

**Major Stormwater Management Plan
(Major SWMP)
For
CROSBY ENCLAVE**

**Preparation/Revision Date:
March 9, 2012**

Prepared for:

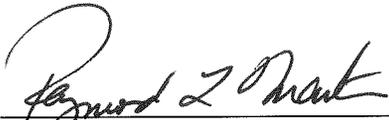
California West Homes
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Prepared by:

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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.





Raymond L. Martin, RCE# 48670



Date

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:	The Crosby Enclave
Project Location:	The proposed Crosby Enclave site is located south of Del Dios Highway and north of Bing Crosby Boulevard, within the County of San Diego, California.
Permit Number (Land Development Projects):	
Work Authorization Number (CIP only):	
Applicant:	California West Homes
Applicant's Address:	5927 Priestly Drive, Suite 103 Carlsbad, CA 92008
Plan Prepared By (<i>Leave blank if same as applicant</i>):	Hunsaker & Associates - San Diego, Inc.
Preparer's Address:	9707 Waples San Diego, CA 92121
Date:	July 25, 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
	YES	NO	
Tentative Map		X	

Instructions for a Major SWMP can be downloaded at http://www.co.san-diego.ca.us/dpw/watersheds/susmp/susmppdf/susmp_manual.pdf

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 subdivision 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 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 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 8.05 ac

Estimated amount of disturbed acreage: 4.95 (Acres or ft²)

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

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: 8.05 ac

B. Total impervious area (including roof tops) before construction: 0.0 ac

C. Total impervious area (including roof tops) after construction: 1.52 ac

Calculate percent impervious before construction: B/A 0.0 %

Calculate percent impervious after construction: C/A 18.9 %

Please provide detailed descriptions regarding the following questions:

TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS

1.	Please provide a brief description of the project. The proposed Crosby Enclave site is located south of Del Dios Highway and north of Bing Crosby Boulevard, within the County of San Diego, California (see Vicinity Map in Attachment A). The 8.05 -acre property will consist of the grading of 13 single family pads with a private road and an internal drainage system.
2.	Describe the current and proposed zoning and land use designation. Per the County of San Diego, the current and proposed zoning and land use designation for this site is estate residential.
3.	Describe the pre-project and post-project topography of the project. (Show on Plan) The existing 8.05 acre site includes a slope to the north, tying in with the landscaping adjacent to of Del Dios Highway, and a rough graded pad currently containing 3 portable structures connected by decomposed granite and paved surfaces. The low point of the site is located at the bottom of an existing desilting basin. In post-development condition, the site topography will be altered by the addition of graded pads and a paved access street. The general slope of the site, from west to east, will remain as existing drainage facilities are to be utilized.
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. According to the NRCS Web Soil Survey, the project soils consist of Huerhuero loam which is categorized as hydrologic soil type “D”. Soil Type “D” soils have very slow infiltration rates and are considered to be the least permeable soil type. Infiltration is therefore not recommended for this site. The K factor of soil indicates the susceptibility of a soil to sheet and rill erosion by water where soil erosivity increases with an increasing K factor. According to the NRCS Web Soil Survey, the K Factor for the soil is approximately 0.37. Values of K range from 0.02 (least erosive) to 0.69 (most erosive). The K value of 0.37 for this site is moderate when compared to this range of values. The erosion potential for the site is therefore medium. Since no infiltration facilities are being proposed for this site, groundwater is not an issue for this development.
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan) A complete soils report has not been performed at this time, but will accompany this report during final engineering. Due to the undeveloped nature of the project in the pre-developed condition, hazardous soils are not expected onsite.
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan) The existing 8.05 acre site contains a slope to the north and an adjacent rough graded pad, all of which drain via overland flow towards the eastern boundary. Runoff is then captured in a desilting basin and discharged to an adjacent lined channel. The channel drains directly to the receiving San Dieguito River.

In developed condition, the site's drainage will be altered by the addition of graded pads and access street. Onsite drainage patterns will generally match the pre-developed condition, in that they will discharge to the existing lined channel. Each graded pad will collect and direct its runoff towards either a vegetated swale (DMA 1) or a Modular Wetlands biofiltration unit (DMA 2), both of which drain to the main storm drain system after treatment.

7. Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.

The site is located within a hilly area with a Type 'D' soil per the NRCS Web Soil Survey web site. This will not allow for infiltration facilities and limit the use of vegetative swales to flatter sloped areas.

Opportunities presented from the site design include an available area adjacent to the proposed road, which will allow room for placement of a vegetated swale. The catch basin and open space at the end of the proposed road provide the opportunity to use the Modular Wetlands Unit.

8. Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects*?

Yes No

9. Is this an emergency project?

Yes No

CHANNELS & DRAINAGES

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

TABLE 3: PROJECT SPECIFIC STORMWATER ANALYSIS

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project include work in channels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If YES go to 2 If NO go to 13.
2.	Will the project increase velocity or volume of downstream flow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If YES go to 6.
3.	Will the project discharge to unlined channels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If YES go to 6.
4.	Will the project increase potential sediment load of downstream flow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If YES go to 8.
6.	Review channel lining materials and design for stream bank erosion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Continue to 7.
7.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Continue to 8.
8.	Include, where appropriate, energy dissipation devices at culverts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Continue to 9.
9.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Continue to 10.
10.	Include, if appropriate, detention facilities to reduce peak discharges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Continue to 12.
12.	Provide other design principles that are comparable and equally effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 checked="" 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 type="checkbox"/> Vehicle and Equipment Maintenance | |
- 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
Exemption potentially available for projects that require advanced treatment:

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.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtmlds.pdf	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	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.	<input type="checkbox"/>	<input type="checkbox"/>	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 shows 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 issues.

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input type="checkbox"/>	If NO, continue to 6. If YES, go to 7.
6.	Project is required to manage hydromodification impacts.	<input type="checkbox"/>	<input type="checkbox"/>	Reference Appendix G "Hydromodification Management Plan" of the County SUSMP.
7.	Project is not required to manage hydromodification impacts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 type="checkbox"/> Carlsbad 904
<input checked="" 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

HYDROLOGIC SUB-AREA NAME AND NUMBER(S)

Number	Name
905.11	San Dieguito River

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

SURFACE WATERS that each project discharge point proposes to discharge to. List the impairments identified in Table 7.

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs]	Distance to Project
San Dieguito River	905.11		<0.1 miles

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmlds.pdf

GROUND WATERS

Ground Waters	Hydrolo gic Unit Basin Number	MUN	AGR	IND	PROC	CWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Solana Beach HA	905.10	•	•	•												

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 ⁽¹⁾	P ⁽²⁾	P	X
Commercial Development 1 acre or greater	P ⁽¹⁾	P ⁽¹⁾		P ⁽²⁾	X	P ⁽⁵⁾	X	P ⁽³⁾	P ⁽⁵⁾
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	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		
Streets, highways & Freeways	X	P ⁽¹⁾	X	X ⁽⁴⁾	X	P ⁽⁵⁾		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	X	
Heavy Metals	X		
Organic Compounds	X		
Trash & Debris	X		
Oxygen Demanding Substances	X	X	
Oil & Grease	X		
Bacteria & Viruses	X		Bacteria: Water containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life.
Pesticides	X		

Based on Table 7, the primary pollutants of concern are bacteria. The secondary pollutants of concern are sediments, nutrients, heavy metals, organic compounds, trash & debris, oxygen demanding substances, oil & grease, and pesticides.

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.

TABLE 8: LID AND SITE DESIGN

1. Conserve natural Areas, Soils, and Vegetation
<input type="checkbox"/> Preserve well draining soils (Type A or B)
<input type="checkbox"/> Preserve Significant Trees
<input checked="" 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 type="checkbox"/> Set-back development envelope from drainages
<input checked="" 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 checked="" type="checkbox"/> Restrict heavy construction equipment access to planned green/open space areas
<input type="checkbox"/> Re-till soils compacted by construction vehicles/equipment
<input 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 & Road Design</u>
<input checked="" 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 type="checkbox"/> Other. Description:
<u>LID Parking Lot Design</u>
<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 type="checkbox"/> Cisterns & Rain Barrels
<input type="checkbox"/> Downspout to bioretention
<input type="checkbox"/> Vegetated Roofs
<input type="checkbox"/> Other. Description:
<u>LID Landscaping Design</u>
<input type="checkbox"/> Soil Amendments
<input 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 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 42 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.
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 in a table in your Project-Specific SUSMP.
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

Potential Sources of Pollutants	Permanent source control BMPs	Operational source control BMPs
On-site storm drain inlets	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	<p>Maintain and periodically repaint or replace inlet markings.</p> <p>Provide stormwater pollution prevention information to new site owners, lessees, or operators.</p> <p>See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p> <p>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."</p>
Landscape/Outdoor Pesticide Use	<p>Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.</p> <p>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.</p> <p>Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.</p> <p>To insure successful establishment, select plants appropriate to site soils, 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>See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.</p> <p>Provide IPM information to new owners, lessees and operators.</p>
Miscellaneous Drain or Wash Water : Rooftop Equipment, Water Roofing, gutters, and trim	<p>Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment.</p> <p>Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.</p>	
Plazas, sidewalks and parking lots.		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.

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.

This project has incorporated a few permanent and operational source control BMP features in the site design. The Source Control Exhibit in Attachment B was prepared per the County of San Diego SUSMP Manual and details the source control BMPs to be used on this project.

There are strategic ways this site can promote water quality awareness. To discourage polluting, markings at the catch basin and at curb cut locations could indicate that downstream storm drain outlets into receiving waters. Future homeowners within the site could also be made aware of the effects of polluting with literature distributed by the Homeowners Association or current owner.

Manufactured slopes should be landscaped with suitable ground cover or installed with an erosion control system. Homeowners should be educated as to the proper routine maintenance to landscaped areas including trimming, pruning, weeding, mowing, replacement or substitution of vegetation in ornamental and required landscapes. During landscaping operations both during and after construction, landscape maintenance should be completed proactively.

Permanent housing features like roofs, gutters, and trim could introduce potential pollutants by the mere material they are composed of. Specify that copper or any other unprotected metal is highly discouraged for the home construction since they will tend to leach into the runoff.

Litter or debris throughout the constructed site should be addressed and disposed as soon as possible via sweeping, raking, or pressure washing in order to prevent their accumulation. In addition, the discharge from pressure washing should be discharged into the sanitary sewer rather than the downstream storm drain.

IF THESE SOURCES WILL BE ON THE PROJECT SITE...	...THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table and Narrative
<input checked="" type="checkbox"/> A. On-site storm drain inlets	<input checked="" type="checkbox"/> Location of inlets.	<input checked="" type="checkbox"/> Mark all inlets with the words “No Dumping! Flows to Bay” or similar.	<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 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"/> 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"/> 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 SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table and Narrative
<input type="checkbox"/> D. Need for future indoor & structural pest control		<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 SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table and Narrative
<input checked="" type="checkbox"/> D2. Landscape/ Outdoor Pesticide Use <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 checked="" type="checkbox"/> Show stormwater treatment facilities	<p>State that final landscape plans will accomplish all of the following:</p> <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 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 www.cabmphandbooks.com . <input checked="" 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 SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table 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 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.	<input type="checkbox"/>

IF THESE SOURCES WILL BE ON THE PROJECT SITE...	...THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table and Narrative
<input type="checkbox"/> G. Refuse areas	<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 www.cabmphandbooks.com
<input type="checkbox"/> H. Industrial processes.	<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 www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE...	...THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCES CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls – Show on Source Control Exhibit, Attachment B	3 Permanent Controls – List in SUSMP Table and Narrative	4 Operational BMPs – Include in SUSMP Table 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"/> 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"> ▪ 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 Fact Sheet SC-31, “Outdoor Liquid Container Storage” and SC-33, “Outdoor Storage of Raw Materials” in the CASQA Stormwater Quality Handbooks at 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 shutoff 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.	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 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 Area	<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 sweep the fueling area routinely. <input type="checkbox"/> See the Business Guide Sheet, "Automotive Service - Service, Stations" in the CASQA Stormwater Quality Handbooks at 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 www.cabmphandbooks.com

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> O. Miscellaneous Drain or Wash Water <input type="checkbox"/> Boiler drain lines <input type="checkbox"/> Condensate drain lines <input checked="" type="checkbox"/> Rooftop equipment <input type="checkbox"/> Drainage sumps <input checked="" type="checkbox"/> Roofing, gutters, and trim 		<ul style="list-style-type: none"> <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 checked="" 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 checked="" type="checkbox"/> Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. 	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> P. Plazas, sidewalks and parking lots. 			<ul style="list-style-type: none"> <input checked="" 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 facility 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 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? (If yes, please document in Attachment D following the steps in Chapter 4 of the County SUSMP)	
Yes	<input checked="" type="radio"/> 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.	
<p>This project does not propose bioretention, or the similar BMPs listed in Chapter 4 that use the unified LID design procedure, but instead proposes to use vegetated and a Modular Wetlands biofiltration unit as alternative treatment facilities that use an alternative sizing method other than the unified LID design procedure that includes sizing factors.</p> <p>The vegetated swale used to treat the northern portion of the crowned road, in addition to the driveways on the north side of the road, was designed using flow-based calculations for the 85th percentile flow rate. This flow rate was then used with Manning’s Equation and an overall vegetated swale design to obtain a flow velocity. The required swale length for the project was calculated by multiplying the 85th percentile velocity by the minimum required retention time of 10 minutes. For discussion on the acceptability of vegetated swales, please refer to page 97 of the County SUSMP dated Jan 8, 2011.</p> <p>A Modular Wetlands Unit has been selected as a Structural Treatment BMP for this project. As bioretention is the preferred method of treatment, potential bioretention areas were considered in the BMP selection process; however, area and volume requirements exceeded the capacity of bioretention area and volume available.</p> <p>The Modular Wetlands unit will be designed using flow-based calculations for the 85th percentile flow rate, and based on sizing recommendations by Bioclean Environmental, a unit will be selected. See Appendix 3 for the Modular Wetlands concept sheet and flow calculations.</p> <p>The DMA calculations were performed as recommended in the County of San Diego SUSMP.</p>	

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

Pollutant	Check Project Specific POCs	Course 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	

- Bacteria is the only primary pollutant of concern for this project.

► 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 Facilities or Practices (LID)	Media Filters	Higher-rate biofilters*	Higher-rate media filters*	Trash Racks & Hydro-dynamic Devices	Vegetated Swales
Course 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 BMP(s) and / or LID BMP selected for this project.

TABLE 12: PROJECT LID AND TC-BMPS

Bioretention Facilities (LID)
<input type="checkbox"/> Bioretention area
<input type="checkbox"/> Flow-through Planter
<input type="checkbox"/> Cistern with Bioretention Facility
Settling Basins (Dry Ponds)
<input type="checkbox"/> Extended / dry detention basin with grass / vegetated lining
<input type="checkbox"/> Extended / dry detention basin with impervious lining
Infiltration Facilities or Practices (LID)
<input type="checkbox"/> Infiltration basin
<input type="checkbox"/> Dry well
<input type="checkbox"/> Infiltration trench
Wet Ponds and Constructed Wetlands
<input type="checkbox"/> Wet pond / basin (permanent pool)
<input type="checkbox"/> Constructed wetland
Vegetated Swales (LID ⁽¹⁾)
<input checked="" 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 checked="" type="checkbox"/> Other <u>Modular Wetlands</u>
Hydrodynamic Separator Systems
<input type="checkbox"/> Swirl Concentrator
<input type="checkbox"/> Cyclone Separator
Trash Racks
<input type="checkbox"/> Catch Basin Insert
<input type="checkbox"/> Catch Basin Insert w/ Hydrocarbon boom
<input type="checkbox"/> Other _____
Self-Treating or Self-Retaining Areas (LID)
<input type="checkbox"/> Pervious Pavements
<input type="checkbox"/> Vegetated Roofs
<input type="checkbox"/> Other _____

⁽¹⁾ Must be designated per SUSMP “Vegetated Swales” design criteria for LID 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 facilities 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 and LID BMPs			
Description / Type	Sheet	Maintenance Category	Revisions
Vegetated Swale		Category 1	
Modular Wetlands Unit		Category 2	

* 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 BMP(s) was selected for this project. For project utilizing a low performing BMP, please provide a feasibility analysis that demonstrates utilization of a treatment facility with a high or medium removal efficiency ranking is infeasible.

The vegetated swale and Modular Wetlands Unit were chosen as the treatment control BMPs for this site because of their effectiveness in removing pollutants of concern. The impervious areas from the northern road and driveways will receive treatment via a proposed vegetated swale or and the southern portion of the street will be treated by the Modular Wetlands Unit.

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.

TABLE 13: PROJECT BMP CATEGORY

CATEGORY	SELECTED		BMP Description
	YES	NO	
First	X		Vegetated Swale Modular Wetlands Unit
Second ¹	X		
Third ²		X	
Fourth		X	

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)
Modular Wetlands	BioClean Environmental	TBD	(H, M, L)
Vegetated Swale	CASQA TC-30	TBD	(H, M, L)

*For location of BMPs, 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 “Private Ownership and Maintenance” on page 94 of the County SUSMP for appropriate maintenance mechanisms.

Representative Name: California West Homes
Company Name: California West Homes
Phone Number: (760) 918-6768
Street Address: 5927 Priestly Drive, Suite 103
City / State / Zip: Carlsbad, CA 92008
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.

Maintenance of the site BMPs will be the responsibility of California West Homes and to be funded by California West Homes until a formal agreement with a local HOA is developed. A maintenance plan will be developed and will include the following information:

Specification of routine and non-routine maintenance activities to be performed.

A schedule for maintenance activities.

Name, qualifications, and contact information for the parties responsible for maintaining the BMPs

ATTACHMENTS

Please include the following attachments.

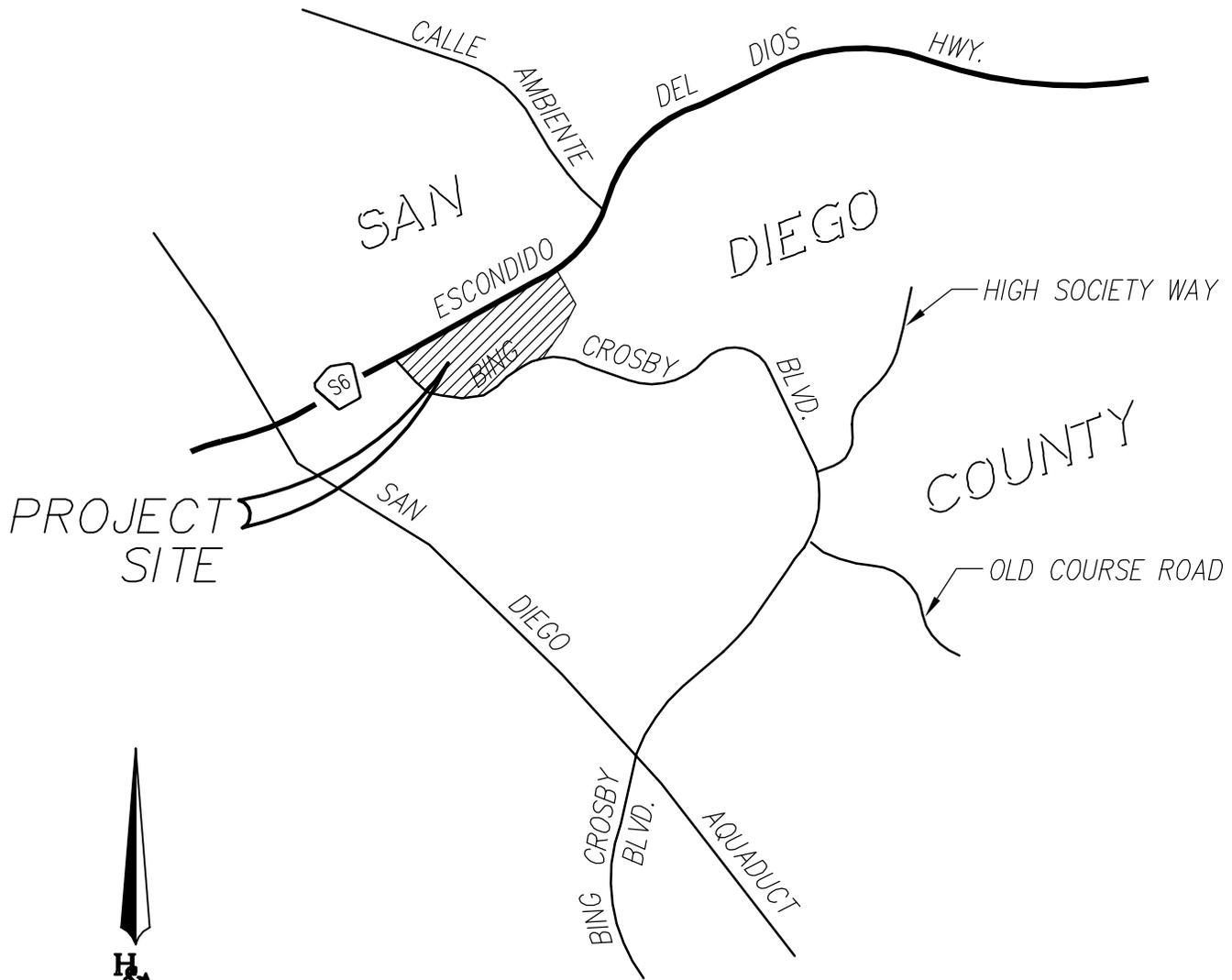
ATTACHMENT		COMPLETED	N/A
A	Project Location Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B	Source Control Exhibit	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C	Drainage Management Area (DMA)Exhibit	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D	BMP Sizing Design Calculations (Water Quality and Hydromodification) and TC-BMP/IMP Design Details	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E	Geotechnical Certification Sheet	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F	Maintenance Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G	Treatment Control BMP Certification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H	HMP Exemption Documentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: Attachments B and C may be combined.

ATTACHMENT A

Project Location Map

CROSBY ENCLAVE



VICINITY MAP

NOT TO SCALE



**HUNSAKER
& ASSOCIATES**
SAN DIEGO, INC

PLANNING 9707 Waples Street
ENGINEERING San Diego, Ca 92121
SURVEYING PH:(658)558-4500 • FX:(658)558-1414

ATTACHMENT B

Source Control Exhibit

Source and Source Control BMP Checklist

Potential Sources of Pollutants	Permanent source control BMPs	Operational source control BMPs
On-site storm drain inlets	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	<p>Maintain and periodically repaint or replace inlet markings.</p> <p>Provide stormwater pollution prevention information to new site owners, lessees, or operators.</p> <p>See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p> <p>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."</p>
Landscape/Outdoor Pesticide Use	<p>Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.</p> <p>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.</p> <p>Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.</p> <p>To insure successful establishment, select plants appropriate to site soils, 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>See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com.</p> <p>Provide IPM information to new owners, lessees and operators.</p>
Miscellaneous Drain or Wash Water : Rooftop Equipment, Water Roofing, gutters, and trim	<p>Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment.</p> <p>Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.</p>	
Plazas, sidewalks and parking lots.		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.

ATTACHMENT C

Drainage Management Area (DMA) Exhibit

LEGEND

- SITE BOUNDARY 
- DMA BOUNDARY 
- DMA LABEL 
- DRAINAGE MANAGEMENT AREAS (DMA)**
- DMA #1 - DRAINS TO SWALE**
 - PERVIOUS AREA (LANDSCAPE)  AREA = 68,545 SQ FT
 - IMPERVIOUS AREA (ROOF/PAVEMENT)  AREA = 23,412 SQ FT
- DMA #2 - DRAINS TO MODULAR WETLANDS UNIT**
 - PERVIOUS AREA (LANDSCAPE)  AREA = 56,173 SQ FT
 - IMPERVIOUS AREA (ROOF/PAVEMENT)  AREA = 47,511 SQ FT
- DMA #3 - DRAINS TO STORM DRAIN (SELF-TREATING)**
 - PERVIOUS AREA (LANDSCAPE)  AREA = 13,310 SQ FT
- TREATMENT CONTROL BMPs (ALTERNATIVE IMPs)**
- MODULAR WETLANDS SYSTEM 
- BIO-SWALE 



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DRAINAGE MANAGEMENT AREA
MAP
THE CROSBY ENCLAVE
 COUNTY OF SAN DIEGO, CALIFORNIA

SHEET
1
 OF
1

ATTACHMENT D

Sizing Design Calculations and TC-BMP/LID Design Details

PROJECT NAME: CROSBY ENCLAVE
 PROJECT LOCATION: SAN DIEGO COUNTY
 85TH PERCENTILE PRECIPITATION DEPTH (IN): 0.65

DMA 1 (STREET AND LOTS TO SWALE)									
TOTAL DRAINAGE AREA :		AREA (SQ FT)	AREA (AC)						
		91,957	2.1						
DMA NAME	IMP TYPE	SURFACE TYPE	AREA (SQ FT)	AREA (AC)	DMA RUNOFF FACTOR	85TH PERCENTILE FLOW RATE (CFS) (1)	SWALE LENGTH (FT)	FLOW VELOCITY (FT/S) (3)	RETENTION TIME (MIN)
1	VEGETATED SWALE	PERVIOUS	68,545	1.6	0.1	0.03	420	0.2	35.0
		IMPERVIOUS	23,412	0.5	1	0.11			

DMA2 (STREET & LOTS TO MODULAR WETLANDS UNIT)									
TOTAL DRAINAGE AREA :		AREA (SQ FT)	AREA (AC)						
		103,684	2.4						
DMA NAME	IMP TYPE	SURFACE TYPE	AREA (SQ FT)	AREA (AC)	DMA RUNOFF FACTOR	85TH PERCENTILE FLOW RATE (CFS) (1)	85TH PERCENTILE VOLUME (CU FT) (2)		
1	Modular Wetlands BMP	PERVIOUS	56,173	1.3	0.1	0.03	304		
		IMPERVIOUS	47,511	1.1	1	0.22	2,574		

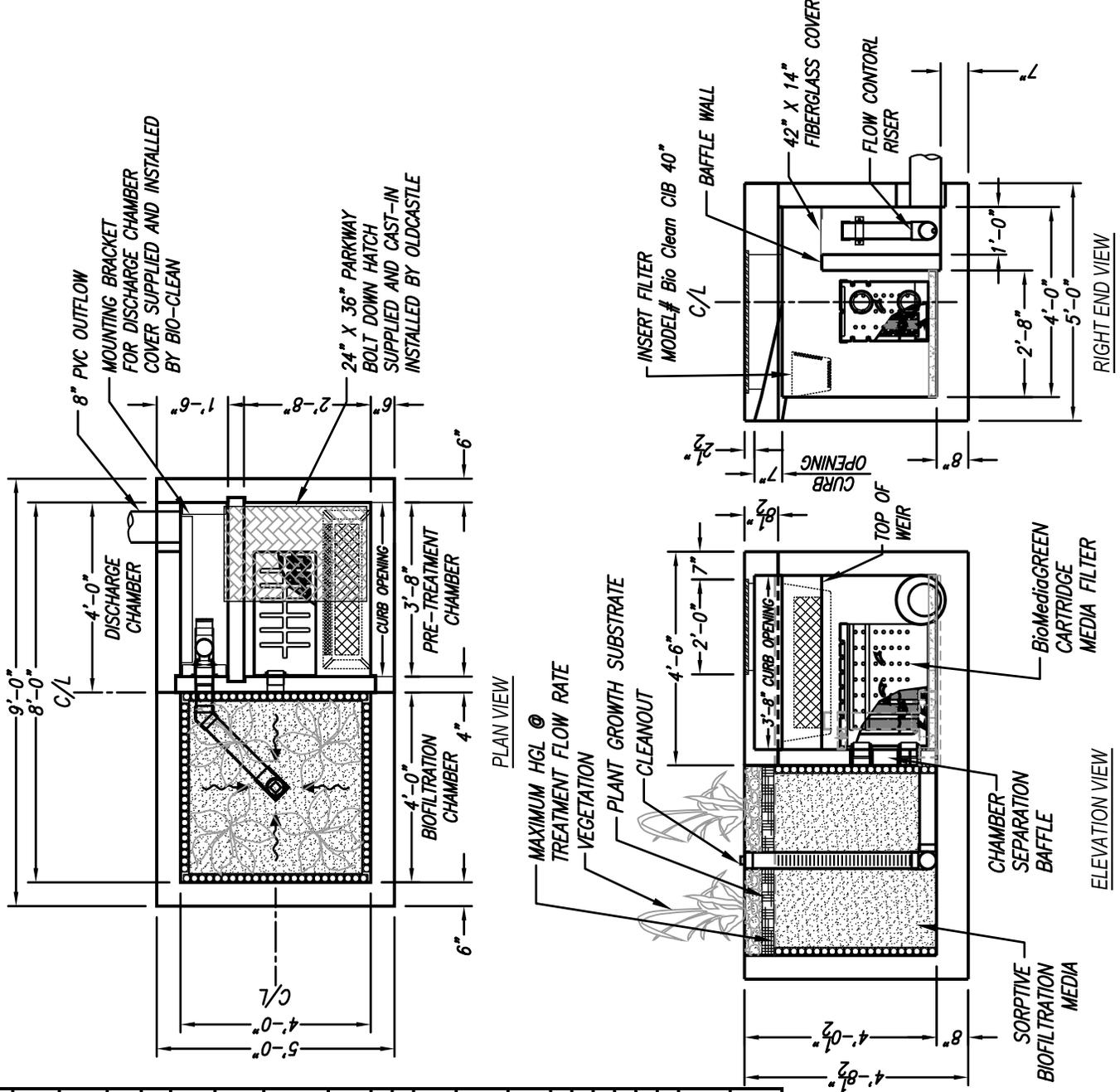
(1) DESIGN FLOW = DMA AREA (AC) * WEIGHTED RUNOFF FACTOR * 0.2 in/hr
 (2) DESIGN VOLUME = DMA AREA (AC) * WEIGHTED RUNOFF FACTOR * 0.65 in.
 (3) TAKEN FROM HYDRAFLOW CALCULATIONS

Depth	Q	Area	Veloc	Wp	Yc	TopWidth	Energy
(ft)	(cfs)	(sqft)	(ft/s)	(ft)	(ft)	(ft)	(ft)
0.34	0.140	0.687	0.20	3.15	0.08	3.04	0.34

MODULAR WETLAND SYSTEMS - LINEAR CURB TYPE



Concept Drawing



FLOW RATES
PEAK TREATMENT FLOW RATE = 0.11 CFS OR 50.4 GPM
PEAK BYPASS FLOW RATE = N/A
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 9' X 5' X 4.7'
TOP OF CURB TO INVERT OUT = 4.04'
SEDIMENT STORAGE CAPACITY = 1000 LBS OR 23.5 CF
BIOFILTRATION CHAMBER SURFACE AREA CALCS SIDES = 4
3.7' L x 3.4' H = 12.6 SF PER SIDE
TOTAL WETLAND MEDIA SURFACE AREA = 50.4 SF
WETLAND MEDIA LOADING RATE 50.4 GPM / 50.4 SF = 1 GPM/SF
PRETREATMENT FILTER SURFACE AREA CALCS SIDES = 2
0.50' L x 1.67' H = 0.84 SF
SIDE SURFACE AREA = 1.68 SF
ENDS = 2
0.25' L x 1.67' H = 0.42 SF
END SURFACE AREA = 0.84 SF
TOTAL PRETREATMENT SURFACE AREA 2.52 SF x 14 FILTERS = 35.28 SF
PRETREATMENT FILTER LOADING RATE 50.4 GPM / 35.28 SF = 1.43 GPM/SF

Patent No. 7,425,262

NOTES:

- INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH PER SOILS ENGINEERS RECOMMENDATIONS.
- GRAVEL SHOULD BE 20 DAY COMPRESSIVE STRENGTH 16-5,000 PSI.
- REINFORCING ASTM A-615, GRADE 60.
- SUPPORTS AN H2O LOADING AS INDICATED BY ASHTO.
- JOINT SEALANT: BUTYL RUBBER SS-S-00210
- MUST BE ADA COMPLIANT

INSTALLATION NOTES:

MODULAR WETLAND SYSTEMS INC.
P.O. BOX 869
OCEANSIDE, CA 92049
www.ModularWetlands.com

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MODULAR WETLAND SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLAND SYSTEMS INC. IS PROHIBITED.

DRAWN	NAME	DATE
EDITED		
COMMENTS:		

TITLE: MWS LINEAR - CURB TYPE

SIZE DWG. NO. A MWS-L-C

SCALE 1:50 UNITS = INCHES SHEET 1 OF 1

ATTACHMENT E

Geotechnical Certification Sheet

(Not Applicable – Infiltration BMPs are not proposed for this project)

ATTACHMENT F

Maintenance Plan

Maintenance Requirements

Per the *County of San Diego Standard Urban Storm Water Mitigation Manual* (January 2011), private project applicants must propose an agreement which assures the County that all permanent BMPs will be maintained throughout the life of the project. Although no maintenance agreement has been made for this stage of the project, the site will be operated and maintained by California West Homes until a formal agreement has been made and an HOA has been established. Revisions to this WQTR will update this section as necessary. Once the HOA has been established, they will be responsible for maintaining site BMPs. A maintenance plan will be developed during final engineering and will include the following information:

- Specification of routine and non-routine maintenance activities to be performed
- A schedule for maintenance activities
- Name, qualifications, and contact information for the parties responsible for maintaining the BMPs

For proper maintenance to be performed, the storm water treatment facilities must be accessible to both maintenance personnel and their equipment and materials.

Operations and Maintenance Plan

Maintenance Program for Modular Wetlands Unit

- Clean Bio Clean® Catch Basin Filter – average maintenance interval is 3 to 6 months.
- Clean Separation (sediment) Chamber – average maintenance interval is 6 to 18 months.
- Trim Vegetation – average maintenance interval is 3 to 6 months.
- Evaluate Wetland Media Flow Hydraulic Conductivity – average inspection interval is once per year.
- Wetland Media Replacement – average maintenance interval is 5 to 20 years.

For more information on maintenance procedures, to order replacement media or find an authorized service company please contact:

Modular Wetland Systems, Inc
2972 San Luis Rey Road
Oceanside, CA 92058
Phone: 760-433-7640
Email: info@modularwetlands.com

Maintenance Program for Vegetated Swales

Inspection Frequency/Indications:	<u>Regular Inspections</u> <input type="checkbox"/> Before wet season begins (September); <input type="checkbox"/> After wet season (April). <u>Performance Inspections</u> <input type="checkbox"/> After rainfall events greater than 0.5 inch
Maintenance Indications	Maintenance Activities
<input type="checkbox"/> Damage to slopes, inlet, outlet, or other structures	<input type="checkbox"/> Repair slopes, inlet, outlet, or other structures
<input type="checkbox"/> Barren areas or badly established vegetation	<input type="checkbox"/> Re-plant or re-seed barren areas or badly established vegetation, use erosion control mats if necessary
<input type="checkbox"/> Over-grown vegetation, emergent woody vegetation and/or weeds	<input type="checkbox"/> Trim vegetation to 6 inches, remove emergent woody vegetation and weeds
<input type="checkbox"/> Sediment accumulation over 3 inches	<input type="checkbox"/> Remove sediment accumulation
<input type="checkbox"/> Trash and litter present in swale	<input type="checkbox"/> Remove trash and debris
<input type="checkbox"/> Rodent burrows that inhibit function of facility	<input type="checkbox"/> Abate rodents and other vectors as necessary
<input type="checkbox"/> Standing water in facility	<input type="checkbox"/> Drain standing water
Waste Disposal	Sediment, other pollutants, and all other waste shall be properly disposed of in a licensed landfill or by another appropriate disposal method in accordance with local, state, and federal regulations.

Maintenance Funding

Funding for all water quality treatment areas will be provided by California West Homes for The Crosby Enclave development until a formal agreement has been developed by California West Homes and approved by the County of San Diego. The agreement will establish a Homeowners Association which will be responsible to perform the maintenance activities and to ensure adequate funding into perpetuity.

The County of San Diego Storm Water Standards requires maintenance of BMPs in perpetuity to ensure the proper function and operation of these BMPs. Costs for this maintenance will be the responsibility of California West Homes at the time of inception and by the HOA once the association is established.

Please contact California West Homes with any project-specific funding inquiries.

California West Homes
 5927 Priestly Drive, Suite 103
 Carlsbad, CA 92008

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 _____ SWMP # _____

Project Name _____

Location / Address _____

Responsible Party for Construction Phase

Developer's Name: _____

Address: _____

City _____ State _____ Zip _____

Email Address: _____

Phone Number: _____

Engineer of Work: _____

Engineer's Phone Number: _____

Responsible Party for Perpetual 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 of president at time of project closeout.

Maintenance Agreement No.: _____

Percent Impervious Before Construction: % _____

Percent Impervious After Construction: _____

Proposed Disturbed Area: _____ Acres

Hydromodification Management:

Yes or No

Primary or Secondary Pollutants of Concerns (*check all that apply*)

- | | |
|--|---|
| <input type="checkbox"/> Sediment | <input type="checkbox"/> Nutrients |
| <input type="checkbox"/> Organic Compounds | <input type="checkbox"/> Trash and Debris |
| <input type="checkbox"/> Oxygen Demanding Substances | <input type="checkbox"/> Oil and Grease |
| <input type="checkbox"/> Bacteria and Viruses | <input type="checkbox"/> Pesticides |

Site Layout Strategies (*check all that apply*)

- | | |
|--|--|
| <input type="checkbox"/> Conserve Natural Areas | <input type="checkbox"/> Minimize Disturbance to Natural Areas |
| <input type="checkbox"/> Minimize and Disconnect Imp. Surfaces | <input type="checkbox"/> Minimize Soil Compaction |
| <input type="checkbox"/> Minimize erosion from slopes | |

Disperse Runoff from Impervious Surfaces to Pervious (*check all that apply*)

- | | |
|---|--|
| <input type="checkbox"/> Use of pervious surfaces | <input type="checkbox"/> Street and Road Design |
| <input type="checkbox"/> Parking Lot Design | <input type="checkbox"/> Driveway, Sidewalk, Bikepath Design |
| <input type="checkbox"/> Building Design | <input type="checkbox"/> Landscape Design |

Source BMPs (*check all that apply*)

- | | |
|--|---|
| <input type="checkbox"/> Storm Drain Inlets | <input type="checkbox"/> Interior Floor Drains |
| <input type="checkbox"/> Interior Parking Garages | <input type="checkbox"/> Indoor & Structural Pest Control |
| <input type="checkbox"/> Landscape/Outdoor Pesticide Use | <input type="checkbox"/> Pools, spas, etc. |
| <input type="checkbox"/> Food Service | <input type="checkbox"/> Refuse Areas |
| <input type="checkbox"/> Industrial Processes | <input type="checkbox"/> Outdoor Storage of Equipment and Materials |
| <input type="checkbox"/> Vehicle and Equipment Cleaning | <input type="checkbox"/> Vehicle/ Equipment Repair and Maintenance |
| <input type="checkbox"/> Fuel Dispensing Areas | <input type="checkbox"/> Loading Docks |
| <input type="checkbox"/> Fire Sprinkler Test Water | <input type="checkbox"/> Misc. drain or wash water |
| <input type="checkbox"/> Plazas, sidewalks, and parking lots | |

Treatment Control, Hydromodification and LID BMPs

BMP Identifier; (Identifier to match TCBMPs on TCBMP Table.)	Type	Record Plan Page for TCMBP	BMP Pollutant of Concern Efficiency (H,M,L)

(Add sheet for all additional BMPs)

The Maintenance Agreement has been recorded. Yes or No

Please sign your name and seal. [SEAL]

Engineer's Print Name: _____

Engineer's Signed Name: _____

Date: _____

Submittals Required with Certification:

- Copy of the final approved SWMP.
- Copy of the approved record plan showing Stormwater TCBMP Table and the location of each verified as-built TCBMP.
- Copy of the specification sheets for the verified proprietary TCBMPs
- Recorded Maintenance Agreement (Category 1 or 2 only)
- Photograph(s) of TCBMP(s)

COUNTY – OFFICIAL USE ONLY:

For PDCI:

PDCI Inspector: _____

Date Project has/expects to close: _____

Date Certification received from EOW: _____

DPW Inspector concurs that every noted BMP on the plan and the SWMP or SWMP Addendum is installed onsite through field verification and completed as certified: Yes
or No

PDCI Inspector's Signed Name: _____ Date: _____

FOR WPP:

Date Received from PDCI: _____

WPP Submittal Reviewer: _____

WPP Reviewer concurs that the provided TC-BMP information is acceptable to enter into the TC-BMP Maintenance verification inventory. Yes or No

WPP Reviewer's Signed Name: _____ Date: _____

ATTACHMENT H

HMP Exemption Documentation

This project discharges directly to the San Dieguito River via lined drainage channel, and thus is exempt from a Hydromodification Management Plan per the *County of San Diego SUSMP* (January 2011). Please reference the HMP Checklist on page 9 of this report, in addition to Table 1-2 (Summary of Exempt River Reaches in San Diego County) of the County SUSMP, January 2011.