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)

Project Information	
Project Name	Alpine 21
Project Address	2683 Country Meadows Road Alpine, Ca.
Assessor's Parcel # (APN)	403-160-15
Permit # / Record ID	PDS2005-3100-5431 TM PDS2005-3910-05-14-020

Project Applicant / Project Proponent		
Name	Alpine 21, LLC	
Address	5295 Beachcomber Court San Diego, Ca 92130	
Phone	310-415-1651	**Email:** Brad2809@gmail.com

SWQMP Preparer		
Name	Ryan Long, PE	
Company (if applicable)	Jones Engineers, Inc.	
Address	535 North Highway 101, Suite A Solana Beach, Ca.	
Phone	858-847-0011	**Email:** ryan@jonesengineers.us
PE Number (if applicable)	RCE 77844	

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 Signature 2020.06.01 18:28:39 -07'00' **Date** February 28, 2020

COUNTY ACCEPTED

SWQMP Approved By: Name *Approval Date*: Date

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

Template Date: December 11, 2018 Preparation Date: February 28, 2020

LUEG: **SW PDP SWQMP**

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	11/15/2016	Initial Submittal
2	2/1/2019	Revised / Added Conjunctive Use Tree Wells
3	2/1/2019	Updated to new PD SWQMP format
4	2/24/2020	Revised in response to County Review
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.):

This report addresses the impacts associated with the proposed Tentative Map. Future impervious areas have been calculated for all proposed streets and driveways based on the TM design. An estimate of future impervious areas has been assigned to each proposed building pad assuming future rooftops, parking, walkways, etc… in order to calculate the estimated Design Capture Volumes and size the BMP facilities. However, at this stage the final impervious features of each homesite have not been determined.

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

Future submittals may be necessary during final engineering and also at the time of building permit applications.

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	☒ 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.
☒	**Streets and roads**	☐	☒	☐	☐	
☒	**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	Parking areas and Lots	Not proposed
BMP	BMP	
Feature	Hardcourt Rec Areas	Not proposed
BMP	BMP	
Feature	Water features, pools, spas	Not proposed
BMP	BMP	
Feature	Common Source Areas	Not proposed
BMP	BMP	
Feature	Interior Floor Drains	Not proposed
BMP	BMP	
Feature	Drain Lines	Not proposed
BMP	BMP	
Feature	Fire Test Sprinkler Discharge	Not proposed
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:	Alpine 21
Record ID (Permit) No(s):	PDS2005-3100-5431 TM PDS2005-3910-05-14-020
Assessor's Parcel No(s):	403-160-15
Street Address (or Intersection):	2683 Country Meadows Road
City, State, Zip:	Alpine, Ca, 91901

Part 2. Applicant / Project Proponent Information	
Name:	Alpine 21, LLC
Company:	Alpine 21, LLC
Street Address:	5295 Beachcomber Court
City, State, Zip:	San Diego, Ca. 92130
Phone Number	310-415-1651
Email:	Brad2809@gmail.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 [signature] Date: Date 2-24-20

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)
2,400	255,553	883,631

Ⓑ ☒ 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)

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

Ⓐ *If your project is the following ... (select one)* — Ⓑ *You must complete ...*

☐ **Standard Project** → ***Standard SWQMP Form***

- ☐ a. Project is East of the Pacific/Salton Sea Divide
- ☐ b. None of the PDP criteria below applies

☒ **Priority Development Project (PDP)** → ***PDP SWQMP Form***

- ☐ 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

☐ **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

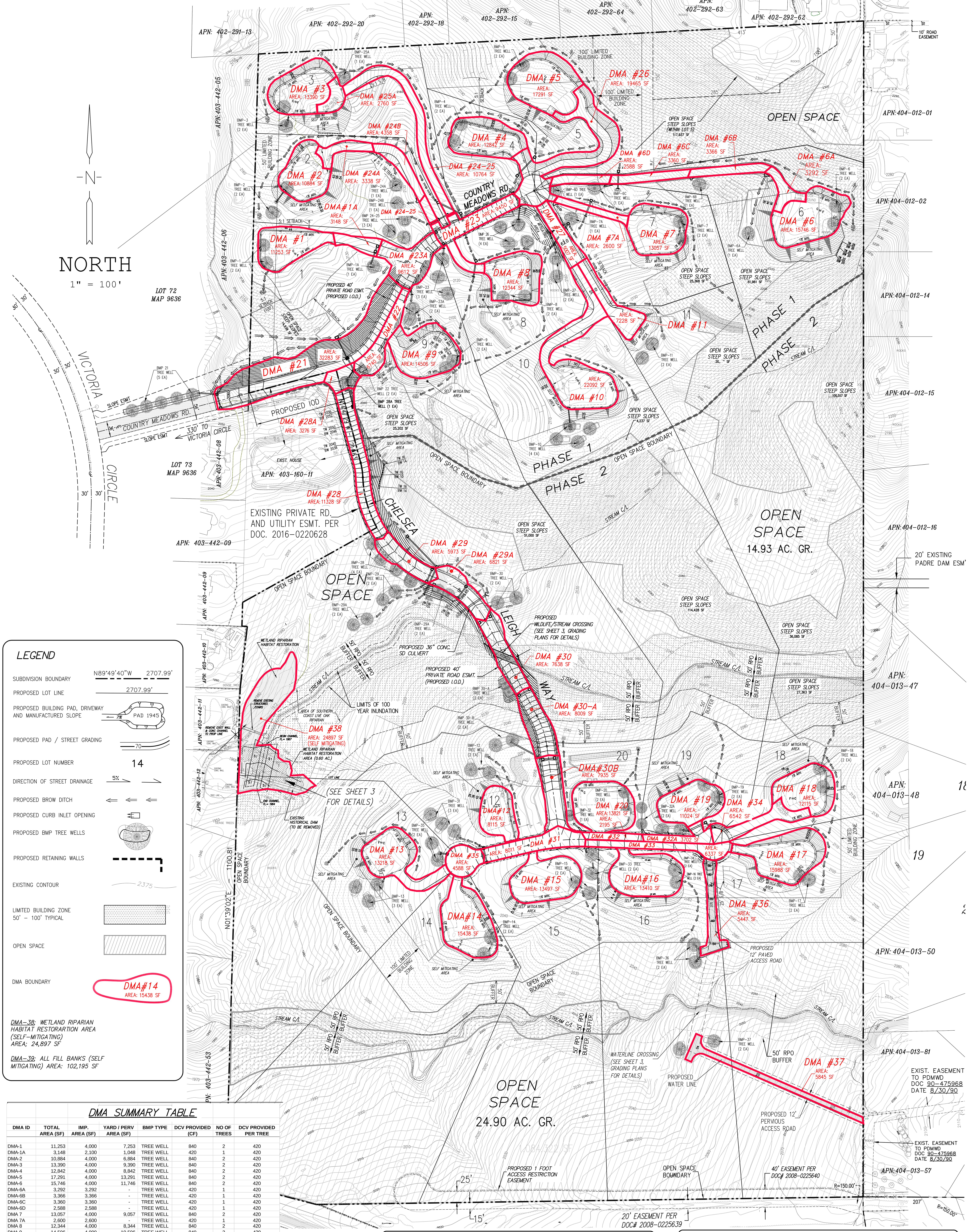
2.1 DMA Exhibits

- 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 #:	**TM 5431 – DMA Exhibit**	
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.

ALPINE-21 *DMA EXHIBIT*



LEGEND

SUBDIVISION BOUNDARY	N89°49'40"W 2707.99'
PROPOSED LOT LINE	2707.99'
PROPOSED BUILDING PAD, DRIVEWAY AND MANUFACTURED SLOPE	PAD 1945, 7%
PROPOSED PAD / STREET GRADING	70
PROPOSED LOT NUMBER	14
DIRECTION OF STREET DRAINAGE	5%
PROPOSED BROW DITCH	
PROPOSED CURB INLET OPENING	
PROPOSED BMP TREE WELLS	
PROPOSED RETAINING WALLS	
EXISTING CONTOUR	2375
LIMITED BUILDING ZONE 50' – 100' TYPICAL	
OPEN SPACE	
DMA BOUNDARY	DMA#14 AREA: 15438 SF

DMA–38; WETLAND RIPARIAN HABITAT RESTORARTION AREA (SELF–MITIGATING) AREA; 24,897 SF

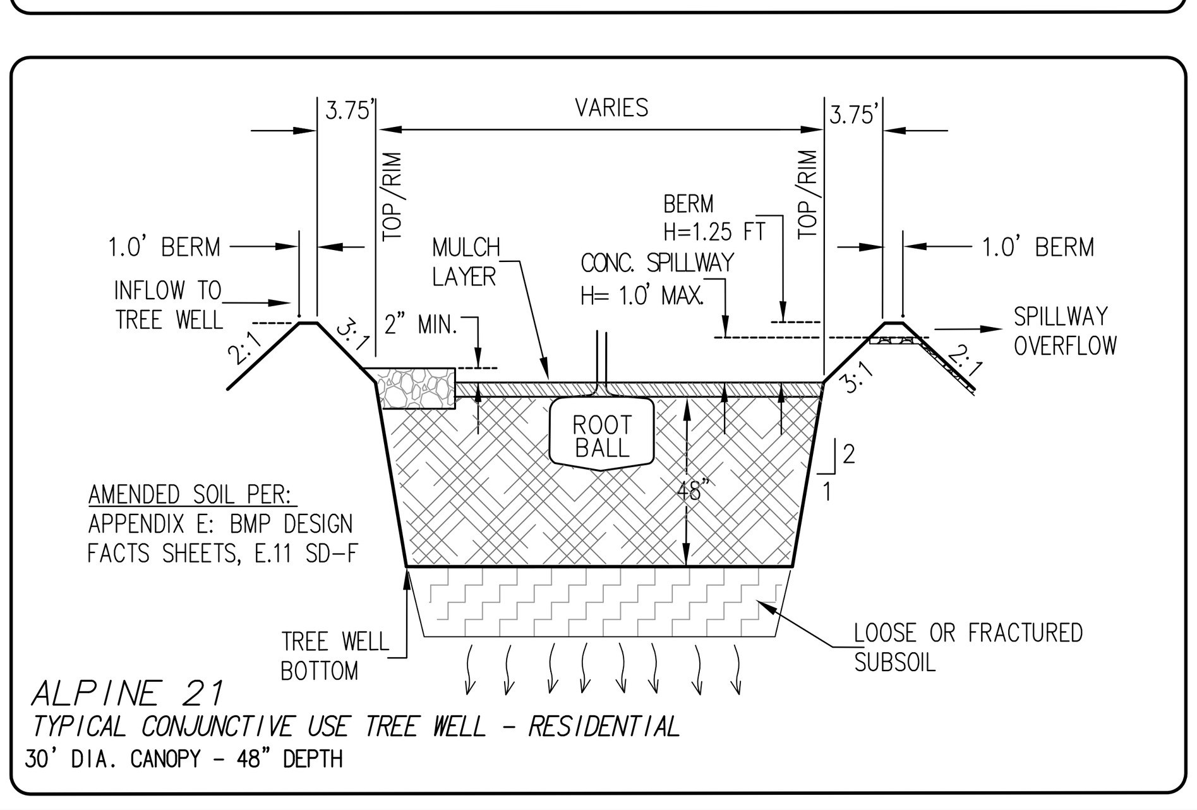
DMA–39; ALL FILL BANKS (SELF MITIGATING) AREA: 102,195 SF

DMA SUMMARY TABLE

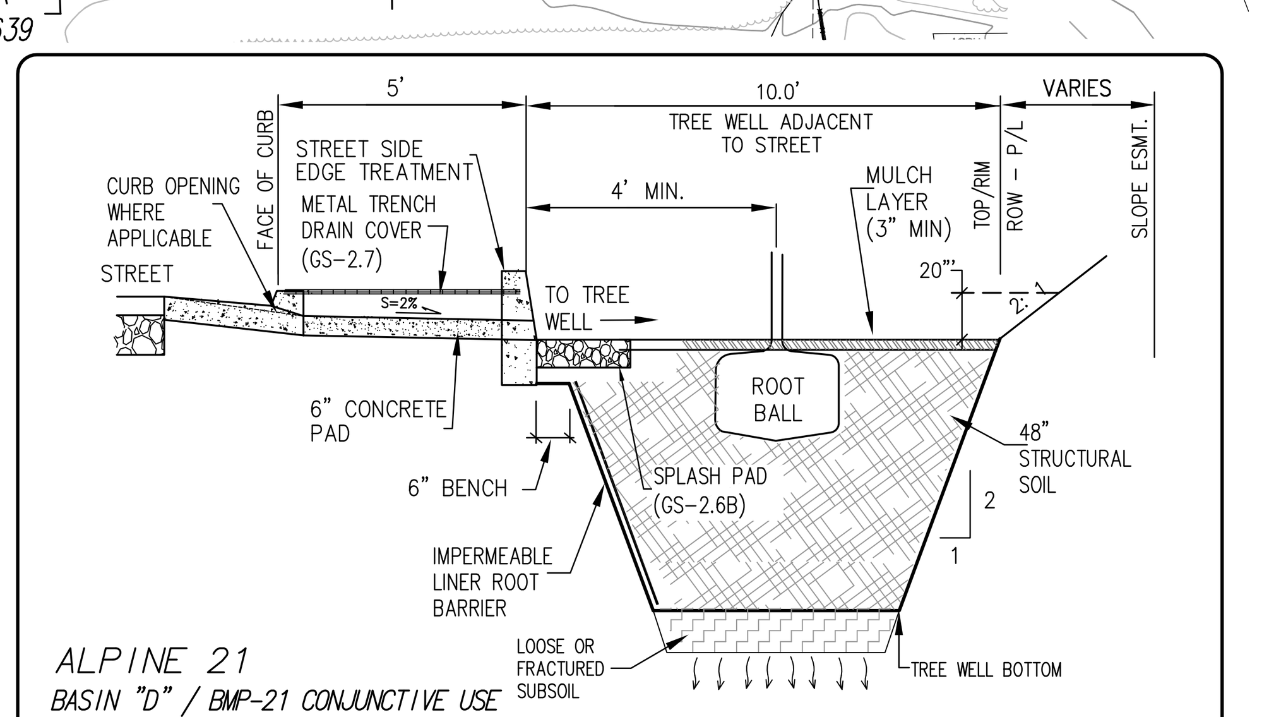
DMA ID	TOTAL AREA (SF)	IMP. AREA (SF)	YARD / PERV AREA (SF)	BMP TYPE	DCV PROVIDED (CF)	NO OF TREES	DCV PROVIDED PER TREE
DMA-1	11,253	4,000	7,253	TREE WELL	840	2	420
DMA-1A	3,148	2,100	1,048	TREE WELL	420	1	420
DMA-2	10,884	4,000	6,884	TREE WELL	840	2	420
DMA-3	13,390	4,000	9,390	TREE WELL	840	2	420
DMA-4	12,842	4,000	8,842	TREE WELL	840	2	420
DMA-5	17,291	4,000	13,291	TREE WELL	840	2	420
DMA-6	15,746	4,000	11,746	TREE WELL	840	2	420
DMA-6A	3,292	3,292	-	TREE WELL	420	1	420
DMA-6B	3,366	3,366	-	TREE WELL	420	1	420
DMA-6C	3,360	3,360	-	TREE WELL	420	1	420
DMA-6D	2,588	2,588	-	TREE WELL	420	1	420
DMA 7	13,057	4,000	9,057	TREE WELL	840	2	420
DMA 7A	2,600	2,600	-	TREE WELL	420	1	420
DMA 8	12,344	4,000	8,344	TREE WELL	840	2	420
DMA 9	14,506	4,000	10,506	TREE WELL	840	2	420
DMA 10	22,092	10,000	12,092	TREE WELL	1680	4	420
DMA 11	7,228	3,900	3,328	TREE WELL	840	2	420
DMA 12	8,115	3,100	5,015	TREE WELL	840	2	420
DMA 13	13,218	6,585	6,633	TREE WELL	1260	3	420
DMA 14	15,438	4,000	11,438	TREE WELL	840	2	420
DMA 15	13,497	4,000	9,497	TREE WELL	840	2	420
DMA 16	13,410	4,000	9,410	TREE WELL	840	2	420
DMA 17	15,988	4,000	11,988	TREE WELL	840	2	420
DMA 18	12,115	4,000	8,115	TREE WELL	840	2	420
DMA 19	11,024	4,000	7,024	TREE WELL	840	2	420
DMA 20	13,821	4,000	9,821	TREE WELL	840	2	420
DMA 21	32,283	12,519	19,764	TREE WELL	2100	5	420
DMA 22	6,740	4,877	1,863	TREE WELL	840	2	420
DMA 23	9,450	9,450	-	TREE WELL	1260	3	420
DMA 23A	9,612	6,235	3,377	TREE WELL	840	2	420
DMA 24A	3,338	2,951	387	TREE WELL	420	1	420
DMA 24B	4,358	3,227	1,131	TREE WELL	420	1	420
DMA 25A	2,760	2,760	-	TREE WELL	420	1	420
DMA 24-25	10,764	8,450	2,314	TREE WELL	1260	3	420
DMA 26	19,465	12,420	7,045	TREE WELL	1680	4	420
DMA 27	5,007	4,407	600	TREE WELL	840	2	420
DMA 28	11,328	11,328	-	TREE WELL	1680	4	420
DMA 28A	3,276	2,650	626	TREE WELL	420	1	420
DMA 29	5,973	5,411	562	TREE WELL	840	2	420
DMA 29A	6,821	5,392	1,429	TREE WELL	840	2	420
DMA 30	7,638	6,635	1,003	TREE WELL	840	2	420
DMA 30A	8,009	5,750	2,259	TREE WELL	840	2	420
DMA 30B	7,935	6,170	1,765	TREE WELL	840	2	420
DMA 31	8,011	8,011	-	TREE WELL	1260	3	420
DMA 32	2,195	2,195	-	TREE WELL	420	1	420
DMA 32A	3,702	3,702	-	TREE WELL	840	2	420
DMA 33	6,337	6,337	-	TREE WELL	840	2	420
DMA 34	6,542	6,542	-	TREE WELL	840	2	420
DMA 35	4,588	4,588	-	TREE WELL	840	2	420
DMA 36	5,447	5,447	-	TREE WELL	840	2	420
DMA 37	5,845	5,845	-	TREE WELL	840	2	420
						104	

HYDROLOGIC SOILS GROUP
ONSITE AREAS: B
PER CEQA HYDROLOGY STUDY
BY JONES ENGINEERS, INC.
FEBRUARY, 2020

DEPTH OF GROUNDWATER:
> 16' PER PRELIMINARY EVALUATION REPORT FOR INFILTRATION LID IMPROVEMENTS,
ALPINE 21: C.W. LAMONTE, CO.
AUGUST 15, 2016.



ALPINE 21
TYPICAL CONJUNCTIVE USE TREE WELL – RESIDENTIAL
30' DIA. CANOPY – 48" DEPTH



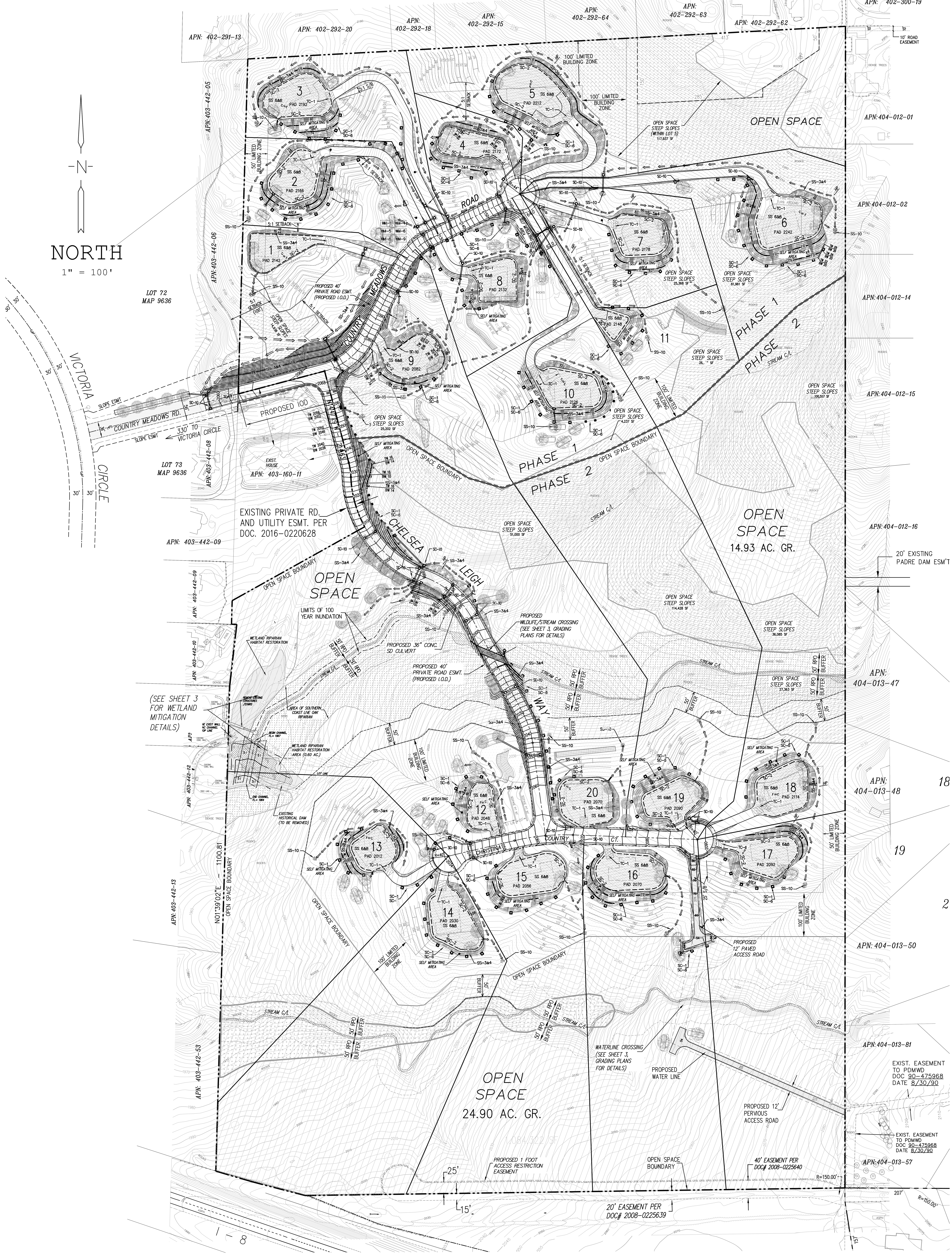
ALPINE 21
BASIN "D" / BMP-21 CONJUNCTIVE USE TREE WELL ALONG STREET (30' DIA. CANOPY – 48" DEPTH)

JONES ENGINEERS, INCORPORATED
535 NORTH HIGHWAY 101
SUITE "A"
SOLANA BEACH, CA. 92075
(858) 847-0011

DATE: FEBRUARY 2020

SHEET 1 OF 1 SHEETS

ALPINE-21 *CONSTRUCTION BMP's*



NORTH
1" = 100'
N
APN: 402-291-13
APN: 402-292-20
APN: 402-292-18
APN: 402-292-15
APN: 402-292-64
APN: 402-292-63
APN: 402-292-62
APN: 402-300-19
10' ROAD EASEMENT
APN: 404-012-01
APN: 404-012-02
APN: 404-012-14
APN: 404-012-15
APN: 404-012-16
APN: 404-013-47
APN: 404-013-48
APN: 404-013-50
APN: 404-013-81
APN: 404-013-57
APN: 403-442-05
APN: 403-442-06
APN: 403-442-08
APN: 403-442-09
APN: 403-442-10
APN: 403-442-12
APN: 403-442-13
APN: 403-442-53
APN: 403-160-11
LOT 72 MAP 9636
LOT 73 MAP 9636
VICTORIA CIRCLE
COUNTRY MEADOWS RD.
330' TO VICTORIA CIRCLE
SLOPE ESMT
PROPOSED IOD
EXIST. HOUSE
COUNTRY MEADOWS ROAD
CHELSEA LEIGH WAY
CHRISTINA COUNTRY CT.
EXISTING PRIVATE RD. AND UTILITY ESMT. PER DOC. 2016-0220628
PROPOSED 40' PRIVATE ROAD ESMT. (PROPOSED I.O.D.)
OPEN SPACE
OPEN SPACE 14.93 AC. GR.
OPEN SPACE 24.90 AC. GR.
PHASE 1
PHASE 2
OPEN SPACE BOUNDARY
100' LIMITED BUILDING ZONE
50' LIMITED BUILDING ZONE
OPEN SPACE STEEP SLOPES (WITHIN LOT 5) 117,937 SF
OPEN SPACE STEEP SLOPES 25,368 SF
OPEN SPACE STEEP SLOPES 81,961 SF
OPEN SPACE STEEP SLOPES 100,557 SF
OPEN SPACE STEEP SLOPES 4,237 SF
OPEN SPACE STEEP SLOPES 25,202 SF
OPEN SPACE STEEP SLOPES 51,000 SF
OPEN SPACE STEEP SLOPES 114,428 SF
OPEN SPACE STEEP SLOPES 36,085 SF
OPEN SPACE STEEP SLOPES 27,363 SF
LIMITS OF 100 YEAR INUNDATION
PROPOSED 36" CONC. SD CULVERT
PROPOSED WILDLIFE/STREAM CROSSING (SEE SHEET 3, GRADING PLANS FOR DETAILS)
(SEE SHEET 3 FOR WETLAND MITIGATION DETAILS)
WETLAND RIPARIAN HABITAT RESTORATION
WETLAND RIPARIAN HABITAT RESTORATION AREA (0.60 AC.)
AREA OF SOUTHERN COAST LIVE OAK RIPARIAN
EXISTING HISTORICAL DAM (TO BE REMOVED)
STREAM C/L
50' RPO BUFFER
20' EXISTING PADRE DAM ESM'T
PROPOSED 12' PAVED ACCESS ROAD
WATERLINE CROSSING (SEE SHEET 3, GRADING PLANS FOR DETAILS)
PROPOSED WATER LINE
PROPOSED 12' PERVIOUS ACCESS ROAD
EXIST. EASEMENT TO PDMWD DOC 90-475968 DATE 8/30/90
PROPOSED 1 FOOT ACCESS RESTRICTION EASEMENT
OPEN SPACE BOUNDARY
40' EASEMENT PER DOC# 2008-0225640
20' EASEMENT PER DOC# 2008-0225639
N01°39'02"E 1100.81
I-8
PAD 2192
PAD 2166
PAD 2142
PAD 2172
PAD 2212
PAD 2178
PAD 2242
PAD 2132
PAD 2082
PAD 2126
PAD 2148
PAD 2048
PAD 2012
PAD 2030
PAD 2056
PAD 2070
PAD 2092
PAD 2114
PAD 2090
PAD 2070
SELF MITIGATING AREA

LEGEND – CONSTRUCTION ITEM:	SYMBOL:	STD. DWG.
HYDROSEED/BONDED FIBER MATRIX SS-3, 7 (SLOPE STABLIZATION)		SS-3&7
NATIVE MULCH/STRAW APLICATION SS-6 & 8 (PAD STABLIZATION)		SS-6&8
SILT FENCING SC-1		SC-1
GRAVEL BAG BERM SC-6 & 8		SC-6&8
STORM DRAIN INLET PROTECTION SC-10		SC-10
RIP RAP SS-10 (R.S.D. D40)		SS-10

LEGEND – CONSTRUCTION ITEM:	SYMBOL:	STD. DWG.
STABILIZED CONSTRUCTION ENTRANCE TC-1		TC-1
LOT PERIMETER PROTECTION		SC-2
STABILIZED CONSTRUCTION ROADWAY TC-1	TC-1	TC-1
MATERIAL DELIVERY & STORAGE	WM-1	
STOCKPILE MANAGEMENT	WM-3	
SPILL PREVENTION CONTROL	WM-4	
SOLID WASTE MANAGEMENT	WM-5	
SANITARY WASTE MANAGEMENT	WM-9	

JONES ENGINEERS, INCORPORATED
535 NORTH HIGHWAY 101
SUITE "A"
SOLANA BEACH, CA. 92075
(858) 847-0011

DATE: FEBRUARY 2020

SHEET 4 OF 4 SHEETS

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: CEQA Hydrology Study Alpine 21 PDS 2005-3100-5431

    Prepared By: Jones Engineers, Inc.

    Date: February, 2020

  - 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.

EXISTING CONDITIONS

The project is located directly north of Interstate 8, east of W. Victoria Dr. and west of E. Victoria Drive in Alpine California (Figures 1 and 2). The property, currently undeveloped, has an Existing General plan designation of 1 (Residential), is Zoned A70 (1 acre minimum), with a Regional Category of Country Residential Development Area.

The *USDA's Soil Survey of San Diego Area, California* identifies the soil within the subject property basin as a combination of Hydrologic Groups B and C. The Hydrologic Group B soils consist of Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded (CnG2), and Cienbeba rocky coarse sandy loam, 9 to 30 percent slopes, eroded (CmE2). The Hydrologic Group C soil is designated Fallbrook rocky sandy loam, 5 to 9 percent slopes (FeC) (Appendix I).

The property is characterized by moderate to steep slopes. Stormwater runoff from the property drains south-westerly. The project is located within the Alpine Creek Hydrologic Subarea (907.33) of the San Diego River Hydrologic Area (907).

PROPOSED DEVELOPMENT

Proposed development includes 20 single-family residential lots with lot sizes range from 1.1 to 7.6 acres with graded pad areas ranging from 9 to 19 thousand square feet. Each building site will be graded individually to allow stormwater drainage will traverse existing natural routes. Culvert crossings are proposed where drainage courses cross under proposed private roads and driveways. Roadway runoff will be directed into curbs, tree wells, spillways, brow ditches and storm pipes which will discharge into natural drainage courses. Riprap energy dissipators will be placed at all outlets to reduce the potential for erosion.

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)*	
38	24,897			PDS 2005-3100-5431-TM DMA EXHIBIT
39	102,195			PDS 2005-3100-5431-TM DMA EXHIBIT

- "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.

6.3 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)**	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	

REFER TO ATTACHED TABLE

- "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.

---

[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.

DMA #	DMA AREA (SF)	BMP Type (Choose One per DMA) DISPERSION AREA (Attach 6.3.1)	BMP TYPE TREE WELLS (Attach 6.3.2)	PERMIT # AND SHEET #
DMA-1	11,253		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-1A	3,148		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-2	10,884		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-3	13,390		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-4	12,842		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-5	17,291		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-6	15,746		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-6A	3,292		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-6B	3,366		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-6C	3,360		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA-6D	2,588		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 7	13,057		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 7A	2,600		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 8	12,344		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 9	14,506		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 10	22,092		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 11	7,228		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 12	8,115		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 13	13,218		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 14	15,438		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 15	13,497		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 16	13,410		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 17	15,988		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 18	12,115		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 19	11,024		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 20	13,821		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 21	32,283		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 22	6,740		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 23	9,450		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 23A	9,612		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 24A	3,338		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 24B	4,358		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 25A	2,760		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 24-25	10,764		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 26	19,465		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 27	5,007		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 28	11,328		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 28A	3,276		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 29	5,973		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 29A	6,821		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 30	7,638		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 30A	8,009		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 30B	7,935		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 31	8,011		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 32	2,195		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 32A	3,702		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 33	6,337		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 34	6,542		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 35	4,588		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 36	5,447		X	PDS 2005-3100-5431-TM DMA EXHIBIT
DMA 37	5,845		X	PDS 2005-3100-5431-TM DMA EXHIBIT

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)**
21	BMP 21 – 5 TREES
22	BMP 22 – 2 TREES
28	BMP 28 – 4 TREES
29	BMP 29 – 2 TREES
30	BMP 30 – 2 TREES

- 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.

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA 1	DMA 1A	DMA 2	DMA 3	DMA 4	DMA 5	DMA 6	DMA 6A	DMA 6B	DMA 6C	unitless
	2	85th Percentile 24-hr Storm Depth	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	4,000	2,100	4,000	4,000	4,000	4,000	4,000	3,292	3,366	3,360	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	7,253	1,048	6,884	9,390	8,842	13,291	11,746	0	0	0	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	11,253	3,148	10,884	13,390	12,842	17,291	15,746	3,292	3,366	3,360	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.41	0.65	0.42	0.37	0.38	0.32	0.33	0.90	0.90	0.90	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.41	0.65	0.42	0.37	0.38	0.32	0.33	0.90	0.90	0.90	unitless
	26	Initial Design Capture Volume	211	94	210	227	224	254	238	136	139	139	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.41	0.65	0.42	0.37	0.38	0.32	0.33	0.90	0.90	0.90	unitless
	32	Design Capture Volume After Dispersion Techniques	211	94	210	227	224	254	238	136	139	139	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.41	0.65	0.42	0.37	0.38	0.32	0.33	0.90	0.90	0.90	unitless
	36	Final Effective Tributary Area	4,614	2,046	4,571	4,954	4,880	5,533	5,196	2,963	3,029	3,024	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	211	94	210	227	224	254	238	136	139	139	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA 6D	DMA 7	DMA 7A	DMA 8	DMA 9	DMA 10	DMA 11	DMA 12	DMA 13	DMA 14	unitless
	2	85th Percentile 24-hr Storm Depth	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	2,588	4,000	2,600	4,000	4,000	10,000	3,900	3,100	6,585	4,000	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	0	9,057	0	8,344	10,506	12,092	3,328	5,015	6,633	11,438	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	2,588	13,057	2,600	12,344	14,506	22,092	7,228	8,115	13,218	15,438	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.90	0.37	0.90	0.39	0.35	0.48	0.55	0.43	0.52	0.34	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.90	0.37	0.90	0.39	0.35	0.48	0.55	0.43	0.52	0.34	unitless
	26	Initial Design Capture Volume	107	221	107	221	233	486	182	160	315	241	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.90	0.37	0.90	0.39	0.35	0.48	0.55	0.43	0.52	0.34	unitless
	32	Design Capture Volume After Dispersion Techniques	107	221	107	221	233	486	182	160	315	241	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.90	0.37	0.90	0.39	0.35	0.48	0.55	0.43	0.52	0.34	unitless
	36	Final Effective Tributary Area	2,329	4,831	2,340	4,814	5,077	10,604	3,975	3,489	6,873	5,249	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	107	221	107	221	233	486	182	160	315	241	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA 15	DMA 16	DMA 17	DMA 18	DMA 19	DMA 20	DMA 21	DMA 22	DMA 23	DMA 23 A	unitless
	2	85th Percentile 24-hr Storm Depth	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	4,000	4,000	4,000	4,000	4,000	4,000	12,519	4,877	9,450	6,235	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	9,497	9,410	11,988	8,115	7,024	9,821	19,764	1,863	0	3,377	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	13,497	13,410	15,988	12,115	11,024	13,821	32,283	6,740	9,450	9,612	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.37	0.37	0.33	0.39	0.42	0.36	0.43	0.69	0.90	0.63	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.37	0.37	0.33	0.39	0.42	0.36	0.43	0.69	0.90	0.63	unitless
	26	Initial Design Capture Volume	229	227	242	217	212	228	636	213	390	278	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.37	0.37	0.33	0.39	0.42	0.36	0.43	0.69	0.90	0.63	unitless
	32	Design Capture Volume After Dispersion Techniques	229	227	242	217	212	228	636	213	390	278	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.37	0.37	0.33	0.39	0.42	0.36	0.43	0.69	0.90	0.63	unitless
	36	Final Effective Tributary Area	4,994	4,962	5,276	4,725	4,630	4,976	13,882	4,651	8,505	6,056	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	229	227	242	217	212	228	636	213	390	278	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA 24 A	DMA 24 B	DMA 25A	DMA 24-25	DMA 26	DMA 27	DMA 28	DMA 28A	DMA 29	DMA 29 A	unitless
	2	85th Percentile 24-hr Storm Depth	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	2,951	3,227	2,760	8,450	12,420	4,407	11,328	2,650	5,411	5,392	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	387	1,131	0	2,314	7,045	600	0	626	562	1,429	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	#
	19	Average Mature Tree Canopy Diameter	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	ft
	20	Number of Rain Barrels Proposed per SD-E	~~0~~										#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	3,338	4,358	2,760	10,764	19,465	5,007	11,328	3,276	5,973	6,821	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.81	0.70	0.90	0.74	0.62	0.81	0.90	0.75	0.83	0.74	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.81	0.70	0.90	0.74	0.62	0.81	0.90	0.75	0.83	0.74	unitless
	26	Initial Design Capture Volume	124	140	114	365	553	186	467	113	227	231	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.81	0.70	0.90	0.74	0.62	0.81	0.90	0.75	0.83	0.74	unitless
	32	Design Capture Volume After Dispersion Techniques	124	140	114	365	553	186	467	113	227	231	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.81	0.70	0.90	0.74	0.62	0.81	0.90	0.75	0.83	0.74	unitless
	36	Final Effective Tributary Area	2,704	3,051	2,484	7,965	12,068	4,056	10,195	2,457	4,958	5,048	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	124	140	114	365	553	186	467	113	227	231	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA 30	DMA 30 A	DMA 30B	DMA 31	DMA 32	DMA 32 A	DMA 33	DMA 34	DMA 35	DMA 36	unitless
	2	85th Percentile 24-hr Storm Depth	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	6,635	5,750	6,170	8,011	2,195	3,702	6,337	6,542	4,588	5,447	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)	1,003	2,259	1,765	0	0	0	0	0	0	0	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	7,638	8,009	7,935	8,011	2,195	3,702	6,337	6,542	4,588	5,447	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.80	0.69	0.73	0.90	0.90	0.90	0.90	0.90	0.90	0.90	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.80	0.69	0.73	0.90	0.90	0.90	0.90	0.90	0.90	0.90	unitless
	26	Initial Design Capture Volume	280	253	265	330	91	153	261	270	189	225	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.80	0.69	0.73	0.90	0.90	0.90	0.90	0.90	0.90	0.90	unitless
	32	Design Capture Volume After Dispersion Techniques	280	253	265	330	91	153	261	270	189	225	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.80	0.69	0.73	0.90	0.90	0.90	0.90	0.90	0.90	0.90	unitless
	36	Final Effective Tributary Area	6,110	5,526	5,793	7,210	1,976	3,332	5,703	5,888	4,129	4,902	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	280	253	265	330	91	153	261	270	189	225	cubic-feet

No Warning Messages

Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	37										unitless
	2	85th Percentile 24-hr Storm Depth	0.55										inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	5,845										sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)											sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area (C=0.10)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area (C=0.14)											sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area (C=0.23)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	n/a	No	No	No	No	No	No	No	No	No	yes/no
	11	Impervious Surfaces **Directed to Dispersion Area** per SD-B (Ci=0.90)											sq-ft
	12	Semi-Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil **Serving as Dispersion Area** per SD-B (Ci=0.10)											sq-ft
	15	Natural Type B Soil **Serving as Dispersion Area** per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil **Serving as Dispersion Area** per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil **Serving as Dispersion Area** per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
	21	Average Rain Barrel Size											gal
Initial Runoff Factor Calculation	22	Total Tributary Area	5,845	0	0	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	24	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
	25	Initial Weighted Runoff Factor	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	241	0	0	0	0	0	0	0	0	0	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	29	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
	30	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
	31	Runoff Factor After Dispersion Techniques	0.90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	241	0	0	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	5,261	0	0	0	0	0	0	0	0	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	0	0	0	0	0	0	0	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	241	0	0	0	0	0	0	0	0	0	cubic-feet

No Warning Messages

DMA #: 1	DMA Area (ft^2): 11,253		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 211			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**633**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 1	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 1A	DMA Area (ft^2): 3,148		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 94			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**281**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 1A	**Combined Volume (ft^3)**	**420**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**420**

DMA #: 2	DMA Area (ft²): 10,884		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 210			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**630**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 2	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #: 3	DMA Area (ft²): 13,390		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 227			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**681**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 3	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #:4	DMA Area (ft²): 12,842		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 224			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**671**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 4	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 5	DMA Area (ft²): 17,291		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 254			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**761**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 5	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 6	DMA Area (ft^2): 15,746		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 238			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**714**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 6	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 6A	**DMA Area (ft^2): 3,292**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 136			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**407**
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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 6A	**Combined Volume (ft^3)**	**420**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			**420**

DMA #: 6B	**DMA Area (ft²): 3,366**

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 139

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**417**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 6B	**Combined Volume (ft³)**	**420**
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.	**420**

DMA #: 6C	DMA Area (ft²): 3,360		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 139			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**416**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 6C	**Combined Volume (ft³)**	**420**
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.			**420**

DMA #: 6D	**DMA Area (ft²): 2,588**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 107			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**321**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 6D	**Combined Volume (ft³)**	**420**
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.			**420**

DMA #: 7	DMA Area (ft²): 13,057		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 221			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**664**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 7	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 7A	DMA Area (ft²): 2,600		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 107			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**322**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 7A	**Combined Volume (ft³)**	**420**
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.	**420**

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

DMA #: 8	**DMA Area (ft²): 12,344**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 221			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**663**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 8	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 9	DMA Area (ft²): 14,506		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 233			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**699**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 9	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 10	DMA Area (ft²): 22,092		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 486			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**1,458**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	4
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 10	**Combined Volume (ft³)**	**1,680**
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.			**1,680**

DMA #: 11	DMA Area (ft^2): 7,228		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 253			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**759**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 11	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			**840**

DMA #: 12	DMA Area (ft²): 8,115

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 160

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**480**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 12	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 13	DMA Area (ft²): 13,218		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 315			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**945**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	3
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 13	**Combined Volume (ft³)**	**1,260**
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.			**1,260**

DMA #: 14	DMA Area (ft²): 15,438		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 241			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**722**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 14	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 15	DMA Area (ft²): 13,497		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 229			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**687**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 15	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 16	DMA Area (ft^2): 13,410		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 227			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**682**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 16	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			**840**

DMA #: 17	DMA Area (ft²): 15,988		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 242			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**725**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 17	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #: 18	DMA Area (ft²): 12,115		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 217			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**650**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 18	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 19	DMA Area (ft^2): 11,024		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 209			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**626**
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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 19	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 20	DMA Area (ft^2): 13,821

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft^3): 228

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	48	B	3.0

c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]	**684**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 20	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 21	**DMA Area (ft²): 32,283**

Required Retention Volume (RRV)
a. Design Capture Volume (DCV; ft³): 636

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**1,908**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	5
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 21	**Combined Volume (ft³)**	**2,100**
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.	**2,100**

DMA #: 22	DMA Area (ft²): 6,740

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 213

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**639**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 22	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 23	DMA Area (ft²): 9,450		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 390			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**1169**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	3
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 23	**Combined Volume (ft³)**	**1,260**
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.			**1,260**

DMA #: 23A	DMA Area (ft^2): 9,612		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 278			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**834**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 23A	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.			**840**

DMA #: 24A	DMA Area (ft²): 3,348

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 124

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**372**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 24A	**Combined Volume (ft³)**	**420**
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.	**420**

DMA #: 24B	DMA Area (ft^2): 4,388		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 140			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**420**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 24B	**Combined Volume (ft^3)**	**420**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**420**

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

DMA #: 25A	**DMA Area (ft²): 2,760**

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 114

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**342**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 25A	**Combined Volume (ft³)**	**420**
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.	**420**

DMA #: 24-25	**DMA Area (ft²): 10,764**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 365			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**1,095**
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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	3
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 24-25	**Combined Volume (ft³)**	**1,260**
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.	**1,260**

DMA #: 26	DMA Area (ft^2): 19,465

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft^3): 553

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	48	B	3.0

c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]	**1,659**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	4
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 26	**Combined Volume (ft^3)**	**1,680**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**1,680**

DMA #: 27	DMA Area (ft^2): 19,465		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 186			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**558**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 27	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 28	DMA Area (ft²): 11,328		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 467			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**1,401**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	4
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 28	**Combined Volume (ft³)**	**1,680**
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.			**1,680**

DMA #: 28A	**DMA Area (ft²): 3,276**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 113			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**339**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 28A	**Combined Volume (ft³)**	**420**
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.			**420**

DMA #: 29	**DMA Area (ft²): 5,973**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 227			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**682**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 29	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #: 29A	DMA Area (ft^2): 6,821

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft^3): 231

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	48	B	3.0

c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]	**693**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 29A	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 30	DMA Area (ft²): 7,638

Required Retention Volume (RRV)

a. Design Capture Volume (DCV; ft³): 280

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	48	B	3.0

c. Required Retention Volume (ft³) [DCV * DCV Multiplier]	**840**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 30	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 30A	DMA Area (ft²): 8,009		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 253			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**760**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 30A	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #: 30B	**DMA Area (ft^2): 7,935**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 265			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**796**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 30B	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 31	DMA Area (ft^2): 8,011		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 330			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**991**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	3
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 31	**Combined Volume (ft^3)**	**1,260**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**1,260**

DMA #: 32	DMA Area (ft²): 1,195		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 91			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**272**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	1
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 32	**Combined Volume (ft³)**	**420**
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.	**420**

DMA #: 32A	DMA Area (ft^2): 3,702		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 153			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**458**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 32A	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 33	**DMA Area (ft²): 6,337**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 261			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**784**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 33	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 34	**DMA Area (ft²): 6,542**		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 270			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**810**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 34	**Combined Volume (ft³)**	**840**
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.			**840**

DMA #: 35	DMA Area (ft^2): 4,588		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft^3): 189			
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	48	B	3.0
c. Required Retention Volume (ft^3) [DCV * DCV Multiplier]			**568**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft^3)**	420
Tree well ID #(s)	BMP 35	**Combined Volume (ft^3)**	**840**
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	
Tree species or name		**No. tree wells**	
Mature Canopy Diameter (ft)		**Credit Volume per tree well (ft^3)**	
Tree well ID #(s)		**Combined Volume (ft^3)**	

Total Credit Volume (ft3) Add the combined volumes above. Total credit volume must equal or exceed the RRV.	**840**

DMA #: 36	DMA Area (ft²): 5,447		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 225			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**675**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 36	**Combined Volume (ft³)**	**840**
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.	**840**

DMA #: 37	DMA Area (ft²): 5,845		
Required Retention Volume (RRV)			
a. Design Capture Volume (DCV; ft³): 241			
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	48	B	3.0
c. Required Retention Volume (ft³) [DCV * DCV Multiplier]			**723**

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	COAST LIVE OAK OR ENGELMANN OAK	**No. tree wells**	2
Mature Canopy Diameter (ft)	30	**Credit Volume per tree well (ft³)**	420
Tree well ID #(s)	BMP 37	**Combined Volume (ft³)**	**840**
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.	**840**

9.0 General Requirements

- Complete the table below to indicate which compliance pathway was selected in PDP SWQMP Table 6. Include the corresponding sub-attachment with your SWQMP submittal. Other sub-attachments do not need to be included.
- See the BMPDM sections and appendices listed under "BMPDM Design Resources" 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.
- DMA Exhibits and Construction Plans: CCSYAs and applicable 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.

Sub-attachments	BMPDM Design Resources
☐ **9.1: Documentation of Hydromodification Management Exemption**	Section 1.6
☐ **9.2: Watershed Management Area Analysis (WMAA) Mapping**[1]	Appendix H.1.1.2
☒ **9.3: Resource Protection Ordinance (RPO) Methods**	Appendix H.1.1.1
☐ **9.4: No Net Impact Analysis**	Appendix H.4

[1] The San Diego County Regional WMAA report can be found on the Project Clean Water website here: http://www.projectcleanwater.org/

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

- Either of two Resource Protection Ordinance (RPO) methods may also be used to demonstrate compliance with CCSYA requirements. Select either option and document the selection below:

  ☒ **RPO Scenario 1: PDP is subject to and in compliance with RPO requirements**[5]

  - **Select** if the project requires one or more discretionary permits;
  - **Demonstrate** that onsite AND upstream offsite CCSYAs will be avoided and/or bypassed.

  ☐ **RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements**[6]

  - **Select** if the project does not require discretionary permits;
  - **Demonstrate** that all upstream offsite CCSYAs will be bypassed[7].

A. Mapping Results -- At a minimum, show as applicable: (1) the project footprint, (2) areas of proposed development, (3) locations of onsite and upstream offsite CCSYAs, and (4) bypass of all identified CCSYAs.
See attached CCSYA mapping exhibit.

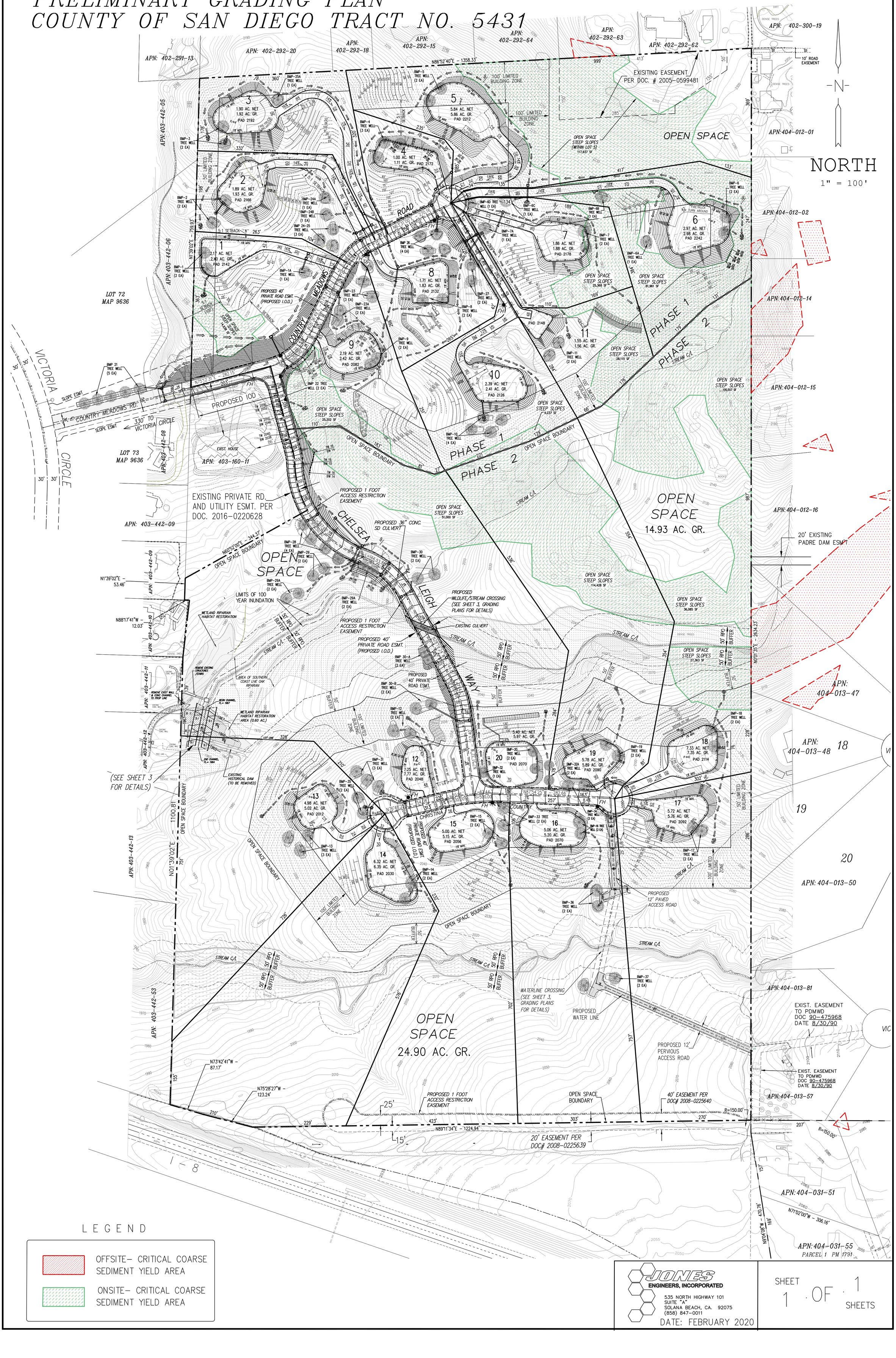
[5] RPO applicability is normally confirmed during discretionary review. Check with your project manager if you're not sure of your status.
[6] Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).
[7] This scenario does not impose requirements for onsite CCSYAs.

B. Explanation -- Provide documentation as needed to demonstrate that (1) onsite CCSYAs are avoided and bypassed [if applicable], and (2) upstream offsite CCYSAs are effectively bypassed. Add pages as necessary.

Impacts to onsite CCSYA's are avoided to a level consistent with the RPO steep slope criteria allowances. Onsite and upstream CCSYA's are bypassed around and through the project development area with a system of brow ditches and culverts. The proposed brow ditches and culverts will be designed to maintain a minimum rate of flow pursuant to the requirements of Appendix H.3.1 of the County of San Diego BMP Design manual.

ALPINE-21

PRELIMINARY GRADING PLAN
COUNTY OF SAN DIEGO TRACT NO. 5431



LEGEND

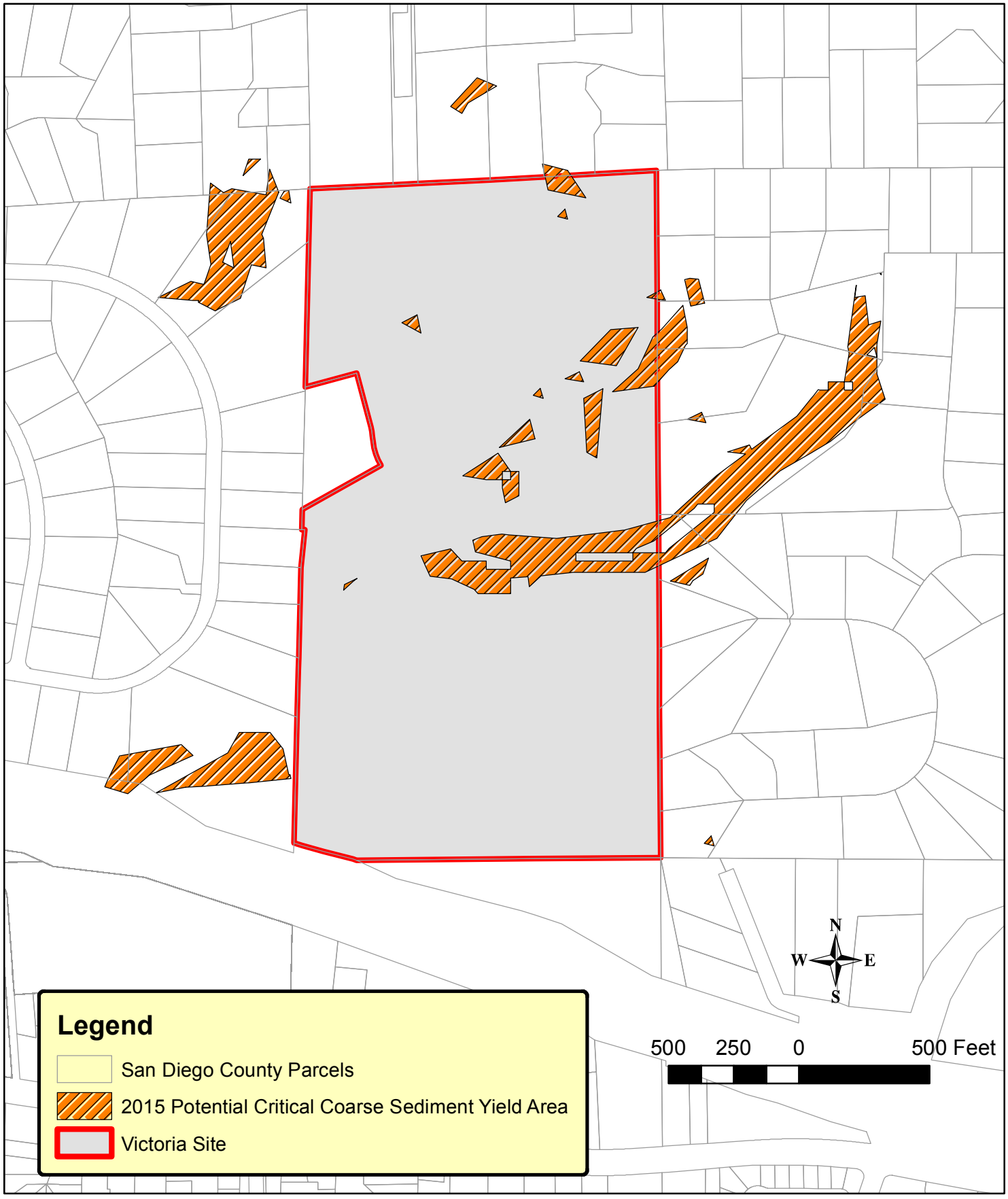
- OFFSITE– CRITICAL COARSE SEDIMENT YIELD AREA
- ONSITE– CRITICAL COARSE SEDIMENT YIELD AREA

JONES
ENGINEERS, INCORPORATED
535 NORTH HIGHWAY 101
SUITE "A"
SOLANA BEACH, CA. 92075
(858) 847-0011

DATE: FEBRUARY 2020

SHEET 1 OF 1 SHEETS

Potential Critical Coarse Sediment Yield Areas



Data Sources:
Potential Critical Coarse Sediment Yield Areas: 2015 San Diego GIS Mapping
Parcels: 2017 San Diego County GIS

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	Click here to enter text.
Record ID (e.g. grading/improvement plan number, building permit)	Click here to enter text.
Project Address	Click here to enter text.
Assessor's Parcel Number(s) APN(s)	Click here to enter text.
Project Watershed (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Click here to enter text.
B. Owner Information	
Name	Click here to enter text.
Address	Click here to enter text.
Email Address	Click here to enter text.
Phone Number	Click here to enter text.

****THIS PAGE IS FOR PARTIAL RECORD PLAN VERIFICATIONS ONLY ****

If this is a partial Installation Verification Form submittal, list ALL DMAs and BMPs for the Priority Development Project in **Table 2**. Provide acceptance information where applicable.

Table 2: Information for Partial IVF Submittals

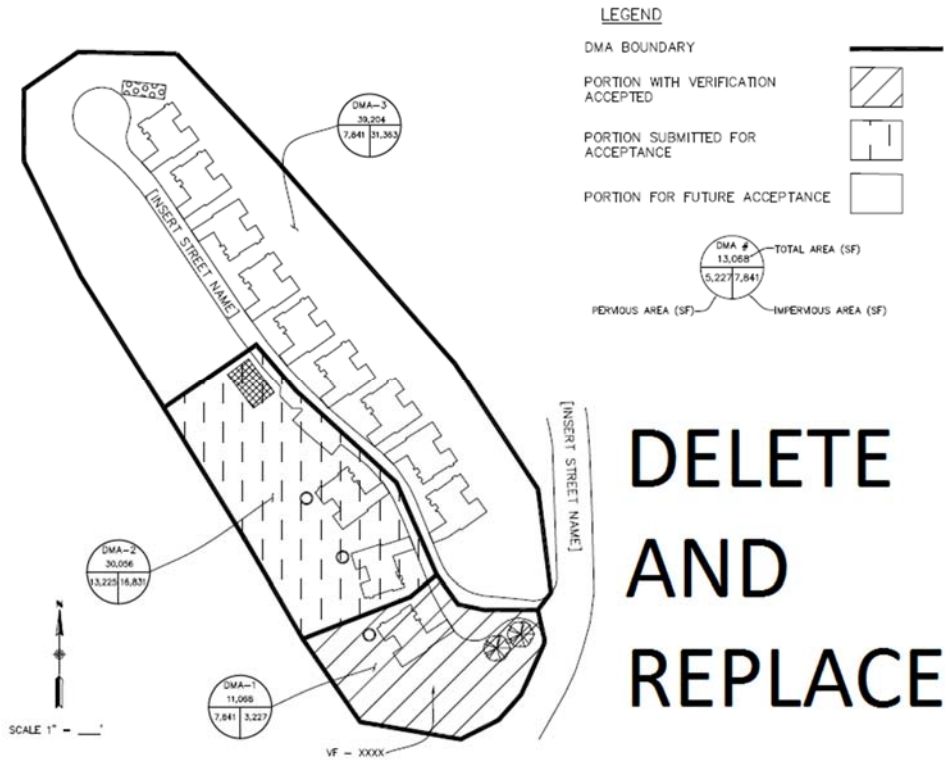
A: DMA and BMP Information

DMA #	Structural and Significant Site Design BMPs	WPP Acceptance Date	IVF ID No. (e.g. 2018-001)

B: DMA and BMP Map

Please attach a map showing (1) all DMAs for the project site, (2) the DMAs and/or lots accepted under previous Verification Forms, and (3) the locations of Structural BMPs and Significant Site Design BMPs previously accepted.

SAMPLE DMA MAP



PART 2 DMA and BMP Inventory Information

Use this table to document Structural BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) for the PDP. All DMAs that are not self-mitigating or de minimis must have at least one Structural BMP or Significant Site Design BMP.

- In **Part A**, list all Structural BMPs (including both Pollutant Control and/or Hydromodification as applicable) by DMA.
- Complete **Part B** for all DMAs that contain only Significant Site Design BMPs. SSD-BMPs are Site Design BMPs (SD-BMPs) that are sized and constructed to satisfy Structural Performance Standards for a DMA.
- Documentation of SD-BMPs is not required in this table for any DMA that also contains S-BMPs.
- The information provided for each BMP in the table must match that provided in the Stormwater Quality Management Plan (SWQMP), construction plans, maintenance agreements, and other relevant project documentation.

Table 3: Required Information for Structural BMPs and Significant Site Design BMPs

DMA #	BMP Information			Maintenance Category	Maintenance Agreement or Maintenance Notification Recorded Doc. #	Construction Plan Sheet #	Landscape Plan # & Sheet # (For Vegetated BMPs Only)	FOR DPW-WPP USE ONLY *Reviewer concurs that the BMP(s) may be accepted into inventory (date and initial)*
	Quantity	Description/Type of Structural BMP	BMP ID #(s)					
Part A Structural BMPs (S-BMPs)								
Add rows as needed								
Part B Significant Site Design BMPs (SSD-BMPs)								
		Choose an item.		---	---			
		Choose an item.		---	---			
		Choose an item.		---	---			
Add rows as needed								

PART 3 Required Attachments for All BMPs Listed in Table 3

For ALL projects, submit the following to the County inspector (check all that are attached):

☐ Photographs: Labeled photographs illustrating proper construction of each S-BMP or SSD-BMP.

☐ Maintenance Agreements: Copies of all approved and recorded Storm Water Maintenance Agreements (SWMAs) or Maintenance Notifications (MNs) for all S-BMPs.

Note: All BMPs proposed for County ownership will remain the responsibility of the owner listed on **Page 1** until a signed Letter of Acceptance of Completion is received by the DPW Watershed Protection Program.

For Grading and Improvement projects only, ALSO submit:

☐ Construction Plans: An 11" X 17" copy of the most current applicable approved Construction Plan sheets:

- ☐ Grading Plans, AND/OR
- ☐ Improvement Plans, AND/OR
- ☐ Precise Grading Plan(s) (only for residential subdivisions with tract homes), AND/OR
- ☐ Other (Please specify) Click here to enter text.

Note: For each Construction Plan, the sheets submitted must incorporate all of the following:

- ☐ A BMP Table, AND
- ☐ A plan/cross-section of each verified as-built BMP, AND
- ☐ The location of each verified as-built BMP

☐ Landscape Plans: An 11" X 17" copy of the most current applicable Landscape Plan sheets where the BMPs are required to be vegetated, including:

- ☐ The Certification of Completion (Form 407), AND
- ☐ The Certificate of Approval from PDS Landscape Architect

Note: For each Landscape Plan, the sheets submitted must show the location of each verified as-built BMP.

Required only for Verifications for Partial Record Plans

☐ If this is a partial record plan verification, please include the following:

- ☐ A list of previously submitted Verification Forms (**Table 2, A**)
- ☐ A map of DMAs and BMPs (**Table 2, B**)

PART 4 Preparer's Certification

By signing below, I certify that the BMP(s) listed in Table 3 of this Verification Form have been constructed and all are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved plans and Watershed Protection Ordinance (WPO). Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Note: Structural BMPs (Table 3, Part A) must be certified by a licensed professional engineer.

Please sign and, if applicable, provide your seal below.

[SEAL]

Preparer's Printed Name:

____Click here to enter text._____

Email: _Click here to enter text._____

Phone Number: _Click here to enter text._____

Preparer's Signed Name:

_____

Date: _Click here to enter text._____

COUNTY - OFFICIAL USE ONLY:

For County Inspectors

County Department: _____

Date verification received from EOW: _____

By signing below, County Inspector concurs that every noted BMP has been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

For Building Division Only

Inspection Supervisor Name: _____

Inspector Supervisor's Signature: _____ Date: _____

PDCI & Building, along with the rest of this package, please provide to DPW WPP:

☐ A copy of the final accepted SWQMP and any accepted addendum

For Watershed Protection Program Only

Date Received: _____

WPP Reviewer: _____

WPP Reviewer concurs that the BMPs accepted in **Part 2** above may be entered into inventory.

WPP Reviewer's Signature: _____ Date: _____