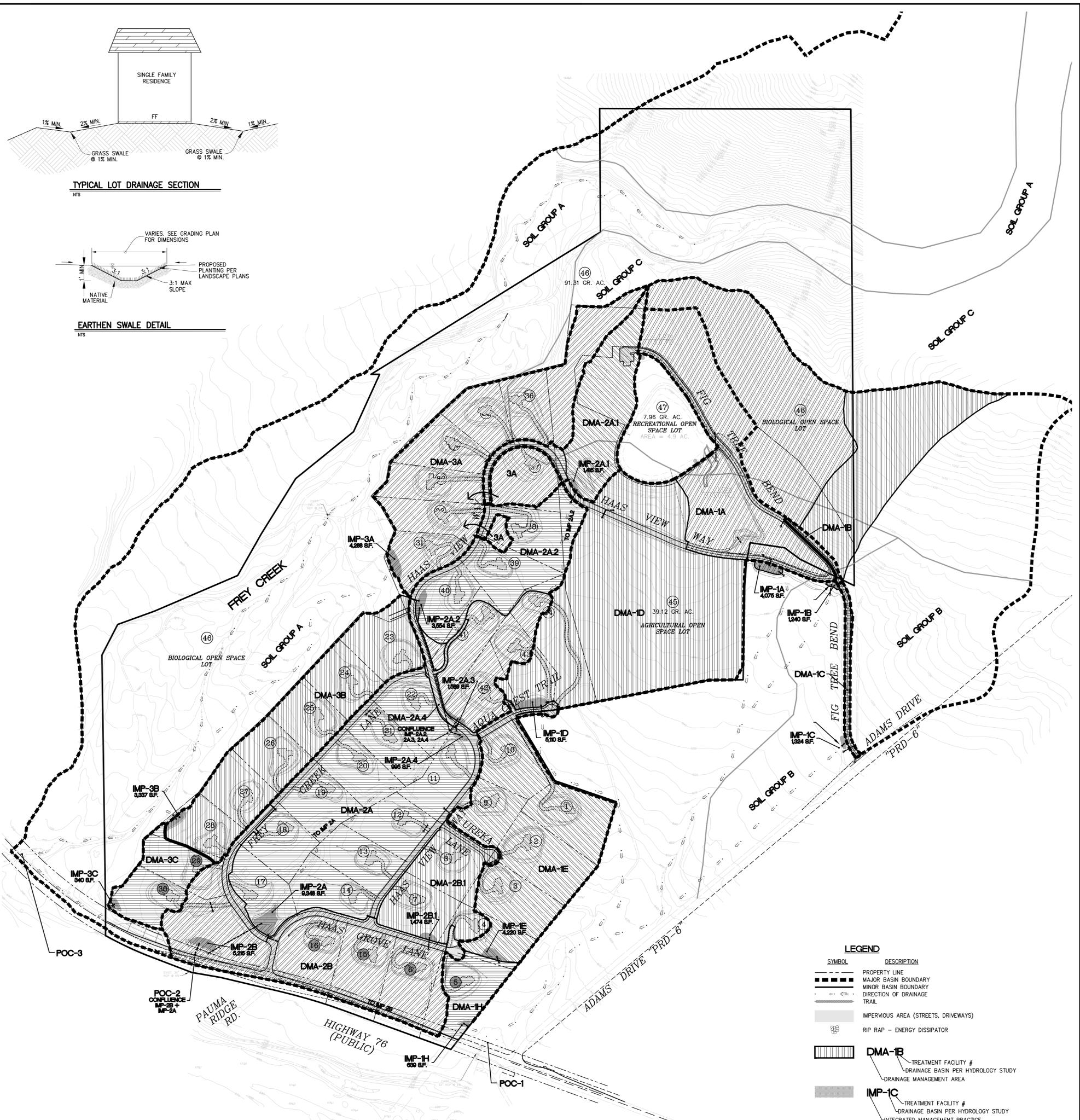
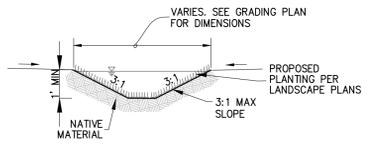
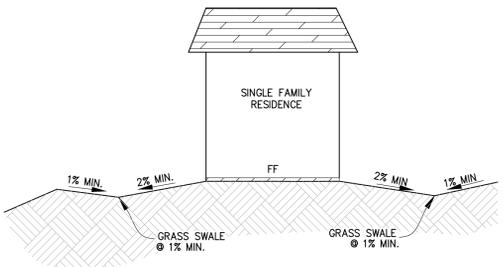


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EXHIBIT "B"
SOURCE CONTROL EXHIBIT
SHADOW RUN RANCH, PAUMA VALLEY
TRACT NO. TM 5233 RPL-3
 PN 4201 Date: July 29, 2014

Date: July 29, 2014 - 11:42 AM by: dmasson File: I:\DWG\CA\5233\PROD\Reports\5233\SWMP.dwg

ATTACHMENT C
Drainage Management Area (DMA) Exhibit



LEGEND

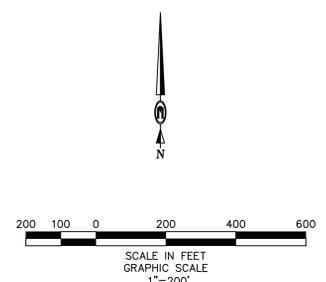
SYMBOL	DESCRIPTION
---	PROPERTY LINE
---	MAJOR BASIN BOUNDARY
---	MINOR BASIN BOUNDARY
---	DIRECTION OF DRAINAGE
---	TRAIL
---	IMPERVIOUS AREA (STREETS, DRIVEWAYS)
---	RIP RAP - ENERGY DISSIPATOR
---	DMA-1B - TREATMENT FACILITY #, DRAINAGE BASIN PER HYDROLOGY STUDY, DRAINAGE MANAGEMENT AREA
---	IMP-1C - TREATMENT FACILITY #, DRAINAGE BASIN PER HYDROLOGY STUDY, INTEGRATED MANAGEMENT PRACTICE

- SINGLE RESIDENTIAL LOTS ARE DESIGNED TO INCORPORATE L.I.D. PRACTICES:
- 1) ROOF RUNOFF TO RUN OVER THE LAWN BEFORE ENTERING THE STORM DRAIN;
 - 2) DISCONNECTING IMPERVIOUS SURFACES;
 - 3) PITCHING DRIVEWAYS TOWARDS YARDS TO FILTER THE RUNOFF;
 - 4) PAD GRADING WILL DIVERT RUNOFF AWAY FROM TOPS OF SLOPES.
 - 5) SLOPES WILL BE PERMANENTLY STABILIZED WITH LANDSCAPING.

* REMOVED PER DESIGN CHANGE 12-9-2013 DUE TO CHANGES IN FINAL DESIGN (IF AND IG NO LONGER NEEDED).

Table of Areas in Pre and Post Development conditions for all IMPs.

DAM Area	Pre-Development Conditions												Post-Development Conditions														
	Pervious, Soil Type A			Pervious, Soil Type B			Pervious, Soil Type C			Impervious			TOTAL AREA	CHECK	Pervious, Soil Type A			Pervious, Soil Type B			Pervious, Soil Type C			House / Driveway / Streets Impervious			TOTAL AREA
	0% - 5%	5% - 15%	≥ 15%	0% - 5%	5% - 15%	≥ 15%	0% - 5%	5% - 15%	≥ 15%	A	B	C			0% - 5%	5% - 15%	≥ 15%	0% - 5%	5% - 15%	≥ 15%	0% - 5%	5% - 15%	≥ 15%	A	B	C	
IMP-1A	0.30	2.38	3.42	0.01	0.02	0.06	0.66	2.27	14.38	0.08	0.01	0.23	23.82	0.00	0.29	2.03	3.42	0.00	0.01	0.61	1.93	14.29	0.44	0.08	0.71	23.82	
IMP-1B	0.01	0.01	1.69	0.07	0.33	0.97	0.26	0.30	5.74	0.00	0.00	0.02	9.40	0.00	0.01	0.01	1.66	0.06	0.60	0.69	0.14	0.42	5.67	0.03	0.02	0.09	9.40
IMP-1C	0.00	0.00	0.00	0.09	0.13	0.19	0.00	0.00	0.00	0.00	0.00	0.23	0.64	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.64	
IMP-1D	0.19	15.83	6.45	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	22.67	0.00	0.05	15.58	6.30	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	22.67	
IMP-1E	0.31	12.63	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	14.05	0.00	2.13	9.20	1.59	0.00	0.00	0.00	0.00	0.00	1.13	0.00	0.00	14.05	
IMP-1F	0.03	0.49	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.60	
IMP-1G																											
IMP-1H																											
SUBTOTAL																											
DA-1	0.94	33.50	12.80	0.17	0.48	1.22	0.92	2.57	20.12	1.26	0.24	0.25	74.47	0.00	3.16	28.13	13.35	0.09	0.61	0.70	2.35	19.96	3.86	0.71	0.80	74.47	
IMP-2A	1.16	17.56	3.75	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	23.59	0.00	4.37	10.98	4.90	0.00	0.00	0.00	0.00	0.00	3.34	0.00	0.00	23.59	
IMP-2A.1	0.00	0.21	1.20	0.00	0.00	0.00	0.21	3.38	0.42	0.00	0.00	0.00	5.42	0.00	0.06	0.12	1.20	0.00	0.00	0.00	0.00	0.19	3.10	0.45	0.03	0.27	5.42
IMP-2A.2	0.07	6.32	2.25	0.00	0.00	0.00	0.00	0.07	0.31	0.18	0.00	0.01	9.21	0.00	1.39	4.33	2.06	0.00	0.00	0.00	0.01	0.05	1.04	0.00	0.19	9.21	
IMP-2A.3	0.02	5.15	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	5.61	0.00	1.49	2.96	0.77	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	5.61	
IMP-2A.4	0.01	0.58	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.72	0.00	0.09	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.72	
IMP-2B	1.21	8.97	2.82	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	14.45	0.00	2.37	6.91	3.45	0.00	0.00	0.00	0.00	0.00	1.72	0.00	0.00	14.45	
IMP-2B.1	0.03	5.38	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.49	0.00	1.45	3.35	0.36	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	5.49	
SUBTOTAL																											
DA-2	2.50	44.17	10.56	0.00	0.00	0.00	0.21	3.45	0.73	2.86	0.00	0.01	64.49	0.00	11.22	28.74	12.75	0.00	0.00	0.00	0.20	3.15	0.59	7.38	0.00	0.46	64.49
IMP-3A	0.15	9.75	1.98	0.00	0.00	0.00	0.05	2.26	2.32	0.00	0.00	0.00	16.51	0.00	1.62	6.47	2.89	0.00	0.00	0.00	0.51	1.99	2.13	0.90	0.00	0.00	16.51
IMP-3B	0.48	9.96	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.76	0.00	2.32	7.07	2.66	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	12.76	
IMP-3C	0.01	1.10	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.00	0.01	0.99	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	
SUBTOTAL																											
DA-3	0.64	20.81	5.14	0.00	0.00	0.00	0.05	2.26	2.32	0.00	0.00	0.00	31.22	0.00	3.95	14.53	6.50	0.00	0.00	0.00	0.51	1.99	2.13	1.61	0.00	0.00	31.22
TOTALS	4.08	98.48	28.50	0.17	0.48	1.22	1.18	8.28	23.17	4.12	0.24	0.26	170.19	-0.01	18.33	71.40	32.60	0.09	0.61	0.70	1.46	7.49	22.68	12.85	0.71	1.26	170.18



Planning ▲ Engineering ▲ Surveying Solved.

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EXHIBIT 'C'
DRAINAGE MANAGEMENT AREA (DMA) EXHIBIT
SHADOW RUN RANCH, PAUMA VALLEY
TRACT NO. TM 5233 RFL-3

PN 4201 Date: July 29, 2014

Date: July 29, 2014 - 11:42 AM by: dmasson File: I:\DWG\CA\4201\PRD\Reports\3\SWMP.dwg

ATTACHMENT D

Sizing Design Calculations and TCBMP/LID Design Details
(Provide BMP Sizing Calculator results and/or continuous simulation modeling results, if applicable)

“See Attachment H”

Hydromodification report prepared by TWE

Dated: May 1st, 2012

Reviewed: December 9th, 2013

ATTACHMENT E

Geotechnical Certification Sheet (if applicable)

The design of stormwater treatment and other control measures proposed in this plan requiring specific soil infiltration characteristics and/or geological conditions has been reviewed and approved by a registered Civil Engineer, Geotechnical Engineer, or Geologist in the State of California.

S. Mahdi S. Sherist, GE 2885
Name and registration #

9/14/12
Date



ATTACHMENT F

Maintenance Plan

(Use Chapter 5 of the SUSMP as guidance in developing your maintenance plan)

Introduction:

The project site is 248 acres in size and will consist of 44 single family residential lots and streets to access all lots. The sites drainage consists of three drainage basins traversing the site from north to south and discharging the site in three separate locations along the southern boundary. One relatively large basin approximately 4 square miles in size (Frye Creek) crosses the site along the western side of the property. Stormwater runoff discharges the site at the along the southern boundary near the western side of the property at the Bridge along State Highway 76. The other two basins are less than one square mile and drain north to south through the site discharging the site along the southern boundary where existing culverts transport runoff under State Highway 76. The main treatment utilized in this project will consist of site landscaping and 16 separate landscaped bio-retention facilities located throughout the site. Stormwater runoff discharging off residential homes, driveways and streets will be routed to bio-retention basins for treatment prior to discharging back to the natural drainage patterns. The site consists of large areas of existing orange and avocado grooves that will remain undisturbed. Stormwater runoff from these areas will also be routed to the bio-retention basins for treatment.

Maintenance Responsibility:

The property Owner or home owners association will be ultimately responsible for ensuring that the treatment facilities are properly maintained. Many of the facilities are located on individual lots so some sort of maintenance agreement will eventually be formed but at this time the owner of the property is responsible.

Owner:

Sherrill Ann Schoepe
Shadow Run Ranch, LLC
P.O. Box 1249
Pauma Valley, CA 92061
(760) 742-1893

Facility Maintenance:

The individual bio-retention basins will be landscaped so a lot of the maintenance will be normal landscaping maintenance that consists of keeping the area clear of trash and debris, keeping the plants trimmed and well maintained and keeping the area clear of large deposits of sediment. Outlet structures will have to be inspected regularly to ensure that they are clear of trash and debris and function as intended. A maintenance plan will be developed specifically for this site that will include a maintenance and inspection schedule for each facility that will outline specific inspection routines and describe proper maintenance procedures during final engineering.

ATTACHMENT G

Treatment Control BMP Certification for DPW Permitted Land Development Projects



County of San Diego

DEPARTMENT OF PUBLIC WORKS

Treatment Control BMP Certification for DPW Permitted Land Development Projects

Permit Number (e.g. L-grading) _____ HSU Watershed _____

Project Name _____

Location / Address _____

Maintenance Notification/Agreement No.: _____

Responsible Part for Construction Phase

Developer's Name: _____

Address: _____

City _____ State _____ Zip _____

Email Address: _____

Phone Number: _____

Engineer of Work: _____

Engineer's Phone Number: _____

Responsible Party for Ongoing Maintenance

Owner's Name(s)* _____

Address: _____

City _____ State _____ Zip _____

Email Address: _____

Phone Number: _____

Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at time of project closeout.

For Applicant to submit to PDCI:

- Copy of the final accepted SWMP and any accepted addendum.
- Copy of the most current plan showing the Stormwater TCBMP Table, plans/cross-section sheets of the TCBMPs and the location of each verified as-built TCBMP.
- Photograph of each TCBMP.
- Copy of the approved TCBMP maintenance agreement and associated security

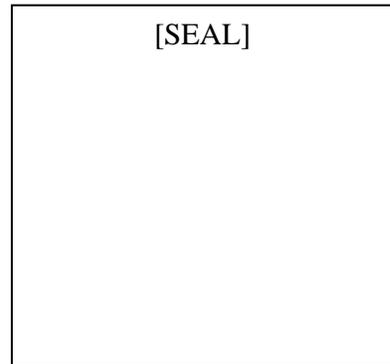
By signing below, I certify that the treatment control BMP(s) for this project have been constructed and all BMPs are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved plans and Watershed Protection Ordinance. Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Please sign your name and seal.

Professional Engineer's Printed Name:

Professional Engineer's Signed Name:

Date: _____



ATTACHMENT H

HMP Study

(Contract County staff to determine if this should be a separate report from the Major SWMP)

See Hydromodification report prepared by TWE

Dated: May 1st, 2012

Reviewed: December 9th, 2013

ATTACHMENT I

Geomorphic Assessment

(Contract County staff immediately if you are planning to conduct a Geomorphic Assessment. A Geomorphic Assessment must be performed if the project is using a “Medium” low flow threshold of $.03Q_2$ or a “High” low flow threshold of $0.5 Q_2$)

N/A

ATTACHMENT J

HMP Exemption Documentation (if applicable)

N/A

ATTACHMENT K

Addendum