Stormwater Quality Management Plan
for
Carefield Senior Care Facility

Bonsall, CA
PDS2019-REZ-19-001

Prepared for:

Carefield Senior Living
201 Lomas Santa Fe Drive, Ste 450
Solana Beach, CA 92075

Prepared by:

Tory R Walker Engineering
122 Civic Center Drive, Ste 206
Vista, CA 92084

Prepared on:

February 7, 2020

Tory R. Walker, PE
R.C.E. 45005

TORY R. WALKER ENGINEERING
RELIABLE SOLUTIONS IN WATER RESOURCES
122 CIVIC CENTER DR, STE 206, VISTA, CA 92084 · 760-414-9212

County of San Diego

Stormwater Quality Management Plan (SWQMP)

For Priority Development Projects (PDPs)

Use for all PDPs (see Storm Water Intake Form, Part 5)

Priority Development Project

Project Information	
Project Name	Carefield Senior Care
Project Address	Mission Rd. & Thoroughbred Lane, Bonsall, California
Assessor's Parcel # (APN)	126-230-55-00
Permit # / Record ID	PDS2019-STP-19-005, PDS2019-REZ-19-001

Project Applicant / Project Proponent		
Name	Steve Barklis, Carefield Solana, LLC	
Address	201 Lomas Santa Fe Dr Suite 450, Solana Beach, CA 92075	
Phone	(858) 259-5591	**Email:** info@solanacompany.com

SWQMP Preparer		
Name	Tory R. Walker Engineering, Inc.	
Company (if applicable)	Company	
Address	122 Civic Center Drive, Suite 206 Vista, California 92084	
Phone	(760) 414-9212	**Email:** info@TRWEngineering.com
PE Number (if applicable)	45005	

Preparer's Certification

I understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the County of San Diego BMP Design Manual. The BMP Design Manual is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100) requirements for storm water management.

This SWQMP is intended to comply with applicable requirements of the BMP Design Manual. I certify that it has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this SWQMP by County staff is confined to a review and does not relieve me as the person in charge of overseeing the selection and design of storm water BMPs for this project, of my responsibilities for project design.

Signature Tory R Walker **Date** February 7, 2020

COUNTY ACCEPTED

SWQMP Approved By: Name *Approval Date*: Date

**** Note* Approval does not constitute compliance with regulatory requirements.***

Submittal Record: List the dates of SWQMP and plan submittals and updates. Briefly describe key changes from previous versions. If responding to plan check comments, note this in the entry and attach the responses as applicable.

No.	Date	Summary of Changes
Preliminary Design / Planning / CEQA		
1	3/11/2019	Initial Submittal
2	10/23/2019	Updated per County Comments
3	2/7/2020	Updated per County Commnets
4	Date	Summary of Change
No.	Date	Summary of Change
Final Design		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change
Plan Changes		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change

PDP SWQMP Submittal Checklist

SWQMP Tables: All of the eight tables below must be completed.

SWQMP Attachments[1]: Use the checklist below to identify which attachments will be included with this submittal. Attachments with boxes already checked (☒) are required for all projects. The applicability of other attachments will be determined upon completing this form.

☒ Attachment 1: Storm Water Intake Form

☒ Attachment 2: DMA Exhibits and Construction Plan Sheets

☒ Attachment 3: Source Control BMP Worksheet

☐ Attachment 4: Previous SWQMP Submittals

☒ Attachment 5: Existing Site and Drainage Description

☒ Attachment 6: Documentation of DMAs without Structural BMPs

☒ Attachment 7: Documentation of DMAs with Structural Pollutant Control BMPs

☒ Attachment 8: Documentation of DMAs with Structural Hydromodification Management BMPs

☐ Attachment 9: Management of Critical Coarse Sediment Yield Areas

☒ Attachment 10: Installation Verification Form

☒ Attachment 11: BMP Maintenance Agreements and Plans

☐ Attachment 12: Documentation of Alternative Compliance Projects (ACPs)

After completing the remainder of this form, check the applicable SWQMP Attachment boxes to summarize your selections.

[1] All SWQMP attachments are available at www.sandiego.gov/stormwater under the Development Resources tab. Some attachments are presented out of order because they are shared between multiple SWQMP forms.

Table 1 – Scope of SWQMP Submittal

Select one option below that describes the scope of this SWQMP Submittal. Document your selection as indicated.

SWQMP Scope	Required Documentation
☒ ***a. SWQMP addresses the entire project***	No additional documentation.
☐ ***b. SWQMP implements requirements of an earlier master SWQMP submittal***	Include a copy of the previous submittal as **Attachment 4**.
☐ ***c. First of multiple SWQMP submittals***	Use the spaces below to identify the elements addressed in this submittal and in future submittals.

(1) Elements addressed in current submittal (streets, common areas, first project phase, etc.):

(2) Elements to be addressed in future submittal(s) (individual lots, future project phases, etc.):

Table 2 – Baseline BMPs for Existing and Proposed Site Features

Site Features Select each feature that applies.		BMP Implementation Describe BMP implementation for each selected site feature.				
Group 1: Existing Natural Site Features [See BMPDM Sections 4.3.1 and 4.3.2]						
		Maintain & conserve natural features (SD-G)		**Establish buffers for waterbodies (SD-H)**		
		Full	Partial	Full	Partial	
☐	**Natural waterbodies**	☐	☐	☐	☐	
☐	**Natural storage reservoirs & drainage corridors**	☐	☐			
☒	**Natural areas, soils, & vegetation (incl. trees)**	☐	☒			
Group 2: Common Impervious Outdoor Site Features [See BMPDM Sections 4.3.3 and 4.3.5]						
		Disperse impervious areas (SD-B)		**Use permeable materials (SD-D)**		**Minimize impervious areas (SD-I)**
		Full	Partial	Full	Partial	
☐	**Streets and roads**	☐	☐	☐	☐	☒ Check here to confirm that impervious surfaces have been minimized where applicable and feasible for all outdoor impervious areas. If not, explain in Table 3.
☒	**Sidewalks & walkways**	☐	☐	☐	☐	
☒	**Parking areas & lots**	☐	☐	☐	☒	
☒	**Driveways**	☐	☐	☐	☒	
☒	**Patios, decks, & courtyards**	☐	☐	☐	☐	
☐	**Hardcourt recreation areas**	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	
☐	Add impervious feature	☐	☐	☐	☐	
Group 3: Other Outdoor Site Features [See BMPDM Sections 4.2.6, 4.3.4, 4.3.5, 4.3.7, and 4.3.8]						
☒	**Rooftop areas**	**Disperse rooftop runoff (SD-B)**		**Install green roofs (optional; SD-C)**		**Use rain barrels to capture runoff (optional; SD-E)**
		Full	Partial	Full	Partial	Full / Partial
		☐	☐	☐	☐	☐ / ☐
☒	**Landscaped areas**	**Use water-efficient landscaping (SD-J)**		**Install efficient irrigation systems (SD-K)**		**Minimize erosion of slopes and surfaces (SD-L)**
		Full	Partial	Full	Partial	Full / Partial
		☒	☐	☒	☐	☒ / ☐
☒	**Water features (pools, spas, etc.)**	**Provide a designated washing area (SC-A)**		**Drain feature to the sanitary sewer (if allowed) (SC-B)**		**Drain feature to a pervious area (SC-C)**
		Full	Partial	Full	Partial	Full / Partial
		☒	☐	☐	☐	☐ / ☐

Note: Justification is required in Table 4 for any feature not selecting at least one BMP (either full or partial implementation). For Group 2 features this means not selecting either SD-B or SD-D. Additional justifications may be required on request by County staff. Also use Table 4 to describe sources or BMPs other than those listed.

Table 3 –Baseline BMPs for Pollutant-generating Sources (Group 4)

A. Requirements for Documentation Select either or both as applicable.	Completion of Part B is not required because: ☐ This is a Small Residential Project, OR ☐ None of these sources or features is proposed.	☒ ***Source Control BMP Requirements Worksheet E.1-1*** (SC in Appendix E of the BMP Design Manual) is included as **Attachment 3** (optional unless requested by County staff).

B. Sources and BMPs Select all proposed sources and features below. Then select the BMPs on the right to be implemented for each.	**SC-B** Plumb to sanitary sewer	**SC-C** Drain feature to a pervious area	**SC-D** Provide containment for spills and discharges	**SC-E** Prevent contact with rainfall	**SC-F** Isolate flows from adjacent areas	**SC-G** Prevent wind dispersal	**SC-H** Label with stencils or signs
Common Source Areas							
☒ **Trash & Refuse Storage**	☐	---	☒	☒	☒	☒	---
☐ **Materials & Equipment Storage**	☐	---	☐	☐	☐	☐	---
☐ **Loading & Unloading**	☐	---	☐	☐	☐	---	---
☐ **Fueling**	☐	---	☐	☐	☐	---	---
☐ **Maintenance & Repair**	☐	---	☐	☐	☐	---	---
☐ **Vehicle & Equipment Cleaning**	☐	---	☐	☐	☐	---	---
☐ **Food Preparation or Service**	☐	---	☐	☐	☐	---	---
Distributed Features							
☒ **Storm drain inlets & catch basins**	---	---	---	---	---	---	☒
☐ **Interior floor drains and sumps**	☐	---	---	---	---	---	---
☒ **Drain lines (air conditioning, etc.)**	☐	☒	☐	---	---	---	---
☒ **Fire test sprinkler discharges**	☒	☐	☐	---	---	---	---

Provide the following in Table 4: (1) justification of any source area or feature with NO BMPs selected, (2) justification of individual unselected BMPs *if requested by County staff*, and (3) identification of any proposed pollutant-generating sources and BMPs not listed here.

Note: Pollutant-generating sources and features may not discharge directly to the MS4. Discharging to any of the stormwater BMPs identified in Table 5 Part B is also discouraged. If doing so, however, the source or feature area must be included in applicable DCV calculations.

Table 4 – Explanations and Justifications for Table 2 and 3 Baseline BMPs

☐ **Check here if no explanations or justifications for Table 2 or 3 BMPs are required.**

- **Required Justifications**: If NO BMPs are selected for a source or feature, justify why all BMPs are either not applicable or are infeasible. For Group 2 features NO BMPs means not selecting either SD-B or SD-D.
- **If Requested**: Justify why individual BMPs will not be implemented or will only be partially implemented.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Tables 2 or 3.

BMP-Feature Combination		**Explanation**
Feature	Sidewalks, Walkways	Impervious area dispersion critera are not feasible for encorporation into this site design due to overland flow length restrictions on the siteplan, in additionto the high impervious: pervious ratio of roof to adjacent landscape area.
BMP	Impervious area Dispersion	
Feature	Patios, decks and courtyards	Impervious area dispersion critera are not feasible for encorporation into this site design due to overland flow length restrictions on the siteplan, in additionto the high impervious: pervious ratio of patio/pool deck to adjacent landscape area.
BMP	Impervious area dispersion	
Feature	Roof Areas	Impervious area dispersion critera are not feasible for encorporation into this site design due to overland flow length restrictions on the siteplan, in additionto the high impervious: pervious ratio of roof to adjacent landscape area.
BMP	Impervious area dispersion	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	

Table 5: DMA Structural Compliance Strategies and Documentation

Part A – Selection and Application Structural Performance Standards

1. Selection of Standards (select one; see BMPDM Section 6.1)

☐ a. Pollutant control + hydromodification ☒ b. Pollutant control only (project is exempt from hydromodification requirements)

2. Application of Structural Performance Standards (select one; see BMPDM Section 1.7)

☒ **New Development Projects:** Standards apply to all impervious surfaces.

☐ **Redevelopment Projects:** Complete the calculations below. Select the applicable scenario based on the results.

a. Existing impervious area (ft²)	b. Impervious area created / replaced (ft²)	c. % Impervious created / replaced [(b/a)*100]

☐ *Scenario 1: c is 50% or more*: Performance standards apply to all impervious surfaces (a + b).

☐ *Scenario 2: c is less than 50%*: Performance standards apply only to created or replaced impervious surfaces (b only).

Part B – Compliance Strategies and Required Attachments

1.*Complete and submit each of the applicable attachments on the right.*

Att. 1	Att. 2	Att. 3	Att. 4	Att. 5
Storm Water Intake Form ☒	DMA Exhibits and Construction Plan Sheets ☒	Source Control BMP Worksheet (see Page 3) ☒	Previous SWQMP Submittals (see Page 1) ☐	Existing Site and Drainage Description ☒

2. *Indicate each compliance strategy below that will be used for one or more DMAs on the site.*

	Att. 6 DMAs without Structural BMPs	Att. 7 DMAs w/ Structural Pollutant Control BMPs	Att. 8 DMAs w/ Structural Hydromod. BMPs	Att. 9 Critical Coarse Sediment Yield Areas	Att. 10 Installation Verification Form	Att. 11 Maintenance Agreements/ Plans	Att. 12 Alternative Compliance Projects
☐Self-mitigating DMAs (BMPDM Section 5.2.1)	☐			☐			
☐De Minimis DMAs (BMPDM Section 5.2.2)	☐			☐			
☐Self-retaining DMAs (BMPDM Section 5.2.3)	☐			☐	☐		
Structural BMPs (select all that apply)							
☒Pollutant Control BMPs (BMPDM Section 5.4)		☒		☒	☒	☒	
☐Hydromodification BMPs (BMPDM Chapter 6)			☐	☐	☐	☐	
☐Alternative Compliance Project (BMPDM Section 1.8)				☐	☐	☐	☐

☐ **Please check this box after you complete this list. Corresponding attachments will be automatically selected on the right.**

- *Attachments 1, 2, and 5 are required for all projects.*

Table 6: Critical Coarse Sediment Yield Area (CCSYA) Requirements

- Identify one applicable compliance pathway for the PDP below.
- Document your selection in **Attachment 9**.

A. Hydromodification Management Exemption (BMPDM Sections 1.6 and 6.1)

☒ **PDP is Exempt from Hydromodification Management Requirements**

Select if hydromodification management exemption was selected in Table 4 Part A.1.

B. Watershed Management Area (WMAA) Mapping (BMPDM Appendix H.1.1.2)

☐ **WMAA mapping demonstrates the following:**

a. <5% of potential onsite CCYSAs will be impacted (built on or obstructed)

b. All potential upstream offsite CCYSAs will be bypassed

C. Resource Protection Ordinance (RPO) Methods (BMPDM Appendix H.1.1.1)

☐ **RPO Scenario 1: PDP is subject to and in compliance with RPO requirements**

a. Project requires one or more discretionary permits (RPO applicability is confirmed during discretionary review)

b. Onsite AND upstream offsite CCSYAs will be avoided and/or bypassed

☐ **RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements**[2]

a. Project does not require discretionary permits

b. Project will bypass all upstream offsite CCSYAs (no requirements for onsite CCSYAs)

D. No Net Impact Analysis (BMPDM Appendix H.4)

☐ **Project demonstrates no net impact to receiving waters**

[2] Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).

Table 7 –Minimum Construction Stormwater BMPs

Minimum Required BMPs by Activity Type Select all applicable activities and at least one BMP for each	References Caltrans[3]	 County of San Diego	
☒ **Erosion Control for Disturbed Slopes** (choose at least 1 per season)			
☐ Vegetation Stabilization Planting[4] (Summer)	SS-2, SS-4		
☒ Hydraulic Stabilization Hydroseeding[9] (Summer)	SS-4		
☒ Bonded Fiber Matrix or Stabilized Fiber Matrix[5] (Winter)	SS-3		
☐ Physical Stabilization Erosion Control Blanket[7] (Winter)	SS-7		
☒ **Erosion control for disturbed flat areas (slope < 5%)**			
☒ County Standard Lot Perimeter Protection Detail	SC-2	PDS 659[6]	
☐ Use of Item A erosion control measures on flat areas	SS-3, SS-4, SS-7		
☐ County Standard Desilting Basin (must treat all site runoff)	SC-2	PDS 660[7]	
☐ Mulch, straw, wood chips, soil application	SS-6, SS-8		
☐ **Energy dissipation (required to control velocity for concentrated runoff or dewatering discharge)**			
☐ Energy Dissipater Outlet Protection	SS-10	RSD D-40[8]	
☒ **Sediment control for all disturbed areas**			
☒ Silt Fence	SC-1		
☒ Fiber Rolls (Straw Wattles)	SC-5		
☒ Gravel & Sand Bags	SC-6, SC-8		
☐ Dewatering Filtration	NS-2		
☒ Storm Drain Inlet Protection	SC-10		
☐ Engineered Desilting Basin (sized for 10-year flow)	SC-2		
☒ **Preventing offsite tracking of sediment**			
☒ Stabilized Construction Entrance	TC-1		
☐ Construction Road Stabilization	TC-2		
☐ Entrance/Exit Tire Wash	TC-3		
☐ Entrance/Exit Inspection & Cleaning Facility	TC-1		
☐ Street Sweeping and Vacuuming	SC-7		
☒ **Materials Management**			
☒ Material Delivery & Storage	WM-1		
☒ Spill Prevention and Control	WM-4		
☒ **Waste Management[9]**			
☒ Waste Management Concrete Waste Management	WM-8		
☒ Solid Waste Management	WM-5		
☐ Sanitary Waste Management	WM-9		
☐ Hazardous Waste Management	WM-6		

[3] See Caltrans 2017 Storm Water Quality Handbooks, Construction Site BMP Manual, available at: (http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm)
[4] Planting or Hydroseeding may be installed between May 1st and August 15th. Slope irrigation must be in place and operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. A contingency physical BMP must be implemented by August 15th if vegetation is not established by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation must have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.
[5] All slopes over three feet must have established vegetative cover prior to final permit approval.
[6] County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)
[7] County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division
[8] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)
[9] Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

Table 8 – Explanations and Justifications for Construction Phase BMPs

☒ **Check here if no explanations or justifications for Table 7 BMPs are required.**		
Justifications for Table 7 Temporary Construction Phase BMPs • **Required Justifications**: Justify all construction activity types for which NO BMPs were selected. • **If Requested**: Justify why specific individual BMPs were not selected. • **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Table 7.		
Activity Type / BMP		**Explanation**
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	

County of San Diego
Stormwater Quality Management Plan (SWQMP)
Attachment 1: Storm Water Intake Form for All Permit Applications

This form establishes Stormwater Quality Management Plan (SWQMP) requirements for Development Projects per Sections 67.809 and 67.811 of the County of San Diego Watershed Protection Ordinance (WPO).
See ***Storm Water Intake Form Instructions*** for additional guidance and explanation of terms.

Part 1. Project Information	
Project Name:	Carefield Senior Care Facility, Bonsall
Record ID (Permit) No(s):	PDS2019-STP-19-005, PDS2019-REZ-19-001
Assessor's Parcel No(s):	126-230-55-00
Street Address (or Intersection):	Mission Rd. & Thoroughbred Lane, Bonsall, California
City, State, Zip:	Bonsall, CA 92003

Part 2. Applicant / Project Proponent Information	
Name:	Steven Barklis
Company:	Carefield Senior Living
Street Address:	201 Lomas Santa Fe Drive, Ste 450
City, State, Zip:	Solana Beach, CA 92075
Phone Number	858-259-5591
Email:	svbark@aol.com

I have reviewed the information in this form and it is true and correct to the best of my knowledge.
Applicant / Project Proponent Signature: Signature Steven N. Barklis Date: Date 2/7/2020

Part 3. Exemption from Classification as a Development Project (Check any that apply)

Stormwater management measures apply to your project only if it meets the definition of a **Development Project** per County of San Diego BMP Design Manual Section 1.3 (Defining a Project). Your project is exempt from permanent post-construction stormwater management requirements if any of following apply:

☐ a. It includes only temporary activity that will not result in permanent post-construction changes.
☐ b. It does not consist of construction, rehabilitation, redevelopment, and/or reconstruction work.
☐ c. It includes only replacement of impervious surfaces that are part of a routine maintenance activity.
☐ d. It includes only repair or improvements to an existing building or structure that do not alter the size.
☐ e. It (1) does not contribute a manmade source of pollutants to stormwater, and (2) does not reduce the natural absorption and infiltration abilities of the land.

***If NONE of the Boxes are checked - CONTINUE** to Part 4.*
***If ANY of the Boxes are checked - STOP,** sign under Part 2 above, and submit only this page. Do not complete Page 2. If requested by County staff, attach an explanation of the exemption(s) being claimed.*

For County Use Only	**Reviewed By:**	**Review Date:**
☐ Intake Form cover sheet only	☐ Standard SWQMP ☐ PDP SWQMP	☐ Green Streets PDP Exemption SWQMP

Part 4. Required Information for All Development Projects

Ⓐ 1. Existing (pre-development) impervious surfaces (ft²)	2. Created or replaced impervious surfaces (ft²)	3. Total disturbed area (acres or ft²)
0	98,671	189,409

Ⓑ ☒ Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ)[1]	WDID # (if issued)
	TBD

Part 5. Priority Classification & Stormwater Quality Management Plan Form Selection

Ⓐ *If your project is the following … (select one)*	Ⓑ *You must complete …*
☐ **Standard Project** ☐ a. Project is East of the Pacific/Salton Sea Divide ☐ b. None of the PDP criteria below applies	➔ ***Standard SWQMP Form***
☒ **Priority Development Project (PDP)** ☐ 1. Project is part of an existing PDP, OR ☒ 2. Project does any of the following: ☒ a. Creates or replaces a total of 10,000 ft² or more of impervious surface ☐ b. Creates or replaces a combined total of 5,000 ft² or more of impervious surface within one or more of the following uses: (1) parking lots; (2) streets, roads, highways, freeways, and/or driveways; (3) restaurants; and (4) hillsides ☐ c. Creates or replaces a combined total of 5,000 ft² or more of impervious surface within one or more of the following uses: (1) automotive repair shops; and (2) retail gasoline outlets ☐ d. Discharges directly to an Environmentally Sensitive Area (ESA) AND creates or replaces 2,500 ft² or more of impervious surface ☐ e. Disturbs one or more acres of land (43,560 ft²) and is expected to generate pollutants post-construction ☐ f. Is a redevelopment project that creates or replaces 5,000 ft² or more of impervious surface on a site already having at least 10,000 ft² of impervious surface	➔ ***PDP SWQMP Form***
☐ **Green Streets PDP Exemption[2]**	➔ ***Green Streets PDP Exemption SWQMP Form***

- ***On completion of Parts 4 and 5, sign under Part 2 above*** *and submit this form to the County.*
- ***If requested****, attach supporting documentation to justify selections made or exemptions claimed.*
- ***If this is a PDP that is part of a larger existing PDP****, you will be required to attach a copy of the existing SWQMP to the newer SWQMP submittal.*

[1] Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html

[2] ***Green Streets PDP Exemption Projects*** are those claiming exemption from PDP classification per WPO Section 67.811(b)(2) because they consist exclusively of *either* 1) development of new sidewalks, bike lanes, and/or trails; *or* 2) improvements to existing roads, sidewalks, bike lanes, and/or trails.

2.0 General Requirements

- Attachment 2 consolidates exhibits and plans required for the entire project.
- Complete the table below to indicate which sub-attachments are included with the submittal. Sub-attachments that are not applicable can be excluded from the submittal.
- Unless otherwise stated, features and BMPs identified and described in each corresponding Attachment (6 through 9) must be shown on applicable DMA Exhibits and construction plans submitted for the project.

Sub-attachments	Requirement
☒ **2.1: DMA Exhibits**	All PDPs
☐ **2.2: Individual Structural BMP DMA Mapbook**	PDPs with structural BMPs
☒ **2.3: Construction Plan Sets**	All projects

PER DISCUSSION WITH STAFF, MAPBOOKS SHALL BE DEFERRED TO ENGINEERING.

2.1 DMA Exhibits

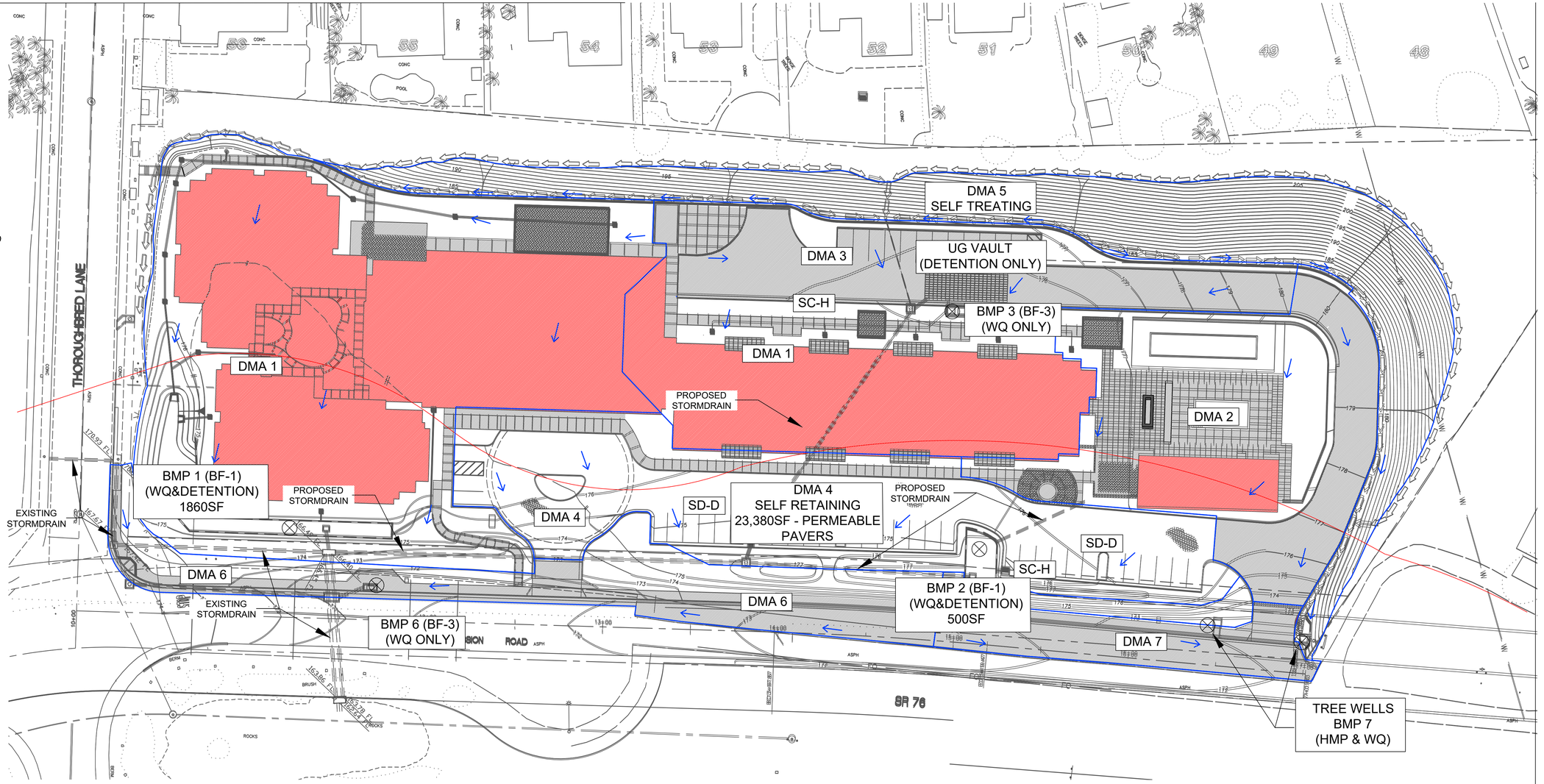
- DMA Exhibits must show all DMAs on the project site. Exhibits must include all applicable features identified in applicable SWQMP attachments.
- Exhibits may be prepared individually for the BMPs associated with each applicable SWQMP Attachment (6, 7, 8, and/or 9) or combined into one or more consolidated exhibits.
- Use this checklist to ensure required information is included on each exhibit (copy as needed).

DMA Exhibit ID #:	**1**	
A. Features required for all exhibits		
1. Existing Site Features		
☒ Underlying hydrologic soil group (A, B, C, D)	☒ Topography and impervious areas	
☒ Approximate depth to groundwater	☒ Existing drainage network, directions, and offsite connections	
☐ Natural hydrologic features		
2. Drainage Management Area (DMA) Information		
☒ Proposed drainage network, directions, and offsite connections	☒ DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)	
3. Proposed Site Changes, Features, and BMPs		
☐ Proposed demolition and grading	☐ Construction BMPs[2]	
☒ Group 1, 2, and 3 Features[1]	☒ Baseline source control BMPs	
☐ Group 4 Features	☐ Baseline source control BMPs	
B. Proposed Features and BMPs Specific to Individual SWQMP Attachments[3]		
☒ Attachment 6	☒ SSD-BMP impervious dispersion areas ☐ SSD-BMP tree wells	
☒ Attachment 7	☒ Structural pollutant control BMPs	
☐ Attachment 8	☐ Structural hydromodification management BMPs ☐ Point(s) of Compliance (POC) for hydromodification management ☐ Proposed drainage boundary and drainage area to each POC	
☐ Attachment 9	☐ Onsite CCSYAs	☐ Bypass of onsite CCSYAs ☐ Bypass of upstream offsite CCSYAs

[1] Group 1-4 features and baseline BMPs from PDP SWQMP Tables 2 and 3.
[2] Minimum Construction Stormwater BMPs from PDP SWQMP Table 7.
[3] Identify the location, ID numbers, type, and size/detail of BMPs.

LEGEND

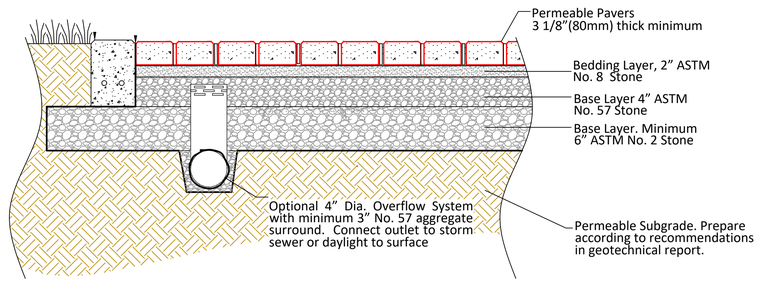
- DMA BOUNDARY
- DMA 1 — DMA/BMP ID
- FLOW DIRECTION
- SOILS BOUNDARY
- PROPOSED ROOF AREA
- PROPOSED NEW/REPLACED PAVEMENT



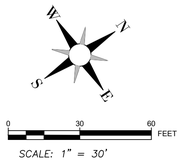
NOTES:

1. SITE IS UNDERLAIN BY HYDROLOGIC SOIL GROUP TYPES A (EAST OF SOILS BOUNDARY) AND D (WEST OF SOILS BOUNDARY).
2. GROUNDWATER WAS NOT ENCOUNTERED IN 25 FOOT EXPLORATORY BORINGS.
3. NO EXISTING HYDROLOGIC FEATURES EXIST ONSITE.
4. REFER TO EROSION CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL BMPS.
5. SD-B IMPLEMENTED AS APPLICABLE FOR DOWNSPOUT DISCONNECTION AND HARDSCAPE DISCONNECTION.
6. SD-D IMPLEMENTED VIA PERMEABLE PAVER THROUGHOUT PARKING AND DRIVE AISLES.
7. SC-B – PLUMB FIRE SPRINKLER TEST SYSTEM TO SANITARY SEWER.
8. SC-C – ROUTE AC DRAIN LINES TO A PERVIOUS AREA
9. SC-H – STORMDRAIN INLET STENCIL
10. AREA DRAIN DESIGN WILL BE PROVIDED IN ENGINEERING, TO DRAIN DMA 1 TO THE APPROPRIATE BMP.
11. PERMEABLE PAVERS SHALL BE DESIGNED TO SAN DIEGO COUNTY SELF RETAINING STANDARDS.

PERMEABLE PAVER TYPICAL SECTION



DMA	IMPERVIOUS	PERVIOUS	TOTAL AREA
DMA -1	36,784	18,397	55,181
DMA -2	15,657	8,721	24,378
DMA -3	30,771	6,518	37,289
DMA -4	2,328	23,380	25,708
DMA -5	-	23,869	23,869
DMA -6	7,065	7,698	14,763
DMA - 7	6,066	2,155	8,221



SCALE: 1" = 30'

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RELIABLE SOLUTIONS IN WATER RESOURCES
122 CIVIC CENTER DR, STE 206, VISTA, CA 92084 · 760-414-9212

CAREFIELD SENIOR CARE FACILITY
BONSALL, CALIFORNIA

DRAINAGE MANANGEMENT EXHIBIT

2.2 Individual Structural BMP DMA Mapbook

- Use this page as a cover sheet for the Structural DMA Mapbook.
- An individual Structural DMA Mapbook must be submitted for any project site with one or more structural BMPs. One Mapbook is required for each unique subsequent owner with responsibility for maintenance of a Structural BMP. Mapbook exhibits will be incorporated as exhibits in Stormwater Maintenance Agreements (SWMAs) and Maintenance Notifications (MNs). See Attachment 11 for additional information on maintenance agreements. If the Mapbook has been provided for each subsequent owner in Attachment 11, they are not required here.
- Place each map on 8.5"x11" paper.
- Show at a minimum the DMA, Structural BMP, Assessor's parcel boundaries with parcel numbers, and any existing hydrologic features within the DMA.

☐	All Mapbooks are attached
☒	All Mapbooks are in Attachment 11

PER DISCUSSION WITH STAFF, MAPBOOKS SHALL BE DEFERRED TO ENGINEERING.

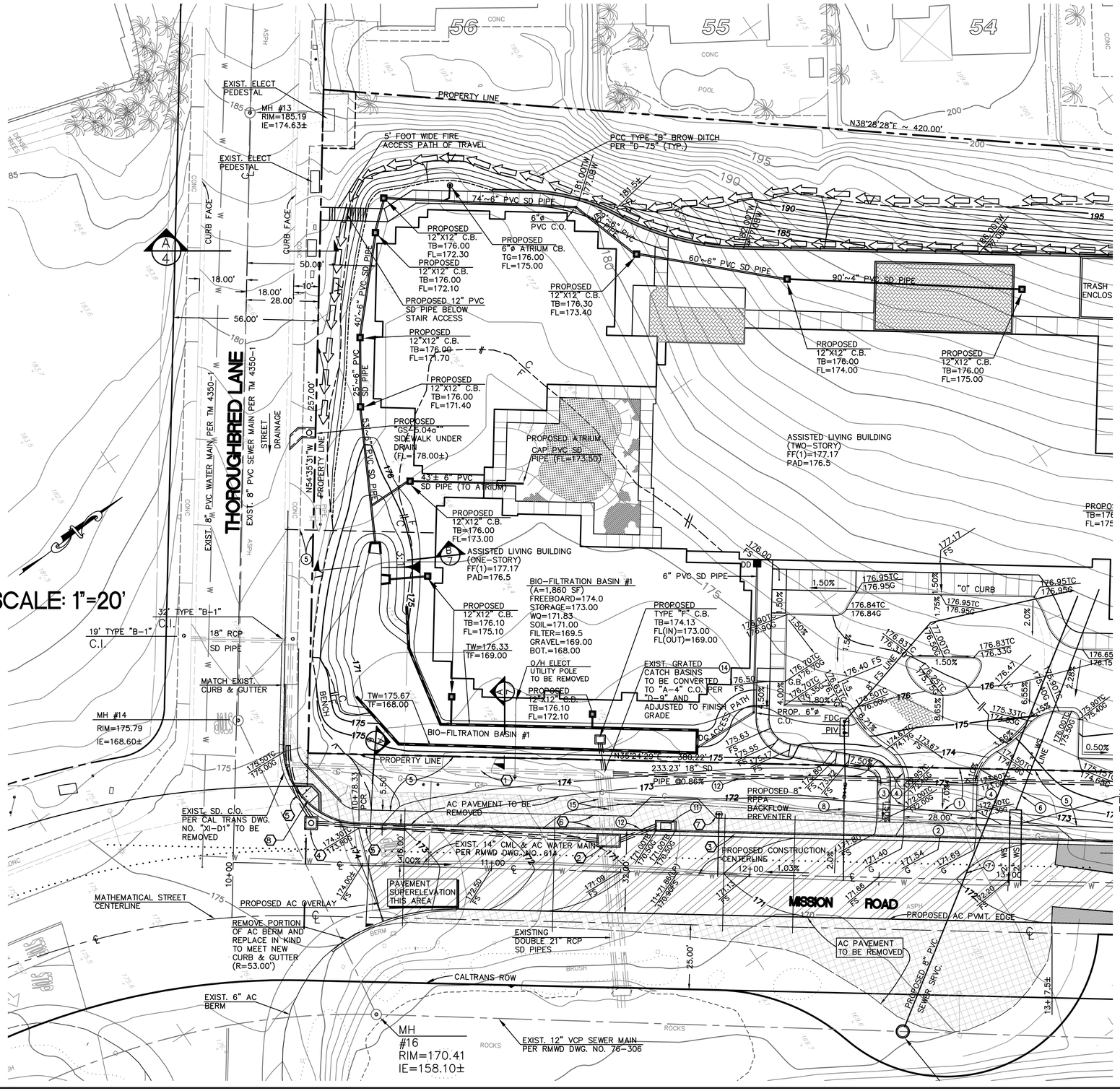
2.3 Construction Plan Sets

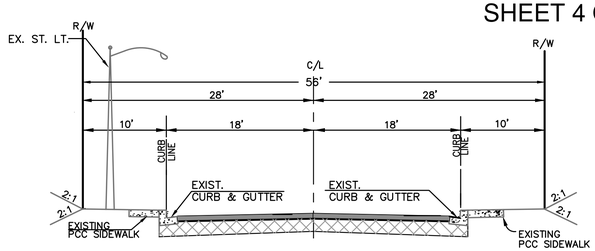
- DMAs, features, and BMPs identified and described in this attachment must also be shown on all applicable construction and landscape plans.
- As applicable, plan sheets must identify:
    - All features and BMPs identified in Sub-attachment 2.1 (DMA Exhibits).
    - The additional information listed below.
- Use this checklist to ensure required information is included on each plan (copy as needed).

Plan Type	**Preliminary Grading Plan**
Required Information[4]	
☐ Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers.	
☒ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit.	
☒ Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable).	
☐ Signage indicating the location and boundary of structural BMP(s) as required by County staff.	
☐ How to access the structural BMP(s) to inspect and perform maintenance.	
☐ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).	
☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).	
☐ Recommended equipment to perform maintenance.	
☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.	
☐ Include landscaping plan sheets (if available) showing vegetation requirements for vegetated structural BMP(s).	
☐ All BMPs must be fully dimensioned on the plans.	
☐ When proprietary BMPs are used, site-specific cross-section with outflow, inflow, and manufacturer model number must be provided. Photocopies of general brochures are not acceptable.	
☐ Include all source control and site design measures described in the SWQMP.	
☐ Include all construction BMPs described in the SWQMP.	

[4] For Building Permit Applications, refer to Form PDS 272, https://www.sandiegocounty.gov/content/dam/sdc/pds/docs/pds272.pdf

PRELIMINARY GRADING + UTILITY PLAN
FOR
CAREFIELD SENIOR CARE FACILITY, BONSALL, CALIFORNIA





TYPICAL SECTION
THOROUGHBRED LANE

A — NO SCALE

LIST OF PROPOSED ENCROACHMENTS (BY EMRA):

1. PRIVATE AC PAVEMENT
2. PRIVATE PCC DRIVEWAY PER RSD "G-14A"
3. PRIVATE PCC SIDEWALK
4. PRIVATE CURB & GUTTER
5. PRIVATE LANDSCAPING AND IRRIGATION
6. PRIVATE WATER SERVICE
7. PRIVATE SEWER LATERAL
8. PRIVATE FIRE SERVICE LINE W/RPPA
11. PRIVATE FILTERRA CURB INLET ((MODEL #FTPD0406-G (4'X8'))
12. PRIVATE 18" RCP SD PIPE
14. EXISTING GRATED CATCH BASIN TO BE CONVERTED TO PRIVATE "A-8" CLEANOUT
15. EXISTING TWIN 21" RCP DRAIN PIPES TO BE PRIVATELY MAINTAINED FROM PROPOSED PRIVATE CLEANOUT CONVERSION TO PROPOSED "A-8" CLEANOUT.

PROPOSED PUBLIC IMPROVEMENTS

1. REMOVE A PORTION OF EXISTING 18" RCP SD PIPE
2. PROPOSED "A-8" CLEANOUT PER RSD "D-9"
3. PROPOSED 6" CURB & GUTTER PER RSD "G-2"
4. PROPOSED "A-4" CLEANOUT PER RSD "D-9"
5. PROPOSED PUBLIC 18" RCP SD PIPE
6. PROPOSED PUBLIC 5-FOOT WIDE PCC SIDEWALK
7. PROPOSED FIRE HYDRANT
8. PROPOSED PED. RAMP PER RSD "G-27A)

SHEET C-400

FARRINGTON ENGINEERING CONSULTANTS, INC.
CONSULTING CIVIL ENGINEERING
11679 VIA FIRUL
SAN DIEGO, CA. 92128
(858) 675-9490

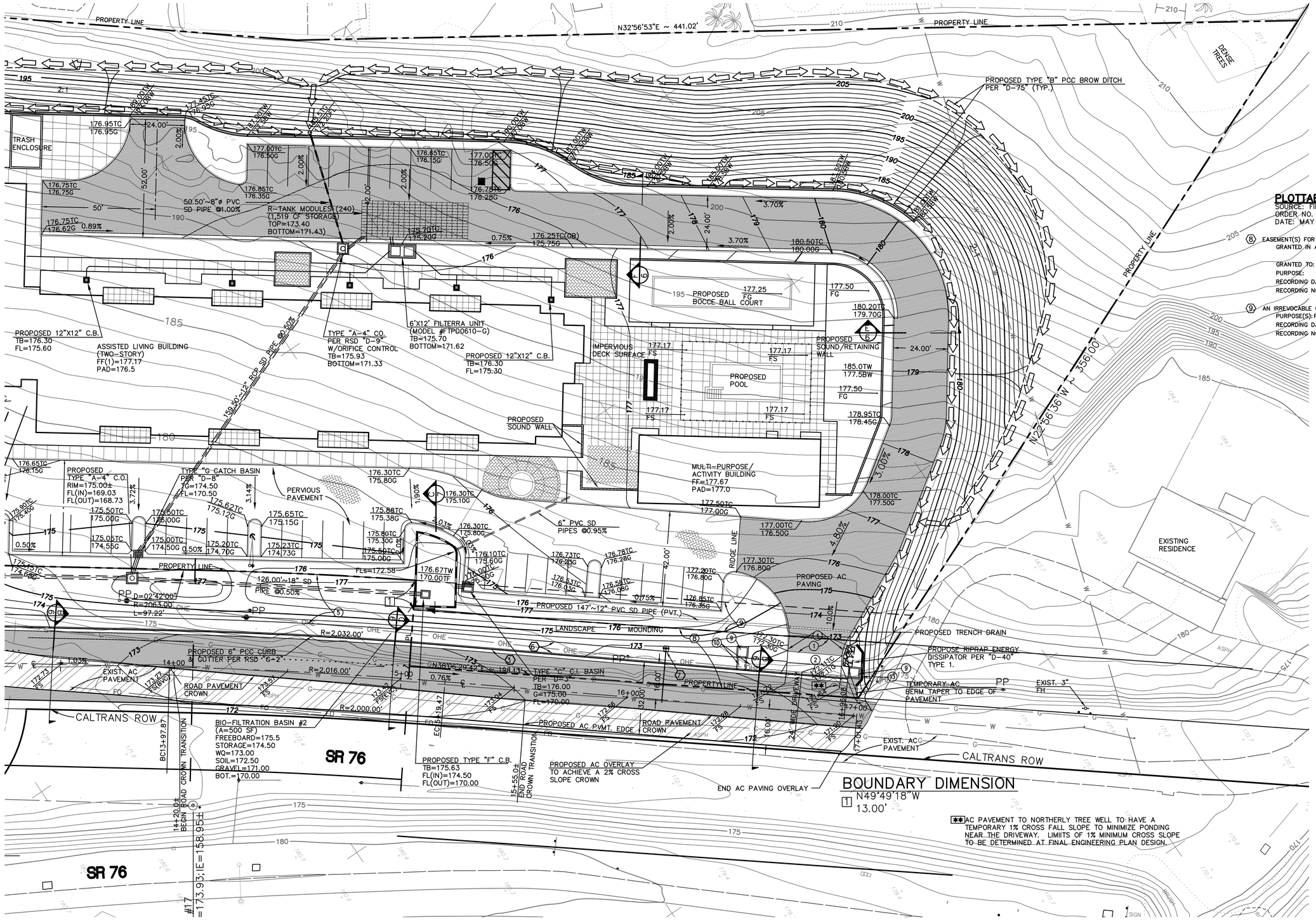
REGISTERED PROFESSIONAL ENGINEER
MARK A FARRINGTON
NO. 38114
EXP.03/31/21
CIVIL
STATE OF CALIFORNIA

Mark A. Farrington 02-07-2020
MARK A. FARRINGTON RCE 38114 EXP. 3/31/21 DATE

02.07.2020 SITE PLAN REZONE APPLICATION

PRELIMINARY GRADING + UTILITY PLAN
FOR
CAREFIELD SENIOR CARE FACILITY, BONSALL, CALIFORNIA

(SEE SHEET C-400)



PLOTTABLE EASEMENTS

SOURCE: FIDELITY NATION TITLE INSURANCE COMPANY
ORDER NO. 005-25007620-1MB
DATE: MAY 10, 2017

(8) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT:

GRANTED TO: COUNTY OF SAN DIEGO
PURPOSE: PUBLIC HIGHWAY
RECORDING DATE: FEBRUARY 11, 1980
RECORDING NO: 80-048372 OFFICIAL RECORDS

(9) AN IRREVOCABLE OFFER TO DEDICATE AN EASEMENT OVER A PORTION OF SAID LAND FOR PURPOSE(S): PUBLIC ROAD
RECORDING DATE: FEBRUARY 11, 1980
RECORDING NO: 80-048373 OFFICIAL RECORDS

LIST OF PROPOPSED ENCROACHMENTS (BY EMRA):

(1) PRIVATE AC PAVEMENT
(2) PRIVATE PCC DRIVEWAY PER RSD "G-14A"
(4) PRIVATE CURB & GUTTER
(5) PRIVATE LANDSCAPING AND IRRIGATION
(9) PRIVATE TEMPORARY TREE WELL PER COUNTY DWG. NO. GS-1.1b
(10) SIDEWALK UNDER DRAIN COUNTY DWG. NO. GS-5.04a
(13) PRIVATE TEMPORARY MASONRY RETAINING WALL PER RSD "C-6" (APPROX. 18" MAX. WALL EXPOSED HEIGHT)

PROPOSED PUBLIC IMPROVEMENTS

(5) PROPOSED 6" CURB & GUTTER PER RSD "G-2"
(6) PROPOSED PUBLIC 5-FOOT WIDE PCC SIDEWALK
(7) PROPOSED FIRE HYDRANT

SCALE: 1"=20'

SHEET C-500

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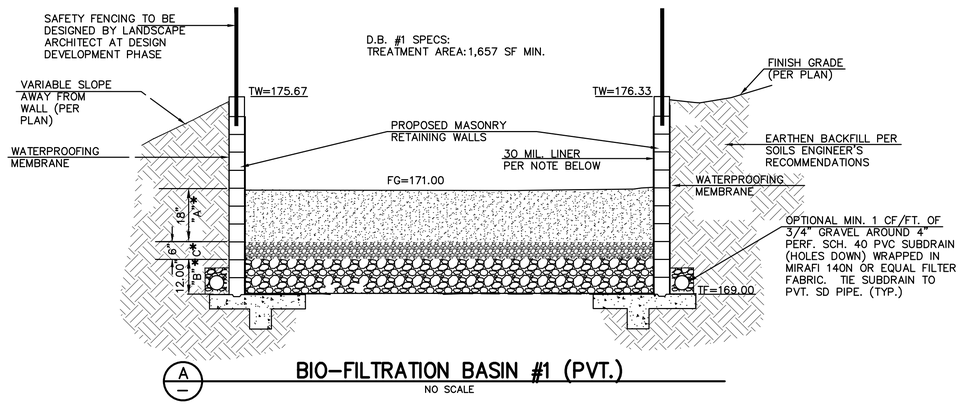
02.07.2020 SITE PLAN REZONE APPLICATION

PROPOSED CONSTRUCTION DETAILS
FOR
CAREFIELD SENIOR CARE FACILITY, BONSALL, CALIFORNIA



A
BIO–FILTRATION BASIN #1 (PVT.)
NO SCALE

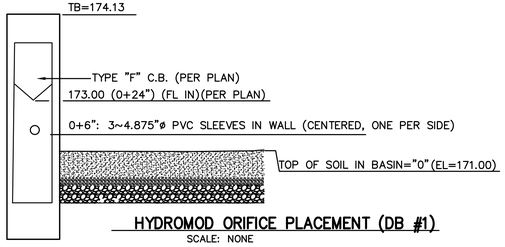
SOIL MATRIX NOTES

"A": 85–88% WASHED SAND
8–12% FINES (SILT & CLAY)
3–5% ORGANIC MATERIAL

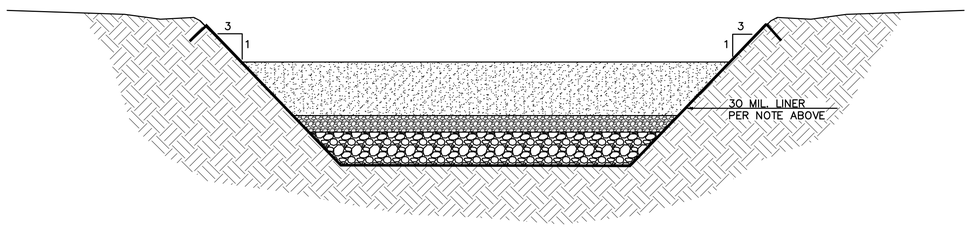
"B": CLASS 2 PERMEABLE PER CAL–TRANS SPEC. 68–1.025

*C: 6" FILTER COURSE MATERIAL TO BE CLEAN WASHED PEA GRAVEL OR MIRAFI 140N (OR EQUAL) FILTER FABRIC

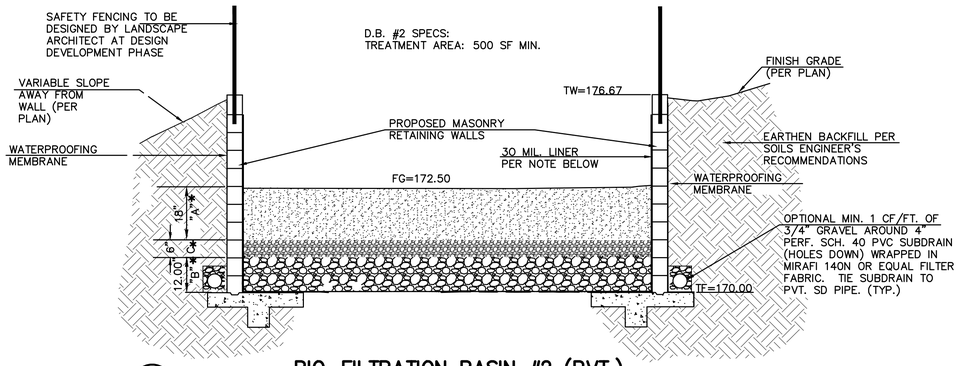
WRAP BIORETENTION SIDES AND BOTTOM IN 30 MIL., LOW DENSITY POLYETHALYENE IMPERMEABLE LINER (LAYFIELD ENVIRO LINER 4130 OR EQUAL). AN 8 OZ. NON–WOVEN GEOTEXTILE SHALL BE USED AS BUFFER BETWEEN THE ROCK AND LINER AND BETWEEN THE SOIL ABOVE AND ROCK BELOW. THE LINER SHOULD BE SEALED AT SEAMS AND PENETRATIONS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.



HYDROMOD ORIFICE PLACEMENT (DB #1)
SCALE: NONE



B
BIO–FILTRATION BASIN #1 (PVT.)
NO SCALE



C
BIO–FILTRATION BASIN #2 (PVT.)
NO SCALE

SOIL MATRIX NOTES

"A": 85–88% WASHED SAND
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3–5% ORGANIC MATERIAL

"B": CLASS 2 PERMEABLE PER CAL–TRANS SPEC. 68–1.025

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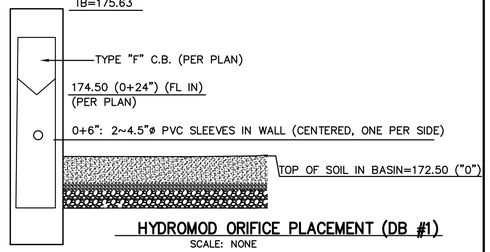

HYDROMOD ORIFICE PLACEMENT (DB #1)
SCALE: NONE

NOTE: SEE DMA EXHIBIT FOR TYPICAL PAVER DETAIL

SHEET C-700

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STATE OF CALIFORNIA

Mark A. Farrington 2-07-2020
MARK A. FARRINGTON RCE 38114 EXP. 3/31/21 DATE

01312020 SITE PLAN REZONE APPLICATION

LEGEND

- DMA BOUNDARY
- DMA 1 — DMA/BMP ID
- FLOW DIRECTION
- SOILS BOUNDARY
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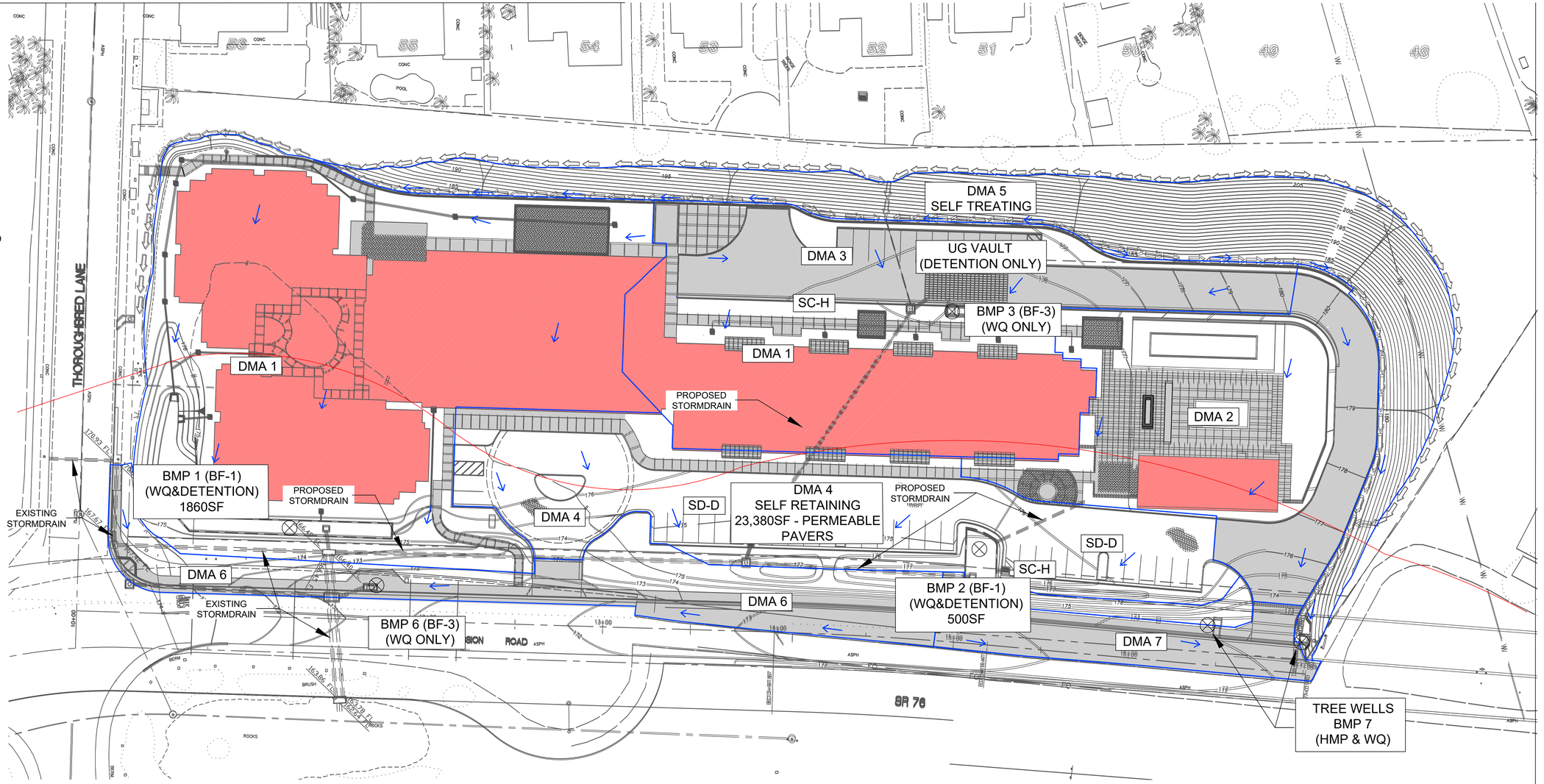

NOTES:

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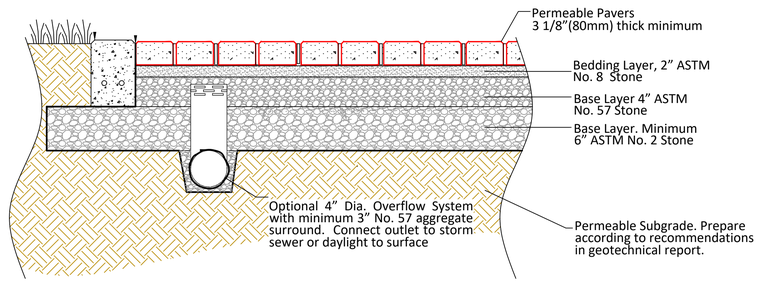
PERMEABLE PAVER TYPICAL SECTION



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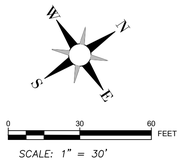

SCALE: 1" = 30'

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CAREFIELD SENIOR CARE FACILITY
BONSALL, CALIFORNIA

DRAINAGE MANANGEMENT EXHIBIT

3.0 Cover Sheet and General Requirements

- Standard SWQMP Form Table 2 and PDP SWQMP Form Table 3 require the identification of pollutant-generating sources and associated BMPs for development projects.

- In some cases, County staff may request additional, more detailed documentation of source control BMP design details. If requested, applicants must submit a completed copy of this Source Control BMP Worksheet. This requirement can be satisfied either by submitting a copy of BMPDM Attachment E.1 (Source Control BMP Requirements) or equivalent documentation at the County's discretion.

- Submit this documentation using this cover sheet.

- Sources and BMPs must also be shown as applicable on DMA exhibits and construction plans (see Attachment 2).

E.2 Source Control BMP Requirements

Worksheet E.1-1: Source Control BMP Requirements

How to comply: Projects must comply with this requirement by implementing all source control BMPs listed in this section that are applicable and feasible for their project. Applicability must be determined through consideration of the development project's features and anticipated pollutant sources. Appendix E.2 provides guidance for identifying source control BMPs applicable to a project. The Standard and PDP SWQMP templates include sections that must be used to document compliance with source control BMP requirements.

How to use this worksheet:

1. Review Column 1 and identify which of these potential sources of storm water pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your project site plan.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your project-specific storm water management report. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

If These Sources Will Be on the Project Site …	… Then Your SWQMP Must Consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
X **A.** Onsite storm drain inlets ❑ Not Applicable	X Locations of inlets.	X Mark all inlets with the words "No Dumping! Flows to Bay" or similar. See stencil template provided in Appendix I-4	X Maintain and periodically repaint or replace inlet markings. X Provide storm water pollution prevention information to new site owners, lessees, or operators. X See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks X Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **B.** Interior floor drains and elevator shaft sump pumps **X** Not Applicable		❑ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **C.** Interior parking garages **X** Not Applicable		❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
X **D1.** Need for future indoor & structural pest control ❑ Not Applicable		**X** Note building design features that discourage entry of pests.	**X** Provide Integrated Pest Management information to owners, lessees, and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
X **D2.** Landscape/ Outdoor Pesticide Use ❑ Not Applicable	❑ Show locations of existing trees or areas of shrubs and ground cover to be undisturbed and retained. ❑ Show self-retaining landscape areas, if any. X Show storm water treatment facilities.	State that final landscape plans will accomplish all of the following. ❑ Preserve existing drought tolerant trees, shrubs, and ground cover to the maximum extent possible. X Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to storm water pollution. X Where landscaped areas are used to retain or detain storm water, specify plants that are tolerant of periodic saturated soil conditions. ❑ Consider using pest-resistant plants, especially adjacent to hardscape. X To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use,	X Maintain landscaping using minimum or no pesticides. X See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks X Provide IPM information to new owners, lessees and operators.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
X **E.** Pools, spas, ponds, decorative fountains, and other water features. ❑ Not Applicable	X Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	X If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	X See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
❑ **F.** Food service X Not Applicable	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to ensure that the largest items can be accommodated.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
X **G.** Refuse areas ❑ Not Applicable	X Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. X If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. Also show how the designated area will be protected from wind dispersal. ❑ Any drains from dumpsters, compactors, and tallow bin areas must be connected to a grease removal device before discharge to sanitary sewer.	X State how site refuse will be handled and provide supporting detail to what is shown on plans. X State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	X State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on- site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative Table and Narrative**
❑ **H.** Industrial processes. **X** Not Applicable	❑ Show process area.	❑ If industrial processes are to be located onsite, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Storm Water Discharges" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
❑ **I.** Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) **X** Not Applicable	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or runoff from area and protected from wind dispersal. ❑ Storage of non-hazardous liquids must be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ❑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	❑ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release Prevention Program ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	❑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **J.** Vehicle and Equipment Cleaning **X** Not Applicable	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs must either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes must have a paved, bermed, and covered car wash area (unless car washing is prohibited onsite and hoses are provided with an automatic shut- off to discourage such use). (3) Washing areas for cars, vehicles, and equipment must be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities must be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility must discharge to the sanitary sewer, or a wastewater reclamation system must be installed.	❑ If a car wash area is not provided, describe measures taken to discourage onsite car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations must not be discharged to the storm drain system. ❑ Car dealerships and similar may rinse cars with water only. ❑ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
❑ **K.** Vehicle/Equipment Repair and Maintenance **X** Not Applicable	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to protect from rainfall, run-on runoff, and wind dispersal. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains must not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the report, note that all of the following restrictions apply to use the site: ❑ No person must dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal must be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids must be contained or drained from the vehicle immediately. ❑ No person must leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
❑ **L.** Fuel Dispensing Areas **X** Not Applicable	❑ Fueling areas[2] must have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are (1) graded at the minimum slope necessary to prevent ponding; and (2) separated from the rest of the site by a grade break that prevents run-on of storm water to the MEP. ❑ Fueling areas must be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area1.] The canopy [or cover] must not drain onto the fueling area.		❑ The property owner must dry sweep the fueling area routinely. ❑ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

[2] The fueling area must be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Drawings**	**3** **Permanent Controls—List in Table and Narrative**	**4** **Operational BMPs—Include in Table and Narrative**
M. Loading Docks **X** Not Applicable	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks must be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts must be positioned to direct storm water away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. ❑ Loading dock areas draining directly to the sanitary sewer must be equipped with a spill control valve or equivalent device, which must be kept closed during periods of operation. ❑ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
X **N.** Fire Sprinkler Test Water ❑ Not Applicable		X Provide a means to drain fire sprinkler test water to the sanitary sewer.	X See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Storm Water Quality Handbooks at https://www.casqa.org/resources/bmp-handbooks
O. Miscellaneous Drain or Wash Water ❑ Boiler drain lines X Condensate drain lines X Rooftop equipment ❑ Drainage sumps X Roofing, gutters, and trim ❑ Not Applicable		❑ Boiler drain lines must be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. X Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. X Rooftop mounted equipment with potential to produce pollutants must be roofed and/or have secondary containment. ❑ Any drainage sumps onsite must feature a sediment sump to reduce the quantity of sediment in pumped water. X Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

If These Sources Will Be on the Project Site …	… Then Your SWQMP must consider These Source Control BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Drawings**	3 **Permanent Controls—List in Table and Narrative**	4 **Operational BMPs—Include in Table and Narrative**
X **P.** Plazas, sidewalks, and parking lots. ❑ Not Applicable			X Plazas, sidewalks, and parking lots must be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing must be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser must be collected and discharged to the sanitary sewer and not discharged to a storm drain.

4.0 Cover Sheet

- If this SWQMP implements any requirements of an earlier master SWQMP submittal, a copy of that previous submittal must be attached under cover of this sheet.

NOT APPLICABLE

5.0 General Requirements

- Each Priority Development Project (PDP) must provide a description of existing site conditions and proposed changes to them, including changes to topography and drainage.
- Has a **Drainage Report** has been prepared for the PDP?

  ☒ **Yes**

  - Review of the Drainage Report must be concurrent with the PDP SWQMP.
  - Include the summary page of the Drainage Report with this cover page, and provide the following information:

    Title: Preliminary Drainage Study for Carefield Senior Care Fecility, Bonsall

    Prepared By: Tory R Walker Engineering

    Date: 2/22/2019
  - Do not complete the rest of this attachment (also exclude these additional pages from your submittal). Additional documentation of site and drainage conditions is not required unless requested by County staff.

  ☐ **No** -- Complete and submit the remainder of this attachment below.

6.0 General Requirements

- Use this attachment to document all proposed (1) self-mitigating, (2) de minimis, and (3) self-retaining DMAs. Indicate under "DMA Compliance Option" below which design options will be used to satisfy structural performance requirements for one or more DMA.

DMA Compliance Option	Required Sub-attachments	BMPDM Design Resources
☒ **Self-mitigating**	• Sub-attachment 6.1	• BMPDM Section 5.2.1
☐ **De minimis**	• Sub-attachment 6.2	• BMPDM Section 5.2.2
☒ **Self-retaining**[1]	• Sub-attachment 6.3	• BMPDM Section 5.2.3 (all options)
SSD-BMP Type(s)		
☐ **Impervious Area Dispersion**	• Sub-attachment 6.3.1	• Fact Sheet SD-B (Appendix E.8)
☒ **Tree Wells**	• Sub-attachment 6.3.2	• Fact Sheet SD-A (Appendix E.7)

- Submit this cover page and all "Required Sub-attachments" listed for each selected DMA compliance option.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" for additional explanation of design requirements. Each constructed feature must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.

[1] If "Self-retaining" is selected, also choose the types of Significant Site Design BMPs (SSD-BMPs) to be used. SSD-BMPs are Site Design BMPs that are sized and constructed to fully satisfy all applicable Structural Performance Standards for a DMA.

6.1 Self-mitigating DMAs (complete this page once for ALL self-mitigating DMAs)

Self-mitigating DMAs consist of natural or landscaped areas that drain directly offsite or to the public storm drain system. These DMAs are excluded from DCV calculations.

- Provide the information requested below for each proposed self-mitigating DMA. Add rows or copy the table if additional entries are needed.

DMA #	*a. DMA Area (ft^2)*	*Incidental Impervious Area*		*Permit # and Sheet #*
		b. Size(ft^2)	*c. % (b/a*100)*	
5	23,869			
		-		
		-		
		-		

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required for all DMAs listed.
- "Incidental Impervious Area" calculations are required only where applicable (see below).
- Each self-mitigating DMA must <u>fully</u> satisfy all design requirements and restrictions described in BMPDM Section 5.2.1 and any other guidance or instruction identified by the County. Check the boxes below to confirm that all required conditions are satisfied <u>for every DMA listed</u>.

☒ Each DMA is hydraulically separate from other DMAs that contain permanent storm water pollutant control BMPs.

<u>Natural and Landscaped Areas</u>

☒ Each DMA consists solely of natural or landscaped areas, except for incidental impervious areas (see below).

☒ Each area drains directly offsite or to the public storm drain system.

☒ Soils are undisturbed native topsoil, or disturbed soils that have been amended and aerated to promote water retention characteristics equivalent to undisturbed native topsoil.

☒ Vegetation is native and/or non-native/non-invasive drought tolerant species that do not require regular application of fertilizers and pesticides.

<u>Incidental Impervious Areas (if applicable; see above)</u>

Minor impervious areas may be permitted within the DMA if they satisfy the following criteria:

☐ They are not hydraulically connected to other impervious areas (unless it is a storm water conveyance system such as a brow ditch).

☐ They comprise less than 5% of the total DMA. Calculate the % incidental impervious area in the table above (c= b/a). DMAs are <u>not</u> self-mitigating if this area is 5% or greater.

6.2 De Minimis DMAs (complete this page once for ALL de minimis DMAs)

De minimis DMAs consist of areas too small to be considered significant contributors of pollutants and not practicable to drain to a BMP. They are excluded from DCV calculations. Examples include driveway aprons connecting to existing streets, portions of sidewalks, retaining walls, and similar features at the external boundaries of a project.

- Provide the information requested below for each proposed de minimis DMA. Add rows or copy the table if additional entries are needed.

DMA #	***DMA Area (ft^2)***	***Permit # and Sheet #***

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required.
- Each de minimis DMA must <u>fully</u> satisfy all design requirements and restrictions described in BMPDM Section 5.2.2 and any other guidance or instruction identified by the County.
- Check the boxes below to confirm that each required condition is satisfied for ALL de minimis DMAs on the site. A DMA must satisfy ALL these conditions to be considered de minimis.

  ☐ Each DMA listed is less than 250 square feet.

  ☐ Except for projects where 2 percent of the total added or replaced impervious surface of the project is less than 250 square feet, a de minimis DMA of 250 square feet or less may be allowed.

  ☐ The sum of all de minimis DMAs is less than 2 percent of the total added or replaced impervious surface of the project (from Storm Water Intake Form Part 4.A.2).

  ☐ Topography and land ownership constraints make runoff capture technically infeasible.

  ☐ The use of de minimis DMAs has been minimized through effective site design.

  ☐ All de minimis areas abut the perimeter of the development site.

  ☐ De minimis DMAs are not adjacent or hydraulically connected to each other.

6.3 Self-retaining DMAs using Significant Site Design BMPs

Self-retaining DMAs use Site Design BMPs to fully-retain the entire DCV, at a minimum. Site Design BMPs that fully retain the DCV, at a minimum, therefore replacing the need for a Structural BMP (S-BMP), are classified as Significant Site Design BMPs (SSD-BMPs). To satisfy pollutant control requirements only, self-retaining means retention of the entire DCV. However, under some circumstances, a self-retaining DMA can also satisfy hydromodification management requirements by implementing BMPs that retain a greater volume of runoff.

- Provide the information requested below for each proposed self-retaining DMA. Add rows or copy the table if additional entries are needed.

DMA #	DMA Area (ft^2)	**BMP Type** (choose one per DMA)		*Permit # and Sheet #*
		Dispersion Area (Att. 6.3.1)	**Tree Wells (Att. 6.3.2)**	
4	25,708	☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	

Copy and Paste table here for additional DMAs

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required.
- Select one BMP Type per DMA. Provide detailed documentation for each DMA in Attachments 6.3.1 (Impervious Dispersion Areas) and/or 6.3.2 (Tree Wells) below.
- Each self-retaining DMA must <u>fully</u> satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, applicable BMPDM Appendix E Fact Sheets, and any other guidance or instruction identified by the County.

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[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.
[3]Including the permeable pavement.

6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

Impervious area dispersion (dispersion) refers to the practice of effectively disconnecting impervious areas from directly draining to the storm drain system by routing runoff from impervious areas such as rooftops (through downspout disconnection), walkways, and driveways onto the surface of adjacent pervious areas. The intent is to slow runoff discharges and reduce volumes. Dispersion with partial or full infiltration results in significant volume reduction by means of infiltration and evapotranspiration. When adequately sized, dispersion can also be used to satisfy both the pollutant control and hydromodification management structural performance standards for a DMA.

- Each self-retaining DMA with impervious area dispersion must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-B: Impervious Area Dispersion, and any other guidance or instruction identified by the County.
- Documentation of compliance with all applicable conditions must be submitted with this sub-attachment using the ***Summary Sheet for DMAs with Impervious Area Dispersion*** on the next page. One version of this Summary Sheet must be completed for each applicable DMA.
- Applicants are responsible to comply with all other applicable requirements, regardless of whether they are included in the summary sheet.
- The following applies if the dispersion area is **native soil** (SD-B in Appendix E):
    - For pollutant control only, the DMA is considered self-retaining if the impervious to pervious ratio is:
        - 2:1 when the pervious area is composed of Hydrologic Soil Group A
        - 1:1 when the pervious area is composed of Hydrologic Soil Group B
- The following applies if the dispersion area includes **amended soil** (SD-B in Appendix E):
    - DMAs using impervious area dispersion can be considered to meet both pollutant control and hydromodification flow control requirements if the impervious to pervious area ratio is 1:1 or less and all other design requirements of SD-B are satisfied, including 11 inches of amended soil.
- The following apply if the dispersion area is **permeable pavement** (SD-D in Appendix E):
    - For pollutant control only, a DMA is considered self-retaining if the ratio of total drainage area (including permeable pavement) to area of permeable pavement is 1.5:1 or less, and all other design requirements of SD-D are satisfied.
    - Hydromodification management performance standards can be satisfied using permeable pavement only if constructed to Structural BMP specifications. In this case, the permeable pavement must be sized and constructed in accordance with the requirements of INF-3.

[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.
[3]Including the permeable pavement.

Summary Sheet for DMAs with Impervious Area Dispersion (Complete 1 sheet per DMA)

DMA # 4

A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below[2].

Native Soil (Pollutant Control Only) Select one and provide calculations below.

☐ Soil Group A: Ratio I:P is 2:1 or less ☐ Soil Group B: Ratio I:P is 1:1 or less

Impervious Area (ft²)	*Permeable Dispersion Area (ft²)*	*Ratio I:P*

Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

☐ Ratio I:P is 1:1 or less, AND

☐ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

Impervious Area (ft²)	*Permeable Dispersion Area (ft²)*	*Ratio I:P*

Permeable Pavement (Pollutant Control Only) Provide calculations below.

☒ Ratio DMA area to area of permeable pavement is 1.5:1 or less

DMA Area[3] (ft²)	*Permeable Pavement Area (ft²)*	*Ratio DMA:Pavement*
25,708	23,380	1.1:1

B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

Impervious Areas:

☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

Pervious Dispersion Areas:

☐ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.

☐ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.

☐ Are densely and robustly vegetated with drought tolerant species.

☐ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.

☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

Copy and Paste table here for additional DMAs

[2]Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

[3]Including the permeable pavement.

6.3.2 Self-retaining DMAs with Tree Wells

Trees wells can provide a variety of benefits such as interception and increased infiltration of rainfall, reduced erosion, energy conservation, air quality improvement, and aesthetic enhancement. They can also be used to satisfy both pollutant control and hydromodification management performance standards for a DMA.

- Each self-retaining DMA with tree wells must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-A: Tree Wells, and any other guidance or instruction identified by the County.
- For pollutant control only, the DMA must retain the entire DCV. For hydromodification management, an additional volume must be retained in accordance with the sizing requirements presented in the DCV multiplier table in Fact Sheet SD-A.
- Documentation of compliance with applicable conditions must be submitted using the ***Summary Sheet for Self-retaining DMAs with Tree Wells*** on the next page. One version of this Summary Sheet must be completed for each applicable DMA.
- If both pollutant control and hydromodification standards apply, the soil depth of all tree wells in the DMA must be selected before determining the Required Retention Volume (RRV). Each tree well must be constructed to the selected depth. For pollutant control only, tree wells within a DMA may be constructed to different soil depths.
- In most cases tree wells must use Amended Soil per Fact Sheet SD-F. However, Structural Soil is required in some cases (e.g., placing the tree well next to a curb). See ***Structural Requirements for Confined Tree Well Soil Volume*** in Fact Sheet SD-A for additional explanation. If applicable, list the DMAs and Tree Well #s below for all tree wells requiring Structural Soil.

DMA #	**Tree Wells Requiring Structural Soil (list Tree Well #s)**
7	1, 2

- The Design Capture Volume (DCV) must be known for each DMA in order to determine the volume to be mitigated by the tree wells. Instructions for DCV calculation are provided in BMPDM Appendix B.1. An automated version of Worksheet B.1 (Calculation of Design Capture Volume) is available at www.sandiegocounty.gov/stormwater under the Development Resources tab.

Summary Sheet for Self-retaining DMAs with Tree Wells (complete one sheet per DMA)

DMA #: 7	**DMA Area (ft²): 8,221**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 331			
b. DCV Multiplier (Fact Sheet SD-A)			
Applicable Structural Performance Standards (select one)	Tree well soil depth (inches)	Underlying soil type (A, B, C, or D)	DCV Multiplier
☐ Pollutant control only	Any	All	1.0
☒ Pollutant control plus hydromodification	30	A	1.6
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**529**

Tree Well Credit Volume (add records or copy this sheet as needed for additional tree wells)			
Provide the information below for each tree well or group of tree wells within the DMA. A single entry can be used for any group of tree wells of the same species and soil depth.			
Tree species or name	TBD	**No. tree wells**	2
Mature Canopy Diameter (ft)	25	**Credit Volume per tree well (ft³)**	290
Tree well ID #(s)	1, 2	**Combined Volume (ft³)**	**580**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft³)**	
Tree well ID #(s)		**Combined Volume (ft³)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			**280**

Copy and Paste table here for additional DMAs

7.0 General Requirements

- Submit this cover page and all required Sub-attachments for all structural BMPs proposed for the project.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" in the table below for additional explanation of design requirements. Constructed features must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management. Completion of SWQMP Attachment 8 is also required for these BMPs.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.
- Structural BMP Certification. All structural BMPs documented this attachment and in Attachment 8 must be certified by a registered engineer in Sub-attachment 7.1.
- Structural BMP Verification. Structural BMP installation must be verified by the County at the completion of construction. Applicants must complete an Installation Verification Form (Attachment 10).

Sub-attachments (check all that are completed)	**Requirement**	**BMPDM Design Resources**
☒ **7.1: Preparer's Certification**	Required	• N/A
☒ **7.2: Structural BMP Strategy**	Required	• BMPDM Sections 5.1., 5.3, 5.4, and Chapter 6 • BMPDM Appendix E (pages E-78 through E-210)
☒ **7.3: Structural BMP Checklist(s)**	Required	
☒ **7.4: Identification and Narrative of Receiving Water and Pollutants of Concern**	Required if flow-thru BMPs are proposed	• N/A
☒ **7.5: Stormwater Pollutant Control Worksheet Calculations**	Required	• BMPDM Appendix B

7.1 Engineer of Work Certification for Structural BMPs

Project Name Carefield Senior Care Facility, Bonsall
Permit Application Number

CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of structural storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the County of San Diego BMP Design Manual, which is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for storm water management. I have read and understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual.

I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable 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 County staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of structural storm water BMPs for this project, of my responsibilities for their design.

☐ In addition to the structural pollutant control BMPs described in this attachment, this certification applies to the Structural Hydromodification Management BMPs described in Attachment 8 (check if applicable).

Tory R Walker

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

Tory R Walker, 45005 Exp . 3-31-2020

Print Name

Tory R Walker Engineering

Company

2/7/2020 Engineer's Seal:

Date

7.2 Structural BMP Strategy

7.2.1 Narrative Strategy (Continue description on subsequent pages as necessary)

Describe the general strategy for structural BMP implementation at the project site. For pollutant control BMPs, your description must address the key points outlined in Section 5.1 of the BMP Design Manual, and the type of BMPs selected. For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

The 36-hour demand for harvest and reuse is too low, so this option was not selected to meet treatment control requirements. The subject property is underlain by Mostly Hydrologic Soil Group Type D soils, and in order to create a buildable pad, will be graded flat, creating cut slopes on the northern side of the site, and fills on the southern portion. This creates a very low feasibility for structural infiltration BMP opportunities throughout the site, due mainly to the compaction and setback requirements for the proposed buildings, and partly due to the low infiltration capacity of the soils that are expected from the cut portions of the site. This is also supported by the AGS infiltration study results. Therefore, infiltration and partial retention BMPs were not selected.

The infiltration recommendation does not prohibit the implementation of permeable pavers to reduce the impervious area and DCV of the project. The paver section will conform with the draft County standard section for permeable pavers, likely utilizing the version with a raised subdrain.

Lined biofiltration BMPs are proposed to meet treatment control requirements for the project.

For the frontage improvements to the south of the high point in Mission Road, only water quality mitigation is required, as this portion drains to the HMP exempt system. Treatment control requirements for this area will be satisfied via implementation of tree wells, sized per County criteria.

The frontage improvements north of the high point are subject to both treatment control and flow control requirements and will require the implementation of a multiplying factor (1.6 multiplier for NRCS Soil Type A, and a 30-inch deep tree well) to determine the HMP DCV. An estimate has been provided for this discretionary phase of the project, as discussions with the County Traffic Department are ongoing as to the required width of the improvement in this area.

On Worksheet B.1-1, Row 44, it is demonstrated that no additional treatment is required, as the tree wells within DMA 6 and DMA 7 capture the entire DCV and HMP DCV, respectively.

The overall drainage area from the project site to the northerly discharge point, decreases from 1.9 acres, to 1.05 acres. Since the 1.05 acres that drain north in the developed condition are entirely pervious, there is an overall reduction in flow frequency to this Point of Compliance. Formal flow control calculations are therefore not provided for this POC.

Please refer to Attachments 1 and 2 for sizing calculations.

7.2.2 Structural BMP Summary Table (Complete for all proposed structural BMPs)

- List and provide the information requested below for all pollutant control and hydromodification management BMPs proposed for the project.
- For each BMP listed, complete the Structural BMP Checklist on the next page. Copy the Checklist as many times as needed.

			Structural BMP Type							
BMP ID #	**DMA #**	**DMA Area (ft²)**	Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management [1]	Other	**Permit # and Sheet #**
1	1	55,181	☐	☐	☐	☒	☐	☐	☐	
2	2	24,378	☐	☐	☐	☒	☐	☐	☐	
3	3	37,289	☐	☐	☐	☐	☐	☐	☒	
6	6	14,763	☐	☐	☐	☐	☐	☐	☒	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
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			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	

Copy and Paste table here for additional BMPs

[1] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.3 Structural BMP Checklist (Complete once for each proposed structural BMP)

Structural BMP ID # 1 & 2	**Permit # and Sheet #**
BMP Type	
Infiltration ☐ Infiltration basin (INF-1) ☐ Bioretention (INF-2) ☐ Permeable pavement (INF-3) **Unlined Biofiltration** ☐ Biofiltration with partial retention (PR-1) **Lined Biofiltration** ☒ Biofiltration (BF-1) ☐ Nutrient Sensitive Media Design (BF-2) ☐ Proprietary Biofiltration (BF-3)	**Harvest and Use** ☐ Cistern (HU-1) **Flow-thru Treatment** (describe below) ☐ With prior lawful approval to meet earlier PDP requirements ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2] ☐ With alternative compliance **Hydromodification Management**[3] ☐ Detention pond or vault ☐ **Other** (describe below)
BMP Purpose	
☒ Pollutant control only ☐ Hydromodification control only ☐ Combined pollutant control and hydromodification	☐ Pre-treatment/forebay for another BMP ☐ Other (describe below)
BMP Verification (See BMPDM Section 8.3)	
Provide name and contact information for the party responsible to sign BMP verification forms	TBD

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1 ☒	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☒ Property Owner	☐ County	
	☐ Other (describe):			
Maintenance of BMP into perpetuity	☐ HOA	☒ Property Owner	☐ County	
	☐ Other (describe):			

Discussion (As needed; Continue on subsequent pages as necessary)

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

Structural BMP ID # 3 & 6	**Permit # and Sheet #**

BMP Type

Infiltration
- ☐ Infiltration basin (INF-1)
- ☐ Bioretention (INF-2)
- ☐ Permeable pavement (INF-3)

Unlined Biofiltration
- ☐ Biofiltration with partial retention (PR-1)

Lined Biofiltration
- ☐ Biofiltration (BF-1)
- ☐ Nutrient Sensitive Media Design (BF-2)
- ☒ Proprietary Biofiltration (BF-3)

Harvest and Use
- ☐ Cistern (HU-1)

Flow-thru Treatment (describe below)
- ☐ With prior lawful approval to meet earlier PDP requirements
- ☐ Pre-treatment/forebay for an onsite retention or biofiltration BMP[2]
- ☐ With alternative compliance

Hydromodification Management[3]
- ☐ Detention pond or vault
- ☐ **Other** (describe below)

BMP Purpose
- ☒ Pollutant control only
- ☐ Hydromodification control only
- ☐ Combined pollutant control and hydromodification
- ☐ Pre-treatment/forebay for another BMP
- ☐ Other (describe below)

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	TBD

BMP Ownership and Maintenance (See BMPDM Section 7.3 and Attachment 11)

BMP Maintenance Category	Cat. 1 ☒	Cat. 2 ☐	Cat. 3 ☐	Cat. 4 ☐
Final owner of BMP	☐ HOA	☒ Property Owner	☐ County	☐ Other (describe):
Maintenance of BMP into perpetuity	☐ HOA	☒ Property Owner	☐ County	☐ Other (describe):

Discussion BMP 3 is an onsite Filterra Proprietary Biofiltration system (BF-3), sized to treat 1.5 times the Q85 for DMA 3.

BMP 6 is an offsite Filterra Proprietary Biofiltration system (BF-3), required to treat 1.5 times the Q85 for DMA 6, and is actually sized to treat almost three times (3x) that flowrate to offset incidental pavement replacement that may drain away from a BMP. More than enough 'offsite' road area drains to the BMP, and a quantitative onsite alternative compliance calculation will be provided in the engineering phase.

[2] Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.
[3] Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

7.4 Storm Water Pollutant Control Worksheet Calculations

- Use this page as a cover sheet for the submittal of any required worksheets below.
- Complete the checklist to identify which BMPDM Appendix B (Storm Water Pollutant Control Hydrologic Calculations and Sizing Methods) worksheets are included with this attachment.
- See BMPDM Appendix B for an explanation of the applicability of individual worksheets and detailed guidance on their completion.

Worksheet	Requirement
☒ Worksheet B.1 Calculation of Design Capture Volume (DCV)	Required
☒ Worksheet B.2 Retention Requirements	Required
☒ Worksheet B.3 BMP Performance	Required
☐ Worksheet B.4 Major Maintenance Intervals for Reduced-sized BMPs	If applicable
☐ Other worksheets	As required

Automated Worksheet B.1-1: Calculation of Design Capture Volume (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	0	Drainage Basin ID or Name	DMA 1	DMA 2	DMA 3	DMA 4		DMA 6	DMA 7				unitless
	1	Basin Drains to the Following BMP Type	Biofiltration	Biofiltration	Flow-Thru	Retention		Flow-Thru	n/a				unitless
	2	85th Percentile 24-hr Storm Depth	0.70	0.70	0.70	0.70		0.70	1.12				inches
	3	Design Infiltration Rate Recommended by Geotechnical Engineer	0.000	0.000	0.000	0.025		-	-				in/hr
	4	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	36,784	15,657	30,771	2,328		7,065	6,066				sq-ft
	5	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	6	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)	18,397	8,721	6,518	23,380		7,698	2,155				sq-ft
	7	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	8	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	9	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	10	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	11	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	No	No	No	No		No	Yes				yes/no
	12	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	13	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	14	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	16	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	17	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	18	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	19	Number of Tree Wells Proposed per SD-A							2				#
	20	Average Mature Tree Canopy Diameter							25				ft
	21	Number of Rain Barrels Proposed per SD-E											#
	22	Average Rain Barrel Size											gal
Treatment Train Inputs & Calculations	23	Does BMP Overflow to Stormwater Features in Downstream Drainage?	No	No	No	No		No	No				unitless
	24	Identify Downstream Drainage Basin Providing Treatment in Series											unitless
	25	Percent of Upstream Flows Directed to Downstream Dispersion Areas											percent
	26	Upstream Impervious Surfaces Directed to Dispersion Area (Ci=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
	27	Upstream Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	0	0	0	0	0	0	0	0	0	0	cubic-feet
Initial Runoff Factor Calculation	28	Total Tributary Area	55,181	24,378	37,289	25,708	0	14,763	8,221	0	0	0	sq-ft
	29	Initial Runoff Factor for Standard Drainage Areas	0.63	0.61	0.76	0.17	0.00	0.48	0.69	0.00	0.00	0.00	unitless
	30	Initial Runoff Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	31	Initial Weighted Runoff Factor	0.63	0.61	0.76	0.17	0.00	0.48	0.69	0.00	0.00	0.00	unitless
	32	Initial Design Capture Volume	2,028	867	1,653	255	0	413	529	0	0	0	cubic-feet
Dispersion Area Adjustments	33	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	34	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	35	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	36	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	37	Runoff Factor After Dispersion Techniques	0.63	0.61	0.76	0.17	n/a	0.48	0.69	n/a	n/a	n/a	unitless
	38	Design Capture Volume After Dispersion Techniques	2,028	867	1,653	255	0	413	529	0	0	0	cubic-feet
Tree & Barrel Adjustments	39	Total Tree Well Volume Reduction	0	0	0	0	0	0	580	0	0	0	cubic-feet
	40	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	41	Final Adjusted Runoff Factor	0.63	0.61	0.76	0.17	0.00	0.48	0.00	0.00	0.00	0.00	unitless
	42	Final Effective Tributary Area	34,764	14,871	28,340	4,370	0	7,086	0	0	0	0	sq-ft
	43	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	580	0	0	0	cubic-feet
	44	Final Design Capture Volume Tributary to BMP	2,028	867	1,653	255	0	413	0	0	0	0	cubic-feet

Worksheet B.1-1 General Notes:

A. Applicants may use this worksheet to calculate design capture volumes for up to 10 drainage areas User input must be provided for yellow shaded cells, values for all other cells will be automatically generated, errors/notifications will be highlighted in red and summarized below. Upon completion of this worksheet, proceed to the appropriate BMP Sizing worksheet(s).

Automated Worksheet B.4-1: Sizing Retention BMPs (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	0	Drainage Basin ID or Name	-	-	-	DMA 4	-	-	-	-	-	-	unitless
	1	Design Infiltration Rate Recommended by Geotechnical Engineer	-	-	-	0.025	-	-	-	-	-	-	in/hr
	2	Design Capture Volume Tributary to BMP	-	-	-	255	-	-	-	-	-	-	cubic-feet
	3	Is Retention BMP Vegetated or Non-Vegetated?				Non-Vegetated							unitless
	4	Provided Surface Area				23,379							sq-ft
	5	Provided Surface Ponding Depth				0							inches
	6	Provided Soil Media Thickness				0							inches
	7	Provided Gravel Storage Thickness				2							inches
Infiltration Calculations	8	Volume Infiltrated Over 6 Hour Storm	0	0	0	255	0	0	0	0	0	0	cubic-feet
	9	Soil Media Pore Space	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	10	Gravel Pore Space	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	11	Effective Depth of Retention Storage	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	inches
	12	Drawdown Time for Surface Ponding (Post-Storm)	0	0	0	0	0	0	0	0	0	0	hours
	13	Drawdown Time for Entire Basin (Including 6 Hour Storm)	0	0	0	38	0	0	0	0	0	0	hours
	14	Volume Retained by BMP	0	0	0	1,814	0	0	0	0	0	0	cubic-feet
	15	Fraction of DCV Retained	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	16	Percentage of Performance Requirement Satisfied	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	17	Fraction of DCV Retained (normalized to 36-hr drawdown)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	18	This BMP Overflows to the Following Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
Result	19	**Deficit of Effectively Treated Stormwater**	**n/a**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Worksheet B.4-1 General Notes:

A. Applicants may use this worksheet to size Infiltration, Bioretention, and/or Permeable Pavement BMPs (INF-1, INF-2, INF-3) for up to 10 basins. User input must be provided for yellow shaded cells, values for blue cells are automatically populated based on user inputs from previous worksheets, values for all other cells will be automatically generated, errors/notifications will be highlighted in red/orange and summarized below. BMPs fully satisfying the pollutant control performance standards will have a deficit treated volume of zero and be highlighted in green.

Automated Worksheet B.5-1: Sizing Lined or Unlined Biofiltration BMPs (V1.3)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	0	Drainage Basin ID or Name	DMA 1	DMA 2	-	-	-	-	-	-	-	-	sq-ft
	1	Design Infiltration Rate Recommended by Geotechnical Engineer	0.000	0.000	-	-	-	-	-	-	-	-	in/hr
	2	Effective Tributary Area	34,764	14,871	-	-	-	-	-	-	-	-	sq-ft
	3	Minimum Biofiltration Footprint Sizing Factor	0.030	0.030	-	-	-	-	-	-	-	-	ratio
	4	Design Capture Volume Tributary to BMP	2,028	867	-	-	-	-	-	-	-	-	cubic-feet
	5	Is Biofiltration Basin Impermeably Lined or Unlined?	Lined	Lined									unitless
	6	Provided Biofiltration BMP Surface Area	1,860	500									sq-ft
	7	Provided Surface Ponding Depth	6	6									inches
	8	Provided Soil Media Thickness	18	18									inches
	9	Provided Depth of Gravel Above Underdrain Invert	12	12									inches
	10	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	4.00	4.00									inches
	11	Provided Depth of Gravel Below the Underdrain	3	3									inches
Retention Calculations	12	Volume Infiltrated Over 6 Hour Storm	0	0	0	0	0	0	0	0	0	0	cubic-feet
	13	Soil Media Pore Space Available for Retention	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	14	Gravel Pore Space Available for Retention	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	15	Effective Retention Depth	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	16	Calculated Retention Storage Drawdown (Including 6 Hr Storm)	120	120	0	0	0	0	0	0	0	0	hours
	17	Volume Retained by BMP	140	38	0	0	0	0	0	0	0	0	cubic-feet
	18	Fraction of DCV Retained	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	19	Portion of Retention Performance Standard Satisfied	0.08	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	20	Fraction of DCV Retained (normalized to 36-hr drawdown)	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	21	Design Capture Volume Remaining for Biofiltration	1,947	850	0	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	22	Max Hydromod Flow Rate through Underdrain	0.7073	0.7073	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	CFS
	23	Max Soil Filtration Rate Allowed by Underdrain Orifice	16.43	61.11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	in/hr
	24	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	25	Soil Media Filtration Rate to be used for Sizing	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	26	Depth Biofiltered Over 6 Hour Storm	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	27	Soil Media Pore Space Available for Biofiltration	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	28	Effective Depth of Biofiltration Storage	14.40	14.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	29	Drawdown Time for Surface Ponding	1	1	0	0	0	0	0	0	0	0	hours
	30	Drawdown Time for Effective Biofiltration Depth	3	3	0	0	0	0	0	0	0	0	hours
	31	Total Depth Biofiltered	44.40	44.40	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	inches
	32	Option 1 - Biofilter 1.50 DCV: Target Volume	2,921	1,275	0	0	0	0	0	0	0	0	cubic-feet
	33	Option 1 - Provided Biofiltration Volume	2,921	1,275	0	0	0	0	0	0	0	0	cubic-feet
	34	Option 2 - Store 0.75 DCV: Target Volume	1,460	638	0	0	0	0	0	0	0	0	cubic-feet
	35	Option 2 - Provided Storage Volume	1,460	600	0	0	0	0	0	0	0	0	cubic-feet
	36	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	37	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	Yes	-	-	-	-	-	-	-	-	yes/no
	38	Overall Portion of Performance Standard Satisfied	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	39	This BMP Overflows to the Following Drainage Basin	-	-	-	-	-	-	-	-	-	-	unitless
	40	**Deficit of Effectively Treated Stormwater**	**0**	**0**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Worksheet B.5-1 General Notes:

A. Applicants may use this worksheet to size Lined or Unlined Biofiltration BMPs (BF-1, PR-1) for up to 10 basins. User input must be provided for yellow shaded cells, values for blue cells are automatically populated based on user inputs from previous worksheets, values for all other cells will be automatically generated, errors/notifications will be highlighted in red/orange and summarized below. BMPs fully satisfying the pollutant control performance standards will have a deficit treated volume of zero and be highlighted in green.

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern

- Complete this sub-attachment *only if flow-thru treatment BMPs are implemented onsite* in lieu of retention or biofiltration BMPs. Unless excepted because of a Prior Lawful Approval[4], PDPs must also participate in an alternative compliance program[5].

A. General Description

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable).

B. Water Body Impairments and Priorities

List any 303(d) impaired water bodies[6] within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor	TMDLs / WQIP Highest Priority Pollutant

NOT APPLICABLE

C. Identification of Project Site Pollutants

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

Pollutant	Applicable to 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	☐	☐	☐

[4] See BMPDM Appendix L: Prior Lawful Approval Requirements and Guidance.
[5] See SWQMP Attachment 12 (Alternative Compliance Projects) and BMPDM Appendix J (Offsite Alternative Compliance Requirements and Guidance).
[6] The current list of Section 303(d) impaired water bodies can be found at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml

8.0 General Requirements

- Completion of this attachment is required for all PDPs subject to hydromodification management requirements (see PDP SWQMP Form Table 5). Do not submit this attachment if exempt from Hydromodification Management requirements. Document the PDP exemption in Attachment 9.
- Submit this cover page and all required Sub-attachments for all structural hydromodification management BMPs proposed for the project.
- Constructed features must fully satisfy the requirements described in applicable BMPDM sections and appendices, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.
- Structural BMP Certification. All structural hydromodification management BMPs documented this attachment must be certified by a registered engineer in Attachment 7, Sub-attachment 7.1.
- Structural BMP Verification. BMP installation must be verified by the County at the completion of construction. Applicants must complete an Installation Verification Form (Attachment 10).

Sub-attachments (check all that are completed)
☒ **8.1: Flow Control Facility Design** (required)[1] Submit using ☒ the Sub-attachment 8.1 cover sheet provided, or ☐ as a separate stand-alone document labeled Sub-attachment 8.1.
☒ **8.2: Hydromodification Management Points of Compliance** (required) Complete the table provided in Sub-attachment 8.2.
8.3: Geomorphic Assessment of Receiving Channels 1. Has a geomorphic assessment been performed for the receiving channel(s)? ☒ No, the low flow threshold is 0.1Q2 (default low flow threshold)
☐ Yes (provide the information below): Low flow threshold: ☐ 0.1Q2 ☐ 0.3Q2 ☐ 0.5Q2
Title: Date: Preparer:
Submit using ☐ the Sub-attachment 8.3 cover sheet provided, or ☐ as a separate stand-alone document labeled Sub-attachment 8.3.
8.4: Vector Control Plan (required if BMPs will not drain in less than 96 hours) ☐ Included with this attachment ☒ Not required

[1] Including Structural BMP Drawdown Calculations and Overflow Design Summary. See BMPDM Chapter 6 and Appendix G for additional design guidance.

8.1 Flow Control Facility Design

Insert Flow Control Facility Design behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.1.
Flow control is only required for DMA 7, draining to the northerly POC, as the southerly portion of the project drains to an HMP Exempt POC, directly discharging to the San Luis Rey River.

Flow control is accomplished by using the Tree Well multiplying factors for the DMA's soil type and the proposed tree well depth. Please refer to Attachment 1e for sizing calculations, wherein the typical D85 is multiplied by the multiplying factor to ensure the appropriate flow control volume is provided by the tree wells.

The multiplying factor of 1.6 has been selected for this DMA.

8.2 Hydromodification Management Points of Compliance

- List and describe all points of compliance (POCs) for flow control for hydromodification management.
- For each POC, provide a POC identification name or number, and a receiving channel identification name or number correlating to the project's HMP Exhibit (see Attachment 2).

POC name or #	Channel name or #	POC Description
2	SLR tributary	POC 2 is an unnamed tributary approximately 400 feet north/northeast of the project boundary. Project flow drain overland on the existing Mission Road to the POC.

NOT APPLICABLE

This form must be accepted by the County prior to the release of construction permits or granting of occupancy for applicable portions of a Priority Development Project (PDP). Its purpose is to provide documentation of the final installation of permanent Best Management Practices (BMPs) used to satisfy Structural Performance Standards for the development project. Compliance with these standards reduces the discharge of pollutants and flows from the completed project site. Applicable standards may be satisfied using Structural BMPs (S-BMPs), Significant Site Design BMPs (SSD-BMPs), or both. Applicants are responsible for providing all requested information. Do not leave any fields blank; indicate *N/A* for any requested item that is not applicable.

PART 1 General Project and Applicant Information

Table 1: Project and Applicant Information

A. Project Summary Information	**ID No. IVF-20___-____ To be assigned by DPW-WPP**
Project Name	Caefield Senior Care Facility, Bonsall
Record ID (e.g., grading/improvement plan number, building permit)	Click here to enter text.
Project Address	NE corner of Mission Avenue and Thoroughbred Lane
Assessor's Parcel Number(s) APN(s))	126-230-55-00
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	San Luis Rey, Lower San Luis Rey, Bonsall, 903.12
B. Owner Information	
Name	Carefield Senior Living (Steven Barklis)
Address	201 Lomas Santa Fe Deive, Suite 450; Solana Beach, CA 92075
Email Address	svbark@aol.com
Phone Number	858-259-5591

11.0 Cover Sheet and General Requirements

- All Structural BMPs must have a plan and mechanism to ensure on-going maintenance. Use the table below to document the types of agreements to be submitted for the PDP and submit them under cover of this sheet.
- See BMPDM Section 7.3 for a description of maintenance categories and responsibilities. Note that since Category 3 and 4 BMPs are County-maintained, they do not require maintenance agreements.

a. Applicability of Maintenance Agreements

Check the boxes below to indicate which types of agreements are included with this attachment.

☐ Maintenance Notification (Category 1 BMPs)

- Exhibit A: Project Site Vicinity; Project Site Map; and a map for each BMP and its Drainage Management Area
- Exhibit B: BMP Maintenance Plan (see below)

☐ Stormwater Maintenance Agreement (Category 2 BMPs)

- Exhibit A: Legal Description of Property
- Exhibit B: BMP Maintenance Plan (see below)
- Exhibit C: Project Site Vicinity Map

Maintenance agreement templates and instructions are provided on the County's website:

www.sandiegocounty.gov/stormwater under the Development Resources tab.

PDP applicants contact County staff to ensure they have the most current forms.

b. Maintenance Plan Requirements

Use this checklist to confirm that each maintenance plan includes the following that as applicable.

☒ Specific **maintenance indicators and actions** for proposed structural BMP(s). These must be based on based on maintenance indicators presented in BMP Design Fact Sheets in Appendix E and enhanced to reflect actual proposed components of the structural BMP(s).

☒ **Access** to inspect and perform maintenance on the structural BMP(s).

☒ Features to **facilitate inspection** (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).

☐ Manufacturer and part number for **proprietary parts** of structural BMP(s) when applicable.

☒ **Maintenance thresholds** specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).

☒ Recommended **equipment** to perform maintenance.

☒ When applicable, necessary special **training or certification** requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.

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Biofiltration

BMP MAINTENANCE FACT SHEET
FOR
STRUCTURAL BMP BF-1 BIOFILTRATION

Biofiltration facilities are vegetated surface water systems that filter water through vegetation, and soil or engineered media prior to discharge via underdrain or overflow to the downstream conveyance system. Biofiltration facilities have limited or no infiltration. They are typically designed to provide enough hydraulic head to move flows through the underdrain connection to the storm drain system. Typical biofiltration components include:

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

Normal Expected Maintenance

Biofiltration requires routine maintenance to: remove accumulated materials such as sediment, trash or debris; maintain vegetation health; maintain infiltration capacity of the media layer; replenish mulch; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

If any of the following scenarios are observed, the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance, increased inspection and maintenance, BMP replacement, or a different BMP type will be required.

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.
- Sediment, trash, or debris accumulation greater than 25% of the surface ponding volume within one month. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require pretreatment measures within the tributary area draining to the BMP to intercept the materials. Pretreatment components, especially for sediment, will extend the life of components that are more expensive to replace such as media, filter course, and aggregate layers.
- Erosion due to concentrated storm water runoff flow that is not readily corrected by adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.

Other Special Considerations

Biofiltration is a vegetated structural BMP. Vegetated structural BMPs that are constructed in the vicinity of, or connected to, an existing jurisdictional water or wetland could inadvertently result in creation of expanded waters or wetlands. As such, vegetated structural BMPs have the potential to come under the jurisdiction of the United States Army Corps of Engineers, SDRWQCB, California Department of Fish and Wildlife, or the United States Fish and Wildlife Service. This could result in the need for specific resource agency permits and costly mitigation to perform maintenance of the structural BMP. Along with proper placement of a structural BMP, **routine maintenance is key to preventing this scenario**.

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SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION		
The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district. Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation or compaction of the media layer.	• Inspect monthly. If the BMP is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Obstructed inlet or outlet structure	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable	• Inspect annually. • Maintenance when needed.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Overgrown vegetation	Mow or trim as appropriate.	• Inspect monthly. • Maintenance when needed.
2/3 of mulch has decomposed, or mulch has been removed	Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches.	• Inspect monthly. • Replenish mulch annually, or more frequently when needed based on inspection.

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION (Continued from previous page)		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.	• Inspect monthly. • Maintenance when needed.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.	• Inspect after every 0.5-inch or larger storm event. If erosion due to storm water flow has been observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.
Standing water in BMP for longer than 24 hours following a storm event Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Underdrain clogged	Clear blockage.	• Inspect if standing water is observed for longer than 24-96 hours following a storm event. • Maintenance when needed.

References

American Mosquito Control Association.
http://www.mosquito.org/
California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook
County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html
San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet BF-1.
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

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Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:	Responsible Party Name and Phone Number:	
Property Address of BMP:	Responsible Party Address:	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 1 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Accumulation of sediment, litter, or debris Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove and properly dispose of accumulated materials, without damage to the vegetation ☐ If sediment, litter, or debris accumulation exceeds 25% of the surface ponding volume within one month (25% full*), add a forebay or other pre-treatment measures within the tributary area draining to the BMP to intercept the materials. ☐ Other / Comments:		
Poor vegetation establishment Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

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Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 2 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Dead or diseased vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		
Overgrown vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Mow or trim as appropriate ☐ Other / Comments:		
2/3 of mulch has decomposed, or mulch has been removed Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches ☐ Other / Comments:		

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 3 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Erosion due to concentrated irrigation flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas and adjust the irrigation system ☐ Other / Comments:		
Erosion due to concentrated storm water runoff flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan ☐ If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction ☐ Other / Comments:		

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 4 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Obstructed inlet or outlet structure Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Underdrain clogged (inspect underdrain if standing water is observed for longer than 24-96 hours following a storm event) Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Damage to structural components such as weirs, inlet or outlet structures Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair or replace as applicable ☐ Other / Comments:		

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Biofiltration

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 5 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Standing water in BMP for longer than 24-96 hours following a storm event* Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils ☐ Other / Comments:		
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Apply corrective measures to remove standing water in BMP when standing water occurs for longer than 24-96 hours following a storm event.** ☐ Other / Comments:		

*Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.

**If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.