

(Permit Number: D15-00012 & CUP15-00010)

CITY OF OCEANSIDE ENGINEERING DIVISION
PRIORITY DEVELOPMENT PROJECT STORM WATER QUALITY MANAGEMENT PLAN FOR DOLPHIN GREEN CAR WASH
ENGINEER OF WORK _____ LISA LARIOS, RCE C64574 EXP. 06/30/2019

PREPARED FOR:

METRO PROPERTY GROUP LLC

4433 Convoy Street, Suite H

San Diego, CA 92111

(858) 414-6910

PREPARED BY:

LLR ENGINEERING, INC

P. O. Box 2401

Irwindale, CA 91706

(626) 644-7172



Quick Reference Guide

Item	Project Information
Project Name	DOLPHIN GREEN CAR WASH
Application Number(s)	D15-00012 & CUP15-00010
Project Address	2190 EL CAMINO REAL, OCEANSIDE, CA 92054
Total Parcel Area	1.206 ac / 52,535 sq. ft.
Project Description	<p>The project is located at 2190 S. El Camino Real; the northeast corner of El Camino Real and Via Las Rosas Street in the City of Oceanside approximately 2000 feet north of Hwy 78.</p> <p>The property is an L shaped site with the “stem” parallel to Via Las Rosas and the “toe” parallel to El Camino Real.</p> <p>The proposed project is the construction of an automatic carwash. Project property is 52,535sf/1.206 ac. The project also proposes widening of the existing easement from 70’ to 95’ by contributing a 25’ wide land strip of 25’ for wildlife corridor.</p> <p>The proposed development consists the construction of a single story structure to house an automated car wash. Site improvements include entry aisle, access driveway and parking lot as well as offsite improvements of sidewalk, curb and gutter.</p> <p>A stormwater detention module tank is proposed underground north of entrance driveway for rainwater harvest retention and reuse. Landscaping is proposed along the frontage of El Camino Real and Via Las Rosas.</p>
Proposed Disturbed Area	0.85 ac / 36,992 sq. ft.
Created or Replaced Impervious	0.60 ac / 26,275 sq. ft.
Project Hydrologic Unit Watershed	<input type="checkbox"/> Santa Maria <input type="checkbox"/> San Luis Rey <input checked="" type="checkbox"/> Carlsbad
Required to implement HMP	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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CERTIFICATION PAGE

Project Name: DOLPHIN GREEN CAR WASH
Permit Application Number: TBD

I hereby declare that I am the Engineer in Responsible Charge of design of storm water BMPs for this project, and 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 the requirements of the City of Oceanside BMP Design Manual, which is based on the requirements of San Diego Regional Water Quality Control Board Order No. R9-2013-0001 (MS4 Permit).

I have read and understand that the City has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual. I certify that this SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable source control and site design BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this SWQMP by City staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

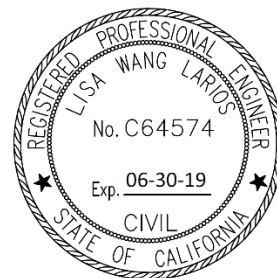
As Engineer of Work, I agree to indemnify, defend, and hold harmless the City of Oceanside, its officers, agents, and employees from any and all liability, claims, damages, or injuries to any person or property which might arise from the negligent acts, errors, or omissions of the Engineer of Work, my employees, agents or consultants.

Engineer of Work's Signature, C64574 Expires 6/30/2019
LISA W. LARIOS
LLR ENGINEERING, INC.

 June 15, 2018

Date

Engineer's Seal:



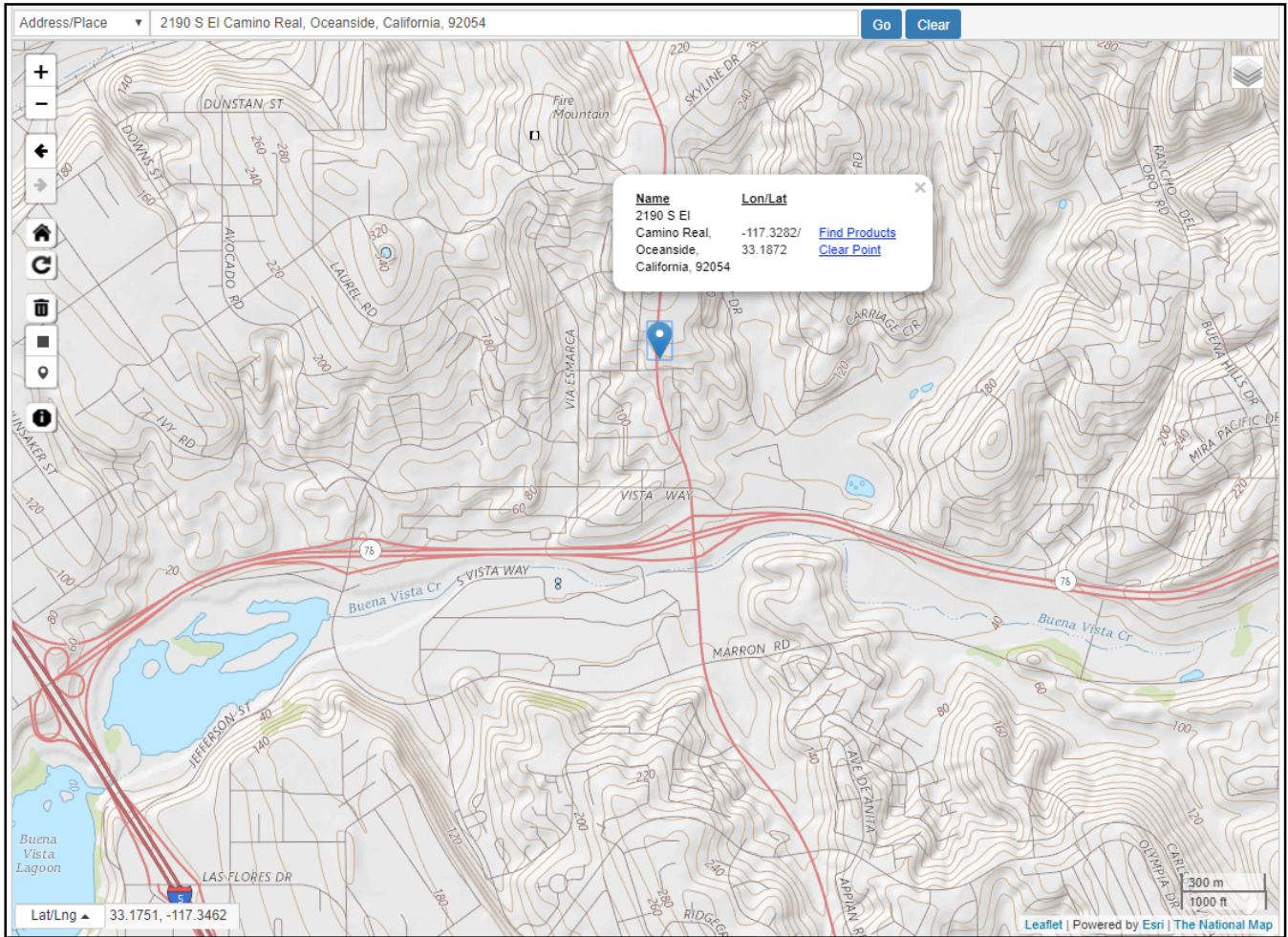
SUBMITTAL RECORD

Use this Table to keep a record of submittals of this SWQMP. Each time the SWQMP is re-submitted, provide the date and status of the project. In last column indicate changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plan check comments behind this page.

Submittal Number	Date	Project Status	Changes
1	06/15/2018	<input checked="" type="checkbox"/> Preliminary Design/ Planning/ CEQA <input type="checkbox"/> Final Design	Initial Submittal
2	[MM/DD/YY]	<input type="checkbox"/> Preliminary Design/ Planning/ CEQA <input type="checkbox"/> Final Design	Click here to enter text.
3	[MM/DD/YY]	<input type="checkbox"/> Preliminary Design/ Planning/ CEQA <input type="checkbox"/> Final Design	Click here to enter text.
4	[MM/DD/YY]	<input type="checkbox"/> Preliminary Design/ Planning/ CEQA <input type="checkbox"/> Final Design	Click here to enter text.



Project Vicinity Map



Applicability of Permanent, Post-Construction Storm Water BMP Requirements (Storm Water Intake Form for all Development Permit Applications)		Form I-1
Project Identification		
Project Name: DOLPHIN GREEN CAR WASH		
Permit Application Number: D15-00012 & CUP15-00010		Date: 06/15/2018
Determination of Requirements		
The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short <u>summary</u> of applicable requirements, in some cases referencing separate forms that will serve as the backup for the determination of requirements.		
Answer each step below, starting with Step 1 and progressing through each step until reaching "Stop". Refer to the manual sections and/or separate forms referenced in each step below.		
Step	Answer	Progression
Step 1: Is the project a "development project"? See Section 1.3 of the manual for guidance.	<input checked="" type="checkbox"/> Yes	Go to Step 2.
	<input type="checkbox"/> No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is <u>not</u> a "development project" (e.g., the project includes <i>only</i> interior remodels within an existing building):		
Step 2: Is the project a Standard Project, PDP, or exception to PDP definitions? To answer this item, see Section 1.4 of the manual <i>in its entirety</i> for guidance, AND complete Form I-2, Project Type Determination.	<input type="checkbox"/> Standard Project	Stop. Standard Project requirements apply, including Standard Project SWQMP.
	<input checked="" type="checkbox"/> PDP	PDP requirements apply, including PDP SWQMP. Go to Step 3.
	<input type="checkbox"/> Exception to PDP definitions	Stop. Standard Project requirements apply. Provide discussion and list any additional requirements below. Prepare Standard Project SWQMP.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		



Form I-1 Page 2 of 2		
Step	Answer	Progression
Step 3. Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the manual for guidance.	<input type="checkbox"/> Yes	Consult the [City Engineer] to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	<input checked="" type="checkbox"/> No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (<i>not required if prior lawful approval does not apply</i>):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the manual for guidance.	<input type="checkbox"/> Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	<input checked="" type="checkbox"/> No	Stop. PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below.
Discussion / justification if hydromodification control requirements do <u>not</u> apply:		
<p>Project runoff discharges to existing storm drain (MS4) on east side of El Camino Real. Existing downstream conveyance are concrete lined and discharges eventually to Buena Vista Lagoon which is identified in WMAA as exempt from hydromodification.</p> <p>No discharge from project onto Via Las Rosas.</p>		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the manual for guidance.	<input type="checkbox"/> Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	<input checked="" type="checkbox"/> No	Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. Stop.
Discussion / justification if protection of critical coarse sediment yield areas does <u>not</u> apply:		
<p>Per WMAA Potential Critical Coarse Sediment Yield Areas Map, 9/8/2014, protection of coarse sediment does not apply to the project. Also, hydromodification control requirements do not apply.</p>		



Project Type Determination Checklist		Form I-2	
Project Information			
Project Name: DOLPHIN GREEN CAR WASH			
Permit Application Number: D15-00012 & CUP15-00010			
Project Type Determination: Standard Project or PDP			
The project is (select one): <input checked="" type="checkbox"/> New Development <input type="checkbox"/> Redevelopment			
The total proposed newly created or replaced impervious area is: <u>26,275</u> ft ² (<u>0.60</u>) acres			
Is the project in any of the following categories, (a) through (f)?			
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(a)	New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(c)	<p>New and redevelopment projects that create 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses:</p> <ul style="list-style-type: none"> (i) Restaurants. This category is defined as a 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). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.



Form I-2 Page 2 of 2			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(d)	<p>New or redevelopment projects that create or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). “Discharging directly to” includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).</p> <p><u>Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and SDRWQCB; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and SDRWQCB; and any other equivalent environmentally sensitive areas which have been identified by the Copermitttees. See manual Section 1.4.2 for additional guidance.</u></p>
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(e)	<p>New development projects that support one or more of the following uses:</p> <p>(i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.</p> <p>(ii) Retail gasoline outlets. This category includes retail gasoline outlets that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic of 100 or more vehicles per day.</p>
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(f)	<p>New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.</p> <p><i>Note: See manual Section 1.4.2 for additional guidance.</i></p>
<p>Does the project meet the definition of one or more of the PDP categories (a) through (f) listed above?</p> <p><input type="checkbox"/> No – the project is not a PDP (Standard Project).</p> <p><input checked="" type="checkbox"/> Yes – the project is a PDP.</p>			
<p>The following is for redevelopment PDPs only:</p> <p>The area of existing (pre-project) impervious area at the project site is: ____ ft² (A)</p> <p>The total proposed newly created or replaced impervious area is: ____ ft² (B)</p> <p>Percent impervious surface created or replaced (A/B)*100: ____ %</p> <p>The percent impervious surface created or replaced is (select one based on the above calculation):</p> <p><input type="checkbox"/> less than or equal to fifty percent (50%) – only new impervious areas are considered PDP</p> <p>OR</p> <p><input type="checkbox"/> greater than fifty percent (50%) – the entire project site is a PDP</p>			



Site Information Checklist For PDPs		Form I-3B (PDPs)
Project Summary Information		
Project Name	DOLPHIN GREEN CAR WASH	
Project Address	2190 S. EL CAMINO REAL OCEANSIDE, CA 92054	
Assessor's Parcel Number(s)	165-012-1500	
Permit Application Number	D15-00012 & CUP15-00010	
Project Watershed (Hydrologic Unit)	Select One: <input type="checkbox"/> Santa Margarita 902 <input type="checkbox"/> San Luis Rey 903 <input checked="" type="checkbox"/> Carlsbad 904	
Parcel Area (total area of Assessor's Parcel(s) associated with the project)	1.206 Acres (52,535 Square Feet)	
Area to be disturbed by the project (Project Area)	0.85 Acres (36,992 Square Feet)	
Project Proposed Impervious Area (subset of Project Area)	0.60 Acres (26,275 Square Feet)	
Project Proposed Pervious Area (subset of Project Area)	0.25 Acres (10,717 Square Feet)	
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.		

Hydrologic Unit	Hydrologic Area	Hydrologic Sub-Area
Santa Margarita 902.00	<input type="checkbox"/> Ysidora 902.10	<input type="checkbox"/> Lower Ysidora 902.11
San Luis Rey 903.00	<input type="checkbox"/> Lower San Luis 903.10	<input type="checkbox"/> Mission 903.11
		<input type="checkbox"/> Bonsall 903.12
Carlsbad 904.00	<input type="checkbox"/> Loma Alta 904.10	Not Applicable
	<input checked="" type="checkbox"/> Buena Vista Creek 904.20	<input checked="" type="checkbox"/> El Salto 904.21
	<input type="checkbox"/> Agua Hedionda 4.30	<input type="checkbox"/> Vista 904.22
		<input type="checkbox"/> Los Monos 904.31



Form I-3B Page 2 of 10	
Description of Existing Site Condition and Drainage Patterns	
Current Status of the Site (select all that apply): <input type="checkbox"/> Existing development <input checked="" type="checkbox"/> Previously graded but not built out <input type="checkbox"/> Agricultural or other non-impervious use <input checked="" type="checkbox"/> Vacant, undeveloped/natural Description / Additional Information:	
Existing Land Cover Includes (select all that apply): <input type="checkbox"/> Vegetative Cover <input checked="" type="checkbox"/> Non-Vegetated Pervious Areas <input type="checkbox"/> Impervious Areas Description / Additional Information:	
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): <input type="checkbox"/> NRCS Type A <input type="checkbox"/> NRCS Type B <input type="checkbox"/> NRCS Type C <input checked="" type="checkbox"/> NRCS Type D	
Approximate Depth to Groundwater: <input type="checkbox"/> Groundwater Depth < 5 feet <input type="checkbox"/> 5 feet < Groundwater Depth < 10 feet <input type="checkbox"/> 10 feet < Groundwater Depth < 20 feet <input checked="" type="checkbox"/> Groundwater Depth > 20 feet	



Form I-3B Page 3 of 10

Description of Existing Site Topography and Drainage [How is storm water runoff conveyed from the site? At a minimum, this description should answer (1) whether existing drainage conveyance is natural or urban; (2) describe existing constructed storm water conveyance systems, if applicable; and (3) is runoff from offsite conveyed through the site? If so, describe]:

Existing Site Description (from Hydrology Study dated 01/16/2018):

Existing site has been previously improved with graded pads, retaining wall segments and crib walls. A block wall with a V-ditch for drainage runs along the north and west property line between and the project site and its neighboring property to the north. A driveway on Via Las Rosas provides access into the property. A transmission tower is located within the SDG&E utility easement line which runs north to south, 70' west from the easterly property line. Located at the top of the "stem", the graded pad adjacent to El Camino Real (bounded by El Camino Real to the west and existing retaining wall to the east) is approximate 8-10' above the grade at the bottom of the wall. Site topography in the "toe" of the L slopes from north to south with elevations ranging from 180' in the vicinity north of the transmission tower to 165' in the area at the southeast portion of the property. In the "stem" of the L, the terrain slopes mostly from east to west toward the driveway. With the exception of the transmission tower concrete pad, the existing site surface is ungraded. The site cover is considered natural barren terrain with sparse native vegetation.

Existing Off-Site Drainage

Approximately 0.10 ac of Offsite runoff from the slopes of adjacent property the north is collected in V-ditch along the boundary block wall and conveyed into graded pad adjacent to El Camino Real and to the existing sidewalk drain (referred to as Outlet 1 in hydrology study) is located approximately 20' north of the curb return on El Camino Real.

El Camino Real:

Existing street drainage on east side of El Camino Real is carried in the gutter and flows south. The flow continues south on El Camino Real crossing Via Las Rosas, and follows the curb return at Vista way southeasterly and into curb inlet on northside of Vista Way at 3156 Vista Way and eventually flows into Buena Vista Creek, Buena Vista Lagoon and Pacific Ocean.

Via Las Rosas:

Existing street drainage on northside of Via Las Rosas is carried easterly along the AC berm and discharges into existing curb inlet (referred to as Outlet 2 in hydrology study) located at the terminus of Via Las Rosas.

Flow from Outlet 2 is "carried east within an existing public 24" RCP storm drain for approximately 50' then discharges into an existing natural drainage course. Flows co-mingle with runoff from the adjacent undeveloped lands to the east and travels south, southeast within the natural drainage course approximately 900' to a detention basin with a concrete spillway as an overflow weir. Flows not discharging over the weir discharge to an existing CMP pipe that carries the runoff south, crossing the No. 4 and No. 3 fairways of El Camino Country Club golf course." The pipe flow continues southerly and into curb inlet on Vista Way at 3156 Vista Way, which also receives upstream street flow that includes east gutter of El Camino Real, and eventually flows into Buena Vista Creek, Buena Vista Lagoon and Pacific Ocean (Reference 4).

On-Site Drainage

The project site watershed contains two drainage areas: Basin 1 and Basin 2 discharges to Outlet 1 and Outlet 2, respectively. Please refer to the attached Pre Development Exhibit of Hydrology Study for reference.

Basin 1 discharges to Outlet 1: The tributary of Basin 1 contains System A which includes offsite area. Offsite runoff is collected and conveyed via the V-ditch along the boundary block wall and discharged onsite to the graded pad area adjacent to El Camino Real also referred to as A3. The runoff conveyance continues westerly by natural swale and discharges into Outlet 1 and onto east gutter on El Camino Real.

Basin 2 discharges to Outlet 2: The tributary of Basin 2 consists of Systems B, C, D and E. System B, C, and E flows confluence at the existing driveway opening and is carried east against the AC berm on Via Las Rosas and comingles with street flow of E before discharging into curb inlet Outlet 2. System D flow is connected to Outlet 2 via existing concrete pipe that crosses under the existing crib wall at the southeast area of property.



Form I-3B Page 4 of 10

Description of Proposed Site Development and Drainage Patterns

Project Description / Proposed Land Use and/or Activities:

The proposed project is the construction of an automatic carwash. The eastern 0.52ac of the property will be a dedicated for SDG&E and wildlife corridor and remain undeveloped.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):

Impervious areas will be from building roofs, parking lots, access driveways and ramp to upper parking lot to the north.

List/describe proposed pervious features of the project (e.g., landscape areas):

**Pervious area will include the wildlife/utility easement.
Landscaping is proposed along the frontage of El Camino Real and Via Las Rosas.**

Does the project include grading and changes to site topography?

Yes

No

Description / Additional Information:

The existing retaining wall west of the existing driveway opening will be removed. The existing graded pad fronting El Camino Real will be regraded with the construction of a new retaining wall and the drainage redirected to the southeasterly direction.

The grade of remaining site will be maintained with the lowest point at the driveway opening.

Grading in easement will be performed for the construction of the proposed dirt access road for SDG&E.



Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

Yes

No

Description / Additional Information:

Runoff from proposed impervious areas will be collected at the driveway trench drain and conveyed into underground stormwater detention module tank for storage and reuse in the operation of the new car wash.

Existing drainage pattern in wildlife/utility easement corridor will be maintained and remain unchanged.



Form I-3B Page 5 of 10

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply):

- Onsite storm drain inlets
- Interior floor drains and elevator shaft sump pumps
- Interior parking garages
- Need for future indoor & structural pest control
- Landscape/outdoor pesticide use
- Pools, spas, ponds, decorative fountains, and other water features
- Food service
- Refuse areas
- Industrial processes
- Outdoor storage of equipment or materials
- Vehicle and equipment cleaning
- Vehicle/equipment repair and maintenance
- Fuel dispensing areas
- Loading docks
- Fire sprinkler test water
- Miscellaneous drain or wash water
- Plazas, sidewalks, and parking lots



Form I-3B Page 6 of 10		
Identification of Receiving Water Pollutants of Concern		
Describe path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable): Buena Vista Creek, Buena Vista Lagoon, Pacific Ocean		
List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs for the impaired water bodies:		
303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs
Buena Vista Creek	Sediment Toxicity Selenium	Est. TMDL completion: 2019 Est. TMDL completion: 2019
Buena Vista Lagoon	Indicator Bacteria Nutrients Sediment/Siltation	Est. TMDL completion: 2008 Est. TMDL completion: 2019 Est. TMDL completion: 2019



Form I-3B Page 7 of 10

Identification of Project Site Pollutants*

***Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)**

Identify pollutants expected from the project site based on all proposed use(s) of the site (see manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Expected from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment		X	X
Nutrients		X	X
Heavy Metals		X	X
Organic Compounds		X	
Trash & Debris		X	
Oxygen Demanding Substances		X	
Oil & Grease		X	
Bacteria & Viruses		X	X
Pesticides		X	

Note: Indicator Bacteria shall be addressed as a Pollutant of Concern (POC) for projects located in the Lower San Luis Hydrologic Area and for projects that discharge to the Pacific Ocean Shoreline within the boundaries of the City of Oceanside.

Note: Nutrients shall be addressed as a Pollutant of Concern (POC) for projects located in the Loma Alta Hydrologic Area.



Form I-3B Page 8 of 10	
Hydromodification Management Requirements	
<p>Do hydromodification management requirements apply (see Section 1.6 of the manual)?</p> <p><input type="checkbox"/> Yes, hydromodification management flow control structural BMPs required.</p> <p><input type="checkbox"/> No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.</p> <p><input checked="" type="checkbox"/> No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.</p> <p><input type="checkbox"/> No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.</p> <p>Description / Additional Information (to be provided if a 'No' answer has been selected above): Project runoff discharges to existing storm drain (MS4) on east side of El Camino Real. Existing downstream conveyance are concrete lined and discharges eventually to Buena Vista Lagoon which is exempt from hydromodification as identified in WMAA.</p>	
Critical Coarse Sediment Yield Areas*	
*This Section only required if hydromodification management requirements apply	
<p>Based on the maps provided within the WMAA, do potential critical coarse sediment yield areas exist within the project drainage boundaries?</p> <p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No, no critical coarse sediment yield areas to be protected based on WMAA maps</p> <p>If yes, have any of the optional analyses presented in Section 6.2 of the manual been performed?</p> <p><input type="checkbox"/> 6.2.1 Verification of GLUs Onsite</p> <p><input type="checkbox"/> 6.2.2 Downstream Systems Sensitivity to Coarse Sediment</p> <p><input type="checkbox"/> 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite</p> <p><input type="checkbox"/> No optional analyses performed, the project will avoid critical coarse sediment yield areas identified based on WMAA maps</p> <p style="text-align: center;">NOT APPLICABLE</p> <p>If optional analyses were performed, what is the final result?</p> <p><input type="checkbox"/> No critical coarse sediment yield areas to be protected based on verification of GLUs onsite.</p> <p><input type="checkbox"/> Critical coarse sediment yield areas exist but additional analysis has determined that protection is not required. Documentation attached in Attachment 8 of the SWQMP.</p> <p><input type="checkbox"/> Critical coarse sediment yield areas exist and require protection. The project will implement management measures described in Sections 6.2.4 and 6.2.5 as applicable, and the areas are identified on the SWQMP Exhibit.</p> <p>Discussion / Additional Information:</p>	



<p>Form I-3B Page 9 of 10</p>	
<p>Flow Control for Post-Project Runoff*</p> <p>*This Section only required if hydromodification management requirements apply</p>	
<p>List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.</p>	
<p>Has a geomorphic assessment been performed for the receiving channel?</p> <p><input type="checkbox"/> No, the low flow threshold is 0.1Q2 (default low flow threshold)</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.1Q2</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.3Q2</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.5Q2</p> <p>If a geomorphic assessment has been performed, provide title, date, and preparer:</p> <p>Discussion / Additional Information: (optional)</p>	<div style="border: 2px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> <p>NOT APPLICABLE</p> </div>



Form I-3B Page 10 of 10

Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

Site constraints that influence stormwater management include:

1. **Soil group D (impermeable and expansive native soil)**
2. **Perimeter constraints**
3. **High intensity land use**
4. **Heavy vehicular traffic**
5. **Restricted Right-of-Way**
6. **Easements**

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

Project site soil condition does not allow for infiltration due to low percolation rate and expansion concerns. Project is constrained by existing development to the north, south and west. The existing utility easement for SDG&E to the east is further widened by 25' for wildlife corridor and must remain undeveloped.



Source Control BMP Checklist for All Development Projects (Standard Projects and PDPs)		Form I-4	
Project Identification			
Project Name:		DOLPHIN GREEN CAR WASH	
Permit Application Number:		TBD	
Source Control BMPs			
<p>All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement source control BMPs shown in this checklist.</p> <p>Answer each category below pursuant to the following.</p> <ul style="list-style-type: none"> • "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided. 			
Source Control Requirement		Implemented?	
SC-1 Prevention of Illicit Discharges into the MS4	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Discussion / justification if SC-3 not implemented:			



Form I-4 Page 2 of 3			
Source Control Requirement	Implemented?		
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Discussion / justification if SC-4 not implemented:			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-5 not implemented:			



Form I-4 Page 3 of 3			
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)	Implemented?		
Onsite storm drain inlets	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Interior floor drains and elevator shaft sump pumps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Interior parking garages	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Need for future indoor & structural pest control	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Landscape/outdoor pesticide use	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Pools, spas, ponds, decorative fountains, and other water features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Refuse area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Outdoor storage of equipment or materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Vehicle and equipment cleaning	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Vehicle/equipment repair and maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Fuel dispensing areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Loading docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Fire sprinkler test water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Miscellaneous drain or wash water	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Plazas, sidewalks, and parking lots	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p>Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.</p>			



Site Design BMP Checklist for All Development Projects (Standard Projects and PDPs)		Form I-5	
Project Identification			
Project Name: DOLPHIN GREEN CAR WASH			
Permit Application Number: TBD			
Site Design BMPs			
All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement site design BMPs shown in this checklist.			
Answer each category below pursuant to the following.			
<ul style="list-style-type: none"> • "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided. 			
Site Design Requirement		Applied?	
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-1 not implemented: Runoff collection for harvest and reuse requires drainage modification. Existing drainage pathway in wildlife corridor/SDG&E easement will be maintained.			
SD-2 Conserve Natural Areas, Soils, and Vegetation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-2 not implemented: Existing easement is widened for wildlife corridor/SDG&E easement.			
SD-3 Minimize Impervious Area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-3 not implemented:			
SD-4 Minimize Soil Compaction	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-4 not implemented: Infiltration is not feasible for site. Existing soil is not suitable for infiltration.			



Form I-5 Page 2 of 2			
Site Design Requirement	Applied?		
SD-5 Impervious Area Dispersion	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-5 not implemented: Alternative of runoff harvesting is used. Runoff from impervious areas is collected for reuse.			
SD-6 Runoff Collection	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-6 not implemented:			
SD-7 Landscaping with Native or Drought Tolerant Species	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-8 not implemented:			



Summary of PDP Structural BMPs		Form I-6 (PDPs)
Project Identification		
Project Name:	DOLPHIN GREEN CAR WASH	
Permit Application Number:	TBD	
PDP Structural BMPs		
<p>All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).</p> <p>PDP structural BMPs must be verified by the local jurisdiction at the completion of construction. This may include requiring the project owner or project owner's representative to certify construction of the structural BMPs (see Section 1.12 of the manual). PDP structural BMPs must be maintained into perpetuity, and the local jurisdiction must confirm the maintenance (see Section 7 of the manual).</p> <p>Use this form to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).</p> <p>Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.</p> <p>As infiltration BMPs are not feasible for project site, stormwater harvest and reuse is proposed. The proposed development will be able to reuse the collected runoff in the car washing operation. The project will detain the full DCV for reuse in its car wash operation landscape irrigation resulting in reduce volume and discharge to the curb inlet (Outlet 2 in Hydrology Study) on Via Las Rosas Street.</p> <p>A stormwater storage detention module unit is proposed under the access drive between the building structure and the driveway opening. Surface runoff from impervious areas is collected into the detention unit for storage. The detained volume will be pumped into the car wash filtration facility and used in the car washing process. Additional pump discharge line is for landscape irrigation use.</p> <p>(Continue on page 2 as necessary.)</p>		



Form I-6 Page 2 of 4

(Page reserved for continuation of description of general strategy for structural BMP implementation at the site)

(Continued from page 1)



Form I-6 Page 3 of X (Copy as many as needed)	
Structural BMP Summary Information (Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No. BMP1	
Construction Plan Sheet No.	
Type of structural BMP: <input checked="" type="checkbox"/> Retention by harvest and use (HU-1) <input type="checkbox"/> Retention by infiltration basin (INF-1) <input type="checkbox"/> Retention by bioretention (INF-2) <input type="checkbox"/> Retention by permeable pavement (INF-3) <input type="checkbox"/> Partial retention by biofiltration with partial retention (PR-1) <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) <input type="checkbox"/> Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) <input type="checkbox"/> Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) <input type="checkbox"/> Detention pond or vault for hydromodification management <input type="checkbox"/> Other (describe in discussion section below)	
Purpose: <input checked="" type="checkbox"/> Pollutant control only <input type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification control <input type="checkbox"/> Pre-treatment/forebay for another structural BMP <input type="checkbox"/> Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms if required by the [City Engineer] (See Section 1.12 of the manual)	TBD
Who will be the final owner of this BMP?	METRO PROPERTY GROUP, LLC
Who will maintain this BMP into perpetuity?	METRO PROPERTY GROUP, LLC
What is the funding mechanism for maintenance?	METRO PROPERTY GROUP, LLC



Form I-6 Page 4 of X (Copy as many needed)

Structural BMP Summary Information

(Copy this page as needed to provide information for each individual proposed structural BMP)

Discussion (as needed):

BMP1 – Stormwater detention module unit by StormTrap or equivalent is to retain the volume greater than DCV for reuse in the operation of the car washing and landscape irrigation.



	City of Oceanside 300 N Coast Highway Oceanside, CA 92054	Permanent BMP Construction Self Certification Form	February 2016
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Date Prepared: Click here to enter text.	Project No.: Click here to enter text.
Project Applicant: Metro Property Group	Phone: (858) 414-6910
Project Address: 2190 S. EL CAMINO REAL, OCEANSIDE, CA 92056	
Project Engineer: Click here to enter text.	Phone: Click here to enter text.

The purpose of this form is to verify that the site improvements for the project, identified above, have been constructed in conformance with the approved Storm Water Quality Management Plan (SWQMP) documents and drawings.

This form must be completed by the engineer and installing contractor and submitted prior to final inspection of the construction permit. Completion and submittal of this form is required for all new development and redevelopment projects in order to comply with the City's Storm Water ordinances and NDPEs Permit Order No. R9-2013-0001. Final inspection for occupancy and/or release of grading or public improvement bonds may be delayed if this form is not submitted and approved by the City of Oceanside.

ENGINEER'S CERTIFICATION:

As the professional in responsible charge for the design of the above project, I certify that I have inspected all constructed Low Impact Development (LID) site design, source control and treatment control BMP's required per the approved SWQMP and Construction Permit No. [Click here to enter text.](#); and that said BMP's have been constructed in compliance with the approved plans and all applicable specifications, permits, ordinances and Order No. R9-2013-0001 of the San Diego Regional Water Quality Control Board.

I understand that this BMP certification statement does not constitute an operation and maintenance verification.

Signature: _____



Date of Signature: [Click here to enter text.](#)

Printed Name: [Click here to enter text.](#)

Title: [Click here to enter text.](#)

Phone No. [Click here to enter text.](#)

Engineer's Stamp

CONTRACTOR'S CERTIFICATION:

As the professional in responsible charge for construction of the above project, I certify that all constructed Low Impact Development (LID) site design, source control and treatment control BMP's required per the approved SWQMP and Construction Permit No. [Click here to enter text.](#); have been constructed in compliance with the approved plans and all applicable specifications, permits, and ordinances.

I understand that this BMP certification statement does not constitute an operation and maintenance verification.

Signature: _____

Date of Signature: [Click here to enter text.](#)

Printed Name: [Click here to enter text.](#)

Title: [Click here to enter text.](#)

Phone No. [Click here to enter text.](#)



ATTACHMENT 1
BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.



Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist.	<input checked="" type="checkbox"/> Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	<input checked="" type="checkbox"/> Included on DMA Exhibit in Attachment 1a <input checked="" type="checkbox"/> Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Design Capture Volume Worksheet	<input checked="" type="checkbox"/> Included
Attachment 1d	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Not included because the entire project will use infiltration BMPs
Attachment 1e	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	<input type="checkbox"/> Included <input checked="" type="checkbox"/> Not included because the entire project will use harvest and use BMPs
Attachment 1f	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines	<input type="checkbox"/> Included



Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

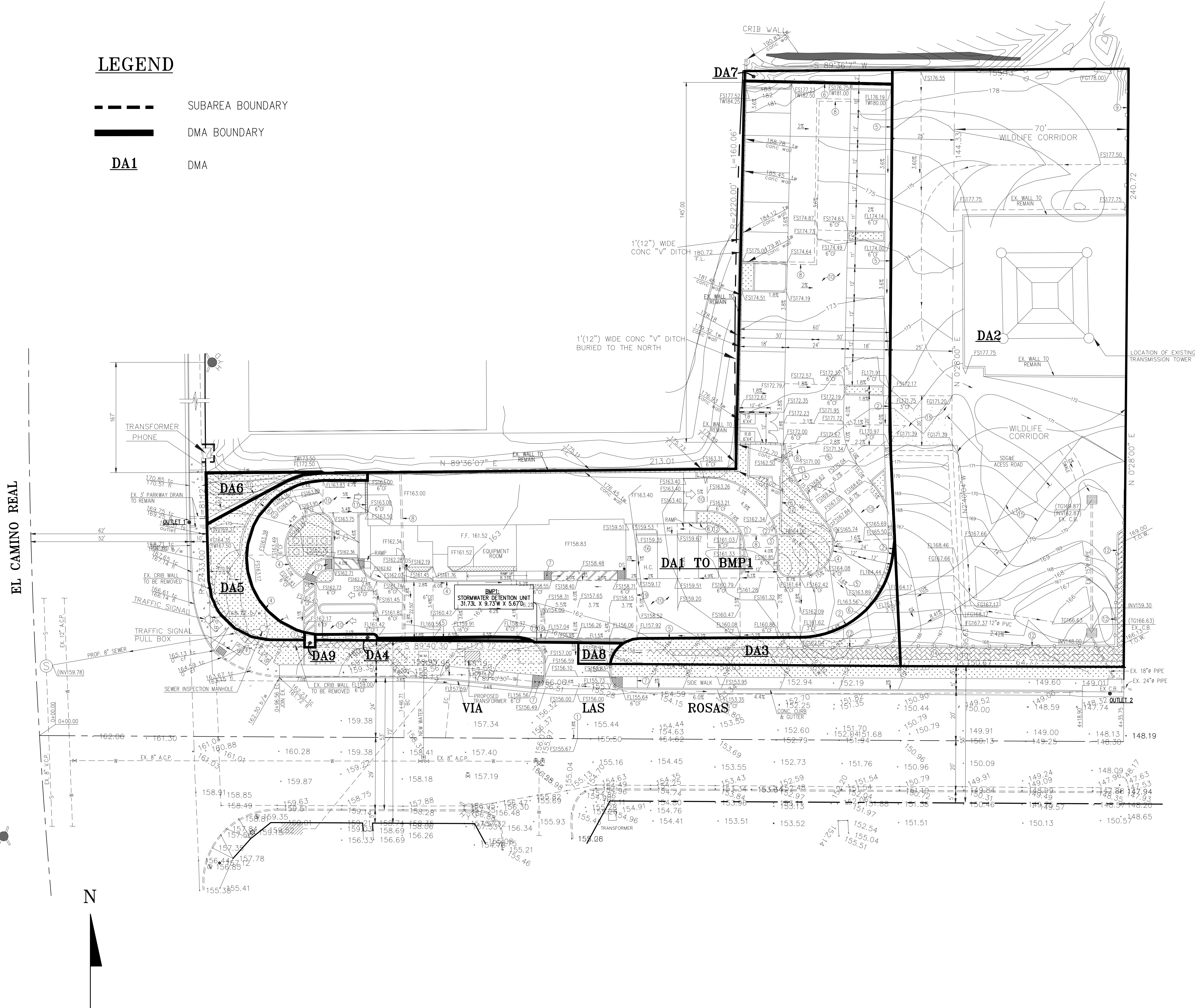
- Underlying hydrologic soil group
- Approximate depth to groundwater
- Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- Critical coarse sediment yield areas to be protected
- Existing topography and impervious areas
- Existing and proposed site drainage network and connections to drainage offsite
- Proposed grading
- Proposed impervious features
- Proposed design features and surface treatments used to minimize imperviousness
- Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Form I-3B)
- Structural BMPs (identify location, type of BMP, and size/detail)



DOLPHIN GREEN CAR WASH SMWP – DMA & BMP EXHIBIT

LEGEND

- SUBAREA BOUNDARY
- DMA BOUNDARY
- DA1** DMA

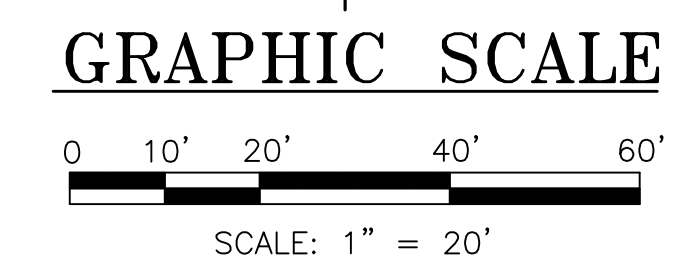


Design Capture Volume		Worksheet B-2.1	
1	85 th percentile 24-hr storm depth from Figure B.1-1	d=	0.65 inches
2	Area tributary to BMP (s)	A=	.60 acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	.90 unitless
4	Street trees volume reduction	TCV=	0 cubic-feet
5	Rain barrels volume reduction	RCV=	0 cubic-feet
Calculate DCV =			
6	(3630 x C x d x A) – TCV - RCV	DCV=	1,274 cubic-feet

DMA TABLE						
DMA	SOIL GROUP	DMA Classification	Type	Description	SF	AC
DA1	D	Mitigation by BMP1	Impervious	Building, driveway, ramp to upper parking, upper parking	26055	0.60
DA2	D	Self Mitigating	Pervious	Wildlife corridor/Easement	22620	0.52
DA3	D	Self Mitigating	Pervious	Landscape east of driveway on Via Las Rosas	1627	0.04
DA4	D	Self Mitigating	Pervious	Landscape west of driveway on Via Las Rosas	155	0.00
DA5	D	Self Mitigating	Pervious	Landscape south west on El Camino Real	1143	0.03
DA6	D	Self Mitigating	Pervious	Landscape north west on El Camino Real	425	0.01
DA7	D	Self Mitigating	Pervious	Landscape north of NE parking lot	285	0.01
DA8	D	DeMini	Impervious	Driveway Entrance on Via Las Rosas	200	0.00
DA9	D	DeMini	Impervious	Ramp on Via Las Rosas	25	0.00
Total Property Area					52535	1.206

SOIL GROUP: D
DEPTH TO GROUNDWATER: >20'

STRUCTURAL BMP			
BMP NAME	TYPE	STORAGE PROVIDED (SF)	DCV STORAGE REQ'D (CF)
BMP1	RETENTION	1384	1274



Placeholder – **Tabular Summary of DMAs (if separate from DMA Exhibit)**

Leave placeholder intact if not applicable.

Not Applicable – Tabular Summary included on DMA Exhibit



Design Capture Volume		Worksheet B-2.1		
1	85 th percentile 24-hr storm depth from Figure B.1-1	d=	0.65	inches
2	Area tributary to BMP (s)	A=	.60	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	.90	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	1,274	cubic-feet



Harvest and Use Feasibility Checklist		Form I-7
1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season? <input type="checkbox"/> Toilet and urinal flushing <input checked="" type="checkbox"/> Landscape irrigation (Total landscape area = 6,360sf (0.15 ac)) <input checked="" type="checkbox"/> Other: <u>CAR WASH</u> (20 gal/car), estimated 350 cars/day		
2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2. Est. Irrigation demand per Table B.3-3 for moderate plant water use = 0.15x 1,470= 221gal/36 hr Est. Car Wash demand = 350 wash x 20gal/wash = 7,000 gal x 1.5 = 10,500 gal/36 hr Est. total 36 hr demand = 10,721/7.48= 1,433 cf		
3. Calculate the DCV using worksheet B-2.1. DCV = <u>1,274</u> (cubic feet) ;		
3a. Is the 36 hour demand greater than or equal to the DCV? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No ⇒ ↓↓	3b. Is the 36 hour demand greater than 0.25DCV but less than the full DCV? <input type="checkbox"/> Yes / <input type="checkbox"/> No ⇒ ↓↓	3c. Is the 36 hour demand less than 0.25DCV? <input type="checkbox"/> Yes ↓↓
Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.	Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.	Harvest and use is considered to be infeasible.
Is harvest and use feasible based on further evaluation? <input checked="" type="checkbox"/> Yes, refer to Appendix E to select and size harvest and use BMPs. <input type="checkbox"/> No, select alternate BMPs.		



Categorization of Infiltration Feasibility Condition		Form I-8	
<p>Part 1 - Full Infiltration Feasibility Screening Criteria</p> <p>Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?</p>			
Criteria	Screening Question	Yes	No
1	<p>Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Provide basis:</p> <p>Soil Group D. Soils reports indicates the upper 10-foot soil consisted of clayey sandstone which should be considered to be medium to low permeability. Below 10 feet, the bedrock is classified to be claystone.</p> <p>Infiltration is not recommended by soils engineer.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
2	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Provide basis:</p> <p>Soil Group D. Soils reports indicates the upper 10-foot soil consisted of clayey sandstone which should be considered to be medium to low permeability. Below 10 feet, the bedrock is classified to be claystone.</p> <p>Infiltration is not recommended by soils engineer.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			



Form I-8 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Provide basis:</p> <p>Soil Group D. Soils reports indicates the upper 10-foot soil consisted of clayey sandstone which should be considered to be medium to low permeability. Below 10 feet, the bedrock is classified to be claystone.</p> <p>Infiltration is not recommended by soils engineer.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
4	<p>Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
Part 1 Result *	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>	<p style="text-align: right;"><input type="checkbox"/> Full Infiltration</p> <p style="text-align: right;"><input checked="" type="checkbox"/> No</p>	

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings



Form I-8 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria			
Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Provide basis:</p> <p>Soil Group D. Soils reports indicates the upper 10-foot soil consisted of clayey sandstone which should be considered to be medium to low permeability. Below 10 feet, the bedrock is classified to be claystone.</p> <p>Infiltration is not recommended by soils engineer.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Provide basis:</p> <p>Soil Group D. Soils reports indicates the upper 10-foot soil consisted of clayey sandstone which should be considered to be medium to low permeability. Below 10 feet, the bedrock is classified to be claystone.</p> <p>Infiltration is not recommended by soils engineer.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			



Form I-8 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
Part 2 Result*	<p>If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.</p> <p>If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</p>	<input type="checkbox"/>	<p><input type="checkbox"/> Partial Infiltration</p> <p><input checked="" type="checkbox"/> No Infiltration</p>

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings



**ATTACHMENT 2
BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES**

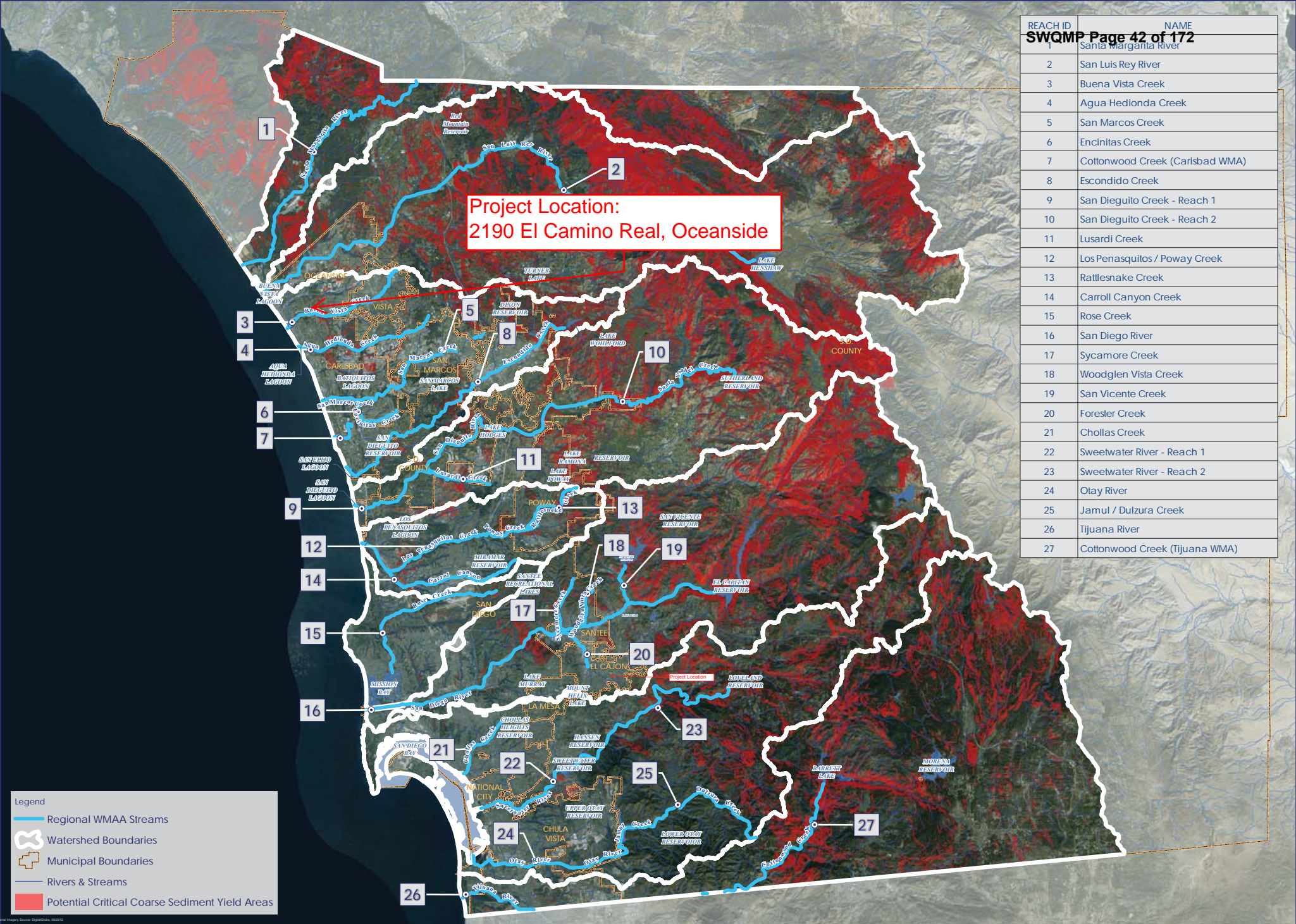
This is the cover sheet for Attachment 2.

Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.



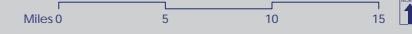
REACH ID	NAME
1	Santa Margarita River
2	San Luis Rey River
3	Buena Vista Creek
4	Agua Hedionda Creek
5	San Marcos Creek
6	Encinitas Creek
7	Cottonwood Creek (Carlsbad WMA)
8	Escondido Creek
9	San Dieguito Creek - Reach 1
10	San Dieguito Creek - Reach 2
11	Lusardi Creek
12	Los Penasquitos / Poway Creek
13	Rattlesnake Creek
14	Carroll Canyon Creek
15	Rose Creek
16	San Diego River
17	Sycamore Creek
18	Woodglen Vista Creek
19	San Vicente Creek
20	Forester Creek
21	Chollas Creek
22	Sweetwater River - Reach 1
23	Sweetwater River - Reach 2
24	Otay River
25	Jamul / Dulzura Creek
26	Tijuana River
27	Cottonwood Creek (Tijuana WMA)

**Project Location:
2190 El Camino Real, Oceanside**



Legend

- Regional WMAA Streams
- Watershed Boundaries
- Municipal Boundaries
- Rivers & Streams
- Potential Critical Coarse Sediment Yield Areas



Potential Critical Coarse Sediment Yield Areas




Regional San Diego County Watersheds

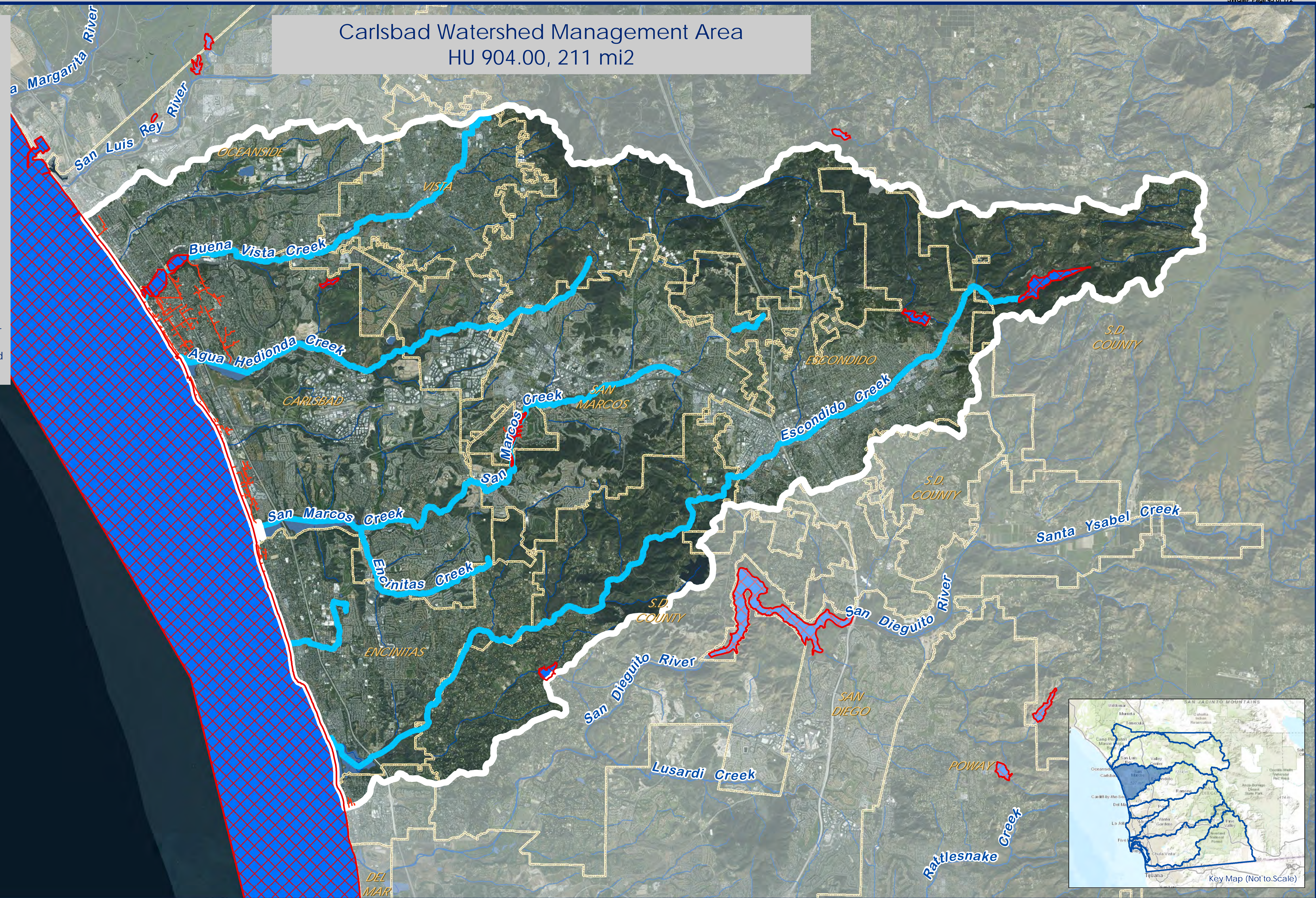
Exhibit Date: Sept. 8, 2014

Geosyntec consultants

RICK ENGINEERING COMPANY

Carlsbad Watershed Management Area HU 904.00, 211 mi²

- Legend**
-  Watershed Boundaries
 -  Municipal Boundaries
 -  Regional WMAA Streams
 -  Exempt Bodies:
Water Storage Reservoirs, Lakes,
Enclosed Embayments, Pacific
Ocean, Buena Vista Lagoon
 -  Exempt River Reaches:
Reaches of San Luis Rey River, San
Dieguito River, San Diego River,
Forester Creek, Sweetwater River,
Otay River
 -  Exempt Conveyance Systems:
Existing underground storm drains or
conveyance channels whose bed
and bank are concrete-lined,
discharging directly to exempt water
bodies, exempt rivers, or localized
areas of Agua Hedionda Lagoon and
Batiquitos Lagoon



Receiving Waters and Conveyance Systems Exempt from Hydromodification Management Requirements

Exhibit Date: Sept. 8, 2014



Placeholder – **6.2.1 Verification of GLUs Onsite** (if applicable)

Replace placeholder with required calculations/documentation.

Leave placeholder intact if not applicable.

Not Applicable



Placeholder – **6.2.3 Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite** (Optional)

Replace placeholder with required calculations/documentation.

Leave placeholder intact if not applicable.

Not Applicable



Placeholder – **6.3.4 Geomorphic Assessment of Receiving Channels** (Optional)

Replace placeholder with required calculations/documentation.

Leave placeholder intact if not applicable.

Not Applicable



Placeholder - **Flow Control Facility Design and Structural BMP Drawdown Calculations**

Replace placeholder with required calculations/documentation.

See Chapter 6 and Appendix G of the BMP Design Manual

Not Applicable



Placeholder – **Vector Control Plan** (required when structural BMPs will drain in 96 hours)

Replace placeholder with required documentation.

Leave placeholder intact if not applicable.

Not Applicable



**ATTACHMENT 3
STRUCTURAL BMP MAINTENANCE INFORMATION**

This is the cover sheet for Attachment 3.



Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Thresholds and Actions (Required)	<input checked="" type="checkbox"/> Included See Structural BMP Maintenance Information Checklist.
Attachment 3b	Draft Maintenance Agreement (when applicable)	<input type="checkbox"/> Included <input type="checkbox"/> Not Applicable



Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

Preliminary Design / Planning / CEQA level submittal:

- Attachment 3a must identify:
 - Typical maintenance indicators and actions for proposed structural BMP(s) based on Section 7.7 of the BMP Design Manual
- Attachment 3b is not required for preliminary design / planning / CEQA level submittal.

Final Design level submittal:

Attachment 3a must identify:

- Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
 - How to access the structural BMP(s) to inspect and perform maintenance
 - Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
 - Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
 - Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
 - Recommended equipment to perform maintenance
 - When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- Attachment 3b: For private entity operation and maintenance, Attachment 3b shall include a draft maintenance agreement in the local jurisdiction's standard format (PDP applicant to contact the City Engineer to obtain the current maintenance agreement forms).



Structural BMP Maintenance Information

BMP	INSPECTION & MAINTENANCE REQUIREMENT	FREQUENCY
UNDERGROUND DETENTION VAULTS/UNITS	<p>Inlet Maintenance:</p> <p>Remove build up of debris and sedimentation at the driveway trench drain when visible. Visual inspection should be performed monthly.</p> <p>Vault Interior Maintenance:</p> <p>Interior of vault should be visually inspected monthly at a minimum and more frequently during rainy season (October-April). Remove build up of debris and sedimentation at the driveway trench drain when visible.</p>	AS STATED



ATTACHMENT 4
Copy of Plan Sheets Showing Permanent Storm Water BMPs

This is the cover sheet for Attachment 4.



Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

- Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
- The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- Details and specifications for construction of structural BMP(s)
- Signage indicating the location and boundary of structural BMP(s) as required by the City Engineer
- How to access the structural BMP(s) to inspect and perform maintenance
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- Recommended equipment to perform maintenance
- When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- All BMPs must be fully dimensioned on the plans
- When proprietary BMPs are used, site specific cross section with outflow, inflow and model number shall be provided. Broucher photocopies are not allowed.



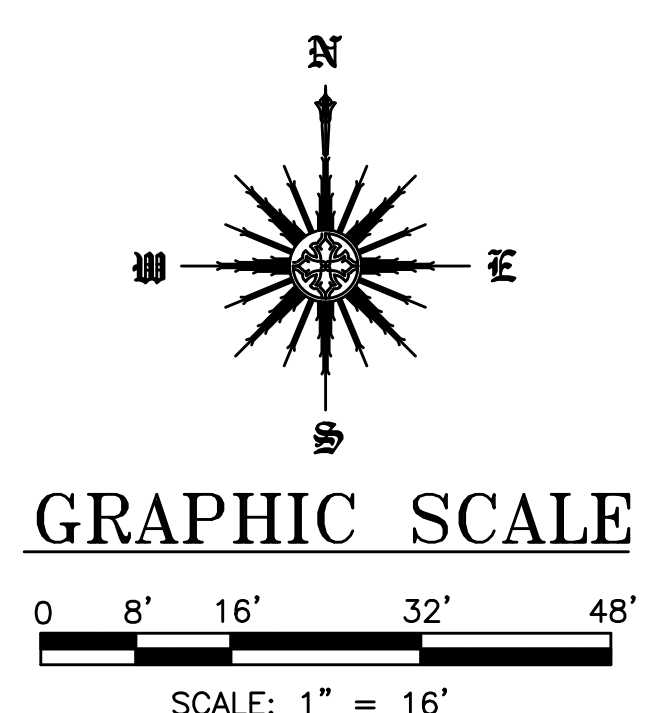
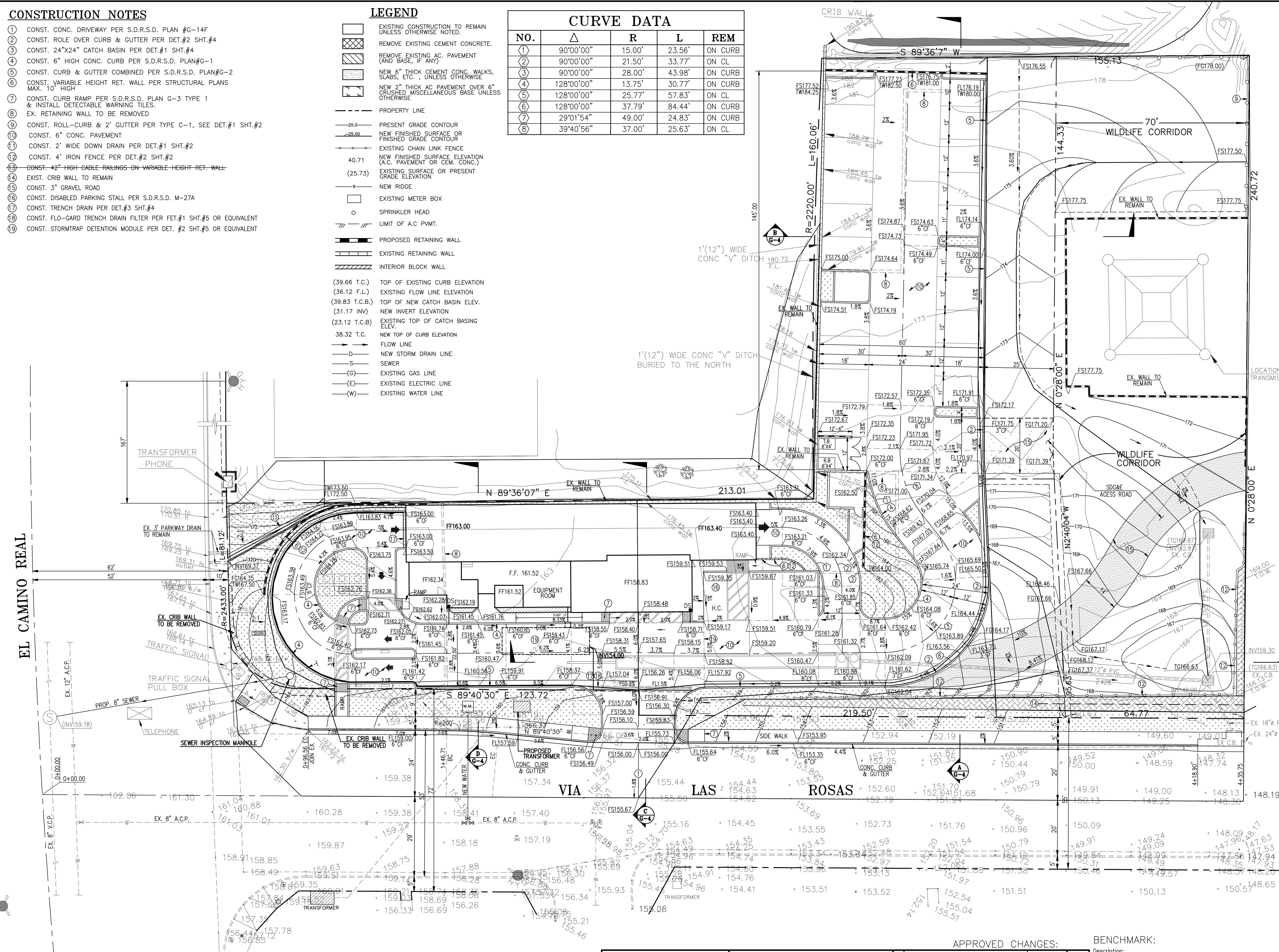
CONSTRUCTION NOTES

- 1 CONST. CONC. DRIVEWAY PER S.D.R.S.D. PLAN #G-14F
- 2 CONST. ROLE OVER CURB & GUTTER PER DET.#2 SHT.#4
- 3 CONST. 24"x24" CATCH BASIN PER DET.#1 SHT.#4
- 4 CONST. 6" HIGH CONC. CURB PER S.D.R.S.D. PLAN#G-1
- 5 CONST. CURB & GUTTER COMBINED PER S.D.R.S.D. PLAN#G-2
- 6 CONST. VARIABLE HEIGHT RET. WALL PER STRUCTURAL PLANS MAX. 10' HIGH
- 7 CONST. CURB RAMP PER S.D.R.S.D. PLAN G-3 TYPE 1 & INSTALL DETECTABLE WARNING TILES.
- 8 EX. RETAINING WALL TO BE REMOVED
- 9 CONST. ROLL-CURB & 2' GUTTER PER TYPE C-1, SEE DET.#1 SHT.#2
- 10 CONST. 6" CONC. PAVEMENT
- 11 CONST. 2' WIDE DOWN DRAIN PER DET.#1 SHT.#2
- 12 CONST. 4' IRON FENCE PER DET.#2 SHT.#2
- 13 CONST. 42" HIGH GABLE RAILINGS ON VARIABLE HEIGHT RET. WALL
- 14 EXIST. CRIB WALL TO REMAIN
- 15 CONST. 3" GRAVEL ROAD
- 16 CONST. DISABLED PARKING STALL PER S.D.R.S.D. M-27A
- 17 CONST. TRENCH DRAIN PER DET.#3 SHT.#4
- 18 CONST. FLO-GARD TRENCH DRAIN FILTER PER FET.#1 SHT.#5 OR EQUIVALENT
- 19 CONST. STORMTRAP DETENTION MODULE PER DET. #2 SHT.#5 OR EQUIVALENT

LEGEND

- [Symbol] EXISTING CONSTRUCTION TO REMAIN UNLESS OTHERWISE NOTED.
- [Symbol] REMOVE EXISTING CEMENT CONCRETE.
- [Symbol] REMOVE EXISTING AC. PAVEMENT (AND BASE, IF ANY)
- [Symbol] NEW 6" THICK CEMENT CONC. WALKS, SLABS, ETC., UNLESS OTHERWISE
- [Symbol] NEW 2" THICK AC PAVEMENT OVER 6" CRUSHED MISCELLANEOUS BASE UNLESS OTHERWISE
- [Symbol] PROPERTY LINE
- [Symbol] PRESENT GRADE CONTOUR
- [Symbol] NEW FINISHED SURFACE OR FINISHED GRADE CONTOUR
- [Symbol] EXISTING CHAIN LINK FENCE
- [Symbol] NEW FINISHED SURFACE ELEVATION (A.C. PAVEMENT OR CEM. CONC.)
- [Symbol] EXISTING SURFACE OR PRESENT GRADE ELEVATION
- [Symbol] NEW RIDGE
- [Symbol] EXISTING METER BOX
- [Symbol] SPRINKLER HEAD
- [Symbol] LIMIT OF A.C. PAVT.
- [Symbol] PROPOSED RETAINING WALL
- [Symbol] EXISTING RETAINING WALL
- [Symbol] INTERIOR BLOCK WALL
- (39.66 T.C.) TOP OF EXISTING CURB ELEVATION
- (36.12 F.L.) EXISTING FLOW LINE ELEVATION
- (39.83 T.C.B.) TOP OF NEW CATCH BASIN ELEV.
- (31.17 INV) NEW INVERT ELEVATION
- (23.12 T.C.B) EXISTING TOP OF CATCH BASING ELEV.
- 38.32 T.C. NEW TOP OF CURB ELEVATION
- [Symbol] FLOW LINE
- [Symbol] NEW STORM DRAIN LINE
- [Symbol] SEWER
- (G) EXISTING GAS LINE
- (E) EXISTING ELECTRIC LINE
- (W) EXISTING WATER LINE

CURVE DATA				
NO.	Δ	R	L	REM
1	90°00'00"	15.00'	23.56'	ON CURB
2	90°00'00"	21.50'	33.77'	ON CL
3	90°00'00"	28.00'	43.98'	ON CURB
4	128°00'00"	13.75'	30.77'	ON CURB
5	128°00'00"	25.77'	57.83'	ON CL
6	128°00'00"	37.79'	84.44'	ON CURB
7	29°01'54"	49.00'	24.83'	ON CURB
8	39°40'56"	37.00'	25.63'	ON CL



ENLARGED GRADING PLAN
 LOT AREA = 55817.10 SQ FT = 1.28 AC

PLANS APP. BY WT. DEPT. DATE

PREPARED BY: **JK ASSOCIATES THE CHOICE**
 CIVIL CONSULTING ENGINEERS
 1206 LOS ANGELES ST. BLDG. #4
 GLENDALE CA. 91204
 TEL: (818) 507-9881
 FAX: (818) 502-9882

NO.	DESCRIPTION	APP'VD	DATE

APPROVED CHANGES:

BENCHMARK: Description: _____

Location: _____

Record From: _____

Elev: _____ Datum: _____

D15-00012 & CUP15-00010

SHEET 1.1 CITY OF OCEANSIDE PUBLIC WORKS DEPARTMENT 8 SHEETS

GRADING & DRAINAGE PLAN FOR DOLPHIN GREEN CAR WASH GRADING AND DRAINAGE

APPROVED

SCOTT O. SMITH R.C.E. 58655 CITY ENGINEER

ENGINEER OF WORK Checked By: PLAN NUMBER

JOHNATHAN SAGHERIAN Approval Date:

**ATTACHMENT 5
Drainage Report**

This is the cover sheet for Attachment 5.





LLR ENGINEERING Inc.

Hydrology Study

For:

DOLPHIN GREEN CAR WASH

**2190 S EL CAMINO REAL
OCEANSIDE, CA 92056**

Prepared for:

**METRO PROPERTY GROUP, LLC.
c/o Mr. KEN WANG
4433 CONVOY STREET, STE H
SAN DIEGO, CA 92111**

**Report Prepared by:
LLR Engineering
P. O. Box 2401
Irwindale, CA 91706
(626) 644-7172**

**Report Preparation Date:
January 16, 2018**

NOTICE TO ALL USERS:

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Table of Contents

1.0 DECLARATION OF RESPONSIBLE CHARGE	1
2.0 REFERENCES	2
3.0 PROJECT AND SITE DESCRIPTION	3
4.0 PROJECT HYDROLOGY STUDY.....	11
5.0 CONCLUSION.....	13
6.0 ATTACHMENTS	14

1.0 DECLARATION OF RESPONSIBLE CHARGE

I, hereby declare that I am the engineer of work for 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 that the check of project drawings and specifications by the City of Oceanside is confined to a review only and does not relieve me, as engineer of work, of my responsibilities for project design.



Lisa Larios, RCE 64574

6/15/2018

Date

Engineer's Seal:



2.0 REFERENCES

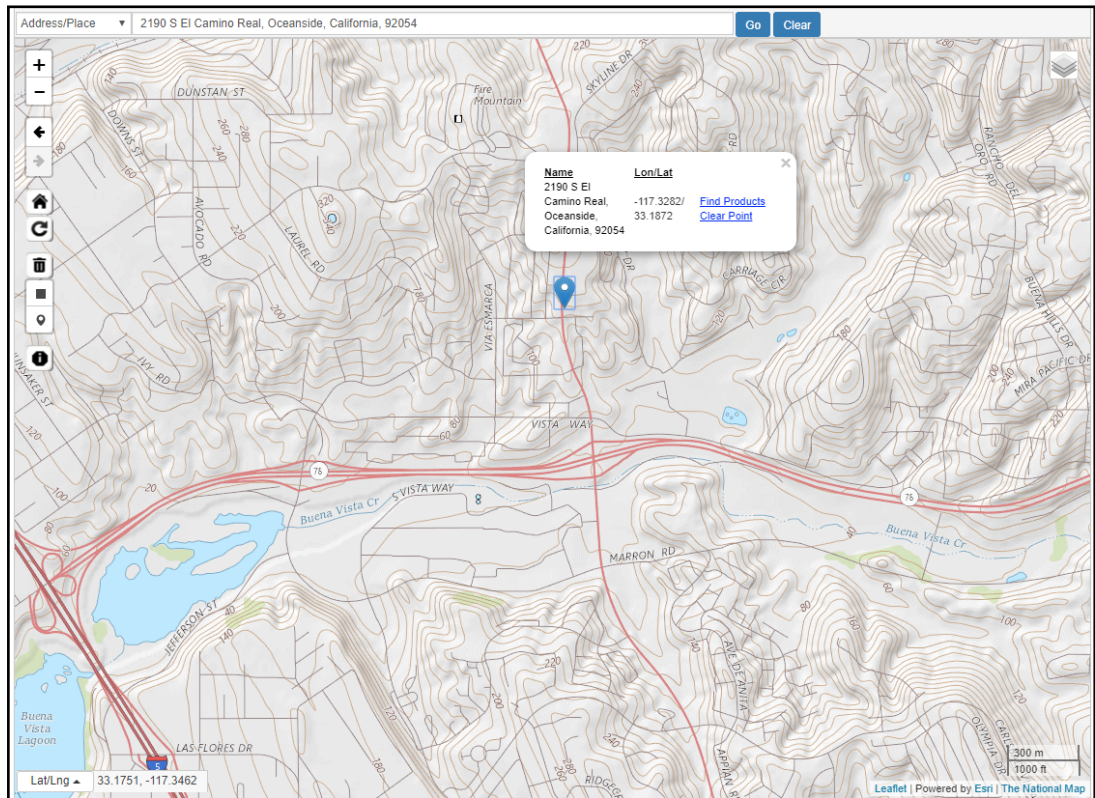
- 1.1 Hydrology Manual, San Diego County, 2003.
- 1.2 Hydraulic Design Manual, San Diego County, 2014.
- 1.3 Google Maps, 2018
- 1.4 Final Hydrology Report for Dolphin Green Car Wash by Buccola Engineering, Inc., Oceanside, CA, September 19, 2012.
- 1.5 USGS The National Map Download, v1.0
<https://viewer.nationalmap.gov/basic/>
- 1.6 Geotechnical Engineering Report for Dolphin Green Car Wash by Bagahi Engineering Inc, Irvine CA, January 6, 2017.
- 1.7 Permeability Rate, TIN Engineering Company, Torrance, September 29, 2017
- 1.8 Grading Plan by JK Associates, Glendale, CA, as dated.

3.0 PROJECT AND SITE DESCRIPTION

A. GENERAL SITE INFORMATION

Project Name:	DOLPHIN GREEN CAR WASH
Project Location:	2190 S EL CAMINO REAL, OCEANSIDE, CA 92054
Project Area:	52,535 sf / 1.206 ac
Latitude:	33.1872
Longitude:	-117.3282
Soil Characteristic:	Soil Group D

Vicinity Map:



**HYDROLOGY STUDY FOR:
DOLPHIN GREEN CAR WASH
2190 S EL CAMINO REAL
OCEANSIDE, CA 92056**

B. PROJECT LOCATION AND DESCRIPTION

The project is located at 2190 S. El Camino Real; the northeast corner of El Camino Real and Via Las Rosas Street in the City of Oceanside approximately 2000 feet north of Hwy 78.

The property is an L shaped site with the “stem” parallel to Via Las Rosas and the “toe” parallel to El Camino Real.

The proposed project is the construction of an automatic carwash. Project property is 52,535sf/1.206 ac. The project also proposes widening of the existing easement from 70’ to 95’ by contributing a 25’ wide land strip for wildlife corridor.

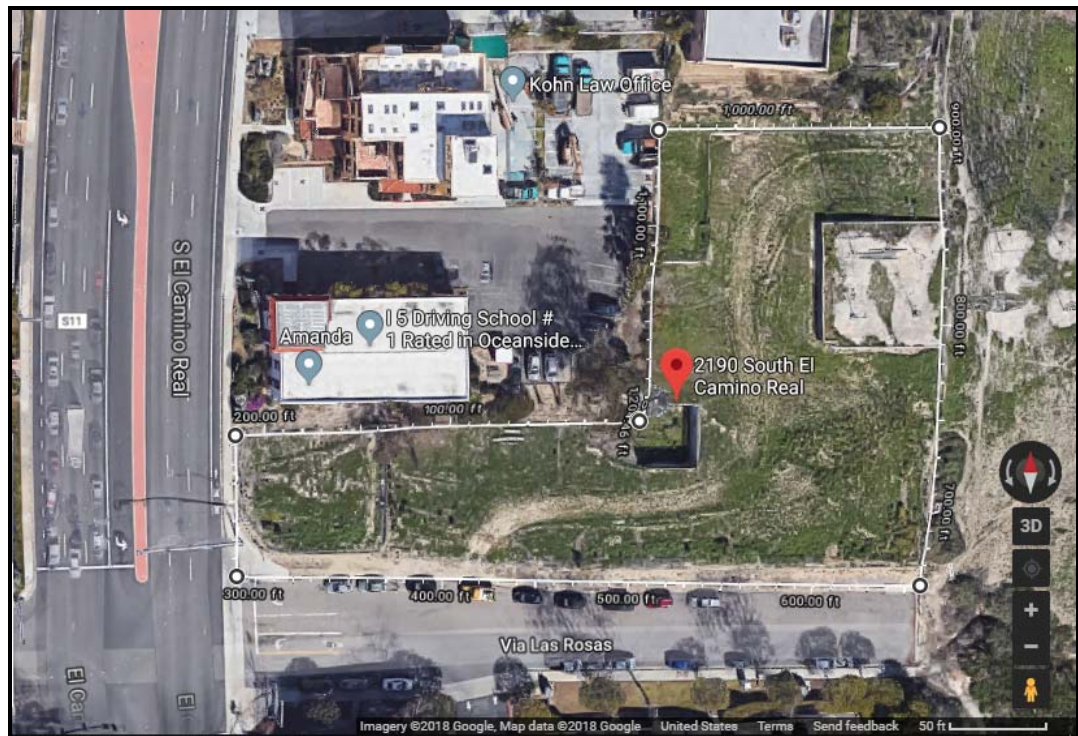


Figure 1: Project site 2190 S El Camino Real, Oceanside, CA 92056

C. EXISTING CONDITION

1. Site Description

Existing site has been previously improved with graded pads, retaining wall segments and crib walls. A block wall with a V-ditch for drainage runs along the north and west property line between and the project site and its neighboring property to the north. A driveway on Via Las Rosas provides access into the property. A transmission tower is located within the SDG&E

**HYDROLOGY STUDY FOR:
DOLPHIN GREEN CAR WASH
2190 S EL CAMINO REAL
OCEANSIDE, CA 92056**

utility easement line which runs north to south, 70' west from the easterly property line.

Located at the top of the "stem", the graded pad adjacent to El Camino Real (bounded by El Camino Real to the west and existing retaining wall to the east) is approximate 8-10' above the grade at the bottom of the wall.



Figure 2: Existing crib walls on Via Las Rosas



Figure 3: View from N to S of top of the "stem" graded pad adjacent to El Camino Real (left). View from driveway of retaining wall bounding graded pad above (right).

Site topography in the "toe" of the L slopes from north to south with elevations ranging from 180' in the vicinity north of the transmission tower to 165' in the area at the southeast portion of the property. In the "stem" of the L, the terrain slopes mostly from east to west toward the driveway

The site surface is unpaved. The site cover is considered natural barren terrain with sparse native vegetation.



Figure 4: View of "toe" from south to north. Segmented retaining wall back left. Transmission tower to the right.



Figure 5: View of "stem" from east to west. Retaining wall in the background and to the right.

2. Off-Site Drainage

Approximately 0.10 ac of Offsite runoff from the slopes of adjacent property the north is collected in V-ditch along the boundary block wall and conveyed into graded pad adjacent to

El Camino Real and to the existing sidewalk drain (referred to as Outlet 1 in hydrology study) is located approximately 20' north of the curb return on El Camino Real.

Existing street drainage on east side of El Camino Real is carried in the gutter and flows south. The flow continues south on El Camino Real crossing Via Las Rosas, and follows the curb return at Vista way southeasterly and into curb inlet on northside of Vista Way at 3156 Vista Way and eventually flows into Buena Vista Creek, Buena Vista Lagoon and Pacific Ocean (Reference 4).



Figure 6: Sidewalk drain on El Camino Real (Outlet 1).

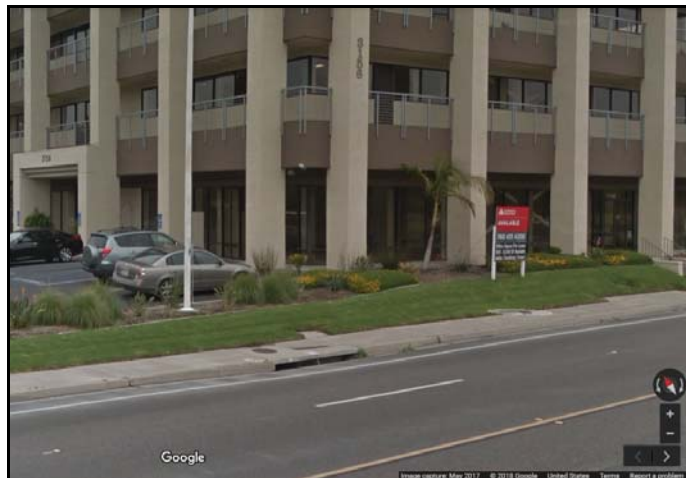


Figure 7: Curb inlet at 3156 Vista Way. Photo: Google Maps

Existing street drainage on northside of Via Las Rosas is carried easterly along the AC berm and discharges into existing curb inlet (referred to as Outlet 2 in hydrology study) located at the terminus of Via Las Rosas.



Figure 8: Existing curb inlet at terminus of Via Las Rosas (Outlet 2). Photo: Google Map.

According to Reference 4, flow from Outlet 2 is “carried east within an existing public 24” RCP storm drain for approximately 50’ then discharges into an existing natural drainage course. Flows co-mingle with runoff from the adjacent undeveloped lands to the east and travels south, southeast within the natural drainage course approximately 900’ to a detention basin with a concrete spillway as an overflow weir. Flows not discharging over the weir discharge to an existing CMP pipe that carries the runoff south, crossing the No. 4 and No. 3 fairways of El Camino Country Club golf course.” The pipe flow continues southerly and into curb inlet on Vista Way at 3156 Vista Way, which also receives upstream street flow that includes east gutter of El Camino Real, and eventually flows into Buena Vista Creek, Buena Vista Lagoon and Pacific Ocean (Reference 4).

3. On-Site Drainage

The project site watershed contains two drainage areas: Basin 1 and Basin 2 discharges to Outlet 1 and Outlet 2, respectively. There are 3 existing interconnected catch basins on site that ultimately connects to Outlet 2. Please refer to the attached Pre Development Exhibit for reference.

Basin 1 discharges to Outlet 1: The tributary of Basin 1 contains System A which includes offsite areas of A1 and A2. The offsite runoff is collected and conveyed via the V-ditch along the boundary block wall and discharged onsite to the graded pad area adjacent to El Camino Real also referred to as A3. The runoff conveyance continues westerly by natural swale and discharges into Outlet 1 and onto east gutter on El Camino Real.



Figure 9: Natural swale (left) that conveys offsite runoff through A3 to Outlet 1 (right).

Basin 2 discharges to Outlet 2: The tributary of Basin 2 consists of Systems B, C, D and E. System B comprises of areas B1 and B2; System C, C1; System D includes areas D1 and D2; and System E has E1 and E2. Areas B1, B2, C1 and E1 confluence at Node B03. The flow is carried east against the AC berm on Via Las Rosas and comingles with street flow of E2 before discharging into curb inlet Outlet 2. System D flow at Node D03 is connected to Outlet 2 via existing concrete pipe that crosses under the existing crib wall (Reference 4).

D. Proposed Condition

The proposed development consists the construction of a single story structure to house an automated car wash. Site improvements include entry aisle, access driveway and parking lot as well as offsite improvements of sidewalk, curb and gutter. A stormwater tank is proposed underground north of entrance driveway for rainwater harvest retention and reuse. Landscaping is proposed along the frontage of El Camino Real and Via Las Rosas.

1. Offsite Drainage

The offsite drainage course and structures will remain unchanged by the proposed project.

2. On-Site Drainage

The proposed project site watershed contains three drainage areas: Basin 1, Basin 2 and Basin 3. Basins 1 and 2 will discharge to Outlet 1 and Outlet 2, respectively. Basin 3 will be detained onsite in the proposed underground tanks for reuse. Please refer to the attached Post Development Exhibit for reference.

Basin 1 discharges to Outlet 1: The tributary of Basin 1 contains System A which includes areas A1, A2, and A3. From Node A03, runoff is to be carried in

a proposed vegetated swale and into Outlet 1 and onto east gutter on El Camino Real following the same drainage course as described in "Offsite Drainage" of Existing Condition (Section C).

Basin 2 discharges to Outlet 2: The tributary of Basin 2 consists of Systems, C and D. System C includes of areas C1-4 which consist of the proposed landscaping fronting El Camino Real and Via Las Rosas as well as the northside of Via Las Rosas. Areas C1-3 confluence at Node C04. The flow is carried east and comingles with street runoff from northside of Via Las Rosas before reaching Outlet 2.

Area D1 of System D comprises of mainly the easement for SDG&E and wildlife corridor which will remain in its existing condition except for a gravel road providing access to the transmission tower. Flow from Area D1 is connected to Outlet 2 from Node D02 via existing concrete pipe. Discharge from Outlet 2 follows the same drainage course as described in "Offsite Drainage" of Existing Condition (Section C).

Basin 3 is retained onsite in proposed underground tanks: Basin 2's tributary contains only System B. Areas B1 and B2 flows are collected at the proposed driveway trench drain and retained in proposed underground tank for reuse in the operation of the proposed car wash.

4.0 PROJECT HYDROLOGY STUDY

A. BASIS AND ASSUMPTION

Project hydrology study is prepared by using the Rational Method found in the San Diego County Hydrology Manual (Reference 1.1). A

Runoff coefficient "C" used in this study is as follows per Table 3-1 of Reference 1.1:

C = 0.35 for pre development natural terrain condition

C = 0.82 for proposed development of general commercial land use

B. CALCULATIONS

This hydrology study will determine the pre and post development peak flowrate, Q, of 2-yr, 50-yr and 100-yr storm events.

Project peak flow rate (Q_2 , Q_{50} , and Q_{100}) is by using the Rational Method analysis of the equation $Q = CIA$, where C = runoff coefficient, I = rainfall intensity (in/hr) and A = area (ac).

The detailed calculations and supporting charts and tables are in the Attachment section at the end of this report. The pre and proposed development drainage maps are attached at the end of this report.

C. SUMMARY OF RESULTS

The hydrology calculation result is tabulated below.

PRE-DEVELOPMENT:

BASIN 1 to OUTLET 1 on El Camino Real						
Storm Frequency	P ₆ Adjusted (in)	T _C (min)	C _{AVE}	I (in/hr)	A (ac)	Q (cfs)
2-Yr	1.3	10.8	0.35	2.2	0.22	0.17
10-Yr	1.8	10.7	0.35	2.9	0.22	0.23
100-Yr	2.7	10.2	0.35	4.4	0.22	0.35

BASIN 2 to OUTLET 2 on Via Las Rosas						
Storm Frequency	P ₆ Adjusted (in)	T _C (min)	C _{AVE}	I (in/hr)	A (ac)	Q (cfs)
2-Yr	1.3	12.0	0.35	2.2	1.38	1.17
10-Yr	1.8	14.8	0.35	2.4	1.38	1.59
100-Yr	2.7	15.0	0.35	3.6	1.38	2.38

POST-DEVELOPMENT:

BASIN 1 to OUTLET 1 on El Camino Real						
Storm Frequency	P ₆ Adjusted (in)	T _C (min)	C _{AVE}	I (in/hr)	A (ac)	Q (cfs)
2-Yr	1.3	10.5	0.35	2.2	0.11	0.09
10-Yr	1.8	10.5	0.35	2.9	0.11	0.11
100-Yr	2.7	10.5	0.35	4.5	0.11	0.17

BASIN 2 to OUTLET 2 on Via Las Rosas						
Storm Frequency	P ₆ Adjusted (in)	T _C (min)	C _{AVE}	I (in/hr)	A (ac)	Q (cfs)
2-Yr	1.3	15.2	0.52	1.7	0.86	0.76
10-Yr	1.8	14.5	0.52	2.4	0.86	1.08
100-Yr	2.7	14.6	0.52	3.6	0.86	1.61

SYSTEM B to NODE B03 at Proposed Driveway Trench Drain						
Storm Frequency	P ₆ Adjusted (in)	T _C (min)	C _{AVE}	I (in/hr)	A (ac)	Q (cfs)
2-Yr	1.3	3.2	0.82	3.5	0.60	1.75
10-Yr	1.8	3.2	0.82	4.8	0.60	2.38
100-Yr	2.7	3.2	0.82	7.0	0.60	3.50

5.0 CONCLUSION

By comparing pre and post development Q_{100} at Outlet 1, the post development Q_{100} represents a 51% decrease from the pre-development Q_{100} of 0.35cfs. Similarly, the post development $Q_{100}=1.61$ cfs at Outlet 2 is a 32% reduction of the pre-development Q_{100} of 2.38cfs. The decrease in the post development is due to the proposed retention of the runoff from the improvements collected at the proposed driveway trench drain.

6.0 ATTACHMENTS

**HYDROLOGY STUDY FOR:
DOLPHIN GREEN CAR WASH
2190 S EL CAMINO REAL
OCEANSIDE, CA 92056**