The City of San Diego

PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR

Black Halibut
PTS: 516011
APN: 346-050-01

ENGINEER OF WORK:

MICHAEL L. SMITH, RCE 35471
Provide wet signature and stamp above line

PREPARED FOR:
David Lessnick
D. Marin Development
1900 Western Avenue
Las Vegas, NV 89102

PREPARED BY:

SDLSE

SAN DIEGO LAND SURVEYING & ENGINEERING, INC.
9665 CHESAPEAKE DRIVE, SUITE 445
SAN DIEGO, CA. 92123
858-565-8362

DATE: 01/16/2018

Approved by: City of San Diego Date

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

ACRONYMS

APN	Assessor's Parcel Number
ASBS	Area of Special Biological Significance
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CGP	Construction General Permit
DCV	Design Capture Volume
DMA	Drainage Management Areas
ESA	Environmentally Sensitive Area
GLU	Geomorphic Landscape Unit
GW	Ground Water
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
HU	Harvest and Use
INF	Infiltration
LID	Low Impact Development
LUP	Linear Underground/Overhead Projects
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
POC	Pollutant of Concern
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollutant Protection Plan
SWQMP	Storm Water Quality Management Plan
TMDL	Total Maximum Daily Load
WMAA	Watershed Management Area Analysis
WPCP	Water Pollution Control Program
WQIP	Water Quality Improvement Plan

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CERTIFICATION PAGE

Project Name: El Paseo Grande
Permit Application Number: 516011

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 Storm Water Standards, which is based on the requirements of SDRWQCB Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 (MS4 Permit).

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Standards. I certify that this PDP 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 PDP SWQMP by the City Engineer 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.

C 35471 09/30/2019

Engineer of Work's Signature, PE Number & Expiration Date

Michael L. Smith

Print Name

San Diego Land Surveying and Engineering, Inc.

Company

01/16/2018

Date

Engineer's Stamp

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

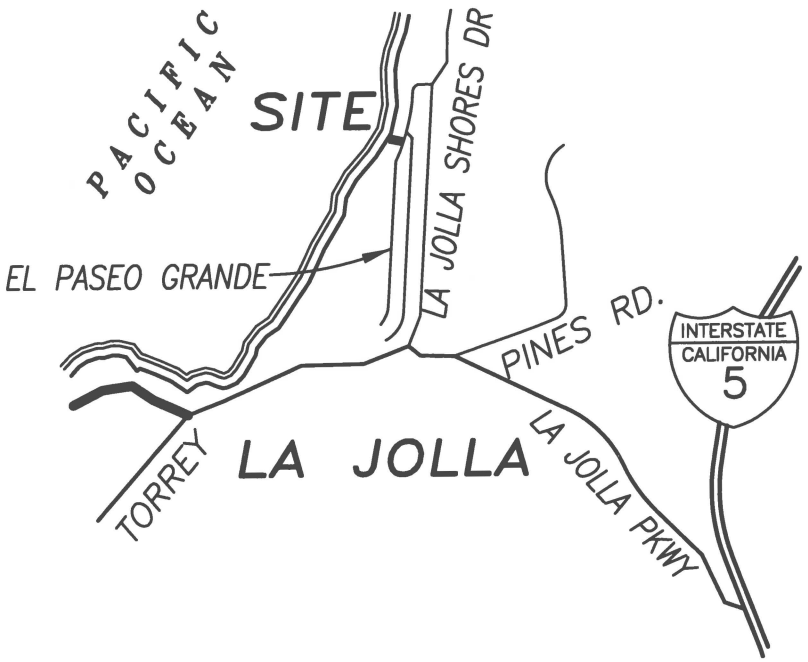
SUBMITTAL RECORD

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP 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 plan check comments is included. When applicable, insert response to plan check comments.

Submittal Number	Date	Project Status	Changes
1	03/24/17	x Preliminary Design/Planning/CEQA ☐ Final Design	Initial Submittal
2	06/28/2017	x Preliminary Design/Planning/CEQA ☐ Final Design	Recheck submittal
3	07/21/2017	☐ Preliminary Design/Planning/CEQA x Final Design	Final design
4	08/30/2017	☐ Preliminary Design/Planning/CEQA x Final Design	Final design
5	01/16/2018	FINAL DESIGN	NEW TREATMENT BOX

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

PROJECT NAME: EL PASEO GRANDE
PROJECT NO. 516011



VICINITY MAP

NO SCALE

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST

Complete and attach DS-560 Form included in Appendix A.1

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM DS-560
OCTOBER 2016

Project Address: 8470 EL PASEO GRANDE

Project Number *(for City Use Only)*: 516011

SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1], which is administered by the State Water Resources Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

☐ Yes; SWPPP required, skip questions 2-4 ☒ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and contact with storm water runoff?

☒ Yes; WPCP required, skip 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

☐ Yes; WPCP required, skip 4 ☒ No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☐ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☒ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☒ **ASBS**
   a. Projects located in the ASBS watershed.

2. ☐ **High Priority**
   a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.
   b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.

3. ☐ **Medium Priority**
   a. Projects 1 acre or more but not subject to an ASBS or high priority designation.
   b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.

4. ☐ **Low Priority**
   a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes	☒ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes	☒ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes	☒ No

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☐ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☐ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☒ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces 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 ☐ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface. ☐ Yes ☒ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ☐ Yes ☒ No

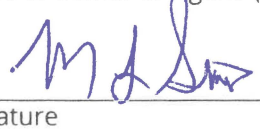
5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ☐ Yes ☒ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ☐ Yes ☒ No

7.	**New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges 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).	☐ Yes ☒ No
8.	**New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.	☐ Yes ☒ No
9.	**New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.	☐ Yes ☒ No
10.	**Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces.	☐ Yes ☒ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1.	The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS.**	☐
2.	The project is a **STANDARD DEVELOPMENT PROJECT.** Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
3.	The project is **PDP EXEMPT.** Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance.	☐
4.	The project is a **PRIORITY DEVELOPMENT PROJECT.** Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management	☒

MICHAEL LEE SMITH	PROJECT ENGINEER
Name of Owner or Agent *(Please Print)*	Title
	05/18/2017
Signature	Date

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Applicability of Permanent, Post-Construction Storm Water BMP Requirements	Form I-1

Project Identification

Project Name: El Paseo Grande	
Permit Application Number: 516011	Date: 08/18/2017

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 summary 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 Part 1 of Storm Water Standards 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	X Yes	Go to Step 2.
	☐ No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is not a "development project" (e.g., the project includes only interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual (Part 1 of Storm Water Standards) in its entirety for guidance, AND complete Storm Water Requirements Applicability Checklist.	☐ Standard Project	Stop. Standard Project requirements apply.
	X PDP	PDP requirements apply, including PDP SWQMP. Go to Step 3.
	☐ PDP Exempt	Stop. Standard Project requirements apply. Provide discussion and list any additional requirements below.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		

Form I-1 Page 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	X No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (not required if prior lawful approval does not apply):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	X 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 not apply:		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	X 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 not apply:		

Site Information Checklist For PDPs	Form I-3B
Project Summary Information	
Project Name	El Paseo Grande
Project Address	8470 El Paseo Grande
Assessor's Parcel Number(s) (APN(s))	346-050-01
Permit Application Number	515011
Project Watershed	Select One: ☐ San Dieguito River X Penasquitos ☐ Mission Bay ☐ San Diego River ☐ San Diego Bay ☐ Tijuana River
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	906.30
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	0.2709Acres (11799 Square Feet)
Area to be disturbed by the project (Project Footprint)	0.1993Acres (8680 Square Feet)
Project Proposed Impervious Area (subset of Project Footprint)	0.1787 Acres (7786 Square Feet)
Project Proposed Pervious Area (subset of Project Footprint)	0.0210 Acres (894 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Project Area.	
The proposed increase or decrease in impervious area in the proposed condition as compared to the pre-project condition.	20.8 %

Form I-3B Page 2 of 11
Description of Existing Site Condition and Drainage Patterns
Current Status of the Site (select all that apply): X Existing development ☐ Previously graded but not built out ☐ Agricultural or other non-impervious use ☐ Vacant, undeveloped/natural Description / Additional Information:
Existing Land Cover Includes (select all that apply): X Vegetative Cover ☐ Non-Vegetated Pervious Areas X Impervious Areas Description / Additional Information:
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): ☐ NRCS Type A ☐ NRCS Type B ☐ NRCS Type C X NRCS Type D
Approximate Depth to Groundwater (GW): ☐ GW Depth < 5 feet ☐ 5 feet < GW Depth < 10 feet ☐ 10 feet < GW Depth < 20 feet X GW Depth > 20 feet
Existing Natural Hydrologic Features (select all that apply): ☐ Watercourses ☐ Seeps ☐ Springs ☐ Wetlands X None Description / Additional Information:

Form I-3B Page 3 of 11
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. If runoff from offsite is conveyed through the site? If yes, quantification of all offsite drainage areas, design flows, and locations where offsite flows enter the project site and summarize how such flows are conveyed through the site; 3. Provide details regarding existing project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, and natural and constructed channels; 4. Identify all discharge locations from the existing project along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.
Description / Additional Information:
THE EXISTING DRAINAGE CONVEYANCE IS URBAN SHEET FLOW TO THE PACIFIC OCEAN. THERE IS NO RUNOFF FROM OFFSITE LOCATION. THE EXISTING SITE DRAINS DOWN BOTH SITES OF THE LOT AROUND THE EXISTING HOUSE TO THE PACIFIC OCEAN. THE PROJECT DISCHARGES DIRECTLY INTO THE PACIFIC OCEAN.

Form I-3B Page 4 of 11
Description of Proposed Site Development and Drainage Patterns
Project Description / Proposed Land Use and/or Activities: DEMO EXISTING SINGLE FAMILY HOME AND CONSTRUCT NEW SINGLE FAMILY RESIDENCE WITH LANDSCAPING, HARDSCAPE, AND UTILITIES.
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): ROOF, DRIVEWAY, AND HARDSCAPE.
List/describe proposed pervious features of the project (e.g., landscape areas): LANDSCAPING AND BIO-FILTRATION TREATMENT BOX
Does the project include grading and changes to site topography? X Yes ☐ No Description / Additional Information: THE EXISTING HOUSE IS TO BE DEMOLISHED AND A LARGE PORTION OF THE SITE WILL BE GRADED TO CONSTRUCT A BASEMENT AND NEW HOUSE.

Form I-3B Page 5 of 11

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

X Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural and constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Description / Additional Information:

THE PROJECT WILL COLLECT STORM RUNOFF IN ROOF DRAINS AND DIRECT IT TO A BIO-FILTRATION TREATMENT BOX FOR TREATMENT BEFORE IT IS PUMPED VIA PRESSURE LINES TO A CURB OUTLET IN El PASEO GRANDE. THE GUTTER FLOW WILL TRAVEL SOUTH ABOUT 500 FEET TO AN EXISTING GRADED INLET IN EL PASEO GRANDE. THIS GRADED INLET FLOWS TO THE PACIFIC OCEAN VIA A PUBLIC STORM DRAIN.

Form I-3B Page 6 of 11

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

X On-site storm drain inlets
X Interior floor drains and elevator shaft sump pumps
X Interior parking garages
☐ Need for future indoor & structural pest control
X Landscape/Outdoor Pesticide Use
X 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
X Fire Sprinkler Test Water
X Miscellaneous Drain or Wash Water
X Plazas, sidewalks, and parking lots
☐ Large Trash Generating Facilities
☐ Animal Facilities
☐ Plant Nurseries and Garden Centers
☐ Automotive-related Uses

Description / Additional Information:

Form I-3B Page 7 of 11
Identification and Narrative of Receiving Water
Narrative describing flow path from discharge location(s), through urban storm conveyance system, to receiving creeks, rivers, and lagoons and ultimate discharge location to Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable) THE PROJECT WILL COLLECT STORM RUNOFF IN ROOF DRAINS AND DIRECT IT TO A BIO-FILTRATION TREATMENT BOX FOR TREATMENT BEFORE IT IS PUMPED VIA PRESSURE LINES TO A CURB OUTLET IN El PASEO GRANDE. THE GUTTER FLOW WILL TRAVEL SOUTH ABOUT 500 FEET TO AN EXISTING GRADED INLET IN EL PASEO GRANDE. THIS GRADED INLET FLOWS TO THE PACIFIC OCEAN VIA A PUBLIC STORM DRAIN.
Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations. PACIFIC OCEAN
Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations. WATER QUALITY SENSITIVE AREA IN THE PACIFIC OCEAN.
Provide distance from project outfall location to impaired or sensitive receiving waters. PROJECT IS ADJACENT TO PACIFIC OCEAN, IT DISCHARGES TO PACIFIC OCEAN ABOUT 500 FEET TO THE SOUTH.
Summarize information regarding the proximity of the permanent, post-construction storm water BMPs to the City's Multi-Habitat Planning Area and environmentally sensitive lands ADJACENT

Form I-3B Page 8 of 11		
Identification of Receiving Water Pollutants of Concern		
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 and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:		
303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs/ WQIP Highest Priority Pollutant
PACIFIC OCEAN	INDICATOR BACTERIA	Est. TMDL completion 2019

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 anticipated from the project site based on all proposed use(s) of the site (see BMP Design Manual (Part 1 of Storm Water Standards) Appendix B.6):			
Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Form I-3B Page 9 of 11

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

- ☐ Yes, hydromodification management flow control structural BMPs required.
- ☐ 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.
- ❹ 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.
- ☐ 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.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

Critical Coarse Sediment Yield Areas*

*This Section only required if hydromodification management requirements apply

Based on Section 6.2 and Appendix H does CCSYA exist on the project footprint or in the upstream area draining through the project footprint?

- ☐ Yes
- ❹ No

Discussion / Additional Information:

Form I-3B Page 10 of 11
Flow Control for Post-Project Runoff* *This Section only required if hydromodification management requirements apply
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.O.C. IS THE PACIFIC OCEAN, ABOUT 500 FEET SOUTH OF THE PROJECT.
Has a geomorphic assessment been performed for the receiving channel(s)? ⊘ No, the low flow threshold is 0.1Q2 (default low flow threshold) ☐ Yes, the result is the low flow threshold is 0.1Q2 ☐ Yes, the result is the low flow threshold is 0.3Q2 ☐ Yes, the result is the low flow threshold is 0.5Q2 If a geomorphic assessment has been performed, provide title, date, and preparer:
Discussion / Additional Information: (optional)

Form I-3B Page 11 of 11
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. NONE.
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.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Source Control BMP Checklist for All Development Projects	Form I-4

Source Control BMPs

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 BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	X Yes	☐ No	☐ N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	X Yes	☐ No	☐ N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	X N/A
Discussion / justification if SC-3 not implemented: NONE.			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	X N/A
Discussion / justification if SC-4 not implemented: NONE.			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	X N/A
Discussion / justification if SC-5 not implemented: THE PROJECT WILL USE STANDARD CITY TRASH CONTAINERS.			

Form I-4 Page 2 of 2			
Source Control Requirement	Applied?		
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	X Yes	☐ No	☐ N/A
Interior floor drains and elevator shaft sump pumps	X Yes	☐ No	☐ N/A
Interior parking garages	X Yes	☐ No	☐ N/A
Need for future indoor & structural pest control	☐ Yes	☐ No	X N/A
Landscape/Outdoor Pesticide Use	X Yes	☐ No	☐ N/A
Pools, spas, ponds, decorative fountains, and other water features	X Yes	☐ No	☐ N/A
Food service	☐ Yes	☐ No	☐ N/A
Refuse areas	☐ Yes	☐ No	☐ N/A
Industrial processes	☐ Yes	☐ No	☐ N/A
Outdoor storage of equipment or materials	☐ Yes	☐ No	☐ N/A
Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☐ N/A
Fuel Dispensing Areas	☐ Yes	☐ No	☐ N/A
Loading Docks	☐ Yes	☐ No	☐ N/A
Fire Sprinkler Test Water	X Yes	☐ No	☐ N/A
Miscellaneous Drain or Wash Water	X Yes	☐ No	☐ N/A
Plazas, sidewalks, and parking lots	X Yes	☐ No	☐ N/A
SC-6A: Large Trash Generating Facilities	☐ Yes	☐ No	X N/A
SC-6B: Animal Facilities	☐ Yes	☐ No	X N/A
SC-6C: Plant Nurseries and Garden Centers	☐ Yes	☐ No	X N/A
SC-6D: Automotive-related Uses	☐ Yes	☐ No	X N/A
Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.			

Site Design BMP Checklist for All Development Projects	Form I-5

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 BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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.

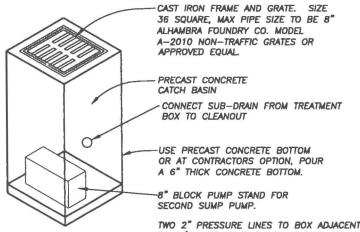
A site map with implemented site design BMPs must be included at the end of this checklist.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	X No	☐ N/A
Discussion / justification if SD-1 not implemented: THE PROJECT WILL COLLECT STORM RUNOFF IN ROOF DRAINS AND DIRECT IT TO A BIO-FILTRATION TREATMENT BOX FOR TREATMENT BEFORE IT IS PUMPED VIA PRESSURE LINES TO A CURB OUTLET IN El PASEO GRANDE. THE GUTTER FLOW WILL TRAVEL SOUTH ABOUT 500 FEET TO AN EXISTING GRADED INLET IN EL PASEO GRANDE. THIS GRADED INLET FLOWS TO THE PACIFIC OCEAN VIA A PUBLIC STORM DRAIN.			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	X Yes	☐ No	
1-2 Are trees implemented? If yes, are they shown on the site map?	☐ Yes	X No	
1-3 Implemented trees meet the design criteria in SD-1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	☐ Yes	X No	
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	☐ Yes	X No	
SD-2 Have natural areas, soils and vegetation been conserved?	☐ Yes	X No	☐ N/A
Discussion / justification if SD-2 not implemented: DEVELOPED SITE, NO NATURAL AREAS EXIST.			

Site Design Requirement	Applied?		
SD-3 Minimize Impervious Area	☐ Yes	X No	☐ N/A
Discussion / justification if SD-3 not implemented: NO EXISTING NATURAL AREAS PREVIOUSLY DEVELOPED.			
SD-4 Minimize Soil Compaction	X Yes	☐ No	☐ N/A
Discussion / justification if SD-4 not implemented: IN LANDSCAPED AREA.			
SD-5 Impervious Area Dispersion	☐ Yes	X No	☐ N/A
Discussion / justification if SD-5 not implemented: PROJECT WILL PROVIDE BIO-FILTRATION TREATMENT BOX.			
5-1 Is the pervious area receiving runon from impervious area identified on the site map?	☐ Yes	X No	
5-2 Does the pervious area satisfy the design criteria in SD-5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	☐ Yes	X No	
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and SD-5 Fact Sheet in Appendix E?	☐ Yes	X No	

Form I-5 Page 3 of 4			
Site Design Requirement	Applied?		
SD-6 Runoff Collection	XYes	☐ No	☐ N/A
Discussion / justification if SD-6 not implemented: IN BIO FILTRATION TREATMENT BOX.			
6a-1 Are green roofs implemented in accordance with design criteria in SD-6A Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6a-2 Is green roof credit volume calculated using Appendix B.2.1.2 and SD-6A Fact Sheet in Appendix E?	☐ Yes	XNo	
6b-1 Are permeable pavements implemented in accordance with design criteria in SD-6B Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6b-2 Is permeable pavement credit volume calculated using Appendix B.2.1.3 and SD-6B Fact Sheet in Appendix E?	☐ Yes	XNo	
SD-7 Landscaping with Native or Drought Tolerant Species	XYes	☐ No	☐ N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	☐ Yes	XNo	☐ N/A
Discussion / justification if SD-8 not implemented: SEE ATTACHMENT 1C			
8-1 Are rain barrels implemented in accordance with design criteria in SD-8 Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
8-2 Is rain barrel credit volume calculated using Appendix B.2.2.2 and SD-8 Fact Sheet in Appendix E?	☐ Yes	XNo	

Form I-5 Page 4 of 4
Insert Site Map with all site design BMPs identified:



PRIVATE YARD OVERFLOW GRATE INLET DETAIL "B"

NO SCALE

GRAPHIC SCALE

20' 0 5' 10' 20' 40'

(IN FEET)

1 INCH = 10' FT.

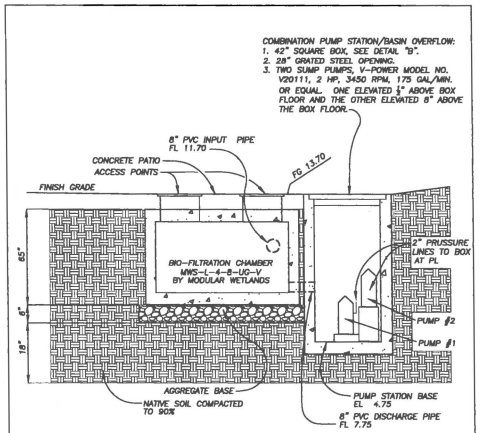
LEGAL DESCRIPTION:

LOT 1 OF OCEAN TERRACE, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2615, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JANUARY 20, 1950.

BASIS OF ELEVATION:

CITY OF SAN DIEGO BENCHMARK:

NORTHEASTERLY BRASS PLUG LOCATED AT THE INTERSECTION OF EL PASEO GRANDE AND CALLE FRESCOTA.
ELEVATION = 10.555 M.S.L. NGVD29

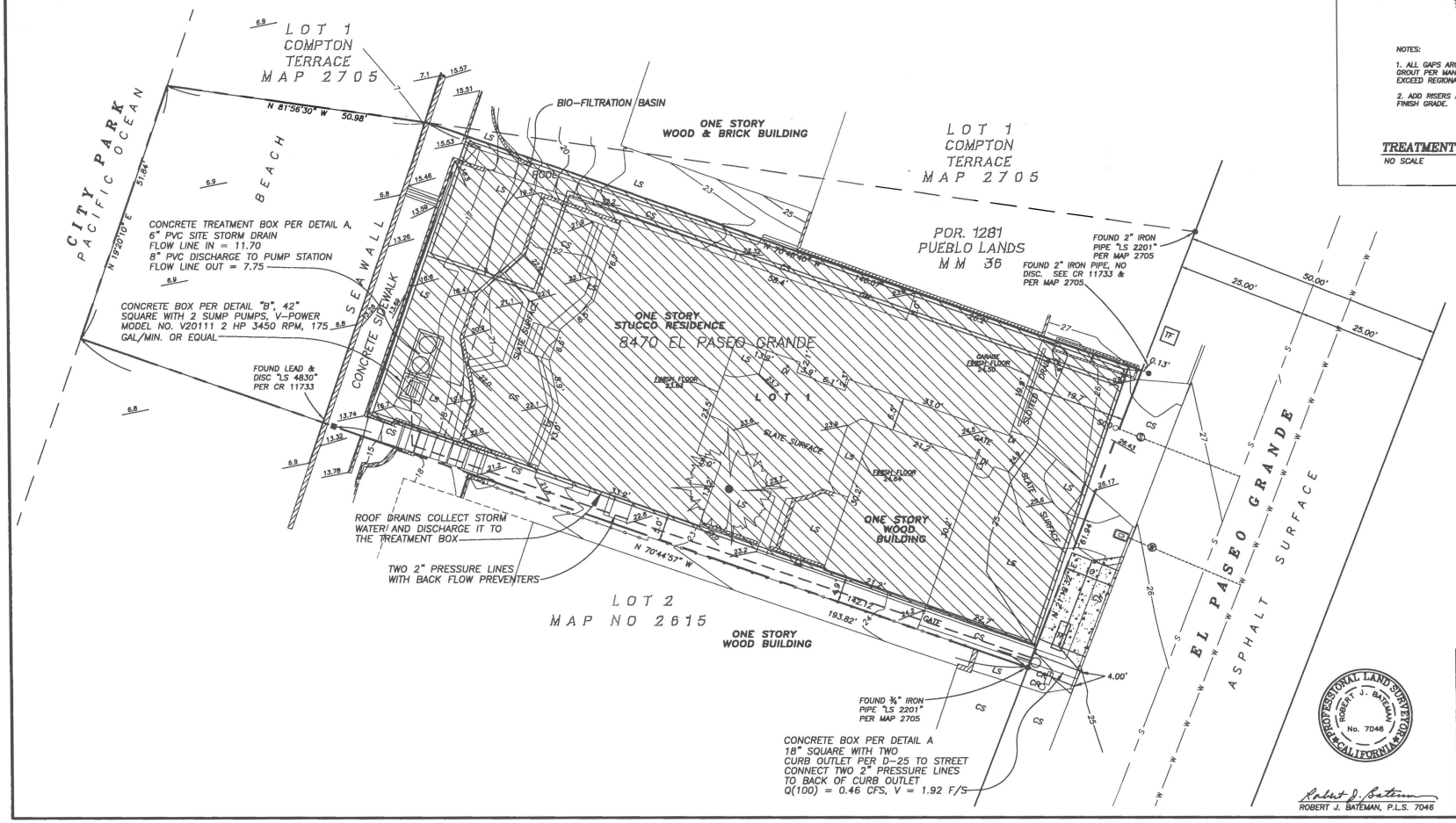


NOTES:

1. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
2. ADD RISERS AS REQUIRED TO BRING ACCESS HOLES FLUSH WITH DECK OR FINISH GRADE.

TREATMENT BOX / PUMP STATION DETAIL "A"

NO SCALE



LEGEND:

- INDICATES BUILDING EXCAVATION IMPERVIOUS AREA
- W — INDICATES WATER METER
- GM — INDICATES GAS METER
- DI — INDICATES DRAINAGE INLET
- TF — INDICATES ELECTRIC TRANSFORMER/FUSEBOX
- CS — INDICATES CONCRETE SURFACE
- LS — INDICATES LANDSCAPE SURFACE
- CR — INDICATES COMMUNICATION RISER
- SCO — INDICATES SEWER CLEANOUT
- INDICATES WALL
- INDICATES PROPERTY LINE
- INDICATES WOOD FENCE
- INDICATES SEWER LATERAL
- INDICATES WATER SERVICE
- W — INDICATES WATER LINE
- S — INDICATES SEWER LINE

VICINITY MAP

NO SCALE

PROFESSIONAL LAND SURVEYOR ROBERT J. BATEMAN No. 7046 CALIFORNIA

Robert J. Bateman

ROBERT J. BATEMAN, P.L.S. 7046

EXCAVATION PLAN

For the exclusive use of:
D. MARIN DEVELOPMENT
1900 WESTERN AVENUE
LAS VEGAS, NV 89102

San Diego Land Surveying & Engineering, Inc.
9665 Chesapeake Drive, Suite 445, San Diego, California 92123-1354
Phone: (858) 565-8362 Fax: (858) 565-4364

Date: 06/29/2016	Revised: 01/16/2018	Revised:
Scale: 1"=10'	Drawn by: W.P.T.	Sheet 1 of 1 Sheet
Drawing: *El Paseo Grande 8470-TS*		A.P.N. 346-050-01

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Summary of PDP Structural BMPs	Form I-6

PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual, Part 1 of Storm Water Standards). 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 BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This includes requiring the project owner or project owner's representative to certify construction of the structural BMPs (complete Form DS-563). PDP structural BMPs must be maintained into perpetuity (see Chapter 7 of the BMP Design Manual).

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).

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 BMP Design 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.

THE PROJECT WILL COLLECT STORM RUN OFF IN ROOF DRAINS AND DIRECT IT TO A BIO-FILTRATION TREATMENT BOX FOR TREATMENT BEFORE IT IS PUMPED VIA PRESSURE LINES TO A CURB OUTLET IN El PASEO GRANDE AND THE SOUTH PROPERTY LINE. THE GUTTER FLOW WILL TRAVEL SOUTH ABOUT 500 FEET TO AN EXISTING GRADED INLET IN EL PASEO GRANDE. THIS GRADED INLET FLOWS TO THE PACIFIC OCEAN VIA A PUBLIC STORM DRAIN.

Form I-6 Page 2 of X
(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
Structural BMP ID No. BIO-FILTRATION BASIN
Construction Plan Sheet No.
Type of structural BMP: ○ Retention by harvest and use (HU-1) ○ Retention by infiltration basin (INF-1) ○ Retention by bioretention (INF-2) ○ Retention by permeable pavement (INF-3) ○ Partial retention by biofiltration with partial retention (PR-1) ◉ Biofiltration (BF-1) ○ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide (BMP type/description in discussion section below) ○ 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) ○ Flow-thru treatment control with alternative compliance (provide BMP type/description in ○ Detention pond or vault for hydromodification management ○ Other (describe in discussion section below)
Purpose: ◉ Pollutant control only ○ Hydromodification control only ○ Combined pollutant control and hydromodification control ○ Pre-treatment/forebay for another structural BMP ○ 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 form DS-563	PROJECT ENGINEER MICHAEL L. SMITH SDLSE
Who will be the final owner of this BMP?	DAVID LESSNICK D. MARIN DEVELOPMENT
Who will maintain this BMP into perpetuity?	DAVID LESSNICK D. MARIN DEVELOPMENT
What is the funding mechanism for maintenance?	DAVID LESSNICK D. MARIN DEVELOPMENT

Form I-6 Page 4 of X (Copy as many as needed)
Structural BMP ID No. BIO-FILTRATION BASIN
Construction Plan Sheet No. C-1
Discussion (as needed): THE BIO-FILTRATION TREATMENT BOX IS 4 FEET BY 8' AND 5'-5" DEEP. IT WILL BE LOCATED ON THE BEACH SIDE OF THE PROPERTY. ALL ROOF AREA AND IMPERVIOUS AREAS WILL BE PIPED TO THE TREATMENT BOX. THIS WILL BE A MAJORITY OF THE DEVELOPED SITE. SEE THE BIO-FILTRATION TREATMENT BOX DETAIL IN ATTACHMENT 1A FOR MORE DETAILS.

THE CITY OF SAN DIEGO City of San Diego **Development Services** 1222 First Ave., MD-302 San Diego, CA 92101 (619) 446-5000	**Permanent BMP Construction** **Self Certification Form**	FORM DS-563 January 2016

Date Prepared:	Project No.:
Project Applicant:	Phone:
Project Address:	
Project Engineer:	Phone:

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 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 as amended by R9-2015-0001 and R9-2015-0100. 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 San Diego.

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 structural BMP's required per the approved SWQMP and Construction Permit No. _____; 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 as amended by R9-2015-0001 and R9-2015-0100 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: _____

Printed Name: _____

Title: _____

Phone No. _____

Engineer's Stamp

DS-563 (01-16)

The City of San Diego	**PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR**

El Paseo Grande, San Diego, CA
PTS: 516011

APN: 346-050-01

ENGINEER OF WORK:

MICHAEL L. SMITH, RCE 35471
Provide wet signature and stamp above line

PREPARED FOR:
David Lessnick
D. Marin Development
1900 Western Avenue
Las Vegas, NV 89102

PREPARED BY:

SDLSE

SAN DIEGO LAND SURVEYING & ENGINEERING, INC.
9665 CHESAPEAKE DRIVE, SUITE 445

SAN DIEGO, CA. 92123
858-565-8362

DATE: 05/18/2017

Approved by: City of San Diego Date

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

ACRONYMS

APN	Assessor's Parcel Number
ASBS	Area of Special Biological Significance
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CGP	Construction General Permit
DCV	Design Capture Volume
DMA	Drainage Management Areas
ESA	Environmentally Sensitive Area
GLU	Geomorphic Landscape Unit
GW	Ground Water
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
HU	Harvest and Use
INF	Infiltration
LID	Low Impact Development
LUP	Linear Underground/Overhead Projects
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
POC	Pollutant of Concern
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollutant Protection Plan
SWQMP	Storm Water Quality Management Plan
TMDL	Total Maximum Daily Load
WMAA	Watershed Management Area Analysis
WPCP	Water Pollution Control Program
WQIP	Water Quality Improvement Plan

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CERTIFICATION PAGE

Project Name:
Permit Application Number:

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 Storm Water Standards, which is based on the requirements of SDRWQCB Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 (MS4 Permit).

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Standards. I certify that this PDP 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 PDP SWQMP by the City Engineer 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.

C 35471 09/30/2017

Engineer of Work's Signature, PE Number & Expiration Date

MICHAEL L. SMITH

Print Name

SAN DIEGO LAND SURVEYING & ENGINEERING, INC.

Company

Date

Engineer's Stamp

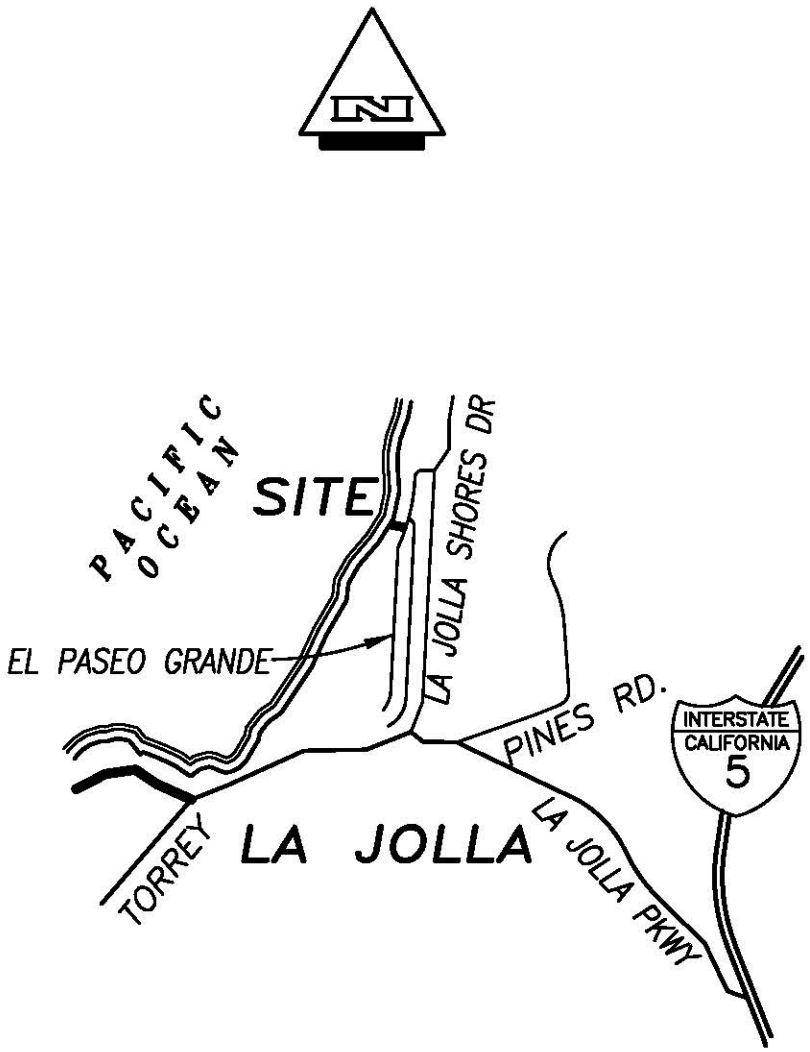
THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

SUBMITTAL RECORD

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP 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 plan check comments is included. When applicable, insert response to plan check comments.

Submittal Number	Date	Project Status	Changes
1	03/24/17	☐ Preliminary Design/Planning/CEQA ☐ Final Design	Initial Submittal
2		☐ Preliminary Design/Planning/CEQA ☐ Final Design	
3		☐ Preliminary Design/Planning/CEQA ☐ Final Design	
4		☐ Preliminary Design/Planning/CEQA ☐ Final Design	

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



VICINITY MAP

NO SCALE

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST

Complete and attach DS-560 Form included in Appendix A.1

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM
DS-560
October 2016

Project Address: 8470 EL PASEO GRANDE

Project Number *(for City Use Only)*:

SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1] , which is administered by the State Water Resources Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

☐ Yes; SWPPP required, skip questions 2-4 ☒ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and contact with storm water runoff?

☒ Yes; WPCP required, skip 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

☐ Yes; WPCP required, skip 4 ☒ No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☐ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☒ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☒ **ASBS**

a. Projects located in the ASBS watershed.

2. ☐ **High Priority**

a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.

b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.

3. ☐ **Medium Priority**

a. Projects 1 acre or more but not subject to an ASBS or high priority designation.

b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.

4. ☐ **Low Priority**

a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes ☒ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes ☒ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes ☒ No

Clear Page 2

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☐ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☐ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☒ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces 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 ☐ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface. ☐ Yes ☒ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ☐ Yes ☒ No

5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ☐ Yes ☒ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ☐ Yes ☒ No

Clear Page 3

7. **New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges 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). ☐ Yes ☒ No

8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. ☐ Yes ☒ No

9. **New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539. ☐ Yes ☒ No

10. **Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces. ☐ Yes ☒ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1. The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS**. ☐
2. The project is a **STANDARD DEVELOPMENT PROJECT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☐
3. The project is **PDP EXEMPT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☒
4. The project is a **PRIORITY DEVELOPMENT PROJECT**. Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management ☐

MICHAEL LEE SMITH	PROJECT ENGINEER
Name of Owner or Agent *(Please Print)*	Title
	05/18/2017
Signature	Date

Clear Page 4

Clear Form

Applicability of Permanent, Post-Construction Storm Water BMP Requirements		**Form I-1**
Project Identification		
Project Name: El Paseo Grande		
Permit Application Number:		Date:
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 Part 1 of Storm Water Standards 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	X Yes	Go to Step 2.
	☐ 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 <u>only</u> interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual (Part 1 of Storm Water Standards) <u>in its entirety</u> for guidance, AND complete Storm Water Requirements Applicability Checklist.	☐ Standard Project	Stop. Standard Project requirements apply.
	X PDP	PDP requirements apply, including PDP SWQMP. Go to Step 3.
	☐ PDP Exempt	Stop. Standard Project requirements apply. Provide discussion and list any additional requirements below.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		

Form I-1 Page 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	X No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (<u>not required if prior lawful approval does not apply</u>):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	X 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:		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	X 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:		

Site Information Checklist For PDPs	Form I-3B
Project Summary Information	
Project Name	El Paseo Grande
Project Address	8470 El Paseo Grande
Assessor's Parcel Number(s) (APN(s))	346-050-01
Permit Application Number	
Project Watershed	Select One: ☐ San Dieguito River X Penasquitos ☐ Mission Bay ☐ San Diego River ☐ San Diego Bay ☐ Tijuana River
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	906.30
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	0.2709 Acres (11799 Square Feet)
Area to be disturbed by the project (Project Footprint)	0.2709 Acres (11799 Square Feet)
Project Proposed Impervious Area (subset of Project Footprint)	0.19 Acres (8277 Square Feet)
Project Proposed Pervious Area (subset of Project Footprint)	0.08 Acres (3522 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Project Area.	
The proposed increase or decrease in impervious area in the proposed condition as compared to the pre-project condition.	20.8 %

Form I-3B Page 2 of 11
Description of Existing Site Condition and Drainage Patterns
Current Status of the Site (select all that apply): X Existing development ☐ Previously graded but not built out ☐ Agricultural or other non-impervious use ☐ Vacant, undeveloped/natural Description / Additional Information:
Existing Land Cover Includes (select all that apply): X Vegetative Cover ☐ Non-Vegetated Pervious Areas X Impervious Areas Description / Additional Information:
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): ☐ NRCS Type A ☐ NRCS Type B ☐ NRCS Type C X NRCS Type D
Approximate Depth to Groundwater (GW): ☐ GW Depth < 5 feet ☐ 5 feet < GW Depth < 10 feet ☐ 10 feet < GW Depth < 20 feet X GW Depth > 20 feet
Existing Natural Hydrologic Features (select all that apply): ☐ Watercourses ☐ Seeps ☐ Springs ☐ Wetlands X None Description / Additional Information:

Form I-3B Page 3 of 11
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. If runoff from offsite is conveyed through the site? If yes, quantification of all offsite drainage areas, design flows, and locations where offsite flows enter the project site and summarize how such flows are conveyed through the site; 3. Provide details regarding existing project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, and natural and constructed channels; 4. Identify all discharge locations from the existing project along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.
Description / Additional Information:
THE EXISTING DRAINAGE CONVEYANCE IS URBAN SHEET FLOW TO THE PACIFIC OCEAN. THERE IS NO RUNOFF FROM OFFSITE LOCATION. THE EXISTING SITE DRAINS DOWN BOTH SITES OF THE LOT AROUND THE EXISTING HOUSE TO THE PACIFIC OCEAN. THE PROJECT DISCHARGES DIRECTLY INTO THE PACIFIC OCEAN.

Form I-3B Page 4 of 11
Description of Proposed Site Development and Drainage Patterns
Project Description / Proposed Land Use and/or Activities: DEMO EXISTING SINGLE FAMILY HOME AND CONSTRUCT NEW SINGLE FAMILY RESIDENCE WITH LANDSCAPING, HARDSCAPE, AND UTILITIES.
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): ROOF, DRIVEWAY, AND HARDSCAPE.
List/describe proposed pervious features of the project (e.g., landscape areas): LANDSCAPING
Does the project include grading and changes to site topography? X Yes ☐ No Description / Additional Information:

Form I-3B Page 5 of 11

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

X Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural and constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Description / Additional Information:

THE PROJECT WILL CORRECT STORM RUN OFF AND DIRECT IT TO A BIO-FILTRATION BASIN FOR TREATMENT BEFORE DISCHARGING IT TO THE PACIFIC OCEAN.

Form I-3B Page 6 of 11
Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply): X On-site storm drain inlets X Interior floor drains and elevator shaft sump pumps X Interior parking garages ☐ Need for future indoor & structural pest control X Landscape/Outdoor Pesticide Use X 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 X Fire Sprinkler Test Water X Miscellaneous Drain or Wash Water X Plazas, sidewalks, and parking lots ☐ Large Trash Generating Facilities ☐ Animal Facilities ☐ Plant Nurseries and Garden Centers ☐ Automotive-related Uses Description / Additional Information:

Form I-3B Page 7 of 11
Identification and Narrative of Receiving Water
Narrative describing flow path from discharge location(s), through urban storm conveyance system, to receiving creeks, rivers, and lagoons and ultimate discharge location to Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable) EXISTING AND PROPOSED PROJECT DRAIN FROM THE ST. SIDE R/W LINES TO THE PACIFIC OCEAN.
Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations. PACIFIC OCEAN
Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations. WATER QUALITY SENSITIVE AREA
Provide distance from project outfall location to impaired or sensitive receiving waters. PROJECT ADJACENT TO PACIFIC OCEAN
Summarize information regarding the proximity of the permanent, post-construction storm water BMPs to the City's Multi-Habitat Planning Area and environmentally sensitive lands ADJACENT

Form I-3B Page 8 of 11		
Identification of Receiving Water Pollutants of Concern		
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 and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:		
303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs/ WQIP Highest Priority Pollutant
PACIFIC OCEAN	INDICATOR BACTERIA	

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 anticipated from the project site based on all proposed use(s) of the site (see BMP Design Manual (Part 1 of Storm Water Standards) Appendix B.6):			
Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Form I-3B Page 9 of 11
Hydromodification Management Requirements
Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)? ☐ Yes, hydromodification management flow control structural BMPs required. ☐ 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. ☒ 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. ☐ 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. Description / Additional Information (to be provided if a 'No' answer has been selected above):
Critical Coarse Sediment Yield Areas* *This Section only required if hydromodification management requirements apply
Based on Section 6.2 and Appendix H does CCSYA exist on the project footprint or in the upstream area draining through the project footprint? ☐ Yes ☒ No Discussion / Additional Information:

Form I-3B Page 10 of 11
Flow Control for Post-Project Runoff* *This Section only required if hydromodification management requirements apply
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.O.C. is the Pacific Ocean.
Has a geomorphic assessment been performed for the receiving channel(s)? ☒ No, the low flow threshold is 0.1Q2 (default low flow threshold) ☐ Yes, the result is the low flow threshold is 0.1Q2 ☐ Yes, the result is the low flow threshold is 0.3Q2 ☐ Yes, the result is the low flow threshold is 0.5Q2 If a geomorphic assessment has been performed, provide title, date, and preparer:
Discussion / Additional Information: (optional)

Form I-3B Page 11 of 11
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. none
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.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Source Control BMP Checklist for All Development Projects	Form I-4

Source Control BMPs

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 BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☒Yes	☐ No	☐ N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	☒Yes	☐ No	☐ N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-3 not implemented:			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-4 not implemented:			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-5 not implemented:			

Form I-4 Page 2 of 2			
Source Control Requirement	Applied?		
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	X Yes	☐ No	☐ N/A
Interior floor drains and elevator shaft sump pumps	X Yes	☐ No	☐ N/A
Interior parking garages	X Yes	☐ No	☐ N/A
Need for future indoor & structural pest control	☐ Yes	☐ No	X N/A
Landscape/Outdoor Pesticide Use	X Yes	☐ No	☐ N/A
Pools, spas, ponds, decorative fountains, and other water features	X Yes	☐ No	☐ N/A
Food service	☐ Yes	☐ No	☐ N/A
Refuse areas	☐ Yes	☐ No	☐ N/A
Industrial processes	☐ Yes	☐ No	☐ N/A
Outdoor storage of equipment or materials	☐ Yes	☐ No	☐ N/A
Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☐ N/A
Fuel Dispensing Areas	☐ Yes	☐ No	☐ N/A
Loading Docks	☐ Yes	☐ No	☐ N/A
Fire Sprinkler Test Water	X Yes	☐ No	☐ N/A
Miscellaneous Drain or Wash Water	X Yes	☐ No	☐ N/A
Plazas, sidewalks, and parking lots	X Yes	☐ No	☐ N/A
SC-6A: Large Trash Generating Facilities	☐ Yes	☐ No	X N/A
SC-6B: Animal Facilities	☐ Yes	☐ No	X N/A
SC-6C: Plant Nurseries and Garden Centers	☐ Yes	☐ No	X N/A
SC-6D: Automotive-related Uses	☐ Yes	☐ No	X N/A
Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.			

Site Design BMP Checklist for All Development Projects	Form I-5

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 BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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.

A site map with implemented site design BMPs must be included at the end of this checklist.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	X No	☐ N/A
Discussion / justification if SD-1 not implemented: ADD BIO-FILTRATION BASIN TO NATURAL DIRECTION OF RUNOFF.			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	X Yes	☐ No	
1-2 Are trees implemented? If yes, are they shown on the site map?	☐ Yes	X No	
1-3 Implemented trees meet the design criteria in SD-1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	☐ Yes	X No	
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	☐ Yes	X No	
SD-2 Have natural areas, soils and vegetation been conserved?	☐ Yes	X No	☐ N/A
Discussion / justification if SD-2 not implemented: DEVELOP SITE, NO NATURAL AREAS EXIST.			

Site Design Requirement	Applied?		
SD-3 Minimize Impervious Area	☐ Yes	X No	☐ N/A
Discussion / justification if SD-3 not implemented: NO EXISTING NATURAL AREAS PREVIOUSLY DEVELOPED.			
SD-4 Minimize Soil Compaction	X Yes	☐ No	☐ N/A
Discussion / justification if SD-4 not implemented:			
SD-5 Impervious Area Dispersion	☐ Yes	X No	☐ N/A
Discussion / justification if SD-5 not implemented: PROJECT WILL PROVIDE BIO-FILTRATION BASIN.			
5-1 Is the pervious area receiving runon from impervious area identified on the site map?	☐ Yes	X No	
5-2 Does the pervious area satisfy the design criteria in SD-5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	☐ Yes	X No	
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and SD-5 Fact Sheet in Appendix E?	☐ Yes	X No	

Form I-5 Page 3 of 4			
Site Design Requirement	Applied?		
SD-6 Runoff Collection	XYes	☐ No	☐ N/A
Discussion / justification if SD-6 not implemented: IN BIO FILTRATION BASIN.			
6a-1 Are green roofs implemented in accordance with design criteria in SD-6A Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6a-2 Is green roof credit volume calculated using Appendix B.2.1.2 and SD-6A Fact Sheet in Appendix E?	☐ Yes	XNo	
6b-1 Are permeable pavements implemented in accordance with design criteria in SD-6B Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6b-2 Is permeable pavement credit volume calculated using Appendix B.2.1.3 and SD-6B Fact Sheet in Appendix E?	☐ Yes	XNo	
SD-7 Landscaping with Native or Drought Tolerant Species	XYes	☐ No	☐ N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	☐ Yes	XNo	☐ N/A
Discussion / justification if SD-8 not implemented: SEE ATTACHMENT 1C			
8-1 Are rain barrels implemented in accordance with design criteria in SD-8 Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
8-2 Is rain barrel credit volume calculated using Appendix B.2.2.2 and SD-8 Fact Sheet in Appendix E?	☐ Yes	XNo	

Form I-5 Page 4 of 4
Insert Site Map with all site design BMPs identified:

Summary of PDP Structural BMPs	Form I-6

PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual, Part 1 of Storm Water Standards). 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 BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This includes requiring the project owner or project owner's representative to certify construction of the structural BMPs (complete Form DS-563). PDP structural BMPs must be maintained into perpetuity (see Chapter 7 of the BMP Design Manual).

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).

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 BMP Design 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.

THIS PROJECT USES ALL THE AVAILABLE DEVELOPABLE LAND.

A BIO-FILTRATION BASIN IS USED FOR ITS COMPACT USE OF SPACE.

(Continue on page 2 as necessary.)

Form I-6 Page 2 of X
(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	
Structural BMP ID No.	
Construction Plan Sheet No.	
Type of structural BMP: ○ Retention by harvest and use (HU-1) ○ Retention by infiltration basin (INF-1) ○ Retention by bioretention (INF-2) ○ Retention by permeable pavement (INF-3) ○ Partial retention by biofiltration with partial retention (PR-1) ◉ Biofiltration (BF-1) ○ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide (BMP type/description in discussion section below) ○ 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) ○ Flow-thru treatment control with alternative compliance (provide BMP type/description in ○ Detention pond or vault for hydromodification management ○ Other (describe in discussion section below)	
Purpose: ◉ Pollutant control only ○ Hydromodification control only ○ Combined pollutant control and hydromodification control ○ Pre-treatment/forebay for another structural BMP ○ 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 form DS-563	PROJECT ENGINEER MICHAEL L. SMITH SDLSE
Who will be the final owner of this BMP?	DAVID LESSNICK D. MARIN DEVELOPMENT
Who will maintain this BMP into perpetuity?	DAVID LESSNICK D. MARIN DEVELOPMENT
What is the funding mechanism for maintenance?	DAVID LESSNICK D. MARIN DEVELOPMENT

Form I-6 Page 4 of X (Copy as many as needed)
Structural BMP ID No. BIO-FILTRATION BASIN
Construction Plan Sheet No. C-1
Discussion (as needed):

The bio-filtration basin 15' by 15' or 225 sf. It will be located on the beach side of the property. All roof and impervious areas will be piped to the basin. This will be a majority of the developed site.

See the Bio-filtration Basin detail in Attachment 1a for more details.

THE CITY OF SAN DIEGO City of San Diego **Development Services** 1222 First Ave., MD-302 San Diego, CA 92101 (619) 446-5000	**Permanent BMP Construction** **Self Certification Form**	FORM DS-563 January 2016

Date Prepared:	Project No.:
Project Applicant:	Phone:
Project Address:	
Project Engineer:	Phone:

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 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 as amended by R9-2015-0001 and R9-2015-0100. 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 San Diego.

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 structural BMP's required per the approved SWQMP and Construction Permit No. _____; 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 as amended by R9-2015-0001 and R9-2015-0100 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: _____

Printed Name: _____

Title: _____

Phone No. _____

Engineer's Stamp

DS-563 (01-16)

The City of San Diego	**PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR**

El Paseo Grande, San Diego, CA
PTS:_____

I. O. Number _____

ENGINEER OF WORK:

_____

MICHAEL L. SMITH, RCE 35471
Provide wet signature and stamp above line

PREPARED FOR:
David Lessnick
D. Marin Development
1900 Western Avenue
Las Vegas, NV 89102

PREPARED BY:

SDLSE

_____
SAN DIEGO LAND SURVEYING & ENGINEERING, INC.
9665 CHESAPEAKE DRIVE, SUITE 445
SAN DIEGO, CA. 92123
858-565-8362

DATE: 03/16/2017

Approved by: City of San Diego Date

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

ACRONYMS

APN	Assessor's Parcel Number
ASBS	Area of Special Biological Significance
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CGP	Construction General Permit
DCV	Design Capture Volume
DMA	Drainage Management Areas
ESA	Environmentally Sensitive Area
GLU	Geomorphic Landscape Unit
GW	Ground Water
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
HU	Harvest and Use
INF	Infiltration
LID	Low Impact Development
LUP	Linear Underground/Overhead Projects
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
POC	Pollutant of Concern
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollutant Protection Plan
SWQMP	Storm Water Quality Management Plan
TMDL	Total Maximum Daily Load
WMAA	Watershed Management Area Analysis
WPCP	Water Pollution Control Program
WQIP	Water Quality Improvement Plan

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CERTIFICATION PAGE

Project Name:
Permit Application Number:

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 Storm Water Standards, which is based on the requirements of SDRWQCB Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 (MS4 Permit).

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Standards. I certify that this PDP 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 PDP SWQMP by the City Engineer 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.

C 35471 09/30/2017

Engineer of Work's Signature, PE Number & Expiration Date

MICHAEL L. SMITH

Print Name

SAN DIEGO LAND SURVEYING & ENGINEERING, INC.

Company

Date

Engineer's Stamp

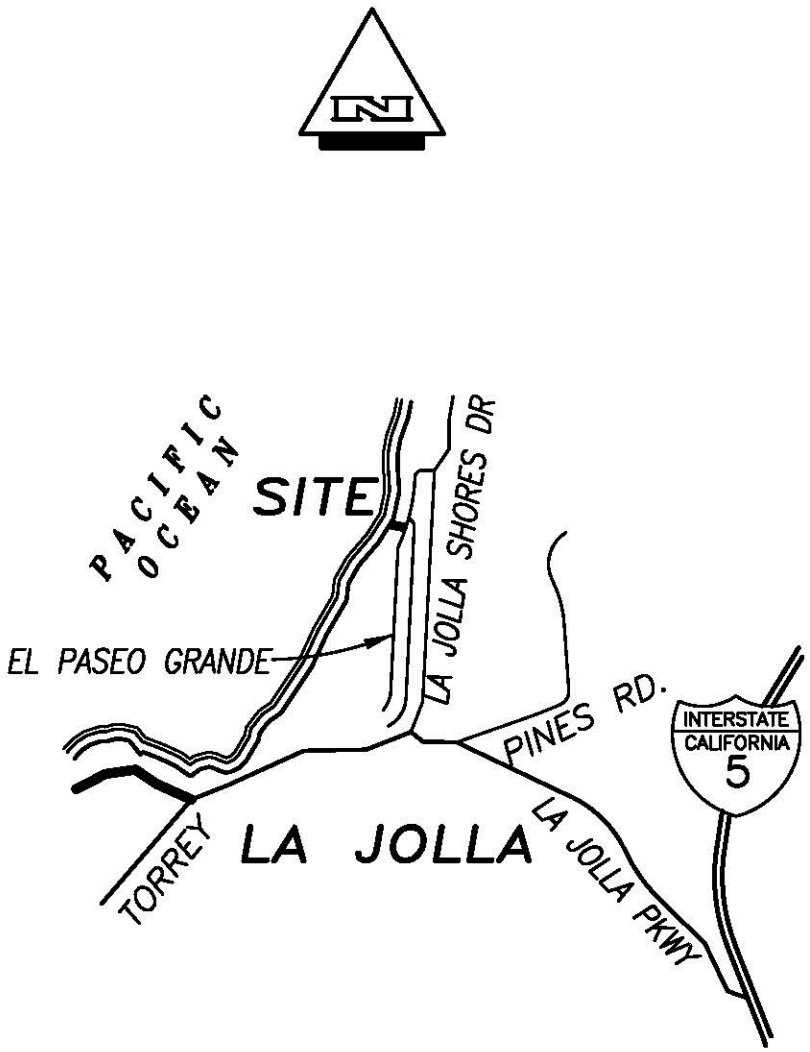
THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

SUBMITTAL RECORD

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP 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 plan check comments is included. When applicable, insert response to plan check comments.

Submittal Number	Date	Project Status	Changes
1	03/24/17	☐ Preliminary Design/Planning/CEQA ☐ Final Design	Initial Submittal
2		☐ Preliminary Design/Planning/CEQA ☐ Final Design	
3		☐ Preliminary Design/Planning/CEQA ☐ Final Design	
4		☐ Preliminary Design/Planning/CEQA ☐ Final Design	

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



VICINITY MAP

NO SCALE

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST

Complete and attach DS-560 Form included in Appendix A.1

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

Storm Water Requirements Applicability Checklist

FORM
DS-560
October 2016

Project Address: 8470 EL PASEO GRANDE

Project Number *(for City Use Only):*

SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the Storm Water Standards Manual. Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)[1] , which is administered by the State Water Resources Control Board.

For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.

PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

☐ Yes; SWPPP required, skip questions 2-4 ☐ No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and contact with storm water runoff?

☐ Yes; WPCP required, skip 3-4 ☐ No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

☐ Yes; WPCP required, skip 4 ☐ No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

☐ Yes; no document required

Check one of the boxes below, and continue to PART B:

☐ If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

☐ If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

☐ If you checked "No" for all questions 1-3, and checked "Yes" for question 4 PART B **does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: www.sandiego.gov/stormwater/regulations/index.shtml

PART B: Determine Construction Site Priority

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

Complete PART B and continued to Section 2

1. ☐ **ASBS**

a. Projects located in the ASBS watershed.

2. ☐ **High Priority**

a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.

b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.

3. ☐ **Medium Priority**

a. Projects 1 acre or more but not subject to an ASBS or high priority designation.

b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.

4. ☐ **Low Priority**

a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

SECTION 2. Permanent Storm Water BMP Requirements.

Additional information for determining the requirements is found in the Storm Water Standards Manual.

PART C: Determine if Not Subject to Permanent Storm Water Requirements.

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the Storm Water Standards Manual are not subject to Permanent Storm Water BMPs.

If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".

If "no" is checked for all of the numbers in Part C continue to Part D.

1.	Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?	☐ Yes ☐ No
2.	Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?	☐ Yes ☐ No
3.	Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).	☐ Yes ☐ No

Clear Page 2

PART D: PDP Exempt Requirements.

PDP Exempt projects are required to implement site design and source control BMPs.

If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."

If "no" was checked for all questions in Part D, continue to Part E.

1. **Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**
   - **Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;**
   - **Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;**
   - **Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?**

   ☐ Yes; PDP exempt requirements apply ☐ No; next question

2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the City's Storm Water Standards Manual?

   ☐ Yes; PDP exempt requirements apply ☐ No; project not exempt.

PART E: Determine if Project is a Priority Development Project (PDP).

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".

If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land. ☐ Yes ☐ No

2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces 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 ☐ No

3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface. ☐ Yes ☐ No

4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater. ☐ Yes ☐ No

5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).** ☐ Yes ☐ No

6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site). ☐ Yes ☐ No

Clear Page 3

7. **New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges 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). ☐ Yes ☐ No

8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. ☐ Yes ☐ No

9. **New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539. ☐ Yes ☐ No

10. **Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces. ☐ Yes ☐ No

PART F: Select the appropriate category based on the outcomes of PART C through PART E.

1. The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS**. ☐
2. The project is a **STANDARD DEVELOPMENT PROJECT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☐
3. The project is **PDP EXEMPT**. Site design and source control BMP requirements apply. See the Storm Water Standards Manual for guidance. ☐
4. The project is a **PRIORITY DEVELOPMENT PROJECT**. Site design, source control, and structural pollutant control BMP requirements apply. See the Storm Water Standards Manual for guidance on determining if project requires a hydromodification plan management ☐

MICHAEL LEE SMITH	PROJECT ENGINEER
Name of Owner or Agent *(Please Print)*	Title
	05/18/2017
Signature	Date

Clear Page 4

Clear Form

Applicability of Permanent, Post-Construction Storm Water BMP Requirements		**Form I-1**
Project Identification		
Project Name: El Paseo Grande		
Permit Application Number:		Date:
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 Part 1 of Storm Water Standards 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	X Yes	Go to Step 2.
	☐ 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 <u>only</u> interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual (Part 1 of Storm Water Standards) <u>in its entirety</u> for guidance, AND complete Storm Water Requirements Applicability Checklist.	☐ Standard Project	Stop. Standard Project requirements apply.
	X PDP	PDP requirements apply, including PDP SWQMP. Go to Step 3.
	☐ PDP Exempt	Stop. Standard Project requirements apply. Provide discussion and list any additional requirements below.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		

Form I-1 Page 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 BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	X No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements (<u>not required if prior lawful approval does not apply</u>):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	X 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:		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	X 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:		

Site Information Checklist For PDPs	Form I-3B
Project Summary Information	
Project Name	El Paseo Grande
Project Address	8470 El Paseo Grande
Assessor's Parcel Number(s) (APN(s))	346-050-01
Permit Application Number	
Project Watershed	Select One: ☐ San Dieguito River X Penasquitos ☐ Mission Bay ☐ San Diego River ☐ San Diego Bay ☐ Tijuana River
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	906.30
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	0.2709 Acres (11799 Square Feet)
Area to be disturbed by the project (Project Footprint)	0.2709 Acres (11799 Square Feet)
Project Proposed Impervious Area (subset of Project Footprint)	0.19 Acres (8277 Square Feet)
Project Proposed Pervious Area (subset of Project Footprint)	0.08 Acres (3522 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Project Area.	
The proposed increase or decrease in impervious area in the proposed condition as compared to the pre-project condition.	20.8 %

Form I-3B Page 2 of 11
Description of Existing Site Condition and Drainage Patterns
Current Status of the Site (select all that apply): X Existing development ☐ Previously graded but not built out ☐ Agricultural or other non-impervious use ☐ Vacant, undeveloped/natural Description / Additional Information:
Existing Land Cover Includes (select all that apply): X Vegetative Cover ☐ Non-Vegetated Pervious Areas X Impervious Areas Description / Additional Information:
Underlying Soil belongs to Hydrologic Soil Group (select all that apply): ☐ NRCS Type A ☐ NRCS Type B ☐ NRCS Type C X NRCS Type D
Approximate Depth to Groundwater (GW): ☐ GW Depth < 5 feet ☐ 5 feet < GW Depth < 10 feet ☐ 10 feet < GW Depth < 20 feet X GW Depth > 20 feet
Existing Natural Hydrologic Features (select all that apply): ☐ Watercourses ☐ Seeps ☐ Springs ☐ Wetlands X None Description / Additional Information:

Form I-3B Page 3 of 11
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. If runoff from offsite is conveyed through the site? If yes, quantification of all offsite drainage areas, design flows, and locations where offsite flows enter the project site and summarize how such flows are conveyed through the site; 3. Provide details regarding existing project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, and natural and constructed channels; 4. Identify all discharge locations from the existing project along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.
Description / Additional Information:
THE EXISTING DRAINAGE CONVEYANCE IS URBAN SHEET FLOW TO THE PACIFIC OCEAN. THERE IS NO RUNOFF FROM OFFSITE LOCATION. THE EXISTING SITE DRAINS DOWN BOTH SITES OF THE LOT AROUND THE EXISTING HOUSE TO THE PACIFIC OCEAN. THE PROJECT DISCHARGES DIRECTLY INTO THE PACIFIC OCEAN.

Form I-3B Page 4 of 11
Description of Proposed Site Development and Drainage Patterns
Project Description / Proposed Land Use and/or Activities: DEMO EXISTING SINGLE FAMILY HOME AND CONSTRUCT NEW SINGLE FAMILY RESIDENCE WITH LANDSCAPING, HARDSCAPE, AND UTILITIES.
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): ROOF, DRIVEWAY, AND HARDSCAPE.
List/describe proposed pervious features of the project (e.g., landscape areas): LANDSCAPING
Does the project include grading and changes to site topography? X Yes ☐ No Description / Additional Information:

Form I-3B Page 5 of 11

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

X Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural and constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Description / Additional Information:

THE PROJECT WILL CORRECT STORM RUN OFF AND DIRECT IT TO A BIO-FILTRATION BASIN FOR TREATMENT BEFORE DISCHARGING IT TO THE PACIFIC OCEAN.

Form I-3B Page 6 of 11
Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply): X On-site storm drain inlets X Interior floor drains and elevator shaft sump pumps X Interior parking garages ☐ Need for future indoor & structural pest control X Landscape/Outdoor Pesticide Use X 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 X Fire Sprinkler Test Water X Miscellaneous Drain or Wash Water X Plazas, sidewalks, and parking lots ☐ Large Trash Generating Facilities ☐ Animal Facilities ☐ Plant Nurseries and Garden Centers ☐ Automotive-related Uses Description / Additional Information:

Form I-3B Page 7 of 11
Identification and Narrative of Receiving Water
Narrative describing flow path from discharge location(s), through urban storm conveyance system, to receiving creeks, rivers, and lagoons and ultimate discharge location to Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable) EXISTING AND PROPOSED PROJECT DRAIN FROM THE ST. SIDE R/W LINES TO THE PACIFIC OCEAN.
Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations. PACIFIC OCEAN
Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations. WATER QUALITY SENSITIVE AREA
Provide distance from project outfall location to impaired or sensitive receiving waters. PROJECT ADJACENT TO PACIFIC OCEAN
Summarize information regarding the proximity of the permanent, post-construction storm water BMPs to the City's Multi-Habitat Planning Area and environmentally sensitive lands ADJACENT

Form I-3B Page 8 of 11		
Identification of Receiving Water Pollutants of Concern		
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 and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:		
303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs/ WQIP Highest Priority Pollutant
PACIFIC OCEAN	INDICATOR BACTERIA	

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 anticipated from the project site based on all proposed use(s) of the site (see BMP Design Manual (Part 1 of Storm Water Standards) Appendix B.6):			
Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Form I-3B Page 9 of 11

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

☐ Yes, hydromodification management flow control structural BMPs required.

☐ 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.

☐ 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.

☐ 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.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

Critical Coarse Sediment Yield Areas*

*This Section only required if hydromodification management requirements apply

Based on Section 6.2 and Appendix H does CCSYA exist on the project footprint or in the upstream area draining through the project footprint?

☐ Yes

☐ No

Discussion / Additional Information:

Form I-3B Page 10 of 11
Flow Control for Post-Project Runoff* *This Section only required if hydromodification management requirements apply
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.
Has a geomorphic assessment been performed for the receiving channel(s)? ☐ No, the low flow threshold is 0.1Q2 (default low flow threshold) ☐ Yes, the result is the low flow threshold is 0.1Q2 ☐ Yes, the result is the low flow threshold is 0.3Q2 ☐ Yes, the result is the low flow threshold is 0.5Q2 If a geomorphic assessment has been performed, provide title, date, and preparer:
Discussion / Additional Information: (optional)

Form I-3B Page 11 of 11
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.
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.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Source Control BMP Checklist for All Development Projects	Form I-4

Source Control BMPs

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 BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☒Yes	☐ No	☐ N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	☒Yes	☐ No	☐ N/A
Discussion / justification if SC-2 not implemented:			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-3 not implemented:			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-4 not implemented:			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☒N/A
Discussion / justification if SC-5 not implemented:			

Form I-4 Page 2 of 2			
Source Control Requirement	Applied?		
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	X Yes	☐ No	☐ N/A
Interior floor drains and elevator shaft sump pumps	X Yes	☐ No	☐ N/A
Interior parking garages	X Yes	☐ No	☐ N/A
Need for future indoor & structural pest control	☐ Yes	☐ No	X N/A
Landscape/Outdoor Pesticide Use	X Yes	☐ No	☐ N/A
Pools, spas, ponds, decorative fountains, and other water features	X Yes	☐ No	☐ N/A
Food service	☐ Yes	☐ No	☐ N/A
Refuse areas	☐ Yes	☐ No	☐ N/A
Industrial processes	☐ Yes	☐ No	☐ N/A
Outdoor storage of equipment or materials	☐ Yes	☐ No	☐ N/A
Vehicle/Equipment Repair and Maintenance	☐ Yes	☐ No	☐ N/A
Fuel Dispensing Areas	☐ Yes	☐ No	☐ N/A
Loading Docks	☐ Yes	☐ No	☐ N/A
Fire Sprinkler Test Water	X Yes	☐ No	☐ N/A
Miscellaneous Drain or Wash Water	X Yes	☐ No	☐ N/A
Plazas, sidewalks, and parking lots	X Yes	☐ No	☐ N/A
SC-6A: Large Trash Generating Facilities	☐ Yes	☐ No	X N/A
SC-6B: Animal Facilities	☐ Yes	☐ No	X N/A
SC-6C: Plant Nurseries and Garden Centers	☐ Yes	☐ No	X N/A
SC-6D: Automotive-related Uses	☐ Yes	☐ No	X N/A
Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for all "No" answers shown above.			

Site Design BMP Checklist for All Development Projects	Form I-5

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 BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design 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.

A site map with implemented site design BMPs must be included at the end of this checklist.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	X No	☐ N/A
Discussion / justification if SD-1 not implemented: ADD BIO-FILTRATION BASIN TO NATURAL DIRECTION OF RUNOFF.			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	X Yes	☐ No	
1-2 Are trees implemented? If yes, are they shown on the site map?	☐ Yes	X No	
1-3 Implemented trees meet the design criteria in SD-1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	☐ Yes	X No	
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	☐ Yes	X No	
SD-2 Have natural areas, soils and vegetation been conserved?	☐ Yes	X No	☐ N/A
Discussion / justification if SD-2 not implemented: DEVELOP SITE, NO NATURAL AREAS EXIST.			

Site Design Requirement	Applied?		
SD-3 Minimize Impervious Area	☐ Yes	☒ No	☐ N/A
Discussion / justification if SD-3 not implemented: NO EXISTING NATURAL AREAS PREVIOUSLY DEVELOPED.			
SD-4 Minimize Soil Compaction	☒ Yes	☐ No	☐ N/A
Discussion / justification if SD-4 not implemented:			
SD-5 Impervious Area Dispersion	☐ Yes	☒ No	☐ N/A
Discussion / justification if SD-5 not implemented: PROJECT WILL PROVIDE BIO-FILTRATION BASIN.			
5-1 Is the pervious area receiving runon from impervious area identified on the site map?	☐ Yes	☒ No	
5-2 Does the pervious area satisfy the design criteria in SD-5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	☐ Yes	☒ No	
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and SD-5 Fact Sheet in Appendix E?	☐ Yes	☒ No	

Form I-5 Page 3 of 4			
Site Design Requirement	Applied?		
SD-6 Runoff Collection	XYes	☐ No	☐ N/A
Discussion / justification if SD-6 not implemented: IN BIO FILTRATION BASIN.			
6a-1 Are green roofs implemented in accordance with design criteria in SD-6A Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6a-2 Is green roof credit volume calculated using Appendix B.2.1.2 and SD-6A Fact Sheet in Appendix E?	☐ Yes	XNo	
6b-1 Are permeable pavements implemented in accordance with design criteria in SD-6B Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
6b-2 Is permeable pavement credit volume calculated using Appendix B.2.1.3 and SD-6B Fact Sheet in Appendix E?	☐ Yes	XNo	
SD-7 Landscaping with Native or Drought Tolerant Species	XYes	☐ No	☐ N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	☐ Yes	XNo	☐ N/A
Discussion / justification if SD-8 not implemented: SEE ATTACHMENT 1C			
8-1 Are rain barrels implemented in accordance with design criteria in SD-8 Fact Sheet? If yes, are they shown on the site map?	☐ Yes	XNo	
8-2 Is rain barrel credit volume calculated using Appendix B.2.2.2 and SD-8 Fact Sheet in Appendix E?	☐ Yes	XNo	

Form I-5 Page 4 of 4
Insert Site Map with all site design BMPs identified:

Summary of PDP Structural BMPs	Form I-6

PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual, Part 1 of Storm Water Standards). 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 BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This includes requiring the project owner or project owner's representative to certify construction of the structural BMPs (complete Form DS-563). PDP structural BMPs must be maintained into perpetuity (see Chapter 7 of the BMP Design Manual).

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).

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 BMP Design 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.

THIS PROJECT USES ALL THE AVAILABLE DEVELOPABLE LAND.

A BIO-FILTRATION BASIN IS USED FOR ITS COMPACT USE OF SPACE.

(Continue on page 2 as necessary.)

Form I-6 Page 2 of X
(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	
Structural BMP ID No.	
Construction Plan Sheet No.	
Type of structural BMP: ○ Retention by harvest and use (HU-1) ○ Retention by infiltration basin (INF-1) ○ Retention by bioretention (INF-2) ○ Retention by permeable pavement (INF-3) ○ Partial retention by biofiltration with partial retention (PR-1) ◉ Biofiltration (BF-1) ○ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide (BMP type/description in discussion section below) ○ 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) ○ Flow-thru treatment control with alternative compliance (provide BMP type/description in ○ Detention pond or vault for hydromodification management ○ Other (describe in discussion section below)	
Purpose: ◉ Pollutant control only ○ Hydromodification control only ○ Combined pollutant control and hydromodification control ○ Pre-treatment/forebay for another structural BMP ○ 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 form DS-563	PROJECT ENGINEER MICHAEL L. SMITH SDLSE
Who will be the final owner of this BMP?	DAVID LESSNICK D. MARIN DEVELOPMENT
Who will maintain this BMP into perpetuity?	DAVID LESSNICK D. MARIN DEVELOPMENT
What is the funding mechanism for maintenance?	DAVID LESSNICK D. MARIN DEVELOPMENT

Form I-6 Page 4 of X (Copy as many as needed)
Structural BMP ID No. BIO-FILTRATION BASIN
Construction Plan Sheet No. C-1
Discussion (as needed):

The bio-filtration basin 15' by 15' or 225 sf. It will be located on the beach side of the property. All roof and impervious areas will be piped to the basin. This will be a majority of the developed site.

See the Bio-filtration Basin detail in Attachment 1a for more details.

THE CITY OF SAN DIEGO City of San Diego **Development Services** 1222 First Ave., MD-302 San Diego, CA 92101 (619) 446-5000	**Permanent BMP Construction** **Self Certification Form**	FORM DS-563 January 2016

Date Prepared:	Project No.:
Project Applicant:	Phone:
Project Address:	
Project Engineer:	Phone:

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 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 as amended by R9-2015-0001 and R9-2015-0100. 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 San Diego.

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 structural BMP's required per the approved SWQMP and Construction Permit No. _____; 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 as amended by R9-2015-0001 and R9-2015-0100 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: _____

Printed Name: _____

Title: _____

Phone No. _____

Engineer's Stamp

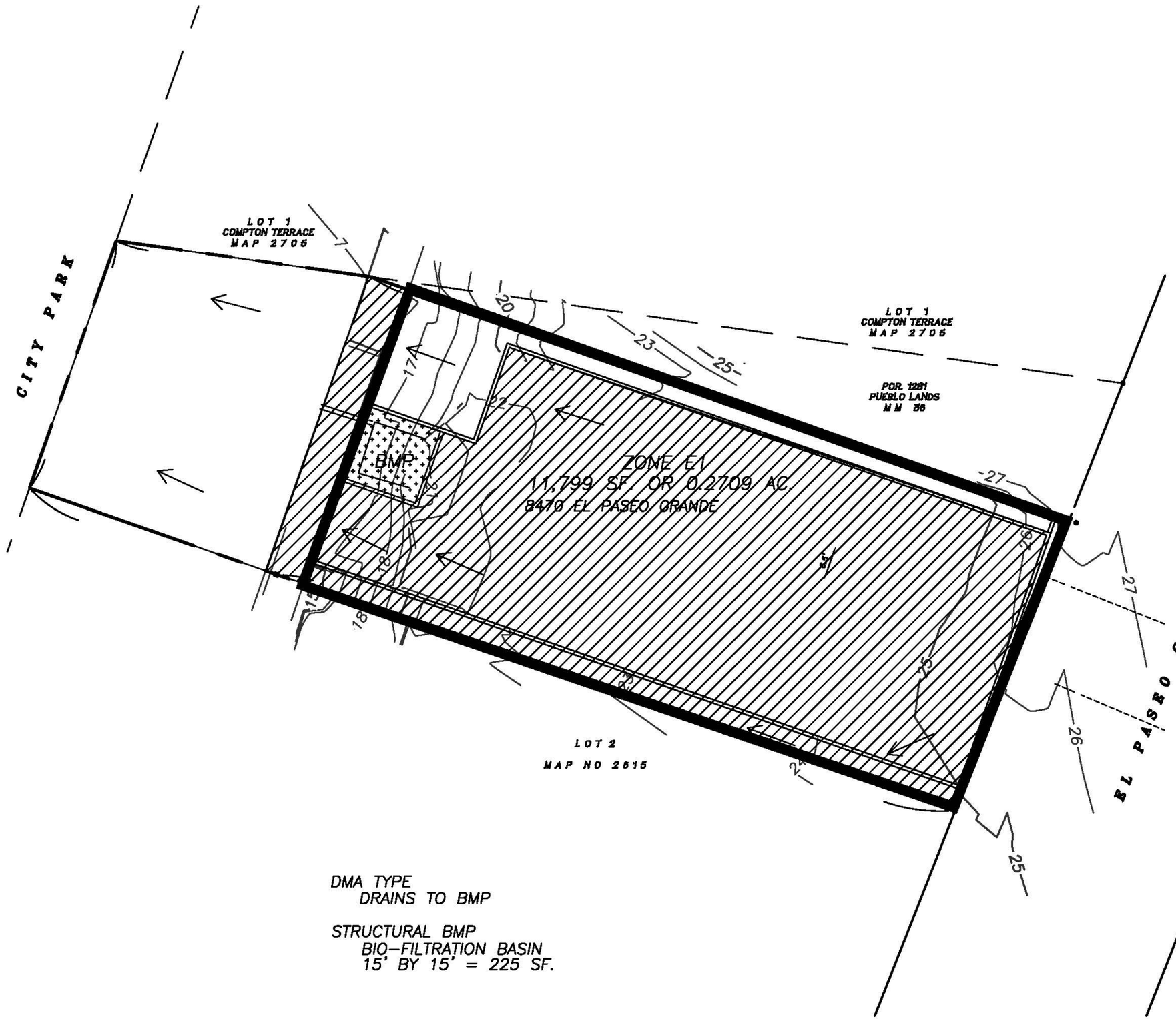
DS-563 (01-16)

Attachment 1:

Backup for PDP Pollutant Control Form

Attachment 1a:

DMA Exhibit



DMA EXHIBIT

PROPOSED CONDITIONS

SCALE 1" = 20'

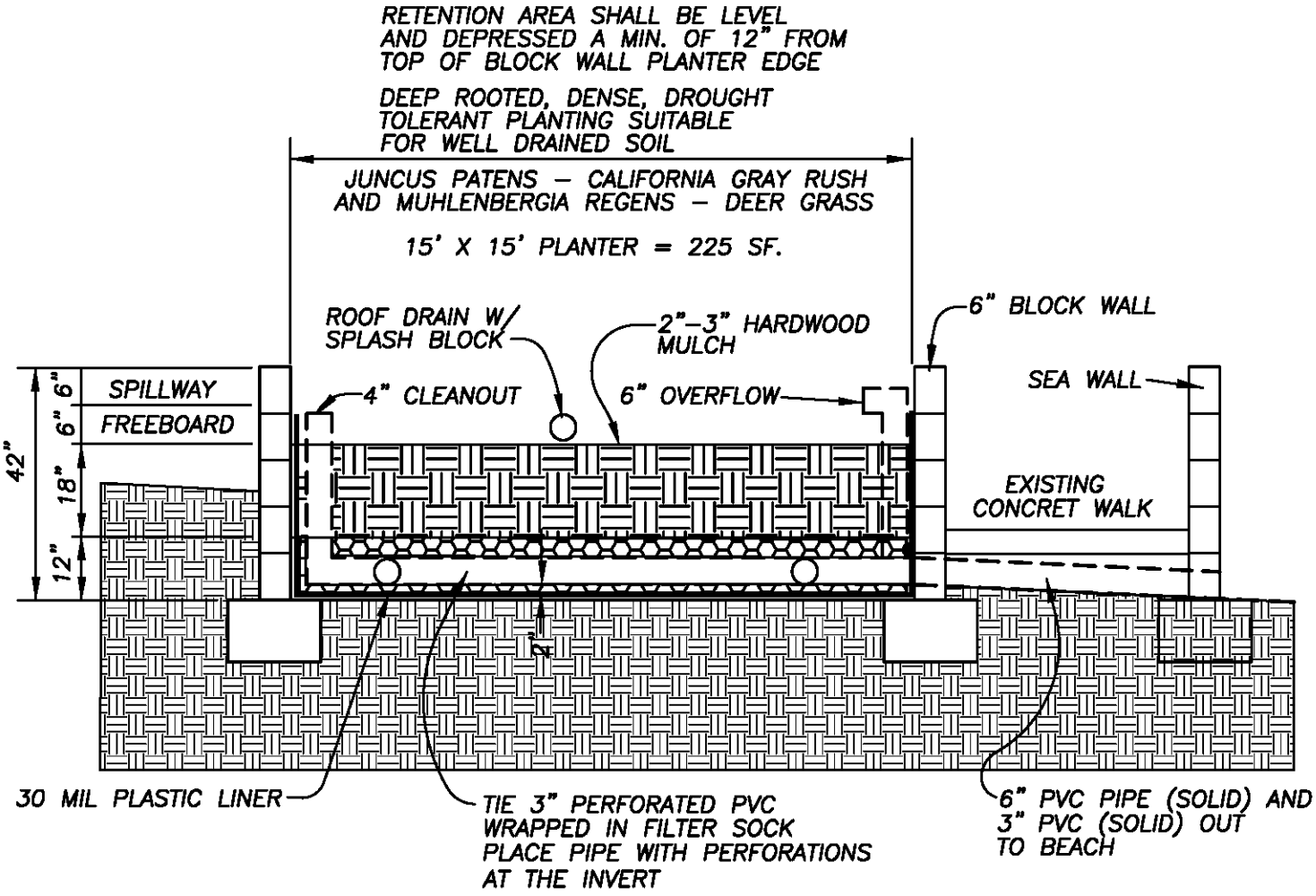
PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 7900 SF. OR 0.1814 AC.
67.0% OF SITE

PERVIOUS AREA
AREA = 3,899 SF. OR 0.0895 AC.
33.0% OF SITE

NOTES:

SOIL GROUP	D
DEPTH TO GROUND WATER	>20 FEET
EXISTING NATURAL HYDROLOGIC FEATURES	PACIFIC OCEAN
CRITICAL COARSE SEDIMENT YIELD AREA	NONE
EXISTING TOPOGRAPHY	FLAT SITE
EXISTING IMPERVIOUS AREA	NOT SHOWN
PROPOSED GRADING	←
PROPOSED IMPERVIOUS AREA	▨
DESIGN FEATURES	NONE
DMA BOUNDARIES	▬
DMA ID NUMBER/NAME	ZONE E1
POTENTIAL POLLUTANT SOURCE AREA	SHOWN



NOTES:

1. BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 18" DEEP "SAND LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT, THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

2. GRAVEL BASE SHALL BE 3/4 CRUSHED ROCK LAYER WITH A MINIMUM OF 12" DEEP. MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.

3. THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON 4% OF THE IMPERVIOUS SURFACE AREA OR ROOF AREA.

BIO-FILTRATION BASIN

Attachment 1b:

Tabular Summary of DMAs and Design Capture Volume Calculations

SURFACE TYPE	AREA (SF)	RUNOFF	TOTAL
ROOF AND HARDSCAPE	7900	0.9	7110
PERVIOUS AREA AND BEACH	3899	0.3	1170
	TOTAL 11,799		8280/11799
		COMBINED RUNOFF FACTOR	=.70

BEACH = 2722 SF

AREA THAT DRAINS TO THE BIO-FILTRATION BASIN = 9,077
TOTAL AREA MINUS BEACH.

POOL AREA =	800 SF	0.1	80
LANDSCAPING =	377 SF	0.3	113
IMPERVIOUS AREA =	7900 SF	0.9	7110
TOTAL	9,077 SF		7,303 = 0.81
			9,077

Attachment 1c:

Harvest and Use Feasibility Screening Checklist

Worksheet B.3-1. Harvest and Use Feasibility Screening

Harvest and Use Feasibility Screening	Worksheet B.3-1

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?
- ☐ Toilet and urinal flushing
- ☐ Landscape irrigation
- ☐ Other:_____

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.
[Provide a summary of calculations here]

```
TOILET AND URINAL FLUSHING:
UNITS X PEOPLE/UNIT X USE FACTOR FROM TABLE B3-1 IN GAL/36 HOURS X GAL/CF
   1         6           9.3                                        0.1335
=  7.5 CF/36 H
LANDSCAPING USE:
MODERATE USE FACTOR = 1470 G/AC PER TABLE B3-3 X LANDSCAPE AREA OF 0.0087
X GAL/CF O.1355    =   1.8 CF/36 H
```

3. Calculate the DCV using worksheet B-2.1.
[Provide a results here]

```
DCV = 337        HARVEST AND USE = 9.3 CF/36h
```

3a. Is the 36-hour demand greater than or equal to the DCV?	3b. Is the 36-hour demand greater than 0.25DCV but less than the full DCV?	3c. Is the 36-hour demand less than 0.25DCV?
Yes / No ⇨	Yes / No ⇨	Yes ⇩
⇩ NO	⇩ NO	
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. NOT FEASIBLE

Attachment 1d:

Categorization of Infiltration Feasibility Conditions

Attachment 1e:

Pollutant Control BMP Design Worksheets

Worksheet B.2-1 DCV

Design Capture Volume		Worksheet B.2-1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	.55	inches
2	Area tributary to BMP (s)	A=	2.064	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	.81	unitless
4	Trees Credit Volume	TCV=	-	cubic-feet
5	Rain barrels Credit Volume	RCV=	-	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	337	cubic-feet

San Diego County
85th Percentile Isopluvials

- 85th Percentile Rainfall in Inches
- Freeway
- Highway
- Major Road
- Street
- Municipal Boundary
- Water Body

Note:
The 85th percentile is a 24-hour rainfall total. It represents a value such that 85% of the observed 24-hour rainfall totals will be less than that value.

SITE

LUEG GIS

BIO-FILTRATION BASIN

Worksheet B.5-1: Simple Sizing Method for Biofiltration BMPs

Simple Sizing Method for Biofiltration BMPs		Worksheet B.5-1 (Page 1 of 2)	
1	Remaining DCV after implementing retention BMPs	337	cubic-feet
Partial Retention			
2	Infiltration rate from Worksheet D.5-1 if partial infiltration is feasible	–	in/hr.
3	Allowable drawdown time for aggregate storage below the underdrain	36	hours
4	Depth of runoff that can be infiltrated [Line 2 x Line 3]	0	inches
5	Aggregate pore space	0.40	in/in
6	Required depth of gravel below the underdrain [Line 4/ Line 5]	3	inches
7	Assumed surface area of the biofiltration BMP	200	sq-ft
8	Media retained pore storage	0.1	in/in
9	Volume retained by BMP [[Line 4 + (Line 12 x Line 8)]/12] x Line 7	30	cubic-feet
10	DCV that requires biofiltration [Line 1 – Line 9]	307	cubic-feet
BMP Parameters			
11	Surface Ponding [6 inch minimum, 12 inch maximum]	6	inches
12	Media Thickness [18 inches minimum], also add mulch layer thickness to this line for sizing calculations	18	inches
13	Aggregate Storage above underdrain invert (12 inches typical) – use 0 inches for sizing if the aggregate is not over the entire bottom surface area	12	inches
14	Freely drained pore storage	0.2	in/in
15	Media filtration rate to be used for sizing (5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate which will be less than 5 in/hr.)	5	in/hr.
Baseline Calculations			
16	Allowable Routing Time for sizing	6	hours
17	Depth filtered during storm [Line 15 x Line 16]	30	inches
18	Depth of Detention Storage [Line 11 + (Line 12 x Line 14) + (Line 13 x Line 5)]	14.4	inches
19	Total Depth Treated [Line 17 + Line 18]	44.4	inches

Note: Line 7 is used to estimate the amount of volume retained by the BMP. Update assumed surface area in Line 7 until its equivalent to the required biofiltration footprint (either Line 21 or Line 23)

Worksheet B.5-1: Simple Sizing Method for Biofiltration BMPs (continued)

Simple Sizing Method for Biofiltration BMPs		Worksheet B.5-1 (Page 2 of 2)	
Option 1 – Biofilter 1.5 times the DCV			
20	Required biofiltered volume [1.5 x Line 10]	461	cubic-feet
21	Required Footprint [Line 20/ Line 19] x 12	124	sq-ft
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
22	Required Storage (surface + pores) Volume [0.75 x Line 10]	230	cubic-feet
23	Required Footprint [Line 22/ Line 18] x 12	192	sq-ft
Footprint of the BMP			
24	Area draining to the BMP	.2087	sq-ft
25	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)	.81	
26	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Worksheet B.5-2, Line 11)	.03	
27	Minimum BMP Footprint [Line 24 x Line 25 x Line 26]	221	sq-ft
28	Footprint of the BMP = Maximum(Minimum(Line 21, Line 23), Line 27)	220	sq-ft
Check for Volume Reduction [Not applicable for No Infiltration Condition]			
29	Calculate the fraction of DCV retained in the BMP [Line 9/Line 1]		unitless
30	Minimum required fraction of DCV retained for partial infiltration condition	0.375	unitless
31	Is the retained DCV ≥ 0.375? If the answer is no increase the footprint sizing factor in Line 26 until the answer is yes for this criterion.	☐ Yes	☐ No

Note:

1. Line 7 is used to estimate the amount of volume retained by the BMP. Update assumed surface area in Line 7 until its equivalent to the required biofiltration footprint (either Line 21 or Line 23)
2. The DCV fraction of 0.375 is based on a 40% average annual percent capture and a 36-hour drawdown time.
3. The increase in footprint for volume reduction can be optimized using the approach presented in Appendix B.5.2. The optimized footprint cannot be smaller than the alternative minimum footprint sizing factor from Worksheet B.5-2.
4. If the proposed biofiltration BMP footprint is smaller than the alternative minimum footprint sizing factor from Worksheet B.5-2, but satisfies Option 1 or Option 2 sizing, it is considered a compact biofiltration BMP and may be allowed at the discretion of the City Engineer, if it meets the requirements in Appendix F.

Attachment 2:

Backup for PDP Hydromodification Control Measures

Attachment 2a:

Hydromodification Management Exhibit

This project drains directly into the Pacific Ocean, an exempt water body. Hydromodification is not required.

8470 EL PASEO GRANDE

Attachment 2b:

Management of Critical Coarse Sediment Yield Area

This project in not in a critical coarse sediment yield area.

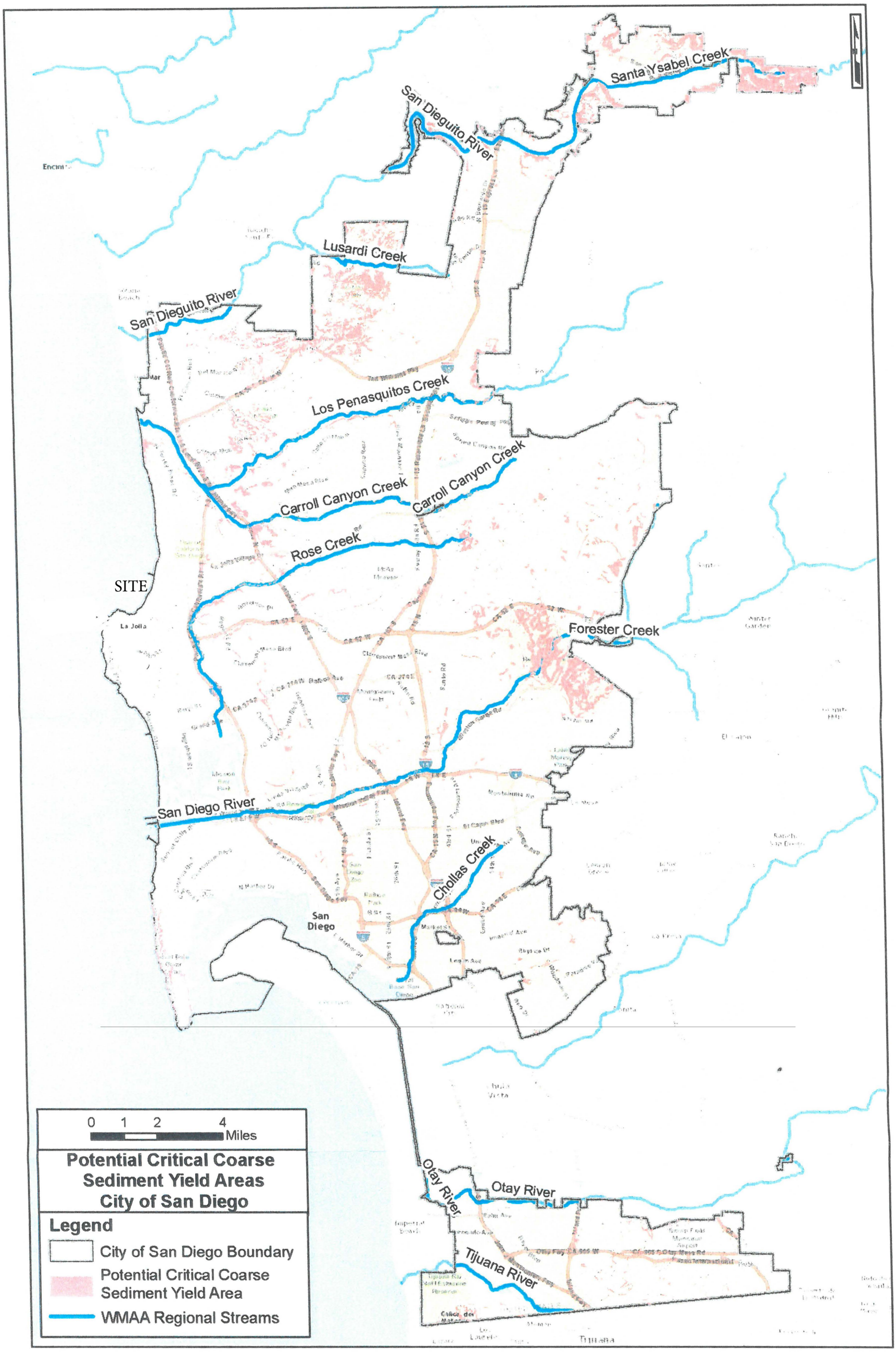


Figure H-G.2-1 Potential Critical Coarse Sediment Yield Areas

Attachment 2c:

Geomorphic Assessment of Receiving Channels

N/A

Attachment 2d:

Flow Control Facility Design and Structural BMP Drawdown Calculations

N/A

Attachment 2e:

Vector Control Plan

N/A

Attachment 3a:

Structural BMP Maintenance Thresholds and Actions

Attachment 3:

Structural BMP Maintenance Plan

STRUCTURAL BMP MAINTENANCE PLAN

BIO-FILTRATION BASIN:

BIO-FILTRATION BASIN REQUIRES REGULAR PLANT, SOIL, AND MULCH LAYER MAINTENANCE TO ENSURE OPTIMUM INFILTRATION, STORAGE, AND POLLUTANT-REMOVAL CAPABILITIES. IN GENERAL, BIO-FILTRATION MAINTENANCE REQUIREMENTS ARE TYPICAL LANDSCAPE CARE PROCEDURES AND CONSIST OF THE FOLLOWING:

1. WATERING: PLANTS MUST BE SELECTED TO BE DROUGHT TOLERANT AND NOT REQUIRE WATERING AFTER ESTABLISHMENT (2 TO 3 YEARS). WATERING COULD BE REQUIRED DURING PROLONGED DRY PERIODS AFTER PLANTS ARE ESTABLISHED.

2. EROSION CONTROL: INSPECT FLOW ENTRANCES, PONDING AREA, AND SURFACE OVERFLOW AREAS PERIODICALLY DURING THE RAINY SEASON, AND REPLACE SOIL, PLANT MATERIAL, OR MULCH LAYER IN AREAS IF EROSION HAS OCCURRED FOR A BIO-FILTRATION BASIN. PROPERLY DESIGNED FACILITIES WITH APPROPRIATE FLOW VELOCITIES SHOULD NOT HAVE EROSION PROBLEMS EXCEPT PERHAPS IN EXTREME EVENTS. IF EROSION PROBLEMS OCCUR, THE FOLLOWING MUST BE REASSESSED:
   (1) FLOW VELOCITIES AND GRADIENTS WITHIN THE CELL, AND
   (2) FLOW DISSIPATION AND EROSION PROTECTION STRATEGIES IN THE PRETREATMENT AREA AND FLOW ENTRANCE. IF SEDIMENT IS DEPOSITED IN THE BIO-RETENTION AREA, IMMEDIATELY DETERMINE THE SOURCE WITHIN THE CONTRIBUTING AREA, STABILIZE, AND REMOVE EXCESS SURFACE DEPOSITS.

3. INLET: THE BED OF THE BIO-FILTRATION BASIN SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO CHECK FOR SEDIMENT ACCUMULATION AND EROSION. SEDIMENT CAN ACCUMULATE ESPECIALLY AT INLETS WHERE CURB CUTS OR BYPASS STRUCTURES ARE USED AND SHOULD BE INSPECTED REGULARLY. ANY ACCUMULATED SEDIMENT THAT IMPEDES FLOW INTO THE BIO-FILTRATION BASING SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

4. OVERFLOW AND UNDERDRAINS: SEDIMENT ACCUMULATION IN THE OVERFLOW DEVICE OR UNDERDRAIN SYSTEM CAN CAUSE PROLONGED PONDING AND POTENTIAL FLOODING. EXCESS PONDING CAN HAVE ADVERSE EFFECTS ON VEGETATION AND VECTOR CONTROL. OVERFLOW AND UNDERDRAIN SYSTEMS SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO REMOVE SEDIMENT AND PREVENT MULCH ACCUMULATION AROUND THE OVERFLOW. THE UNDERDRAIN SYSTEM SHOULD BE DESIGNED SO THAT IT CAN BE FLUSHED AND CLEANED AS NEEDED. IF WATER IS PONDED IN THE BIO-FILTRATION BASIN FOR MORE THAN 72 HOURS, THE UNDERDRAIN SYSTEM SHOULD BE FLUSHED WITH CLEAN WATER UNTIL PROPER INFILTRATION IS RESTORED.

5. PLANT MATERIAL: DEPENDING ON AESTHETIC REQUIREMENTS, OCCASIONAL PRUNING AND REMOVING DEAD PLANT MATERIAL MIGHT BE NECESSARY. REPLACE ALL DEAD PLANTS, AND IF SPECIFIC PLANTS HAVE A HIGH MORTALITY RATE, ASSESS THE CAUSE AND, IF NECESSARY, REPLACE WITH MORE APPROPRIATE SPECIES. PERIODIC WEEDING IS NECESSARY UNTIL PLANTS ARE ESTABLISHED. THE WEEDING SCHEDULE CAN BECOME LESS FREQUENT IF THE APPROPRIATE PLANT SPECIES AND PLANTING DENSITY HAVE BEEN USED AND, AS A RESULT, UNDESIRABLE PLANTS ARE EXCLUDED.

6. NUTRIENT AND PESTICIDES: THE SOIL MIX AND PLANTS ARE SELECTED FOR OPTIMUM FERTILITY, PLANT ESTABLISHMENT, AND GROWTH. NUTRIENT AND PESTICIDE INPUTS SHOULD NOT BE REQUIRED AND CAN DEGRADE THE POLLUTANT PROCESSING CAPABILITY OF THE BIO-FILTRATION BASIN AND CONTRIBUTE POLLUTANT LOADS TO RECEIVING WATERS. BY DESIGN, BIO-FILTRATION BASIN ARE LOCATED IN AREAS WHERE PHOSPHOROUS AND NITROGEN LEVELS ARE OFTEN ELEVATED, AND THEY SHOULD NOT BE LIMITING NUTRIENTS. IF IN QUESTION, HAVE THE SOIL ANALYZED FOR FERTILITY.

7. MULCH: REPLACE MULCH ANNUALLY IN BIO-FILTRATION BASIN WHERE HEAVY METAL DEPOSITION IS OBSERVED. IN AREAS WHERE METAL DEPOSITION IS NOT A CONCERN, ADD MULCH AS NEEDED TO MAINTAIN A 2- TO 3-INCH DEPTH. MULCH SHOULD BE REPLACED EVERY 2 TO 5 YEARS.

8. SOIL: SOIL MIXES FOR BIO-FILTRATION BASIN ARE DESIGNED TO MAINTAIN LONG-TERM FERTILITY AND POLLUTANT PROCESSING CAPABILITY. ESTIMATES FROM METAL ATTENUATION RESEARCH SUGGEST THAT METAL ACCUMULATION SHOULD NOT PRESENT AN ENVIRONMENTAL CONCERN FOR AT LEAST 20 YEARS IN THE BIO-FILTRATION BASIN. REPLACING MULCH IN THE BIO-FILTRATION BASIN WHERE HEAVY METAL DEPOSITION IS LIKELY PROVIDES AN ADDITIONAL LEVEL OF PROTECTION FOR PROLONGED PERFORMANCE. IF IN QUESTION, HAVE THE SOIL ANALYZED FOR FERTILITY AND POLLUTANT LEVELS.

Attachment 3b:

Draft Maintenance Agreement

THE CITY OF SAN DIEGO

RECORDING REQUESTED BY:
THE CITY OF SAN DIEGO
AND WHEN RECORDED MAIL TO:

David Lessnick

1900 Western Avenue

Las Vegas, NV 89102

(THIS SPACE IS FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

APPROVAL NUMBER:	ASSESSORS PARCEL NUMBER:	PROJECT NUMBER:
	346-050-11	

This agreement is made by and between the City of San Diego, a municipal corporation [City] and D Marin Development, the owner or duly authorized representative of the owner [Property Owner] of property located at 8470 El Paseo Grande, San Diego, CA

(PROPERTY ADDRESS)

and more particularly described as: Lot 1 of Map No. 2615

(LEGAL DESCRIPTION OF PROPERTY)

in the City of San Diego, County of San Diego, State of California.

Property Owner is required pursuant to the City of San Diego Municipal Code, Chapter 4, Article 3, Division 3, Chapter 14, Article 2, Division 2, and the Land Development Manual, Storm Water Standards to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Storm Water Best Management Practices [Permanent Storm Water BMP's] prior to the issuance of construction permits. The Maintenance Agreement is intended to ensure the establishment and maintenance of Permanent Storm Water BMP's onsite, as described in the attached exhibit(s), the project's Water Quality Technical Report [WQTR] and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

Property Owner wishes to obtain a building or engineering permit according to the Grading and/or Improvement Plan Drawing No(s) or Building Plan Project No(s): _____.

Continued on Page 2

NOW, THEREFORE, the parties agree as follows:

1. Property Owner shall have prepared, or if qualified, shall prepare an Operation and Maintenance Procedure [OMP] for Permanent Storm Water BMP's, satisfactory to the City, according to the attached exhibit(s), consistent with the Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

2. Property Owner shall install, maintain and repair or replace all Permanent Storm Water BMP's within their property, according to the OMP guidelines as described in the attached exhibit(s), the project's WQTR and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s) _____.

3. Property Owner shall maintain operation and maintenance records for at least five (5) years. These records shall be made available to the City for inspection upon request at any time.

This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of San Diego and by Property Owner in San Diego, California.

See Attached Exhibit(s): _____

_____
(Owner Signature)

_____
(Print Name and Title)

_____
(Company/Organization Name)

05/18/2017
(Date)

THE CITY OF SAN DIEGO

APPROVED:

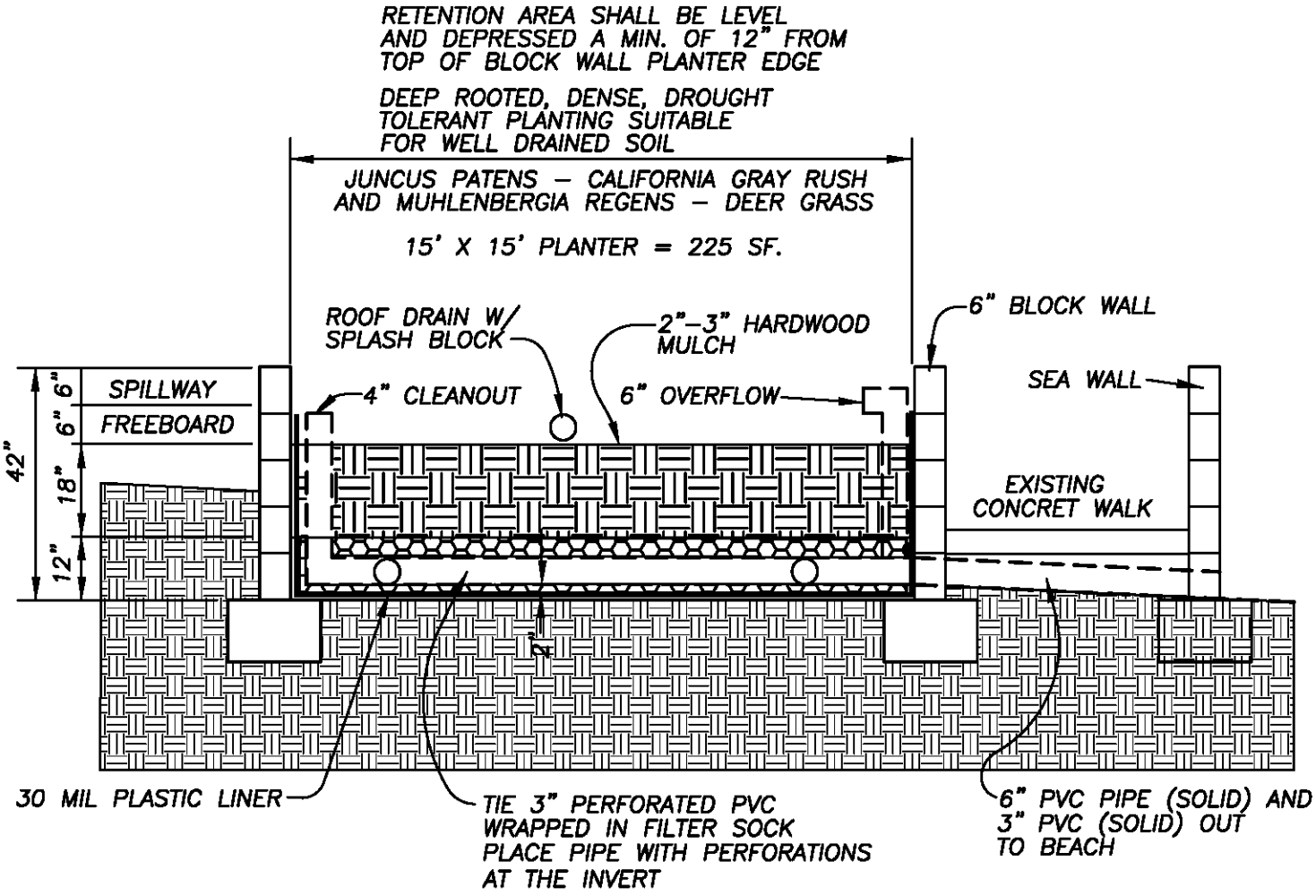
_____
(City Control Engineer Signature)

_____
(Print Name)

_____
(Date)

NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ.

Reset Button Page 2



NOTES:

1. BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 18" DEEP "SAND LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT, THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

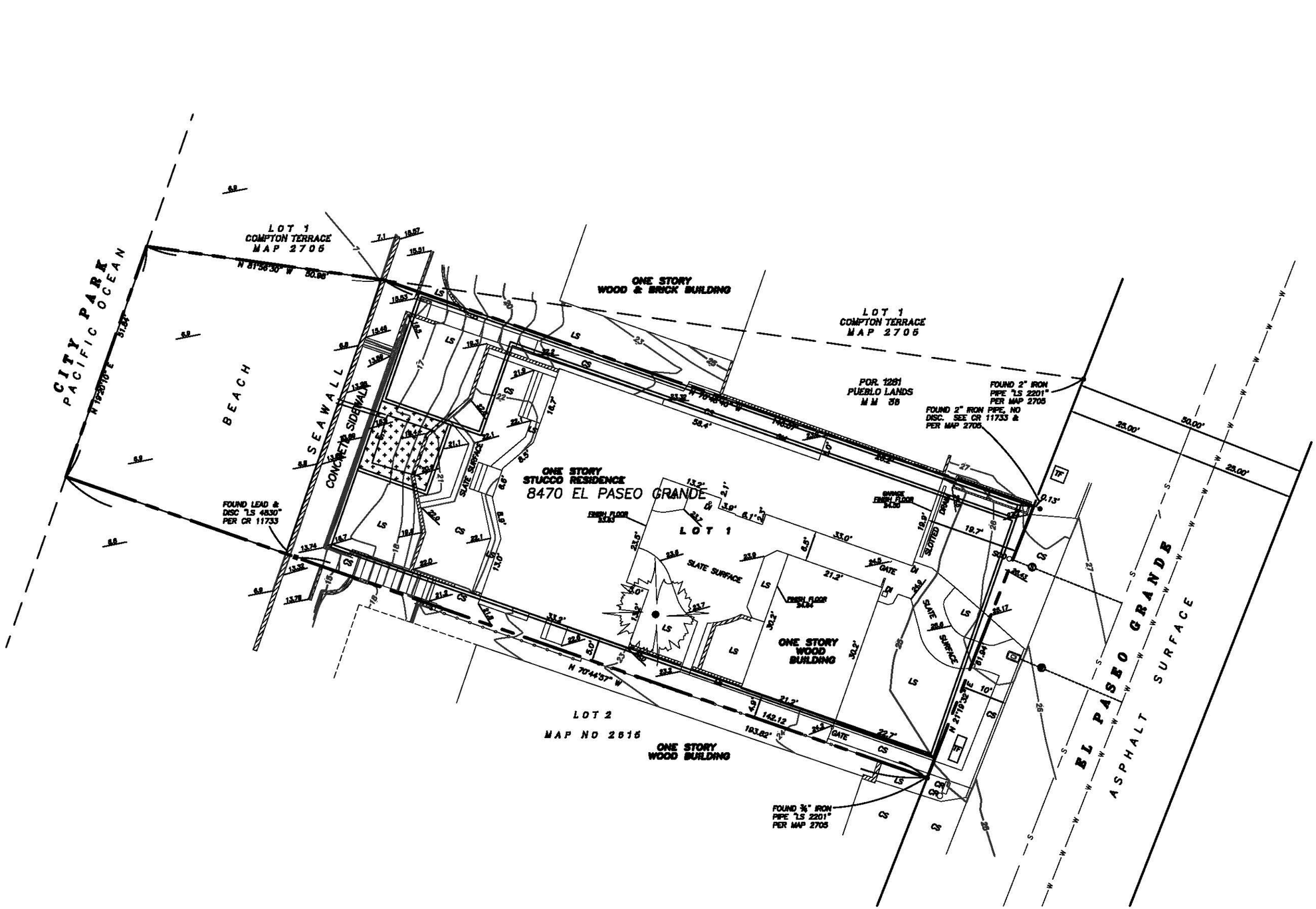
2. GRAVEL BASE SHALL BE 3/4 CRUSHED ROCK LAYER WITH A MINIMUM OF 12" DEEP. MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.

3. THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON 4% OF THE IMPERVIOUS SURFACE AREA OR ROOF AREA.

BIO-FILTRATION BASIN

Attachment 4:

Copy of Plan Sheets Showing Permanent Storm Water BMPs



GRAPHIC SCALE

20' 0 5' 10' 20' 40'

(IN FEET)

1 INCH = 10' FT.

LEGAL DESCRIPTION:

LOT 1 OF OCEAN TERRACE, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2615, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JANUARY 20, 1950.

BASIS OF ELEVATION:

CITY OF SAN DIEGO BENCHMARK:

NORTHEASTERLY BRASS PLUG LOCATED AT THE INTERSECTION OF EL PASEO GRANDE AND CALLE FRESCOTA.
ELEVATION = 10.535 M.S.L. NGVD29

LEGEND:

■	INDICATES WATER METER
□GM	INDICATES GAS METER
DI	INDICATES DRAINAGE INLET
TF	INDICATES ELECTRIC TRANSFORMER/FUSEBOX
CS	INDICATES CONCRETE SURFACE
LS	INDICATES LANDSCAPE SURFACE
CR	INDICATES COMMUNICATION RISER
SCO	INDICATES SEWER CLEANOUT
———	INDICATES WALL
———	INDICATES PROPERTY LINE
-o-o-o-	INDICATES WOOD FENCE
—(S)—	INDICATES SEWER LATERAL
—(W)—	INDICATES WATER SERVICE
—W—	INDICATES WATER LINE
—S—	INDICATES SEWER LINE

VICINITY MAP
NO SCALE

PROFESSIONAL LAND SURVEYOR
ROBERT J. BATEMAN
No. 7046
CALIFORNIA

Robert J. Bateman
ROBERT J. BATEMAN, P.L.S. 7046

TOPOGRAPHICAL SURVEY

For the exclusive use of:
D. MARIN DEVELOPMENT
1900 WESTERN AVENUE
LAS VEGAS, NV 89102

San Diego Land Surveying & Engineering, Inc.
9666 Chesapeake Drive, Suite 440, San Diego, California 92123-1354
Phone: (858) 565-8382 Fax: (858) 565-4354

Date: 06/29/2016	Revised:	Revised:
Scale: 1"=10'	Drawn by: W.P.T.	Sheet 1 of 1 Sheet
Drawing: El Paseo Grande 8470-TS		A.P.N. 346-050-01

Attachment 5:

Project's Drainage Report

Attachment 6:

Project's Geotechnical and Groundwater Investigation Report

Attachment 1:

Backup for PDP Pollutant Control Form

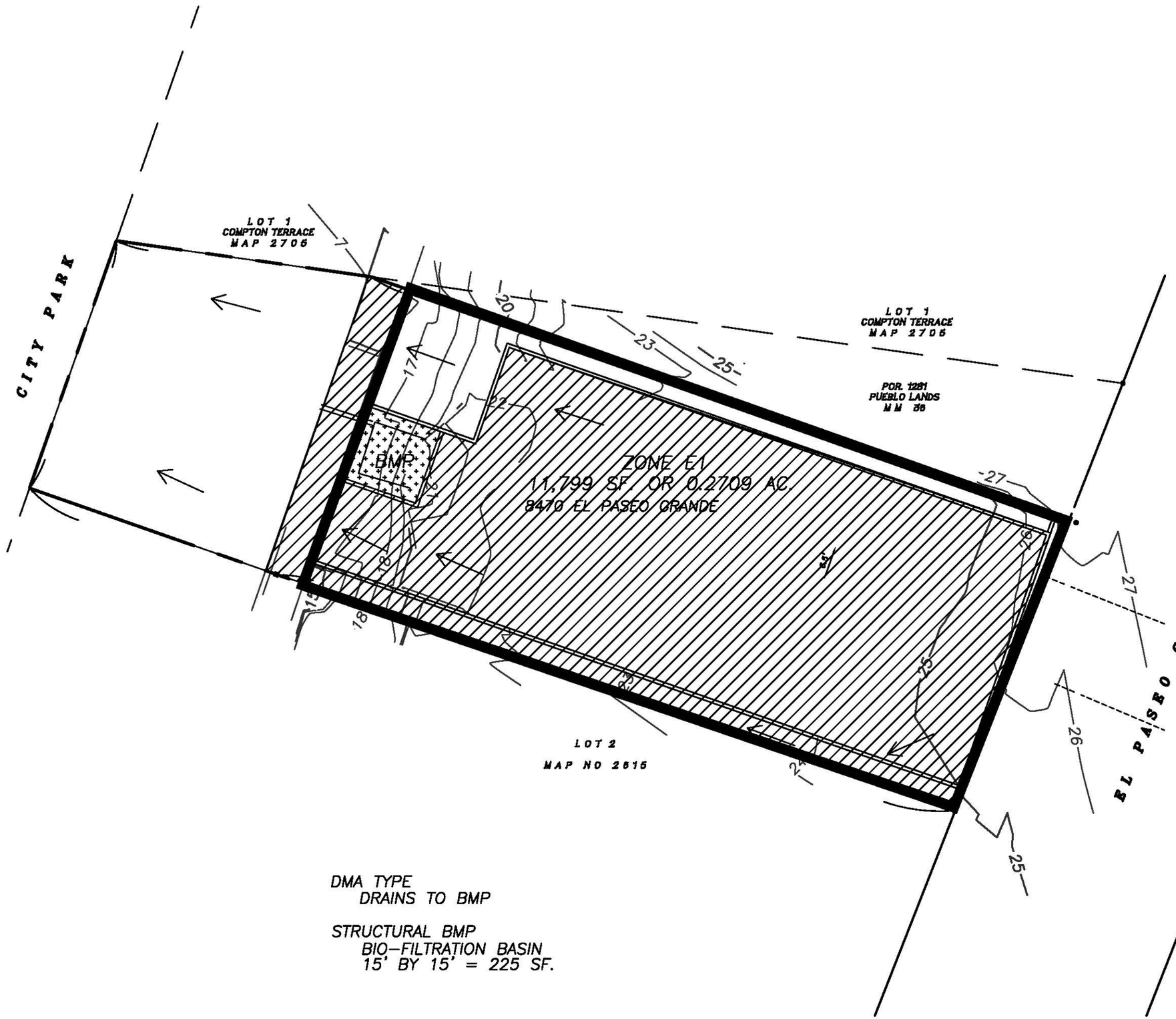
Attachment 1a:

DMA Exhibit

DMA EXHIBIT

PROPOSED CONDITIONS

SCALE 1" = 20'



PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 7900 SF. OR 0.1814 AC.
67.0% OF SITE

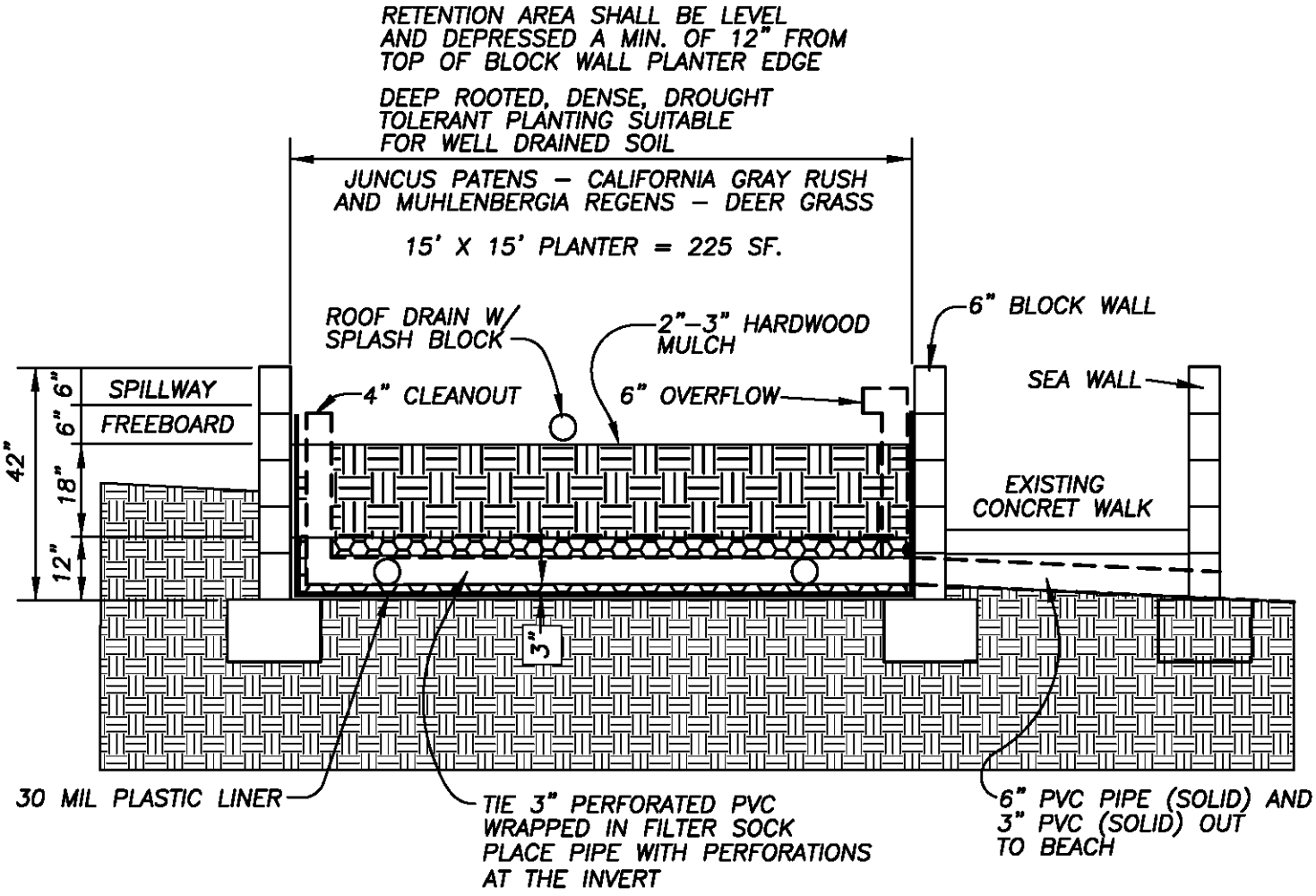
PERVIOUS AREA
AREA = 3,899 SF. OR 0.0895 AC.
33.0% OF SITE

DMA TYPE
DRAINS TO BMP

STRUCTURAL BMP
BIO-FILTRATION BASIN
15' BY 15' = 225 SF.

NOTES:

SOIL GROUP	D
DEPTH TO GROUND WATER	>20 FEET
EXISTING NATURAL HYDROLOGIC FEATURES	PACIFIC OCEAN
CRITICAL COARSE SEDIMENT YIELD AREA	NONE
EXISTING TOPOGRAPHY	FLAT SITE
EXISTING IMPERVIOUS AREA	NOT SHOWN
PROPOSED GRADING	←
PROPOSED IMPERVIOUS AREA	▨
DESIGN FEATURES	NONE
DMA BOUNDARIES	▬
DMA ID NUMBER/NAME	ZONE E1
POTENTIAL POLLUTANT SOURCE AREA	SHOWN



NOTES:

1. BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 18" DEEP "SAND LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT, THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

2. GRAVEL BASE SHALL BE 3/4 CRUSHED ROCK LAYER WITH A MINIMUM OF 12" DEEP. MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.

3. THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON 4% OF THE IMPERVIOUS SURFACE AREA OR ROOF AREA.

BIO-FILTRATION BASIN

Attachment 1b:

Tabular Summary of DMAs and Design Capture Volume Calculations

SURFACE TYPE	AREA (SF)	RUNOFF	TOTAL
ROOF AND HARDSCAPE	7900	0.9	7110
PERVIOUS AREA AND BEACH	3899	0.3	1170
	TOTAL 11,799		8280/11799
		COMBINED RUNOFF FACTOR	=.70

BEACH = 2722 SF

AREA THAT DRAINS TO THE BIO-FILTRATION BASIN = 9,077
TOTAL AREA MINUS BEACH.

POOL AREA =	800 SF	0.1	80
LANDSCAPING =	377 SF	0.3	113
IMPERVIOUS AREA =	7900 SF	0.9	7110
TOTAL	9,077 SF		7,303 = 0.81
			9,077

Attachment 1c:

Harvest and Use Feasibility Screening Checklist

Worksheet B.3-1. Harvest and Use Feasibility Screening

Harvest and Use Feasibility Screening	Worksheet B.3-1

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?
- ☐ Toilet and urinal flushing
- ☐ Landscape irrigation
- ☐ Other:_____

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.
[Provide a summary of calculations here]

```
TOILET AND URINAL FLUSHING:
UNITS X PEOPLE/UNIT X USE FACTOR FROM TABLE B3-1 IN GAL/36 HOURS X GAL/CF
   1         6           9.3                                        0.1335
=  7.5 CF/36 H
LANDSCAPING USE:
MODERATE USE FACTOR = 1470 G/AC PER TABLE B3-3 X LANDSCAPE AREA OF 0.0087
X GAL/CF O.1355    =   1.8 CF/36 H
```

3. Calculate the DCV using worksheet B-2.1.
[Provide a results here]

```
DCV = 337        HARVEST AND USE = 9.3 CF/36h
```

3a. Is the 36-hour demand greater than or equal to the DCV?	3b. Is the 36-hour demand greater than 0.25DCV but less than the full DCV?	3c. Is the 36-hour demand less than 0.25DCV?
Yes / No ⇨	Yes / No ⇨	Yes ⇩
⇩ NO	⇩ NO	
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. NOT FEASIBLE

Attachment 1d:

Categorization of Infiltration Feasibility Conditions

Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	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.		X
Provide basis: Calculated infiltration rate is 0.10 inches per hour See Attached geotechnical review in Attachment 6. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	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.	X	
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	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.		X
Provide basis: Ground water table less than 10 feet below the project. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	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.	X	
Provide basis: Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration 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	none	

*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 City Engineer to substantiate findings.

Worksheet C.4-1 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.	X	
Provide basis: 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.			
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.	X	
Provide basis: 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.			

Worksheet C.4-1 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.		X
Provide basis: 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.			
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.	X	
Provide basis: 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.			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration. 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.		

*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 City Engineer to substantiate findings

Attachment 1e:

Pollutant Control BMP Design Worksheets

Worksheet B.2-1 DCV

Design Capture Volume		Worksheet B.2-1		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	.55	inches
2	Area tributary to BMP (s)	A=	2.064	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	.81	unitless
4	Trees Credit Volume	TCV=	-	cubic-feet
5	Rain barrels Credit Volume	RCV=	-	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	337	cubic-feet

San Diego County
85th Percentile Isopluvials

- 85th Percentile Rainfall in Inches
- Freeway
- Highway
- Major Road
- Street
- Municipal Boundary
- Water Body

Note:
The 85th percentile is a 24-hour rainfall total. It represents a value such that 85% of the observed 24-hour rainfall totals will be less than that value.

SITE

LUEG GIS

BIO-FILTRATION BASIN

Worksheet B.5-1: Simple Sizing Method for Biofiltration BMPs

Simple Sizing Method for Biofiltration BMPs		Worksheet B.5-1 (Page 1 of 2)	
1	Remaining DCV after implementing retention BMPs	337	cubic-feet
Partial Retention			
2	Infiltration rate from Worksheet D.5-1 if partial infiltration is feasible	–	in/hr.
3	Allowable drawdown time for aggregate storage below the underdrain	36	hours
4	Depth of runoff that can be infiltrated [Line 2 x Line 3]	0	inches
5	Aggregate pore space	0.40	in/in
6	Required depth of gravel below the underdrain [Line 4/ Line 5]	3	inches
7	Assumed surface area of the biofiltration BMP	200	sq-ft
8	Media retained pore storage	0.1	in/in
9	Volume retained by BMP [[Line 4 + (Line 12 x Line 8)]/12] x Line 7	30	cubic-feet
10	DCV that requires biofiltration [Line 1 – Line 9]	307	cubic-feet
BMP Parameters			
11	Surface Ponding [6 inch minimum, 12 inch maximum]	6	inches
12	Media Thickness [18 inches minimum], also add mulch layer thickness to this line for sizing calculations	18	inches
13	Aggregate Storage above underdrain invert (12 inches typical) – use 0 inches for sizing if the aggregate is not over the entire bottom surface area	12	inches
14	Freely drained pore storage	0.2	in/in
15	Media filtration rate to be used for sizing (5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate which will be less than 5 in/hr.)	5	in/hr.
Baseline Calculations			
16	Allowable Routing Time for sizing	6	hours
17	Depth filtered during storm [Line 15 x Line 16]	30	inches
18	Depth of Detention Storage [Line 11 + (Line 12 x Line 14) + (Line 13 x Line 5)]	14.4	inches
19	Total Depth Treated [Line 17 + Line 18]	44.4	inches

Note: Line 7 is used to estimate the amount of volume retained by the BMP. Update assumed surface area in Line 7 until its equivalent to the required biofiltration footprint (either Line 21 or Line 23)

Worksheet B.5-1: Simple Sizing Method for Biofiltration BMPs (continued)

Simple Sizing Method for Biofiltration BMPs		Worksheet B.5-1 (Page 2 of 2)	
Option 1 – Biofilter 1.5 times the DCV			
20	Required biofiltered volume [1.5 x Line 10]	461	cubic-feet
21	Required Footprint [Line 20/ Line 19] x 12	124	sq-ft
Option 2 - Store 0.75 of remaining DCV in pores and ponding			
22	Required Storage (surface + pores) Volume [0.75 x Line 10]	230	cubic-feet
23	Required Footprint [Line 22/ Line 18] x 12	192	sq-ft
Footprint of the BMP			
24	Area draining to the BMP	.2087	sq-ft
25	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)	.81	
26	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Worksheet B.5-2, Line 11)	.03	
27	Minimum BMP Footprint [Line 24 x Line 25 x Line 26]	221	sq-ft
28	Footprint of the BMP = Maximum(Minimum(Line 21, Line 23), Line 27)	220	sq-ft
Check for Volume Reduction [Not applicable for No Infiltration Condition]			
29	Calculate the fraction of DCV retained in the BMP [Line 9/Line 1]		unitless
30	Minimum required fraction of DCV retained for partial infiltration condition	0.375	unitless
31	Is the retained DCV ≥ 0.375? If the answer is no increase the footprint sizing factor in Line 26 until the answer is yes for this criterion.	☐ Yes	☐ No

Note:

1. Line 7 is used to estimate the amount of volume retained by the BMP. Update assumed surface area in Line 7 until its equivalent to the required biofiltration footprint (either Line 21 or Line 23)
2. The DCV fraction of 0.375 is based on a 40% average annual percent capture and a 36-hour drawdown time.
3. The increase in footprint for volume reduction can be optimized using the approach presented in Appendix B.5.2. The optimized footprint cannot be smaller than the alternative minimum footprint sizing factor from Worksheet B.5-2.
4. If the proposed biofiltration BMP footprint is smaller than the alternative minimum footprint sizing factor from Worksheet B.5-2, but satisfies Option 1 or Option 2 sizing, it is considered a compact biofiltration BMP and may be allowed at the discretion of the City Engineer, if it meets the requirements in Appendix F.

E.13. BF-1 Biofiltration

Location: 43rd Street and Logan Avenue, San Diego, California

MS4 Permit Category
Biofiltration

Manual Category
Biofiltration

Applicable Performance Standard
Pollutant Control
Flow Control

Primary Benefits

Treatment
Volume Reduction (Incidental)
Peak Flow Attenuation (Optional)

Description

Biofiltration (Bioretention with underdrain) facilities are vegetated surface water systems that filter water through vegetation, and soil or engineered media prior to discharge via underdrain or overflow to the downstream conveyance system. Bioretention with underdrain facilities are commonly incorporated into the site within parking lot landscaping, along roadsides, and in open spaces. Because these types of facilities have limited or no infiltration, they are typically designed to provide enough hydraulic head to move flows through the underdrain connection to the storm drain system. Treatment is achieved through filtration, sedimentation, sorption, biochemical processes and plant uptake.

Typical bioretention with underdrain components include:

- Inflow distribution mechanisms (e.g, perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on expected climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer (aka choking layer) consisting of aggregate to prevent the migration of fines into uncompacted native soils or the aggregate storage layer
- Aggregate storage layer with underdrain(s)
- Impermeable liner or uncompacted native soils at the bottom of the facility
- Overflow structure

Design Adaptations for Project Goals

Biofiltration Treatment BMP for storm water pollutant control. The system is lined or un-lined to provide incidental infiltration, and an underdrain is provided at the bottom to carry away filtered runoff. This configuration is considered to provide biofiltration treatment via flow through the media layer. Storage provided above the underdrain within surface ponding, media, and aggregate storage is considered included in the biofiltration treatment volume. Saturated storage within the aggregate storage layer can be added to this design by raising the underdrain above the bottom of the aggregate storage layer or via an internal weir structure designed to maintain a specific water level elevation.

Integrated storm water flow control and pollutant control configuration. The system can be designed to provide flow rate and duration control by primarily providing increased surface ponding and/or having a deeper aggregate storage layer above the underdrain. This will allow for significant detention storage, which can be controlled via inclusion of an outlet structure at the downstream end of the underdrain.

Design Criteria and Considerations

Bioretention with underdrain must meet the following design criteria. Deviations from the below criteria may be approved at the discretion of the City Engineer if it is determined to be appropriate:

	Siting and Design	Intent/Rationale
☒	Placement observes geotechnical recommendations regarding potential hazards (e.g., slope stability, landslides, liquefaction zones) and setbacks (e.g., slopes, foundations, utilities).	Must not negatively impact existing site geotechnical concerns.
☒	An impermeable liner or other hydraulic restriction layer is included if site constraints indicate that infiltration or lateral flows should not be allowed.	Lining prevents storm water from impacting groundwater and/or sensitive environmental or geotechnical features. Incidental infiltration, when allowable, can aid in pollutant removal and groundwater recharge.
☒	Contributing tributary area shall be ≤ 5 acres (≤ 1 acre preferred).	Bigger BMPs require additional design features for proper performance. Contributing tributary area greater than 5 acres may be allowed at the discretion of the City Engineer if the following conditions are met: 1) incorporate design features (e.g. flow spreaders) to minimizing short circuiting of flows in the BMP and 2) incorporate additional design features requested by the City Engineer for proper performance of the regional BMP.
☒	Finish grade of the facility is ≤ 2%.	Flatter surfaces reduce erosion and channelization within the facility.
Surface Ponding		

	Siting and Design	Intent/Rationale
☒	Media maintains a minimum filtration rate of 5 in/hr over lifetime of facility. Additional Criteria for media hydraulic conductivity described in the bioretention soil media model specification (Appendix F.4)	A filtration rate of at least 5 inches per hour allows soil to drain between events. The initial rate should be higher than long term target rate to account for clogging over time. However an excessively high initial rate can have a negative impact on treatment performance, therefore an upper limit is needed.
☒	Media is a minimum 18 inches deep, meeting the following media specifications: Model biorention soil media specification provided in Appendix F.4 or County of San Diego Low Impact Development Handbook: Appendix G - Bioretention Soil Specification (June 2014, unless superseded by more recent edition). Alternatively, for proprietary designs and custom media mixes not meeting the media specifications, the media meets the pollutant treatment performance criteria in Section F.1.	A deep media layer provides additional filtration and supports plants with deeper roots. Standard specifications shall be followed. For non-standard or proprietary designs, compliance with Appendix F.1 ensures that adequate treatment performance will be provided.
☒	Media surface area is 3% of contributing area times adjusted runoff factor or greater. Unless demonstrated that the BMP surface area can be smaller than 3%.	Greater surface area to tributary area ratios: a) maximizes volume retention as required by the MS4 Permit and b) decrease loading rates per square foot and therefore increase longevity. Adjusted runoff factor is to account for site design BMPs implemented upstream of the BMP (such as rain barrels, impervious area dispersion, etc.). Refer to Appendix B.2 guidance. Use Worksheet B.5-1 Line 26 to estimate the minimum surface area required per this criteria.
☐ N/A	Where receiving waters are impaired or have a TMDL for nutrients, the system is designed with nutrient sensitive media design (see fact sheet BF-2).	Potential for pollutant export is partly a function of media composition; media design must minimize potential for export of nutrients, particularly where receiving waters are impaired for nutrients.
Filter Course Layer		
☐	A filter course is used to prevent migration of fines through layers of the facility. Filter fabric is not used. NOT USED	Migration of media can cause clogging of the aggregate storage layer void spaces or subgrade and can result in poor water quality performance for turbidity and suspended solids. Filter fabric is more likely to clog.

	Siting and Design	Intent/Rationale
☒	Underdrains are made of slotted, PVC pipe conforming to ASTM D 3034 or equivalent or corrugated, HDPE pipe conforming to AASHTO 252M or equivalent.	Slotted underdrains provide greater intake capacity, clog resistant drainage, and reduced entrance velocity into the pipe, thereby reducing the chances of solids migration.
☐ N/A	An underdrain cleanout with a minimum 8-inch diameter and lockable cap is placed every 50 feet as required based on underdrain length. LESS THAN 50 FEET IN SIZE	Properly spaced cleanouts will facilitate underdrain maintenance.
☒	Overflow is safely conveyed to a downstream storm drain system or discharge point Size overflow structure to pass 100-year peak flow for on-line infiltration basins and water quality peak flow for off-line basins.	Planning for overflow lessens the risk of property damage due to flooding.

Conceptual Design and Sizing Approach for Storm Water Pollutant Control Only

To design bioretention with underdrain for storm water pollutant control only (no flow control required), the following steps should be taken:

1. Verify that siting and design criteria have been met, including placement requirements, contributing tributary area, maximum side and finish grade slopes, and the recommended media surface area tributary ratio.
2. Calculate the DCV per Appendix B based on expected site design runoff for tributary areas.
3. Use the sizing worksheet presented in Appendix B.5 to size biofiltration BMPs.

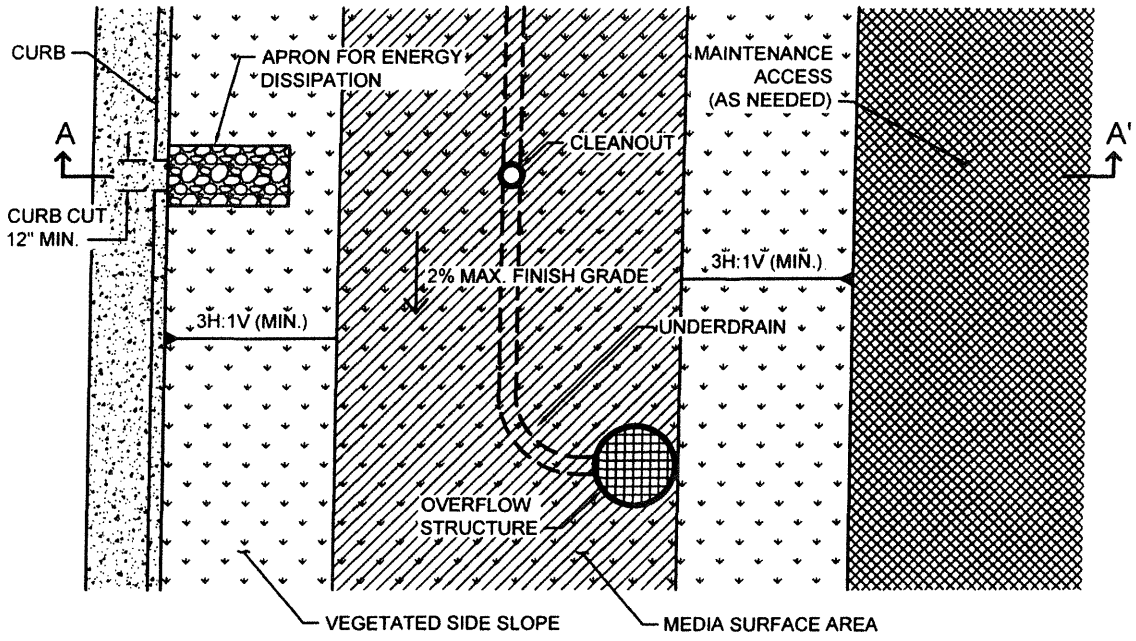
Conceptual Design and Sizing Approach when Storm Water Flow Control is Applicable

Control of flow rates and/or durations will typically require significant surface ponding and/or aggregate storage volumes, and therefore the following steps should be taken prior to determination of storm water pollutant control design. Pre-development and allowable post-project flow rates and durations should be determined as discussed in Chapter 6 of the manual.

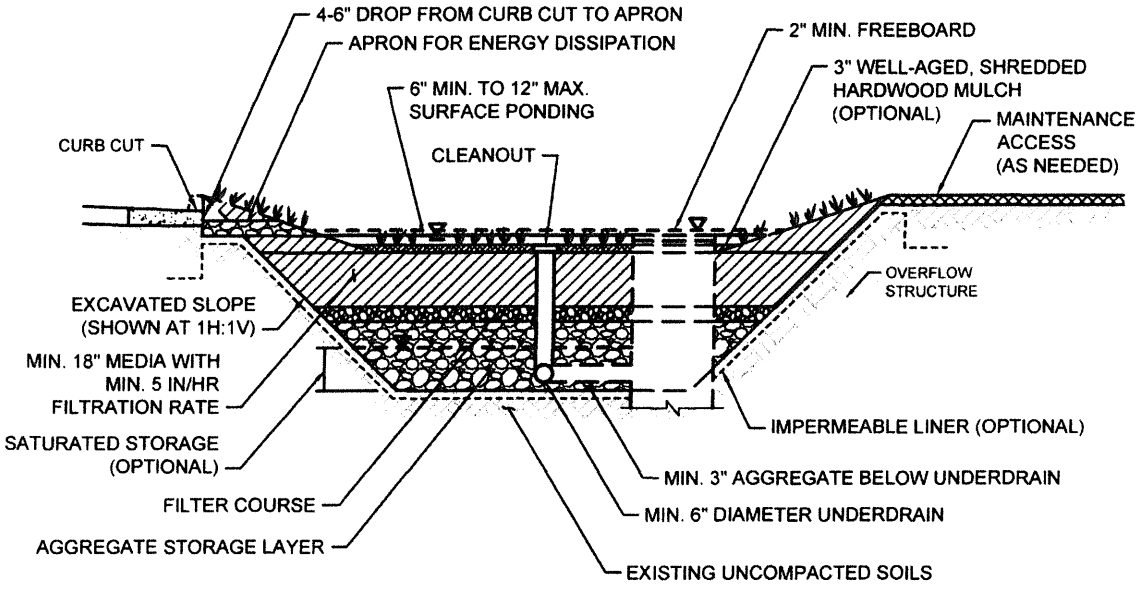
1. Verify that siting and design criteria have been met, including placement requirements, contributing tributary area, maximum side and finish grade slopes, and the recommended media surface area tributary ratio.
2. Iteratively determine the facility footprint area, surface ponding and/or aggregate storage layer depth required to provide detention storage to reduce flow rates and durations to allowable limits. Flow rates and durations can be controlled from detention storage by altering outlet structure orifice size(s) and/or water control levels. Multi-level orifices can be used within an outlet structure to control the full range of flows.
3. If bioretention with underdrain cannot fully provide the flow rate and duration control required by this manual, an upstream or downstream structure with significant storage volume such as an underground vault can be used to provide remaining controls.
4. After bioretention with underdrain has been designed to meet flow control requirements, calculations must be completed to verify if storm water pollutant control requirements to treat the DCV have been met.

	Siting and Design	Intent/Rationale
☒	Filter course is washed and free of fines.	Washing aggregate will help eliminate fines that could clog the facility and impede infiltration.
☐	To reduce clogging potential, a two-layer filter course (aka choking stone system) is used consisting of one 3" layer of clean and washed ASTM 33 Fine Aggregate Sand overlying a 3" layer of ASTM No 8 Stone (Appendix F.5). NOT USED	This specification has been developed to maintain permeability while limiting the migration of media material into the stone reservoir and underdrain system.
Aggregate Storage Layer		
☒	ASTM #57 open graded stone is used for the storage layer and a two layer filter course (detailed above) is used above this layer FILTER COURSE NOT USED	This layer provides additional storage capacity. ASTM #8 stone provides an acceptable choking/bridging interface with the particles in ASTM #57 stone.
☒	The depth of aggregate provided (12-inch typical) and storage layer configuration is adequate for providing conveyance for underdrain flows to the outlet structure.	Proper storage layer configuration and underdrain placement will minimize facility drawdown time.
Inflow, Underdrain, and Outflow Structures		
☒	Inflow, underdrains and outflow structures are accessible for inspection and maintenance.	Maintenance will prevent clogging and ensure proper operation of the flow control structures.
☒	Inflow velocities are limited to 3 ft/s or less or use energy dissipation methods. (e.g., riprap, level spreader) for concentrated inflows.	High inflow velocities can cause erosion, scour and/or channeling.
☐ N/A	Curb cut inlets are at least 12 inches wide, have a 4-6 inch reveal (drop) and an apron and energy dissipation as needed.	Inlets must not restrict flow and apron prevents blockage from vegetation as it grows in. Energy dissipation prevents erosion.
☒	Underdrain outlet elevation should be a minimum of 3 inches above the bottom elevation of the aggregate storage layer.	A minimal separation from subgrade or the liner lessens the risk of fines entering the underdrain and can improve hydraulic performance by allowing perforations to remain unblocked.
☒	Minimum underdrain diameter is ~~6~~ inches. Use 3"	Smaller diameter underdrains are prone to clogging.
☒	Underdrains should be affixed with an upturned elbow to an elevation at least 9 to 12 inches above the invert of the underdrain.	An upturned elbow reduces velocity in the underdrain pipe and can help reduce mobilization of sediments from the underdrain and media bed.

	Siting and Design	Intent/Rationale
☒	Surface ponding is limited to a 24-hour drawdown time.	Surface ponding limited to 24 hour for plant health. Surface ponding drawdown time greater than 24-hours but less than 96 hours may be allowed at the discretion of the City Engineer if certified by a landscape architect or agronomist.
☒	Surface ponding depth is ≥ 6 and ≤ 12 inches.	Surface ponding capacity lowers subsurface storage requirements. Deep surface ponding raises safety concerns. Surface ponding depth greater than 12 inches (for additional pollutant control or surface outlet structures or flow-control orifices) may be allowed at the discretion of the City Engineer if the following conditions are met: 1) surface ponding depth drawdown time is less than 24 hours; and 2) safety issues and fencing requirements are considered (typically ponding greater than 18" will require a fence and/or flatter side slopes) and 3) potential for elevated clogging risk is considered.
☒	A minimum of 2 inches of freeboard is provided.	Freeboard provides room for head over overflow structures and minimizes risk of uncontrolled surface discharge.
☒	Side slopes are stabilized with vegetation and are = 3H:1V or shallower. BLOCK WALLS	Gentler side slopes are safer, less prone to erosion, able to establish vegetation more quickly and easier to maintain.
Vegetation		
☒	Plantings are suitable for the climate and expected ponding depth. A plant list to aid in selection can be found in Appendix E.20.	Plants suited to the climate and ponding depth are more likely to survive.
☒	An irrigation system with a connection to water supply should be provided as needed.	Seasonal irrigation might be needed to keep plants healthy.
Mulch (Mandatory)		
☒	A minimum of 3 inches of well-aged, shredded hardwood mulch that has been stockpiled or stored for at least 12 months is provided. 2-3 INCHES	Mulch will suppress weeds and maintain moisture for plant growth. Aging mulch kills pathogens and weed seeds and allows the beneficial microbes to multiply.
Media Layer		



PLAN
NOT TO SCALE



SECTION A-A'
NOT TO SCALE

Figure E.13-E.13-1: Typical plan and Section view of a Biofiltration BMP

Biofiltration BMPs shall be allowed to be used only as described in the BMP selection process based on a documented feasibility analysis.

1 Intent: This manual defines a specific prioritization of pollutant treatment BMPs, where BMPs that retain water (retained includes evapotranspired, infiltrated, and/or harvested and used) must be used before considering BMPs that have a biofiltered discharge to the MS4 or surface waters. Use of a biofiltration BMP in a manner in conflict with this prioritization (i.e., without a feasibility analysis justifying its use) is not permitted, regardless of the adequacy of the sizing and design of the system.

☒	The project applicant has demonstrated that it is not technically feasible to retain the full DCV onsite.	Document feasibility analysis and findings in SWQMP per Appendix C.

Biofiltration BMPs must be sized using acceptable sizing methods.

2 Intent: The MS4 Permit and this manual defines specific sizing methods that must be used to size biofiltration BMPs. Sizing of biofiltration BMPs is a fundamental factor in the amount of storm water that can be treated and also influences volume and pollutant retention processes.

☒	The project applicant has demonstrated that biofiltration BMPs are sized to meet one of the biofiltration sizing options available (Appendix B.5).	Submit sizing worksheets (Appendix B.5) or other equivalent documentation with the SWQMP.

Biofiltration BMPs must be sited and designed to achieve maximum feasible infiltration and evapotranspiration.

3 Intent: Various decisions about BMP placement and design influence how much water is retained via infiltration and evapotranspiration. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention (evapotranspiration and infiltration) of storm water volume.

☐	The biofiltration BMP is sited to allow for maximum infiltration of runoff volume based on the feasibility factors considered in site planning efforts. It is also designed to maximize evapotranspiration through the use of amended media and plants (biofiltration designs without amended media and plants may be permissible; see Item 5).	Document site planning and feasibility analyses in SWQMP per Section 5.4.
☐	For biofiltration BMPs categorized as "Partial Infiltration Condition," the infiltration storage depth in the biofiltration design has been selected to drain in 36 hours (+/-25%) or an alternative value shown to maximize infiltration on the site.	Included documentation of estimated infiltration rate per Appendix D; provide calculations using Appendix B.4 and B.5 to show that the infiltration storage depth meets this criterion. Note, depths that are too shallow or too deep may not be acceptable.

☐	For biofiltration BMP locations categorized as "Partial Infiltration Condition," the infiltration storage is over the entire bottom of the biofiltration BMP footprint.	Document on plans that the infiltration storage covers the entire bottom of the BMP (i.e., not just underdrain trenches); or an equivalent footprint elsewhere on the site.
☐	For biofiltration BMP locations categorized as "Partial Infiltration Condition," the sizing factor used for the infiltration storage area is not less than the minimum biofiltration BMP sizing factors calculated using Worksheet B.5.1.	Provide a table that compares the minimum sizing factor per Worksheet B.5.1 to the provided sizing factor. Note: The infiltration storage area could be a separate storage feature located downstream of the biofiltration BMP, not necessarily within the same footprint.
☒	An impermeable liner or other hydraulic restriction layer is only used when needed to avoid geotechnical and/or subsurface contamination issues in locations identified as "No Infiltration Condition."	If using an impermeable liner or hydraulic restriction layer, provide documentation of feasibility findings per Appendix C that recommend the use of this feature.
☐	The use of "compact" biofiltration BMP design[8] is permitted only in conditions identified as "No Infiltration Condition" and where site-specific documentation demonstrates that the use of larger footprint biofiltration BMPs would be infeasible.	Provide documentation of feasibility findings that recommend no infiltration is feasible. Provide site-specific information to demonstrate that a larger footprint biofiltration BMP would not be feasible.
4	**Biofiltration BMPs must be designed with a hydraulic loading rate to maximize pollutant retention, preserve pollutant control processes, and minimize potential for pollutant washout.** Intent: Various decisions about biofiltration BMP design influence the degree to which pollutants are retained. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention of storm water pollutants.	

[8]Compact biofiltration BMPs are defined as features with infiltration storage footprint less than the minimum sizing factors **required to achieve 40% volume retention.** Note that if a biofiltration BMP is accompanied by an infiltrating area downstream that has a footprint equal to at least the minimum sizing factors calculated using Worksheet B.5.1 **assuming a partial infiltration condition,** then it is not considered to be a compact biofiltration BMP for the purpose of Item 4 of the checklist. For potential configurations with a higher rate biofiltration BMP upstream of an larger footprint infiltration area, the BMP would still need to comply with Item 5 of this checklist for pollutant treatment effectiveness.

☒	Media selected for the biofiltration BMP meets minimum quality and material specifications per Appendix F.4 or County LID Manual, including the maximum allowable design filtration rate and minimum thickness of media. OR	Provide documentation that media meets the specifications in Appendix F.4 or County LID Manual.
☐	Alternatively, for proprietary designs and custom media mixes not meeting the media specifications contained in Appendix F.4 or County LID Manual, field scale testing data are provided to demonstrate that proposed media meets the pollutant treatment performance criteria in Section F.1 below.	Provide documentation of performance information as described in Section F.1.
☐	To the extent practicable, filtration rates are outlet controlled (e.g., via an underdrain and orifice/weir) instead of controlled by the infiltration rate of the media.	Include outlet control in designs or provide documentation of why outlet control is not practicable.
☒	The water surface drains to at least 12 inches below the media surface within 24 hours from the end of storm event flow to preserve plant health and promote healthy soil structure.	Include calculations to demonstrate that drawdown rate is adequate. Surface ponding drawdown time greater than 24-hours but less than 96 hours may be allowed at the discretion of the City Engineer if certified by a landscape architect or agronomist.
☐	If nutrients are a pollutant of concern, design of the biofiltration BMP follows nutrient-sensitive design criteria.	Follow specifications for nutrient sensitive design in Fact Sheet BF-2. Or provide alternative documentation that nutrient treatment is addressed and potential for nutrient release is minimized.
☒	Media gradation calculations demonstrate that migration of media between layers will be prevented and permeability will be preserved.	Follow specification for choking layer in Fact Sheet PR-1 or BF-1. Or include calculations to demonstrate that choking layer is appropriately specified.

5 **Biofiltration BMPs must be designed to promote appropriate biological activity to support and maintain treatment processes.**

Intent: Biological processes are an important element of biofiltration performance and longevity.

☒	Plants have been selected to be tolerant of project climate, design ponding depths and the treatment media composition.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
☐	Plants have been selected to minimize irrigation requirements.	Provide documentation describing irrigation requirements for establishment and long term operation.
☐	Plant location and growth will not impede expected long-term media filtration rates and will enhance long term infiltration rates to the extent possible.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
☐	If plants are not part of the biofiltration design, other biological processes are supported as needed to sustain treatment processes (e.g., biofilm in a subsurface flow wetland).	For biofiltration designs without plants, describe the biological processes that will support effective treatment and how they will be sustained. Refer to Appendix F.3
6	**Biofiltration BMPs must be designed with a hydraulic loading rate to prevent erosion, scour, and channeling within the BMP.** Intent: Erosion, scour, and/or channeling can disrupt treatment processes and reduce biofiltration effectiveness.	
☐	Scour protection has been provided for both sheet flow and pipe inflows to the BMP, where needed.	Provide documentation of scour protection as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
☐	Where scour protection has not been provided, flows into and within the BMP are kept to non-erosive velocities.	Provide documentation of design checks for erosive velocities as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
☐	For proprietary BMPs, the BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification[9] (i.e., maximum tributary area, maximum inflow velocities, etc., as applicable).	Provide copy of manufacturer recommendations and conditions of third-party certification.

[9]Certifications or verifications issued by the Washington Technology Acceptance Protocol-Ecology program and the New Jersey Corporation for Advanced Technology programs are typically accompanied by a set of guidelines regarding appropriate design and maintenance conditions that would be consistent with the certification/verification

7 **Biofiltration BMP must include operations and maintenance design features and planning considerations for continued effectiveness of pollutant and flow control functions.**

Intent: Biofiltration BMPs require regular maintenance in order provide ongoing function as intended. Additionally, it is not possible to foresee and avoid potential issues as part of design; therefore plans must be in place to correct issues if they arise.

☐	The biofiltration BMP O&M plan describes specific inspection activities, regular/periodic maintenance activities and specific corrective actions relating to scour, erosion, channeling, media clogging, vegetation health, and inflow and outflow structures.	Include O&M plan with project submittal as described in Chapter 7.
☐	Adequate site area and features have been provided for BMP inspection and maintenance access.	Illustrate maintenance access routes, setbacks, maintenance features as needed on project water quality plans.
☐	For proprietary biofiltration BMPs, the BMP maintenance plan is consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies).	Provide copy of manufacturer recommendations and conditions of third-party certification.

Attachment 2:

Backup for PDP Hydromodification Control Measures

Attachment 2a:

Hydromodification Management Exhibit

This project drains directly into the Pacific Ocean, an exempt water body. Hydromodification is not required.

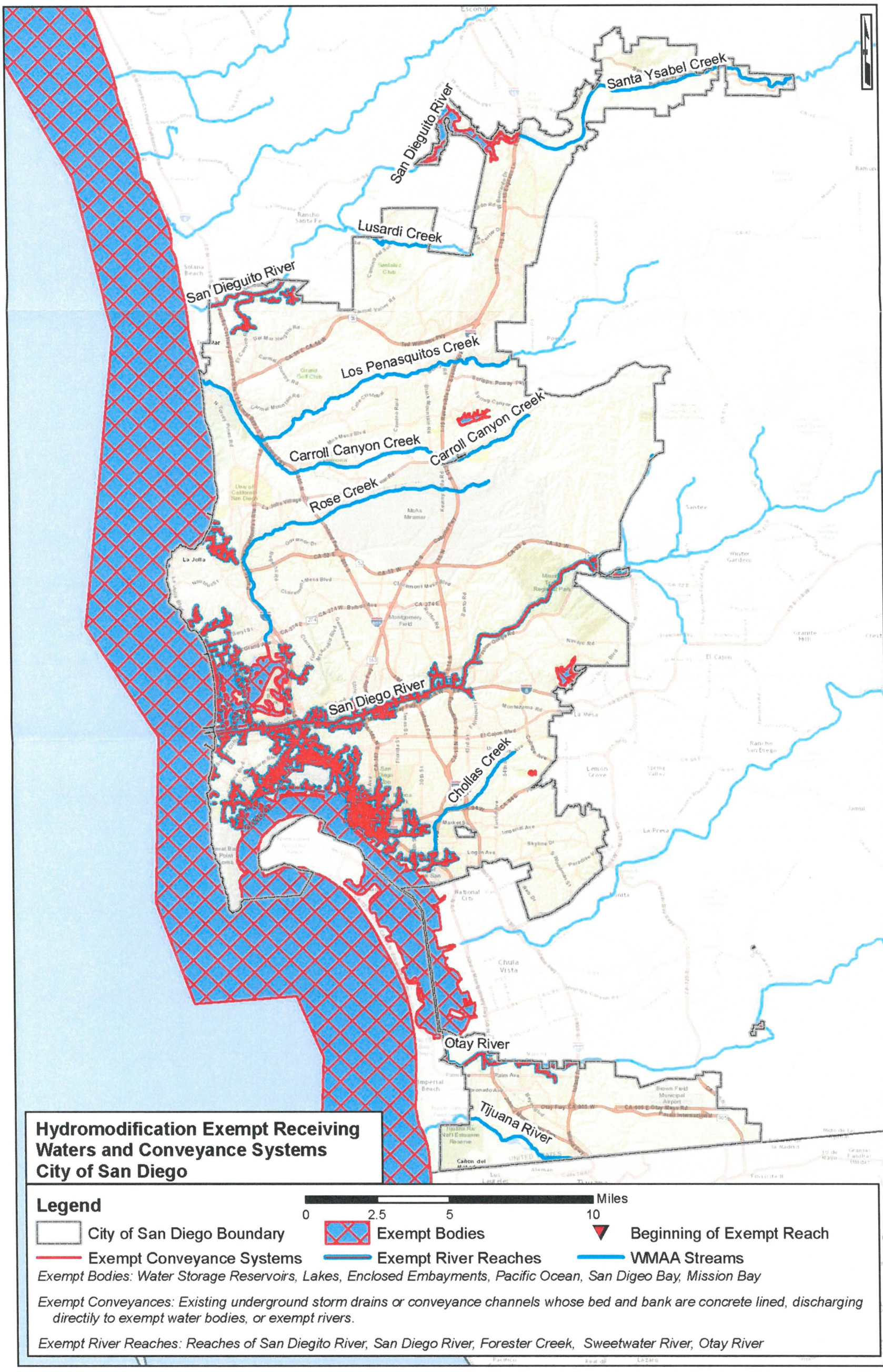


Figure H-G.2-2 Hydromodification Exempt Areas

8470 EL PASEO GRANDE

Attachment 2b:

Management of Critical Coarse Sediment Yield Area

This project in not in a critical coarse sediment yield area.

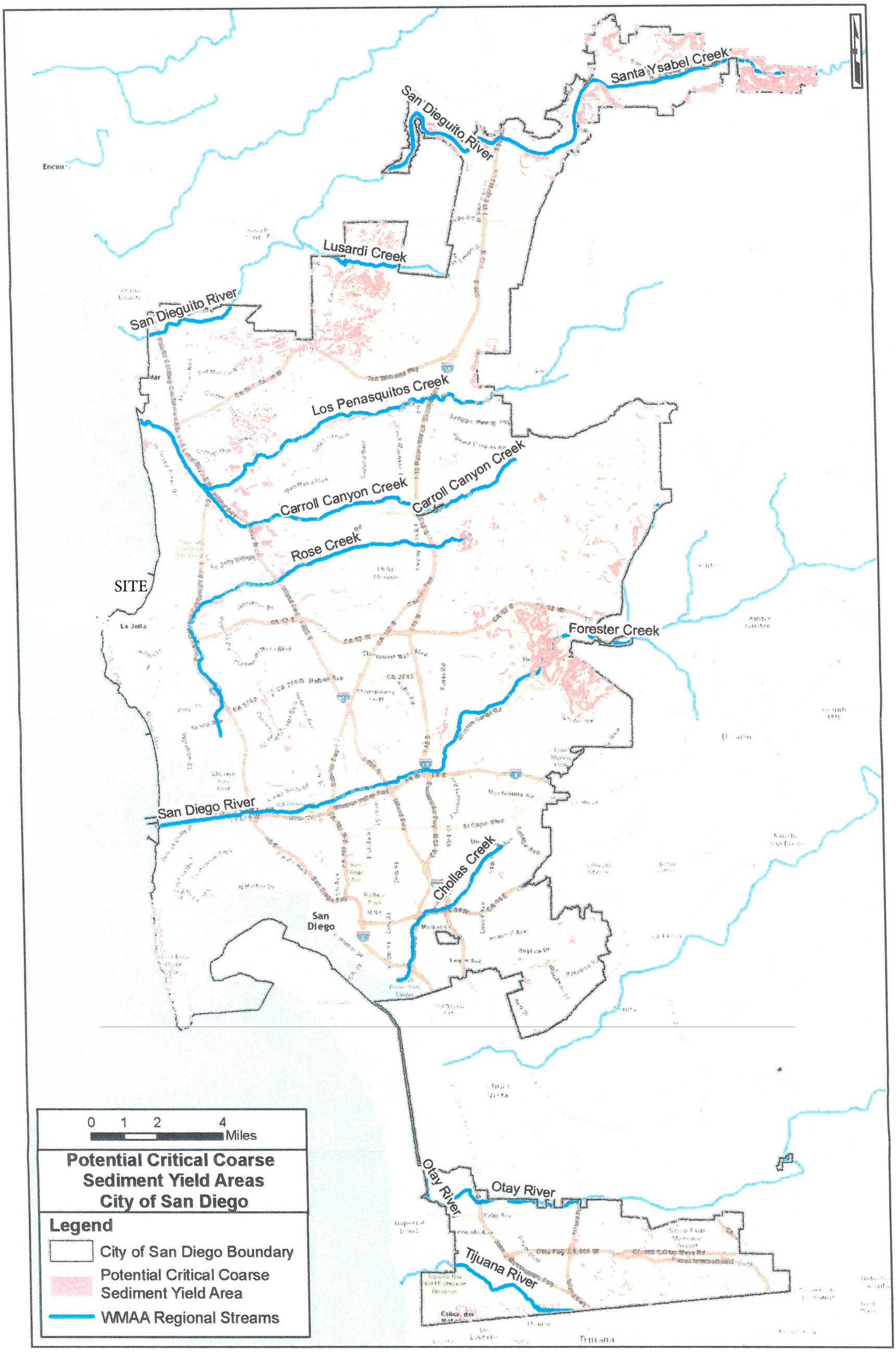


Figure H-G.2-1 Potential Critical Coarse Sediment Yield Areas

Attachment 2c:

Geomorphic Assessment of Receiving Channels

N/A

Attachment 2d:

Flow Control Facility Design and Structural BMP Drawdown Calculations

N/A

Attachment 2e:

Vector Control Plan

N/A

Attachment 3a:

Structural BMP Maintenance Thresholds and Actions

Attachment 3:

Structural BMP Maintenance Plan

STRUCTURAL BMP MAINTENANCE PLAN

BIO-FILTRATION BASIN:

BIO-FILTRATION BASIN REQUIRES REGULAR PLANT, SOIL, AND MULCH LAYER MAINTENANCE TO ENSURE OPTIMUM INFILTRATION, STORAGE, AND POLLUTANT-REMOVAL CAPABILITIES. IN GENERAL, BIO-FILTRATION MAINTENANCE REQUIREMENTS ARE TYPICAL LANDSCAPE CARE PROCEDURES AND CONSIST OF THE FOLLOWING:

1. WATERING: PLANTS MUST BE SELECTED TO BE DROUGHT TOLERANT AND NOT REQUIRE WATERING AFTER ESTABLISHMENT (2 TO 3 YEARS). WATERING COULD BE REQUIRED DURING PROLONGED DRY PERIODS AFTER PLANTS ARE ESTABLISHED.

2. EROSION CONTROL: INSPECT FLOW ENTRANCES, PONDING AREA, AND SURFACE OVERFLOW AREAS PERIODICALLY DURING THE RAINY SEASON, AND REPLACE SOIL, PLANT MATERIAL, OR MULCH LAYER IN AREAS IF EROSION HAS OCCURRED FOR A BIO-FILTRATION BASIN. PROPERLY DESIGNED FACILITIES WITH APPROPRIATE FLOW VELOCITIES SHOULD NOT HAVE EROSION PROBLEMS EXCEPT PERHAPS IN EXTREME EVENTS. IF EROSION PROBLEMS OCCUR, THE FOLLOWING MUST BE REASSESSED:
   (1) FLOW VELOCITIES AND GRADIENTS WITHIN THE CELL, AND
   (2) FLOW DISSIPATION AND EROSION PROTECTION STRATEGIES IN THE PRETREATMENT AREA AND FLOW ENTRANCE. IF SEDIMENT IS DEPOSITED IN THE BIO-RETENTION AREA, IMMEDIATELY DETERMINE THE SOURCE WITHIN THE CONTRIBUTING AREA, STABILIZE, AND REMOVE EXCESS SURFACE DEPOSITS.

3. INLET: THE BED OF THE BIO-FILTRATION BASIN SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO CHECK FOR SEDIMENT ACCUMULATION AND EROSION. SEDIMENT CAN ACCUMULATE ESPECIALLY AT INLETS WHERE CURB CUTS OR BYPASS STRUCTURES ARE USED AND SHOULD BE INSPECTED REGULARLY. ANY ACCUMULATED SEDIMENT THAT IMPEDES FLOW INTO THE BIO-FILTRATION BASING SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

4. OVERFLOW AND UNDERDRAINS: SEDIMENT ACCUMULATION IN THE OVERFLOW DEVICE OR UNDERDRAIN SYSTEM CAN CAUSE PROLONGED PONDING AND POTENTIAL FLOODING. EXCESS PONDING CAN HAVE ADVERSE EFFECTS ON VEGETATION AND VECTOR CONTROL. OVERFLOW AND UNDERDRAIN SYSTEMS SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO REMOVE SEDIMENT AND PREVENT MULCH ACCUMULATION AROUND THE OVERFLOW. THE UNDERDRAIN SYSTEM SHOULD BE DESIGNED SO THAT IT CAN BE FLUSHED AND CLEANED AS NEEDED. IF WATER IS PONDED IN THE BIO-FILTRATION BASIN FOR MORE THAN 72 HOURS, THE UNDERDRAIN SYSTEM SHOULD BE FLUSHED WITH CLEAN WATER UNTIL PROPER INFILTRATION IS RESTORED.

5. PLANT MATERIAL: DEPENDING ON AESTHETIC REQUIREMENTS, OCCASIONAL PRUNING AND REMOVING DEAD PLANT MATERIAL MIGHT BE NECESSARY. REPLACE ALL DEAD PLANTS, AND IF SPECIFIC PLANTS HAVE A HIGH MORTALITY RATE, ASSESS THE CAUSE AND, IF NECESSARY, REPLACE WITH MORE APPROPRIATE SPECIES. PERIODIC WEEDING IS NECESSARY UNTIL PLANTS ARE ESTABLISHED. THE WEEDING SCHEDULE CAN BECOME LESS FREQUENT IF THE APPROPRIATE PLANT SPECIES AND PLANTING DENSITY HAVE BEEN USED AND, AS A RESULT, UNDESIRABLE PLANTS ARE EXCLUDED.

6. NUTRIENT AND PESTICIDES: THE SOIL MIX AND PLANTS ARE SELECTED FOR OPTIMUM FERTILITY, PLANT ESTABLISHMENT, AND GROWTH. NUTRIENT AND PESTICIDE INPUTS SHOULD NOT BE REQUIRED AND CAN DEGRADE THE POLLUTANT PROCESSING CAPABILITY OF THE BIO-FILTRATION BASIN AND CONTRIBUTE POLLUTANT LOADS TO RECEIVING WATERS. BY DESIGN, BIO-FILTRATION BASIN ARE LOCATED IN AREAS WHERE PHOSPHOROUS AND NITROGEN LEVELS ARE OFTEN ELEVATED, AND THEY SHOULD NOT BE LIMITING NUTRIENTS. IF IN QUESTION, HAVE THE SOIL ANALYZED FOR FERTILITY.

7. MULCH: REPLACE MULCH ANNUALLY IN BIO-FILTRATION BASIN WHERE HEAVY METAL DEPOSITION IS OBSERVED. IN AREAS WHERE METAL DEPOSITION IS NOT A CONCERN, ADD MULCH AS NEEDED TO MAINTAIN A 2- TO 3-INCH DEPTH. MULCH SHOULD BE REPLACED EVERY 2 TO 5 YEARS.

8. SOIL: SOIL MIXES FOR BIO-FILTRATION BASIN ARE DESIGNED TO MAINTAIN LONG-TERM FERTILITY AND POLLUTANT PROCESSING CAPABILITY. ESTIMATES FROM METAL ATTENUATION RESEARCH SUGGEST THAT METAL ACCUMULATION SHOULD NOT PRESENT AN ENVIRONMENTAL CONCERN FOR AT LEAST 20 YEARS IN THE BIO-FILTRATION BASIN. REPLACING MULCH IN THE BIO-FILTRATION BASIN WHERE HEAVY METAL DEPOSITION IS LIKELY PROVIDES AN ADDITIONAL LEVEL OF PROTECTION FOR PROLONGED PERFORMANCE. IF IN QUESTION, HAVE THE SOIL ANALYZED FOR FERTILITY AND POLLUTANT LEVELS.

Attachment 3b:

Draft Maintenance Agreement

THE CITY OF SAN DIEGO

RECORDING REQUESTED BY:
THE CITY OF SAN DIEGO
AND WHEN RECORDED MAIL TO:

David Lessnick

1900 Western Avenue

Las Vegas, NV 89102

(THIS SPACE IS FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

APPROVAL NUMBER:	ASSESSORS PARCEL NUMBER:	PROJECT NUMBER:
	346-050-11	

This agreement is made by and between the City of San Diego, a municipal corporation [City] and D Marin Development, the owner or duly authorized representative of the owner [Property Owner] of property located at 8470 El Paseo Grande, San Diego, CA

(PROPERTY ADDRESS)

and more particularly described as: Lot 1 of Map No. 2615

(LEGAL DESCRIPTION OF PROPERTY)

in the City of San Diego, County of San Diego, State of California.

Property Owner is required pursuant to the City of San Diego Municipal Code, Chapter 4, Article 3, Division 3, Chapter 14, Article 2, Division 2, and the Land Development Manual, Storm Water Standards to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Storm Water Best Management Practices [Permanent Storm Water BMP's] prior to the issuance of construction permits. The Maintenance Agreement is intended to ensure the establishment and maintenance of Permanent Storm Water BMP's onsite, as described in the attached exhibit(s), the project's Water Quality Technical Report [WQTR] and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

Property Owner wishes to obtain a building or engineering permit according to the Grading and/or Improvement Plan Drawing No(s) or Building Plan Project No(s): _____.

Continued on Page 2

NOW, THEREFORE, the parties agree as follows:

1. Property Owner shall have prepared, or if qualified, shall prepare an Operation and Maintenance Procedure [OMP] for Permanent Storm Water BMP's, satisfactory to the City, according to the attached exhibit(s), consistent with the Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s): _____.

2. Property Owner shall install, maintain and repair or replace all Permanent Storm Water BMP's within their property, according to the OMP guidelines as described in the attached exhibit(s), the project's WQTR and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s) _____.

3. Property Owner shall maintain operation and maintenance records for at least five (5) years. These records shall be made available to the City for inspection upon request at any time.

This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of San Diego and by Property Owner in San Diego, California.

See Attached Exhibit(s): _____

_____
(Owner Signature)

_____
(Print Name and Title)

_____
(Company/Organization Name)

05/18/2017
(Date)

THE CITY OF SAN DIEGO

APPROVED:

_____
(City Control Engineer Signature)

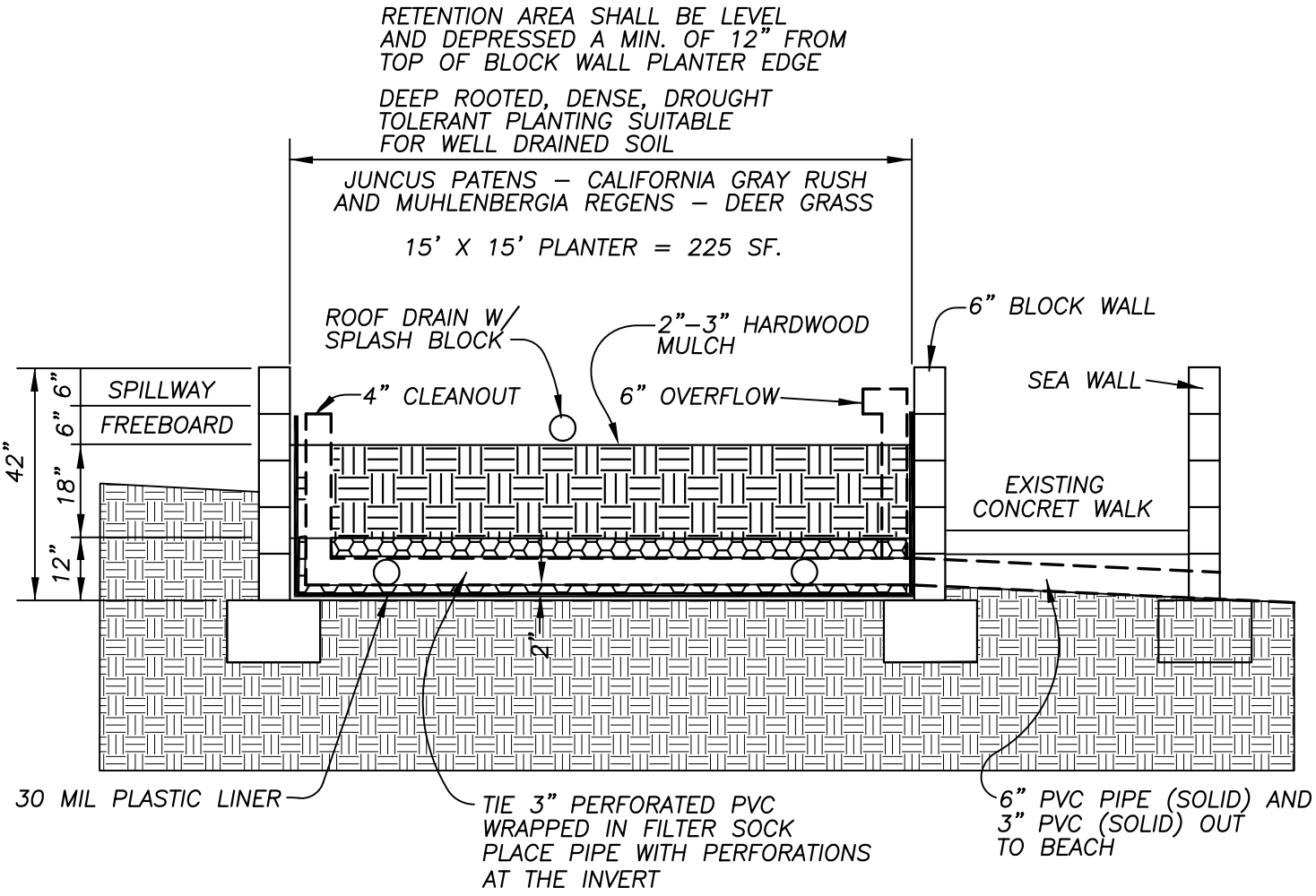
_____
(Print Name)

_____
(Date)

NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ.

Reset Button Page 2

EXHIBIT A



NOTES:

1. BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 18" DEEP "SAND LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT, THE MIX SHALL CONTAIN 50–60% SAND, 20–30% COMPOST OR HARDWOOD MULCH, AND 20–30% TOPSOIL.

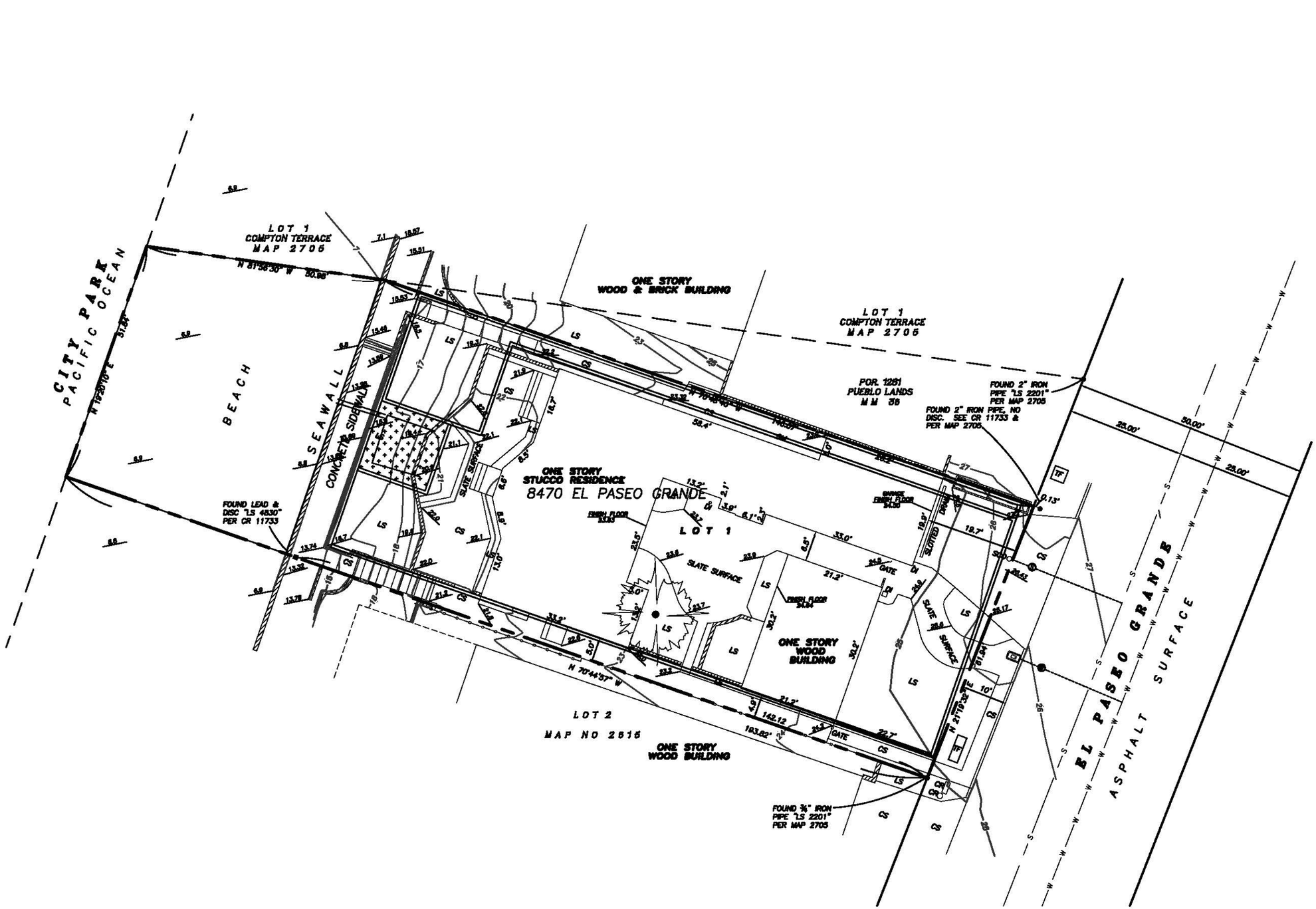
2. GRAVEL BASE SHALL BE 3/4 CRUSHED ROCK LAYER WITH A MINIMUM OF 12" DEEP. MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.

3. THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON 4% OF THE IMPERVIOUS SURFACE AREA OR ROOF AREA.

BIO-FILTRATION BASIN

Attachment 4:

Copy of Plan Sheets Showing Permanent Storm Water BMPs



GRAPHIC SCALE

20' 0 5' 10' 20' 40'

(IN FEET)

1 INCH = 10' FT.

LEGAL DESCRIPTION:

LOT 1 OF OCEAN TERRACE, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 2615, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JANUARY 20, 1950.

BASIS OF ELEVATION:

CITY OF SAN DIEGO BENCHMARK:

NORTHEASTERLY BRASS PLUG LOCATED AT THE INTERSECTION OF EL PASEO GRANDE AND CALLE FRESCOTA.
ELEVATION = 10.535 M.S.L. NGVD29

LEGEND:

■	INDICATES WATER METER
□GM	INDICATES GAS METER
DI	INDICATES DRAINAGE INLET
TF	INDICATES ELECTRIC TRANSFORMER/FUSEBOX
CS	INDICATES CONCRETE SURFACE
LS	INDICATES LANDSCAPE SURFACE
CR	INDICATES COMMUNICATION RISER
SCO	INDICATES SEWER CLEANOUT
———	INDICATES WALL
———	INDICATES PROPERTY LINE
-o-o-o-	INDICATES WOOD FENCE
—(S)—	INDICATES SEWER LATERAL
—(W)—	INDICATES WATER SERVICE
—W—	INDICATES WATER LINE
—S—	INDICATES SEWER LINE

VICINITY MAP
NO SCALE

PROFESSIONAL LAND SURVEYOR
ROBERT J. BATEMAN
No. 7046
CALIFORNIA

Robert J. Bateman
ROBERT J. BATEMAN, P.L.S. 7046

TOPOGRAPHICAL SURVEY

For the exclusive use of:
D. MARIN DEVELOPMENT
1900 WESTERN AVENUE
LAS VEGAS, NV 89102

San Diego Land Surveying & Engineering, Inc.
9666 Chesapeake Drive, Suite 440, San Diego, California 92123-1354
Phone: (858) 565-8382 Fax: (858) 565-4354

Date: 06/29/2016	Revised:	Revised:
Scale: 1"=10'	Drawn by: W.P.T.	Sheet 1 of 1 Sheet
Drawing: El Paseo Grande 8470-TS		A.P.N. 346-050-01

Attachment 5:

Project's Drainage Report

Attachment 6:

Project's Geotechnical and Groundwater Investigation Report

HYDROLOGY REPORT
FOR
8470 EL PASEO GRANDE
CITY OF SAN DIEGO

APN: 346-050-11

DATE: MAY 18, 2017

PREPARED BY:
SAN DIEGO LAND SURVEYING AND ENGINEERING INC.
9665 CHESAPEAKE DRIVE, SUITE 445
SAN DIEGO, CA. 92123

CITY OF SAN DIEGO
PTS 516011

TABLE OF CONTENTS

APPENDICES

EXHIBITS

PROJECT DESCRIPTION:

EXISTING PROJECT SITE DESCRIPTION:

The site is 0.2709 acres in size and is occupied by a single family home. The general direction of drainage is to the west and the Pacific Ocean. The project is immediately adjacent to El Paseo Grande, a public street. This public road drains to the south. There are block retaining wall or screen walls on the north and south property lines. The east property line is a public road, no offsite water drains onto the site.

See the 20 scale drainage areas map in Exhibit A for more detail of the project.

The existing impervious area is 6851 SF. or 0.1573 AC. **58.1%**

PROPOSED PROJECT DESCRIPTION:

The project will consist of removal of the existing home and the construction of a new single family home. The disturbed area is about 9,000 square feet. The existing utilities will be use reducing the impact to the public right-of-way.

See the 20 scale drainage areas map in Exhibit B for more detail of the proposed project.

The proposed impervious area is 8,277 SF. or 0.1328 AC. **70.1%**

STANDARDS AND METHODS:

PURPOSE OF CALCULATIONGS:

Calculate the storm runoff generated by the residential site and the impact to the downstream lands.

HYDROLOGIC MODEL AND METHODS USED:

This report uses the "Rational Method" as demonstrated in the County of San Diego Storm Drain Manual.

Q = CIA

WATER QUALITY DESIGN STORM:

The design storm for this report shall be the 50 year storm for private drainage and the 100 year storm for public storm drain structures and flow paths. The 85% storm will be used for any storm water treatment structures that are required.

ANALYSIS AND CONCLUSIONS

PRE-DEVELOPMENT RUNOFF VOLUMES AND PEAK FLOWS:

Runoff factor "C" for medium density residential (4.3 DU/A) with a soil type of "D" from table 3-1 "Runoff Coefficients for Urban Areas" from the above manual and attached in Appendix "B" is 0.52. See Exhibit "A" for plan view of the drainage area.

Modify C factor for actual impervious area.

Actual impervious area = $\frac{.581 + .52}{2}$ = **0.55**

Time of concentration is composed of "Maximum Overland Flow Length" plus "Travel Time" to point of discharge. The maximum overland flow length is taken form Table 3-2, included in Appendix C, for medium density residential (4.3 DU/A) with a grade of 5% is 6.7 mins. for the first 100 feet. There is no "Travel Time as the drainage area does not exceed 100 feet in length. Use 6.7 mins.

Using the 50 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 50 year storm, the rainfall intensity = **3.85.**

Using the 100 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 100 year storm, the rainfall intensity = **4.39.**

Zone Existing Area E1 = 0.1402 acres
This area consists of the portion of the site that drains to the Pacific Ocean.

Q50 = CIA = .55 x 3.85 x 0.2709 = 0.57 CFS
Q100 = CIA = .55 x 4.39 x 0.2709 = 0.65 CFS

POST-PROJECT RUNOFF VOLUMES AND PEAK FLOWS:

Runoff factor "C" for medium density residential (4.3 DU/A) with a soil type of "D" from table 3-1 "Runoff Coefficients for Urban Areas" from the above manual and attached in Appendix "B" is 0.52. See Exhibit "A" for plan view of the drainage area.

Modify C factor for actual impervious area.

Actual impervious area = $\frac{.701 + .52}{2}$ = **0.61**

Time of concentration is composed of "Maximum Overland Flow Length" plus "Travel Time" to point of discharge. The maximum overland flow length is taken form Table 3-2, included in Appendix C, for medium density residential (4.3 DU/A) with a grade of 2% is 8.1 mins. for the first 80 feet. There is no "Travel Time as the drainage area does not exceed 80 feet in length. 8.1 mins.

Using the 50 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 50 year storm, the rainfall intensity = 3.85.

Using the 100 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 100 year storm, the rainfall intensity = 4.39.

Zone Proposed Area P1 = 0.2709 acres
This area consists of the portion of the site that drains to Chelsea Road.

Q50 = CIA = .61 x 3.85 x 0.2709 = 0.64 CFS
Q100 = CIA = .61 x 4.39 x 0.2709 = 0.73 CFS

CONCLUSION:

The existing lot drains directly to the Pacific Ocean. The increase in impervious area of the proposed project has increased the runoff (100y) by 0.08 CFS. This small amount will not affect the Pacific Ocean environment. Treatment of the storm runoff will be by bio-filtration basin.

According to the "Report of Geotechnical Infiltration Feasibility Study" conducted by Christian Wheeler Engineering, dated March 20, 2017 as report no. CWE 2160398.04, the seasonal high ground water level is calculated to be at an elevation of 7 feet. 5.5' below the basement level. No ground water will be encountered during construction. Therefore, this project does not have to obtain approval from the Regional Water Quality Control Board under Federal Clean Water Act (CWA) section 401 or 404.

CERTIFICATION STATEMENT:

This Hydrology Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer (Engineer) attests to the technical information contained herein and the engineering data upon which the following design, recommendations, conclusions and decisions are based. The selection, sizing, and design of storm water treatment and other control measures in this report meet the requirements of the Regional Water Quality Control Board Order R9-2013-0001 and subsequent amendments.

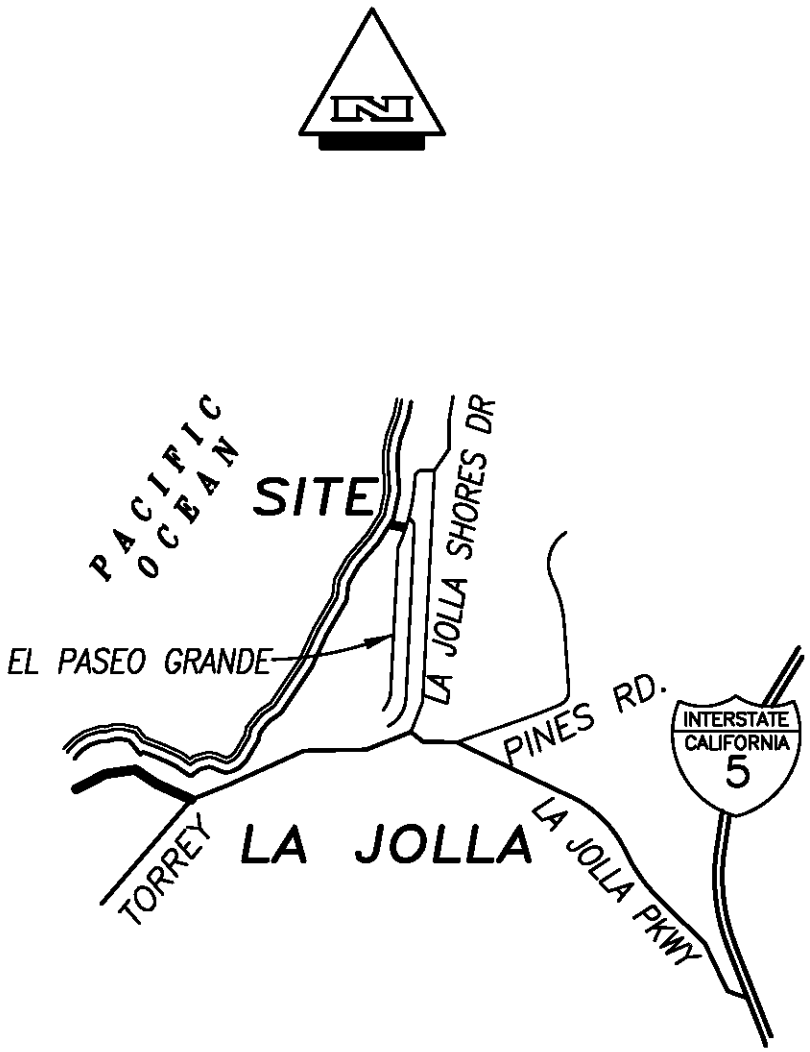
ENGINEER OF WORK:

DATE: 05-18-2017

MICHAEL LEE SMITH, RCE 35471
MY REGISTRATION EXPIRES ON
9/30/2017

APPENDIX A

VICINITY MAP



VICINITY MAP

NO SCALE

APPENDIX B

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
TABLE 3-1, RUNOFF COEFFICIENTS FOR URBAN AREA

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

Land Use		Runoff Coefficient "C"				
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service

APPENDIX C

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
FIGURE 3-1, TIME OF CONCENTRATION CHARTS

Note that the Initial Time of Concentration should be reflective of the general land-use at the upstream end of a drainage basin. A single lot with an area of two or less acres does not have a significant effect where the drainage basin area is 20 to 600 acres.

Table 3-2 provides limits of the length (Maximum Length (L_M)) of sheet flow to be used in hydrology studies. Initial T_i values based on average C values for the Land Use Element are also included. These values can be used in planning and design applications as described below. Exceptions may be approved by the "Regulating Agency" when submitted with a detailed study.

Table 3-2

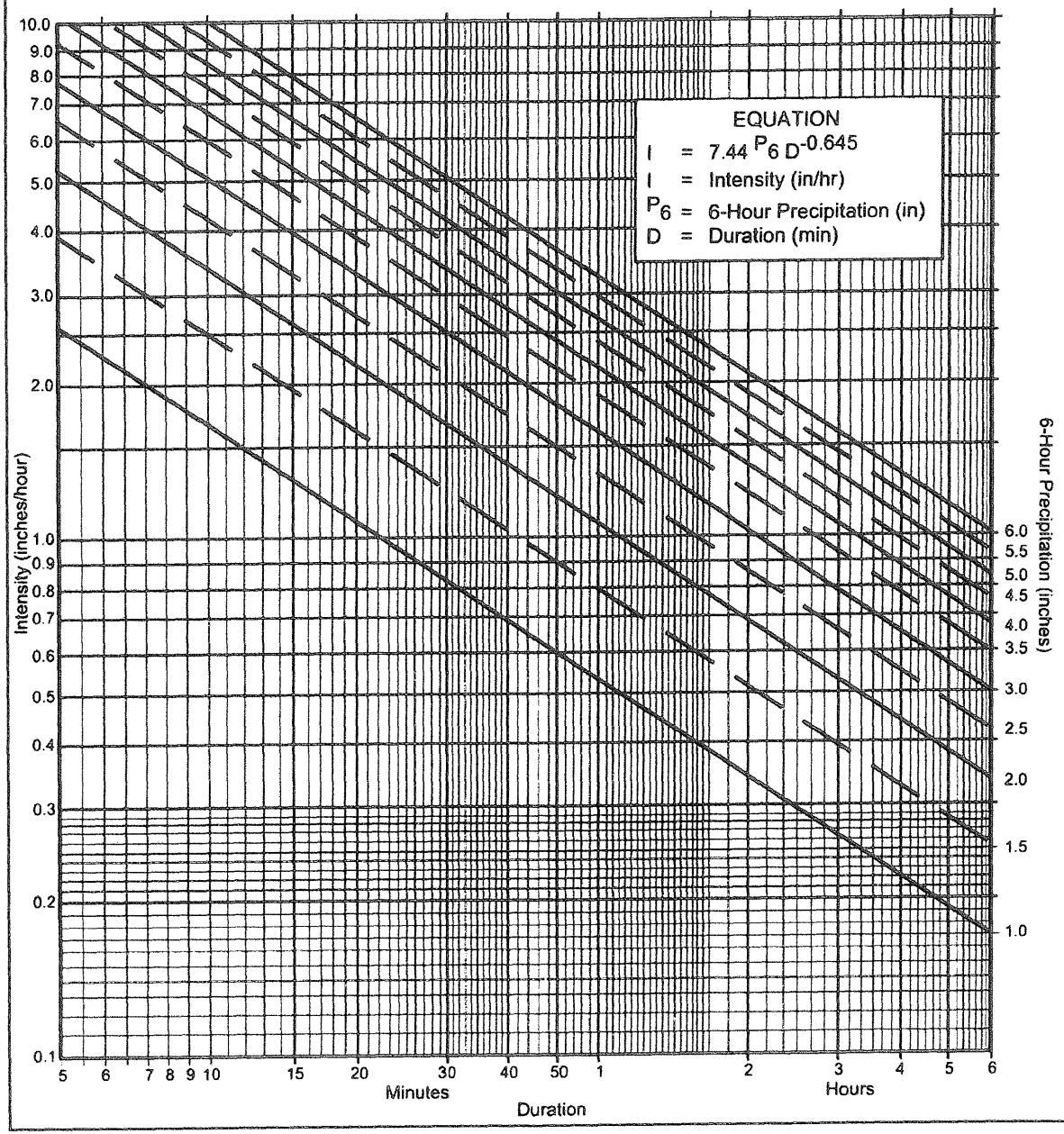
MAXIMUM OVERLAND FLOW LENGTH (L_M) & INITIAL TIME OF CONCENTRATION (T_i)

Element*	DU/ Acre	.5%		1%		2%		3%		5%		10%	
		L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i
Natural		50	13.2	70	12.5	85	10.9	100	10.3	100	8.7	100	6.9
LDR	1	50	12.2	70	11.5	85	10.0	100	9.5	100	8.0	100	6.4
LDR	2	50	11.3	70	10.5	85	9.2	100	8.8	100	7.4	100	5.8
LDR	2.9	50	10.7	70	10.0	85	8.8	95	8.1	100	7.0	100	5.6
MDR	4.3	50	10.2	70	9.6	80	8.1	95	7.8	100	6.7	100	5.3
MDR	7.3	50	9.2	65	8.4	80	7.4	95	7.0	100	6.0	100	4.8
MDR	10.9	50	8.7	65	7.9	80	6.9	90	6.4	100	5.7	100	4.5
MDR	14.5	50	8.2	65	7.4	80	6.5	90	6.0	100	5.4	100	4.3
HDR	24	50	6.7	65	6.1	75	5.1	90	4.9	95	4.3	100	3.5
HDR	43	50	5.3	65	4.7	75	4.0	85	3.8	95	3.4	100	2.7
N. Com		50	5.3	60	4.5	75	4.0	85	3.8	95	3.4	100	2.7
G. Com		50	4.7	60	4.1	75	3.6	85	3.4	90	2.9	100	2.4
O.P./Com		50	4.2	60	3.7	70	3.1	80	2.9	90	2.6	100	2.2
Limited I.		50	4.2	60	3.7	70	3.1	80	2.9	90	2.6	100	2.2
General I.		50	3.7	60	3.2	70	2.7	80	2.6	90	2.3	100	1.9

*See Table 3-1 for more detailed description

APPENDIX D

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
FIGURE 3-1, INTENSITY DURATION DESIGN CHART



Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 50 year

(b) P_6 = 1.8 in., P_{24} = 3.4, $\frac{P_6}{P_{24}}$ = 53 %(2)

(c) Adjusted P_6(2) = 1.8 in.

(d) t_x = 6.7 min.

(e) I = 3.85 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6 / Duration	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Template

	1.5	1.8	2.0
5	3.95	4.61	5.27
6.7		3.85	
7	3.18	3.71	4.24

FIGURE 3-1

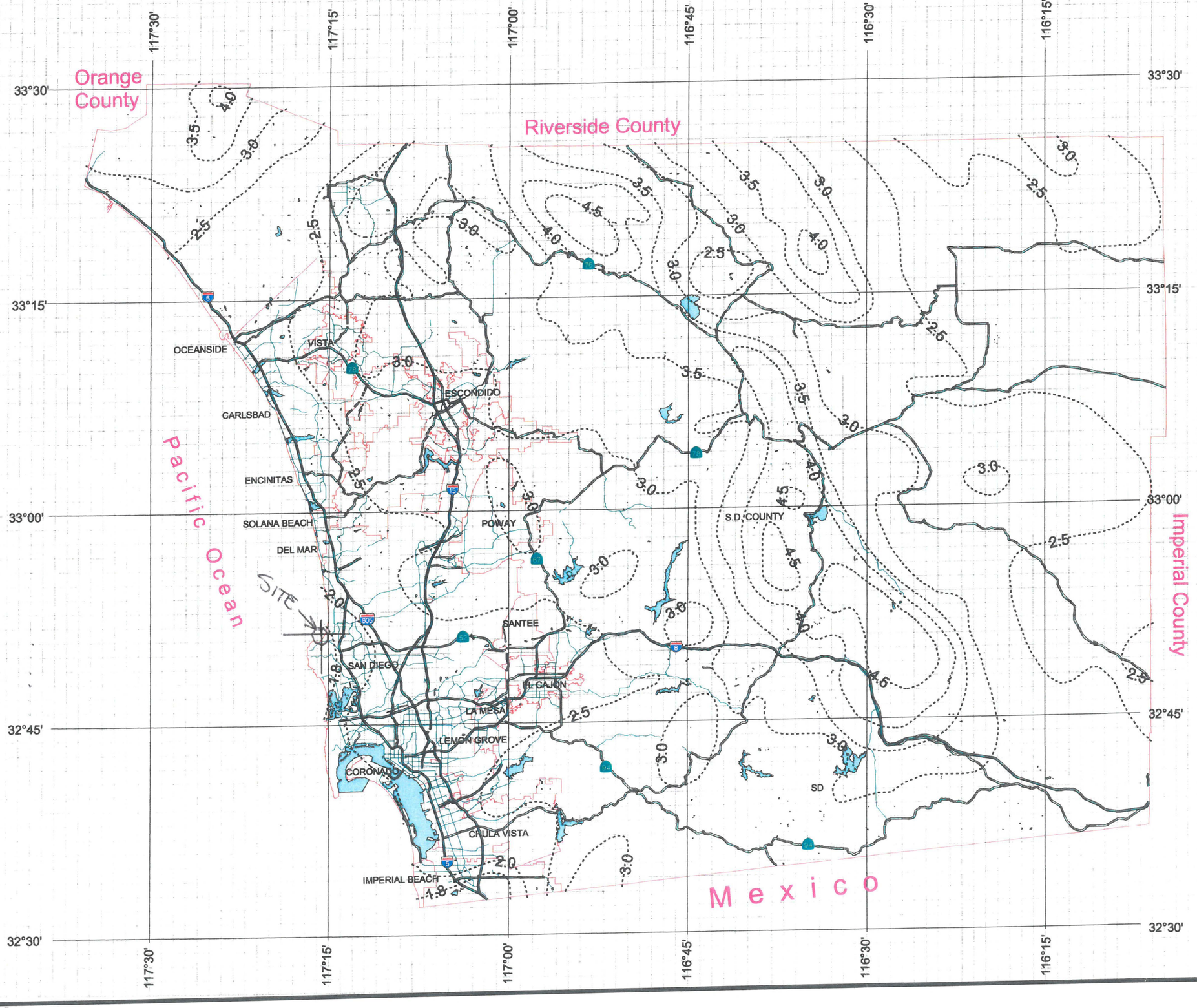
County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 6 Hours

Isopluvial (inches)

1.8



N W E S

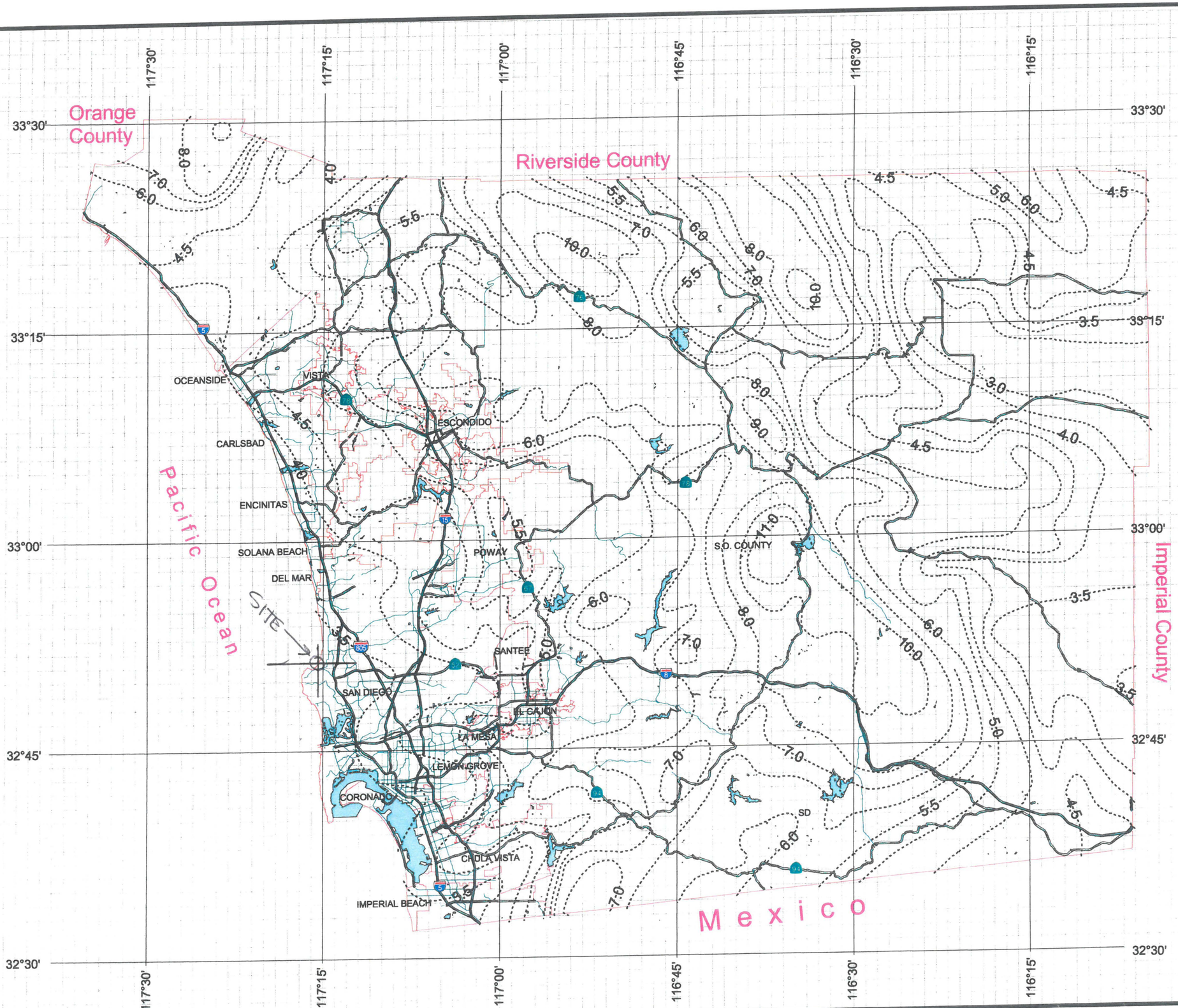
3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 24 Hours

Isopluvial (inches)



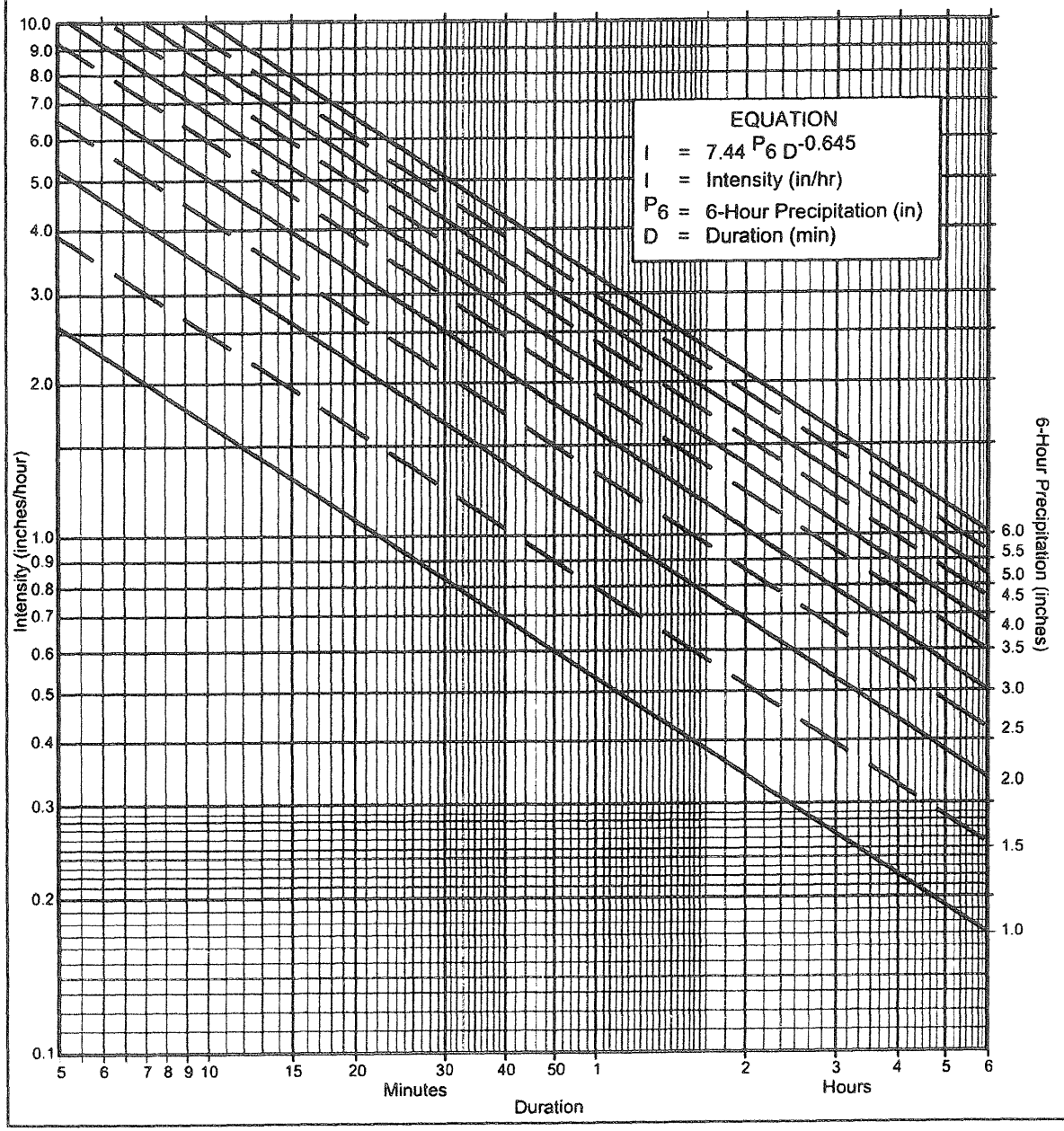
3.4

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles



Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 100 year

(b) P_6 = 2.0 in., P_{24} = 3.9, $\frac{P_6}{P_{24}}$ = 51 %(2)

(c) Adjusted P_6(2) = 2.0 in.

(d) t_x = 6.7 min.

(e) I = 4.37 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6 / Duration	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Template

FIGURE 3-1

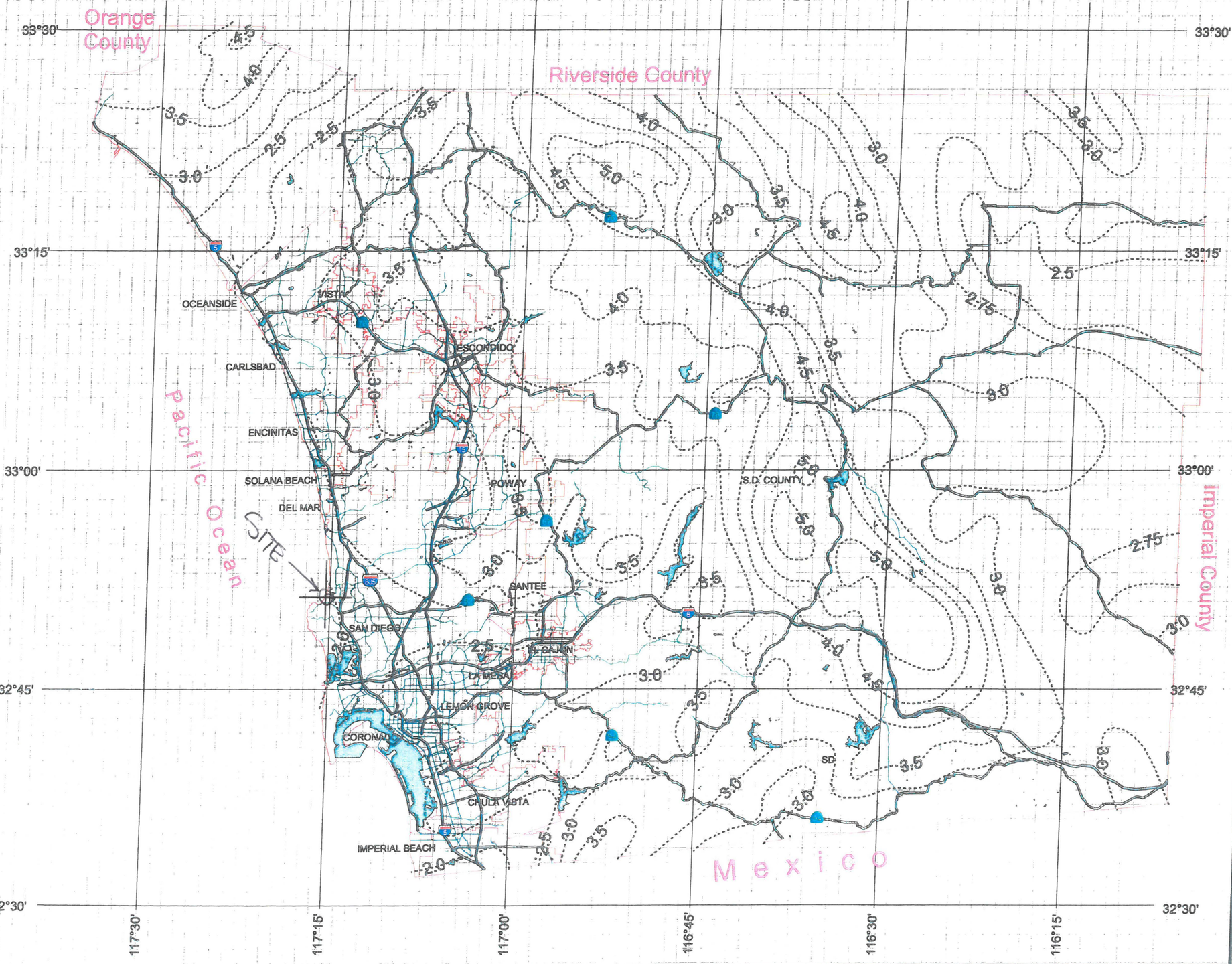
County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

2.0



DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

Isopluvial (inches)

3.9

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

SITE

OCEANSIDE

VISTA

CARLSBAD

ESCONDIDO

ENCINITAS

SOLANA BEACH

DEL MAR

POWAY

S.D. COUNTY

SANTEE

SAN DIEGO

EL CAJON

LA MESA

LEMON GROVE

CORONADO

SD

CHULA VISTA

IMPERIAL BEACH

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'

33°30' 33°15' 33°00' 32°45' 32°30'

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N W E S

3 0 3 Miles

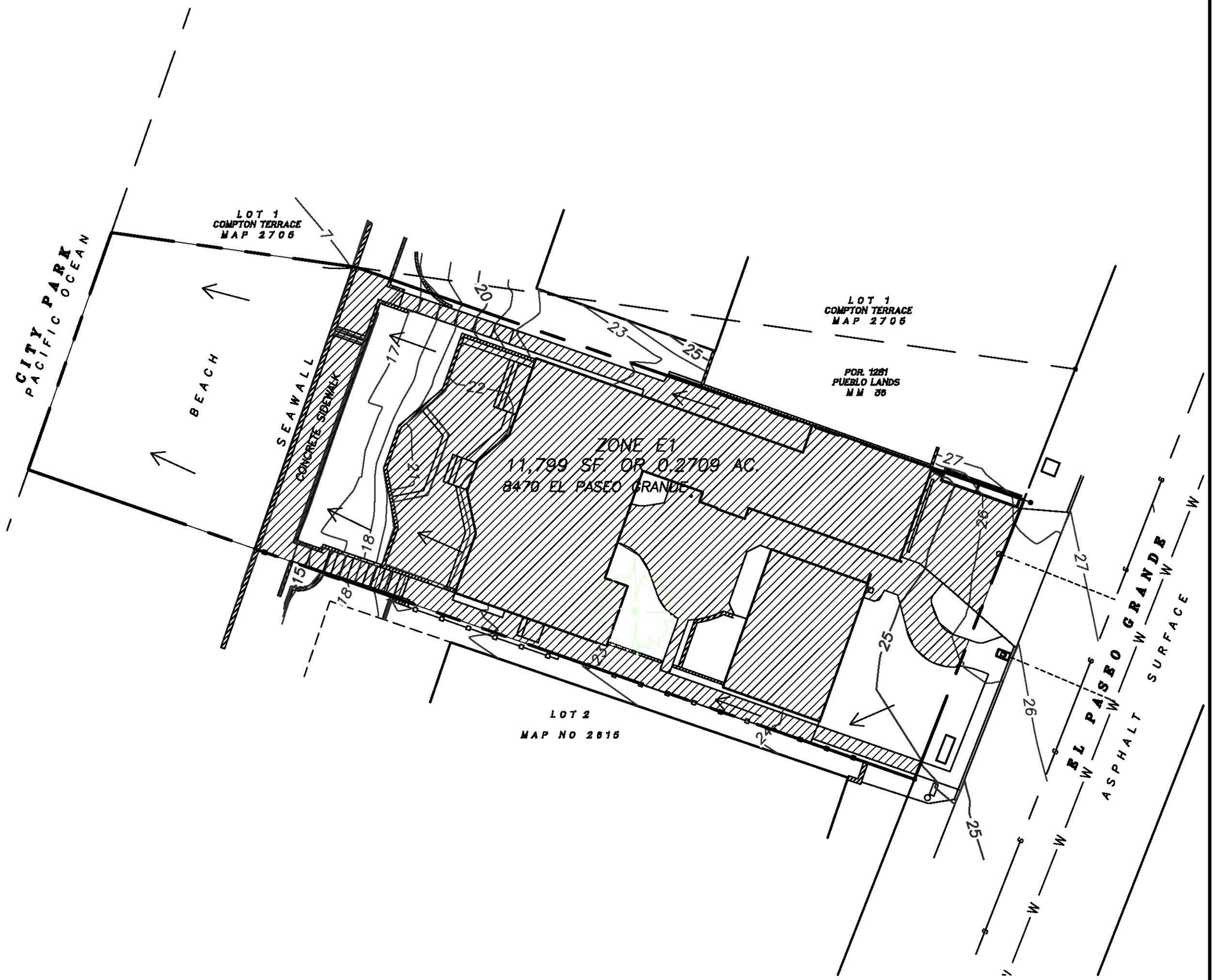
EXHIBIT A

EXISTING CONDITIONS DRAINAGE AREAS MAP

EXHIBIT A

HYDROLOGY MAP
EXISTING CONDITIONS

SCALE 1" = 20'



PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

ZONE E1
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 6851 SF. OR 0.1573 AC.
58.1% OF SITE

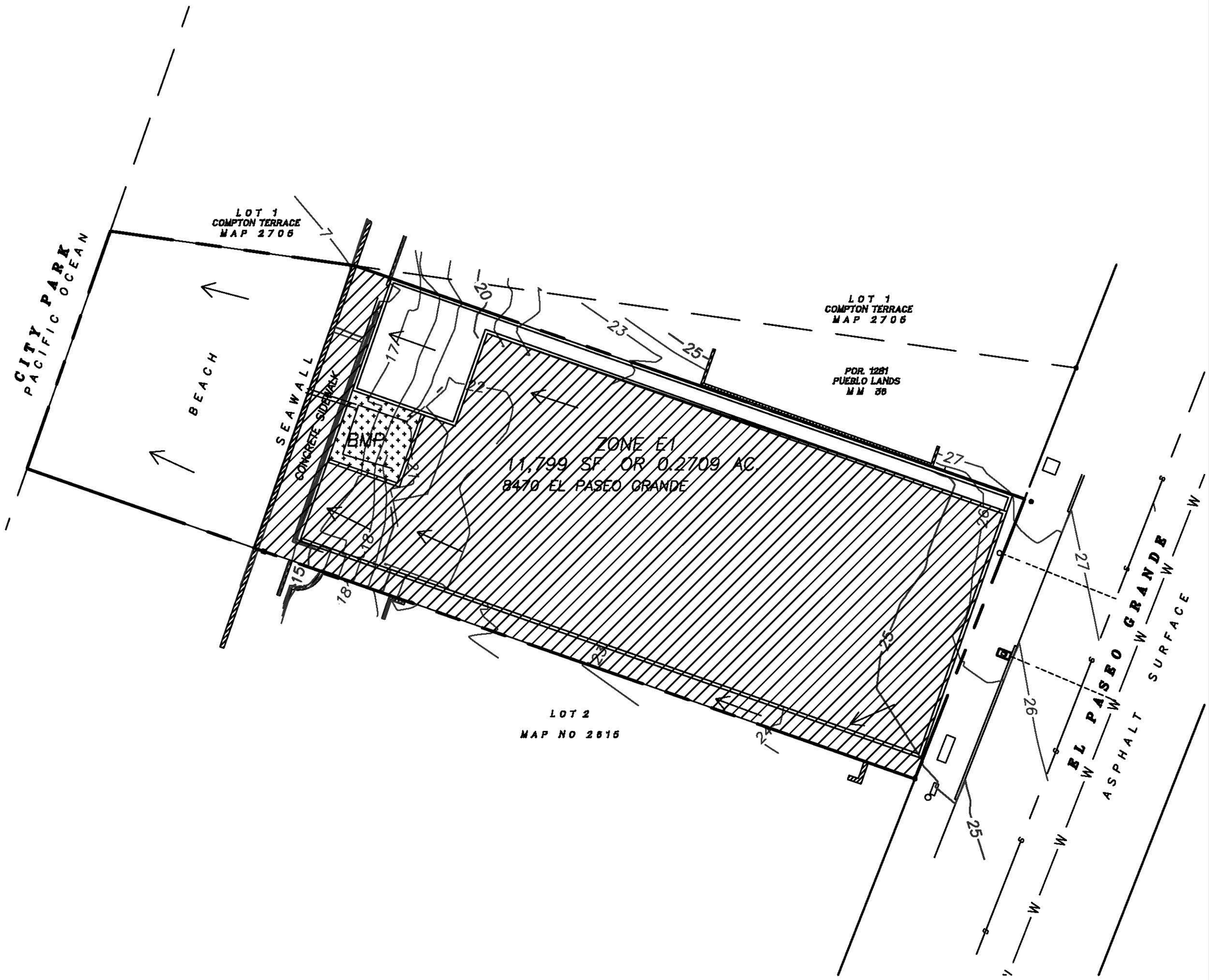
EXHIBIT B

PROPOSED CONDITIONS DRAINAGE AREAS MAP

EXHIBIT B

HYDROLOGY MAP
PROPOSED CONDITIONS

SCALE 1" = 20'



PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

ZONE P1
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 7900 SF. OR 0.1814 AC.
67.0% OF SITE

PERVIOUS AREA
AREA = 3,899 SF. OR 0.0895 AC.
33.0% OF SITE

BMP – BIO–FILTRATION BASIN
225 SF

HYDROLOGY REPORT
FOR
8470 EL PASEO GRANDE
CITY OF SAN DIEGO

APN: 346-050-11

DATE: MARCH 16, 2017

PREPARED BY:
SAN DIEGO LAND SURVEYING AND ENGINEERING INC.
9665 CHESAPEAKE DRIVE, SUITE 445
SAN DIEGO, CA. 92123

CITY OF SAN DIEGO
PTS

TABLE OF CONTENTS

APPENDICES

EXHIBITS

PROJECT DESCRIPTION:

EXISTING PROJECT SITE DESCRIPTION:

The site is 0.2709 acres in size and is occupied by a single family home. The general direction of drainage is to the west and the Pacific Ocean. The project is immediately adjacent to El Paseo Grande, a public street. This public road drains to the south. There are block retaining wall or screen walls on the north and south property lines. The east property line is a public road, no offsite water drains onto the site.

See the 20 scale drainage areas map in Exhibit A for more detail of the project.

The existing impervious area is 6851 SF. or 0.1573 AC. **58.1%**

PROPOSED PROJECT DESCRIPTION:

The project will consist of removal of the existing home and the construction of a new single family home. The disturbed area is about 9,000 square feet. The existing utilities will be use reducing the impact to the public right-of-way.

See the 20 scale drainage areas map in Exhibit B for more detail of the proposed project.

The proposed impervious area is 8,277 SF. or 0.1328 AC. **70.1%**

STANDARDS AND METHODS:

PURPOSE OF CALCULATIONGS:

Calculate the storm runoff generated by the residential site and the impact to the downstream lands.

HYDROLOGIC MODEL AND METHODS USED:

This report uses the "Rational Method" as demonstrated in the County of San Diego Storm Drain Manual.

Q = CIA

WATER QUALITY DESIGN STORM:

The design storm for this report shall be the 50 year storm for private drainage and the 100 year storm for public storm drain structures and flow paths. The 85% storm will be used for any storm water treatment structures that are required.

ANALYSIS AND CONCLUSIONS

PRE-DEVELOPMENT RUNOFF VOLUMES AND PEAK FLOWS:

Runoff factor "C" for medium density residential (4.3 DU/A) with a soil type of "D" from table 3-1 "Runoff Coefficients for Urban Areas" from the above manual and attached in Appendix "B" is 0.52. See Exhibit "A" for plan view of the drainage area.

Modify C factor for actual impervious area.

Actual impervious area = $\frac{.581 + .52}{2}$ = **0.55**

Time of concentration is composed of "Maximum Overland Flow Length" plus "Travel Time" to point of discharge. The maximum overland flow length is taken form Table 3-2, included in Appendix C, for medium density residential (4.3 DU/A) with a grade of 5% is 6.7 mins. for the first 100 feet. There is no "Travel Time as the drainage area does not exceed 100 feet in length. Use 6.7 mins.

Using the 50 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 50 year storm, the rainfall intensity = **3.85.**

Using the 100 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 100 year storm, the rainfall intensity = **4.39.**

Zone Existing Area E1 = 0.1402 acres
This area consists of the portion of the site that drains to the Pacific Ocean.

Q50 = CIA = .55 x 3.85 x 0.2709 = 0.57 CFS
Q100 = CIA = .55 x 4.39 x 0.2709 = 0.65 CFS

POST-PROJECT RUNOFF VOLUMES AND PEAK FLOWS:

Runoff factor "C" for medium density residential (4.3 DU/A) with a soil type of "D" from table 3-1 "Runoff Coefficients for Urban Areas" from the above manual and attached in Appendix "B" is 0.52. See Exhibit "A" for plan view of the drainage area.

Modify C factor for actual impervious area.

Actual impervious area = $\frac{.701 + .52}{2}$ = **0.61**

Time of concentration is composed of "Maximum Overland Flow Length" plus "Travel Time" to point of discharge. The maximum overland flow length is taken form Table 3-2, included in Appendix C, for medium density residential (4.3 DU/A) with a grade of 2% is 8.1 mins. for the first 80 feet. There is no "Travel Time as the drainage area does not exceed 80 feet in length. 8.1 mins.

Using the 50 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 50 year storm, the rainfall intensity = 3.85.

Using the 100 year storm and the rainfall intensity-duration-frequency curves from the chart in Appendix "D". Determine rainfall intensity "I". For 6.7 min., 100 year storm, the rainfall intensity = 4.39.

Zone Proposed Area P1 = 0.2709 acres
This area consists of the portion of the site that drains to Chelsea Road.

Q50 = CIA = .61 x 3.85 x 0.2709 = 0.64 CFS
Q100 = CIA = .61 x 4.39 x 0.2709 = 0.73 CFS

CONCLUSION:

The existing lot drains to the Pacific Ocean. The increase in impervious area of the proposed project has increased the runoff (100y) by 0.08 CFS. This small amount will not affect the Pacific Ocean environment. Treatment of the storm runoff will be by bio-filtration basin.

CERTIFICATION STATEMENT:

This Hydrology Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer (Engineer) attests to the technical information contained herein and the engineering data upon which the following design, recommendations, conclusions and decisions are based. The selection, sizing, and design of storm water treatment and other control measures in this report meet the requirements of the Regional Water Quality Control Board Order R9-2013-0001 and subsequent amendments.

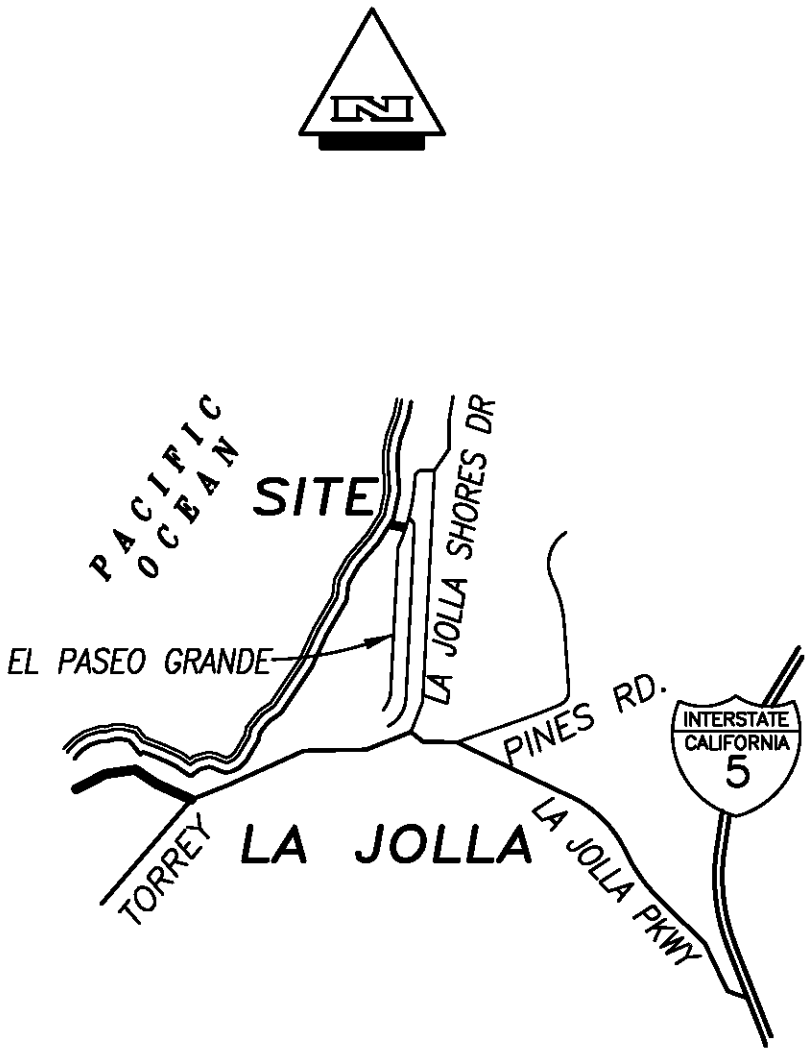
ENGINEER OF WORK:

_____ DATE: 03-16-2017

MICHAEL LEE SMITH, RCE 35471
MY REGISTRATION EXPIRES ON
9/30/2017

APPENDIX A

VICINITY MAP



VICINITY MAP

NO SCALE

APPENDIX B

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
TABLE 3-1, RUNOFF COEFFICIENTS FOR URBAN AREA

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

Land Use		Runoff Coefficient "C"				
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service

APPENDIX C

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
FIGURE 3-1, TIME OF CONCENTRATION CHARTS

Note that the Initial Time of Concentration should be reflective of the general land-use at the upstream end of a drainage basin. A single lot with an area of two or less acres does not have a significant effect where the drainage basin area is 20 to 600 acres.

Table 3-2 provides limits of the length (Maximum Length (L_M)) of sheet flow to be used in hydrology studies. Initial T_i values based on average C values for the Land Use Element are also included. These values can be used in planning and design applications as described below. Exceptions may be approved by the "Regulating Agency" when submitted with a detailed study.

Table 3-2

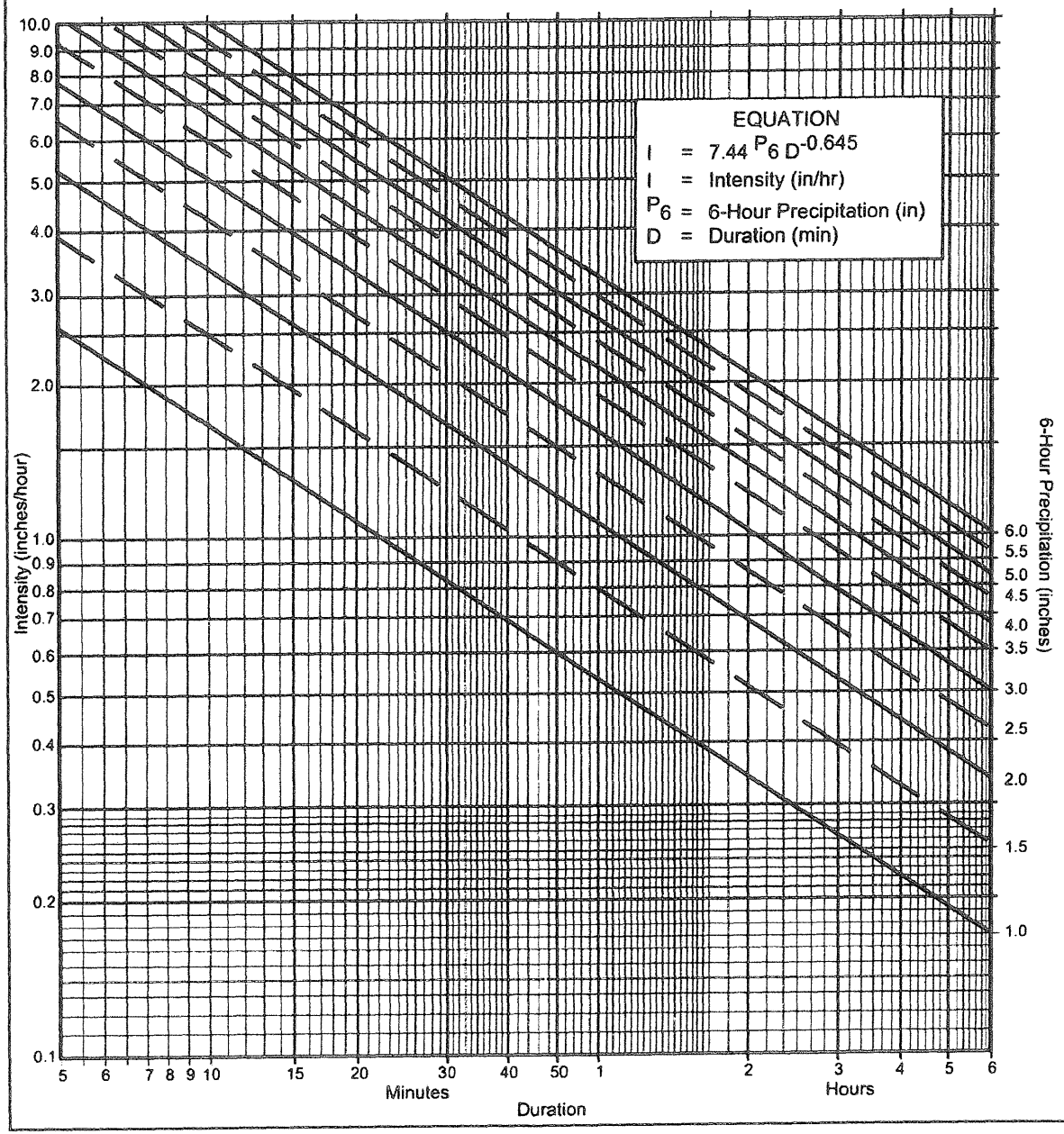
MAXIMUM OVERLAND FLOW LENGTH (L_M) & INITIAL TIME OF CONCENTRATION (T_i)

Element*	DU/ Acre	.5%		1%		2%		3%		5%		10%	
		L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i	L_M	T_i
Natural		50	13.2	70	12.5	85	10.9	100	10.3	100	8.7	100	6.9
LDR	1	50	12.2	70	11.5	85	10.0	100	9.5	100	8.0	100	6.4
LDR	2	50	11.3	70	10.5	85	9.2	100	8.8	100	7.4	100	5.8
LDR	2.9	50	10.7	70	10.0	85	8.8	95	8.1	100	7.0	100	5.6
MDR	4.3	50	10.2	70	9.6	80	8.1	95	7.8	100	6.7	100	5.3
MDR	7.3	50	9.2	65	8.4	80	7.4	95	7.0	100	6.0	100	4.8
MDR	10.9	50	8.7	65	7.9	80	6.9	90	6.4	100	5.7	100	4.5
MDR	14.5	50	8.2	65	7.4	80	6.5	90	6.0	100	5.4	100	4.3
HDR	24	50	6.7	65	6.1	75	5.1	90	4.9	95	4.3	100	3.5
HDR	43	50	5.3	65	4.7	75	4.0	85	3.8	95	3.4	100	2.7
N. Com		50	5.3	60	4.5	75	4.0	85	3.8	95	3.4	100	2.7
G. Com		50	4.7	60	4.1	75	3.6	85	3.4	90	2.9	100	2.4
O.P./Com		50	4.2	60	3.7	70	3.1	80	2.9	90	2.6	100	2.2
Limited I.		50	4.2	60	3.7	70	3.1	80	2.9	90	2.6	100	2.2
General I.		50	3.7	60	3.2	70	2.7	80	2.6	90	2.3	100	1.9

*See Table 3-1 for more detailed description

APPENDIX D

COUNTY OF SAN DIEGO STORM DRAIN MANUAL
FIGURE 3-1, INTENSITY DURATION DESIGN CHART



Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 50 year

(b) P_6 = 1.8 in., P_{24} = 3.4, $\frac{P_6}{P_{24}}$ = 53 %(2)

(c) Adjusted P_6(2) = 1.8 in.

(d) t_x = 6.7 min.

(e) I = 3.85 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6 / Duration	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Template

	1.5	1.8	2.0
5	3.95	4.61	5.27
6.7		3.85	
7	3.18	3.71	4.24

FIGURE 3-1

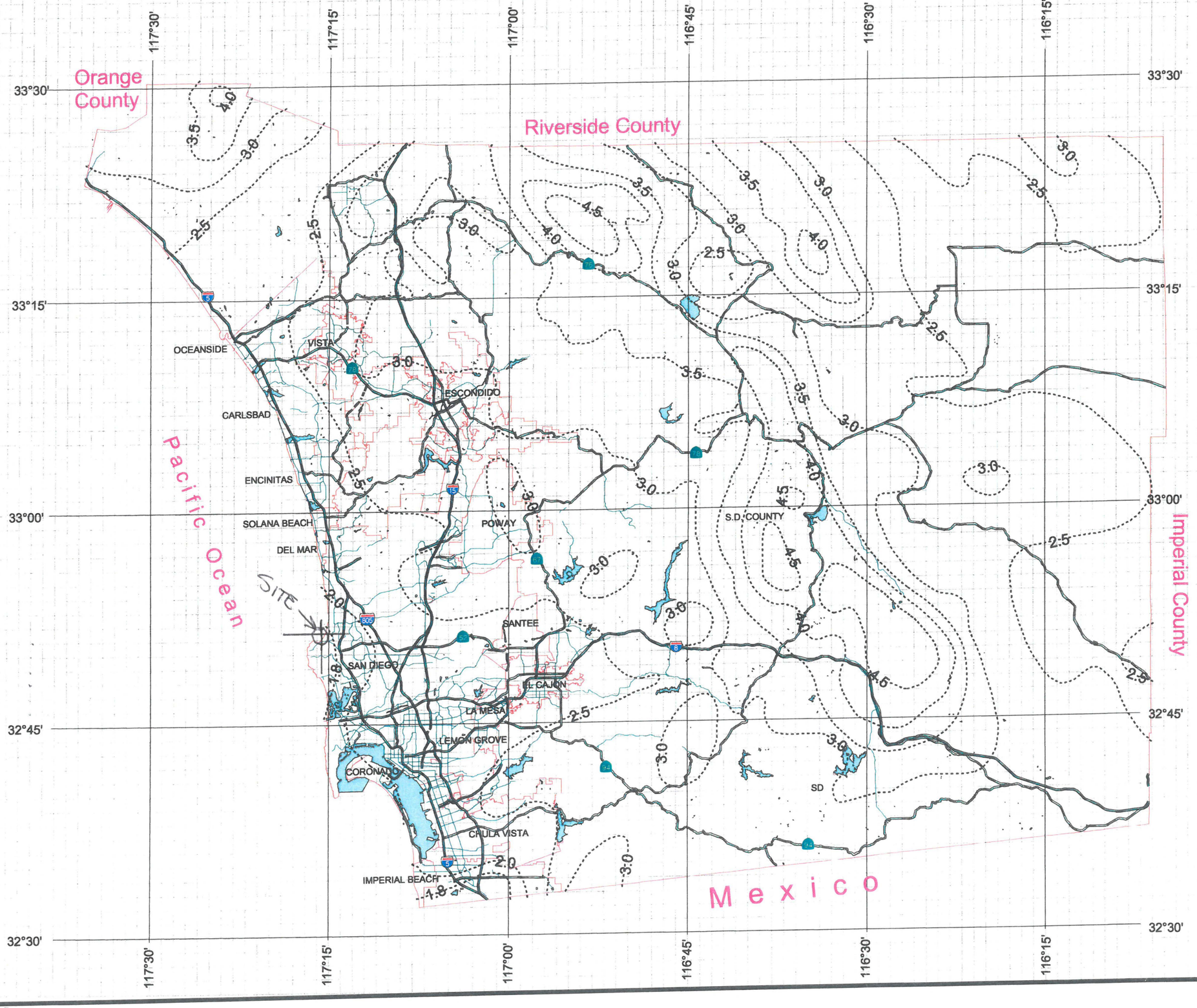
County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 6 Hours

Isopluvial (inches)

1.8



N W E S

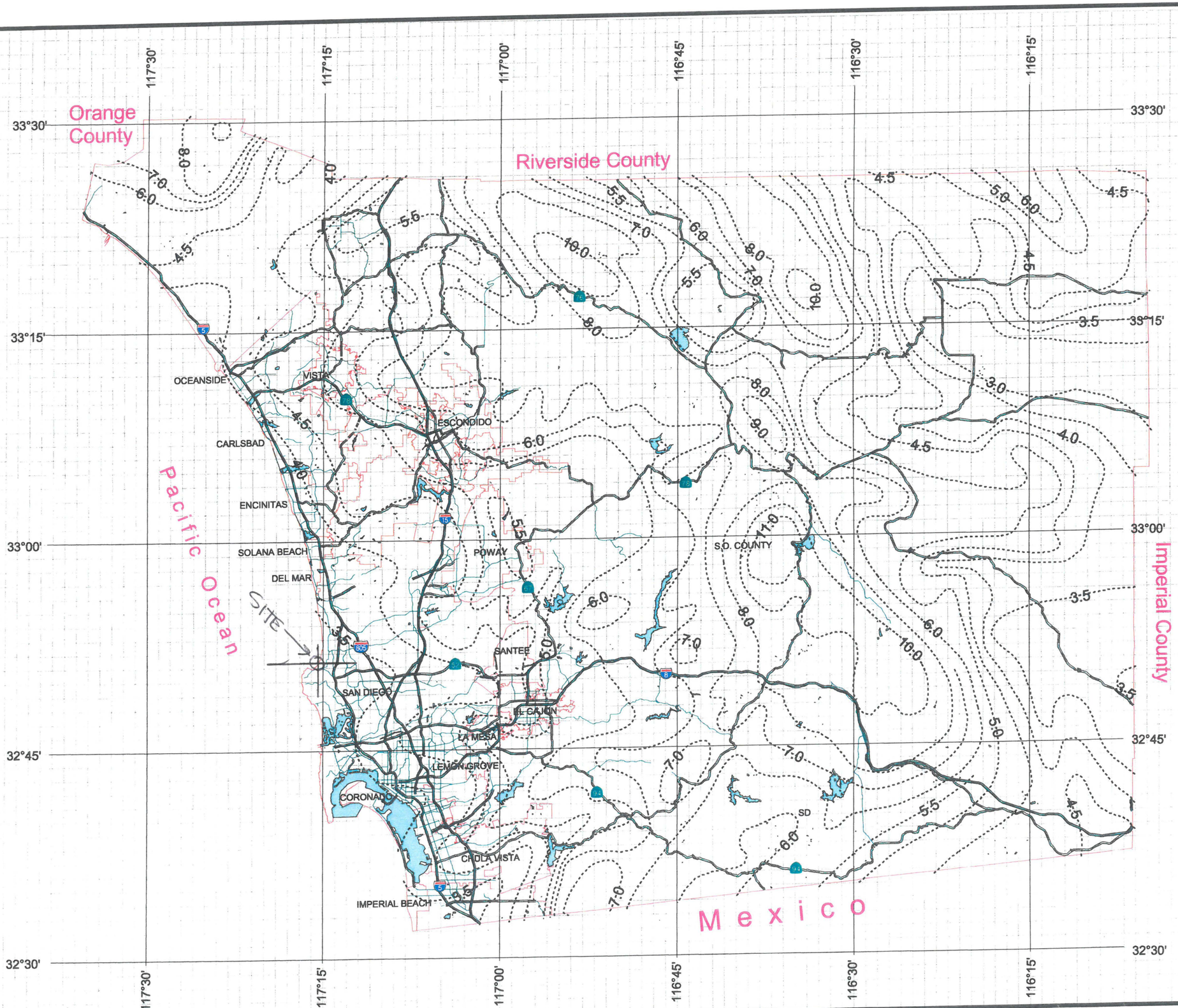
3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 24 Hours

Isopluvial (inches)



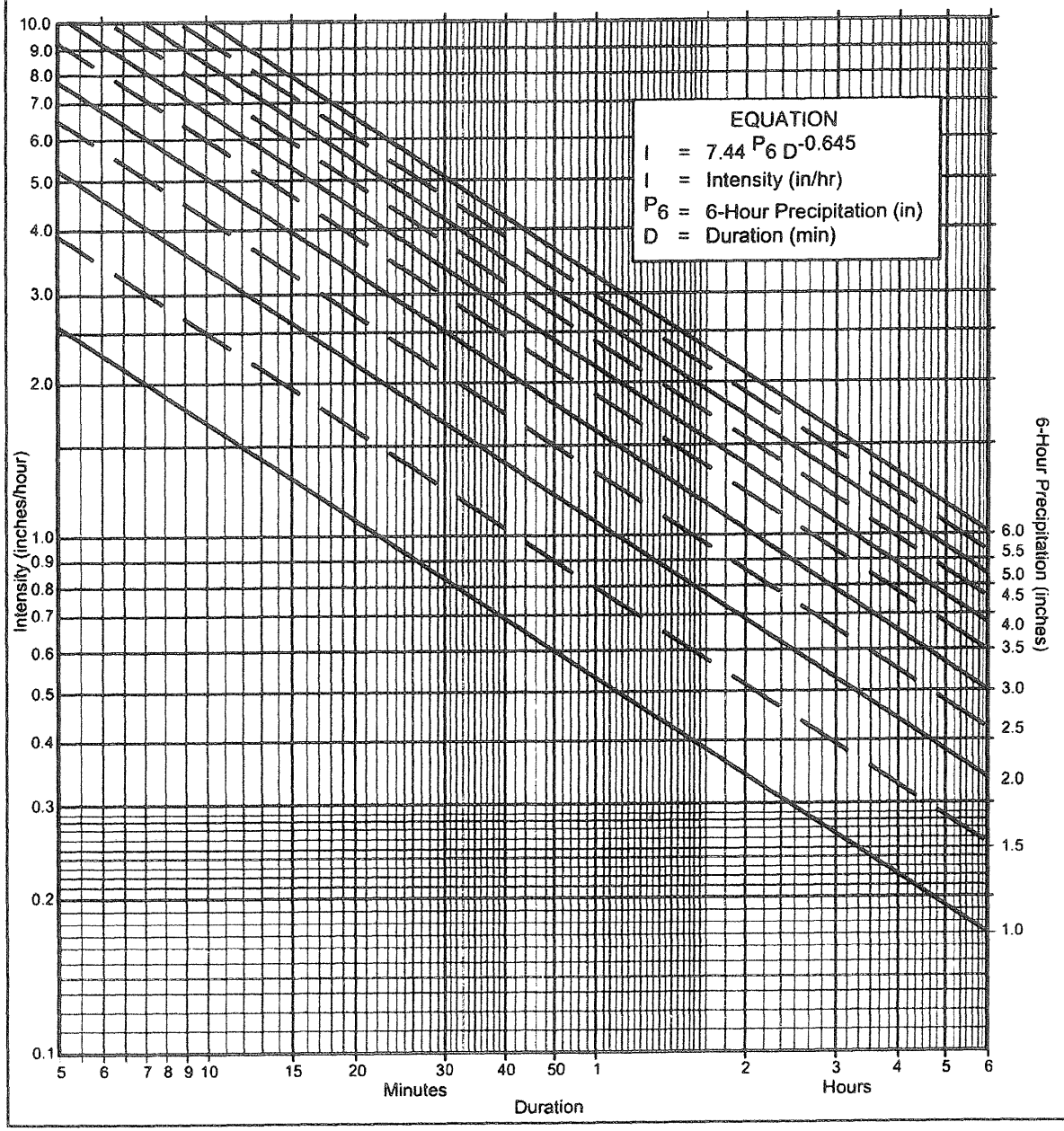
3.4

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles



Directions for Application:

(1) From precipitation maps determine 6 hr and 24 hr amounts for the selected frequency. These maps are included in the County Hydrology Manual (10, 50, and 100 yr maps included in the Design and Procedure Manual).

(2) Adjust 6 hr precipitation (if necessary) so that it is within the range of 45% to 65% of the 24 hr precipitation (not applicaple to Desert).

(3) Plot 6 hr precipitation on the right side of the chart.

(4) Draw a line through the point parallel to the plotted lines.

(5) This line is the intensity-duration curve for the location being analyzed.

Application Form:

(a) Selected frequency 100 year

(b) P_6 = 2.0 in., P_{24} = 3.9, $\frac{P_6}{P_{24}}$ = 51 %(2)

(c) Adjusted P_6(2) = 2.0 in.

(d) t_x = 6.7 min.

(e) I = 4.37 in./hr.

Note: This chart replaces the Intensity-Duration-Frequency curves used since 1965.

P6 / Duration	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
5	2.63	3.95	5.27	6.59	7.90	9.22	10.54	11.86	13.17	14.49	15.81
7	2.12	3.18	4.24	5.30	6.36	7.42	8.48	9.54	10.60	11.66	12.72
10	1.68	2.53	3.37	4.21	5.05	5.90	6.74	7.58	8.42	9.27	10.11
15	1.30	1.95	2.59	3.24	3.89	4.54	5.19	5.84	6.49	7.13	7.78
20	1.08	1.62	2.15	2.69	3.23	3.77	4.31	4.85	5.39	5.93	6.46
25	0.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60
30	0.83	1.24	1.66	2.07	2.49	2.90	3.32	3.73	4.15	4.56	4.98
40	0.69	1.03	1.38	1.72	2.07	2.41	2.76	3.10	3.45	3.79	4.13
50	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98	3.28	3.58
60	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18
90	0.41	0.61	0.82	1.02	1.23	1.43	1.63	1.84	2.04	2.25	2.45
120	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04
150	0.29	0.44	0.59	0.73	0.88	1.03	1.18	1.32	1.47	1.62	1.76
180	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.18	1.31	1.44	1.57
240	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.08	1.19	1.30
300	0.19	0.28	0.38	0.47	0.56	0.66	0.75	0.85	0.94	1.03	1.13
360	0.17	0.25	0.33	0.42	0.50	0.58	0.67	0.75	0.84	0.92	1.00

Intensity-Duration Design Chart - Template

FIGURE 3-1

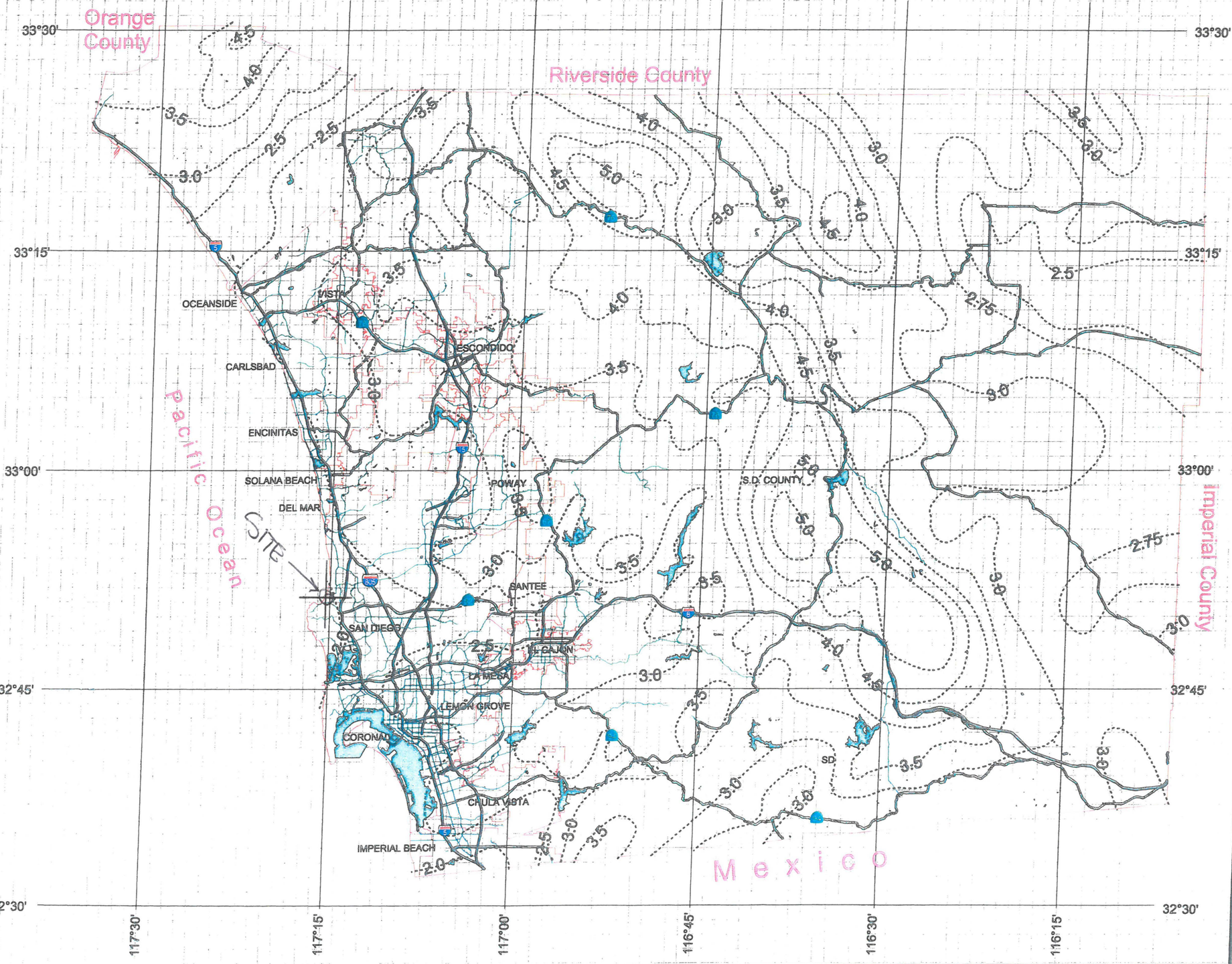
County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

2.0



DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

Isopluvial (inches)

3.9

Orange County

Riverside County

Imperial County

Pacific Ocean

Mexico

SITE

OCEANSIDE

VISTA

CARLSBAD

ESCONDIDO

ENCINITAS

SOLANA BEACH

DEL MAR

POWAY

S.D. COUNTY

SANTEE

SAN DIEGO

EL CAJON

LA MESA

LEMON GROVE

CORONADO

SD

CHULA VISTA

IMPERIAL BEACH

117°30' 117°15' 117°00' 116°45' 116°30' 116°15'

33°30' 33°15' 33°00' 32°45' 32°30'

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N W E S

3 0 3 Miles

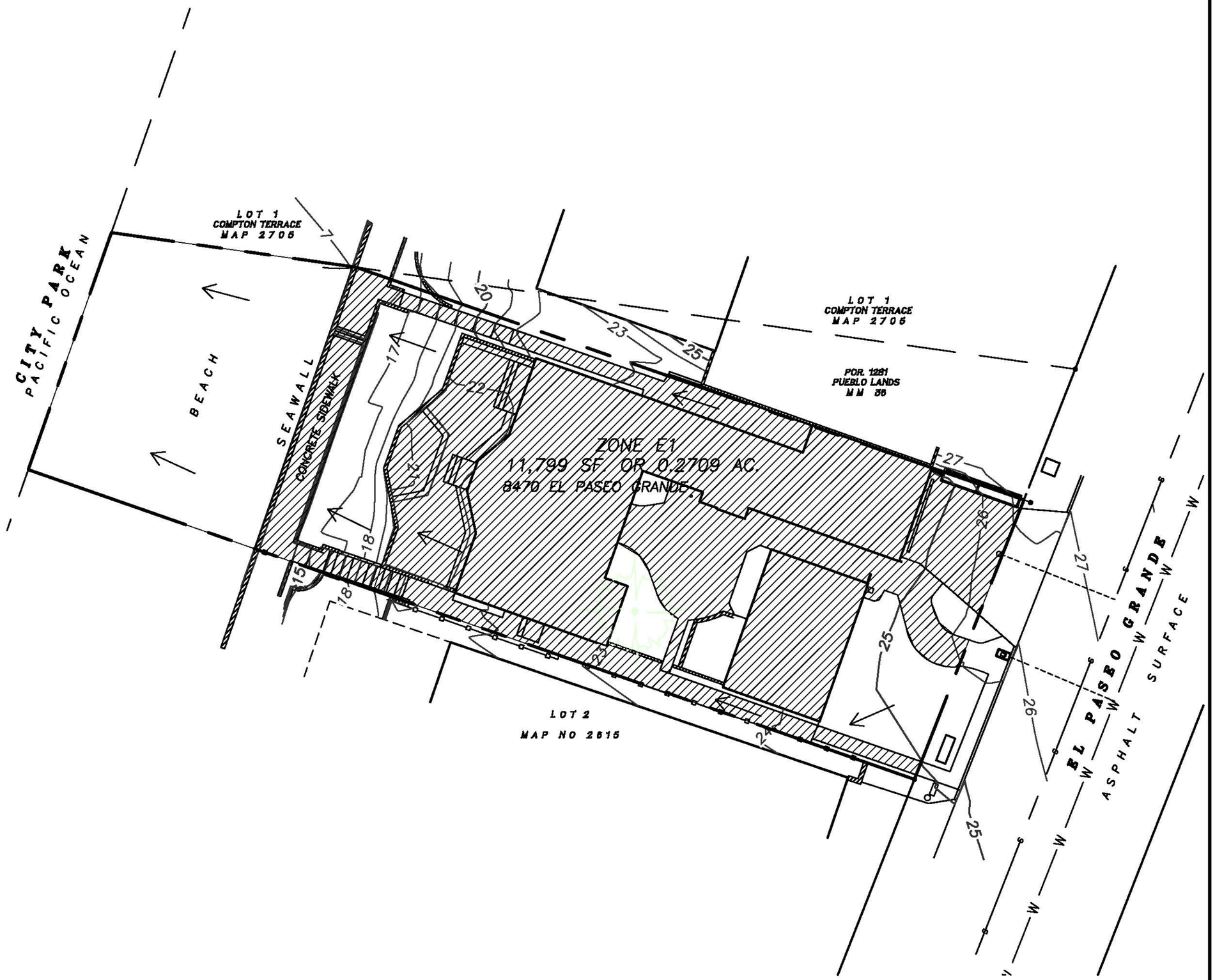
EXHIBIT A

EXISTING CONDITIONS DRAINAGE AREAS MAP

EXHIBIT A

HYDROLOGY MAP
EXISTING CONDITIONS

SCALE 1" = 20'



PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

ZONE E1
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 6851 SF. OR 0.1573 AC.
58.1% OF SITE

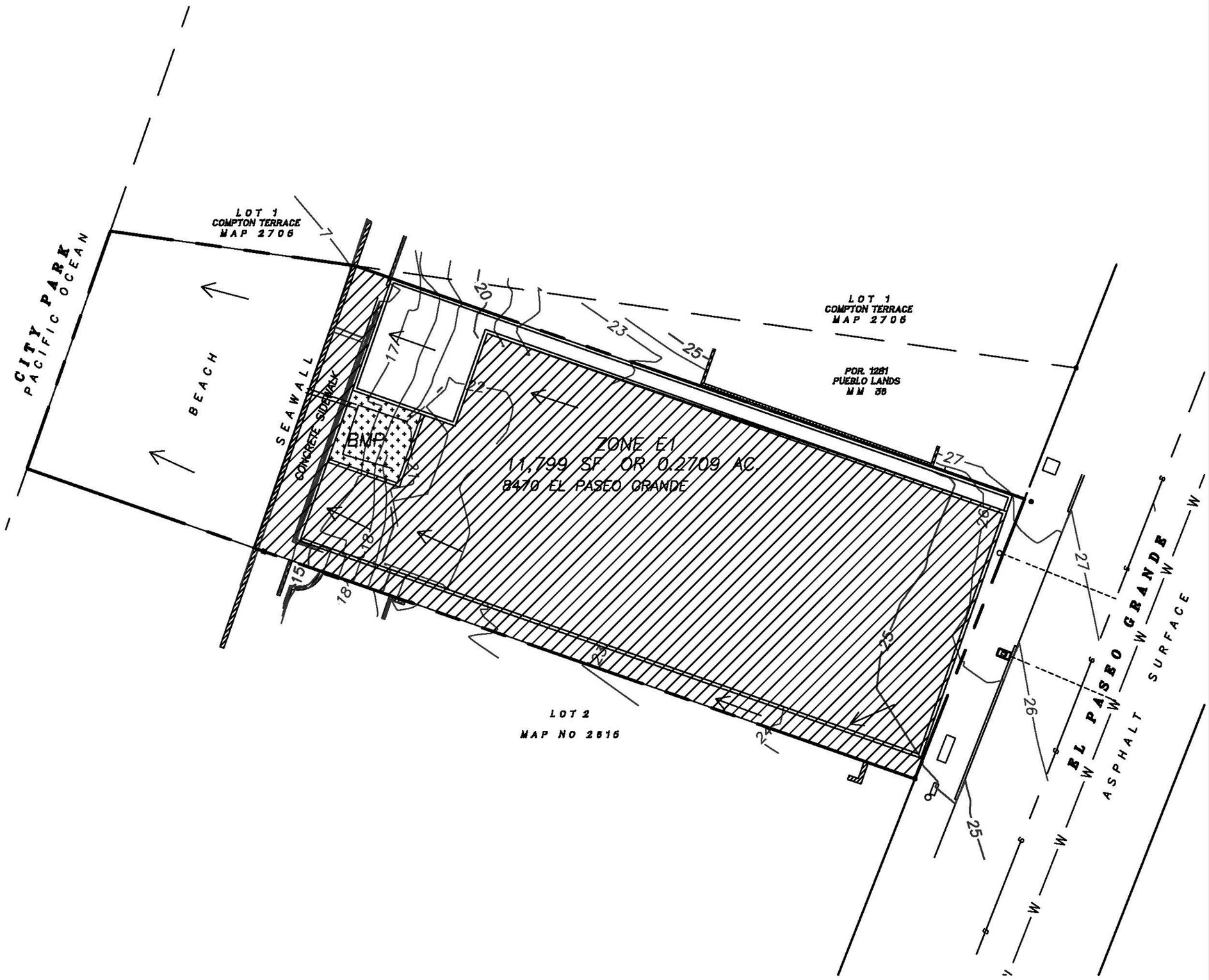
EXHIBIT B

PROPOSED CONDITIONS DRAINAGE AREAS MAP

EXHIBIT B

HYDROLOGY MAP
PROPOSED CONDITIONS

SCALE 1" = 20'



PROJECT AREA
AREA = 11,799 SF. OR 0.2709 AC.

ZONE P1
AREA = 11,799 SF. OR 0.2709 AC.

IMPERVIOUS AREA
AREA = 7900 SF. OR 0.1814 AC.
67.0% OF SITE

PERVIOUS AREA
AREA = 3,899 SF. OR 0.0895 AC.
33.0% OF SITE

BMP – BIO–FILTRATION BASIN
225 SF