Priority Development Project (PDP)
Storm Water Quality Management Plan (SWQMP)

POINT LOMA HOTEL

PROJECT # 605741

[Insert Drawing Number (if applicable) and Internal Order Number (if applicable)]

☐ **Check if electing for offsite alternative compliance**

Engineer of Work:

TRAVIS P. VINCENT, C 37356

Provide Wet Signature and Stamp Above Line

Prepared For:

Vista Investments

2225 CAMPUS DRIVE

EL SEGUNDO, CA 90245

(310) 725-8200

Prepared By:

CORE STATES GROUP

4240 E. JURUPA STREET, SUITE 402

ONTARIO, CA 91761

(909) 467-8940

Date:

10-14-2019

Approved by: City of San Diego Date

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Project Name: POINT LOMA HOTEL

Table of Contents

- Attachment 3: Structural BMP Maintenance Plan
    - Maintenance Agreement (Form DS-3247) (when applicable)
- Attachment 4: Copy of Plan Sheets Showing Permanent Storm Water BMPs
- Attachment 5: Project's Drainage Report
- Attachment 6: Project's Geotechnical and Groundwater Investigation Report

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

Certification Page

Project Name:
Permit Application

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.

Engineer of Work's Signature

C 37356

PE#

6-30-2020

Expiration Date

TRAVIS P. VINCENT

Print Name

CORE STATES GROUP

Company

10-14-2019

Date

Engineer's Stamp

Submittal Record

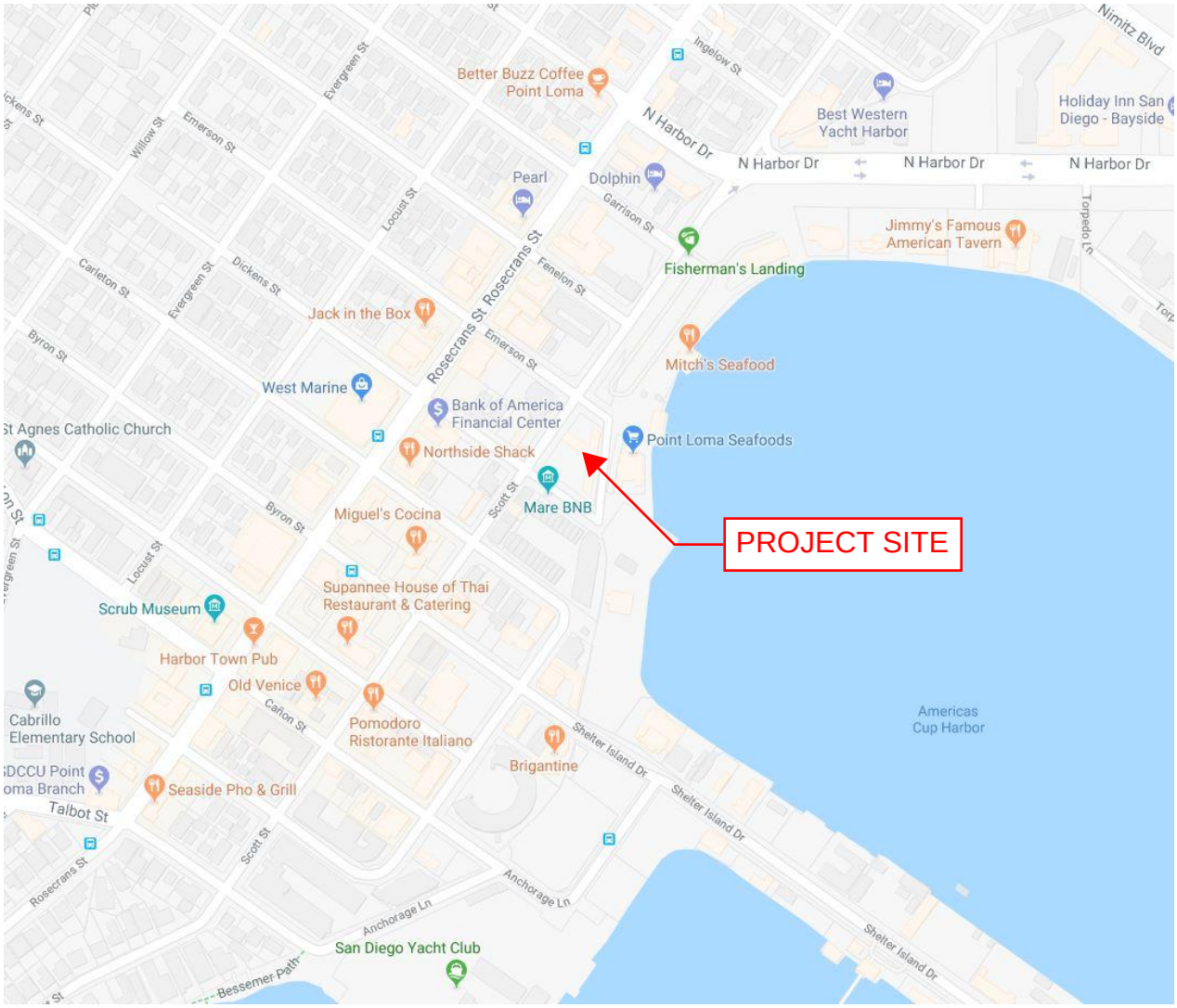
Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In last column indicate changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck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

Submittal Number	Date	Project Status	Changes
1	7-13-2018	☑ **Preliminary Design/Planning/CEQA** ☐ **Final Design**	**Initial Submittal**
2	9-10-2018	☑ **Preliminary Design/Planning/CEQA** ☐ **Final Design**	2nd Submittal
3	8-15-2019	☑ **Preliminary Design/Planning/CEQA** ☐ **Final Design**	3rd Submittal
4	10-04-2019	☑ **Preliminary Design/Planning/CEQA** ☐ **Final Design**	4th Submittal

Project Name: POINT LOMA HOTEL

Project Vicinity Map

Project Name: POINT LOMA HOTEL
Permit Application 605741



City of San Diego Form DS-560 Storm Water Requirements Applicability Checklist

Attach DS-560 form.

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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: 1325 Scott Street, San Diego, CA 92106

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

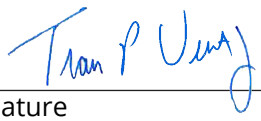
8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more 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 ☒

Travis Vincent	Senior Project Manager
Name of Owner or Agent *(Please Print)*	Title
	07/13/2018
Signature	Date

Clear Page 4

Clear Form

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

Project Identification

Project Name: POINT LOMA HOTEL	
Permit Application Number: 605741	Date: 6-8-2018

Determination of Requirements

The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short 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 the manual sections and/or separate forms referenced in each step below.

Step	Answer	Progression
Step 1: Is the project a "development project"? See Section 1.3 of the manual (Part 1 of Storm Water Standards) for guidance.	☑ 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):

N/A

Step 2: Is the project a Standard Project, PDP, or PDP Exempt? To answer this item, see Section 1.4 of the manual in its entirety for guidance AND complete Form DS-560, Storm Water Requirements Applicability Checklist.	☐ Standard Project	**Stop.** Standard Project requirements apply
	☑ 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:

N/A

Project Name: POINT LOMA HOTEL

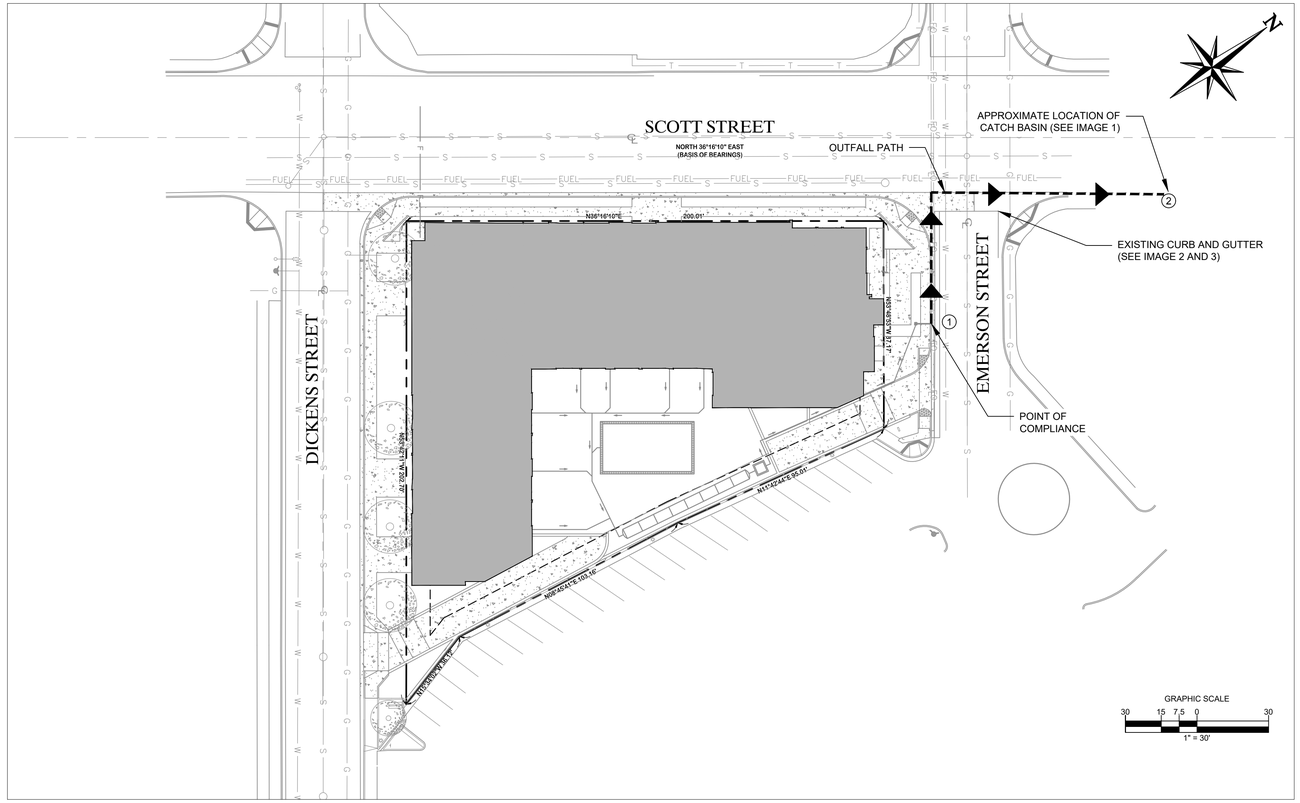
Form I-1 Page 2 of 2		
Step	**Answer**	**Progression**
Step 3. Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the manual (Part 1 of Storm Water Standards) for guidance.	☐ Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to **Step 4**.
	☑ 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): N/A		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the 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**.
	☑ 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: The project site is located next to the Americas Cup Harbor. The drainage from the site will directly discharge into the Harbor and the Pacific Ocean. Therefore, the development project is exempt from Hydromodification Control requirements. See attached Hydrmodification Exemption Map.		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the 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**.
	☑ 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: The project site is located in the critical coarse sediment yield exempt area. See attached Regional Potential Critical Coarse Sediment Mapping and CCSYA map exhibit.		

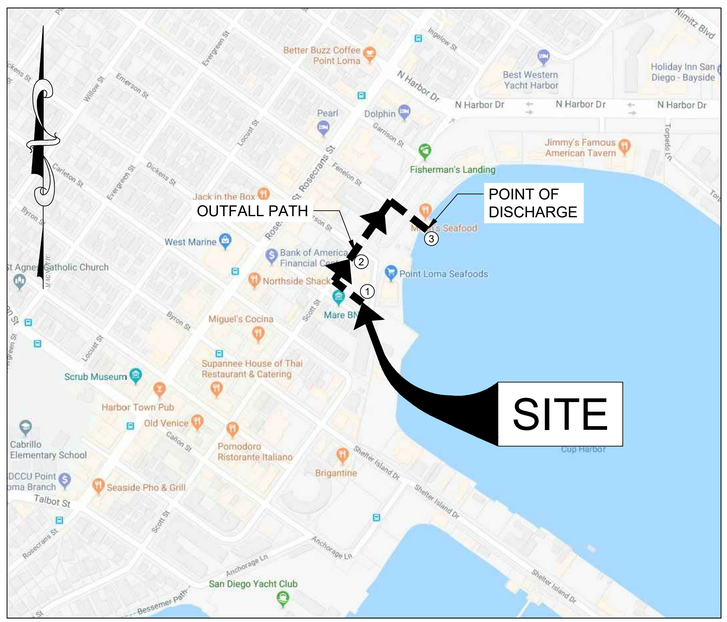
CCSYA EXHIBIT

HMP Exemption Exhibit

Attach a HMP Exemption Exhibit that shows direct storm water runoff discharge from the project site to HMP exempt area. Include project area, applicable underground storm drain line and/or concrete lined channels, outfall information and exempt waterbody.
Reference applicable drawing number(s).

Exhibit must be provided on 11"x17" or larger paper.





LOCATION MAP

N.T.S.

PROJECT DATA

SITE ADDRESS: 1325 SCOTT ST., SAN DIEGO, CA 92106
LOT SIZE: 0.624 AC
DISTURBED AREA: 0.624 AC
HYDROLOGIC SOIL GROUP: B
APPROXIMATE DEPTH TO GROUNDWATER: 12-14 FT

	EXISTING	PROPOSED
IMPERVIOUS AREA	25,699± SF	25,845± SF
PERVIOUS AREA	1500± SF	1,354± SF
DESIGN CAPTURE VOLUME (DCV)	-	1,059 CF
BMP TYPE	-	BMP 1: BIOFILTRATION (MODULAR WETLANDS)
BMP TREATMENT CAPACITY	-	0.052 CFS (1,140 CF @ 24hr Drain Down)

IMAGE 1 - EXISTING CATCH BASIN

IMAGE 2 - EXISTING CURB AND GUTTER ALONG OUTFALL PATH

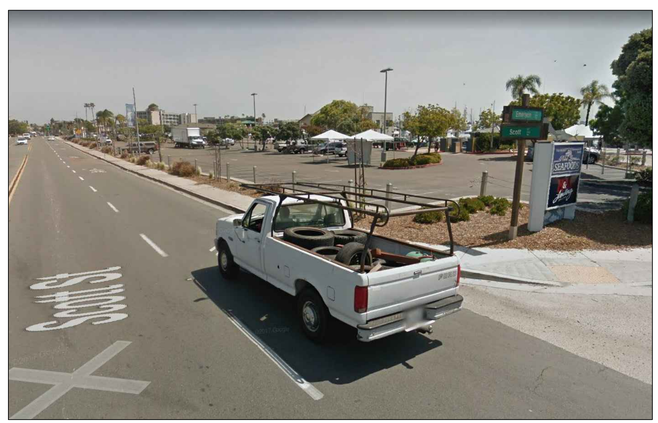


IMAGE 3 - EXISTING CURB AND GUTTER ALONG OUTFALL PATH

CORE STATES GROUP
4240 East Jurupa St., Suite 402
Ontario, CA 91761
Phone (909) 467-8940
Fax (909) 467-8977
tvincent@core-eng.com

PREPARED FOR:
VISTA INVESTMENTS
2225 CAMPUS DRIVE
EL SEGUNDO, CA 90245
T [310] 725-8200

811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE CONTRACTOR IS NOT TO ASSUME THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT
PLANNING
DOCUMENTS

SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
HMP EXEMPTION
EXHIBIT

JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	1"=20'
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.
HMP

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Site Information Checklist For PDPs	Form I-3B
Project Summary Information	
Project Name	POINT LOMA HOTEL
Project Address	1325 SCOTT STREET, SAN DIEGO, CA 92106
Assessor's Parcel Number(s) (APN(s))	531-345-01-11
Permit Application Number	
Project Watershed	Select One: ☐ San Dieguito River ☐ Penasquitos ☐ Mission Bay ☐ San Diego River ☑ San Diego Bay ☐ Tijuana River
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	908.00, 909.00, & 910.00
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	0.624 Acres (27199 Square Feet)
Area to be disturbed by the project (Project Footprint)	0.624 Acres (27199 Square Feet)
Project Proposed Impervious Area (subset of Project Footprint)	0.621 Acres (25845 Square Feet)
Project Proposed Pervious Area (subset of Project Footprint)	0.03 Acres (1354 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	0.5 %

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:

The existing site is in developed condition and consists of a two-story hotel building, an outdoor swimming pool, an outdoor parking lot, a concrete pedestrian walkway, and a landscape area.

Existing Land Cover Includes (select all that apply):

- [x] Vegetative Cover
- [ ] Non-Vegetated Pervious Areas
- [x] Impervious Areas

Description / Additional Information:

The existing site consists of a two-story hotel building , concrete pavement pool area, asphalt pavement parking lot, and a landscape area.

Underlying Soil belongs to Hydrologic Soil Group (select all that apply):

- [ ] NRCS Type A
- [x] NRCS Type B
- [ ] NRCS Type C
- [ ] NRCS Type D

Approximate Depth to Groundwater:

- [ ] Groundwater Depth < 5 feet
- [ ] 5 feet < Groundwater Depth < 10 feet
- [x] 10 feet < Groundwater Depth < 20 feet
- [ ] Groundwater Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

- [ ] Watercourses
- [ ] Seeps
- [ ] Springs
- [ ] Wetlands
- [x] None

Description / Additional Information:

N/A

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.

Descriptions/Additional Information

The existing site is in developed condition with Hydrologic Soil Group Type B. The site consists of a two-story hotel building, an outdoor swimming pool, an outdoor parking area, a concrete pedestrian walkway, and a landscape area. The runoff sheet flows into the two drain inlets, one located at the northeast corner of the site, and the other one located in the parking area. The two drain inlets connect to the curb drains on Scott Street and Emerson Street and discharge the water onto the concrete gutter. The water is then collected by the catch basin on Scott Street, and discharged into the Americas Harbors, San Diego Bay, and eventually 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:

The proposed project consists of construction of a new three-story hotel building which add the total building footprint from 7,098 SF to 17,010, construction of an underground parking garage, and construction of a new outdoor swimming pool.

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

Building, concrete garage entrance driveway, and concrete pool deck.

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

Landscape area.

Does the project include grading and changes to site topography?

☑ Yes

☐ No

Description / Additional Information:

The existing grade of the site will be altered with the construction of the new building and underground parking garage. The site drainage will be collected and treated by the proposed Modular Wetland unit and then discharged onto Emerson Street.

Form I-3B Page 5 of 11

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

☑ 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:

Roof drains are proposed to collect the rainfall that falls under the building roof. A trench drain is proposed to surround the swimming pool to collect drainage from the pool deck area. The drainage from the roof drains and trench drain will join together and enter the Modular Wetlands unit from the side wall. The Modular Wetlands unit with engineering soil media will provide biofiltration treatment to the storm water. The treated water will be pumped out by a sump pump and discharged onto the concrete gutter on Emerson Street.

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

Description/Additional Information:

The proposed project will have a new three-story hotel building, an underground parking garage, and a new outdoor swimming pool. The hotel building will have a trash room, three storage rooms, a laundry room, and a kitchen.

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 site drainage will surface flow on the concrete gutter on Emerson Street and Scott Street. The existing catch basin on Scott Street collects the storm water and discharge it into the Americas Harbor, San Diego Bay, and then Pacific Ocean.
Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations The beneficial uses associated with the San Diego Bay are as follows; Industrial Service Supply; Navigation; Contact Water Recreation; Non-Contact Water Recreation; Commercial and Sport Fishing; Preservation of Biological Habitats of Special Significance; Estuarine Habitat; Wildlife Habitat; Rare, Threatened, and Endangered Species; Shellfish Harvesting; Spawning, Reproduction, and/or Early Development; Migration of Aquatic Organisms; and Marine Habitat.
Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations N/A
Provide distance from project outfall location to impaired or sensitive receiving waters The distance from the project outfall location to the impaired or sensitive receiving waters is approximately 900 feet.
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 The projects permanent, post-construction storm water BMPs are not located in or directly near the City's Multi-Habitat Planning Area and environmentally sensitive lands. For that reason, no impact is expected.

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 (Refer to Appendix K)	Pollutant(s)/Stressor(s) (Refer to Appendix K)	TMDLs/WQIP Highest Priority Pollutant (Refer to Table 1-4 in Chapter 1)
San Diego Bay Shoreline at Americas Cup Harbor	Copper	Dissolved Copper
		Indicator Bacteria
		Lead
		Zinc (wet weather)

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 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)?

☐ 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):

The project site is exempt from Hydromodification requirements, see attached WMAA Hydromodification exemption map exhibit.

Note: If "No" answer has been selected the SWQMP must include an exhibit that shows the storm water conveyance system from the project site to an exempt water body. The exhibit should include details about the conveyance system and the outfall to the exempt water body.

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:

See attached CCSYA exhibit.

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.   N/A
Has a geomorphic assessment been performed for the receiving channel(s)?   ☐No, the low flow threshold is $0.1Q_2$ (default low flow threshold)   ☐Yes, the result is the low flow threshold is $0.1Q_2$ ☐Yes, the result is the low flow threshold is $0.3Q_2$ ☐Yes, the result is the low flow threshold is $0.5Q_2$ If a geomorphic assessment has been performed, provide title, date, and preparer: N/A
Discussion / Additional Information: (optional)   N/A

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.

Infiltration is physically infeasible for this site due to the size of the lot and landscape area. Therefore, a Modular Wetlands Unit is proposed instead to provide the required water quality treatment. The location and discharge point of the Modular Wetlands Unit are also restricted by the location of the landscape area.

Optional Additional Information or Continuation of Previous Sections As Needed

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

Project Name: POINT LOMA HOTEL

Source Control BMP Checklist for PDPs	Form I-4B

Source Control BMPs

All development projects must implement source control BMPs 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?		
4.2.1 Prevention of Illicit Discharges into the MS4	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.2.1 not implemented:			
4.2.2 Storm Drain Stenciling or Signage	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.2.2 not implemented:			
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.3 not implemented:			
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.4 not implemented:			
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.2.5 not implemented:			

Project Name: POINT LOMA HOTEL

Form I-4B Page 2 of 2			
Source Control Requirement	**Applied?**		
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	☑ Yes	☐ No	☐ N/A
Interior floor drains and elevator shaft sump pumps	☐ Yes	☐ No	☑ N/A
Interior parking garages	☑ Yes	☐ No	☐ N/A
Need for future indoor & structural pest control	☑ Yes	☐ No	☐ N/A
Landscape/Outdoor Pesticide Use	☑ Yes	☐ No	☐ N/A
Pools, spas, ponds, decorative fountains, and other water features	☑ 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	☐ Yes	☐ No	☑ N/A
Miscellaneous Drain or Wash Water	☑ Yes	☐ No	☐ N/A
Plazas, sidewalks, and parking lots	☑ Yes	☐ No	☐ N/A
SC-6A: Large Trash Generating Facilities	☐ Yes	☐ No	☑ N/A
SC-6B: Animal Facilities	☐ Yes	☐ No	☑ N/A
SC-6C: Plant Nurseries and Garden Centers	☐ Yes	☐ No	☑ N/A
SC-6D: Automotive Facilities	☐ Yes	☐ No	☑ N/A
Discussion / justification if 4.2.6 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 PDPs	Form I-5B

Site Design BMPs

All development projects must implement site design BMPs 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?		
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features	☐ Yes	☑ No	☐ N/A
Discussion / justification if 4.3.1 not implemented: The existing site has a drop inlet located in the parking lot, and the proposed new building wall is sitting above it. The drop inlet will have to be demolished and all drainage from the site will be directed to the Modular Wetland unit for water treatment.			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	☑ Yes	☐ No	☐ N/A
1-2 Are trees implemented? If yes, are they shown on the site map?	☑ Yes	☐ No	☐ N/A
1-3 Implemented trees meet the design criteria in 4.3.1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	☐ Yes	☐ No	☑ N/A
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A
4.3.2 Have natural areas, soils and vegetation been conserved?	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.2 not implemented:			

Form I-5B Page 2 of 4			
Site Design Requirement	**Applied?**		
4.3.3 Minimize Impervious Area	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.3 not implemented: N/A			
4.3.4 Minimize Soil Compaction	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.4 not implemented: N/A			
4.3.5 Impervious Area Dispersion	☐ Yes	☑ No	☐ N/A
Discussion / justification if 4.3.5 not implemented: The proposed project will increase the building footprint to 62% and add a new outdoor swimming pool area, therefore impervious area dispersion will be very difficult to implement into this site design.			
5-1 Is the pervious area receiving runon from impervious area identified on the site map?	☑ Yes	☐ No	☐ N/A
5-2 Does the pervious area satisfy the design criteria in 4.3.5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	☑ Yes	☐ No	☐ N/A
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and 4.3.5 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A

Form I-5B Page 3 of 4			
Site Design Requirement	**Applied?**		
4.3.6 Runoff Collection	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.6 not implemented:			
6a-1 Are green roofs implemented in accordance with design criteria in 4.3.6A Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☑ No	☐ N/A
6a-2 Is the green roof credit volume calculated using Appendix B.2.1.2 and 4.3.6A Fact Sheet in Appendix E?	☐ Yes	☑ No	☐ N/A
6b-1 Are permeable pavements implemented in accordance with design criteria in 4.3.6B Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☑ No	☐ N/A
6b-2 Is the permeable pavement credit volume calculated using Appendix B.2.1.3 and 4.3.6B Fact Sheet in Appendix E?	☐ Yes	☑ No	☐ N/A
4.3.7 Landscaping with Native or Drought Tolerant Species	☑ Yes	☐ No	☐ N/A
Discussion / justification if 4.3.7 not implemented:			
4.3.8 Harvest and Use Precipitation	☐ Yes	☑ No	☐ N/A
Discussion / justification if 4.3.8 not implemented: Harvest and Use Precipitation is infeasible. See Worksheet B.3-1: Form I-7.			
8-1 Are rain barrels implemented in accordance with design criteria in 4.3.8 Fact Sheet? If yes, are they shown on the site map?	☐ Yes	☑ No	☐ N/A
8-2 Is the rain barrel credit volume calculated using Appendix B.2.2.2 and 4.3.8 Fact Sheet in Appendix E?	☐ Yes	☐ No	☑ N/A

Form I-5B 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.

Due to the size of the lot and landscape area, infiltration is infeasible for this site. Harvest and Use is also infeasible due to the low demand on reclaim water. Therefore, Modular Wetlands Unit is selected to provide biofiltration treatment for the storm water. Roof drains are proposed to collect the rainfall that falls under the building. The collected storm water will pass through a FloGard Downspout filter as pre-treatment. A trench drain is proposed around the swimming pool to collect drainage from the surrounding area. The roof drain and trench drain will join together and enter a stormtech chamber sized to meet the required DCV before entering the Modular Wetland unit for treatment. The treated runoff will outlet from the modular wetland unit to Emerson Street via gravity flow.

(Continue on page 2 as necessary.)

Form I-6 Page 2 of 4

(Continued from page 1)

Form I-6 Page 1 of 4 (Copy as many as needed)	
Structural BMP Summary Information	
Structural BMP ID No. 1 (Modular Wetlands unit)	
Construction Plan Sheet No. SWQMP	
Type of Structural BMP: ☐ Retention by harvest and use (e.g. HU-1, cistern) ☐ 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 discussion section below) ☐ 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	Bio Clean (Forterra)
Who will be the final owner of this BMP?	Property owner
Who will maintain this BMP into perpetuity?	Property owner
What is the funding mechanism for maintenance?	Hotel revenue

Form I-6 Page 2 of 4 (Copy as many as needed)
Structural BMP ID No. 1 (Modular Wetlands unit)
Construction Plan Sheet No. SWQMP
Discussion (as needed; must include worksheets showing BMP sizing calculations in the SWQMPs):
Roof drains are proposed to collect the rainfall that falls over the building. A trench drain is proposed around the swimming pool to collect drainage from the surrounding area. The roof drain and trench drain will join together and enter a stormtech chamber used for volume control before entering the Modular Wetland unit for biofiltration treatment. Once treated, the stormwater will outlet to Emerson Street via gravity flow.

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Attachment 1
Backup For PDP Pollutant Control BMPs

This is the cover sheet for Attachment 1.

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Project Name: POINT LOMA HOTEL

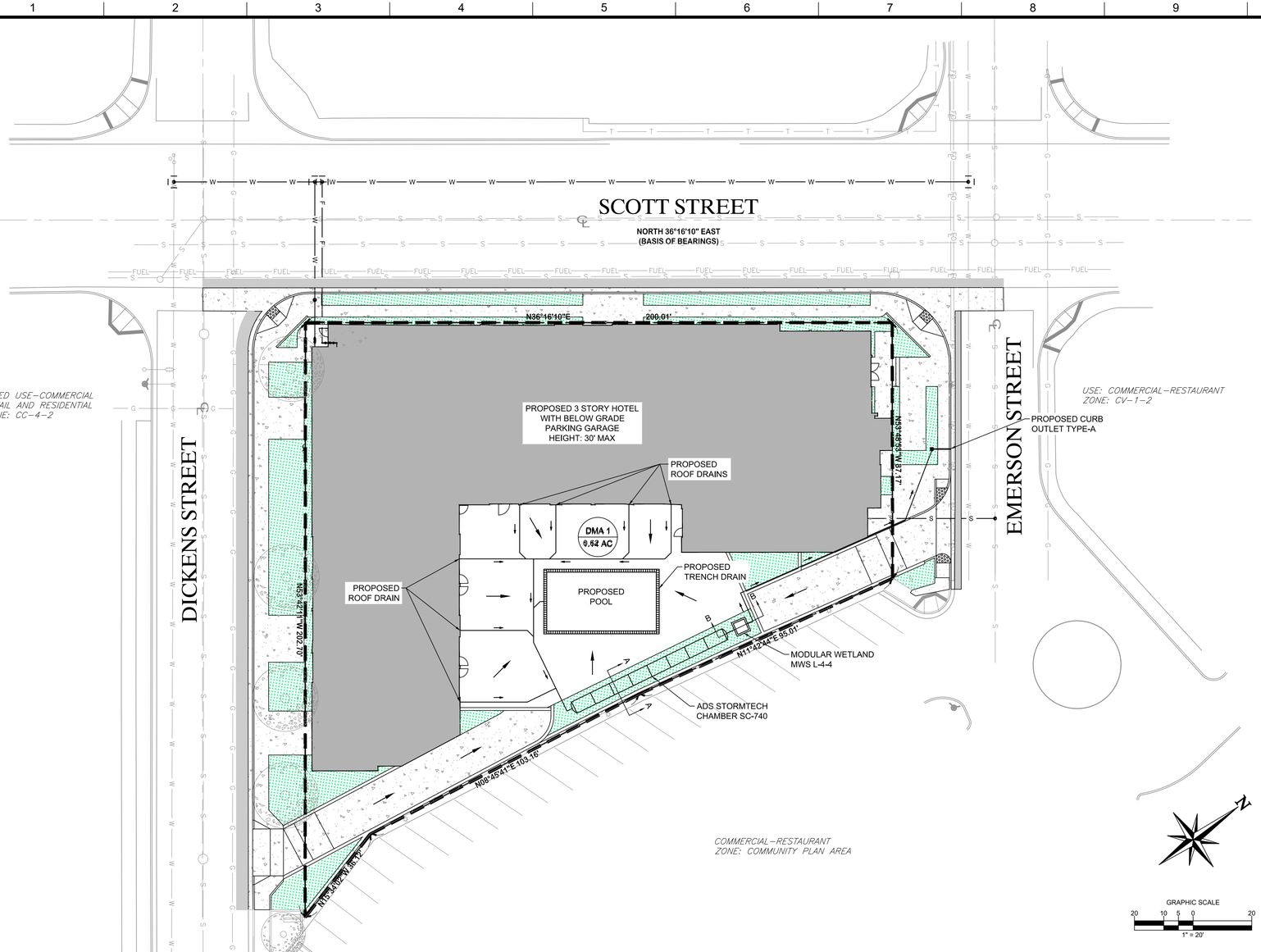
Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist.	☐ Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	☐ Included on DMA Exhibit in Attachment 1a ☐ Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	☑ Included ☐ Not included because the entire project will use infiltration BMPs
Attachment 1d	Infiltration Feasibility Information. Contents of Attachment 1d depend on the infiltration condition: • No Infiltration Condition: ○ Infiltration Feasibility Condition Letter (***Note: must be stamped and signed by licensed geotechnical engineer***) ○ Form I-8A (optional) ○ Form I-8B (optional) • Partial Infiltration Condition: ○ Infiltration Feasibility Condition Letter (***Note: must be stamped and signed by licensed geotechnical engineer***) ○ Form I-8A ○ Form I-8B • Full Infiltration Condition: ○ Form I-8A ○ Form I-8B ○ Worksheet C.4-3 ○ Form I-9 Refer to Appendices C and D of the BMP Design Manual for guidance.	☐ Included ☐ Not included because the entire project will use harvest and use BMPs
Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines and site design credit calculations	☐ Included

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

The DMA Exhibit must identify:

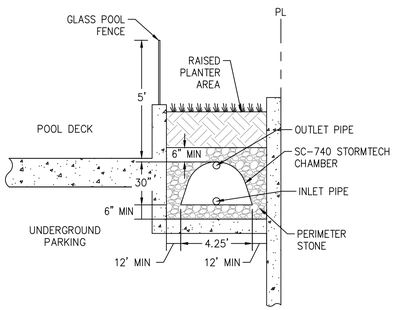
- ☑ Underlying hydrologic soil group
- ☑ Approximate depth to groundwater
- ☑ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☑ Critical coarse sediment yield areas to be protected
- ☑ Existing topography and impervious areas
- ☑ Existing and proposed site drainage network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



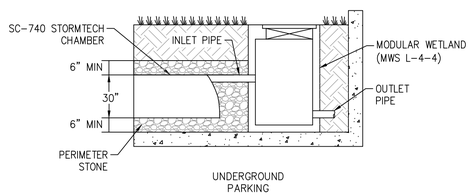
LOCATION MAP
N.T.S.

LEGEND:

- DMA1 / 1.00 AC — WATERSHED ID / AREA IN ACRES
- PROJECT BOUNDARY
- DIRECTION OF FLOW
- PROPOSED BUILDING
- PROPOSED LANDSCAPE
- PROPOSED CONCRETE



SECTION DETAIL A-A
NOT TO SCALE



SECTION DETAIL B-B
NOT TO SCALE

DMA 1 DESIGN CAPTURE VOLUME CALCULATION:
DCV= C x d x A x 3,630
C= 0.85 ; d=0.55in ; A=0.624 AC
DCV= 0.85 x 0.55 x 0.624 x 3630 = 1,059 CF

NOTE:
1. THE PRE-FILTER DETENTION VOLUME STORED IN THE STORMTECH CHAMBER IS SIZED TO MEET 0.75 TIMES THE PORTION OF THE DCV NOT RELIABLY RETAINED ONSITE
2. PROJECT DOES NOT INCLUDE SELF-MITIGATING, DE MINIMIS, OR SELF RETAINING AREAS.
3. THE PROPOSED PROJECT WILL COMPLY WITH ALL THE REQUIREMENTS OF THE CURRENT CITY OF SAN DIEGO STORM WATER STANDARDS MANUAL BEFORE A GRADING OR BUILDING PERMIT IS ISSUED. IT IS THE RESPONSIBILITY OF THE OWNER/DESIGNER/APPLICANT TO ENSURE THAT THE CURRENT STORM WATER PERMANENT BMP DESIGN STANDARDS ARE INCORPORATED INTO THE PROJECT.

PROJECT DATA

SITE ADDRESS: 1325 SCOTT ST., SAN DIEGO, CA 92106
LOT SIZE: 0.624 AC
DISTURBED AREA: 0.624 AC
HYDROLOGIC SOIL GROUP: B
APPROXIMATE DEPTH TO GROUNDWATER: 12-14 FT

	EXISTING	PROPOSED
IMPERVIOUS AREA	25,699± SF	25,845± SF
PERVIOUS AREA	1,500± SF	1,354± SF
DESIGN CAPTURE VOLUME (DCV)	-	1,059 CF
BMP TYPE	-	BMP 1: BIOFILTRATION (MODULAR WETLAND)
BMP TREATMENT CAPACITY	-	0.052 CFS (1246 CF / hr)

CORE STATES GROUP
4240 East Jurupa St., Suite 402
Ontario, CA 91761
Phone (909) 467-8940
Fax (909) 467-8950
tvincent@core-eng.com

PREPARED FOR:
VISTA INVESTMENTS
2225 CAMPUS DRIVE
EL SEGUNDO, CA 90245
T [310] 725-8200

811 Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEY INFORMATION AND MAY NOT REFLECT ACTUAL FIELD MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST TWO WORKING DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REVISIONS

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

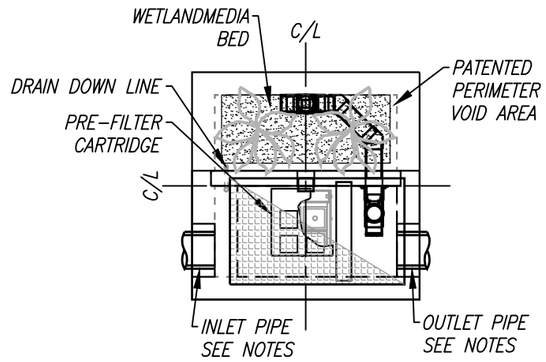
SHEET TITLE
SWQMP EXHIBIT

JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	SCALE
DRAWN BY:	RM
CHECKED BY:	TV

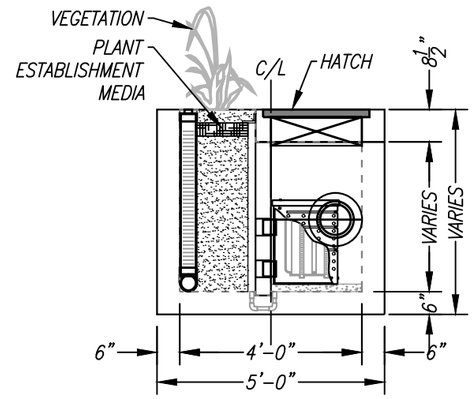
SHEET NO.

SITE SPECIFIC DATA			
PROJECT NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
N/A		0.052	
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN		
FRAME & COVER	24" X 42"	OPEN PLANTER	N/A
NOTES:			

* PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW



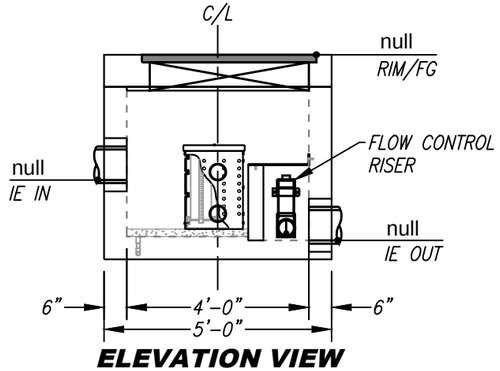
LEFT END VIEW

INSTALLATION NOTES

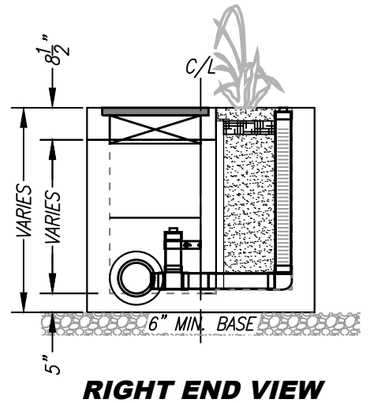
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.052
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	1.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MWS-L-4-4-V
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

5/23/19 10:LEF

Project Name: POINT LOMA HOTEL

Tabular Summary of DMAs									Worksheet B-1
DMA Unique Identifier	Area (acres)	Impervious Area (acres)	% Imp	HSG	Area Weighted Runoff Coefficient	DCV (cubic feet)	Treated By (BMP ID)	Pollutant Control Type	Drains to (POC ID)
1	0.624	0.593	95	B	0.85	1,059	1		1
Summary of DMA Information (Must match project description and SWQMP Narrative)									
No. of DMAs	Total DMA Area (acres)	Total Impervious Area (acres)	% Imp		Area Weighted Runoff Coefficient	Total DCV (cubic feet)	Total Area Treated (acres)		No. of POCs
1	0.624	0.593	95		0.85	1,059	0.624		1

Where: DMA = Drainage Management Area; Imp = Imperviousness; HSG = Hydrologic Soil Group; DCV= Design Capture Volume; BMP = Best Management Practice; POC = Point of Compliance; ID = identifier; No. = Number

Note: See next page for Area Weighted Runoff Coefficient calculation.

B.1.1 Runoff Factor

Estimate the area weighted runoff factor for the tributary area to the BMP using runoff factor (from Table B.1-1) and area of each surface type in the tributary area and Equation B.1-2.

Equation B.1-2: Estimating Runoff Factor for Area

$$C = \frac{\sum C_x A_x}{\sum A_x}$$

where:

C_x = Runoff factor for area X

A_x = Tributary area X (acres)

These runoff factors apply to areas receiving direct rainfall only. For conditions in which runoff is routed onto a surface from an adjacent surface, see Section B.2 for determining composite runoff factors for these areas.

Table B.1-1: Runoff factors for surfaces draining to BMPs – Pollutant Control BMPs

Surface	Runoff Factor
Roofs[1]	0.90
Concrete or Asphalt[1]	0.90
Unit Pavers (grouted)[1]	0.90
Decomposed Granite	0.30
Cobbles or Crushed Aggregate	0.30
Amended, Mulched Soils or Landscape[2]	0.10
Compacted Soil (e.g., unpaved parking)	0.30
Natural (A Soil)	0.10
Natural (B Soil)	0.14
Natural (C Soil)	0.23
Natural (D Soil)	0.30

[1]Surface is considered impervious and could benefit from use of Site Design BMPs and adjustment of the runoff factor per Section B.2.1.

[2]Surface shall be designed in accordance with SD-F (Amended soils) fact sheet in Appendix E

C = (impervious area)(0.90) + (pervious area)(0.14) / Total Area
= (25,845)(0.90) + (1,354)(0.14) / 27,199
= 0.85

Compact (high rate) Biofiltration BMP Checklist	Form I-10

Compact (high rate) biofiltration BMPs have a media filtration rate greater than 5 in/hr. and a media surface area smaller than 3% of contributing area times adjusted runoff factor. Compact biofiltration BMPs are typically proprietary BMPs that may qualify as biofiltration.

A compact biofiltration BMP may satisfy the pollutant control requirements for a DMA onsite in some cases. This depends on the characteristics of the DMA **and** the performance certification/data of the BMP. If the pollutant control requirements for a DMA are met onsite, then the DMA is not required to participate in an offsite storm water alternative compliance program to meet its pollutant control obligations.

An applicant using a compact biofiltration BMP to meet the pollutant control requirements onsite must complete Section 1 of this form and include it in the PDP SWQMP. A separate form must be completed for each DMA. In instances where the City Engineer does not agree with the applicant's determination, Section 2 of this form will be completed by the City and returned to the applicant.

Section 1: Biofiltration Criteria Checklist (Appendix F)

Refer to Part 1 of the Storm Water Standards to complete this section. When separate forms/worksheets are referenced below, the applicant must also complete these separate forms/worksheets (as applicable) and include in the PDP SWQMP. The criteria numbers below correspond to the criteria numbers in Appendix F.

Criteria	Answer	Progression
Criteria 1 and 3: What is the infiltration condition of the DMA? Refer to Section 5.4.2 and Appendix C of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance. Applicant must complete and include the following in the PDP SWQMP submittal to support the feasibility determination: • Infiltration Feasibility Condition Letter; or • Worksheet C.4-1: Form I-8A and Worksheet C.4-2: Form I-8B. Applicant must complete and include all applicable sizing worksheets in the SWQMP submittal	○ Full Infiltration Condition	**Stop**. Compact biofiltration BMP is not allowed.
	○ Partial Infiltration Condition	Compact biofiltration BMP is only allowed, if the target volume retention is met onsite (Refer to Table B.5-1 in Appendix B.5). Use Worksheet B.5-2 in Appendix B.5 to estimate the target volume retention (Note: retention in this context means reduction). If the required volume reduction is achieved **proceed to Criteria 2**. If the required volume reduction is not achieved, compact biofiltration BMP is not allowed. **Stop**.
	◉ No Infiltration Condition	Compact biofiltration BMP is allowed if volume retention criteria in Table B.5-1 in Appendix B.5 for the no infiltration condition is met. Compliance with this criterion must be documented in the PDP SWQMP. If the criteria in Table B.5-1 is met **proceed to Criteria 2**. If the criteria in Table B.5-1 is not met, compact biofiltration BMP is not allowed. **Stop**.

Compact (high rate) Biofiltration BMP Checklist	Form I-10

Provide basis for Criteria 1 and 3:

Feasibility Analysis:

Summarize findings and include either infiltration feasibility condition letter or Worksheet C.4-1: Form I-8A and Worksheet C.4-2: Form I-8B in the PDP SWQMP submittal.

If Partial Infiltration Condition:

Provide documentation that target volume retention is met (include Worksheet B.5-2 in the PDP SWQMP submittal). Worksheet B.5-7 in Appendix B.5 can be used to estimate volume retention benefits from landscape areas.

If No Infiltration Condition:

Provide documentation that the volume retention performance standard is met (include Worksheet B.5-2 in the PDP SWQMP submittal) in the PDP SWQMP submittal. Worksheet B.5-6 in Appendix B.5 can be used to document that the performance standard is met.

An Infiltration Feasibility Letter is provided by the Geotechnical Engineer to demonstrate that the DMA is in a no infiltration condition. Worksheets B.5-2 and B.5-6 are included in the PDP SWQMP.

Criteria	Answer	Progression
Criteria 2: Is the compact biofiltration BMP sized to meet the performance standard from the MS4 Permit? Refer to Appendix B.5 and Appendix F.2 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	◉ Meets Flow based Criteria	Use guidance from **Appendix F.2.2** to size the compact biofiltration BMP to meet the flow based criteria. Include the calculations in the PDP SWQMP. Use parameters for sizing consistent with manufacturer guidelines and conditions of its third party certifications (i.e. a BMP certified at a loading rate of 1 gpm/sq. ft. cannot be designed using a loading rate of 1.5 gpm/sq. ft.) **Proceed to Criteria 4.**
	○ Meets Volume based Criteria	Provide documentation that the compact biofiltration BMP has a total static (i.e. non-routed) storage volume, including pore-spaces and pre-filter detention volume (Refer to Appendix B.5 for a schematic) of at least 0.75 times the portion of the DCV not reliably retained onsite. **Proceed to Criteria 4.**
	○ Does not Meet either criteria	**Stop**. Compact biofiltration BMP is not allowed.

Provide basis for Criteria 2:

Provide documentation that the BMP meets the numeric criteria and is designed consistent with the manufacturer guidelines and conditions of its third-party certification (i.e., loading rate, etc., as applicable).

The proposed Modular Wetland is a biofilter. Refer to specification sheets for performance values.

Criteria	Answer	Progression
Criteria 4: Does the compact biofiltration BMP meet the pollutant treatment performance standard for the projects most significant pollutants of concern? Refer to Appendix B.6 and Appendix F.1 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	◉ Yes, meets the TAPE certification.	Provide documentation that the compact BMP has an appropriate TAPE certification for the projects most significant pollutants of concern. **Proceed to Criteria 5.**
	○ Yes, through other third-party documentation	Acceptance of third-party documentation is at the discretion of the City Engineer. The City engineer will consider, (a) the data submitted; (b) representativeness of the data submitted; and (c) consistency of the BMP performance claims with pollutant control objectives in Table F.1-2 and Table F.1-1 while making this determination. If a compact biofiltration BMP is not accepted, a written explanation/ reason will be provided in Section 2. **Proceed to Criteria 5.**
	○ No	**Stop**. Compact biofiltration BMP is not allowed.

Provide basis for Criteria 4:

Provide documentation that identifies the projects most significant pollutants of concern and TAPE certification or other third party documentation that shows that the compact biofiltration BMP meets the pollutant treatment performance standard for the projects most significant pollutants of concern.

Documentation includes the Modular Wetland brochure which outlines its performance for treatment of pollutants and identifies its TAPE certification.

Compact (high rate) Biofiltration BMP Checklist		Form I-10
Criteria	**Answer**	**Progression**
<u>Criteria 5</u>: Is the compact biofiltration BMP designed to promote appropriate biological activity to support and maintain treatment process? Refer to Appendix F of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	◉ Yes	Provide documentation that the compact biofiltration BMP support appropriate biological activity. Refer to Appendix F for guidance. **Proceed to Criteria 6.**
	○ No	**Stop**. Compact biofiltration BMP is not allowed.
Provide basis for Criteria 5: Provide documentation that appropriate biological activity is supported by the compact biofiltration BMP to maintain treatment process. Documentation to demonstrate appropriate biological activity is includes the Modular Wetland brochure which identifies plant selection to increase pollutant removal.		
Criteria	**Answer**	**Progression**
<u>Criteria 6</u>: Is the compact biofiltration BMP designed with a hydraulic loading rate to prevent erosion, scour and channeling within the BMP?	◉ Yes	Provide documentation that the compact biofiltration BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification. **Proceed to Criteria 7.**
	○ No	**Stop**. Compact biofiltration BMP is not allowed.
Provide basis for Criteria 6: Provide documentation that the BMP meets the numeric criteria and is designed consistent with the manufacturer guidelines and conditions of its third-party certification (i.e., maximum tributary area, maximum inflow velocities, etc., as applicable). Documentation to demonstrate that the BMP meets the numeric criteria is provided in Attachment 1.		

Compact (high rate) Biofiltration BMP Checklist		Form I-10
Criteria	**Answer**	**Progression**
Criteria 7: Is the compact biofiltration BMP maintenance plan consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies)?	◉ Yes, and the compact BMP is privately owned, operated and not in the public right of way.	Submit a maintenance agreement that will also include a statement that the BMP will be maintained in accordance with manufacturer guidelines and conditions of third-party certification. **Stop**. The compact biofiltration BMP meets the required criteria.
	○ Yes, and the BMP is either owned or operated by the City or in the public right of way.	Approval is at the discretion of the City Engineer. The city engineer will consider maintenance requirements, cost of maintenance activities, relevant previous local experience with operation and maintenance of the BMP type, ability to continue to operate the system in event that the vending company is no longer operating as a business or other relevant factors while making the determination. **Stop**. Consult the City Engineer for a determination.
	○ No	**Stop**. Compact biofiltration BMP is not allowed.

Provide basis for Criteria 7:

Include copy of manufacturer guidelines and conditions of third-party certification in the maintenance agreement. PDP SWQMP must include a statement that the compact BMP will be maintained in accordance with manufacturer guidelines and conditions of third-party certification.
Manufacture guidelines and conditions of third-party certification is included in Attachment 3 of the SWQMP.

Compact (high rate) Biofiltration BMP Checklist	Form I-10
Section 2: Verification (For City Use Only)	
Is the proposed compact BMP accepted by the City Engineer for onsite pollutant control compliance for the DMA?	◉ Yes ○ No, See explanation below
Explanation/reason if the compact BMP is not accepted by the City for onsite pollutant control compliance:	

Sizing Method for Volume Retention Criteria		Worksheet B.5-2	
1	Area draining to the BMP	27,199	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.85	
3	85th percentile 24-hour rainfall depth	0.55	inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	1,059	cu. ft.
Volume Retention Requirement			
5	Measured infiltration rate in the DMA Note: When mapped hydrologic soil groups are used enter 0.10 for NRCS Type D soils and for NRCS Type C soils enter 0.30 When in no infiltration condition and the actual measured infiltration rate is unknown enter 0.0 if there are geotechnical and/or groundwater hazards identified in Appendix C or enter 0.05	0	in/hr.
6	Factor of safety	2	
7	Reliable infiltration rate, for biofiltration BMP sizing [Line 5/ Line 6]	0	in/hr.
8	Average annual volume reduction target (Figure B.5-2) When Line 7 > 0.01 in/hr. = Minimum (40, 166.9 x Line 7 +6.62) When Line 7 ≤ 0.01 in/hr. = 3.5%	3.5	%
9	Fraction of DCV to be retained (Figure B.5-3) When Line 8 > 8% = 0.0000013 x Line 8^3 - 0.000057 x Line 8^2 + 0.0086 x Line 8 - 0.014 When Line 8 ≤ 8% = 0.023	0.023	
10	Target volume retention [Line 9 x Line 4]	24.4	cu. ft.

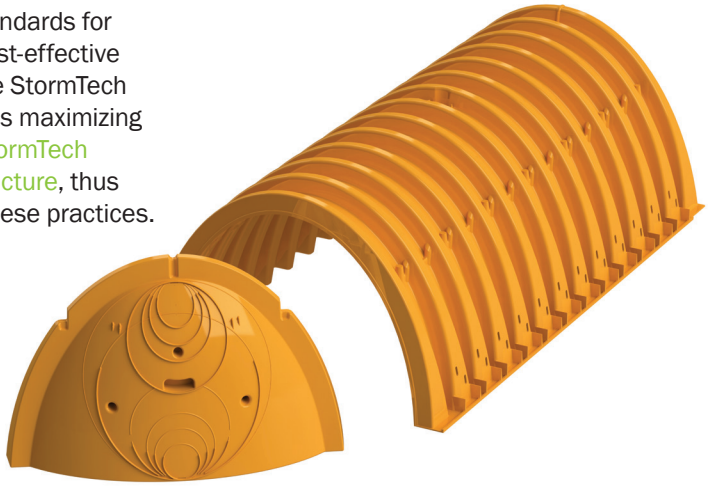
Volume Retention for No Infiltration Condition						Worksheet B.5-6	
1	Area draining to the biofiltration BMP					27,199	sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)					0.85	
3	Effective impervious area draining to the BMP [Line 1 x Line 2]					23,199	sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]					693.5	sq. ft.
5	Biofiltration BMP Footprint					23	sq. ft.
Landscape Area (must be identified on DS-3247)							
	Identification	**A**	**B**	**C**	**D**	**E**	
6	Landscape area that meet the requirements in SD-B and SD-F Fact Sheet (sq. ft.)	1,354					
7	Impervious area draining to the landscape area (sq. ft.)	23,199					
8	Impervious to Pervious Area ratio [Line 7/Line 6]	17					
9	Effective Credit Area If Line 8 >1.5, use Line 6; if not use Line 7/1.5	1,354					
10	Sum of Landscape area [sum of Lines 9A-9E]				1,354		sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]				1,377		sq. ft.
Volume Retention Performance Standard							
12	Is Line 11 ≥ Line 4? If yes, then volume retention performance standard for no infiltration condition is met. If no, proceed to Line 13					◉ Yes ○ No	
13	Fraction of the performance standard met through the BMP footprint and/or landscaping [Line 11/Line 4]						
14	Target Volume Retention [Line 10 from Worksheet B.5.2]						cu. ft.
15	Volume retention required from other site design BMPs [(1-Line 13) x Line 14]						cu. ft.
Site Design BMP							
	Identification	**Site Design Type**				**Credit**	
16	**A**						cu. ft.
	B						cu. ft.
	C						cu. ft.
	D						cu. ft.
	E						cu. ft.
	Sum of volume retention benefits from other site design BMPs (e.g. trees; rain barrels etc.). [sum of Lines 16A-16E] Provide documentation of how the site design credit is calculated in the PDP SWQMP.						cu. ft.
17	Is Line 16 ≥ Line 15? If yes, then volume retention performance standard for no infiltration condition is met. If no, implement additional site design BMPs.					◉ Yes ○ No	

Flow-thru Design Flows		Worksheet B.6-1		
1	DCV	DCV	1,059	cubic-feet
2	DCV retained	$DCV_{retained}$	0	cubic-feet
3	DCV biofiltered	$DCV_{biofiltered}$	1,140	cubic-feet
4	DCV requiring flow-thru (Line 1 – Line 2 – 0.67*Line 3)	$DCV_{flow-thru}$	295.2	cubic-feet
5	Adjustment factor (Line 4 / Line 1)	AF=	0.28	unitless
6	Design rainfall intensity	i=	0.20	in/hr.
7	Area tributary to BMP (s)	A=	0.624	acres
8	Area-weighted runoff factor (estimate using Appendix B.2)	C=	0.85	unitless
9	Calculate Flow Rate = AF x (C x i x A)	Q=	0.029	cfs

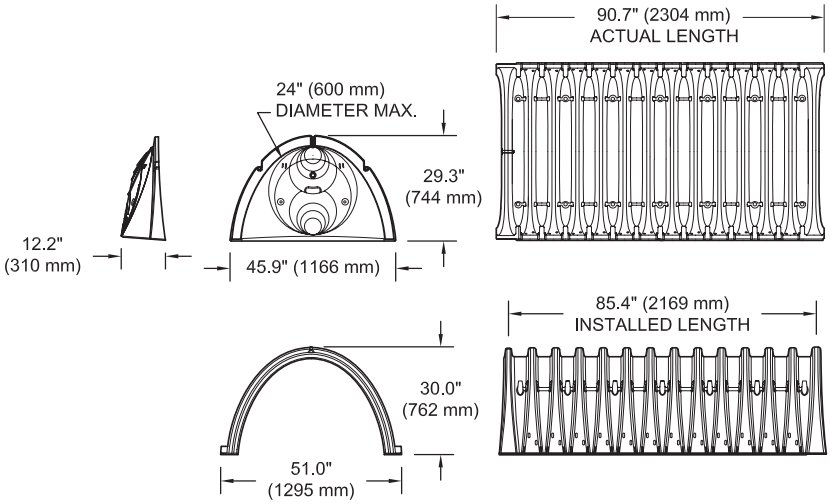
1. Adjustment factor shall be estimated considering only retention and biofiltration BMPs located upstream of flow-thru BMPs. That is, if the flow-thru BMP is upstream of the project's retention and biofiltration BMPs then the flow-thru BMP shall be sized using an adjustment factor of 1.
2. Volume based (e.g., dry extended detention basin) flow-thru treatment control BMPs shall be sized to the volume in Line 4 and flow based (e.g., vegetated swales) shall be sized to flow rate in Line 9. Sand filter and media filter can be designed either by volume in Line 4 or flow rate in Line 9.
3. Proprietary BMPs, if used, shall provide certified treatment capacity equal to or greater than the calculated flow rate in Line 9; certified treatment capacity per unit shall be consistent with third party certifications.

STORMTECH SC-740 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



STORMTECH SC-740 CHAMBER
(not to scale)



Nominal Chamber Specifications

Size (L x W x H)
85.4" x 51" x 30"
2,170 mm x 1,295 mm x 762 mm

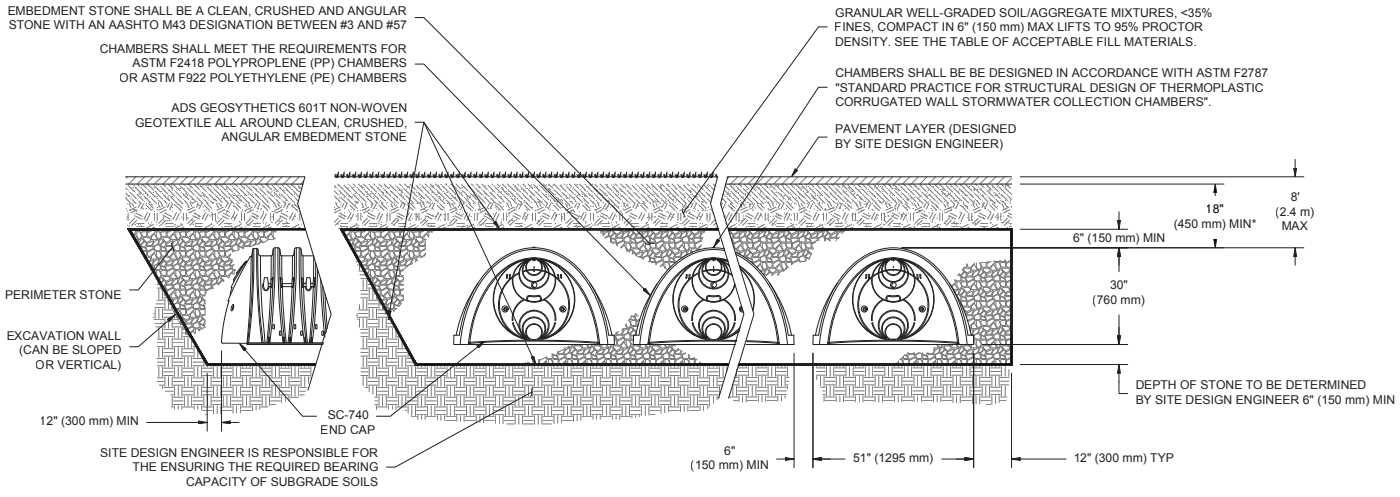
Chamber Storage
45.9 ft³ (1.30 m³)

Min. Installed Storage*
74.9 ft³ (2.12 m³)

Weight
74.0 lbs (33.6 kg)

Shipping
30 chambers/pallet
60 end caps/pallet
12 pallets/truck

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.



*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

SC-740 CUMULATIVE STORAGE VOLUMES PER CHAMBER

Assumes 40% Stone Porosity. Calculations are Based Upon a 6" (150 mm) Stone Base Under Chambers.

Depth of Water in System Inches (mm)		Cumulative Chamber Storage ft³ (m³)	Total System Cumulative Storage ft³ (m³)
42 (1067)		45.90 (1.300)	74.90 (2.121)
41 (1041)		45.90 (1.300)	73.77 (2.089)
40 (1016)	Stone	45.90 (1.300)	72.64 (2.057)
39 (991)	Cover	45.90 (1.300)	71.52 (2.025)
38 (965)		45.90 (1.300)	70.39 (1.993)
37 (940)		45.90 (1.300)	69.26 (1.961)
36 (914)		45.90 (1.300)	68.14 (1.929)
35 (889)		45.85 (1.298)	66.98 (1.897)
34 (864)		45.69 (1.294)	65.75 (1.862)
33 (838)		45.41 (1.286)	64.46 (1.825)
32 (813)		44.81 (1.269)	62.97 (1.783)
31 (787)		44.01 (1.246)	61.36 (1.737)
30 (762)		43.06 (1.219)	59.66 (1.689)
29 (737)		41.98 (1.189)	57.89 (1.639)
28 (711)		40.80 (1.155)	56.05 (1.587)
27 (686)		39.54 (1.120)	54.17 (1.534)
26 (660)		38.18 (1.081)	52.23 (1.479)
25 (635)		36.74 (1.040)	50.23 (1.422)
24 (610)		35.22 (0.977)	48.19 (1.365)
23 (584)		33.64 (0.953)	46.11 (1.306)
22 (559)		31.99 (0.906)	44.00 (1.246)
21 (533)		30.29 (0.858)	1.85 (1.185)
20 (508)		28.54 (0.808)	39.67 (1.123)
19 (483)		26.74 (0.757)	37.47 (1.061)
18 (457)		24.89 (0.705)	35.23 (0.997)
17 (432)		23.00 (0.651)	32.96 (0.939)
16 (406)		21.06 (0.596)	30.68 (0.869)
15 (381)		19.09 (0.541)	28.36 (0.803)
14 (356)		17.08 (0.484)	26.03 (0.737)
13 (330)		15.04 (0.426)	23.68 (0.670)
12 (305)		12.97 (0.367)	21.31 (0.608)
11 (279)		10.87 (0.309)	18.92 (0.535)
10 (254)		8.74 (0.247)	16.51 (0.468)
9 (229)		6.58 (0.186)	14.09 (0.399)
8 (203)		4.41 (0.125)	11.66 (0.330)
7 (178)		2.21 (0.063)	9.21 (0.264)
6 (152)		0 (0)	6.76 (0.191)
5 (127)		0 (0)	5.63 (0.160)
4 (102)	Stone	0 (0)	4.51 (0.128)
3 (76)	Foundation	0 (0)	3.38 (0.096)
2 (51)		0 (0)	2.25 (0.064)
1 (25)		0 (0)	1.13 (0.032)

Note: Add 1.13 ft³ (0.032 m³) of storage for each additional inch (25 mm) of stone foundation.

STORAGE VOLUME PER CHAMBER FT³ (M³)

	Bare Chamber Storage ft³ (m³)	Chamber and Stone Foundation Depth in. (mm)		
		6 (150)	12 (300)	18 (450)
SC-740 Chamber	45.9 (1.3)	74.9 (2.1)	81.7 (2.3)	88.4 (2.5)

Note: Assumes 6" (150 mm) stone above chambers, 6" (150 mm) row spacing and 40% stone porosity.

AMOUNT OF STONE PER CHAMBER

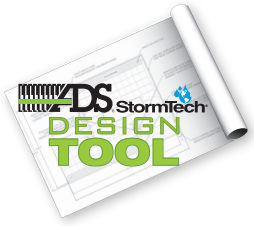
ENGLISH TONS (yds³)	Stone Foundation Depth		
	6"	12"	16"
SC-740	3.8 (2.8)	4.6 (3.3)	5.5 (3.9)
METRIC KILOGRAMS (m³)	**150 mm**	**300 mm**	**450 mm**
SC-740	3,450 (2.1)	4,170 (2.5)	4,490 (3.0)

Note: Assumes 6" (150 mm) of stone above and between chambers.

VOLUME EXCAVATION PER CHAMBER YD³ (M³)

	Stone Foundation Depth		
	6 (150)	12 (300)	18 (450)
SC-740	5.5 (4.2)	6.2 (4.7)	6.8 (5.2)

Note: Assumes 6" (150 mm) of row separation and 18" (450 mm) of cover. The volume of excavation will vary as depth of cover increases.



Working on a project?
Visit us at www.stormtech.com
and utilize the StormTech Design Tool

For more information on the StormTech SC-740 Chamber and other ADS products, please contact our Customer Service Representatives at 1-800-821-6710

*THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™*

Advanced Drainage Systems, Inc.
4640 Trueman Blvd., Hilliard, OH 43026
1-800-821-6710 www.ads-pipe.com

User Inputs

Chamber Model	SC-740
Outlet Control Structure	Yes (Outlet)
Project Name	Point Loma
Engineer	Rolando Hernandez
Project Location	San Diego, CA
Project Date	10/02/2019
Measurement Type	Imperial
Required Storage Volume	795 cubic ft.
Stone Porosity	40%
Stone Foundation Depth	6 in.
Stone Above Chambers	6 in.
Average Cover Over Chambers	18 in.
Design Constraint	Width
Design Constraint Dimension	8 ft.

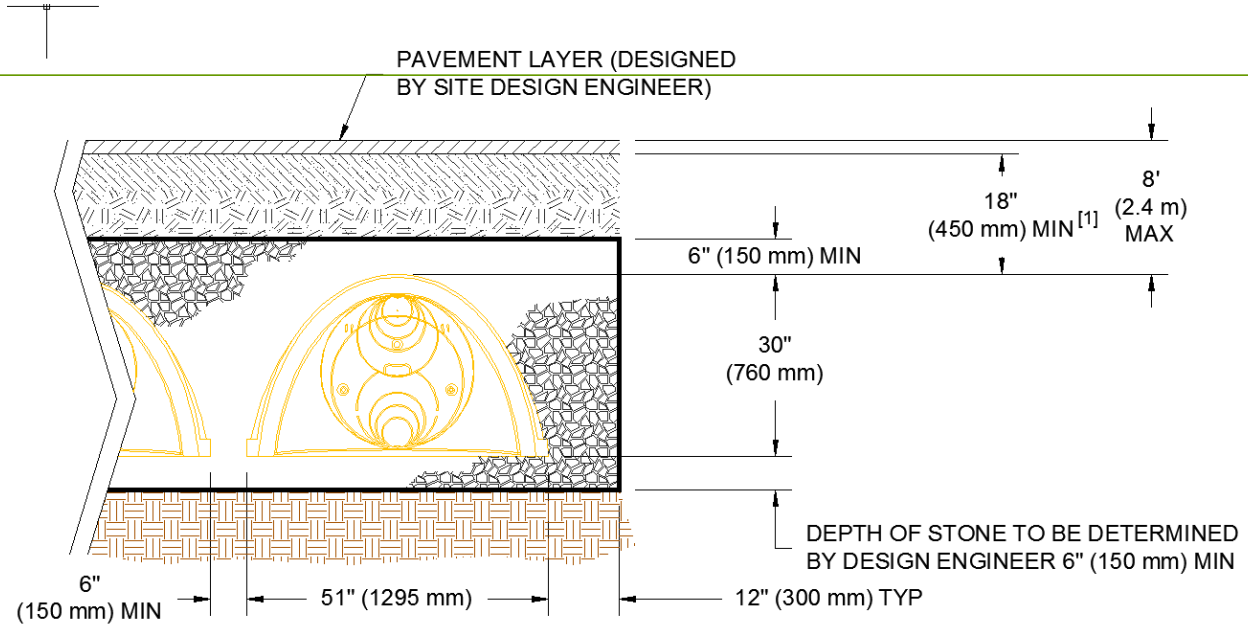
Results

System Volume and Bed Size

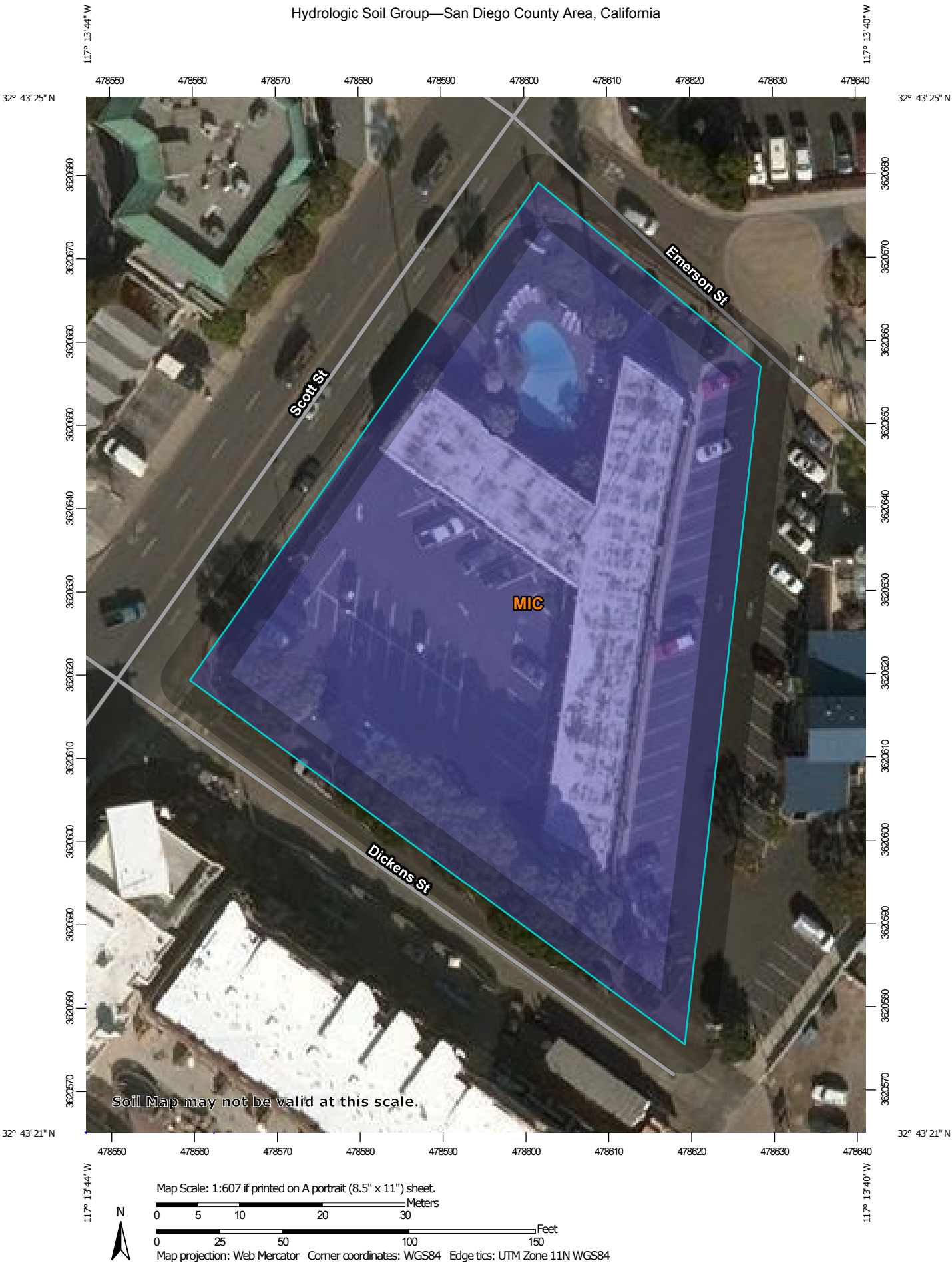
Installed Storage Volume	873 cubic ft.
Storage Volume Per Chamber	74.90 cubic ft.
Number Of Chambers Required	8 each
Number Of End Caps Required	2 each
Rows/Chambers	1 row(s) of 8 chamber(s)
Maximum Length	68.03 ft.
Maximum Width	6.85 ft.
Approx. Bed Size Required	466 square ft.

System Components

Amount Of Stone Required	47 cubic yards
Volume Of Excavation (Not Including Fill)	60 cubic yards
Non-woven Filter Fabric Required	156 square yards
Length Of Isolator Row	58.54 ft.
Non-Woven Isolator Row Fabric	51 square yards
Woven Isolator Row Fabric	63 square yards



[1] - TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).



Map Scale: 1:607 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 7, 2014—Jan 4, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MIC	Marina loamy coarse sand, 2 to 9 percent slopes	B	1.0	100.0%
Totals for Area of Interest			**1.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Attachment 2
Backup for PDP Hydromodification Control Measures

This is the cover sheet for Attachment 2.

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

Project Name: POINT LOMA HOTEL

Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 2a	Hydromodification Management Exhibit (Required)	☐ Included See Hydromodification Management Exhibit Checklist.
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional) See Section 6.2 of the BMP Design Manual.	☐ Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map (Required) Optional analyses for Critical Coarse Sediment Yield Area Determination ☐ 6.2.1 Verification of Geomorphic Landscape Units Onsite ☐ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment ☐ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☐ Not Performed ☐ Included ☐ Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design and Structural BMP Drawdown Calculations (Required) Overflow Design Summary for each structural BMP See Chapter 6 and Appendix G of the BMP Design Manual	☐ Included ☐ Submitted as separate stand-alone document

HYDROMODIFICATION EXEMPT MAP EXHIBIT

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

PROJECT SITE

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

Aerial Imagery Source: DigitalGlobe, 06/2012

Miles 0 5 10 15 NORTH

Potential Critical Coarse Sediment Yield Areas

Regional San Diego County Watersheds

Exhibit Date: Sept. 8, 2014

Geosyntec consultants | RICK Engineering Company

Project Name: POINT LOMA HOTEL

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

The Hydromodification Management Exhibit must identify:

- ☐ Underlying hydrologic soil group
- ☐ Approximate depth to groundwater
- ☐ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☐ Critical coarse sediment yield areas to be protected OR provide a separate map showing that the project site is outside of any critical coarse sediment yield areas
- ☐ Existing topography
- ☐ Existing and proposed site drainage network and connections to drainage offsite
- ☐ Proposed grading
- ☐ Proposed impervious features
- ☐ Proposed design features and surface treatments used to minimize imperviousness
- ☐ Point(s) of Compliance (POC) for Hydromodification Management
  Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- ☐ Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail).

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Attachment 3
Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

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Indicate which Items are Included:

Attachment Sequence	Contents	Checklist
Attachment 3	Maintenance Agreement (Form DS-3247) (when applicable)	☑ Included ☐ Not applicable

The City of SAN DIEGO

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

_____

_____

_____ _____

(THIS SPACE IS FOR RECORDER'S USE ONLY)

STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT

APPROVAL NUMBER:	ASSESSORS PARCEL NUMBER:	PROJECT NUMBER:
_____	_____	_____

This agreement is made by and between the City of San Diego, a municipal corporation [City] and _____

_____,

the owner or duly authorized representative of the owner [Property Owner] of property located at

_____

(PROPERTY ADDRESS)

and more particularly described as: _____

_____

(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 Storm Water Quality Management Plan [SWQMP] 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 SWQMP 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)

_____
(Date)

THE CITY OF SAN DIEGO

APPROVED:

_____
(City Control Engineer Signature)

_____
(Print Name)

_____
(Date)

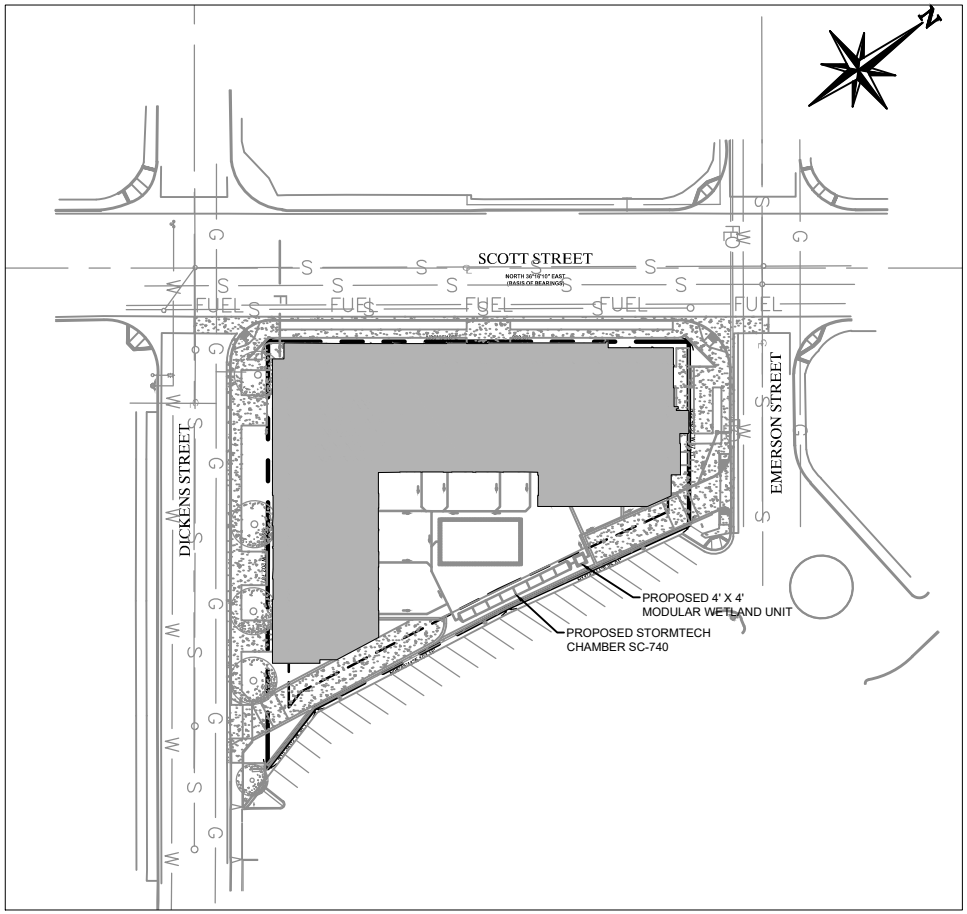
NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ.

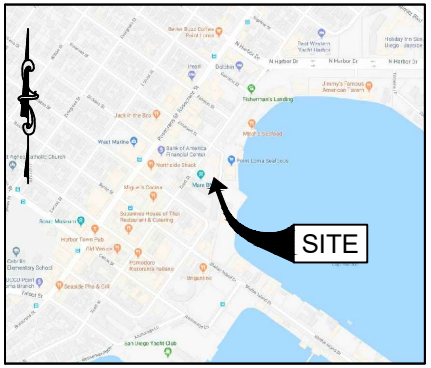
Reset Button Page 2

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

Attachment 3: For private entity operation and maintenance, Attachment 3 must include a Storm Water Management and Discharge Control Maintenance Agreement (Form DS-3247). The following information must be included in the exhibits attached to the maintenance agreement:

- ☑ Vicinity map
- ☑ Site design BMPs for which DCV reduction is claimed for meeting the pollutant control obligations.
- ☑ BMP and HMP location and dimensions
- ☑ BMP and HMP specifications/cross section/model
- ☑ Maintenance recommendations and frequency
- ☑ LID features such as (permeable paver and LS location, dim, SF).





LOCATION MAP
N.T.S.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
MSwaggard@core-eng.com

REVISIONS

#	DATE	REV	BY

CLIENT
VISTA
INVESTMENT

SITE ADDRESS
1325 SCOTT ST

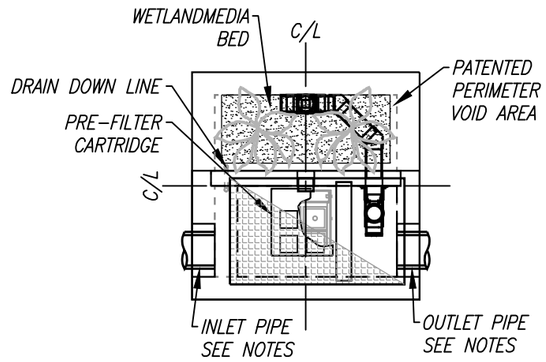
SHEET TITLE
BMP EXHIBIT

JOB #:	VST..25085
Date:	07/13/18
Scale:	NOT TO SCALE
Drawn By:	TV
Checked By:	AZ

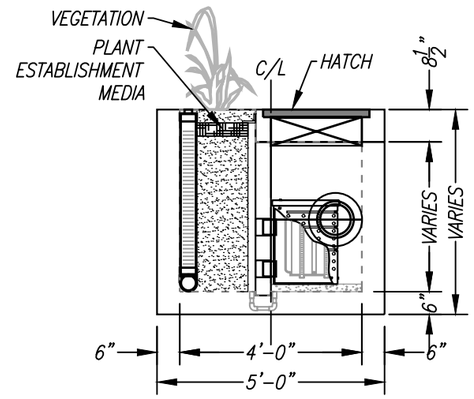
SHEET NO.
1

SITE SPECIFIC DATA			
PROJECT NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
N/A		0.052	
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN		
FRAME & COVER	24" X 42"	OPEN PLANTER	N/A
NOTES:			

* PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW



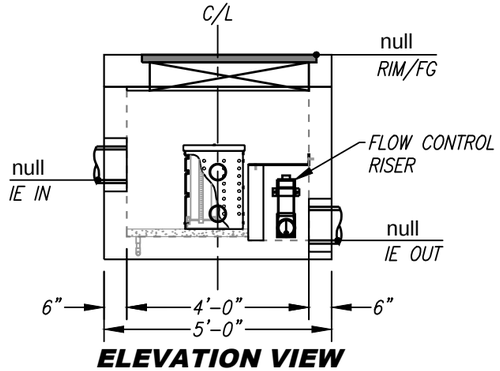
LEFT END VIEW

INSTALLATION NOTES

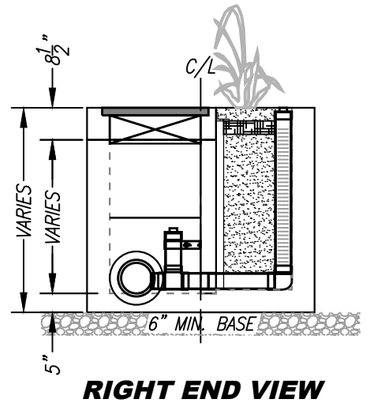
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.052
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	1.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MWS-L-4-4-V
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

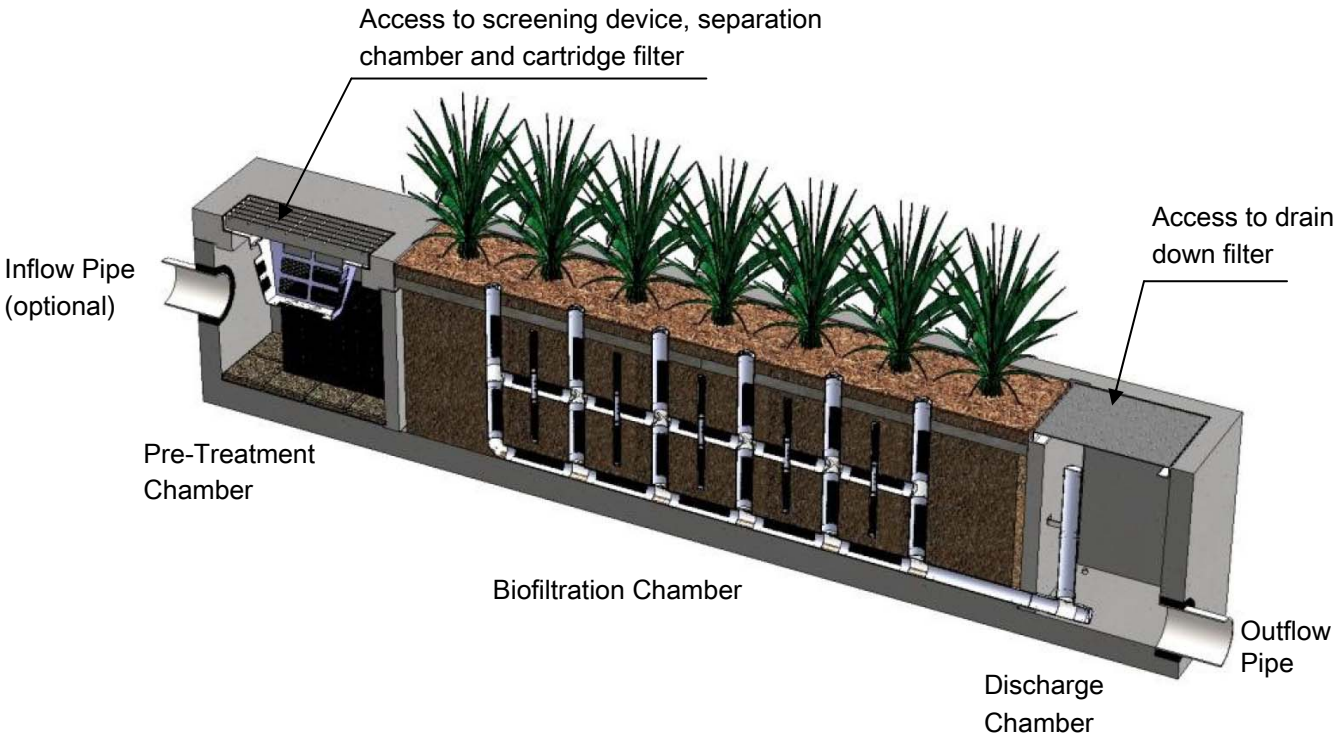
5/23/19 10:LEF

Maintenance Guidelines for Modular Wetland System - Linear

Maintenance Summary

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
  - (*5 minute average service time*).
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
  - (*10 minute average service time*).
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
  - (*10-15 minute per cartridge average service time*).
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
  - (*5 minute average service time*).
- Trim Vegetation – average maintenance interval is 6 to 12 months.
  - (*Service time varies*).

System Diagram



Maintenance Procedures

Screening Device

1. Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.
2. Remove all pollutants collected by the screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.
3. Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.

Separation Chamber

1. Perform maintenance procedures of screening device listed above before maintaining the separation chamber.
2. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.
3. Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.

Cartridge Filters

1. Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.
2. Enter separation chamber.
3. Unscrew the two bolts holding the lid on each cartridge filter and remove lid.
4. Remove each of 4 to 8 media cages holding the media in place.
5. Spray down the cartridge filter to remove any accumulated pollutants.
6. Vacuum out old media and accumulated pollutants.
7. Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.
8. Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.

Drain Down Filter

1. Remove hatch or manhole cover over discharge chamber and enter chamber.
2. Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.
3. Exit chamber and replace hatch or manhole cover.

Maintenance Notes

1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.

2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.

3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

4. Entry into chambers may require confined space training based on state and local regulations.

5. No fertilizer shall be used in the Biofiltration Chamber.

6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.

Maintenance Procedure Illustration

Screening Device

The screening device is located directly under the manhole or grate over the Pre-Treatment Chamber. It's mounted directly underneath for easy access and cleaning. Device can be cleaned by hand or with a vacuum truck.

Separation Chamber

The separation chamber is located directly beneath the screening device. It can be quickly cleaned using a vacuum truck or by hand. A pressure washer is useful to assist in the cleaning process.

Cartridge Filters

The cartridge filters are located in the Pre-Treatment chamber connected to the wall adjacent to the biofiltration chamber. The cartridges have removable tops to access the individual media filters. Once the cartridge is open media can be easily removed and replaced by hand or a vacuum truck.

Drain Down Filter

The drain down filter is located in the Discharge Chamber. The drain filter unlocks from the wall mount and hinges up. Remove filter block and replace with new block.

Trim Vegetation

Vegetation should be maintained in the same manner as surrounding vegetation and trimmed as needed. No fertilizer shall be used on the plants. Irrigation per the recommendation of the manufacturer and or landscape architect. Different types of vegetation requires different amounts of irrigation.

Inspection Form

Modular Wetland System, Inc.
P. 760.433-7640
F. 760-433-3176
E. Info@modularwetlands.com

www.modularwetlands.com

Inspection Report
Modular Wetlands System

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____ Size (22', 14' or etc.): _____

Structural Integrity:	**Yes**	**No**	**Comments**
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes, specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth:
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber:
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	**Yes**	**No**
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes:

2972 San Luis Rey Road, Oceanside, CA 92058 P (760) 433-7640 F (760) 433-3176

Maintenance Report

Modular Wetland System, Inc.
P. 760.433-7640
F. 760-433-3176
E. Info@modularwetlands.com

www.modularwetlands.com

Cleaning and Maintenance Report
Modular Wetlands System

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						

Comments:

2972 San Luis Rey Road, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

Attachment 4
Copy of Plan Sheets Showing Permanent Storm Water BMPs

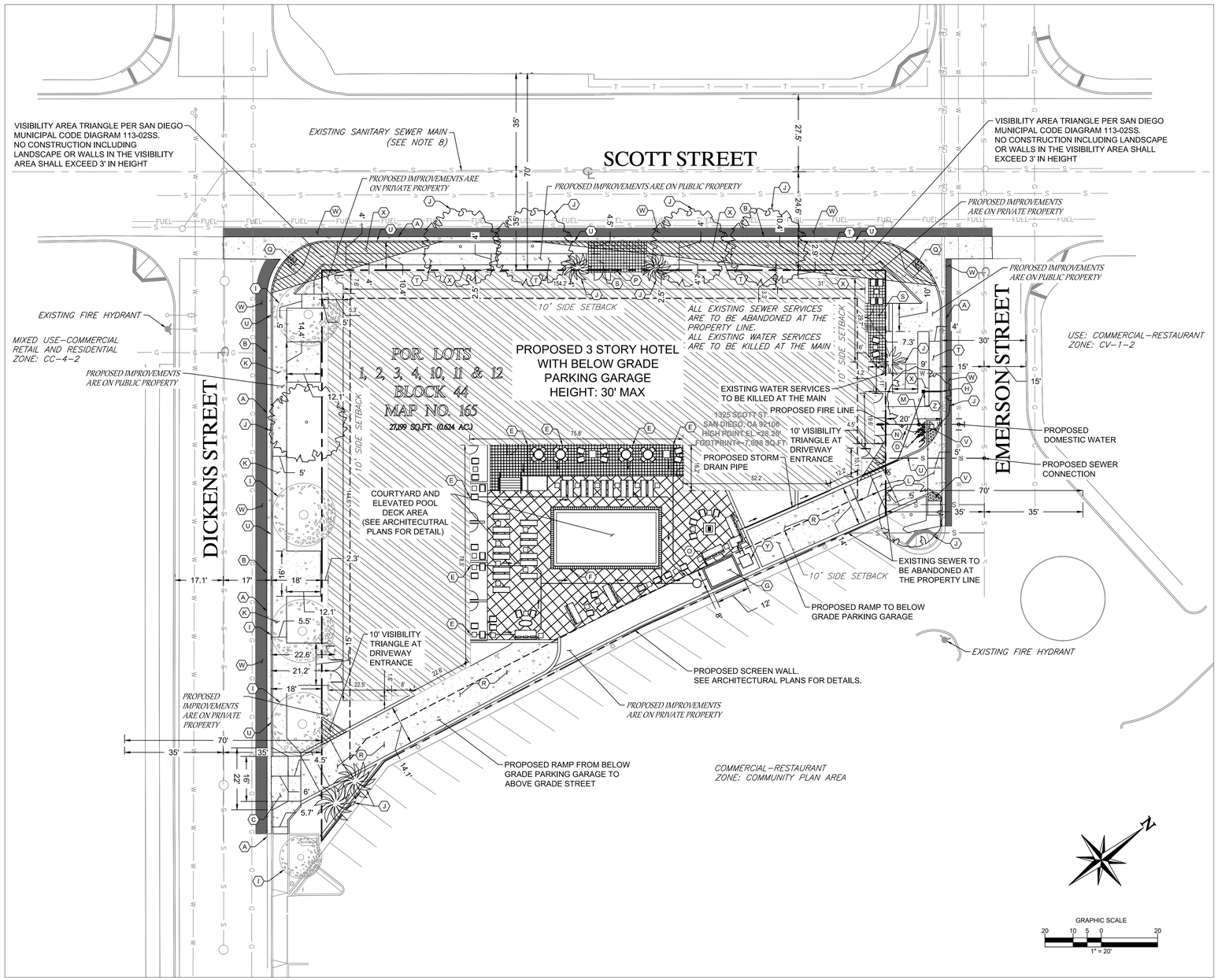
This is the cover sheet for Attachment 4.

Project Name: POINT LOMA HOTEL

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

The plans must identify:

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



LEGEND

(NOT ALL ITEMS MAY BE SHOWN ON THIS SHEET)

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING ROAD CENTERLINE
- PROPOSED ROAD CENTERLINE
- PROPOSED DITCH CENTERLINE
- PROPOSED LIMITS OF BMP / DETENTION
- EXISTING CURB
- PROPOSED CURB
- PROPOSED MOUNTABLE
- PROPOSED BUILDING
- PROPOSED WALL
- PROPOSED DETECTABLE WARNING DEVICE
- PROPOSED CONCRETE
- PROPOSED BUILDING CANOPY
- PROPOSED ASPHALT
- PROPOSED WATER STRUCTURES
- PROPOSED STORM STRUCTURES
- PROPOSED SANITARY STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURES
- PRIVATE IMPROVEMENTS — PROPOSED PRIVATE IMPROVEMENTS
- PUBLIC IMPROVEMENTS — PROPOSED PUBLIC IMPROVEMENTS

VICINITY MAP

KEYED NOTES:

A. *RECONSTRUCT DAMAGED PORTIONS OF CURB & GUTTER ALONG DICKENS STREET, SCOTT STREET, AND EMERSON STREET. SEE DETAIL PROVIDED ON SHEET C-3.*
B. *EXISTING DRIVEWAYS ON SCOTT STREET AND DICKENS STREET TO BE CLOSED WITH CITY OF SAN DIEGO STANDARD CURB , GUTTER AND SIDEWALK. SEE DETAIL PROVIDED ON SHEET C-3.*
C. *PROPOSED NEW CONCRETE DRIVEWAY PER THE CITY OF SAN DIEGO DRAWING SDG-159.*
D. *PROPOSED BIKE RACK WITH 4 BICYCLE PARKING SPACES.*
E. *PROPOSED ROOF DRAIN LOCATIONS.*
F. *PROPOSED DECK DRAIN LOCATIONS.*
G. *PROPOSED MODULAR WETLANDS FACILITY.*
H. *PROPOSED UNDERSIDEWALK DRAIN TO DISCHARGE ONTO GUTTER IN THE RIGHT OF WAY.*
I. *EXISTING TREE TO REMAIN, PROTECT IN PLACE.*
J. *PROPOSED TREES ALONG PUBLIC ROW.*
K. *PROPOSED 5' CONCRETE SIDEWALK.*
L. *PROPOSED NEW CONCRETE DRIVEWAY.*
M. *PROPOSED WATER METER.*
N. *PROPOSED MASTER SERIES LF870V DOUBLE CHECK BACKFLOW PREVENTION DEVICE. BACKFLOW PREVENTION DEVICE ARE REQUIRED FOR FIRE SERVICES.*
O. *PROPOSED SIGN SHOWING LOCATION OF BF-1 BMP DEVICE AS REQUIRED BY THE CITY ENGINEER.*
P. *PROPOSED 3200 KNOX-BOX PER THE CITY OF SAN DIEGO FIRE DEPARTMENT POLICY K-15-2.*
Q. *PROPOSED CURB RAMP PER THE CITY OF SAN DIEGO DRAWING SDG-133.*
R. *PROPOSED CONCRETE PAVEMENT.*
S. *PROPOSED CANOPY. SEE ARCHITECTURAL PLANS.*
T. *PROPOSED 4' CONCRETE SIDEWALK.*
U. *PROPOSED 6" CONCRETE CURB AND GUTTER.*
V. *PROPOSED CURB RAMP PER THE CITY OF SAN DIEGO.*
W. *PROPOSED ASPHALT PAVEMENT.*
X. *PROPOSED NEW LANDSCAPING. REFER TO LANDSCAPE PLANS.*
Y. *PROPOSED SUMP PUMP.*
Z. *PROPOSED BURP OUT BASIN.*

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

GENERAL NOTES:

1. SURVEY AND TOPOGRAPHY INFORMATION IS PROVIDED BY PLUMP ENGINEERING, INC. DATED 07/03/18 USING THE NGVD 29 DATUM.
2. PER THE CITY OF SAN DIEGO SEISMIC SAFETY GUIDE GEOLOGIC HAZARD MAPS, THE PROJECT SITE IS LOCATED IN ZONE 31. AS REQUESTED, A GEOTECHINCAL REPORT ENTITLED 'GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS', DATED '08/09/17', PREPARED BY 'GILES ENGINEERING ASSOCIATES, INC.' HAS BEEN PROVIDED WITH THIS SUBMISSION FOR REVIEW.
3. THERE ARE NO EXISTING BUS STOPS ALONG THE ROAD FRONTAGE FOR THE PROPERTY.
4. THE BUILDING ADDRESS NUMBERS SHALL BE PROVIDED AND WILL BE VISIBLE AND LEGIBLE FROM THE ROAD FRONTING THE PROPERTY PER FHPS POLICY P-00-6 (UFC 901.4.4).
5. EXISTING FIRE HYDRANTS ARE LOCATED ON SITE AS SHOWN ON THIS SHEET.
6. TRASH COLLECTION IS TO BE PROVIDED IN THE CITY STANDARD LOADING SPACE LOCATED ON ALONG DICKENS STREET.
7. THE PROPOSED PROJECT IS ESTIMATED TO GENERATE AN ADDITIONAL 590 DAILY TRIPS INCLUDING 28 (22 IN: 6 OUT) TRIPS DURING THE AM PEAK HOUR AND 44 (33 IN :11 OUT) DURING THE PM PEAK HOUR. EXISTING USE: 40 ROOMS X 9 TRIPS/ROOM = 360 TRIPS. PROPOSED USE: 95 ROOMS x 10 TRIPS/ROOM = 950 TRIPS.
8. EXISTING SANITARY SEWER AND WATER MAINS IN PUBLIC RIGHT OF WAY. LOCATION OF MAINS IS BASED ON SURVEY PROVIDED BY PLUMP ENGINEERING, INC. DATED 07/03/18.
9. THERE ARE NO KNOWN EXISTING OR PROPOSED EASEMENTS WITH THIS PROJECT.
10. THIS PARCEL IS NOT LOCATED ON ANY KNOWN ENVIRONMENTALLY SENSITIVE LANDS.

GROUND WATER DISCHARGE NOTES:

1. ALL GROUND WATER EXTRACTION AND SIMILAR WASTE DISCHARGES TO SURFACE WATERS NOT TRIBUTARY TO THE SAN DIEGO BAY ARE PROHIBITED UNTIL IT CAN BE DEMONSTRATED THAT THE OWNER HAS APPLIED AND OBTAINED AUTHORIZATION FROM THE STATE OF CALIFORNIA VIA AN OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL WATER QUALITY CONTROL BOARD IN ACCORDANCE WITH THE TERMS, PROVISIONS, AND CONDITIONS OF STATE ORDER NO. R9-2015-0013 NPDES CAG919003.
2. THE ESTIMATED MAXIMUM DISCHARGE RATES MUST NOT EXCEED THE LIMITS SET IN THE OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL BOARD UNLESS PRIOR NOTIFICATION AND SUBSEQUENT AUTHORIZATION HAS BEEN OBTAINED, AND DISCHARGE OPERATIONS MODIFIED TO ACCOMMODATE THE INCREASED RATES.
3. ALL GROUND WATER EXTRACTIONS AND SIMILAR WASTE DISCHARGES TO SURFACE WATERS TRIBUTARY TO THE SAN DIEGO BAY ARE PROHIBITED UNTIL IT CAN BE DEMONSTRATED THAT THE OWNER HAS APPLIED AND OBTAINED AUTHORIZATION FROM THE STATE OF CALIFORNIA VIA AN OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL WATER QUALITY CONTROL BOARD IN ACCORDANCE WITH THE TERMS, PROVISIONS, AND CONDITIONS OF STATE ORDER NO R9-2015-0013 NPDES NO. CAG919003.

FIRE DEPARTMENT NOTES:

1. PROVIDE BUILDING ADDRESS NUMBERS, VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY PER SAN DIEGO MUNICIPAL CODE SECTION 95.0209.
2. POST INDICATOR VALVES, FIRE DEPARTMENT CONNECTIONS, AND ALARM BELL ARE TO BE LOCATED ON THE ADDRESS/ACCESS SIDE OF THE STRUCTURE.
3. VEGETATION SHALL BE SELECTED AND MAINTAINED IN SUCH A MANNER AS TO ALLOW IMMEDIATE ACCESS TO ALL HYDRANTS, VALVES, FIRE DEPARTMENT CONNECTIONS, PULL STATIONS, EXTINGUISHERS, SPRINKLER RISERS, ALARM CONTROL PANELS, RESCUE WINDOWS, AND OTHER DEVICES OR AREAS USED FOR FIREFIGHTING PURPOSES. VEGETATION OR BUILDING FEATURES SHALL NOT OBSTRUCT ADDRESS NUMBER OR INHIBIT THE FUNCTIONING OF ALARM BELLS, HORNS OR STROBES.
4. CONSTRUCTION DOCUMENTS APPROVED BY THE FIRE CODE OFFICIAL ARE APPROVED WITH THE INTENT THAT SUCH CONSTRUCTION DOCUMENTS COMPLY IN ALL RESPECTS WITH THE CFC. REVIEW AND APPROVAL BY THE FIRE CODE OFFICIAL SHALL NOT RELIEVE THE APPLICANT OF THE RESPONSIBILITY OF COMPLIANCE WITH THIS CODE.

LEGAL DESCRIPTION:

REAL PROPERTY IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LOTS 1, 2, 3, 4, 10, 11, AND 12, ALL IN BLOCK 44 OF ROSEVILLE, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, SATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 165, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY.

EXCEPTING THEREFROM THAT PORTION, IF ANY, LYING BELOW THE MEAN HIGH TIDE LINE OF SAN DIEGO BAY.

EXCEPT THEREFROM ALL OIL, GAS MINERALS AND OTHER HYDROCARBON SUBSTANCES, LYING BELOW A DEPTH OF 500 FEET, WITHOUT THE RIGHT OF SURFACE ENTRY.

APN: 531-345-01

CORE STATES GROUP
4240 East Jurupa St., Suite 402
Ontario, CA 91761
Phone (909) 467-8940
Fax (909) 467-8941
tvincent@core-eng.com

PREPARED FOR:
VISTA INVESTMENTS
2225 CAMPUS DRIVE
EL SEGUNDO, CA 90245
T [310] 725-8200

811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD MEASUREMENTS TAKEN BY OTHERS AND NOT FIELD MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES IMMEDIATELY, AND BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

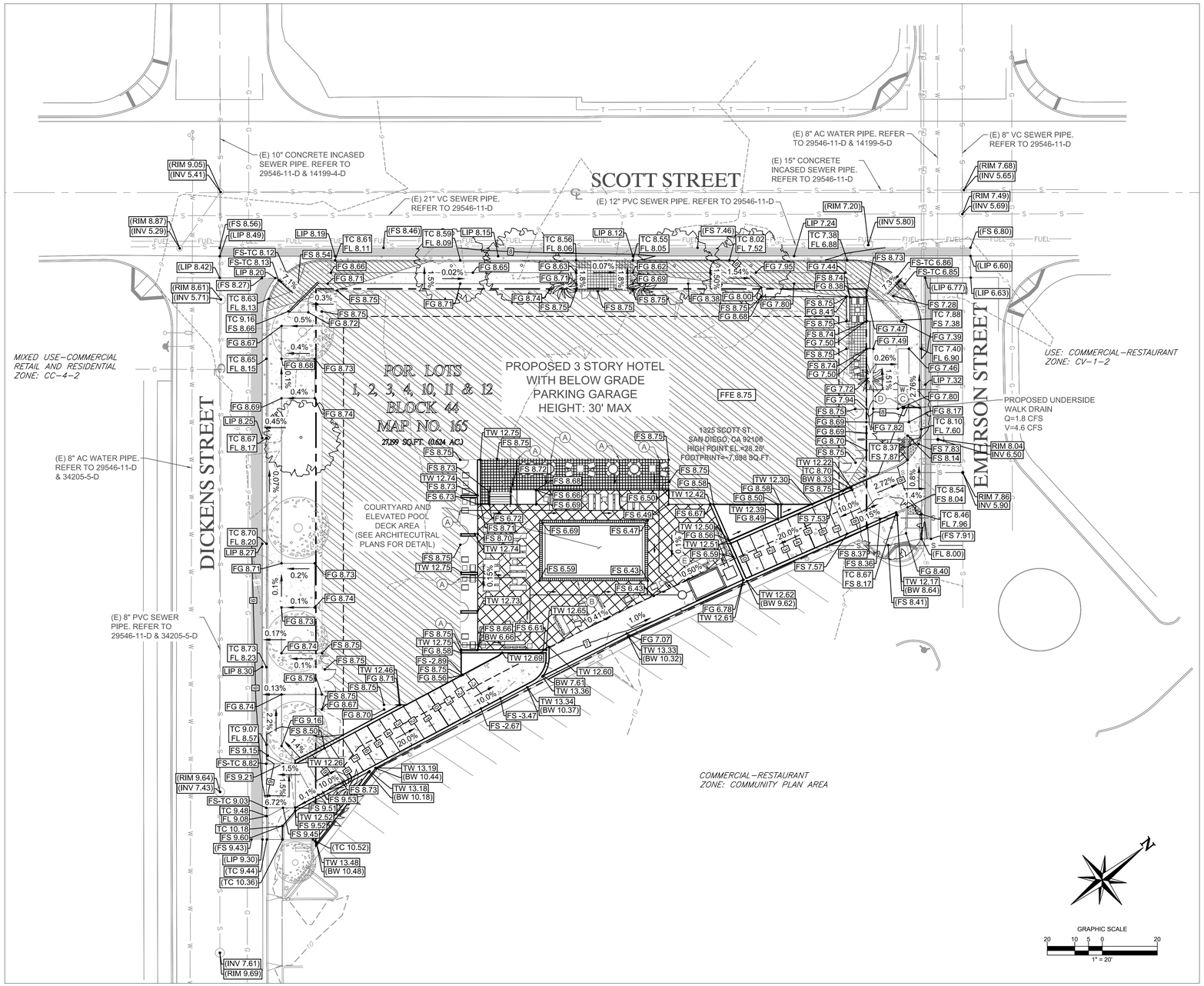
ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
SITE PLAN

JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	1"=20'
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.
C-1

User: RMONFARED Plot Date/Time: Aug. 15, 19 - 14:49:55 Drawing: P:\Vista Investments\Point Loma, CA (1325 Scott Street)-VST.25085\CIVIL\Drawings\Presentation\Planning Submission\25085-P-SITE2.dwg 1,layout1



GENERAL NOTES:

1. SURVEY AND TOPOGRAPHIC INFORMATION IS PROVIDED BY PLUMP ENGINEERING, INC. DATED 07/03/18 USING THE NGVD 29 DATUM.
2. SIDEWALKS WITHIN PUBLIC RIGHT OF WAY SHALL BE CONSTRUCTED TO MEET ADA REQUIREMENTS AS WELL AS CURRENT CITY OF SAN DIEGO STANDARDS.
3. THE PROPOSED DRAINAGE SYSTEM AS SHOWN ON THIS PLAN CONNECTS ALL OF THE ROOF DRAINS AND DECK DRAIN TOGETHER AND FLOWS THROUGH THE PROPOSED MODULAR WETLANDS UNIT. THE FLOW THEN PROCEEDS TO OUTFALL ONTO AN ENGINEERED CONCRETE GUTTER IN THE RIGHT OF WAY ALONG DICKENS STREET.

GRADING TABULATIONS

ITEM	AMOUNT	UNIT
AMOUNT OF SITE TO BE GRADED		
TOTAL SITE AREA:	27500*	AC (SF)*
% OF TOTAL SITE:	100%	N/A
TOTAL SITE AREA INCLUDES OFF-SITE AS WELL AS ON-SITE AREAS.		
TOTAL DISTURBANCE AREA:	~34,700	AC (SF)*
AMOUNT OF CUT:	~13,250	CY
MAXIMUM DEPTH OF CUT:	~12.00	LF
AMOUNT OF FILL:	~825	CY
MAXIMUM DEPTH OF FILL:	~1.00	LF
AMOUNT OF IMPORT/EXPORT SOIL:	~12,425	CY OF FILL
TOTAL EXISTING IMPERVIOUS AREA:	~28,800	SF
TOTAL NEW IMPERVIOUS AREA:	~29,650	SF
TOTAL EXISTING PERVIOUS AREA:	~6,100	SF
TOTAL NEW PERVIOUS AREA:	~5,050	SF
RETAINING WALLS		
LENGTH:	N/A	N/A
MAXIMUM HEIGHT	N/A	N/A

KEYED NOTES: ○

A. PROPOSED ROOF DRAIN LOCATIONS.
B. PROPOSED DECK DRAIN LOCATIONS.
C. PROPOSED SIDEWALK UNDERDRAIN DISCHARGE POINT ONTO CONCRETE GUTTER IN THE RIGHT OF WAY. PER THE CITY OF SAN DIEGO DRAWING D-27.
D. PROPOSED BURP OUT BASIN.
E. PROPOSED MODULAR WETLANDS FACILITY.

ABBREVIATIONS

FG	FINISH GRADE
FL	FLOWLINE
TC	TOP OF CURB
TP	TOP OF PAVEMENT
FS	FINISH SURFACE
RIM	TOP OF RIM
TW	TOP OF WALL
LP	LOW POINT
GB	GRADE BREAK
TG	TOP OF GRATE
TOP	TOP OF PIPE
(TP XXX.XX)	EXISTING SPOT GRADE
TP XXX.XX	PROPOSED SPOT GRADE

* CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION PRIOR TO CONSTRUCTION AND NOTIFY DESIGN ENGINEER OF ANY DISCREPANCY.

GRADING LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING ROAD CENTERLINE
- PROPOSED ROAD CENTERLINE
- PROPOSED DITCH CENTERLINE
- PROPOSED LIMITS OF BMP / DETENTION
- EXISTING CURB
- PROPOSED CURB
- PROPOSED MOUNTABLE
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- PROPOSED 5' INTERVAL CONTOUR LINE
- PROPOSED 1' INTERVAL CONTOUR LINE
- PROPOSED SPOT SHOTS (RIM XX.XX / TC XX.XX)
- PROPOSED BUILDING
- PROPOSED WALL
- PROPOSED DETECTABLE WARNING DEVICE
- PROPOSED CONCRETE
- PROPOSED BUILDING CANOPY
- PROPOSED ASPHALT
- PROPOSED WATER STRUCTURES
- PROPOSED STORM STRUCTURES
- PROPOSED SANITARY STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURES

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THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

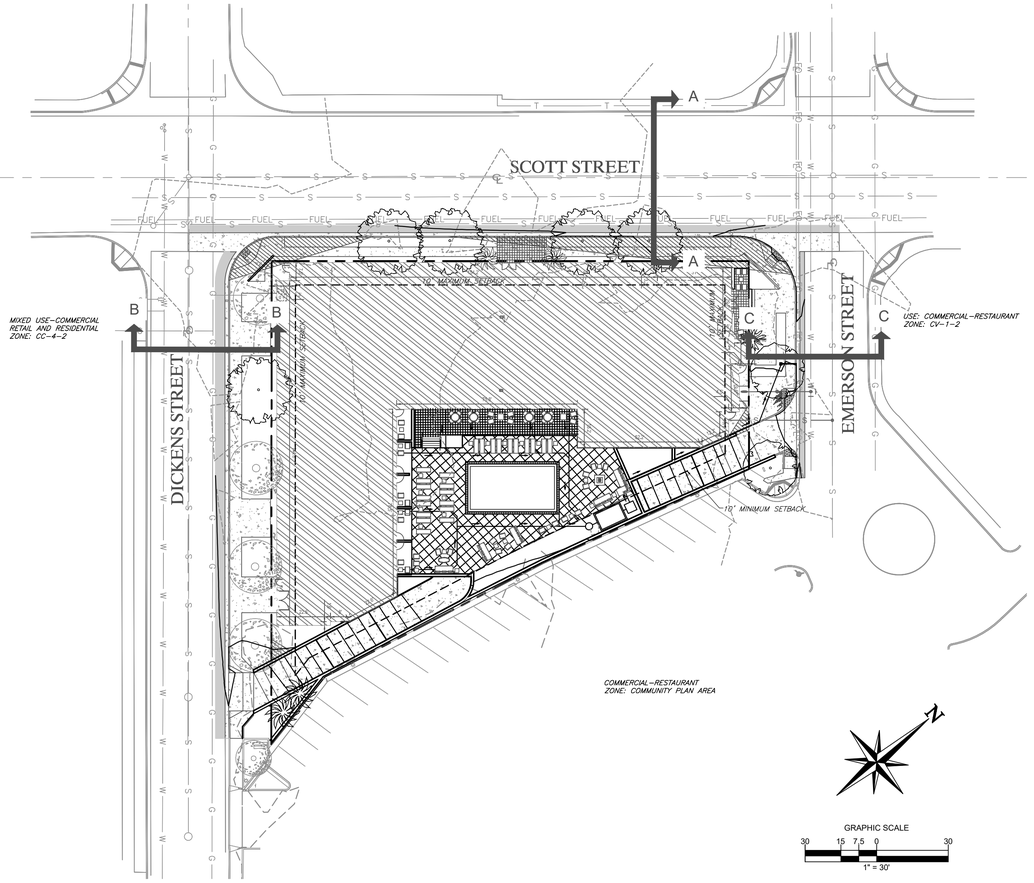
SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

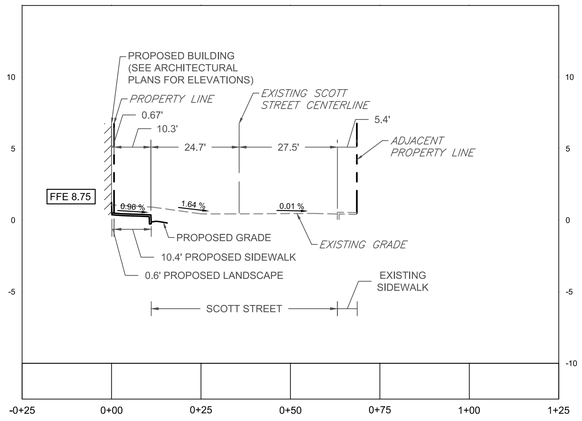
SHEET TITLE
GRADING PLAN

JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	1"=20'
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.
C-2

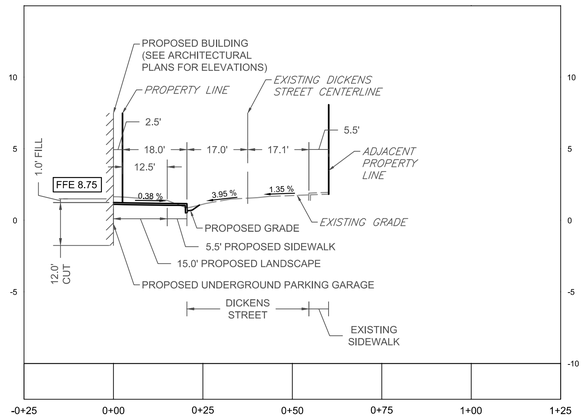


CROSS SECTION KEY MAP



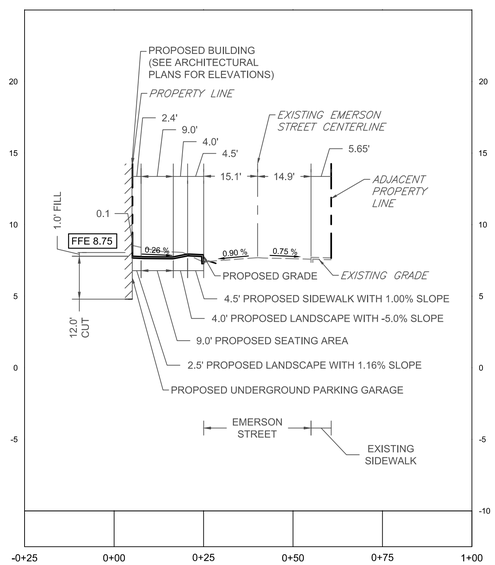
CROSS SECTION A-A

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



CROSS SECTION B-B

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



CROSS SECTION C-C

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'

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4240 East Jurupa St., Suite 402
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REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

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ENGINEER SEAL

REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
CROSS SECTIONS

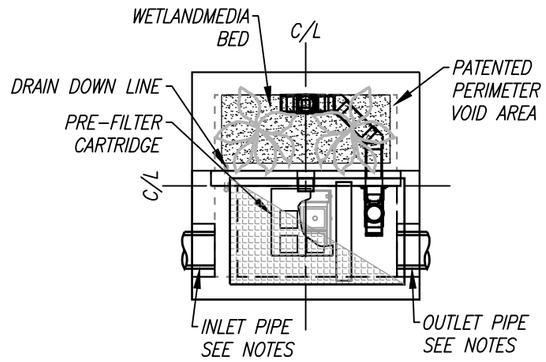
JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	AS NOTED
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.
C-3

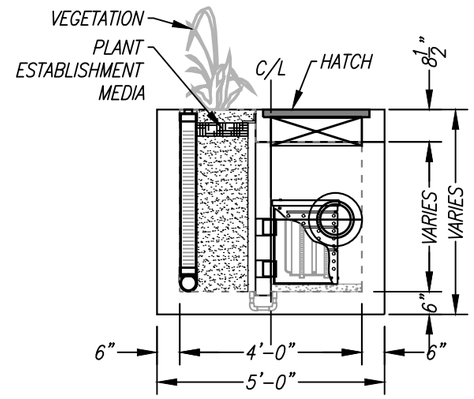
User: RMONFARED Plot Date/Time: Aug, 15, 19 - 12:47:21 Drawing: P:\Vista Investments\Point Loma, CA (1325 Scott Street)-VST.25085\CIVIL\Drawings\Presentation\Planning Submission\25085-P-CROSS SECTION.dwg ;Cross-Sections

SITE SPECIFIC DATA			
PROJECT NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
N/A		0.052	
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN		
FRAME & COVER	24" X 42"	OPEN PLANTER	N/A
NOTES:			

* PRELIMINARY NOT FOR CONSTRUCTION



PLAN VIEW



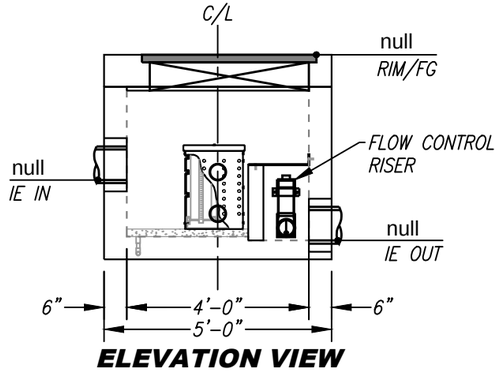
LEFT END VIEW

INSTALLATION NOTES

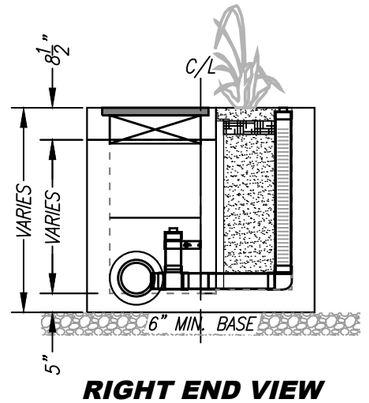
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.052
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	1.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MWS-L-4-4-V
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

5/23/19 10:LEF

Attachment 5
Drainage Report

Attach project's drainage report. Refer to Drainage Design Manual to determine the reporting requirements.

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Drainage Report

Project Name:

Vagabond Inn Remodel

1325 Scott Street San Diego, CA 92106

APN: 531-345-01

Project Number: 605741

Prepared for:

Vista Investment LLC

2225 Campus Drive El Segundo, CA 90245

(310) 725-8214

Prepared by:

4240 E. Jurupa Street Suite 402 Ontario, CA 91761

Travis P. Vincent Jr.

(909) 467-8940 and tvincent@core-eng.com

August 15, 2019

Table of Contents

Introduction

This Preliminary Drainage Report has been prepared to satisfy requirements generated from a Preliminary Review Assessment, Tracking No. 605471;24007830; Peninsula Community Planning Area.

In accordance to the City of San Diego Transportation and Storm Water Design Manual (January 2017 Edition) this drainage report has been prepared to meet the design standards and design procedures for storm water conveyance and hydrology analysis for flood management and water quality. The basic objectives are to collect, transmit, and discharge drainage in a manner to promote public safety and provide for low maintenance as outlined in section 1.1.1 of the design manual. This report also addresses the proposed drainage conditions as compared to the existing drainage conditions at the time of plan approval.

Existing Drainage Condition

The project site is located at 1325 Scott Street which is located on the northwest corner of Dickens Street and Scott Street. The site currently consists of a 40-unit motel (Vagabond Inn). The gross site size is 27,199 sf which includes existing building, parking lot, and a pool/spa area. Storm runoff generated from the project is collected onsite and diverted onto the existing adjacent public streets via undersidewalk drains. A search of public records indicate there are no storm drain systems within limits of the public streets fronting the project. Additionally, there are no water quality features implemented at the site. There is a catch basin in Scott Street a few hundred feet north of the project. A storm drain system directs flows from this catch basin out into the Harbor.

Proposed Drainage Condition

The proposed project will demolish all existing onsite improvements and construct a new 95 room, 2 story building, underground parking and a pool area. The pool area is a 5,210-sf space comprised of the pool and surrounding deck area which will be relatively flat. The proposed first floor footprint is 17,010-sf. The remaining 4,979-sf will be comprised of landscaping and other drive aisle/hardscaping.

Drainage from the building will be collected in roof drains which will be piped directly to a designated sump location. Drainage from the pool area will sheet flow towards a trench drain surrounding the pool. This trench drain will tie into the same underground piping system directing flows to the same sump location. From the sump location, runoff will be pumped back up to grade level and discharge onto Dickens Street.

Runoff Methodology

The Rational Method which is used for determining maximum runoff rate from a given rainfall was applied to this project. According to Appendix A of the Drainage Design Manual, the Rational Method is recommended for analyzing the runoff response from drainage areas for watersheds less than 0.5 square miles or 320 acres. The Rational Method Formula is shown in Equation A-1 as follows;

Equation A-1. RM Formula Expression

$$Q = C\ I\ A$$

where:

Q	=	peak discharge, in cubic feet per second (cfs)
C	=	runoff coefficient expressed as that percentage of rainfall which becomes surface runoff (no units); Refer to Appendix A.1.2
I	=	average rainfall intensity for a storm duration equal to the time of concetrnatation (T_c) of the contributing draiange area, in inches per hour; Refer to Appendix A.1.3 and Appendix A.1.4
A	=	drainage area contributing to the design location, in acres

The runoff coefficients are based on land use. The city of San Diego requires that soil type "D" be applied for storm conveyance design. Based on Table A-1 for runoff coefficients, a value of 0.85 was selected which corresponds to a Commercial Site.

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C)
	Soil Type [1]
Residential:	
Single Family	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial [2]	
80% Impervious	0.85
Industrial [2]	
90% Impervious	0.95

Note:

[1] Type D soil to be used for all areas.

[2] Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness	=	50%
Tabulated imperviousness	=	80%
Revised C = (50/80) x 0.85	=	0.53

The values provided in this table are typical for urban areas. The rainfall intensity (I) was determined from the intensity-Duration-Frequency Design Chart provided in Appendix C of this report. For complete runoff calculations, refer to Appendix B of this report.

Clean Water Act 401/404

The project site does not discharge any runoff directly into the US waterways and therefore the requirements of compliance with the Federal Clean Water Act (CWA) as required by the Regional Water Quality Control Board to provide permits under either a 4-1 or 404 permit is not applicable.

Summary

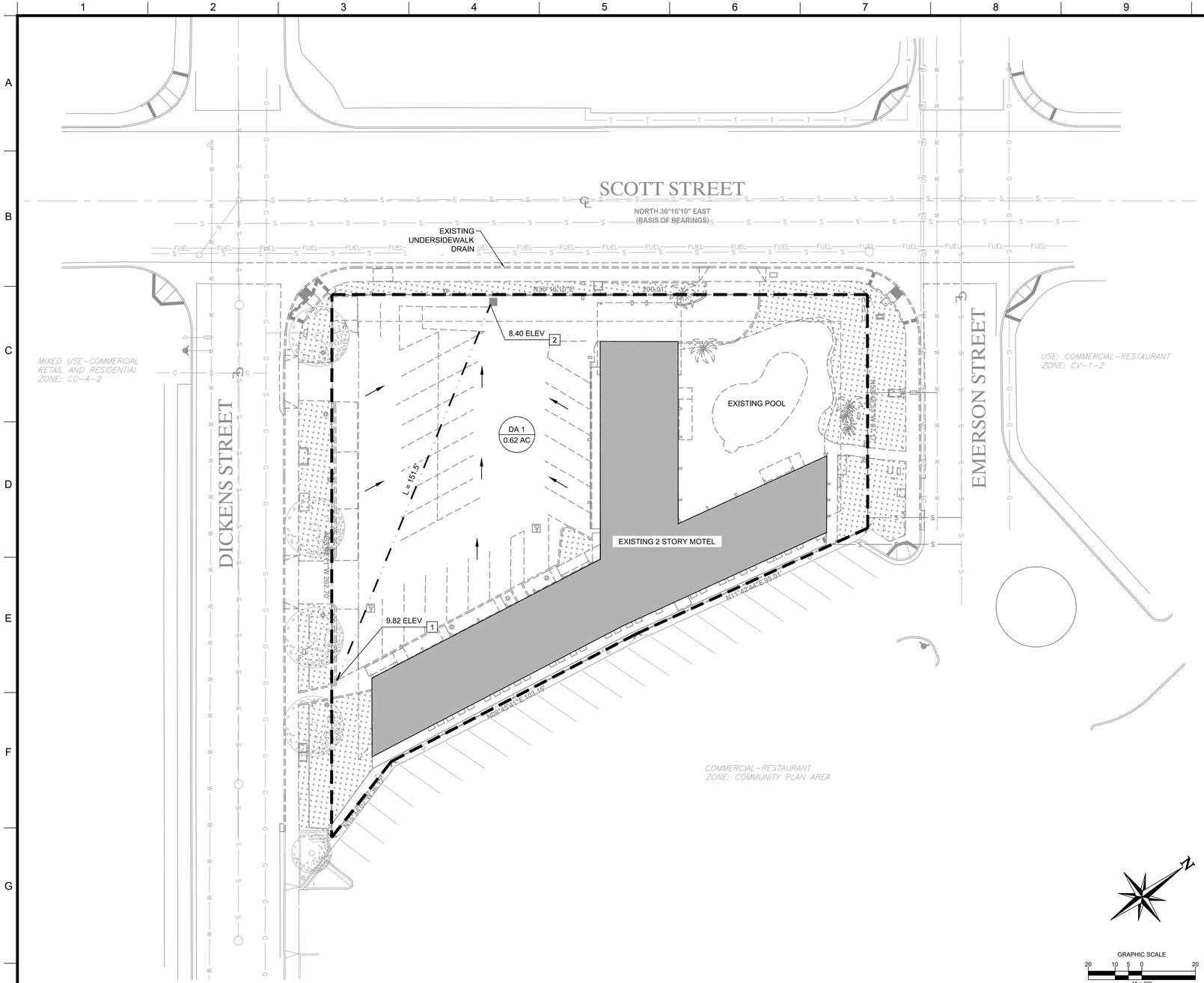
In comparing peak flows generated under existing conditions versus post-development conditions, the results generally show a slight increase in runoff under post-development conditions. The storm recurrence intervals analyzed include the 10-year, 50-year, and 100-year storm design. The following table summarizes the peak flows for both pre and post development conditions.

Drainage Summary Table		
Storm Recurrence Interval	Pre-Development Peak Flows	Post-Development Peak Flows
10-Year	1.75 cfs	1.80 cfs
50-Year	2.12 cfs	2.25 cfs
100-Year	2.28 cfs	2.38 cfs

In all cases, the runoff generated under post-development conditions increases by approximately 2.8%. Given that there are no existing storm drain systems fronting the project, it is the opinion of the engineer that the increased runoff is negligible and should create no adverse effects on neighboring properties or to the public streets. This is based both on the minimal increase in runoff as well as the small total runoff coming off this 27,000+ square foot site. Additionally, the insignificant increase in runoff will not require the need to check for runoff capacity corresponding to the existing public system receiving runoff at a downstream location.

Appendix A

Hydrology Exhibits



LOCATION MAP
N.T.S.

LEGEND:

DA 1 / 1.00 AC	WATERSHED ID AREA IN ACRES
	DRAINAGE BOUNDARY
	DIRECTION OF FLOW
	LONGEST FLOW PATH
10.0 ELEV — 1	ELEVATION AND NODE
	EXISTING BUILDING
	EXISTING LANDSCAPE

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

PRE-PROJECT DRAINAGE DATA

SITE ADDRESS: 1325 SCOTT ST., SAN DIEGO, CA 92106
LOT SIZE: 0.624 AC
PERCENT IMPERVIOUS = 94.2%
TIME OF CONCENTRATION = 5.54 MIN

STORM RECURRENCE INTERVAL	INTENSITY (IN/HR)	PEAK FLOWS (CFS)
10-YEAR	3.30	1.75
50-YEAR	4.00	2.12
100-YEAR	4.30	2.28

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4240 East Jurupa St., Suite 402
Ontario, CA 91761
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tvincent@core-eng.com

PREPARED FOR:
VISTA INVESTMENTS
2225 CAMPUS DRIVE
EL SEGUNDO, CA 90245
T [310] 725-8200

811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEY INFORMATION AND MAY NOT REFLECT ACTUAL FIELD MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES PRIOR TO THE COMMENCEMENT OF WORK TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

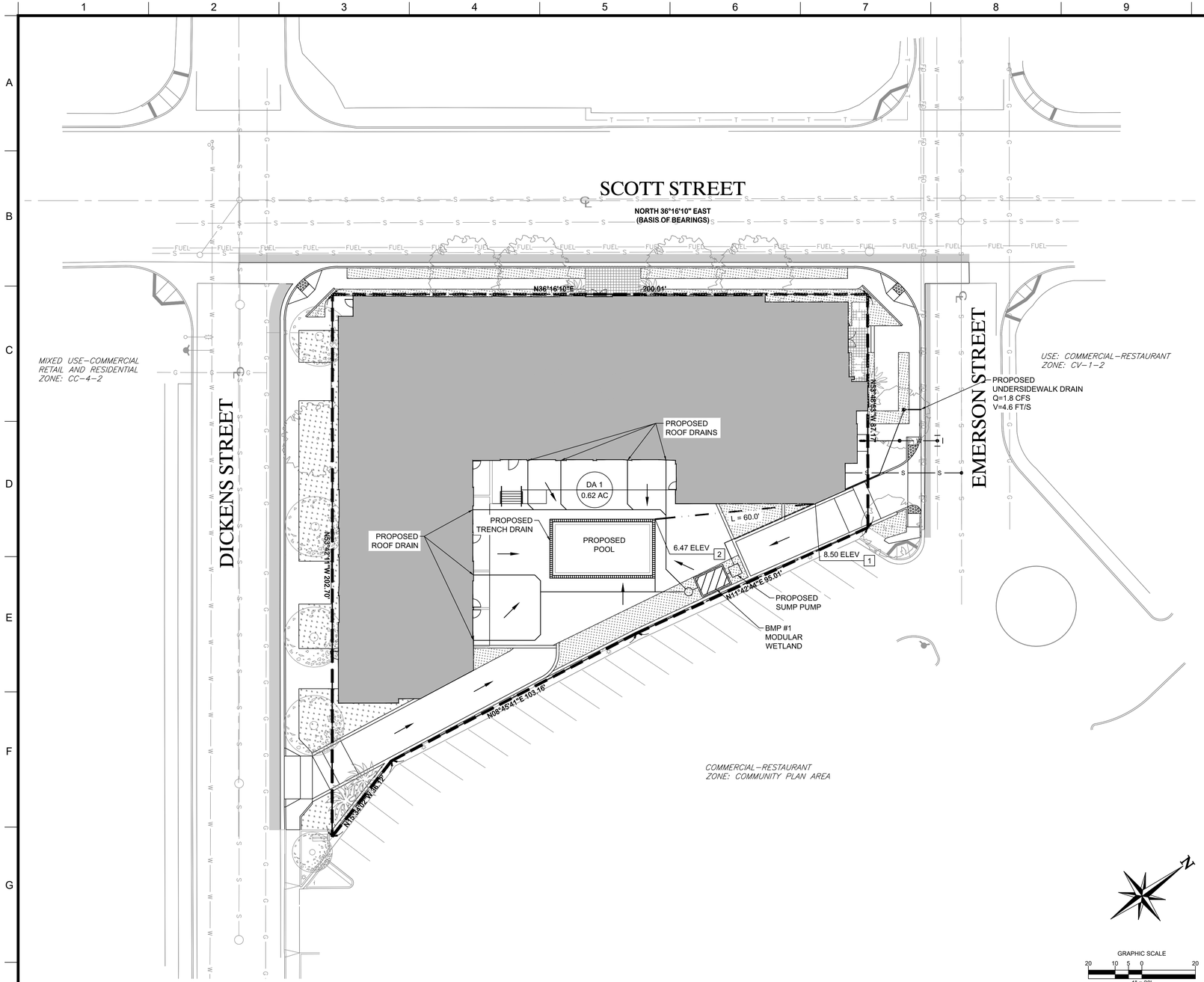
SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
EXISTING CONDITION HYDROLOGY EXHIBIT

JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	SCALE
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.



LOCATION MAP
N.T.S.

LEGEND:

- DA 1 / 1.00 AC — WATERSHED ID / AREA IN ACRES
- DRAINAGE BOUNDARY
- DIRECTION OF FLOW
- LONGEST FLOW PATH
- 10.0 ELEV 1 — ELEVATION AND NODE
- PROPOSED BUILDING
- BMP MODULAR WETLAND
- PROPOSED LANDSCAPE
- PROPOSED CONCRETE

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

POST-PROJECT DRAINAGE DATA

SITE ADDRESS: 1325 SCOTT ST., SAN DIEGO, CA 92106
LOT SIZE: 0.624 AC
PERCENT IMPERVIOUS = 91.2%
TIME OF CONCENTRATION = 5.00 MIN

STORM RECURRENCE INTERVAL	INTENSITY (IN/HR)	PEAK FLOWS (CFS)
10-YEAR	3.40	1.80
50-YEAR	4.25	2.25
100-YEAR	4.50	2.38

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811 Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEY INFORMATION AND MAY NOT REFLECT ACTUAL FIELD MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST TWO WORKING DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

REV	DATE	COMMENT	BY

DOCUMENT
VISTA INVESTMENT PLANNING DOCUMENTS

SITE LOCATION
1325 SCOTT ST.,
SAN DIEGO,
CA 92106

ENGINEER SEAL
REGISTERED PROFESSIONAL ENGINEER
TRAVIS P. VINCENT
C37356
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
PROPOSED CONDITION HYDROLOGY EXHIBIT

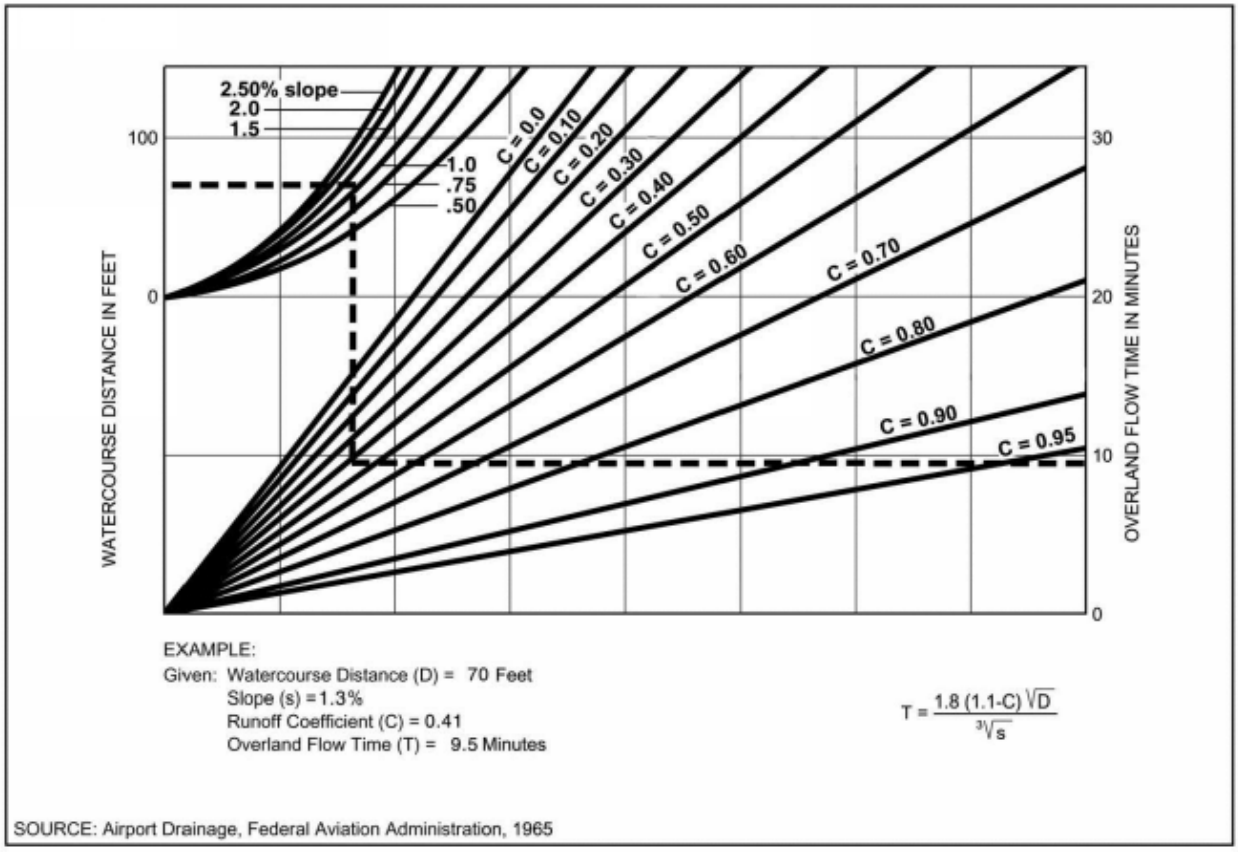
JOB #:	VST. 25085
DATE:	8/5/19
SCALE:	SCALE
DRAWN BY:	RM
CHECKED BY:	TV

SHEET NO.

Appendix B

Runoff Calculations

Ed Time of Concentration



Note: Time of concentration can be found using the given chart or by applying the given formula.

Time of Concentration for Pre-Development Conditions

$$T = (1.8\,(1.1 - C)\sqrt{D})/(\sqrt[3]{s})$$

$Where, \quad C = 0.85$

$D = 151.5'$

$s = 1.00\%$

$Therefore, \quad T = 5.54\ min$

Time of Concentration for Post-Development Conditions

$$T = (1.8\,(1.1 - C)\sqrt{D})/(\sqrt[3]{s})$$

$Where, \quad C = 0.85$

$D = 60'$

$s = 3.38\%$

$T = 1.17$ min $\qquad Therefore, \quad T = 5.00\ min$

Peak Runoff Values

Equation A-1. RM Formula Expression

$$Q = C\ I\ A$$

where:

Q	=	peak discharge, in cubic feet per second (cfs)
C	=	runoff coefficient expressed as that percentage of rainfall which becomes surface runoff (no units); Refer to Appendix A.1.2
I	=	average rainfall intensity for a storm duration equal to the time of concetrnatation (T_c) of the contributing draiange area, in inches per hour; Refer to Appendix A.1.3 and Appendix A.1.4
A	=	drainage area contributing to the design location, in acres

Peak Runoff for Pre-Development Conditions

$$Q = C * I * A$$

$Where,$ $C = 0.85$
$I_{10} = 3.30\ in/hr$
$I_{50} = 4.00\ in/hr$
$I_{100} = 4.30\ in/hr$
$A = 0.624\ acres$

$Therefore,$ $Q_{10} = 1.75\ cfs$
$Q_{50} = 2.12\ cfs$
$Q_{100} = 2.28\ cfs$

Peak Runoff for Post-Development Conditions

$$Q = C * I * A$$

$Where,$ $C = 0.85$
$I_{10} = 3.40\ in/hr$
$I_{50} = 4.25\ in/hr$
$I_{100} = 4.50\ in/hr$
$A = 0.624\ acres$

$Therefore,$ $Q_{10} = 1.80\ cfs$
$Q_{50} = 2.25\ cfs$
$Q_{100} = 2.38\ cfs$

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Aug 5 2019

8-inch Storm Drain Pipe

Circular

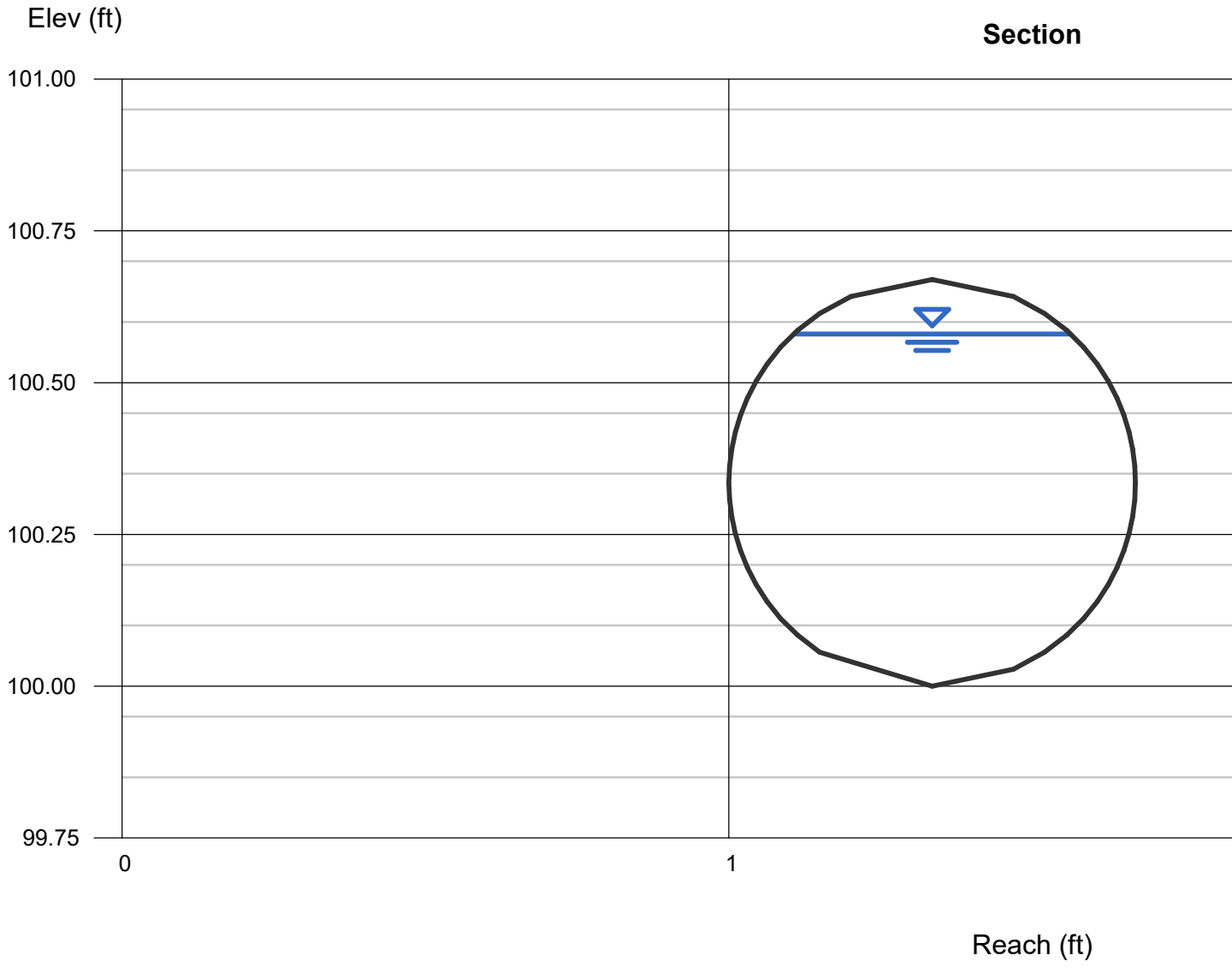
Diameter (ft)	= 0.67
Invert Elev (ft)	= 100.00
Slope (%)	= 2.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 1.80

Highlighted

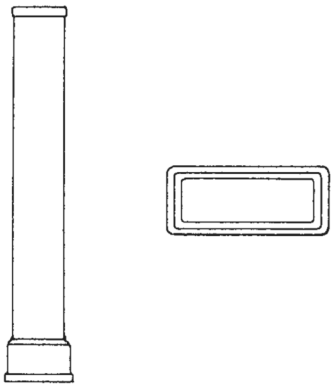
Depth (ft)	= 0.58
Q (cfs)	= 1.800
Area (sqft)	= 0.32
Velocity (ft/s)	= 5.54
Wetted Perim (ft)	= 1.60
Crit Depth, Yc (ft)	= 0.62
Top Width (ft)	= 0.46
EGL (ft)	= 1.06



A-470 — RECTANGULAR CAST IRON PIPE
FOR USE UNDER SIDEWALKS OR OTHER NARROW SPACES

OUTSIDE PIPE	OUTSIDE HUBS	TRANSVERSE AREA — NET	LAYING LENGTH	WEIGHT
★ 3″ x 5″	4¼″x6¼″	11.25 Sq. In.	5′0″	85
★ 3″ x 5″	4¼″x6¼″	11.25 Sq. In.	2′6″	50
★ 3″ x 9″	4¼″x10¼″	21.20 Sq. In.	5′0″	150
★ 3″ x 12½″	4¼″x14″	30.00 Sq. In.	5′0″	200
★ 4″ x 14″	5¼″x15¼″	47.50 Sq. In.	5′0″	220
★ 4″ x 14″	5¼″x15¼″	47.50 Sq. In.	2′6″	115

Note: All Pipe Designed with Bell and Spigot Ends.



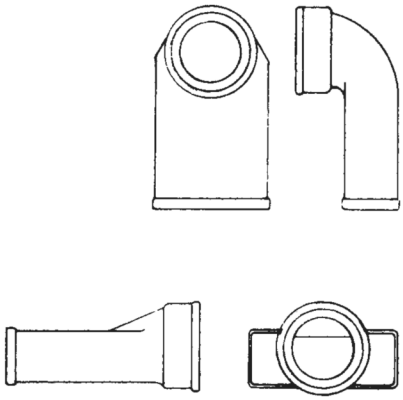
A-470

A-480 ADAPTORS — ROUND TO RECTANGULAR PIPE

ROUND PIPE	RECT. PIPE	LAYING LENGTH	WT.
★4″	3″x5″	1′0″	20
★5″	3″x9″	1′0″	45
★6″	3″x12½″	1′0″	35
★8″	4″x14″	1′0″	65

Note: All Adaptors Supplied with Bell and Spigot Ends Except for 6″. 6″ Adaptor Is No Hub Design.

V=Q/A=(1.8)/(4"/12x14"/12)=4.62 ft/sec

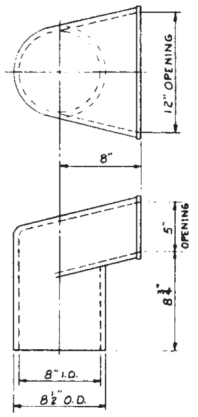


A-480

E

CAST IRON WALL DRAIN
FOR USE IN WALLS OR PLANTERS IN MALLS
APPROX. WT. = 50 Lbs.

Can be Furnished With Horizontal Bars Across Opening on Special Order.



A-485

★ — signifies more favorable stock and volume production

Appendix C

Reference Charts

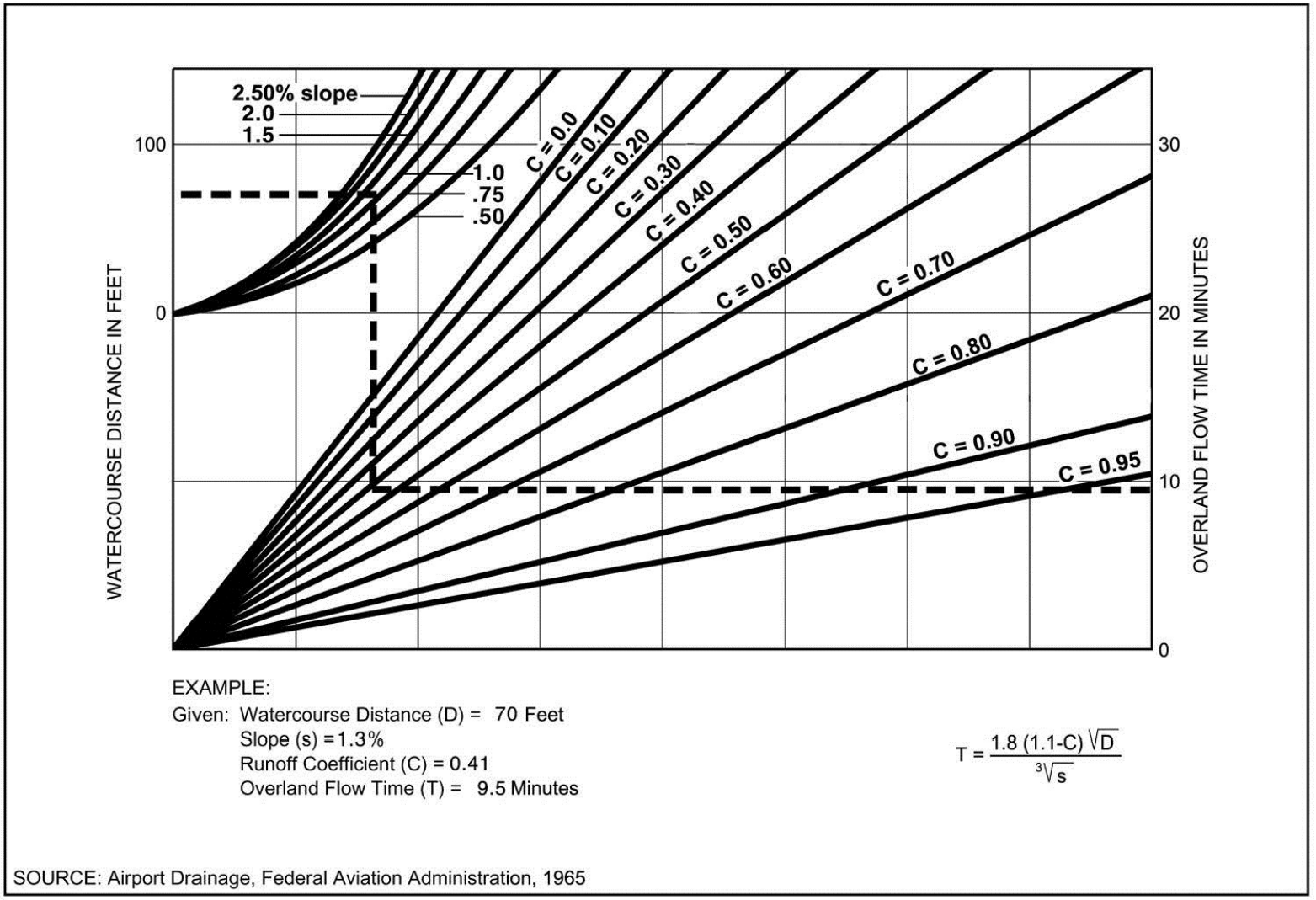


Figure A-4. Rational Formula – Overland Time of Flow Nomograph

Note: Use formula for watercourse distances in excess of 100 feet.

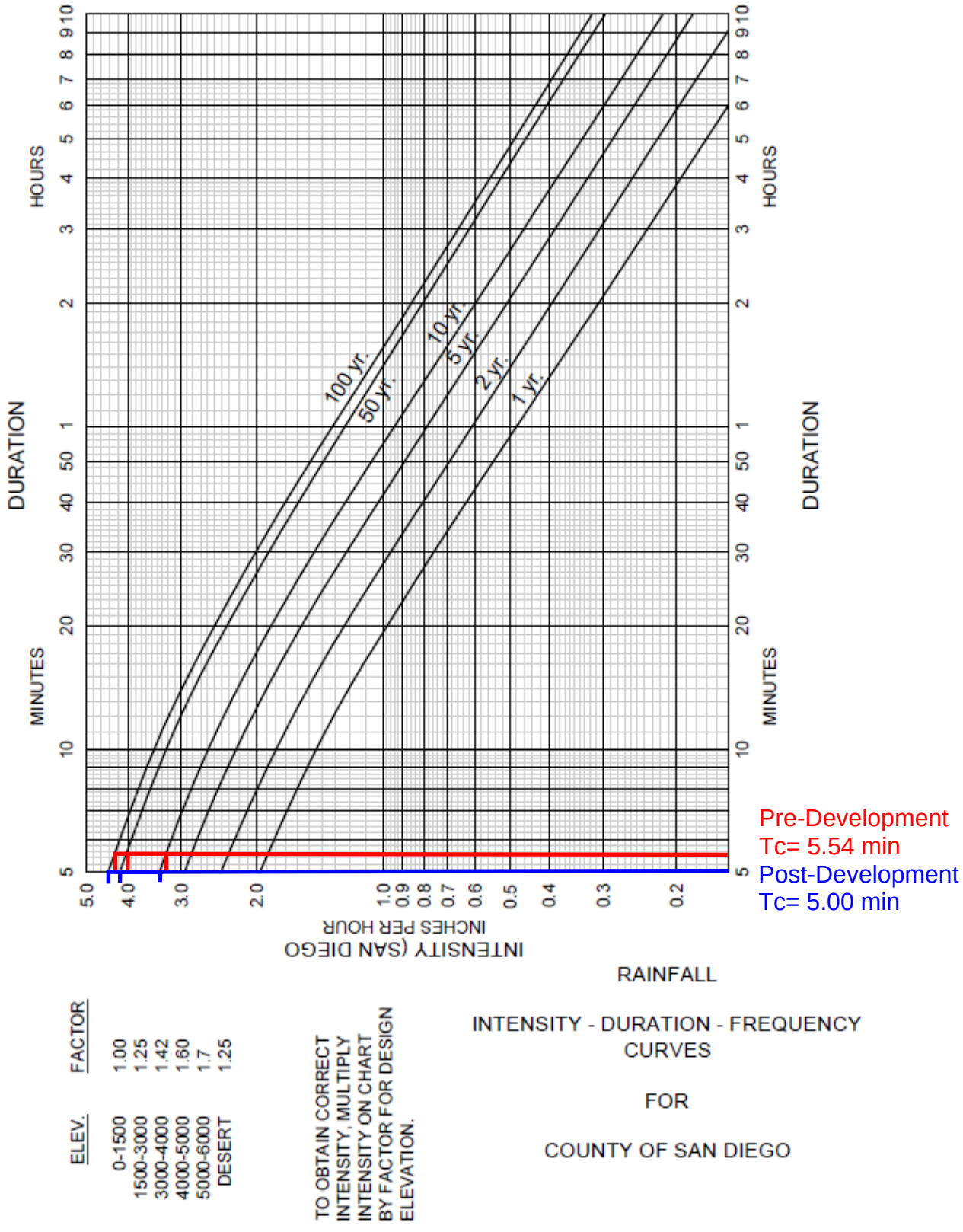


Figure A-1. Intensity-Duration-Frequency Design Chart

Project Name:

Attachment 6
Geotechnical and Groundwater Investigation Report

Attach project's geotechnical and groundwater investigation report. Refer to Appendix C.4 to determine the reporting requirements.

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