
STORM WATER MANAGEMENT PLAN

Tentative Parcel Map 21204

Los Coches Road (APN 397-060-80-00)

Lakeside, CA 91940

PREPARED BY:

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WO 6537

6/27/2013 3/17/2014

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SDC PDS RCVD 05-06-14
TPM21204

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PROJECT DISCUSSION

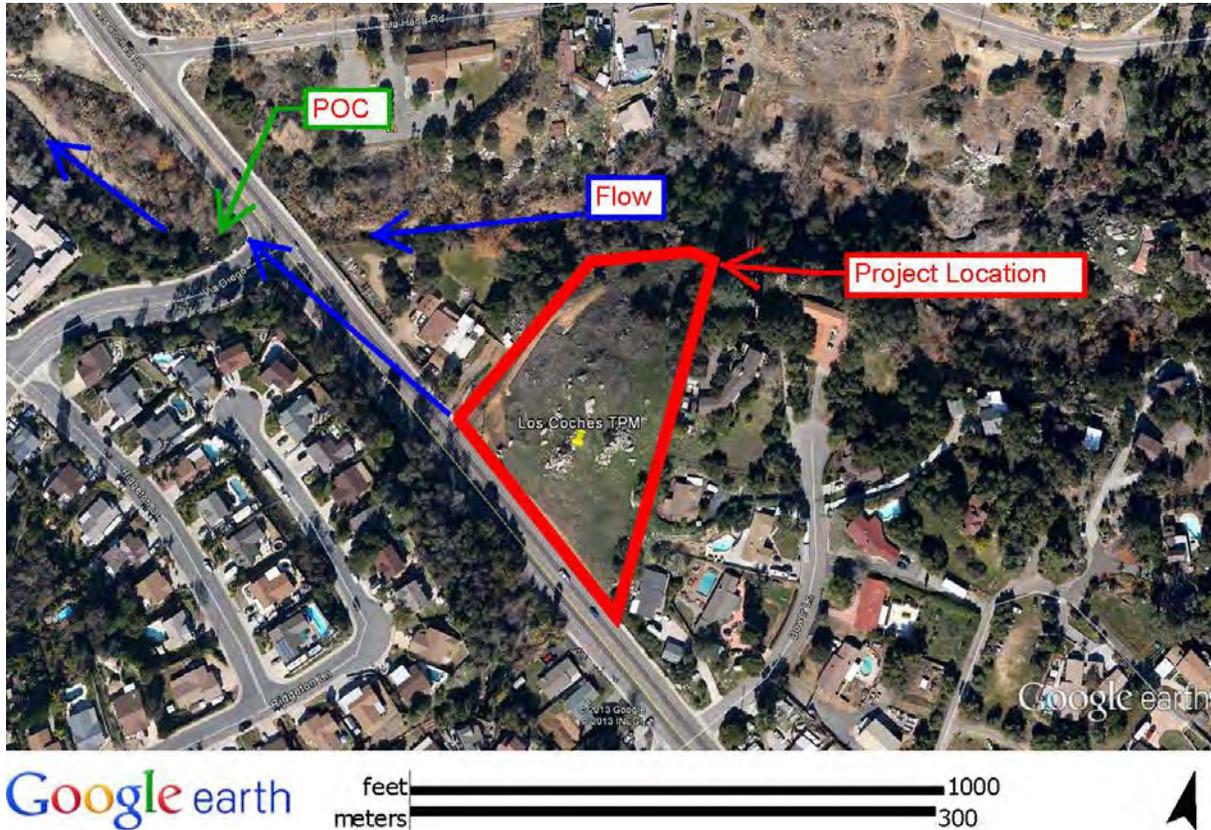
PROJECT PURPOSE

The purpose of this project is to provide a TPM in order to provide building sites for five single family dwellings on a vacant lot on the east side of Los Coches Road, approximately $\frac{3}{4}$ mile north of Old Highway 80 and $\frac{1}{2}$ blocks south of Ha Hanna Road. See the following vicinity map and aerial photograph. The area surrounding the project site is developing with urban residential uses such as the one proposed for this project. This report evaluates the hydrologic impact of this development. Particular attention was paid to the impact of this development on the adjacent properties.

VICINITY MAP



AERIAL PHOTOGRAPH



DESCRIPTION OF WATERSHED

As can be seen from the above photos and the map on page 8, the drainage basins of this project consists almost entirely of the project property only. As a consequence, the basins and the flows are very small. The project site sets on the north side of a small hill and consists of barren ground flowing to the west, north and east. The storm flows consists of almost entirely of sheet flow into Los Coches Creek to the East, the neighboring property to the north and Los Coches Road to the west. This flow pattern will generally be maintained for the eastern half of the project.

The construction of the private road will affect the flow on the western half of the project to some degree. A portion of it will continue to sheet flow onto Los Coches road and the neighbor to the north, much of the flow will be collected, treated and discharged through a storm drain

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directly to the Entrance Facility of the Los Coches Creek Flood Control Channel labeled as POC on the aerial photograph above. This Entrance Facility was constructed as a natural channel about 600 feet long connecting the trapezoidal concrete channel to the bridge under Los Coches Road. It is widest near Los Coches Road and narrows down as it approaches the concrete channel.

This should significantly reduce the existing storm flows onto the neighbor directly to the north of the project.

BMP DESCRIPTION

The Storm Water flow will be affected by the project. For this reason BMP1 will be installed as shown on the plans as a part of the project. It will be constructed as a Bioretention Planter designed as shown for BMP1 on sheet 3 of the project plans. The project proposes 22,000 square feet of impervious area. The County's criteria of 4% of impervious area as treatment area would result in a requirement of 880 square feet. Each home has 2,200 s.f. of impervious for a treatment requirement of 90 sf. of Bioretention Planter which will be installed alongside the driveway as a 3' by 40' facility. The size of the BMP1 will be 5' wide (minimum) by 100' long for an area of 500 square feet which provides more than the 4% treatment area for the road.

The lawn will act as a turf (self-treating area) that will receive the runoff from the concrete areas around the home. The lawn is significantly larger than the one-half the area being treated requirement. The lawn will also be used as a construction BMP as it will be installed immediately after the grading.

MAINTENANCE

The project BMPs (BMP1 and the lawn) will become part of the landscaping of the home and will be maintained by the home owner as such. A "Maintenance Notification" will be recorded for each parcel. Annual documentation will be provided to the County to verify the BMPs are maintained and functioning properly.

The BMPs that primarily treat the road are located near the North West corner of the property. These BMPs are considered maintenance levels 2 and will require a maintenance agreement. They are located within a utility maintenance easement.

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HYDROMODIFICATION

The RWQCB and the County of San Diego have adopted regulations requiring projects which substantially increase flood flows to adopt Hydromodification mitigating measures. It has been determined that this project is subject to the Hydromodification requirements. Therefore the runoff from the affected areas of the project will be collected and treated for both water quality and volume control. The project's plans provide the detail of the treatment BMPs. This includes both the BMP design, layout and sizing calculations which are summarized in the SWMP's Attachment D (Hydromodification Calculations). A copy of the attachment D is included with this report.

The Hydromodification Calculations and BMP facility sizing are meant to ensure that the storm flows after the project do not exceed those before the project. The San Diego County BMP Sizing Calculator was used for this project as recommended in the County regulations.

SUMMARY

The project will construct five single family homes on an existing urban lot that was built for this purpose. The flow pattern into the existing storm drain system will be maintained after construction except that a large part will be collected, treated and discharged into the existing storm drain in Los Coches Road. The BMP1 and the lawn will be installed as part of the construction. Standard erosion and silt control measures will be taken during construction.

CONCLUSIONS

This project will have decrease the surface storm water flows from the property. The reasons for this are that the project was designed to collect, treat and discharge the storm waters into the existing storm drain in Los Coches Road. This storm flows that would have gone on to the property to the north will be discharged into the vegetated Entrance Facility described above, which is where the flow goes now. Therefore this rerouting of the storm flows does not represent a diversion.

Because the drainage basin on the project has a treatment and volume control BMP, the quality and quantity of the flow will not be degraded over the pre-existing conditions. There will not be any changes that will result in substantial erosion or siltation on- or off-site.

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Storm Water Management Plan

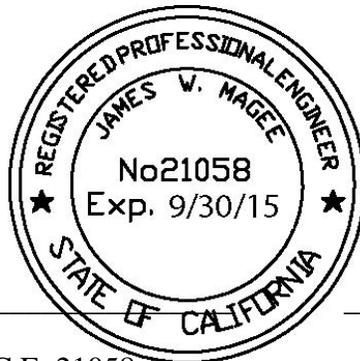
OWNER: Jonathan Webster
2445 Brant Street #511
San Diego, CA 92101

DECLARATION OF RESPONSIBLE CHARGE

I hereby declare that I am the engineer of work for the storm water aspects of this project, that I have exercised responsible charge over the design of the project as defined in section 6703 of the Business and Professions Code, and that the design is consistent with current standards.

I understand the check of the project drawings and specifications by the City of San Diego is confined to review and does not relieve me of responsibilities for project design.

Jim Magee
2718 Powhatan Avenue
San Diego, CA 92117



Jim Magee

R.C.E. 21058

Date

~~6/27/2013~~ 3/17/2014

My registration expires 9-30-2015

~~6/27/2013~~ 3/17/2014

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LIST OF APPENDICES

APPENDIX B

APPENDIX C

APPENDIX F

ATTACHMENT D - HYDROMODIFICATION CALCULATIONS

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:	Los Coches TPM	+
Project Location/Address:	Los Coches Road	+
Permit Number (Land Development Projects):	TPM	+
Work Authorization Number (CIP only):		
Applicant:	Jonathan Webster	+
Applicant's Address:	2445 Brant St #511, San Diego, 92101	+
Plan Prepared By (<i>Leave blank if same as applicant</i>):	Jim Magee RCE 21058	+
Preparer's Address:	2718 Powhatan Ave., San Diego, 92117	+
Date:	6/27/2013	+

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

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

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

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

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

STEP 1

PRIORITY DEVELOPMENT PROJECT DETERMINATION

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

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	A	Housing subdivisions of 10 or more dwelling units. Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	B	Commercial—greater than one acre (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 type="checkbox"/>	No <input checked="" type="checkbox"/>	F	Hillside development greater than 5,000 square feet. Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	G	Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. “Directly adjacent” means situated within 200 feet of the ESA. “Discharging directly to” means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	H	Parking lots 5,000 square feet or more or with 15 or more (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 3.56 acre (Acres or ft²)

Estimated amount of disturbed area: 1.31 acre (Acres or ft²)

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

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: 3.56 acre (Acres or ft²)

B. Total impervious area (including roof tops) before construction 0.0 (Acres or ft²)

C. Total impervious area (including roof tops) after construction 0.51 (Acres or ft²)

Calculate percent impervious before construction: $B/A = \frac{0}{3.56} = 0\%$

Calculate percent impervious after construction: $C/A = \frac{0.51}{3.56} = 14\%$

Please provide detailed descriptions regarding the following questions:

TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS

1.	Please provide a brief description of the project.
See Project Discussion	
2.	Describe the current and proposed zoning and land use designation.
RS-10000-C-G-H	
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)
See Project Discussion	
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.
Soil Type "B"	
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)
No	
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).
See Project Discussion	
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.
See Project Discussion	
8.	Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the <i>County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects</i> ?
Yes	
No ✓	
9.	Is this an emergency project? If yes, please provide a description below.
Yes	
No ✓	

CHANNELS & DRAINAGES

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

TABLE 3: CHANNEL & DRAINAGE ANALYSIS

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

TEMPORARY CONSTRUCTION BMPS

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

- | | |
|--|--|
| <input checked="" type="checkbox"/> Silt Fence | <input type="checkbox"/> Desilting Basin |
| <input 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 type="checkbox"/> Material Delivery and Storage |
| <input type="checkbox"/> Stockpile Management | <input type="checkbox"/> Spill Prevention and Control |
| <input type="checkbox"/> Solid Waste Management | <input checked="" type="checkbox"/> Concrete Waste Management |
| <input checked="" type="checkbox"/> Stabilized Construction Entrance/Exit | <input 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 | |
| <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/2010_state_ir_reports/category5_report.shtml		✓	If YES, continue to 2. If NO, go to 5.
2.	Will the project disturb more than 5 acres, including all phases of the development?		✓	If YES, continue to 3. If NO, go to 5.
3.	Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity?		✓	If YES, continue to 4. If NO, go to 5.
4.	Will the project disturb soils with a predominance of USDA-NRCS Erosion factors k_f greater than or equal to 0.4? 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.	✓		Document for Project Files by referencing this checklist.
6.	Project poses an “exceptional threat to water quality” and is required to use Advanced Treatment BMPs.		✓	Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria

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

STEP 3

HYDROMODIFICATION DETERMINATION

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

TABLE 5: HYDROMODIFICATION DETERMINATION

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

STEP 4

POLLUTANTS OF CONCERN DETERMINATION

WATERSHED

Please check the watershed(s) for the project.

<input type="checkbox"/> San Juan 901	<input type="checkbox"/> Santa Margarita 902	<input type="checkbox"/> San Luis Rey 903	<input type="checkbox"/> Carlsbad 904
<input type="checkbox"/> San Dieguito 905	<input type="checkbox"/> Penasquitos 906	<input checked="" 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

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

HYDROLOGIC SUB-AREA NAME AND BASIN NUMBER(S)

Basin Number	Sub-Area Name
7.14	Los Coches Creek

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
Upper San Diego River	7.12	none	0.5 mi.

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdl_s.pdf

GROUND WATERS

Ground Waters	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH
Coches	7.14	●	●	●	○		

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

+ Exempted 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 (determined by your receiving waters impairments on page 10)
Sediments	X		
Nutrients	X		
Heavy Metals			
Organic Compounds			
Trash & Debris	X		
Oxygen Demanding Substances	X		
Oil & Grease	X		
Bacteria & Viruses	X		
Pesticides	X		

STEP 5

LID AND SITE DESIGN STRATEGIES

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

TABLE 8: LID AND SITE DESIGN

1. Conserve natural Areas, Soils, and Vegetation	
<input checked="" type="checkbox"/>	Preserve well draining soils (Type A or B)
<input type="checkbox"/>	Preserve Significant Trees
<input 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 checked="" 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 checked="" type="checkbox"/>	Clustered Lot Design
<input 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 checked="" type="checkbox"/>	Collect & reuse 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 type="checkbox"/>	Curb-cuts to landscaping
<input type="checkbox"/>	Rural Swales
<input type="checkbox"/>	Concave Median
<input type="checkbox"/>	Cul-de-sac Landscaping Design
<input checked="" type="checkbox"/>	Other. Description: Bioretention Planter 

<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 checked="" type="checkbox"/> Downspout to swale or landscaping
<input type="checkbox"/> Vegetated Roofs
<input type="checkbox"/> Other. Description:
<u>LID Landscaping Design</u>
<input type="checkbox"/> Soil Amendments
<input checked="" type="checkbox"/> Reuse of Native Soils
<input checked="" type="checkbox"/> Smart Irrigation Systems
<input type="checkbox"/> Street Trees
<input type="checkbox"/> Other. Description:
6. Minimize erosion from slopes
<input checked="" type="checkbox"/> Disturb existing slopes only when necessary
<input checked="" type="checkbox"/> Minimize cut and fill areas to reduce slope lengths
<input checked="" 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 checked="" 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>
Storm drain	Inlet's will be stenciled with warnings.	
Landscaping	Fact Sheet SC-41, "Building and Grounds Maintenance," 	
Roofing	Owners will be advised not to use copper roofing.	

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 source control recommended are the standard controls for each item listed above.

... 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 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 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"/> C. Interior parking garages		<input type="checkbox"/> State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer. <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. <input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.

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

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

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1 Potential Sources of Runoff Pollutants - List in Table 9	2 Permanent Controls—Show on Source Control Exhibit, Attachment B	3 Permanent Controls—List in Table 9 and Narrative	4 Operational BMPs—Include in Table 9 and Narrative
<input type="checkbox"/> E. Pools, spas, ponds, decorative fountains, and other water features.	<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"/>

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
<p>IF THESE SOURCES WILL BE ON THE PROJECT SITE ...</p>	<p>1 Potential Sources of Runoff Pollutants – List in Table 9</p>	<p>2 Permanent Controls—Show on Source Control Exhibit, Attachment B</p>	<p>3 Permanent Controls—List in Table 9 and Narrative</p>
<p><input type="checkbox"/> G. Refuse areas</p>	<p><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.</p> <p><input type="checkbox"/> If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent runoff and show locations of berms to prevent runoff from the area.</p> <p><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.</p>	<p><input type="checkbox"/> State how site refuse will be handled and provide supporting detail to what is shown on plans.</p> <p><input type="checkbox"/> State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.</p>	<p>4 Operational BMPs—Include in Table 9 and Narrative</p> <p><input type="checkbox"/> State how the following will be implemented:</p> <p>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</p>
<p><input type="checkbox"/> H. Industrial processes.</p>	<p><input type="checkbox"/> Show process area.</p>	<p><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.”</p>	<p><input type="checkbox"/> See Fact Sheet SC-10, “Non-Stormwater Discharges” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>

... 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"/> 1. 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 runoff 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 the Fact Sheets 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 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.	Describe operational measures to implement the following (if applicable): <input type="checkbox"/> Wastewater 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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<p><input type="checkbox"/> K. Vehicle/Equipment Repair and Maintenance</p>	<p><input type="checkbox"/> Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.</p> <p><input type="checkbox"/> Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.</p> <p><input type="checkbox"/> Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.</p>	<p><input type="checkbox"/> State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.</p> <p><input type="checkbox"/> State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p> <p><input type="checkbox"/> State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p>	<p>In the SUSMP report, note that all of the following restrictions apply to use the site:</p> <p><input type="checkbox"/> No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.</p> <p><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.</p> <p><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.</p>
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<p><input type="checkbox"/> L. Fuel Dispensing Areas</p>	<p><input type="checkbox"/> Fueling areas¹ shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.</p> <p><input type="checkbox"/> Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area¹.] The canopy [or cover] shall not drain onto the fueling area.</p>		<p><input type="checkbox"/> The property owner shall dry sweep the fueling area routinely.</p> <p><input type="checkbox"/> See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>
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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

<p>O. Miscellaneous Drain or Wash Water</p> <ul style="list-style-type: none"> <input type="checkbox"/> Boiler drain lines <input type="checkbox"/> Condensate drain lines <input 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 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 checked="" type="checkbox"/> 	
<ul style="list-style-type: none"> <input type="checkbox"/> P. Plazas, sidewalks, and parking lots. 		<ul style="list-style-type: none"> <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 ✓	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.	
See project discussion.	

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

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

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

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

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

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

- Please check the box(s) that best describes the Treatment Control BMP(s) and/or LID IMP selected for this project. Please check if the treatment facility is designed for water quality or hydromodification flow control. 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	✓	✓
<input type="checkbox"/> Flow-through Planter		
<input type="checkbox"/> Cistern with Bioretention		
Basins		
<input type="checkbox"/> Extended/dry detention basin with grass/vegetated lining		
<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 (LID⁽¹⁾)		
<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
BMP1 Bioretention Planter	3	1	
BMP1 Bioretention Planter	3	2 Within utility maint, easement	

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.

The treatment control BMPs were selected because they are the ones that have High to Medium removal efficiencies as shown in Table 11 above.

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	✓		1st - BMP1 Bioretention planter 2nd - BMP1 Bioretention planter treating road within utility maintenance easement.
Second ²	✓		
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.

➤ 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: _____
Address: _____
City _____ State _____ Zip _____
Email Address: _____
Phone Number: _____
Engineer of Work: _____
Engineer's Phone Number: _____

➤ 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: _____
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.

Homeowners where BMP is located..

ATTACHMENTS

Please include the following attachments.

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

Note: Attachments B and C may be combined.

ATTACHMENT A

Project Location Map



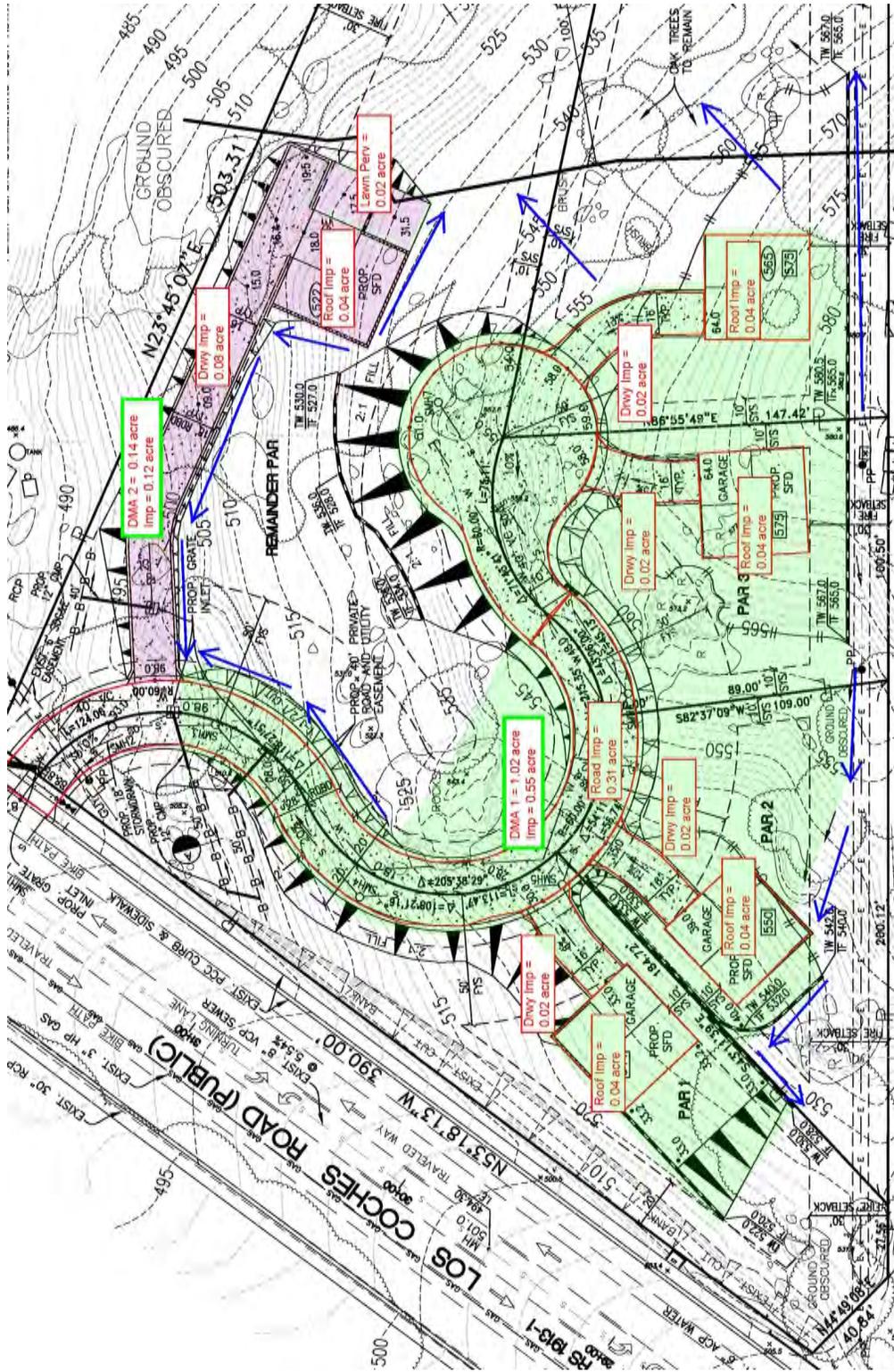
ATTACHMENT B

Source Control Exhibit

<i>Potential source of runoff pollutants</i>	<i>Permanent source control BMPs</i>	<i>Operational source control BMPs</i>
Storm drain	Inlet's will be stenciled with warnings.	
Landscaping	Fact Sheet SC-41, "Building and Grounds Maintenance." 	
Roofing	Owners will be advised not to use copper roofing.	

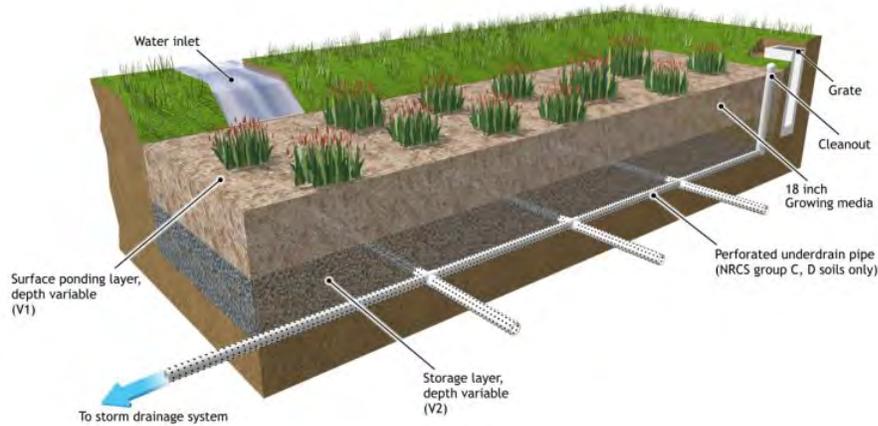
ATTACHMENT C

Drainage Management Area (DMA) Exhibit

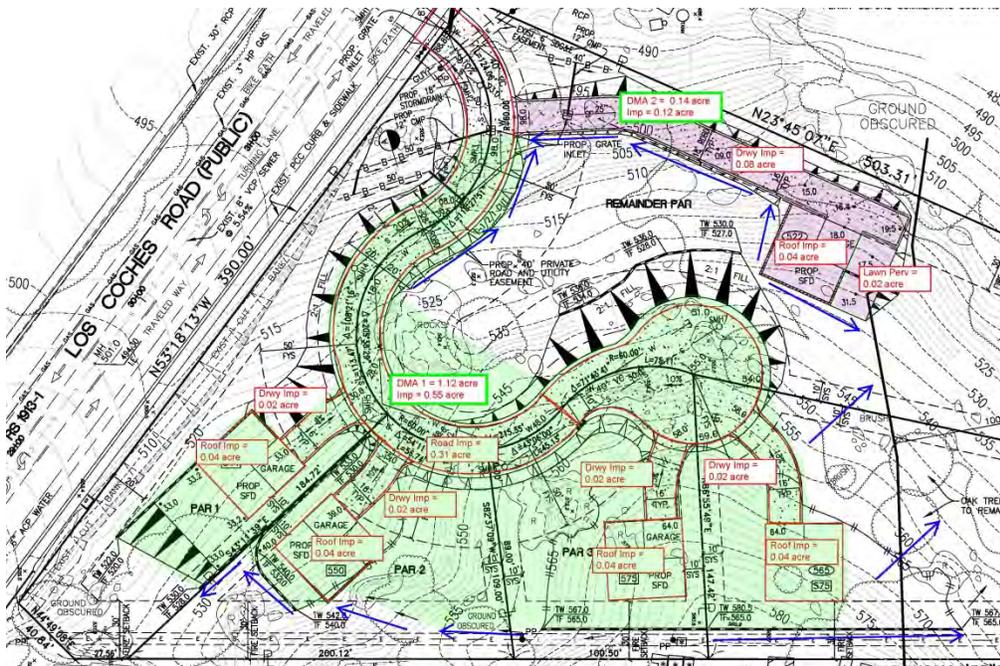


Attachment D & H Hydromodification Calculations

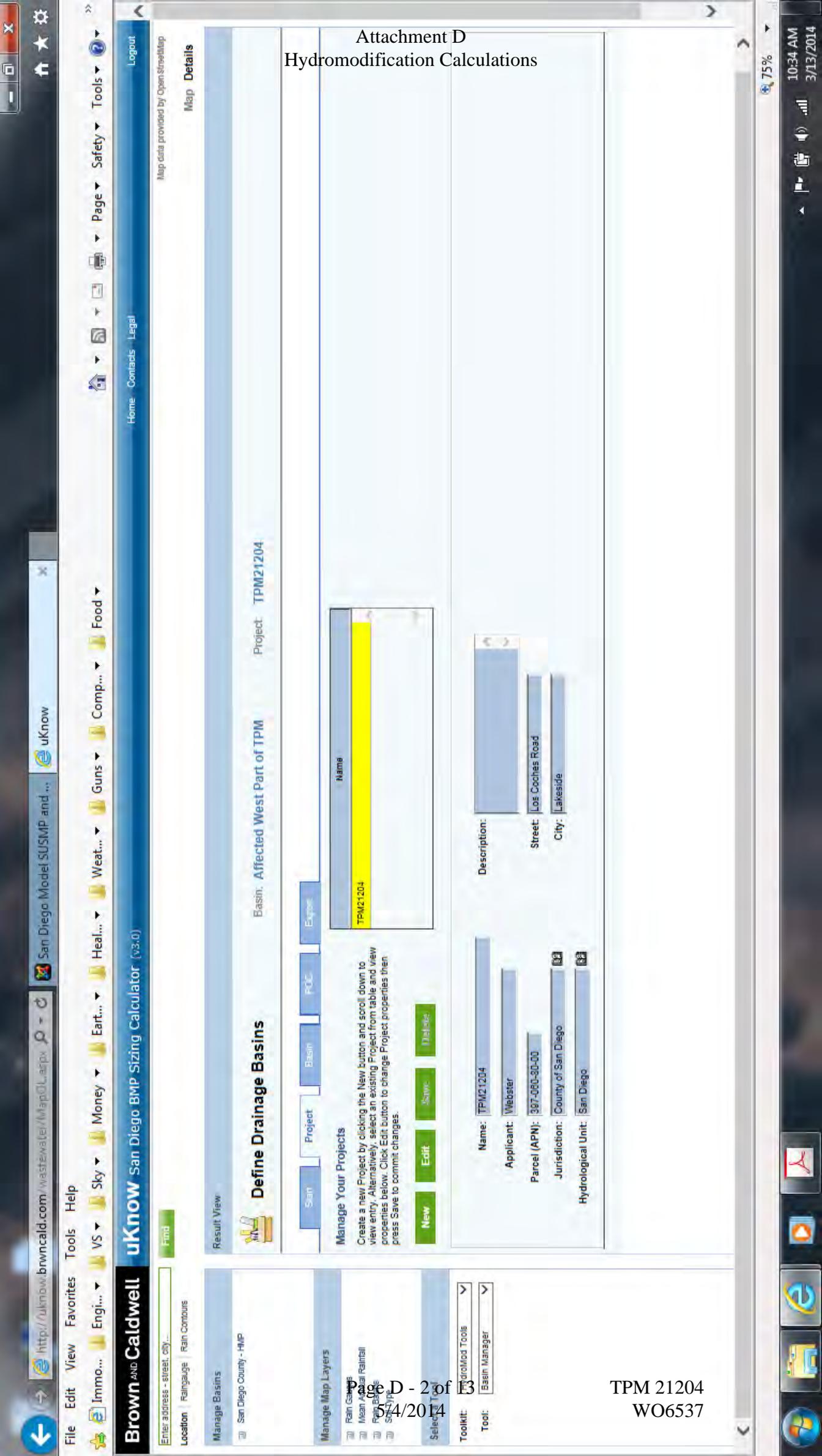
The design of the Bioretention facility is shown below as specified in the County's BPM Calculator.



The following is the layout, sizes and labeling of the DMAs as used in the Calculator.



The BMP Calculator was used to determine the required sizes of the BMPs as shown on the following pages. Included is a typical lot calculation for the BMPs on the individual lots.



Attachment D Hydromodification Calculations

- Rain Gauges
- Mean Annual Rainfall
- Flow Lines
- Slope
- Soil Type

Toolkit: Hydromod Tools
Tool: Basin Manager

Result View

Define Drainage Basins

Basin: Affected West Part of TPM Project: TPM21204

San Project Basin POC Export

Manage Your Projects

Create a new Project by clicking the New button and scroll down to view entry. Alternatively, select an existing Project from table and view properties below. Click Edit button to change Project properties then press Save to commit changes.

New Edit Save Delete

Name
TPM21204

Description:

Description: [Text Area]
Street: Los Cochas Road
City: Lakeside

Name: TPM21204
Applicant: Webster
Parcel (APN): 307-060-30-00
Jurisdiction: County of San Diego
Hydrological Unit: San Diego

Brown and Caldwell

Enter address - street, city...
Location | Rain Gauge | Rain Contours

Manage Basins
San Diego County - HMP

- Manage Map Layers
- Rain Gauges
 - Mean Annual Rainfall
 - Flow Paths
 - Soil Type

Select Tool
ToolKit: Hydromod Tools
Tool: Basin Manager

San Diego BMP Sizing Calculator (v3.0)

Result View
Define Drainage Basins
Basin: Affected West Part of TPM
Project: TPM21204

Manage Your Basins
Create a new Basin by clicking the New button and scroll down to view entry. Alternatively, select an existing Basin from table and view properties below. Click Edit button to change Basin properties then press Save to commit changes.

New Edit Save Delete

Name
Affected West Part of TPM

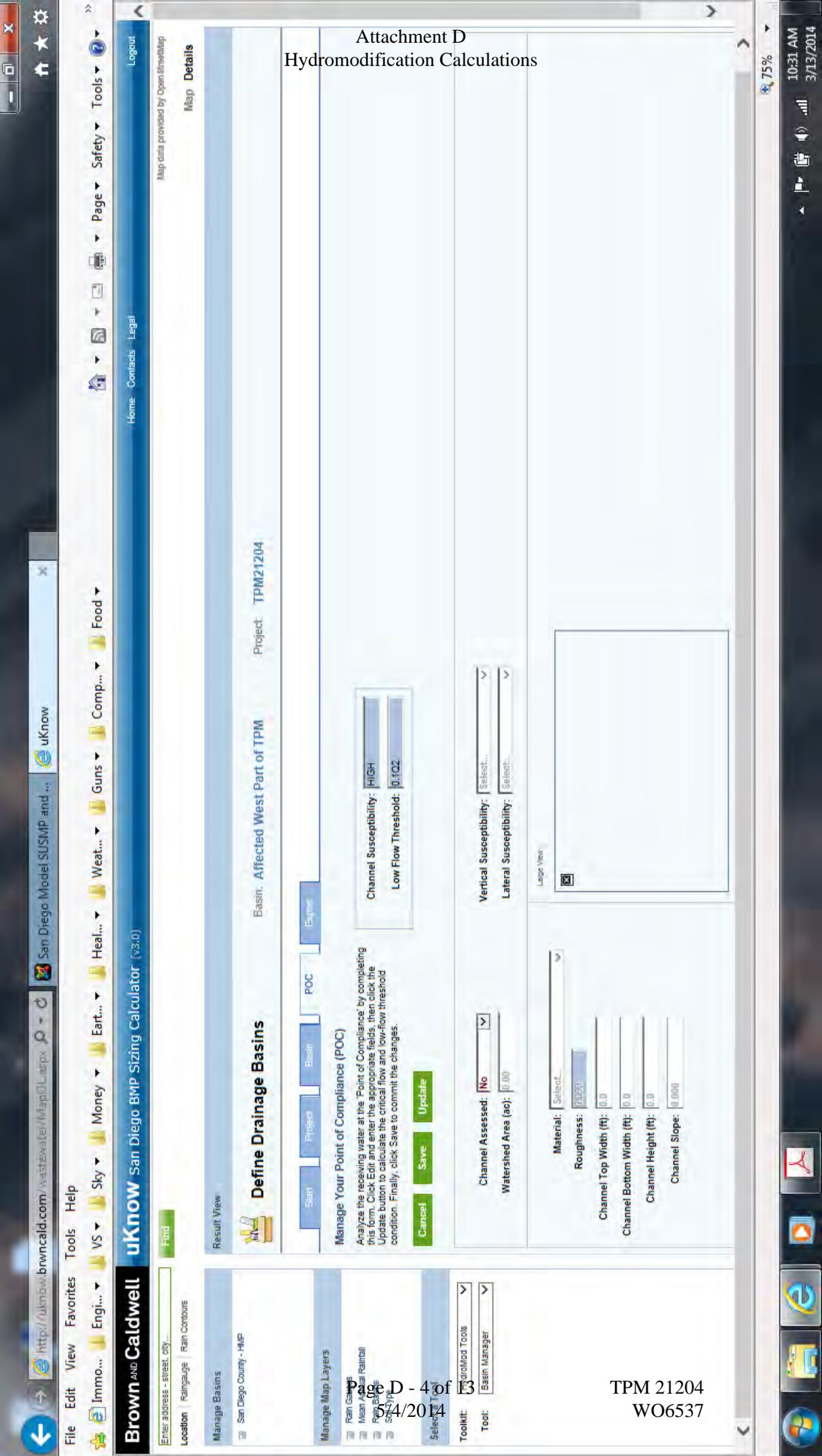
Description: Area affected by new impervious surfaces
Design Goal: Treatment + Flow Control
Rainfall Basin: Cleanside

Point of Compliance: Los Cochas Creek
Project Basin Area (ac): 1.50
Mean Annual Precipitation (in): 13.3

Map data provided by OpenStreetMap

Map Details

Logout



Attachment D Hydromodification Calculations

Basin: Affected West Part of TPM Project: TPM21204

San Project Basin POC Export

Define Drainage Basins

Manage Your Point of Compliance (POC)
Analyze the receiving water at the 'Point of Compliance' by completing this form. Click Edit and enter the appropriate fields, then click the Update button to calculate the critical flow and low-flow threshold condition. Finally, click Save to commit the changes.

Channel Susceptibility: HIGH
Low Flow Threshold: 0.102

Channel Assessed: No
Watershed Area (ac): 0.00

Vertical Susceptibility: Select...
Lateral Susceptibility: Select...

Material: Select...
Roughness: 0.150
Channel Top Width (ft): 0.0
Channel Bottom Width (ft): 0.0
Channel Height (ft): 0.0
Channel Slope: 0.000

Large View

Brown and Caldwell

Location: Rain Gauge | Rain Contours

Manage Basins
San Diego County - HMP

Manage Map Layers
Rain Gauges
Mean Annual Rainfall
Floodplains
Sewer

Toolkit: Hydromod Tools
Tool: Basin Manager

TPM 21204
WO6537

Attachment D - 4 of 13
3/14/2014

Attachment D Hydromodification Calculations

San Diego Model SUSMP and ... uKnow

San Diego BMP Sizing Calculator (v3.0)

uKnow San Diego BMP Sizing Calculator (v3.0)

Basin: Affected West Part of TPM Project: TPM21204

Map Details

Map data provided by OpenStreetMap

Home Contacts Legal Logout

File Edit View Favorites Tools Help

Immo... Engi... VS Sky Money Ear... Heal... Weat... Comp... Food

San Diego County - HMP

Manage Map Layers

- Rain Gauges
- Mean Annual Rainfall
- Flow Paths
- Soil Type

Select Tool

Tool: Hydromod Tools

Tool: LID Sizer

Find

Enter address - street city...

Location | Rain gauge | Rain Contours

Result View

Size LID Facility

Manage Your LID's

Create a new LID by clicking the New button and scroll down to view new entry. Alternatively select an existing LID from the table and view properties below. Click the Edit button to change LID properties and press SAVE to update the calculations.

BMP ID	Description
BMP 1	BMP 1

New Edit Save Delete

Scan DMA LID Repair Export

Large View

Flow Threshold (cfs): 0.020

LID Type: Bioretention

Drainage Area (ac): 1.12

Proposed Area (sqft): 2000.0

Proposed Volume V1 (cft): 1700.0

Proposed Volume V2 (cft): 0.0

Proposed Orifice Size (in): 0.7

Minimum Area (sqft): 1983.1

Minimum Volume V1 (cft): 1652.6

Minimum Volume V2 (cft): N/A

Maximum Orifice Size (in): 0.7

Messages:

TPM 21204
WO6537

Page D - 5 of 53
5/4/2014

75% 11:26 AM 3/13/2014

Manage Your LID's
Create a new LID by clicking the New button and scroll down to view new entry. Alternatively select an existing LID from the table and view properties below. Click the Edit button to change LID properties and press SAVE to update the calculations.

BMP ID	Description
BMP 1	BMP 1
BMP 2	BMP 2

New Edit Save Delete

LID Sizing

LID Type: Bioretention
Drainage Area (ac): 0.14
Flow Threshold (cfs): 0.002

Minimum Area (sqft):	398.5	Proposed Area (sqft):	400.0
Minimum Volume V1 (cft):	332.1	Proposed Volume V1 (cft):	340.0
Minimum Volume V2 (cft):	N/A	Proposed Volume V2 (cft):	0.0
Maximum Orifice Size (in):	0.2	Proposed Orifice Size (in):	0.2

Messages:



Project Summary

Project Name	TPM21204
Project Applicant	Webster
Jurisdiction	County of San Diego
Parcel (APN)	397-060-80-00
Hydrologic Unit	San Diego

Compliance Basin Summary

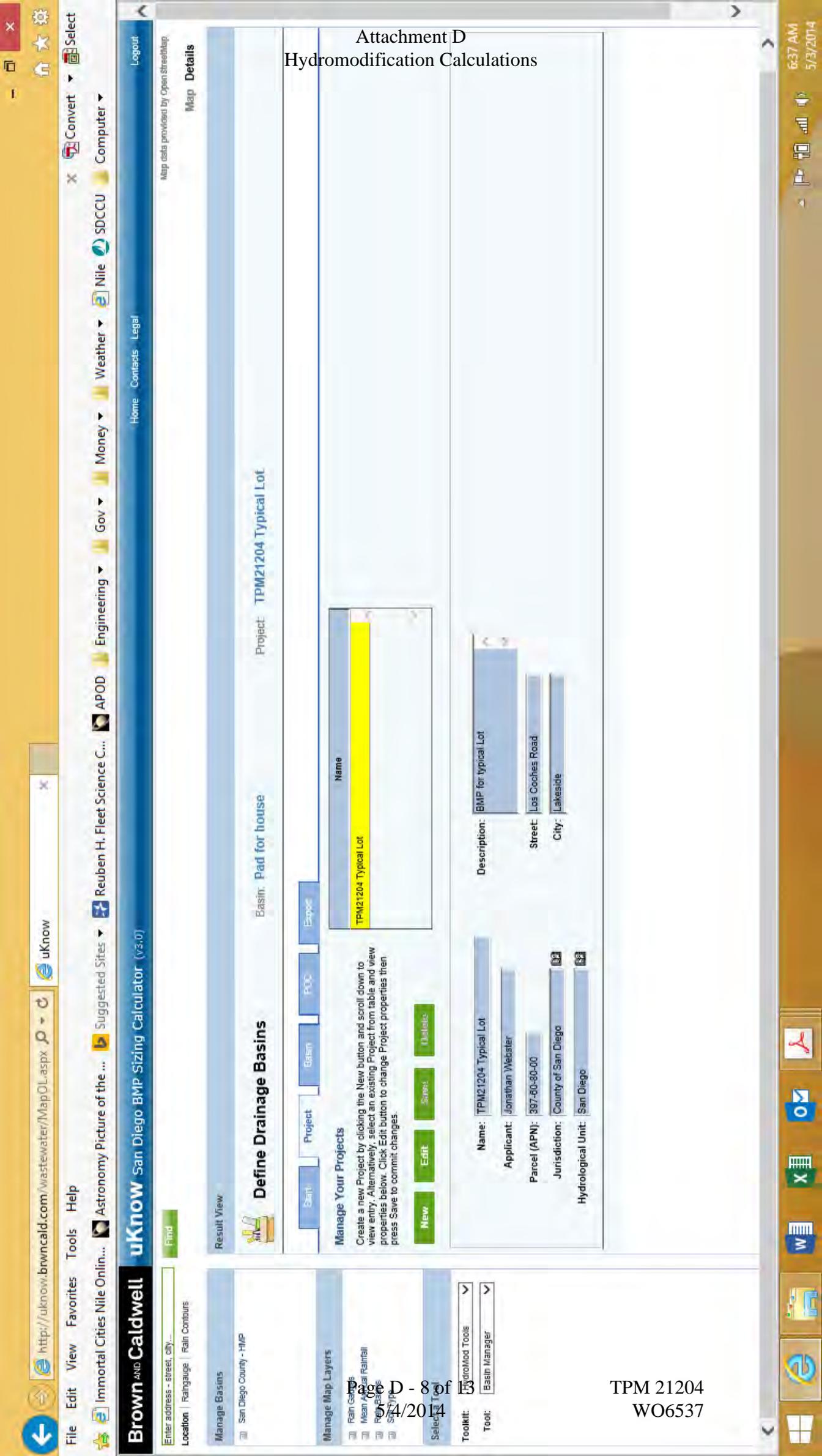
Basin Name:	Affected West Part of TPM
Receiving Water:	Los Coches Creek
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	1.50
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
33853	Drains to LID	BMP 1	DMA 1 Impervious After	0.55	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
33854	Drains to LID	BMP 1	DMA 1 Pervious After	0.57	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)
33856	Drains to LID	BMP 2	DMA 2 Impervious After	0.12	Pervious (Pre)	Concrete or asphalt	Type B (moderate infiltration)	Steep (greater 10%)
33857	Drains to LID	BMP 2	DMA 2 Pervious After	0.02	Pervious (Pre)	Landscaping	Type B (moderate infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1 (cft)	Volume 2 (cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 1	Bioretention	BMP 1	1983	1652	0.00	0.020	0.7
BMP 2	Bioretention	BMP 2	398	332	0.00	0.002	0.2



Attachment D Hydromodification Calculations

Brown and Caldwell

Enter address - street, city, ...
Location | Raingauge | Rain Contours

Manage Basins

San Diego County - HMP

Manage Map Layers

- Rain Gages
- Mean Annual Rainfall
- Rain Gages
- San Diego

Select Tool

Toolkit: Hydromod Tools

Tool: Basin Manager

Result View



Define Drainage Basins

Easins: Pad for house

Project: TPM21204 Typical Lot

Basin Project Easins Export

Manage Your Projects

Create a new Project by clicking the New button and scroll down to view entry. Alternatively, select an existing Project from table and view properties below. Click Edit button to change Project properties then press Save to commit changes.

- New
- Edit
- Save
- Delete

Name
TPM21204 Typical Lot

Name: TPM21204 Typical Lot
 Applicant: Jonathan Webster
 Parcel (APN): 397-80-80-00
 Jurisdiction: County of San Diego
 Hydrological Unit: San Diego

Description: BMP for typical Lot
 Street: Los Cochas Road
 City: Lakeside

Map Details

Map data provided by OpenStreetMap

Home | Contacts | Legal

uKnow San Diego BMP Sizing Calculator (v3.0)

Find

- Convert
- Weather
- Money
- Gov
- Engineering
- APOD
- Reuben H. Fleet Science C...
- Suggested Sites
- Immortal Cities Nile Onlin...

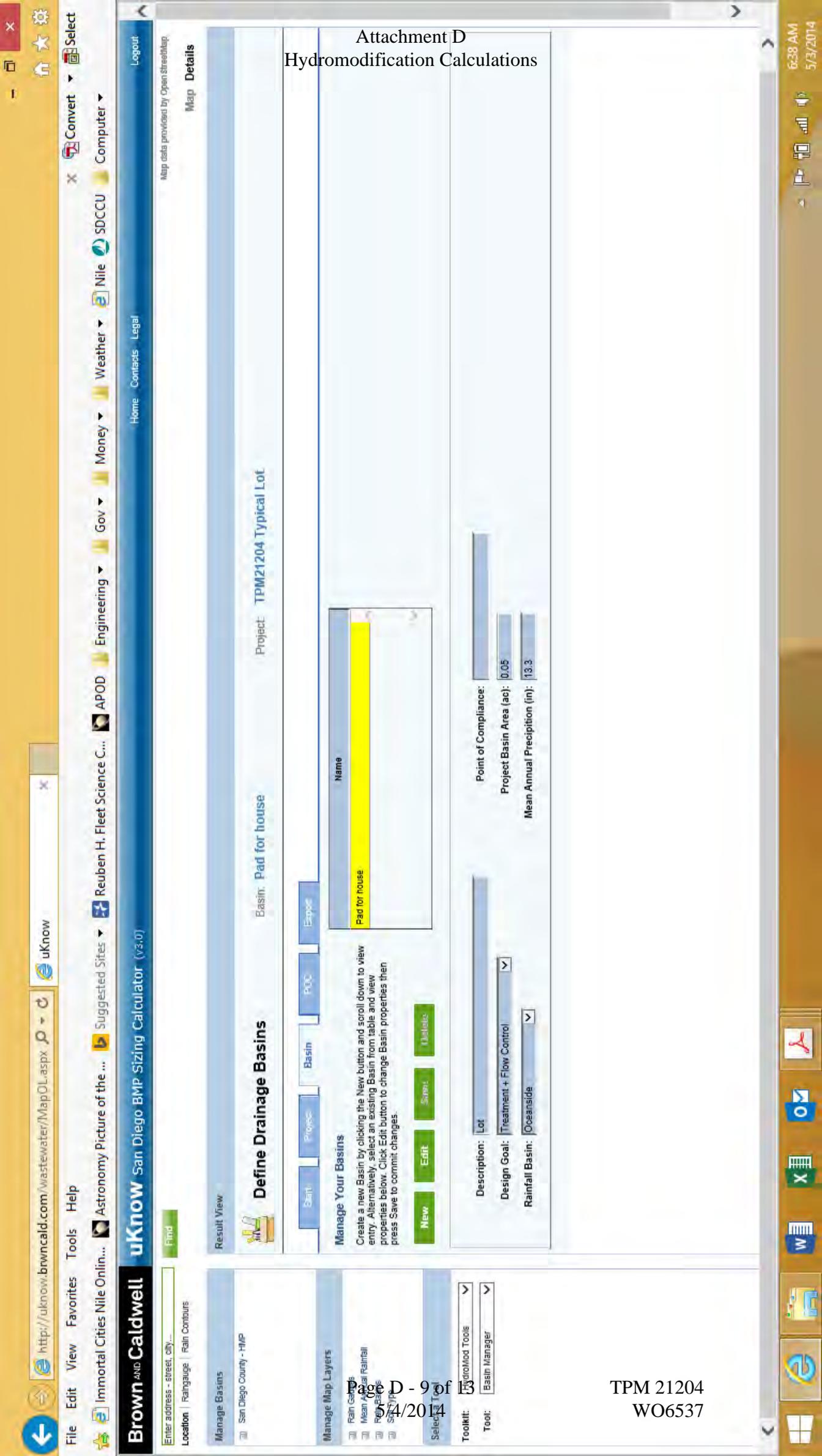
- File
- Edit
- View
- Favorites
- Tools
- Help

TPM 21204
WO6537

Attachment D - 8 of 13
5/4/2014

6:37 AM 5/3/2014

Windows taskbar with icons for Start, Internet Explorer, Mail, Office, Excel, PowerPoint, and other applications.



Attachment D Hydromodification Calculations

Brown and Caldwell

Enter address - street, city, ...
Location | Raingauge | Rain Contours

Manage Basins
San Diego County - HMP

- Manage Map Layers
- Rain Gages
 - Mean Annual Rainfall
 - Rain Basins
 - SCS Type

Select Tool

Toolkit: Hydromod Tools

Tool: Basin Manager

Result View

Define Drainage Basins

Basin: Pad for house Project: TPM21204 Typical Lot

Manage Your Basins

Create a new Basin by clicking the New button and scroll down to view entry. Alternatively, select an existing Basin from table and view properties below. Click Edit button to change Basin properties then press Save to commit changes.

Name
Pad for house

Description: Lot

Design Goal: Treatment + Flow Control

Rainfall Basin: Oceanside

Point of Compliance:

Project Basin Area (ac): 0.05

Mean Annual Precipitation (in): 13.3

Home Contacts Legal

Map data provided by OpenStreetMap

Map Details

Convert Select

Weather Money Gov Engineering APOD Reuben H. Fleet Science C... Suggested Sites Astronomy Picture of the ... Immortal Cities Nile Onlin...

SDCCU Nile

Computer

TPM 21204
WO6537

Page D - 9 of 13
5/4/2014





Attachment D
Hydromodification Calculations

Project: TPM21204 Typical Lot

Easins: Pad for house

Define Drainage Basins

Basin: Pad for house

Manage Your Point of Compliance (POC)

Analyze the receiving water at the 'Point of Compliance' by completing this form. Click Exit and enter the appropriate fields, then click the Update button to calculate the critical flow and low-flow threshold condition. Finally, click Save to commit the changes.

Channel Susceptibility: HIGH
Low Flow Threshold: 0.102

Channel Assessed: No
Watershed Area (ac): 0.00

Vertical Susceptibility: Select...
Lateral Susceptibility: Select...

Material: Select...
Roughness: 0.000
Channel Top Width (ft): 0.0
Channel Bottom Width (ft): 0.0
Channel Height (ft): 0.0
Channel Slope: 0.000

Large View

Brown and Caldwell

Location: Rain Gauge | Rain Contours

uknow San Diego BMP Sizing Calculator (v3.0)

Find

Home | Contacts | Legal

Logout

File Edit View Favorites Tools Help

Convert Weather Money Gov Engineering APOD Reuben H. Fleet Science C... Nile SDCCU Computer



Brown and Caldwell | San Diego BMP Sizing Calculator (v3.0)

Enter address - street, city... | Location | Raingauge | Rain Contours

Map data provided by OpenStreetMap

Project: TPM21204 Typical Lot

Easim: Pad for house

Size LID Facility

Result View

Manage Your DMA's

Create a new DMA by clicking the New button and scroll down to view entry. Alternatively, select an existing DMA from table and view properties below. Click Edit button to change DMA properties then press Save to commit changes.

DMA ID	Description
34447	Roof
34448	Lawn

Buttons: New, Edit, Save, Delete, Add, Report, Export

Define DMA Properties

DMA Type: [Drains to LID] | Drainage Area (ac): 0.03 | Drain To DMA ID: [1/A]

BMP ID: [BMP 4]

Drainage Soil: [Type B (moderate infiltration)] | Pre-Project Cover: [Previous (Pre)]

Post Surface: [Roofs] | Pre-Project Slope: [Moderate (5 - 10%)]

Messages:

DMA Layout (Large View)

Project Summary

Project Name	TPM21204 Typical Lot
Project Applicant	Jonathan Webster
Jurisdiction	County of San Diego
Parcel (APN)	397-60-80-00
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	Pad for house
Receiving Water:	
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.05
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
34447	Drains to LID	BMP 4	Roof	0.03	Pervious (Pre)	Roofs	Type B (moderate infiltration)	Moderate (5 - 10%)
34448	Drains to LID	BMP 4	Lawn	0.01	Pervious (Pre)	Amended, mulched soil	Type B (moderate infiltration)	Moderate (5 - 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 4	Bioretention	Bioretention	147	122	0.00	0.000	0.1

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.

Name and registration #

Date

**PRIVATE TREATMENT CONTROL BMP
OPERATION AND MAINTENANCE VERIFICATION FORM
BIORETENTION FACILITIES, VEGETATED SWALES & HIGHER RATE
BIOFILTERS-SIDE 2**

This guide sheet provides general indicators for maintenance only and for a wide array of treatment control BMPs. Your developer prepared maintenance plans specifically for your treatment control BMP as an appendix to the Stormwater Management Plan. Also, if you have a manufactured structure, please refer to the manufacturer's maintenance instructions.

Biofilters include the following :

- Vegetated Filter Strip/Swale** **Bioswale** **Bioretention Facility** **Planter Boxes**
 Manufactured Higher-Flow-Rate Biofilters, such as Tree-Pit-Style Units.

Routine maintenance is needed to ensure that flow is unobstructed, that erosion is prevented, and that soils are held together by plant roots and are biologically active. Typical maintenance consists of the following:

Bioretention BMPs Inspection and Maintenance Checklist	
Typical Maintenance Indicators	Typical Maintenance Actions
Accumulation of sediment (over 2 inches deep or covers vegetation), litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation. Confirm that soil is not clogging and that the area drains after a storm event. Till or replace soil as necessary.
Poor vegetation establishment	Ensure vegetation is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary (if less than 3 inches deep), remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas.
Overgrown vegetation—woody vegetation not part of design is present and grass excessively tall (greater than 10 inches)	Mow or trim as appropriate, but not less than the design height of the vegetation (typically 4-6 inches for grass). Confirm that irrigation is adequate and not excessive and that sprays do not directly enter overflow grates. Replace dead plants and remove noxious and invasive weeds.
Erosion due to concentrated irrigation flow	Repair/re-seed eroded areas and adjust the irrigation.
Erosion due to concentrated stormwater runoff flow	Repair/re-seed eroded areas and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or re-grading where necessary. Remove obstructions and sediment accumulations so water disperses.
Standing water (BMP not draining) . If mosquito larvae are present and persistent, contact the San Diego County Vector Control Program at (858) 694-2888. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.	Where there is an underdrain, such as in planter boxes and manufactured biofilters, check the underdrain piping to make sure it is intact and unobstructed. Abate any potential vectors by filling holes in the ground in and around the biofilter facility and by insuring that there are no areas where water stands longer than 96 hours following a storm .
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural components such as weirs, inlet, or outlet structures	Repair or replace as applicable.
Before the wet season and after rain events: remove sediment and debris from screens and overflow drains and downspouts; ensure pumps are functioning, where applicable; check integrity of mosquito screens; and; check that covers are properly seated and locked.	Where cisterns are part of the system
For manufactured high-flow-rate biofilters, see manufacturer's maintenance guidelines	

ATTACHMENT G

Treatment Control BMP Certification for DPW Permitted Land Development Projects

After TCBMP construction, complete a TCBMP Certification form to verify with County staff that all constructed TCBMPs on the record plans match the approved TCBMPs in the most current SWMP. TCBMP Certification must be completed and verified for permit closure.



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 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 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

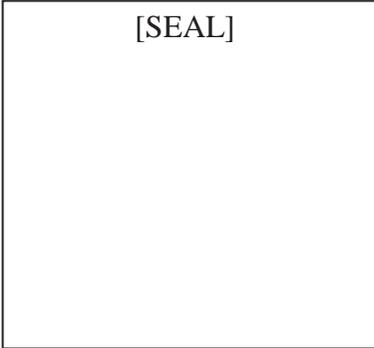
By signing below, I certify that the treatment control BMP(s) for this project have been constructed and all BMPs are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved 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

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

See Attachment D.

ATTACHMENT I

Geomorphic Assessment

(Contact 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 $0.3Q_2$ or a “High” low flow threshold of $0.5Q_2$.)

ATTACHMENT J

HMP Exemption Documentation (if applicable)

ATTACHMENT K

Addendum

PARCEL SUMMARY TABLE

PARCEL 1
 LOT SIZE NET: 19,491 sq/ft
 LOT SIZE GROSS: 24,306 sq/ft
 MINIMUM LOT SIZE: 10,000 sq/ft

PARCEL 2
 LOT SIZE NET: 13,742 sq/ft
 LOT SIZE GROSS: 15,066 sq/ft
 MINIMUM LOT SIZE: 10,000 sq/ft

PARCEL 3
 LOT SIZE NET: 11,144 sq/ft
 LOT SIZE GROSS: 14,235 sq/ft
 MINIMUM LOT SIZE: 10,000 sq/ft

PARCEL 4
 LOT SIZE NET: 37,878 sq/ft
 LOT SIZE GROSS: 38,925 sq/ft
 MINIMUM LOT SIZE: 10,000 sq/ft

REMAINDER PARCEL
 LOT SIZE NET: 52,692 sq/ft
 LOT SIZE GROSS: 62,660 sq/ft
 MINIMUM LOT SIZE: 10,000 sq/ft

EASEMENT DESCRIPTION

INDICATES A PROPOSED PRIVATE DRAINAGE EASEMENT IN FAVOR OF PARCELS 1, 2, 3, 4, AND REMAINDER PARCEL

PROPOSED PRIVATE ROAD STANDARDS

RADIUS: 60 FEET MINIMUM
 SLOPE: 20% MAXIMUM
 SPEED: 15 MPH MAXIMUM
 V. CURVE: 40 FEET MINIMUM
 GRADED WIDTH: 28 FEET
 PAVED WIDTH: 24 FEET
 CUL-DE-SAC
 PAVED: R=36 FEET
 GRADED: R=38 FEET
 R/W: R=40 FEET
 X-SLOPE: 5% MAXIMUM
 GRADE: 10% MAXIMUM

PRELIMINARY GRADING PLAN
CONCEPTUAL SEWER MAIN AND WATER MAIN PLAN

PDS-2013-ER-13-14002
 TPM 21204

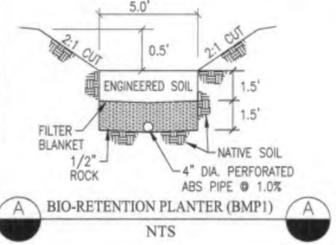
APPLICANT/OWNER
 PANWEBSTER INVESTMENTS INC.
 JOHNATHAN WEBSTER, PRESIDENT
 2445 BRANT STREET #511
 SAN DIEGO, CA 92101
 PHONE: (310)871-6806

LEGEND

EXIST. SPOT ELEVATION	X 46.45
EXIST. CONTOUR	
EXIST. STRUCTURE	
PROP. PROPERTY LINE	E
CENTER LINE	C
FLOW DIRECTION 1% MIN.	
EXIST. WIRE FENCE	
EXIST. ASPHALT PAVING	
EXIST. 8" SEWER MAIN	8" VCP
EXIST. 6" WATER MAIN	6" ACP
EXIST. GAS	GAS
EXIST. UNDERGROUND POWER	ET
EXIST. CONCRETE PAVING	
EXIST. CURB AND GUTTER	PP
EXIST. POWER POLE	PP
PROP. CONCRETE PAVING	
PROP. PAD ELEV.	565
PROP. SECOND FLOOR ELEV.	575
PROP. 1:1 CUT	
PROP. 1:1 FILL	
PROP. 12"x12" GRATE INLET	
PROP. KEYSTONE WALL	
PROP. 20"x24" RCP	
PROP. ROADBED	RDBD
TOP OF WALL	TW
TOP OF FOOTING	TF
TOP OF GRATE	TG
PROP. BIO-RETENTION & 4" PERFORATED ABS	A-A
PROP. 18" SLOTTED CMP DRAIN PIPE	SP-SP
PROP. FIRE HYDRANT	
PROP. SEWER MAIN	8" PVC
PROP. WATER MAIN	8" PVC
PROP. STRUCTURAL WALL	
SEE BUILDING PLANS	
PORTABLE SHEDS ENCROACHING	*
PROP. SEWER MANHOLE 36"	
PROP. 18" CMP DRAIN PIPE	SD
EXIST. ROCK FEATURES TO BE PRESERVED	ROCK
TREES NOT TO BE DISTURBED	OT
PROP. 8" HIGH TEMPORARY CONSTRUCTION NOISE BARRIER FENCE PER SEC. 2.2.2 & FIGURE 12 OF THE NOISE REPORT PREPARED BY EILER & ASSOC. DATED 09-12-13	
ROCK OUTLET DETAIL "A"	

PROP. SEWER MANHOLES

SMH#	RIM ELEV.	INVERT ELEV.
SMH1	489.5	481.54
SMH2	493.0	489.0
SMH3	506.5	496.5
SMH4	518.3	514.3
SMH5	530.7	526.7
SMH6	544.27	540.27
SMH7	551.96	547.96



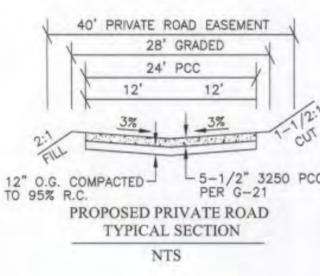
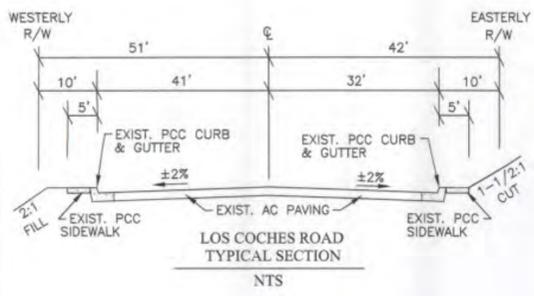
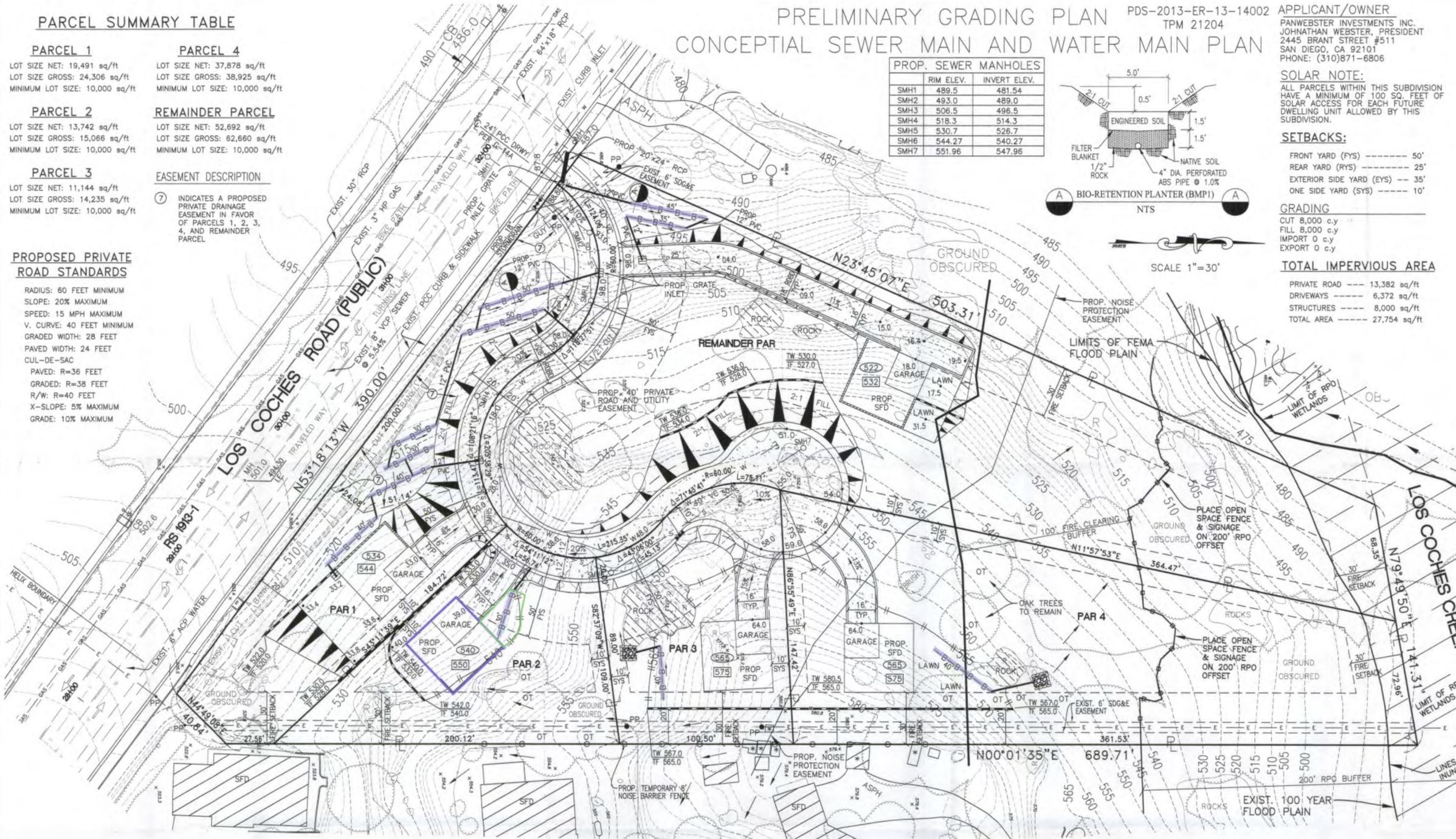
SOLAR NOTE:
 ALL PARCELS WITHIN THIS SUBDIVISION HAVE A MINIMUM OF 100 SQ. FEET OF SOLAR ACCESS FOR EACH FUTURE DWELLING UNIT ALLOWED BY THIS SUBDIVISION.

SETBACKS:
 FRONT YARD (FYS) ----- 50'
 REAR YARD (RYS) ----- 25'
 EXTERIOR SIDE YARD (EYS) --- 35'
 ONE SIDE YARD (SYS) ----- 10'

GRADING
 CUT 8,000 c.y.
 FILL 8,000 c.y.
 IMPORT 0 c.y.
 EXPORT 0 c.y.

TOTAL IMPERVIOUS AREA
 PRIVATE ROAD ----- 13,382 sq/ft
 DRIVEWAYS ----- 6,372 sq/ft
 STRUCTURES ----- 8,000 sq/ft
 TOTAL AREA ----- 27,754 sq/ft

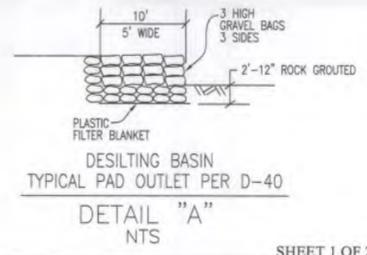
SCALE 1"=30'



WATER
 LAKESIDE WATER DISTRICT
SEWER
 LAKESIDE SANITATION DISTRICT
FIRE
 LAKESIDE FIRE PROTECTION DISTRICT
POWER
 SDG&E
TELEPHONE
 A.P.N.
 397-080-80-00
AVERAGE SLOPE
 37.42
LEGAL DESCRIPTION
 PAR "B" PER DOC. 99-662384 IN LOT 139
TOPOGRAPHY
 M.A.P.S.
LAND USE
 REGULATION RS
ADDITIONAL REQUIREMENTS
 SAN DIEGO STREET LIGHTING STANDARDS TO BE COMPLIED WITH
 SUBDIVIDER TO PAY PARK FEES IN LIEU OF PROPERTY DEDICATION
 IMPROVEMENTS ARE NOT TO BE CONSTRUCTED UNDER A SPECIAL
 ASSESSMENT ACT.

SPECIAL ASSESSMENT ACT STATEMENT
 THIS PROJECT DOES NOT REQUIRE A SPECIAL ASSESSMENT ACT.
TOTAL AREA
 3.56 AC GR.
ASSOCIATED PERMITS
 GRADING PERMIT
AVERAGE LOT SIZE
 0.712 AC
OPEN SPACE EASEMENT (PROPOSED)
 SEE GRADING PLAN
PUBLICLY MAINTAINED ACCESS ROAD
 LOS COCHES ROAD
COMMUNITY/SUB-REGIONAL PLAN AREA
 LAKESIDE
GENERAL PLAN DESIGNATION
 VILLAGE RESIDENTIAL (VR-4.3) 4.3 DU/AC
GRADING (SEE PHOTOS)
 GRADING CUT 8000 C.Y. FILL 8000 C.Y.
SCHOOL DISTRICTS
 GROSSMONT UNION HIGH SCHOOL DISTRICT AND THE
 LAKESIDE UNION SCHOOL DISTRICT
REGIONAL CATEGORY
 VILLAGE

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



TAX RATE AREA 82184

USE REGULATIONS	RS
ANIMAL REGULATIONS	0
DENSITY	4.35
LOT SIZE	10000
BUILDING TYPE	C
MAX. FLR. AREA	
FLR. AREA RATIO	
HEIGHT	G
COVERAGE	
SETBACK	H
OPEN SPACE	
SPECIAL AREA REGS.	

VICINITY MAP showing State Highway 56, Woodside Ave, Los Cochés Rd, Ha-Hana Rd, Bower Ln, and Interstate 8.

MAY ENGINEERING & SURVEYING
 12222 A WOODSIDE AVE. #237, LAKESIDE,
 CALIFORNIA 92040
 PH. (619) 463- 8580
 FAX. (619) 561-3897
 ELLIOTT@ELLIOTTMAY.COM
 ENGINEER OF WORK
 ELLIOTT M. MAY R.C.E. 18592
 DATE 01-24-14